An Encyclopaedia of Bookbinding and the Printing Trades

Volume I: A-F. Compiled from nine sources, 1683-1982

Ibrahim Anwar

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A

A "The front or recto side of a leaf of a book. It is called "a" when the leaves rather than the pages are numbered. The back or verso side is referred to as b." See also: FOLIATION (2). RE

A PATTERN A cloth pattern with a long, narrow grain. Cf: J PATTERN; L PATTERN. RE

A-STAGE An initial stage in the reaction of some thermosetting resins wherein the resin continues to be soluble and fusible. "A-stage" is characterized by an initial lowering of viscosity. Also called "Resol. ' See also: B-STAGE; C-STAGE. 309 RE

AA PATTERN The code designation for a book cloth embossed with a watered silk pattern over the T PATTERN, producing a MOIRÉ EFFECT. See also: MOIRÉ BOOK CLOTH. RE

ABACA A type of plantain or banana (Musa textilis), native to the Philippine Islands. The outer sheaths of its leaf stems yield a fiber used extensively in the manufacture of certain papers, e.g., saturating papers, where great strength is required. The fibers range in length from 3 to 12 mm, the average being 6 mm, and vary in thickness from 0.016 to 0.032 mm, averaging 0.024 mm. They taper very gradually towards the ends; the central canal is large, and the fine cross-hatchings are numerous. Also called "Manila hemp." 17,323 RE

ABERRANT COPY A copy of a book that has unmistakable binding and/or printing errors and not merely simple defects. 156 RE

ABHESIVE A material having the capability of resisting ADHESION. Surfaces are coated with abhesive substances to reduce sticking, heat sealing, and the like. Silicone paper is an example of an abhesive material. 222 RE

ABRASION The rubbing or wearing away of a material due to contact with another material. Some very large books, manuscripts, etc., may be damaged by abrasion because of the large surface area of the leaves rubbing over one another (particularly when the publication is being opened or closed), as may the leather coverings of books when they are removed from the shelves. Dust also, is a significant cause of abrasion of book papers and covers. RE

ABRASION RESISTANCE The ability of materials, such as paper, board, cloth, leather, etc., to withstand the abrading action of the same or another material, e.g., other paper, dust, a book shelf, etc. The property is usually measured in terms of rate of loss of material by weight when abraded under specified conditions and length of time. See also: RESISTANCE TO WEAR. 17,58,72 RE

ABRASIVES Substances used to wear down or clean other substances. Abrasives may occur naturally (e.g., diamond, corundum, pumice, etc.), or be manufactured (e.g., silicon carbide, fused alumina, metallic abrasives, and the like). The hardness of an abrasive is measured by MOHS' SCALE, which is arbitrary. For numerous grinding and buffering purposes, the graded grains of abrasive are bonded together in a vitreous rubber or metallic matrix to produce grinding wheels; for hand use, the grains are bonded to paper or cloth by means of a suitable adhesive. RE

ABSOLUTE HUMIDITY The actual quantity of water vapor present in a given volume of air. Absolute humidity is expressed either in grams per cubic meter, or in grams per cubic foot. See also: HUMIDITY; RELATIVE HUMIDITY. RE

ABSORBENCY The degree of receptivity of a material to liquids, either in liquid or gaseous form. Measures of absorbency include: 1) the time a material requires to absorb a specific volume of liquid; 2) the rate of rise of a liquid along a vertical strip of a material, the end of which is immersed in the liquid; 3) the total area of a specimen wetted by the liquid within a specified time period; and 4) the total absorptive capacity of a material expressed as the quantity of liquid absorbed by a completely saturated specimen. Absorbency is of importance because paper, for example, generally has the ability to absorb or give up moisture depending upon the wetness, i.e., RELATIVE HUMIDITY, of the atmosphere around it, and, because the effect is not uniform in all directions. Because of the latter, the

MACHINE DIRECTION of the paper used in producing books becomes an important factor in both printing and bookbinding. See also: COCKLE (1); WARPING. 17,72,144 RE

ABSORBENT PAPERS A group of soft, unsized papers used to soak up water and other liquids. Although not sized, the papers may be treated with synthetic resins as a method of enhancing their wet strength. Absorbent papers include blotting papers, as well as the base papers used in the manufacture of IMITATION LEATHER, VEGETABLE PARCHMENT PAPER, WET-STRENGTH PAPER, and the like. 17,290,324 RE

ABSORPTION A term used in the adhesive industry to indicate the capillary or cellular attraction of a surface to draw off a liquid adhesive into the substrate. RE

SOAKING Dry GLUE BEFORE COOKING Note the absorption of water.
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

ACACIA A genus of woody plants of the family Leguminosae. The sap and pods of certain species, notable Acacia arabica and A. senegal, are used in the manufacture of GUM ARABIC. Acacia mimoa, A. mollisima and A. catechu (also called Borneo cutch) are also used in the tanning of leather. See also: VEGETABLE TANNINS. 130,175 RE

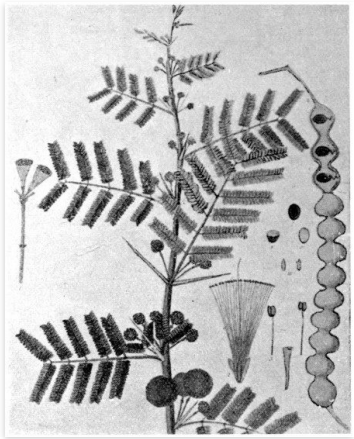


Fig. 59. —Babool (Acacia arabica).
H. R. Procter, The Principles of Leather Manufacture, 1903

ACACIA GUM See: GUM ARABIC. RE

ACANTHUS The name given a leaf of the acanthus plant (Acanthus spinosus) introduced as ornamentation in ancient Greek architecture. It has been applied in various modified forms in succeeding styles of architecture. In bookbinding, the acanthus ornamentation is a typical impression of the finishing tool cut to represent two such leaves pointing in different directions. The acanthus decoration was also used as a decorative motif by illuminators of manuscripts, especially Carolingian artists of the 9th century. 250 RE

EXAMPLE 89 The acanthus leaf, much used by the Greeks and Romans in ornamentation
Edmund G. Gress, The Art and Practice of Typography, 1917

ACCELERATED AGING TEST A procedure which is designed to indicate in a relatively short period of time what will happen to materials, such as paper, ink, etc., over a period of years in storage. It commonly involves heating the specimen in an oven under specified controlled conditions. Under ideal circumstances, the material is exposed to an environment which increases the rate of its degradation without changing its nature. It is generally accepted, for example, that heating paper for three days in an oven at 100° C is equivalent in its effect to approximately 25 years under normal library storage conditions.

• Although sound in theory, accelerated aging tests are, at this time, of limited usefulness. The reason is that conditions of storage, which vary widely, have a considerable influence on the degree of permanence; also, it is difficult to verify empirically the accuracy of such tests except by experiments conducted over a number of years. Such tests have actually been made, although to a limited extent. It is known, for example, that the strength of paper tends to diminish in storage, and experiments have indicated that the FOLDING ENDURANCE declines to a significantly greater extent than such other properties as tensile, or tearing, strength; consequently, folding endurance tests conducted subsequent to accelerated aging may well provide a

good indication of a general loss of strength. In addition, as to the rate of deterioration, the effect of heat is very much like that of natural aging under average conditions; therefore, it is probably reasonable to assume that heat affords a practical means of accomplishing accelerated aging. 18,62,144 RE

ACCENTED LETTERS "In English, the accentual marks are chiefly used in spelling-books and dictionaries, to mark the syllables which require a particular stress of the voice in pronunciation. • "The stress is laid on long and short syllables indiscriminately. In order to distinguish the one from the other, some writers of dictionaries have placed the grave on the former, and the acute on the latter, in this manner: 'Mìnor, míneral, lìvely, líved, rìval, ríver.' • "The proper mark to distinguish a long syllable is this ¯: as, 'Rōsy:' and a short one thus ˘: as 'Fŏlly.' This last mark is called a breve. • "A diæresis, thus marked ¨, consists of two points placed over one of the two vowels that would otherwise make a diphthong, and parts them into two syllables: as, 'Creätor, coädjutor, aërial.' • "A circumflex, thus marked ^, when placed over some vowel of a word, denotes a long syllable: as, 'Euphrâtes.'"—Murray. • The c *à la queue*, or the c *with a tail*, is a French sort, and sounds like *ss*, when it stands before *a o u*, as in *ça, garçon*. To make a tail to a capital C, a small figure of 5 with the top dash cut away, thus ⁊, and justified close to the bottom of the letter, answers the purpose, when it is required; for the letter-founders do not cast this letter with a tail, neither in the capitals nor small capitals. Ç. • The ñ is used in the Spanish language, and is pronounced like a double *n*, or rather like *ni*; but short and quick, as in España. It is a sort which is used in the middle of words, but rarely at the beginning. • In the Welsh language, ŵ and ŷ, as well as the other circumflex letters, are used either to direct the pronunciation, as in *yngŵydd*, in presence; *ynghŷd*, together; or else for distinction sake; as, *mwg*, a mug; *mŵg*, smoke; *hyd*, to, until; *hŷd*, length. • Accents. *See* Accented Letters. DAP

ACCORDION FOLD See: CONCERTINA FOLD. RE

ACCORDION-PLEATED FOLD See notes on the electronic edition • A method of folding endpapers so that the pleat provides a hinge at the inner joint of the cover. The pleat also provides for expansion to allow the covers to swing open freely and not exert strain on the first and last leaves of the book. In certain cases, however, it can also create a sharp, knife-like fold which, if wide enough, may cause a brittle leaf to bend sharply and crack at that point. 81 RE

ACCOUNT BOOK See: BLANKBOOK. RE

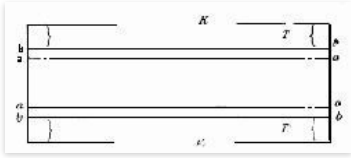


Fig. 116—Suggestion for account book back. K—Pared edge; T—Part to be pasted.
Paul Adam, Practical Bookbinding, 1903

ACCOUNT-BOOK BINDING See: BLANKBOOK BINDING. RE

ACCOUNT-BOOK PAPER See: LEDGER PAPER. RE

ACETATE The salt or ester of ACETIC ACID. See also: CALCIUM ACETATE, CELLULOSE ACETATE, POLYVINYL ACETATE. RE

ACETATE ENVELOPES Envelopes, usually made of transparent cellulose acetate. used for the temporary protection of documents, letters, prints, photographs, maps, etc. They are superior to paper envelopes in that they substantially reduce the danger of acid transfer. Their use, however, is declining in favor of polyester envelopes. See also: CELLULOSE ACETATE; POLYESTER FIBERS. RE

ACETATE INK An ink with special adhering qualities intended for drawing or printing on such materials as films and acetates. RE

ACETIC ACID A volatile, colorless acid ($CH_{3M}COOH$), prepared by the oxidation of acetaldehyde, by oxidation of ethyl alcohol, or by the distillation of wood. It is used extensively in the manufacture of CELLULOSE ACETATE, and has been used for washing leather bindings to remove grease prior to tooling. Being a relatively weak organic acid, as well as volatile, it is not considered to be particularly harmful to paper or leather, and is to be preferred to ordinary vinegar in preparing leather or book edges for tooling or gilding, as vinegar is likely to contain traces of sulfuric acid. 198 RE

ACETIC ETHER See: ETHYL ACETATE. RE

ACETONE A colorless, volatile, flammable ketone (CH_3COCH_3), having a pleasing odor, that occurs in pyroligneous acid and can be prepared by dehydrogenation of isopropyl alcohol, by bacterial fermentation of corn mash, and by other means. It is miscible with water, alcohol and ether. Acetone is effective as a solvent in removing pressure sensitive tape from paper

because it dissolves not only the adhesive but (in some cases) the tape itself. Its use is limited, however, because of its tendency to dissolve ink, and its highly flammable nature. In leather manufacture, it is used as a solvent for finishes. It is also used to prepare other solvents, such as methyl isobutyl ketone and mesityl alcohol, and as a solvent for paints, varnishes, lacquers, and cellulose acetate. Acetone decomposes photochemically to produce ethane, carbon monoxide and small amounts of diacetyl and methane. 173,306 RE

ACID A substance capable of forming hydrogen ions when dissolved in water. The majority of inorganic acids may be regarded as compounds of an acidic oxide and water; where the oxide involved is that of a metal, it may exhibit amphoteric characteristics, i.e., act sometimes as an acid and sometimes as a base, depending upon the other materials present. Typical organic acids contain the COOH group, but other acid groupings, e.g., the sulfonic—SO_3H, give acidic properties to organic compounds. • Aqueous solutions of acids have a sharp taste, turn litmus red, liberate CO_2, form a metallic carbonate, and evolve hydrogen in reaction with certain metals, e.g., iron. • The 'strength' of an acid is measured by the value of its dissociation constant, a strong acid such as hydrochloric being substantially fully ionized in solution, and a weak acid such as formic being predominantly unionized. • Acids, and particularly the inorganic acids (because of their corrosiveness and low volatility), are harmful to paper and bookbinding materials. Their presence weakens the holding power of the individual links of the cellulose chains of paper, causing brittleness; results in corrosive effects in some inks; and weakens the fibers of leather. The source of acids in archival materials may be intrinsic or extrinsic. They may be present in the materials used in the manufacture of paper, adhesives, leather, etc., and may be left in intentionally, e.g., alum-rosin sizing; they may be introduced during manufacture and not sufficiently removed, e g., acids used in clearing and/or dyeing leather; or they may gain access during storage, e.g., sulfuric acid in paper or leather, resulting from the atmospheric pollutant, sulfur dioxide (SO_2). See also: ACID GASES. 72,195,198,306 RE

ACID DYES A very large class of dyes containing acidic groups, such as the sodium salts of sulfonic acids or phenolic groups. They are more soluble and have less tinctorial value than BASIC DYES but they also have greater light fastness. See: FAST COLORS. They do not form lakes with tannin. Acid dyes are used in dyeing leather, paper, etc., and their particular value lies in their ability to produce brighter, more uniform colors. They are normally applied from an acid dye liquor (acetic, formic, or sulfuric acid); however, unless applied from a neutral or only slightly acid dyebath, i.e., pH of 6.0 to 7.0, their use is likely to result in acid degradation of the material dyed. See also: FUGITIVE COLORS; LAKE. 17,67,72,363 RE

ACID GASES Gases which may form destructive acids in paper, board, leather, and other book materials. Sulfur dioxide (SO_2), present in the air as a pollutant, is one such gas; it can form highly destructive sulfuric acid (H_2SO_4), either by oxidizing to form sulfur trioxide (SO_3), which in the presence of water vapor, is transformed into H_2SO_4, or by combining directly with water vapor to form sulfurous acid (H_2SO), which, while a weak acid itself, reacts with oxygen to form H_2SO_4. It is suspected that the rate of conversion is increased by the presence in the paper of metallic catalysts, such as iron or copper, which may enter the paper during manufacture, but as yet there is no proof of this. 193,265 RE

ACID MIGRATION The transfer of acid from a material containing acid to one containing less or no acid. This may occur either when the two materials are in contact with each other, or by vapor transfer from one material to nearby materials not actually in contact with it. Boards, endpapers, and protective tissues, as well as the paper covers of books and pamphlets, may contain acid and transfer it to otherwise low-acid or acid-free paper of the text. Also called "acid transfer." See also: BARRIER SHEET. RE

ACID SIZE A ROSIN SIZE that contains an appreciable part of unsaponified but emulsified free rosin. If, when diluted, the rosin size produces a milky emulsion, it is then known as "white size." RE

ACID TRANSFER See: ACID MIGRATION. RE

ACID WASH A solution consisting of hydrochloric acid diluted in water. At one time it was used to clean grease and other foreign material from the edges of books prior to gilding. It was usually applied after the initial scraping and sanding, and before the final light sanding. RE

ACID-FREE LEATHER Ostensibly, leather manufactured without the use of acids, but interpreted

by most producers to mean leather from which as much acid as possible has been removed. The removal of acid used in producing leather is a costly and time-consuming process, and calls for repeated washing of the stock. Tanning agents which contain a relatively high amount of salts of weak acids, of which MYRABOLANS is one, are said to protect leather against acids used in manufacture or those absorbed from the atmosphere. 175,306 RE

ACID-FREE PAPER In principle, papers which contain no free acid and have a pH value of 7.0 or greater. In practice, papermakers consider a paper having a pH value of 6.0 or greater to be acid free. Such papers may be produced from cotton fibers, rags, esparto, jute, chemical wood pulps, or virtually any other fiber, with special precautions being taken during manufacture to eliminate any active acid that might be present in the paper pulp. However free of acid the paper may be immediately after manufacture, the presence of residual chlorine from bleaching operations, aluminum sulfate (alum) from sizing, or sulfur dioxide in the atmosphere, may lead to the formation of hydrochloric or sulfuric acid unless the paper has been buffered with a substance capable of neutralizing acids. See also: ALKALINE RESERVE. 144,198 RE

ACIDITY A condition or state in which the concentration of hydrogen ions in an aqueous solution exceeds that of hydroxyl ions. Acidity is probably the most important single factor affecting the permanence of archival materials. Acidity alone, however, does not necessarily connote destructiveness; the nature of the acid, i.e., the strength of its acidic properties, is of more importance than its quantity; e.g., a relatively small amount of sulfuric acid may have a greater destructive effect than a larger quantity of lactic acid. Because of this, both pH value and titration are necessary to achieve adequate evaluation of the potentially destructive effect of an acid. See also: HYDROGEN-ION CONCENTRATION. 144 RE

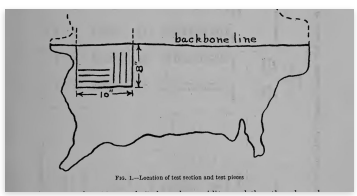


FIG. 1.—Location of test section and test pieces

in excess of 2,500 pounds 7 showed no acidity, and the other showed an acidity of 0.3 per cent.
US Bureau of Chemistry and Soils, Analyses of Some English Bookbinding Leathers, 1929

ACME SEAL The now obsolete name given a SEALSKIN, dyed and having a plain, dull finish and a natural grain. RE

ACRYLIC RESIN also *acrylic plastic* A thermoplastic resin prepared by polymerizing acrylic acid ($C_3H_4O_2$) or methacrylic acid ($C_4H_6O_2$), or a derivative of either, especially an ester, e.g., methyl methacrylate. One such acrylic resin, polymethyl acrylate, which is a tough rubbery material, is used, usually as manufactured in emulsion form, for textile and leather finishes, lacquers, and pressure sensitive adhesives, and as a mixture with clay to coat papers used in high gloss printing. 42,364 RE

ACTS OF PARLIAMENT There are various Acts of Parliament which affect printers, and inflict penalties for the neglect or violation of their provisions. Many printers frequently subject themselves to penalties, which are in many instances very heavy, through ignorance of those laws. To enable them to avoid these penalties, and also to show the legal restrictions on the business, I have taken great pains to examine the whole of the Statutes at Large, and to extract from them all such clauses as are in force, that affect the trade.—See the respective subjects. • Admiration, Note of. *See* Punctuation. DAP

ADDITIVES 1. Substances added in small proportions to products to improve their performance, or to enhance their attractiveness or value. Additives are also used to prevent bacterial action, drying, staling, as well as to inhibit corrosion, oxidation, decomposition, etc. 2. All of the nonfibrous raw materials used in making paper. They may be added at any point during the papermaking process or after the paper has been manufactured. Treatment of the entire sheet (internal treatment) entails mixing the additives with the paper pulp, in which case they are known as wet-end additives. If only the surface of the sheet is to be treated, the additives are applied directly to the surface of the paper, and are known as external additives. Paper additives are used to color and size paper, control pH, improve physical properties, and increase wet strength. They are also used as defoamers, dispersants, plasticizers, preservatives, retention aids, and the like. 58,98 RE

ADHEREND A material that is held to another material by means of an ADHESIVE. RE

ADHESION A term indicating that two surfaces are held together by interfacial forces, which may consist of valence forces (chemical adhesion),

interlocking action (mechanical adhesion), VAN DER WAALS FORCES, or combinations thereof. 309 RE

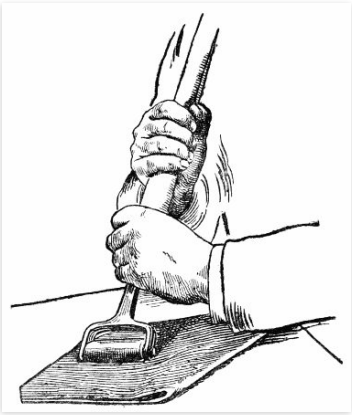


FIG. 25.— USING ROLLER TO SECURE ADHESION OF INLAY
Georges de Recy, The Decoration of Leather, 1905

ADHESIVE A general term for any of several substances capable of bonding materials to each other by chemical or mechanical action, or both, and which may be activated by water, non-aqueous solvents, pressure, heat, cold, or other means. • Adhesives may be classified by temperature (hot-, cold-, intermediate-, room-temperature setting, etc.); by type of solvent (water, alcohol, etc.); by type of application (brush, roller, spray, etc.); or by origin (animal, vegetable, or synthetic). They may be further classified as natural or synthetic (resin). The natural adhesives are primarily of animal or vegetable origin (sodium silicate (water glass) being virtually the only inorganic natural product important as an adhesive) and include animal glue, casein, blood albumen (which is unimportant as an adhesive in archival work), and vegetable adhesives. The synthetic resin adhesives include the thermoplastic resins, the thermosetting resins, and the elastomeric adhesives. • The adhesives used in archival work must exhibit three properties: 1) they must wet the surfaces to be joined but not so much as to cause the adhered materials to cockle; 2) they must have sufficient flexibility so as not to crack when the joint is flexed; and 3) they must be strong but not as strong as the materials they bond, so that stress to the point of failure of the joint will not damage the archival material but will result only in the failure of the adhesive. See also: ALBUMEN; CASEIN; CEMENT (2); COLD GLUE; DEXTRIN; FISH GLUE; FLEXIBLE GLUE; GLAIR; GLUCOSE-GLYCOL PASTE; GLUE; HARD GLUE; HOT-MELT ADHESIVE; ISINGLASS; MICROENCAPSULATED ADHESIVE; MUCILAGE; PADDING COMPOUND; PASTE; POLYVINYL ACETATE; RABBIT SKIN GLUE; RESINOUS ADHESIVES; RICE GLUE; RUBBER ADHESIVES; VEGETABLE GLUE; WOOD PASTE. 48,89,102,149,186,198,222,309 RE

ADHESIVE BINDING A method of securing loose leaves into a solid text block by means of an adhesive rather than by means of sewing, stitching, etc. In general, there are four techniques of adhesive binding in use today: 1) PADDING (2); 2) manual adhesive binding, which is still practiced by hand binders and some library binders; 3) semiautomatic adhesive binding, which is the usual method in library binderies and some paperback edition binderies; and 4) fully automatic adhesive binding, which is the usual method in edition binding. • Two basic methods are used to secure the leaves in adhesive binding: 1) application of the adhesive to the edges of the collected and clamped leaves, without fanning, in which case there is little if any penetration of adhesive between the sheets; and 2) fanning the clamped leaves, either in one direction or both (in the latter case 180°), so that the adhesive is applied a slight distance onto the leaves, thus forming a more secure bond. A HOT-MELT ADHESIVE is usually employed in the first method, whereas a cold RESINOUS ADHESIVE, e.g., POLYVINYL ACETATE, is typical in the latter method. It is not unusual, however, to use a combination of the two adhesives. The resinous adhesives are generally used alone, but hot melts may be used in either a one-shot operation (hot melt alone), or in a two-shot application (a primer of polyvinyl adhesive, followed by the hot melt, in which case the leaves are usually fanned upon application of the cold adhesive). • Adhesive binding generally results in a book that opens easily and lies flat. It is also a relatively economical form of binding, especially when long runs of the same edition are being bound. The method lends itself well to the mass production of low-priced paperbacks, catalogs, telephone directories, and the like. It is also finding greater use in library binding for books that are not in sections and have relatively narrow margins, as well as for rebinding books printed on paper that is deteriorating. Adhesive binding, however, is not a satisfactory method of binding coated and similar papers. • Adhesive binding, in one form or another, is not a new concept; in fact, it dates back to the 1830s when William Hancock invented the so-called CAOUTCHOUC BINDING in England. Overall, however, even

though the method is very practical for books that are to receive heavy use over a relatively short period, (e.g., telephone directories), adhesive binding is generally considered to be inferior to the sewn binding and its permanence has yet to be demonstrated. Also called "perfect binding." or "unsewn binding. See also: ADHESIVE BINDING MACHINE; ONE-SHOT METHOD; TWO-SHOT METHOD. 15,16,81,89,294,320 RE

ADHESIVE BINDING MACHINE A machine that applies an adhesive, and sometimes a cloth lining, to the edges of the leaves or sections of a book. Adhesive binding machines may be classified as: 1) intermittent, with all operations being performed while the book is stopped; and 2) continuous, with all operations being performed while the book is in motion. In addition, they may be classified as: 1) inline, with the books being carried in one direction at a constant elevation; 2) rotary or circular, with books being carried in a circular path; and 3) oval, with books being carried over an extended oval path. There are variations within all of these categories. Adhesive binding machines used in library binderies are generally in-line machines which operate intermittently or continuously, with the books being inserted and removed from the machine by hand. Adhesive binding machines date back to the latter part of the 19th century, but their greatest period of development was following World War II. 89,320 RE

ADHESIVE DOPE A chemical solvent used as a wash for the turn-in areas of imitation-leather book cloths and other impervious materials to facilitate adhesion of the board papers. It has very limited use today. RE

ADHESIVE GLASSINE TAPE A gummed glassine paper, generally of BASIS WEIGHT of 25 pounds (24 X 36 – 500). It is sometimes used in mending the leaves of books, as well as for hinges, for which purposes it is supplied in rolls of narrow width. Its use for the repair of archival materials is not recommended, as it has a tendency to stain the paper and is difficult to remove. See also: HEAT-SET TISSUE. 17 RE

ADHESIVE PAPER A paper coated with a water-activated, heat-activated, or pressure-activated adhesive. See: GUMMED PAPER; HEAT-SET TISSUE; PRESSURE-SENSITIVE TAPE; SE-LIN LABELING SYSTEM. RE

ADJUSTED A MARBLING SIZE that has been put into proper condition to receive the colors by the addition of OX-GALL, so that when the colors are dropped on they will spread evenly. The correct amount of gall will cause a drop of marbling color to expand to its maximum without thinning. See also: MARBLING. 335 RE

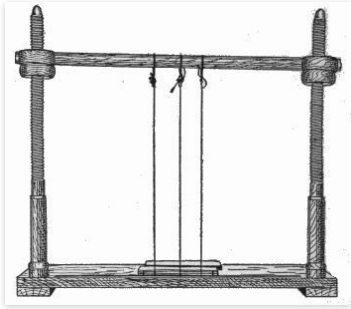


Figure 1.—Sewing bench showing bands adjusted.
Arthur Low Bailey, Library Bookbinding, 1916

ADVANCE SHEETS 1. A copy of a book, in sheets or gatherings, for preliminary notices, simultaneous publication in two or more places, or for early cataloging. Advance sheets for review or early cataloging are usually in unbound gatherings. 2. Generally, sheets of a publication e.g., some serial publications or other documents, printed separately for use before they are issued collectively. In a stricter sense these are more appropriately called "preprints." 69,140 RE

ADVERTISEMENTS DAP

By the Act 3 & 4 Will. 4. c. 23. s. 1., intituled

"An Act to reduce the Stamp Duties on Advertisements and on certain Sea Insurances; to repeal the Stamp Duties on Pamphlets, and on Receipts for Sums under Five Pounds; and to exempt Insurances on Farming Stock from Stamp Duties;" the Act 55 Geo. 3. c. 184.; the Act 55 Geo. 3. c. 185.; and the Act 56 Geo. 3. c. 56., for the Duties granted and payable in *Ireland*, are repealed; "save and except so much and such Part and Parts of the said Duties respectively as shall have accrued or been incurred before or upon the said Fifth Day of *July* One thousand eight hundred and thirty-three, and shall then or at any Time afterwards be or become due or payable and remain in arrear and unpaid; all which said Duties so remaining in arrear and unpaid as aforesaid shall be recoverable by the same Ways and Means, and with such and the same Penalties, as if this Act had not been made.

s. 2. "And be it enacted, That from and after the Fifth Day of *July* One thousand eight hundred and thirty-three, in lieu and stead of the said several Duties upon Advertisements and Sea Insurances by this Act repealed, there shall be granted, raised, levied, collected, and paid, in *Great Britain* and *Ireland* respectively, unto and for the Use of His Majesty, His Heirs and Successors, for and in respect of the several Articles, Matters, and Things mentioned and described in the Schedule to this Act annexed, the several Duties or Sums of Money set down in Figures against the same respectively, or otherwise specified and set forth in the said Schedule; and that the said Schedule, and the several Provisions, Regulations, and Directions therein contained, with respect to the said Duties, and the Articles, Matters, and Things charged therewith, shall be deemed and taken to be Part of this Act; and that the said Duties shall be denominated and deemed to be Stamp Duties, and shall be under the Care and Management of the Commissioners of Stamps for the Time being for the United Kingdom of *Great Britain* and *Ireland*.

s. 3. "And in order to provide for the Collection of the Duty by this Act granted on Advertisements contained in or published with any Pamphlet, Literary Work, or Periodical Paper, be it enacted, That one printed Copy of every Pamphlet or Literary Work or Periodical Paper (not being a Newspaper), containing or having published therewith any Advertisements or Advertisement liable to Stamp Duty, which shall be published within the Cities of *London*, *Edinburgh*, or *Dublin* respectively, or within Twenty Miles thereof respectively, shall, within the Space of Six Days next after the Publication thereof, be brought, together with all Advertisements printed therein, or published or intended to be published therewith, to the Head Office for Stamps in *Westminster*, *Edinburgh*, or *Dublin* nearest to which such Pamphlet, Literary Work, or Periodical Paper shall have been published, and the Title thereof, and the Christian Name and Surname of the Printer and Publisher thereof, with the Number of Advertisements contained therein or published therewith; and any Stamp Duty by Law payable in respect of such Advertisements shall be registered in a Book to be kept at such Office, and the Duty on such Advertisements shall be there paid to the Receiver General of Stamp Duties for the Time being, or his Deputy or Clerk, or the proper authorized Officer, who shall thereupon forthwith give a Receipt for the same; and one printed Copy of every such Pamphlet, Literary Work, or Paper as aforesaid, which shall be published in any Place in the United Kingdom, not being within the Cities of *London*, *Edinburgh*, or *Dublin*, or within Twenty Miles thereof respectively, shall, within the Space of Ten Days next after the Publication thereof, be brought, together with all such Advertisements as aforesaid, to the Head Distributor of Stamps for the Time being within the District in which such Pamphlet, Literary Work, or Paper shall be published; and such Distributor is hereby required forthwith to register the same in manner aforesaid in a Book to be by him kept for that Purpose; and the Duty payable in respect of such Advertisements shall be thereupon paid to such Distributor, who shall give a Receipt for the same; and if the Duty which shall be by Law payable in respect of any such Advertisements as aforesaid shall not be duly paid within the respective Times and in the Manner herein-before limited and appointed for that Purpose, the Printer and Publisher of such Pamphlet, Literary Work, or Paper, and the Publisher of any such Advertisements, shall respectively forfeit and pay the Sum of Twenty Pounds for every such Offence; and in any Action, Information, or other Proceeding for the Recovery of such Penalty, or for the Recovery of the Duty on any such Advertisements, Proof of the Payment of the said Duty shall lie upon the Defendant.

s. 4. "And be it enacted, That all the Powers, Provisions, Clauses, Regulations, and Directions,

Fines, Forfeitures, Pains, and Penalties, contained in or imposed by the several Acts of Parliament relating to the Duties on Advertisements and Sea Insurances respectively, and the several Acts of Parliament relating to any prior Duties of the same Kind or Description, in *Great Britain* and *Ireland* respectively, shall be of full Force and Effect with respect to the Duties by this Act granted, and to the Vellum, Parchment, Paper, Articles, Matters, and Things charged or chargeable therewith, and to the Persons liable to the Payment of the said Duties, so far as the same are or shall be applicable in all Cases not hereby expressly provided for, and shall be observed, applied, enforced, and put in execution for the raising, levying, collecting, and securing of the said Duties hereby granted, and otherwise relating thereto, so far as the same shall not be superseded by and shall be consistent with the express Provisions of this Act, as fully and effectually to all Intents and Purposes as if the same had been herein repeated and especially enacted with reference to the said Duties by this Act granted."

THE SCHEDULE.

Advertisements:—

[So much of this Act repealed by 6 & 7 Will. 4. c. 76. s. 32. "as provides the Mode of collecting the Duty on Advertisements contained in or published with any Pamphlet, Periodical Paper, or Literary Work."]

Albion Press. *See* Cope's Press.

ADVERTISEMENTS
Edmund G. Gress, The Art and Practice of Typography, 1917

ADVERTISEMENTS BOUND-IN A statement to the effect that advertisements have been included in the binding of a volume bound from parts or issues, or in the rebinding of a volume, usually a serial publication. Some libraries instruct the binder to remove all advertisements not containing subject matter (on either side of the leaf), or those that are paginated separately. This is done to save shelf space; it is questionable, however, whether sufficient space is saved to warrant the effort. In addition, the presence of advertisements can be of value to scholars and is of value to collectors. RE

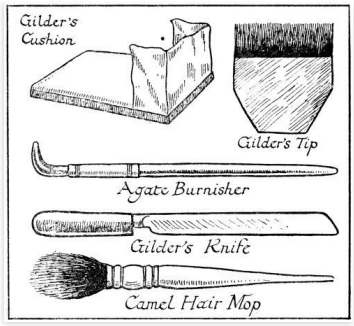
AEROSOL A dispersion in which a material is dissolved or suspended in a liquid which volatilizes to produce a fine spray when pressure is released. The spray carries the active material. Tn archival work, aerosols are used for dispersing deacidification solutions; in this case the propellant, which must be inert and nonflammable, is frequently a chlorofluorocarbon, e.g., freon 12, dichlorodifluoromethane (CCl_2F_2). RE

AGAINST THE GRAIN Paper which has been folded at right angles to the direction in which the fibers tend to lie, i.e., the MACHINE DIRECTION. A well-produced book always has the grain or machine direction running from head to tail so that the back or binding fold of the paper is not against the grain. Correct grain direction means that the leaves of the book will be more inclined to lie flat when the book is open. The term applies specifically to machine-made paper, as HANDMADE PAPER has no definite grain direction. RE

AGALITE A natural fibrous form of talc, gray in color and consisting principally of hydrated magnesium silicate. It gives paper a greasy or soapy feel. and enables it to take a high finish. It is little used today. 62 RE

AGAR also *agar-agar* The polysaccharides agarose and agropectin, occurring as cell-wall constituents of red marine algae (genera Gelidium, Gracilaria, etc.), from which it is extracted by hot water. It is available as a dry powder, flakes, or strips. Agar is the metallic (usually calcium) salt of a sulfuric acid ester of a complex polysaccharide of gelactose, but its exact structure is not understood. It dissolves in hot water and, upon cooling, sets to a jelly at concentrations as low as 0.5%. It is used as a gelling and stabilizing agent, as a misciformis sizing for silk, and as an adhesive emulsifying agent. 72 RE

AGATE also *agate burnisher* A natural stone, consisting of a form of silica, similar to chalcedony, with colored bands of purple or brown, shaped and polished for use as a burnishing tool, particularly in edge gilding. See also: BURNISHER (2). RE



Guilder's Cushion Guilder's Tip Agate Burnisher Guilder's Knife Camel Hair Mop Fig. 30.
Sidney Farnsworth, Illumination and Its Development in the Present Day, 1922

AGATINE A marble pattern consisting of black in large spots, green in rivers, scarlet in sprinkles, and blue in small spots. Various designs are made from this combination of colors. " 152 RE

AGGRESSIVE TACK See: DRY TACK. RE

AGING A general term describing the natural degradation of paper, adhesives, leather, and other archival materials, while in storage. With some textiles, aging denotes oxidation by exposure to air. Aging is greatly influenced by the environment in which the materials are stored. See also: ACCELERATED AGING TEST; ENVIRONMENT; PERMANENT MATERIALS; PERMANENT PAPER; YELLOWING. RE

AIR DRY A condition usually associated with paper (and paper pulp) and leather. Paper is said to be air dry when its moisture content (usually 3 to 9%) is in equilibrium with the atmospheric conditions to which it is exposed. Leather is considered to be air dry when its moisture content is approximately 14% of the weight of the leather. Their different moisture contents in the air dry state makes it difficult to regulate the conditions of storage of a leather bound book. 17,363 RE

AIR PERMEABILITY The property which permits the passage of air when a difference in pressure exists across the boundaries of the material. Air permeability is one indication of a substance's porosity. See also: VAPOR PERMEABILITY. 17 RE

AIR-DRIED Handmade- and the better machine-made papers dried in a current of air, either at normal or elevated temperatures, as distinguished from paper which is dried by contact with heated rolls. This method of drying reduces stresses, including DRIED-IN STRAIN, which are imposed on paper while drying, because the sheet is allowed to dry, and therefore contract, at a slower rate. See also: ANISOTROPIC BEHAVIOR. 98 RE

AIRMAIL PAPER A lightweight paper made for printing publications such as newspapers that are to be sent by airmail. It usually contains fillers to improve opacity, and is generally made in a basis weight of 10 pounds (17 X 22 – 500). Airmail paper is also used at times for guarding sections, mending tears, etc. For these purposes, it is preferable that the paper have a high rag content and an alkaline reserve of about 3%. 17,58 RE

AITKEN, ROBERT 1735–1802 One of a group of Scottish craftsmen in the bookbinding trade who immigrated to America in the years immediately before the Revolutionary War. Aitken appeared in Philadelphia in 1769, as a bookseller. He returned to Scotland that same year, apparently to learn bookbinding, because upon his return two years later he advertised himself as both bookbinder and bookseller. After 1773 he began to print books as well, and, in 1782, published the "Aitken Bible," the first complete Bible in English to be published on the North American continent. • Aitken produced hundreds of bookbindings ranging in style from paper wrappers (both blue and marbled) to more or less richly gilt leather bindings. His work included blue paper boards, raised cords as well as flat spines, both plain and marbled endpapers, and bindings in full calf- or sheepskin with red title labels and gilt bands across the spines. Although Aitken produced scores of "plain" bindings, he was also capable of a binding style that was rich and luxurious in its gold tooling, especially for American bookbinding of that time. He was, in general, an imaginative and diverse bookbinder, although he was not known for his exactness and polish in finishing, nor was he particularly artistic. Because Aitkin was also an engraver, it has been suggested that he may have cut his own finishing tools, possible in imitation of Scottish designs. 45,200,347 RE

AJOURE BINDINGS A style of bookbinding executed during the last third of the 15th century in Venice. Ajoure bindings were embellished with pierced or translucent patterns, in a manner referred to as "letting in the daylight." They generally featured openwork designs of foliage, angels' heads, satyr-masks, birds, baskets of fruits, etc. 156,347 RE

ALBUM 1. A book of envelopes or jackets, usually with a decorative cover and often with descriptive notes. It is intended to contain phonograph records. 2. A book of blank leaves designed to

contain written records, clippings, postage stamps, and the like. RE

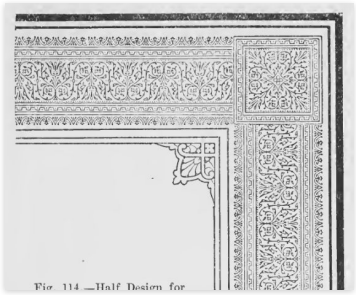


Fig. 114.—Half Design for Album Cover (Registered).
Paul N. Hasluck, Bookbinding, with Numerous Engravings and Diagrams, 1907

ALBUM PAPER A type of cover paper used for photograph albums. It is manufactured in gray and black in basis weights of 50 to 80 pounds (20 X 26 – 500). A basic requirement of this paper is that it not cockle when wetted with adhesives, while another essential requirement is that it contain no impurities which might alter or damage the photographs. 17,324 RE

ALBUMEN A class of protein found in egg whites. A mixture of egg white and vinegar (GLAIR) is used in book finishing; its purpose is to secure the gold leaf to the covering material prior to the impression of the heated tool. Albumen is also used as an adhesive in edge gilding. RE

ALCHEMIC GOLD A gold ink composition developed early in the 20th century as a substitute for imitation gold leaf. It was said to be "free from acid," as well as non-tarnishing. Its principal virtue seems to have been that it eliminated the necessity of sizing, laying-on, and rubbing off. 164,264 RE

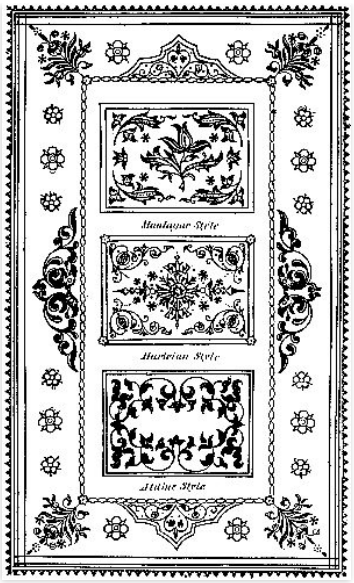
ALDEHYDE TANNING Essentially a formaldehyde tannage. Several aldehydes react with hide protein to prevent putrefaction, but only FORMALDEHYDE has been used to any extent in the manufacture of leather. Formaldehyde is soluble in water, the resultant solution generally being known as FORMALIN. Aldehyde tanning is used principally in tanning white, washable leathers, usually sheep or lambskins, with the grain split or shaved off. Such leathers are seldom used in bookbinding. See also: ZIRCONIUM TANNING. 291,306,363 RE

ALDER (BARK) The bark of the common alder tree (Alnus glutinosa), used to some extent in small tanneries in southeastern Europe and Turkey for tanning leather. The bark contains 9 to 16% or more tannin, while the dried fruit yields about 16% tannin. The use of alder bark is not extensive—mainly because, when used alone, it imparts an objectionable reddish-brown color to the leather, and also tends to make the leather brittle. Other alder barks have also been used in tanning, including Alnus incana (in Europe and North America), A. nepalesis and A. nitida (in India), and A. cordata (in Italy). 175 RE

ALDINE LEAVES Small finishing stamps bearing a leaf and stem design. It was employed by the binders of Aldus Manutius, and also extensively by 19th century bookbinders on monastic bindings. See also: ALDINE (ITALIAN) STYLE. 334 RE

ALDINE OR ITALIAN STYLE Ornaments of solid face without any shading whatever, such as used by Aldus and other early Italian printers. The ornaments are of Arabic character. A style appropriate for early printed literature. NBL

ALDINE STYLE also *Italian style* A style of bookbinding originated by Aldus Manutius but not restricted to the books printed by Aldus or his family. Aldine bindings, which were produced during the late 15th and early 16th centuries, were characterized by the use of brown or red morocco; by solid-faced ornaments with no shading (which were similar to those used in printing the text); and by title or author in simple panels in the center of the upper cover, which could be read while the book lay on a shelf or table. Early examples of the Aldine style were tooled in blind with an outer frame and a center ornament. Possibly because of the Greek binders Aldus employed, as well as the fact that gold tooling (probably) originated in the Near East, Aldine tools display definite signs of Eastern origin. Early Italian bindings convey a consistent feeling of the shape and proportion of the book, which is demonstrated by: 1) the use of border and panel as schemes of design; 2) a remarkable sense of the value accorded ornamentation; 3) the areas of leather left undecorated; and 4) restraint in the decorative detail with the result that it was always in proper subordination to the overall effect of the embellishment. See PLATE IV. 124,172,280,334 RE



Harleian Border: Montague Style; Harleian Style; Aldine Style
James B. Nicholson, A Manual of the Art of Bookbinding, 1856

ALGAROBILLA The dry pods of a shrub native to Chile (Caesalpinia brevifolia), from which a tannin is extracted. As a tanning material, algarobilla somewhat resembles DIVI-DIVI; however, it is less prone to discolor the leather. It also produces a better weight and imparts greater firmness to leather. Algarobilla gives a light-colored tan liquor which before fermentation colors leather slightly to a light reddish yellow; however, after fermentation it produces a very bright color. It is usually blended with other tannins. Although algarobilla is one of the pyrogallol class of tannins, it penetrates the hide substance very rapidly, and has a fairly low natural pH and salts content and a relatively high acids content. The tannin content of the pods is generally in the range of 45–50%. See also: VEGETABLE TANNINS, 175 RE

Fig. 58. [149] —Algarobilla (Cæsalpinia brevifolia).
H. R. Procter, The Principles of Leather Manufacture, 1903

ALGEBRAIC CHARACTERS + is the sign of addition; as $c + d$ denotes that d is to be added to c. • - is the sign of subtraction; thus, $c - d$ implies that d is to be subtracted from c. • • × is the sign of multiplication; as $c \times d$ means the product of c and d. • ÷ is the sign of division; as $c \div d$ signifies the quotient of c and d. • = is the sign of equality; thus $c + d = e$ means the sum of c and d equals e. • √ is the sign of the square root; thus $\sqrt{x}$ denotes the square root of x. • $\sqrt[3]{}$ is the sign of the cube root, and generally any root of a quantity may be denoted by this sign, with the index of the root placed over it; thus $\sqrt[3]{x}$ signifies the cube root, $\sqrt[4]{x}$ the biquadrate root, &c.; but they may likewise be represented by the reciprocals of these indices; as $x^{1/2}$, $x^{1/3}$, implying the square and cube roots of x. • A vinculum is a line drawn over several quantities, and means that they are taken together, as $\sqrt{ax + b}$ signifies the square root of ax and b.—Phillips's Compendium of Algebra. 12mo. 1824. • Almanack. *See* Nautical Almanack. DAP

ALKALI A substance which has the properties of a base, especially a hydroxide or carbonate of an alkali metal, e.g., calcium. Since all of these substances, when dissolved, increase the hydroxyl ion concentration, the term alkali is synonymous with base. An aqueous alkaline solution is one with a pH value greater than 7.0. Alkalies are used in conservation work principally in adhesives, and in deacidifying and buffering paper. See also: ALKALINE RESERVE; HYDROGEN-ION CONCENTRATION. RE

ALKALINE BUFFER See: ALKALINE RESERVE. RE

ALKALINE FILLER A FILLER (2) used in the manufacture of paper. Calcium carbonate ($CaCO_3$) is

the most commonly used alkaline filler. RE

ALKALINE PROCESS A method of treating fibrous raw materials with alkaline solutions to liberate fibers or to purify paper pulps. Lime, sodium carbonate, sodium hydroxide, sodium sulfate, and sodium sulfide are used in this process, with sodium hydroxide being used most often. It may be used in both the sulfate and sulfite processes. 17,144 RE

ALKALINE RESERVE A buffer, or reserve, of an alkaline substance added to a paper for the purpose of counteracting any acid which may be introduced into it subsequent to DEACIDIFICATION. Soaking paper in a solution of calcium bicarbonate or magnesium bicarbonate adds a small amount of calcium or magnesium carbonate which neutralizes any acid present and also provides a reserve to counteract acid which may enter the paper at some future time. (The bicarbonates are converted to the carbonates during the drying of the paper, with the liberation of carbon dioxide.) The treatment is effective only as long as free alkali remains. Papers which are to remain acid free for long periods of time, e.g., 500 years, should have approximately 3% precipitated carbonate by weight of paper. 198 RE

ALL ALONG also *all on* A method of sewing a book, usually by hand and generally on cords or tapes. The thread goes "all along," inside the fold of the section—that is, from kettle stitch to kettle stitch of each successive section, one complete length of thread for each section. "All along" is traditionally associated with the best method of sewing a book by hand, although books were sewn TWO ON and even THREE ON when the sections were very thin or when an economical method was required. The term is also used, somewhat incorrectly, to describe machine book sewing when each section is sewn with the full number of threads. Also called "one on" and "one sheet on." 236,335 RE

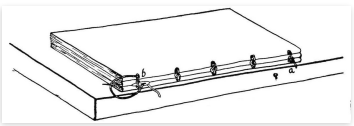


Fig. 14. Sewing all along. a. first two sections tied. b. Kettlestitch.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

ALL ON See: ALL ALONG. RE

ALL-ALONG **1.** When a volume is sewed, and the thread passes from kettle-stitch to kettle-stitch, or from end to end in each sheet, it is said to be sewed "all-along." ABB **2.** When a volume is sewed, and the thread passes from kettlestitch to kettlestitch, or from end to end in each sheet, it is said to be sewed all-along. NBL

ALL-OVER STYLE 1. A style of finishing in which the entire cover, as distinct from the corners, center or borders, is decorated by a single motif, multiple motifs, or a decorative roll. 2. Any pattern in a book cloth which runs both across and down the roll. 130,156 RE

ALLEY The space between two stands. AMP

Fig. 54. View of the scriptorium alley of the cloisters at Gloucester, showing the recesses to hold the wooden carrels for the scribes or readers of manuscripts.
J. H. Middleton, Illuminated Manuscripts in Classical and Mediaeval Times, 1892

ALLIGATOR GRAINED LEATHER A grain effect embossed on various types of leathers, such as calf, sheep, or cow, in imitation of the genuine reptilian leather. See: ALLIGATOR LEATHER. RE

ALLIGATOR LEATHER A leather produced from the skin of any member of the reptilian order Crocodilla. Generally, only the belly area of the animal is used, the heavily scaled back being too course and horny. The beauty of alligator leather stems in part from the fact that the scales have a natural "enamel," which, originally, was usually destroyed by crude tanning methods. Later it was preserved, and even enhanced, by "plating" the skin with heated metal plates which gave it its high glaze. Alligator leather is very durable and also very expensive. This term is largely confined to the United States; in Europe it is generally called "crocodile leather." 351,363 RE

ALPHA CELLULOSE That part of a cellulosic material that is insoluble in a 17.5% solution of sodium hydroxide at 20° C. under specified conditions. While alpha cellulose consists principally of cel-

lulose, it does include other components that are insoluble under the test conditions. Because the permanence of paper depends to some extent on the absence of non-cellulosic impurities, the determination of true cellulose (alpha cellulose) gives an indication of the stability of the paper, and therefore its permanence. See also: BETA CELLULOSE; CELLULOSE; GAMMA CELLULOSE. 17,72,144 RE

ALPHA GRASS See: ESPARTO (GRASS). RE

ALPHA PROTEIN A soy bean protein used in the manufacture of adhesives that are to be combined with casein glues, or used for coating paper. RE

ALPHABET A perfect alphabet of the English language, and, indeed, of every other language, would contain a number of letters, precisely equal to the number of simple articulate sounds belonging to the language. Every simple sound would have its distinct character; and that character be the representative of no other sound. But this is far from being the state of the English alphabet. It has more original sounds than distinct significant letters; and, consequently, some of these letters are made to represent, not one sound alone, but several sounds. This will appear by reflecting, that the sounds signified by the united letters *th*, *sh*, *ng*, are elementary, and have no single appropriate characters, in our alphabet; and the letters *a* and *u* represent the different sounds heard in *hat*, *hate*, *hall*; and *but*, *bull*, *mute*. • The letters of the English language, called the English Alphabet, are twenty-six in number.—Murray. • The following is a list of the Roman, Italic, and Old English Characters, being those used at the present day in England. The Roman and Italic are also used by most of the European nations. • For the characters of the different languages, *see* their respective names, Arabic, &c. • Tacquet, an able mathematician, in his Arithmeticæ Theor., *Amst.* 1704, states, that the various combinations of the twenty-four letters (without any repetition) will amount to • 620,448,401,733,239,439,360,000. • Thus it is evident, that twenty-four letters will admit of an infinity of combinations and arrangements, sufficient to represent not only all the conceptions of the mind, but all words in all languages whatever. • Clavius the Jesuit, who also computes these combinations, makes them to be only 5,852,616,738,497,664,000. • As there are more sounds in some languages than in others, it follows of course that the number of elementary characters, or letters, must vary in the alphabets of different languages. The Hebrew, Samaritan, and Syriac alphabets, have twenty-two letters; the Arabic, twenty-eight; the Persic, and Egyptian or Coptic, thirty-two; the present Russian, forty-one; the Shanscrit, fifty; the Cashmirian and Malabaric are still more numerous.—Astle. DAP

English Alphabet with Old English characters
William Savage, A Dictionary of the Art of Printing, 1841

ALTERATION OF MARGIN In works that are published in different sizes, this is the changing of the margin from the small paper to the large paper edition, when at press. • After the margin for the small paper copies is finally made, the additional width of the gutters, the backs, and the heads, is ascertained in the same manner, by folding a sheet of the large paper, that it was in the first instance. The additional pieces for the change should, if possible, be in one piece for each part. *See* Margin. • Folios, quartos, and octavos, are the sizes most usually printed with an alteration of margin; duodecimos are sometimes, but rarely; of smaller sizes I never knew an instance. • The alteration of margin requires care, for it occasionally happens that the sheet is imposed with the wrong furniture; and where it happens to be in one form only, and that form is first laid on, it sometimes passes undiscovered till a revise of the second form is pulled, when the error is detected, but too late to rectify it; the consequence must be, to cancel a part of the sheet, or to print the reiteration with the margin also wrong; nay, sometimes both forms are worked off with the furniture wrong, without being perceived till the compositor comes to distribute, particularly when they are printed at different presses. Such errors destroy the uniformity of the book, and spoil its appearance. • These mistakes can only be avoided by care and attention on the part of the compositor, the reader, and the pressman; but I would recommend that the furniture for the alteration should be cut of different lengths from the furniture of the small paper: in octavos the gutters and backs should be the exact length of the page, and be always imposed within the sidestick; and the head should be the width of the two pages and the gutter, and be imposed within the footstick. This method of cutting the furniture of precise lengths for the alteration, and locking it up within the side and foot sticks, will not only distinguish it from the rest of the furniture, and

from the pieces that may be put in for the convenience of quoining the form, but will also preserve it from being injured by the mallet and shooting stick, in locking up, and by the indention of the quoins. • The same principle, of cutting the alteration to precise lengths, and locking it up within the side and foot sticks, will hold good in all other sizes, where it is required: in quartos, the pieces must be cut to the length and width of the page; and in folios to the length of the page only, as the margin of the head is regulated at the press. DAP

ALUM A salt used in papermaking and in the TAWING of skins. True (potash) alum is chemically a double salt of aluminum, or potassium aluminum sulfate ($K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$). The papermaker's alum in use today is not true alum, but either aluminum sulfate ($A_{12}(SO_4)_3 \cdot 14H_2O$), ($A_{l2}(SO_4)_3 \cdot 18H_2O$), or a mixture of these hydrates, and is manufactured by treating pulverized bauxite with sulfuric acid. It is soluble in water, and, while slightly alkaline in the dry form, it is decidedly acidic when dissolved in water. Alum has two major functions in papermaking: 1) to control pH; and 2) because of its floculating ability, to retain other additives in the paper, notably the sizing agent. • ROSIN is a basic material used in sizing paper today. As a sizing agent it imparts water (ink) resistance to paper; however, in order for the rosin to be able to impart water resistance it must be rendered insoluble, which is the function if alum. • Although the full role of alum in the sizing of paper is not completely understood, one of its functions is to make rosin come out of solution (precipitate) while it is in close contact with the fibers of the paper-making slurry. The fibers are thus coated and impregnated with a solid and water-resistant mixture of rosin and what is probably a compound of rosin and aluminum oxide. • Although the excessive use of alum is considered detrimental to the permanence of paper, the papermaker tends to overdose with alum rather than underdose, so as to avoid soft-sizing. In addition, alum is considered by some papermakers to be a panacea for other troubles, such as frothing, sticking of the paper web to the wet presses of the papermaking machine, etc. Overdosing with alum leads to excessive acidity and, under certain circumstances, may lead to severe deterioration of the paper. While alum is not a particularly strong acid, in the presence of certain other substances it can assume a greater strength. Chlorides, which may be present in the paper as a result of bleaching processes, or natural to the water itself, can be particularly harmful. Excessive alum, in the form of aluminum sulfate, may react with chlorides present to form aluminum chloride ($AlCl_3$), which in the presence of moisture and heat, will form hydrochloric acid (HCl)—one of the most powerful of all acids in its effect on cellulose. • Alum is sometimes used in solution to wash the leaves of books; in the past it was added to paste to act as a preservative, or as a hardener to render the dry paste less water soluble. It is also used at times as a mordant for marbling colors. See also: ALUM WATER. 32,43,72,195,236 RE

ALUM WATER ALUM dissolved in water and used to sponge paper and the edges of books before laying on the marbling colors. The alum acts as a binding medium, attracting and securing the ox-gall and colors to the paper. It also acts as a mordant and is also useful in counteracting excessive gall. 161,264,335 RE

ALUM-SIZE BATH A size bath consisting of ALUM dissolved in water and used by some restorers to remove coffee, tea, blood and some ink stains from paper. 335 RE

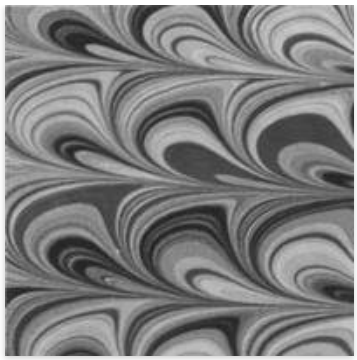
ALUM-TAWED SKIN also *alum-tawed "leather"* See: TAWING. RE

ALUMINUM LEAF A bright leaf or foil made of aluminum and often substituted for silver in blocking edition bindings. While it tarnishes less rapidly than silver, it lacks the appearance of richness and depth of silver leaf. It is also less expensive. 83,140 RE

ALUMINUM SULFATE A salt of aluminum ($Al_2(SO_4)_3$), occurring naturally in considerable quantities in alumstone (alumite) and feather alum. It is manufactured by treating bauxite with 80% sulfuric acid at 110° C., the resulting solution being purified, concentrated, and allowed to solidify. See also: ALUM. RE

AMERICAN LEATHER An obsolete term for one of the varieties of enameled cloth made to imitate leather. See also: IMITATION LEATHER. 256 RE

AMERICAN MARBLE A drawn marble pattern usually used on the edges of stationery bindings, and consisting of black, blue surrounding the black, yellow on the blue, and red on the yellow. The marble is drawn in the same manner as the comb NONPAREIL MARBLE, with an additional drawing of the comb the width of the trough. 264,339 RE



AMERICAN MARBLE.
Josef Halfer, The Progress of the Marbling Art, 1893

American Russia An imitation RUSSIA LEATHER produced from cowhide or the hide of the American buffalo (bison). It is usually a straight-grained leather. Also called "Russia cowhide." RE

… Try our Alderney Brand American Russia. …
Josef Halfer, The Progress of the Marbling Art, 1893

AMORPHOUS A term applied to adhesives, with reference to their non-crystalline structure. RE

AMYL ACETATE A colorless, volatile liquid ester ($C_7H_{14}O_2$) that is very slightly soluble in water, but miscible in alcohol and ether. It is used as a solvent for CELLULOSE ACETATE. Although at one time it was believed to have a preservative effect when applied to leather, it is much too volatile to have afforded lasting protection, even if initially effective. RE

AMYLACEOUS Pertaining to, or of the nature of STARCH; starchy. See also: PASTE. RE

ANCHORING See: TYING DOWN. See also: HEADBAND. RE

ANCIENT CUSTOMS DAP

The following Customs used in Printing Offices in former times are extracted from Moxon's Mechanick Exercises, published in 1683, the first practical work that appeared on the Art of Printing. I insert them because I think it interesting to trace the old Customs, that were established by printers to preserve Order among themselves; and to show the changes that have taken place since that period. The insertion of them in this place will also tend to preserve them, as the original work is now very scarce, and this department of it has been superseded by subsequent publications, which however, with the exception of Mr. Hansard's work, have not copied these Customs.

"*Ancient Customs used in a Printing-house.*

"Every *Printing-house* is by the Custom of Time out of mind, called a *Chappel*; and all the Workmen that belong to it are *Members of the Chappel*: and the Oldest Freeman is *Father of the Chappel*. I suppose the stile was originally conferred upon it by the courtesie of some great Churchman, or men, (doubtless when Chappels were in more veneration than of late years they have been here in *England*) who for the Books of Divinity that proceeded from a *Printing-house*, gave it the Reverend Title of *Chappel*.

"There have been formerly Customs and By-Laws made and intended for the well and good Government of the *Chappel*, and for the more Civil and orderly deportment of all its Members while in the *Chappel*; and the Penalty for the breach of any of these Laws and Customs is in Printers Language called a *Solace*.

"And the Judges of these *Solaces*, and other Controversies relating to the *Chappel* or any of its Members, was plurality of Votes in the *Chappel*. It being asserted as a Maxim, *That the Chappel cannot Err*. But when any Controversie is thus decided, it always ends in the Good of the *Chappel*.

"1. Swearing in the *Chappel*, a *Solace*.

"2. Fighting in the *Chappel*, a *Solace*.

"3. Abusive Language, or giving the Ly in the *Chappel*, a *Solace*.

"4. To be Drunk in the *Chappel*, a *Solace*.

"5. For any of the Workmen to leave his Candle burning at Night, a *Solace*.

"6. If the *Compositer* let fall his *Composing-stick*, and another take it up, a *Solace*.

"7. Three *Letters* and a *Space* to lye under the *Compositers Case*, a *Solace*.

"8. If a *Press-man* let fall his *Ball* or *Balls*, and another take it up, a *Solace*.

"9. If a *Press-man* leave his *Blankets* in the *Tympan* at Noon or Night, a *Solace*.

"These *Solaces* were to be bought off, for the good of the *Chappel*: Nor were the price of these *Solaces* alike: For some were 12*d.* 6*d.* 4*d.* 2*d.* 1*d. ob.* according to the nature and quality of the *Solace*.

"But if the Delinquent prov'd Obstinate or Refractory, and would not pay his *Solace* at the Price of the *Chappel*, they *Solac'd* him.

"The manner of *Solacing*, thus.

"The Workmen take him by force, and lay him on his Belly athwart the *Correcting-stone*, and held him there while another of the Work-men with a Paper-board, gave him 10*l. and a Purse*, viz. Eleven blows on his Buttocks; which he laid on according to his own mercy. For Tradition tells us, that about 50 years ago one was *Solaced* with so much violence, that he presently P——d Blood; and shortly after dyed of it.

"These nine *Solaces* were all the *Solaces* usually and generally accepted: yet in some particular *Chappels* the Work-men did by consent make other *Solaces*, viz.

"That it should be a *Solace* for any of the Workmen to mention Joyning their Penny or more apiece to send for Drink.

"To mention spending *Chappel-money* till *Saturday* night, or any other before agreed time.

"To Play at *Quadrats*, or excite any of the *Chappel* to Play at *Quadrats*; either for Money or Drink.

"This *Solace* is generally purchas'd by the Master-Printer; as well because it hinders the Workmens work, as because it Batters and spoils the Quadrats: For the manner how they Play with them is Thus: They take five or seven more m *Quadrats* (generally of the *English Body*) and holding their Hand below the Surface of the *Correcting Stone*, shake them in their Hand, and toss them upon the *Stone*, and then count how many *Nicks* upwards each man throws in three times, or any other number of times agreed on: And he that throws most Wins the Bett of all the rest, and stands out free, till the rest have try'd who throws fewest *Nicks* upwards in so many throws; for all the rest are free: and he pays the Bett.

"For any to *Take up a Sheet*, if he receiv'd *Copy-money*; Or if he receiv'd no *Copy-money*, and did *Take up a Sheet*, and carryed that Sheet or Sheets off

the Printing-House till the whole Book was Printed off and Publisht.

"Any of the Workmen may purchase a *Solace* for any trivial matter, if the rest of the *Chappel* consent to it. As if any of the Workmen Sing in the *Chappel*; he that is offended at it may, with the *Chappels* Consent purchase a penny or two penny *Solace* for any Workmans singing after the *Solace* is made; Or if a Workman or a Stranger salute a Woman in the *Chappel*, after the making of the *Solace*, it is a *Solace* of such a Value as is agreed on.

"The price of all *Solaces* to be purchased is wholly Arbitrary in the *Chappel*. And a Penny *Solace* may perhaps cost the Purchaser Six Pence, Twelve Pence, or more for the *Good of the Chappel*.

"Yet sometimes *Solaces* may cost double the Purchase or more. As if some *Compositer* have (to affront a *Press-man*) put a Wisp of Hay in the *Press-man's Ball-Racks*; If the *Press-man* cannot well brook this affront, he will lay six Pence down on the *Correcting Stone* to purchase a *Solace* of twelve pence upon him that did it; and the *Chappel* cannot in Justice refuse to grant it: because it tends to the *Good of the Chappel*: And being granted, it becomes every Members duty to make what discovery he can: because it tends to the farther *Good of the Chappel*: And by this means it seldom happens but the Agressor is found out.

"Nor did *Solaces* reach only the *Members of the Chappel*, but also Strangers that came into the *Chappel*, and offered affronts or indignities to the *Chappel*, or any of its Members; the *Chappel* would determine it a *Solace*. Example,

"It was a *Solace* for any to come to the *King's Printing-house* and ask for a Ballad.

"For any to come and enquire of a *Compositer*, whether he had News of such a Galley at Sea.

"For any to bring a Wisp of Hay, directed to any of the *Press-men*.

"And such Strangers were commonly sent by some who knew the *Customs of the Chappel*, and had a mind to put a Trick upon the Stranger.

"Other Customs were used in the *Chappel*, which were not *Solaces*, viz. Every new Workman to pay half a Crown; which is called his *Benvenue*: This *Benvenue* being so constant a Custome is still lookt upon by all Workmen as the undoubted Right of the *Chappel*, and therefore never disputed; yet he who has not paid his *Benvenue* is no Member of the *Chappel* nor enjoys any benefit of *Chappel-Money*.

"If a Journey-man Wrought formerly upon the same Printing House, and comes again to Work on it, pays but half a *Benvenue*.

"If a Journey-man *Smout* more or less on another Printing-House and any of the *Chappel* can prove it, he pays half a *Benvenue*.

"I told you before that abusive Language or giving the Lye was a *Solace*: But if in discourse, when any of the Workmen affirm any thing that is not believed, the *Compositer* knocks with the back corner of his *Composing-stick* against the lower Ledge of his *Lower Case*, and the *Press-man* knocks the handles of his *Ball-stocks* together: Thereby signifying the discredit they give to his Story.

"It is now customary that Journey-men are paid for all Church Holy days that fall not on a *Sunday*, Whether they Work or no: And they are by Contract with the Master Printer paid proportionably for what they undertake to Earn every Working day, be it half a Crown, two Shillings, three Shillings, four Shillings, &c.

"It is also customary for all the Journey-men to make every Year new Paper Windows, whether the old will serve again or no; Because that day they make them, the Master Printer gives them a *Way-goose*; that is, he makes them a good Feast, and not only entertains them at his own House, but besides, gives them Money to spend at the Ale-house or Tavern at Night; And to this Feast they invite the *Correcter*, *Founder*, *Smith*, *Joyner*, and *Inck-maker*, who all of them severally (except the *Correcter* in his own Civility) open their Purse-strings and add their Benevolence (which Workmen account their duty, because they generally chuse these Workmen) to the Master Printers: But from the *Correcter* they expect nothing, because the Master Printer chusing him, the Workmen can do him no kindness.

"These Way-gooses, are always kept about Bartholemew-tide. And till the Master-Printer have given this *Way-goose*, the journey-men do not use to work by Candle Light.

"If a Journey-man marry, he pays half a Crown to the *Chappel*.

"When his Wife comes to the *Chappel*, she pays six Pence: and then all the Journey-men joyn their two Pence apiece to Welcome her.

"If a Journeyman have a Son born, he pays one Shilling.

"If a Daughter born, six Pence.

"The *Father* of the *Chappel* drinks first of *Chapel Drink*, except some other Journey-man have a *Token*; viz. Some agreed piece of Coin or Mettle markt by consent of the *Chappel*: for then producing that *Token*, he Drinks first. This *Token* is always given to him who in the Round should have

Drank, had the last *Chappel-drink* held out. Therefore when *Chappel-drink comes in*, they generally say, *Who has the Token?*

"Though these Customs are no *Solaces*; yet the *Chappel* Excommunicates the Delinquent; and he shall have no benefit of *Chappel-money* till he have paid.

"It is also customary in some Printing-houses that if the *Compositer* or *Press-man* make either the other stand still through the neglect of their contracted Task, that then he who neglected, shall pay him that stands still as much as if he had Wrought.

"The Compositers are Jocosely called *Galley Slaves*: Because allusively they are as it were bound to their *Gallies*.

"And the *Press-men* are Jocosely called *Horses*: Because of the hard Labour they go through all day long.

"An Apprentice when he is Bound pays half a Crown to the *Chappel*, and when he is made Free, another half Crown to the *Chappel*; but is yet no Member of the *Chappel*; And if he continue to Work Journey-work in the same House, he pays another half Crown, and is then a Member of the *Chappel*.

"The Printers of *London*, Masters and Journeymen, have every Year a general Feast, which since the re-building of Stationers Hall is commonly kept there. This Feast is made by four Stewards, viz. two Masters and two Journey-men; which Stewards, with the Collection of half a Crown apiece of every Guest, defray the Charges of the whole Feast; And as they collect the Half-Crowns, they deliver every Guest a Ticket, wherein is specified the Time and Place they are to meet at, and the Church they are to go to: To which Ticket is affixed the Names and Seals of each Steward.

"It is commonly kept on or about *May-day*: When, about ten a Clock in the Morning they meet at *Stationers Hall*, and from thence go to some Church thereabouts; Four Whifflers (as Servitures) by two and two walking before with White Staves in their Hands, and Red and Blew Ribbons hung Belt-wise upon their left Shoulders. Those go before to make way for the Company. Then walks the Beadle of the Company of *Stationers*, with the Company's Staff in his Hand, and Ribbons as the Whifflers, and after him the Divine (whom the Stewards before ingag'd to Preach them a Sermon) and his Reader. Then the Stewards walk by two and two, with long White Wands in their Hands, and all the rest of the Company follows, till they enter the Church.

"Then Divine Service begins, Anthems are Sung, and a Sermon Preached to suit the Solemnity: Which ended, they in the same order walk back again to *Stationers Hall*; where they are immediately entertain'd with the City Weights and other Musick: And as every Guest enters, he delivers his Ticket (which gives him Admittance) to a Person appointed by the Stewards to receive it.

"The Master, Wardens and other Grandees of the Company (although perhaps no Printers) are yet commonly invited, and take their Seats at the upper Table, and the rest of the Company where it pleases them best. The Tables being furnish'd with variety of Dishes of the best Cheer: And to make the entertainment more splendid is usher'd in with Loud Musick. And after Grace is said (commonly by the Minister that Preach'd the Sermon) every one Feasts himself with what he likes Best; whiles the Whifflers and other Officers Wait with Napkins, Plates, Beer, Ale, and Wine, of all sorts, to accommodate each Guest according to his desire. And to make their Cheer go cheerfuller down, are entertained with Musick and Songs all Dinner time.

"Dinner being near ended, the Kings and the Dukes Healths is begun, by the several Stewards at the several Tables, and goes orderly round to all the Guests.

"And whiles these Healths are Drinking, each Steward sets a Plate on each Table, beginning at the upper end, and conveying it downwards, to Collect the Benevolence of Charitable minds towards the relief of *Printers* Poor Widows. And at the same time each Steward distributes a Catalogue of such Printers as have held Stewards ever since the Feast was first kept, *viz.* from the Year of Christ 1621.

"After Dinner, and Grace said, the Ceremony of Electing new Stewards for the next Year begins: Therefore the present Stewards withdraw into another Room: And put Garlands of Green Lawrel, or of Box on their Heads, and White-wands in their Hands, and are again Usher'd out of the withdrawing Room by the Beadle of the Company, with the Companys Staff in his Hand, and with Musick sounding before them: Then follows one of the Whifflers with a great Bowl of White-wine and Sugar in his Right Hand, and his Whifflers Staff in his Left: Then follows the Eldest Steward, and then another Whiffler, as the first, with a Bowl of White-wine and Sugar before the second Steward, and in like manner another Whiffler before the Third, and another before the Fourth. And thus they walk with Musick sounding before them three times round the Hall: And in a fourth round the first

Steward takes the Bowl of his Whiffler and Drinks to one (whom before he resolved on) by the Title of Mr. Steward Elect: And taking the Garland off his own Head puts it upon the Steward Elects Head. At which Ceremony the Spectators clap their Hands, and such as stand on the Tables or Benches, so Drum with their Feet that the whole Hall is filled with Noise, as applauding the Choice. Then the present Steward takes out the Steward Elect, giving him the Right Hand, and walks with him Hand in Hand, behind the three present Stewards another Round about the Hall: And in the next Round, as aforesaid, the second Steward Drinks to another with the same Ceremony as the first did; and so the Third Steward, and so the Fourth, and then all walk one Round more Hand in Hand about the Hall, that the Company may take notice of the Stewards Elect. And so ends the Ceremony of the Day.

"This Ceremony being over, such as will go their ways; but others that stay, are Diverted with Musick, Songs, Dancing, Farcing, &c. till at last they all find it time to depart."

Ancient Names of Cities and Towns. *See* Names.

Anglo-Saxon. *See* Saxon.

ANGLOS An imitation RUSSIA LEATHER made in Great Britain from cowhide. See also: AMERICAN RUSSIA. 343 RE

ANHYDROUS A term normally used with reference to the chemical salts and solvents, lanolin, etc., meaning that they are free of water. RE

ANHYDROUS LANOLIN See LANOLIN. RE

ANILINE An aromatic primary amine ($C_6H_5NH_2$). It is a derivative of ammonia in which one hydrogen atom is replaced by the phenyl group. It is manufactured by the reduction of nitrobenzene with iron filings and either hydrochloric acid or ferrous chloride, and subsequent steam distillation after the addition of lime. Aniline is an oily, colorless, toxic liquid, which darkens upon exposure to air. It is soluble in water, alcohol, and ether, and forms a number of salts. It is the base from which a great number of intermediates for dyes are prepared, including dimethylaniline and diethylaniline, which in turn yield many so-called BASIC DYES, such as methyl violet, methyline blue and malachite green. 195 RE

ANILINE DYED A leather that has been dyed by immersion in a dyebath and has not received any coating or pigment finish. 61 RE

ANILINE DYES A class of synthetic, organic dyes originally obtained from aniline (coal tars), which were, in fact, the first synthetic dyes. Today the term is used with reference to any synthetic organic dyes and pigments, regardless of source, in contrast to animal or vegetable coloring materials, natural earth pigments, and synthetic inorganic pigments. Aniline dyes are classified according to their degree of brightness or their light fastness. Basic dyes are known for their extreme brightness, as well as for their lack of COLOR FASTNESS. • Aniline dyes are used to impart color to paper, cloth, leather, etc. Also called "coal tar dyes." See also: ACID DYES; BASIC DYES; DIRECT DYES; DYE; LAKE. 17,164,343 RE

ANILINE INK An inexpensive volatile printing ink consisting of a dyestuff dissolved in a methylated spirit and bound with a resin. It is considered to be a very fast drying ink. Aniline inks are considerably inferior in permanence to many other types of ink, and are also subject to smudging by water. Although all colors are available, they are lacking in COLOR FASTNESS. 144 RE

ANILINE LEATHER A hide or skin that has been tanned with a vegetable material and then colored either by immersion in a dyebath or by staining, and has not been coated or pigmented. Leather so colored has a depth of coloring said to be superior to pigment coloration. 351 RE

ANILINE STAINED A leather that has been colored by brushing, padding, or spraying, but which has not received any coating or pigmented finish. RE

ANIMAL GLUE See: GLUE. RE

ANIMAL SIZE See: SIZE. 2,3 RE

ANIMAL SIZED A paper sized with a gelatin or glue (and sometimes alum, which acts as an insolubilizer). The gelatin or glue-and-alum solution acts as a preservative and enhances the water resistance of the paper. Generally, only high-grade writing papers, bonds, ledgers, and handmade paper are animal sized. See also: SURFACE SIZED; TUB SIZED. 17,82,316 RE

ANIMALS-IN-FOLIAGE PANEL A form of decoration consisting of a PANEL (1) divided in half vertically, each half containing curving foliage with an animal within each curve. 250 RE

ANIONIC (SUBSTANCES) Substances, such as dyes, tannins, oils, etc., that dissolve in water and ionize so that the characteristic ion (dye,

tannin, oil, etc.) is the anion and carries a negative charge. They tend to precipitate with CATIONIC (positive charge) SUBSTANCES. 98,306 RE

ANISEED The seed of anise (Pimpinella anisum), which produces a pungent oil once used as a preservative for paste. RE

ANISOTROPIC BEHAVIOR A material, e.g., paper, that exhibits different properties when tested along axes of different direction. Because paper is hygroscopic, a change in the dimension of its fibers takes place when the relative humidity around it changes; the change is transmitted to the entire sheet, with the result that its length and width are increased or decreased. As the majority of the fibers in machine-made paper lie in the direction of the moving wire of the papermaking machine, i.e., the MACHINE DIRECTION, by far the greater expansion or contraction of dimension of such a paper is in the CROSS DIRECTION, sometimes being on the order of 1.5 to 4.0 times that in the machine direction. • Paper exhibits anisotropic behavior basically because of two factors: 1) as stated above, the orientation of the fibers in the machine direction causes them, and therefore the sheet, to expand or contract preferentially in the cross direction. In fact, at one time it was thought that this was the major reason for anisotropic behavior in paper; 2) more recently, however, although orientation of the fibers is still thought to play a role in the behavior, the major reason is considered to be built-in strain, also known as dried-in strain. The matting of fibers formed from the wet slurry on the wire of the machine moves into the dry end of the papermaking machine and is dried rapidly in the drier sections. Because it is wet, the web will contract during drying. Because the tension of the web is in the plane of the machine direction, the paper is able to contract considerably in the cross direction but not in the machine direction, which results in a built- or dried-in strain. The drying is actually so rapid that relaxation of the strain is impossible on the machine, nor does it occur after the web of paper leaves the machine as the dried paper does not have sufficient plasticity for this to happen. Consequently, a machine-made paper has an inherent dried-in strain. Actually, there is some dried-in strain in the cross direction also, as the felts of the machine reduce shrinkage somewhat in that direction. This characteristic results in an anisotropic sheet, one which will expand more in the cross direction than in the machine direction when exposed to an increase in the relative humidity of the surrounding atmosphere. If, at some time in the future, the paper is wetted in water, the dried-in strains will be released and, if the sheet is then allowed to dry freely and without restraint, its anisotropic characteristics will be largely lost. Anisotropic characteristics in paper are of great importance in printing, especially in printing processes which involve wetting the paper. RE

ANNATTO A yellowish-red coloring material obtained from the pulp surrounding the seeds of the annatto tree (Bixa orellana), and sometimes used in coloring leather and cloth. It is soluble in both alcohol and oil. Its lack of COLOR FASTNESS makes it unsuitable for archival use. RE

ANTELOPE-FINISH SUEDE A fine, soft leather having a velvety, lustrous nap. It is produced from lamb-, goat-, or calfskin, sueded on the flesh side and finished to resemble antelope leather. 61 RE

ANTEPENULTIMATE The last syllable but two of a word. DAP

ANTIBLOCKING AGENT A substance used in either a coating mixture or as an overcoating to prevent one sheet of paper from adhering to another, or to any other object, within a specified range of temperature and humidity. Antiblocking agents are usually waxes or synthetic polymers; a light dusting of talcum powder is sometimes used for the same purpose. RE

ANTICHLOR A substance used in removing the remaining traces of free chlorine or hypochlorite not removed from a paper pulp by washing. Typical antichlors include sodium bisulfite ($NaHSO_3$) and sodium thiosulfite ($Na_2S_2O_3$). The antichlor is usually added to the pulp stock near the end of the bleaching stage, and is allowed to react until no blue coloration is obtained with a potassium-starch indicator. This removes the last traces of hypochlorous acid, hypochlorite ion, and free chlorine. The reaction products are then washed out. Antichlors are seldom used in multistage bleaching operations, as they are considered to be wasteful of bleaching agents. 72 RE

ANTIFOAM AGENTS See: DEFOAMERS. RE

ANTIMONY A metalloid element (Sb) that is usually a metallic silvery white, but is also found in the black amorphous form. It has been used since at least the late 17th century to blacken the

edges of books, especially Bibles, prayer books, and the like. See also: BLACK EDGES. RE

ANTIQUE A term used to describe: 1) BLIND TOOLING; 2) a marble pattern (See: ANTIQUE MARBLE); 3) a form of edge decoration (See: ANTIQUE EDGES); 4) leather finished with an old or natural grain- and 5) a paper with a natural rough surface or finish. See: ANTIQUE BOOK PAPER. RE

Fig. 99.—Antique Marble.
W. J. E. Crane, Bookbinding for Amateurs, 1885

ANTIQUE BINDING 1. A modern binding executed in the style of some earlier period, but generally with no intent to deceive. See also: CONTEMPORARY BINDING (2). 2. See: ECCLESIASTICAL BINDINGS. RE

ANTIQUE BOOK PAPER A book paper generally produced in the United States from bleached chemical wood pulp with a large amount of short-fibered pulp and given a soft, relatively rough finish. In Great Britain it is produced largely from ESPARTO (GRASS) pulp. Antique book paper varies from lightweight to relatively heavy weight; 60 pound, basis weight antique bulks approximately 330 pages to the inch. Many books, and particularly novels, are printed on this type of paper, especially those containing only textual matter and/or bold line drawings. Antique papers generally are not suitable for fine line drawings or half-tone illustrations. 17,72 RE

ANTIQUE COVER PAPER A cover paper with an antique finish. RE

ANTIQUE EDGES also *antique style* A further embellishment of the edges of a book following gilding. It involves applying gold of a different hue, e.g., LEMON gold, over the gilded edge, with the design being worked into the overlaid gold; the untouched (new) gold then is rubbed off. Sometimes the effect of antique edges is produced without the designs if the original gold is left unburnished, or is burnished and then washed with water. The technique is seldom employed today. See also: GAUFFERED EDGES. 241,343 RE

ANTIQUE GRAIN A surface pattern on leather consisting of markings or creases, usually irregular, in which the hollows or valleys are given a contrasting color to produce a two-tone or two-color effect. The creases are produced either by EMBOSSING (1) or BOARDING (1). 61 RE

ANTIQUE MARBLE A series of marble patterns executed by dropping red, black 7 and yellow, or red, blue and yellow, on the marbling size, and raking once up and down; this is followed by an application of green coloring and, if the pattern is to be an antique spot, pink or green spots. Finally, there is a sprinkling of white. Other colors are also used. The antique marble is produced in a variety of patterns, including spots, straight, and curled. 369 RE

Fig. 99.—Antique Marble.
W. J. E. Crane, Bookbinding for Amateurs, 1885

ANTIQUE TOOLING See: BLIND TOOLING. RE

APOSTROPHE An apostrophe, marked thus ', is used to abbreviate or shorten a word: as, *'tis* for *it is*; *tho'* for *though*; *e'en* for *even*; *judg'd* for *judged*. Its chief use is to show the genitive case of nouns: as, "A man's property; a woman's ornament."—Murray. • Authors frequently, in the hurry of writing, abbreviate their words and use the apostrophe; but a compositor, however his copy may be written, should never abbreviate any word in prose works, except he be particularly ordered so to do. • The apostrophe is also used in printing to close an extract, or to show where it finishes; and in dialogues, frequently, to close each person's speech; in both cases it is usually put close to the end of the word, without any space before it, except where the word finishes with a kerned letter, and then a hair space, or one just sufficient for their preservation is used; when it comes after an ascending letter, a hair space should also be put between them. *See* Quotation. • The apostrophe is not used for abbreviation in the Holy Scriptures, nor in Forms of Prayers; but every thing there is set full and at length. To this even the Latin law language had regard, and did not shorten the word Dominus, when it had reference to God; whereas

Dom. Reg. is put where our Lord the King is understood. • Applegath, Augustus. *See* Machines. DAP

APPARENT DENSITY The weight per unit volume of a sheet of paper. It is calculated by dividing the BASIS WEIGHT of the paper by its caliper. The value so derived depends upon the definition of a ream, i.e., whether 480, 500, 516, etc., sheets. See also: DENSITY; SPECIFIC GRAVITY. 17 RE

APPARENT SPECIFIC GRAVITY The weight of a given volume of leather divided by the weight of an equal volume of water, making no allowance for voids or air spaces in the volume of leather measured. See also: SPECIFIC GRAVITY. 363 RE

APPLIQUÉ WORK A design on EMBROIDERED BINDINGS consisting of spirals in gold and silver which, when flattened, give the appearance of a series of rings. They were sometimes used as a border. When the applique was not very large, a variation was to make a series of small stitches along all edges, masking the stitches with an overlaid gold cord. 111 RE

Appliqué work, remarks on,
Cyril Davenport, English Embroidered Bookbindings, 1899

APRON 1. The lower cloth on a ruling machine that carries the ruled sheets from the lower cords to the lay-boy or receiving box. 2. The extra amount of unprinted paper left to serve as the binding edge of a leaf that folds out. See a1so: FULL APRON. RE

AQUA REGIA A mixture of nitric acid (HNO_3) and hydrochloric acid (HCl), in a solution of one part of the former to three parts of the latter. Aqua regia was used in making so-called "killed spirits," largely in the 18th century, to impart a wine-like tint to red marbling color. The "killed spirits" were produced by adding a block of tin to the acid solution, which resulted in the formation of tin chloride ($HNO_3 + HCl + Sn = SnCl + NO_2 + H_2O$) 152 RE

AQUEOUS Containing water, or water based. Adhesive systems such as starch, dextrin, natural gums, animal glue, etc., as well as some inks, certain deacidification systems, leather tannins, bleaching solutions, and the like that use water as the carrier are aqueous systems. RE

ARABESQUE A relatively old form of book decoration, revived by French gilders and reintroduced into England in about 1829. It consists of interlaced lines and convoluted curves arranged in a more or less geometrical pattern. The name derives from the fact that it was brought to its highest perfection by Near Eastern artists. The term is also used to describe a style of ornamentation in relief, consisting of fanciful human or animal figures combined with floral forms. Arabesque is also sometimes inappropriately applied to the embossed designs on book covers. 181,241,342 RE

German Arabesque.
F. Delamotte, The Book of Ornamental Alphabets, Ancient and Medieval, 1879

ARABESQUE PLATES Solid brass plates cut, usually in intaglio, with a design and imprinted on a leather cover by means of a blocking press, or large fly embossing press. 152,181 RE

ARABESQUE STYLE A fanciful mixture of animals, birds, insects, and of plants, fruits and foliage, involved and twisted. NBL

ARABIC DAP

Arabic is read from right to left. The method of composing it is upside down, and after the points are placed at the top of the letters it is turned in the composing stick.

Mr. Astle says, "The old Arabic characters are said to be of very high antiquity; for Ebn Hashem relates, that an inscription in it was found in Yaman, as old as the time of Joseph. These traditions may have given occasion to some authors to suppose the Arabians to have been the inventors of letters; and Sir Isaac Newton supposes, that Moses learned the alphabet from the Midianites, who were Arabians.

"The Arabian alphabet consists of twenty-eight letters, which are somewhat similar to the ancient Kufic, in which characters the first copies of the Alcoran were written.

"The present Arabic characters were formed by Ebn Moklah, a learned Arabian, who lived about 300 years after Mahomet. We learn from the Arabian writers themselves, that their alphabet is not ancient."

Seven different styles of writing are used by the Arabs in the present day. Herbin has given descriptions and specimens of them in an Essay on Oriental Caligraphy at the end of his "Développemens des Principes de la Langue Arabe Moderne."

The alphabets are copied, and the following observations are translated, from Baron De Sacy's Arabic Grammar, 2 vol. 8vo. *Paris*, 1831.

7. It was long thought that the written character which the Arabs most generally use at the present day, and which is called *neskhi*, was invented only about the commencement of the 4th century of the Hegira; and, indeed, it appears that the Arabs, before this epoch, used another character which we call Cufic, or Coufic, from the town of Coufa, where, doubtlessly, it first was brought into use. This character has so great a resemblance to the ancient Syriac character called *Estranghelo*, that it is extremely probable that the Arabs borrowed it from the people of Syria. Nevertheless, even the name of Coufic, given to this character, proves that it is not that which the Arabs of the Hedjaz made use of in the time of Mohammed, the town from which it takes its name having been founded only in A. H. 17. Some papyri lately discovered in Egypt have apprised us that the character which the Arabs of the Hedjaz made use of in the 1st century of the Hegira, differed little from that which is called *neskhi*. Moreover, in the time of Mohammed, writing was, among these Arabs, if we may believe their historic traditions, an invention very recent, and its use was very circumscribed. But it was otherwise, according to all appearances, among the Arabs, whether nomadic or settled, of Yemen, of Irak, and perhaps of Central Arabia; for, although we do not know the characters which the Arabs made use of in very ancient times, and the few traditions which Mussulman writers have handed down to us on this subject throw but very little light on this point of antiquity, it is scarcely possible to imagine that all the people of Arabia should have remained without a written character until the 6th century of the Christian era. The Jewish and the Christian religions were widely diffused in Arabia; the Ethiopians, who professed the latter faith, had even conquered Yemen, and retained its possession for a long while: another part of Arabia had frequent political relations with Persia, and it is found at many times in a state of dependence, more or less immediate, on the kings of the Sassanian dynasty. Under these circumstances, can it be reasonably supposed that the Arabs were ignorant of the use of writing? Is it not more likely that what history tells us of their ignorance in this respect is true only of some tribes, of those, for example, who were settled at Mecca or in the neighbourhood of that town; and that the character which these received from Mesopotamia, a short time previous to Mohammed, having been employed to write the Kurán, soon spread over all Arabia with the Mohammedan religion, and caused the other more ancient sorts of writing to fall into desuetude? It is true, no vestige of these characters remains, but if one may be permitted to hazard a conjecture, they did not materially differ from that ancient alphabet, common to a great many nations of the East, and of which the Phœnician and Palmyrenian monuments, as well as the ruins of Nakschia-Roustam and of Kirmanschah, and the coins of the Sassanides, have perpetuated the knowledge even to our own days. Perhaps another sort of writing, peculiar to Southern Arabia, was only a variety of the Ethiopic.

8. The Arabs of Africa have a character differing slightly from that made use of by the Arabs of Asia. I do not comprehend, among the Africans, the inhabitants of Egypt, for they use the same character as the Asiatics. For the sake of comparison I have shown the manner in which the Jews and

Syrians employ their peculiar character when they are writing in the Arabic language.

I do not speak here of the character called *talik* تعليق or *nestalik* نستعليق, because it is peculiar to the Persians. I may say as much of the different kinds of writing proper to the Turks or to the people of India, among whom the Mussulmans of Persia have introduced their characters with their language and religion.

Arabic Alphabet.—The Neskhi Character.

Key to Column Headers— OL - Order of the letters. NL - Names of the Letters. U - Unconnected. JP - Joined to the preceding Letter only. J - Joined to the preceding and following Letter. JF - Joined to the following Letter only. PL - Powers of the Letters. NV - Numerical Value.

Harmonical Alphabet, Arabic, Hebrew, and Syriac.

Observations on the Alphabet.

9. The letters of the Arabic alphabet have not always been arranged in the order in which they are at the present day. The Arabs themselves have preserved the remembrance of a more ancient order, and the value which they give to the letters when they are employed as figures, confirms the existence of this order, which they term *aboudjed*, in like manner as we call the alphabet *a be ce*.

The twenty-two first letters of the Arabic alphabet, thus arranged, are the same, and follow the same order, as those of the Hebrews and Syrians. It is very probable that the Arabs, as well as the others, had only these twenty-two letters originally, and that the other six were added afterwards, though it is not possible to determine precisely the time at which this addition took place.

10. The *lam-elif* لا is not a character *per se*, but only a junction of the *lam* ل to the *élif* ا.

12. The alphabet is divided into eight columns: the first contains the numbers which indicate the order of the letters; the second, the names of the letters; the third, fourth, fifth, and sixth show the different forms of which each letter is susceptible when it is, first, entirely isolated; second, joined only to that which precedes it; third, joined to that which precedes and also to that which follows it; and, fourth, joined only to that which follows it. There are several letters which are never joined to those which follow them: this causes the blanks in the fifth and sixth columns. It is as well, however, to observe, that when the د, the ذ, the ر, the ز, and the و, are found followed by ه, at the end of a word, they may be joined together.

13. Many letters differ from each other only by the absence or addition of one or more points. These points are called by the Arabs نُقْطَة; we call them diacritical points, a term derived from the Greek, signifying *distinctive*.

30. The *elif* ا, when marked with the *hamza* ء, is not a vowel. The sound may then be compared to the *h* not aspirated in the French words *habit*, *histoire*, *homme*, *Hubert*.

The *elif*, without the *hamza*, has no pronunciation of its own; it serves only to prolong the vowel *a* which precedes it; sometimes this vowel and the *elif* which follows, take a strong sound approaching to the French *i*.

31. The ب answers to *B*, and the ت to *T*. In Africa the pronunciation of ث is often given to the letter ت.

32. The ث answers to the English *th*, as in the word *thing*; and it cannot be rendered in French better than by the two letters *TS*. The greater part of the Arabs make no distinction between the pronunciation of this letter and that of ت; some indeed regard as vicious the pronunciation here indicated. The Persians and the Turks pronounce the ث as the French ç; I render it ordinarily by *TH*.

33. The ج represents a sound similar to that of the Italian *g*, when followed by an *i*, as in *giardino*, and may be expressed by the letters *DJ*. This pronunciation, which is most used, is that of the people of Arabia and Syria; but in Egypt, at Muscat, and perhaps in some other provinces, the ج is pronounced as *g* hard followed by an *a* or *o*, as in *garrison*, *agony*.

34. The ح indicates an aspiration stronger than that of the French *h* in the words *heurter*, *héros*, and similar to the manner in which the Florentines pronounce the *c* before *a* and *o*. At the end of words, this aspiration is still more difficult to imitate. For example, the word لُوح is pronounced as *louèh*.

35. The خ answers to the *ch* of the Germans when it is preceded by an *a* or an *o*, as in the words *nacht*, *noch*.

36. The د answers exactly to *D*.

37. The ذ represents a sound which is to that of د very nearly as the ث is to that of ت. It is expressed in French by the two letters *DZ* or *DH*. Most nations who speak the Arabic language make no difference between this letter and the preceding; they pronounce both as our *D*. Some others, as the Arabs of Muscat, pronounce the ذ as the French *Z*, and such is the usage of the Persians and Turks.

38. The ر answers exactly to *R*; and the ز to *Z*.

39. The س answers to the sound of *s*, when it is at the beginning of words. When this letter is found, in Arabic words, between two vowels, it may be rendered by ç, that its pronunciation may not be

confounded with that of *z*, which takes the sound of *s*, in similar cases, in French words.

40. The sound of ش is exactly rendered by the French *CH*, (*sj* Dutch, *sch* German, *sh* English). Many French writers render it by the three letters *SCH*, in order that foreigners may not confound its pronunciation with that of خ, which is the custom I generally follow.

From the manner in which the Arabs of Spain transcribed Spanish in Arabic characters, there is reason to believe that they pronounced the ش as an *s* strongly articulated, and the س as the *ç* or *z*.

41. The ص answers to our *S*, but it ought to be pronounced a little more strongly than the س, or with a sort of emphasis. It appears that the pronunciation of the two letters has often been confounded, as may be seen in the marginal notes of some copies of the Kurán, in the books of the Druses, and in modern Egyptian manuscripts.

42. The ض answers to *D* pronounced more strongly than the French *d*, or with a sort of emphasis. The Persians and Turks pronounce it as the French *z*, other nations, as *DS*. In rendering Arabic names into French, in order to express the ض, the two letters *DH* ought to be used.

43. The ط answers to the *T* articulated strongly and emphatically. If a person should wish, in writing in French, to distinguish it from ت, it may be rendered by *TH*.

44. The ظ differs in no respect, in pronunciation, from ض, and they may be rendered in the same manner. These two letters are very often confounded in manuscripts. It ought to be observed, however, that in Egypt the ظ is often pronounced as a *Z*, emphatically.

45. The peculiar pronunciation of ع cannot be expressed by any of the letters used among the nations of Europe.

The manner in which the Piedmontese pronounce the *ñ* appears to me to approach something to the sound ع. Examples: *cañ* chien, *boñ* bon, *boña* bonne.

46. The غ represents a sound which partakes of both *r* and *g*. Some writers have rendered this letter by *rh*, others by *rg*, and others by *gh*; but as the sound of the *r* ought to be almost imperceptible, I have thought it better to employ, in rendering the غ, the *G* alone or the two letters *GH*.

47. The ف answers exactly to *F*.

48. The ق indicates a sound very nearly like that of the French *K*, but it ought to be formed in the throat, and it is very difficult to imitate it well. Many Arabs, those of Muscat, for example, confound the pronunciation of this letter with that of غ, and this pronunciation is common in the states of Marocco. In a great part of Egypt, the ق is only a strong and quick aspiration, and it appears that this sound, very difficult to imitate, was the distinctive characteristic of the Arabs descended from Modhar.

49. The ك also answers to *K*, but it is not pronounced from the throat as the preceding letter. The Turks and many of the Arabs give it a softened pronunciation, analogous to that of *q* in the French words *queue*, *qui*; and it may be rendered by putting an *i* after *k*. Some Arabs pronounce the ك and the ق as an Italian *c* before *i*, as in the word *cio*, a sound expressed in French by the letters *tch*.

50. The ل is perfectly rendered by *L*, and the م by *M*.

51. The ن is susceptible, according to the Arab grammarians, of many pronunciations. When it is followed by a vowel, it is pronounced always as *N* in the French word *navire*, but when it is followed immediately by another consonant the pronunciation varies.

52. The و is pronounced as *OU* in French, in the words *oui*, *ouate*. It can also be rendered by *W* pronounced in the manner of the English. The Turks and Persians pronounce it as the French *V*.

53. The ه represents only a very light and often insensible aspiration, as the *h* in the French words la *Hollande*, la *Hongrie*, or it indicates only a simple hiatus.

54. The ى ought to be pronounced as a *Y* consonant, as in the English word *yacht*. The Germans render it by *j*, as in the words *bejahen*, *jagd*.

55. The لا finds a place in the alphabet only because the two letters ل and ا, of which it is composed, take, in their junction, a form which sometimes renders them unrecognizable.

The Vowels.

64. The Arabs have only three signs to indicate all the sounds. The first, named *fatha*, is formed like an acute accent, and is placed above the consonant with which it forms an articulate sound, as, كَتَبَ *cataba*. The sound expressed by the *fatha* answers sometimes to the French *a* more or less open, sometimes to *è* or *ai*, as in the words *succès*, *faire*.

The second is called *kesra*. It is formed similar to the preceding, but is placed beneath the consonant with which it forms an articulate sound, as in the word نِمْرٍ *nimri*. The sound of the *kesra* answers sometimes to the French *i*, sometimes to *é*.

The third, called *dhamma*, has very nearly the form of our figure 9, sometimes it resembles our (,),

and is always placed above the consonant with which it forms an articulate sound, as, كُلُّ *coullou*. The sound of *dhamma* answers sometimes to the French *o*, sometimes to *ou* or *eu*.

68. The letters و, ا, and ى often serve only to prolong the sound of the vowel which precedes them.

74. Besides the three vowel signs before spoken of, the Arabs have three other signs to which they give the name of *tenwin*, which indicates that the vowel ought to be followed with the articulation of a ن. Our grammarians call them *nunnations*; I shall call them *nasal vowels*. These nasal vowels are only placed at the end of words, and they serve to form some grammatical inflexions. Their signs are nothing but the figure of the analogous vowel redoubled; as, for example, بَابٌ *bâbon*, بَابٍ *bâbin* بَابً *bâban*. These examples show at the same time the form of the three nasal vowels and their pronunciation. The nasal vowel *an* ought always to be followed by an ا, as يَوْمًا *yauman*, except when it is found over a ة, as in حِكْمَةً *hicmètan*, or followed by a ي mute, as هُدًى, or placed over a *hamza*, as شَيْئً: in the last case the *elif* is often preserved after the *tenwin*, and it is written شَيْئاً. The ن contained in these nasal vowels, in pronunciation, is subject to the same variations as the ن consonant, and these variations are indicated in the same manner.

77. In a great number of Coufic manuscripts the three vowels are indicated by a very large point, painted ordinarily in red. Placed above the letter it indicates the *fatha*; placed below, it indicates the *kesra*, and placed in the body of the letter or at the end, or in a line with the writing, it indicates the *dhamma*. In order to indicate the nasal vowels, this point is doubled.

78. In African manuscripts the *fatha* and the *kesra*, instead of being inclined as our acute accent, are placed horizontally above or below the consonant to which they belong.

Of Orthographical Signs.

89. The *djesma* is so called, because it separates the artificial syllable at the end of which it is found, from the syllable succeeding. Its name signifies *separation*. It is placed above the letter, and is formed thus ( ), as in the word أُقْعُدْ *ok-od*.

The *djesma* may be considered as the sign of a very short vowel; it answers to the quiescent *sheva* of Hebrew grammarians, and also to their other short vowels, such as *hatèf-patah*, *hatèf-ségol*, &c., and to the sixth vowel of the Ethiopic alphabet.

107. When a consonant ought to be doubled in pronunciation, without the interposition of a written vowel, the Arabs do not double the figure of the letter, but they employ a sign named *teschdid*, formed thus ( ). This mark is placed above the letter which ought to be doubled. Among the Arabs of Africa it is generally formed thus ([#]), or thus ([#]), and is placed above or below the letter, as the vowel which accompanies it. The figure of the *teschdid* is a little ش, abbreviated from the word شَدِيدٌ *strong*, or of the word شِدَّةٌ *strength*, which is the name that the Africans give it.

124. Every ا which is moved by a vowel, or which is moveable by nature, although it may become djesmaed by certain grammatical rules, is marked by a sign named *hamza*. This sign is formed thus (ء). The *hamza* or *elif* hamzaed is a real articulation, of which the value has been indicated already, and differs essentially from the *elif* not hamzaed, which is never moved by any vowel, and only enters into words as a letter of prolongation or as a mute letter. If the *elif* is moved by a *kesra*, the *hamza* is placed below the letter, and the *kesra* below the *hamza*, as, إِضْرَبْ.

130. A word which commences by a أ hamzaed ought often to be joined to the word which precedes it; and this union is indicated by a sign named *wesla*, that is, *junction*; it is formed thus (ٱ), and is placed above the *elif*. When this union takes place, the *elif* is always followed by a letter djesmaed, and then it is pronounced as a compound syllable, with the last one of the preceding word.

144. When the *elif* of prolongation is followed immediately by an ا mute, instead of the last of these two ا, the *hamza* only is written with its corresponding vowel, and over the ا of prolongation is placed a sign which is formed thus (), and which is called *medda* or *matta*, that is, *prolongation*.

146. The same sign is placed also over the letters, when they are employed as figures, or as abbreviations instead of entire words.

Of Punctuation and Abbreviations.

168. The Arabs generally do not employ any mark to indicate the pauses, whether at the end of a period, or in the course of the sentence. They only indicate the end of a subject, either by a red point, or by one of these marks ؛, ؞, ❀, or by writing in red the word which commences a new article, or by prolonging one of the letters of the first word, as وَفِيـــهَا. These different methods of indicating the commencement of a new article answer to our fresh paragraphs (*alinéa*).

169. If, in common manuscripts, no mark of punctuation is made use of, these signs, on the contrary, are multiplied in manuscripts of the Kurán. The end of each verse is there indicated by the fig-

ure ۛ; after each tenth verse, another sign is employed, which resembles the ن isolated, but entirely closed. These two signs mark rather the division of verses, founded in general upon the rhyme, than serve to distinguish the places where the reader ought to pause, in order to render more intelligible the sense of his discourse. The true signs of punctuation are the little letters written in red ink in the superior interlineation. The م indicates a pause, necessary to avoid ambiguity: it is abridged from the word لَازِمٌ *necessary*. The ط, contracted from the word مُطْلَقٌ, that is, *universal*, shows a pause universally received by the readers of the Kurán. The ج, contracted from the word جَائِزٌ *permitted*, shows a pause left to the will of the reader. The ز, contracted from the word مُجَوَّزٌ, *allowed*, indicates a pause permitted, but not becoming. The ص, contracted from the word مُرَخَّصٌ *admissible*, marks a slight pause granted only from necessity, in order that the reader may draw breath. When the sense requires that there should be no pause at the end of a verse, it is indicated by the word لا *not*, written above the last word of the verse, and of which the meaning is لَاوَقْفَ *there is no pause here*. The ق, contracted from the word قِيلَ *they say*, marks a contested pause. Lastly the letters قفه, which represent the words وَقْفَةٌ يَسِرَةٌ, are the sign of an extremely slight pause.

Among the great number of marks of punctuation peculiar to the Kurán, the most necessary and the most used are the ط, the ج and the word لا.

171. Abbreviations are sometimes indicated by a figure similar to a *medda*, and often they are marked by no particular sign.

Of Figures or Signs of Numeration.

The eighth column of the alphabet shows the value which the Arabs attach to their letters when they are employed as signs of numeration. Of these letters, which are twenty-eight in number, nine indicate the units, nine the tens, nine the hundreds, and one the number 1000. The order according to which these letters are placed, when considered as numerical signs, is that of the *aboudjed*. The last six letters being, as there is every reason to believe, of a much later invention than the rest of the alphabet, it is probable that the Arabs, before they made use of these letters, indicated the hundreds from 400 to 900 inclusive, in the same manner as the Hebrews, whose alphabet consists only of twenty-two letters. If they wished to express, for example, the number 600, they would join together the ت, which is equivalent to 400, and the ر, which is equivalent to 200. In order to express 900, they would join two ت, equal together to 800, to ق = 100.

The letters employed as figures follow the same direction as the writing, from right to left, as, قلب 132, غنج 1053.

174. It is unnecessary to observe that in this system of numeration there is no figure which answers to our cipher (0); it is absolutely useless, as the value of each figure does not depend on its position in relation to those which precede or follow it.

175. The *aboudjed* of the Africans differing in some degree from that of the Asiatics, there is also some difference in the value which they attach to certain letters as signs of numeration. This difference consists in that among them the ص is equal to 60, the ض 90, the س 300, the ظ 800, the غ 900, and the ش 1000.

176. The Arabs have also another mode of numeration, from which is derived those figures which we call *Arabic*; they call it the *Indian cipher* رَقَمٌ هِنْدِيٌّ. It is composed of the ten figures following:

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ٠ 1 2 3 4 5 6 7 8 9 0

The 5 is often formed thus [#], and the 0 like our own. When the Arabs make use of this cipher, they follow a direction quite contrary to that of their writing, and proceed from left to right. This singularity is sufficient to prove that this cipher is not originally Arabic.

Arabic in the British Foundries.

Great Primer. Thorowgood and Besley. Walton's Polyglot, 1657. This letter was in Grover's foundry, and afterwards in James's.

Thorowgood and Besley. Another Great Primer, cut from drawings made by Dr. Wilkins.

English. Caslon. These were the first punches cut by William Caslon for types. They were cut in 1720 for the Society for Promoting Christian Knowledge.

Thorowgood and Besley. This character was cut by the late Dr. Fry, under the directions of Dr. Wilkins, librarian to the East India Company, and is considered the most perfect fount at present in Europe.

Thorowgood and Besley. Another English from the punches cut for the Society for Promoting Christian Knowledge.

Oxford University.

Watts. Cut under the immediate directions of Professor Lee.

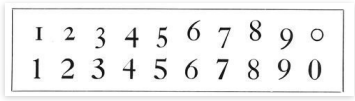
The Arabic Alphabet

The Arabic Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

Harmonical Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

ARABIC GUM See: GUM ARABIC. RE

ARABIC NUMERALS The numerical symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, as distinguished from the Roman I, X, L, etc., so called because of their origin in the Near East. They have been used in the foliation of books since the late 15th century. Arabic numerals first appeared in European manuscripts in the 12th century, although they probably came to the Near East by way of India in the 8th century. Arabic numerals are commonly used for paginating the text of a book, although Roman numerals are still often used for preliminary and end matter, despite the obvious affectation. 156 RE



EXAMPLE 505 In the old-style Arabic numerals, five figures descended, two ascended and three did neither. The modern style is to have them of one hight
Edmund G. Gress, The Art and Practice of Typography, 1917

ARCHIL A dye obtained from certain lichens of the genera Roccella and Lecanora by means of fermentation. Its hue varies from moderate red to dark purplish-red, depending on whether the dye bath is acid or alkaline. It was used in the past in the manufacture of purple marbling color. It has only moderate COLOR FASTNESS. 97,152 RE

ARCHITECTURAL MOTIF A form of decoration consisting of a pattern of straight lines running almost the length of the cover and connected alternately at head and tail by heavier horizontal lines. 130 RE

ARCHITECTURAL STYLE A 16th century style of finishing consisting of architectural motifs—porticoes, moldings, columns, pediments, arches, and the like. The central feature was a pair of columns supporting an arch under which there was a panel for lettering of the title. This style, of which only a relatively few examples have survived, generally emphasized straight and curved fillets, interspaced with shaped tools. The 19th century French bookbinder JOSEPH THOUVENIN revived the style as "a la cathedral.' See: CATHEDRAL BINDINGS. The contents of the books bound in the architectural style seldom related to architecture. 140,347 RE

ARGENTINA, CONRADUS DE See: CONRADUS DE ARGENTINA RE

ARMENIAN "The Armenians had no characters peculiar to themselves until the fourth century, but they used indifferently those of the Syrians, of the Persians, of the Arabians, and of the Greeks. The present Armenian Alphabet contains thirty-eight letters, which they say were invented by one Mesrop or Miesrob, minister of state, and secretary to Warasdates, and Arsaces IV. kings of Armenia. Some authors affirm, that this Mesrop afterwards became a hermit, and corresponded with St. Chrysostom, who lived in the fourth century; though Angelus Roccha, in his discourse on the books in the Vatican library, George, patriarch of Alexandria, and Sixtus Senensis, assert, that St. Chrysostom was the inventor of the Armenian characters, in whose time the Bible was translated into the Armenian language, from the Greek Septuagint, by some of their doctors who had learned the Greek language, and amongst others by one Moses the grammarian, and David the philosopher. Although the Armenian characters are generally supposed to have been derived from the Greek, their forms are very different, and their number exceeds those in the Greek alphabet, by more than one third. The powers of the Armenian letters are peculiarly adapted to the notation of that language, which is very unpolished, and consequently very unlike the Greek. This alphabet contains several letters or marks for sounds which frequently occur in the Hebrew, Syriac, Arabic, and Armenian languages, but are not found in the Greek. • "The Armenians have four kinds of writing: The first is called *Zakghachir*, or flourished, used for the titles of books, and for the beginning of chapters. • "The *second* is called *Erghathachir*, *writing with iron*, or with a *Stylus*, which has long been disused. • "The *third* is called *Poloverchir*, or round, which is found in their fairest MSS. • "The *fourth* is called *Notrchir*, or running hand, which is used for the ordinary affairs of life. The names and powers of the Armenian letters are as follow: • "The Armenians say that *Haik*, who lived before the destruction of Babel, was the first who spoke the Haikanian or Armenian language."—Astle. • • *Armenian Alphabet.* • Key to Column Headers— NL - Names of the Letters. FL - Figures of the Letters. PL - Powers of the Letters. NV - Numerical Value. • LETTERS WHICH BEAR AN AFFINITY TO EACH OTHER. • *Armenian in the British Foundries.* • *English.* Oxford University. • *Pica.* Caslon. DAP

The Armenian Alphabet

The Armenian Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

ARMENIAN BOLE A friable, earthy clay, usually of a red color due to the presence of iron oxide; it consists essentially of hydrous silicates of aluminum and (sometimes) magnesium. It is used as a coloring material and is also applied to the edges of books during gilding. In the latter use it serves both to provide a base for the gold leaf and to impart to it a greater depth and luster. When mixed with paste and a small amount of oil, it may be used to sprinkle the edges of books. 335 RE

ARMING PRESS **1.** A small hand BLOCKING PRESS, at one time used for impressing ARMORIAL BEARINGS on the covers of books, but now used for blocking short runs of edition bindings, as well as in miscellaneous binding work.2@ABB A species of blocking press used by hand; so called from the use of it to impress armorial bearings on the sides of books.3@BCB a small blocking press used for striking arms-blocks on the sides of books. RE 203,278

ARMORIAL BEARINGS Solid plates of brass, engraved in relief with family heraldic insignia, and used to block insignia on the covers of books belonging to prominent and/ or royal families. Armorial bearings have been seldom used in the decoration of bookbindings since the middle of the 19th century. 128,262,347 RE

ARMORIAL BINDINGS also *armorial panels* Leather or cloth bindings embossed with armorial seals or plaques, frequently in a panel, or embroidered bindings in which the arms were raised in relief and worked in thread. 69,342 RE

ART BINDING A term sometimes used to describe a book that has been bound by a master craftsman in the "best manner," using only the finest materials available. The term is applied only to books bound by hand and covered in leather or vellum, and usually only to those bindings that are unique or at least distinctive in design. 373 RE

ART CANVAS **1.** A relatively heavy book cloth, usually impregnated, which may be a single or double WARP and is sometimes lined with tissue paper to prevent penetration of adhesives. It has been used for covering large, heavy books, as well as library bindings.2@NBL A book cloth, made in several colors by the Holliston Mills, 67 Fifth Ave., New York; Jos. Bancroft & Sons, Wilmington, Del. (A. D. Smith, 35 Thomas St., New York, agent); the Interlaken Mills, 111 Duane St., New York, and others. RE 264

ART LINEN A relatively heavy cloth of a generally flat and uneven color, and usually impregnated. When art linens are produced with a design, the patterns are usually florid and ornate. 204 RE

K. ART LINEN.
Coutts and Stephen, Manual of Library Bookbinding, Practical and Historical, 1911

ART PAPER 1. A good quality paper used by artists and conservators. It has a highly finished, smooth surface produced by supercalendering or by coating. Its principal characteristic is its close formation. In Great Britain, "art paper" is considered to be a body paper or board coated with a mineral substance, such as barium sulfate or china clay, which gives it a smoothness that is suitable for the printing of fine halftones, and the like. In the United States, art paper is generally made from chemical wood pulp, while in Great Britain the best art paper is made from 90 to 95% esparto and 5 to 10% chemical wood pulp. Esparto is good because it is less likely to stretch and has a natural affinity for coating materials, which gives it a superior surface for halftone reproductions. Heavily coated art papers are prone to cracking, flaking, and pulling away of the coating. The binding of books produced on such papers can be difficult because of the tendency of the paper to crack when folded. Cf: IMITATION ART PAPER. 2. A fancy figured paper used for endpapers in edition binding. 17,58,182,287 RE

Account Books Aldine… All Along Antique Arms ace Art Paper. scent Finishing Azure Laid n
Alex J. Vaughan, Modern Bookbinding: Letterpress and Stationery Branches, 1929

ART PARCHMENT A thick, heavy, hard-sized paper manufactured from cotton fiber and/or chemical wood pulps. To some extent it has the natural appearance of PARCHMENT. It is used for documents, or in other applications where a heavy paper is required; in the latter half of the 19th

century it was used as a cover paper. See also: DOCUMENT PARCHMENT (1). 17 RE

ART VELLUM **1.** A relatively thin book cloth, which, although impregnated, has only moderately good wearing qualities. It is a smooth cloth with a textured pattern printed on a white base fabric. Art vellums were used extensively for the sides of half- and quarter-bindings.2@NBL A book cloth made in several colors and styles of finish by the firms which make art canvas. It is not suitable for full binding on books subject to much wear. It costs about 16 cents per square yard. Most publishers' bindings are in cloth of the art vellum grade. RE 105,205

N. ART VELLUM.
Coutts and Stephen, Manual of Library Bookbinding, Practical and Historical, 1911

ARTIFICIAL GOLD See: IMITATION GOLD. RE

ARTIFICIAL GRAIN A grain pattern embossed or rolled into a leather, usually in an attempt to imitate a superior type of leather. See also: BASIL; GRAINED UP. 335 RE

ARTIFICIAL LEATHER See: IMITATION LEATHER. RE

ASBESTINE A mineral compound of almost pure fibrous magnesium silicate, which possesses physical characteristics between those of talc and asbestos. It is used as a LOADING (1) agent in paper manufacture, particularly for blotting papers and board. 17 RE

ASCENDING LETTERS **1.** This term includes all the capitals and the following small letters, b, d, f, h, k, l.2@AMP Letters that ascend into the upper shoulder; as, b, d, l, &c. and all the capitals. DAP

ASH also *ash content* The inorganic residue remaining after a sample of paper is burned, driving off combustible and volatile compounds. The "ash content" is defined as the percentage the residue is of the original weight of the sample. 17,98 RE

ASS Sometimes by way of joke, and sometimes by way of irritation, compositors are called Asses by the pressmen. In Moxon's time they were called Galley Slaves. *See* Ancient Customs. • Assistants. *See* Newspapers. DAP

ASSEMBLY TIME A term used in the adhesive industry to indicate the time lapse between the application of an adhesive and the application of heat, pressure, or both. See also: CLOSED ASSEMBLY TIME; OPEN ASSEMBLY TIME. 309 RE

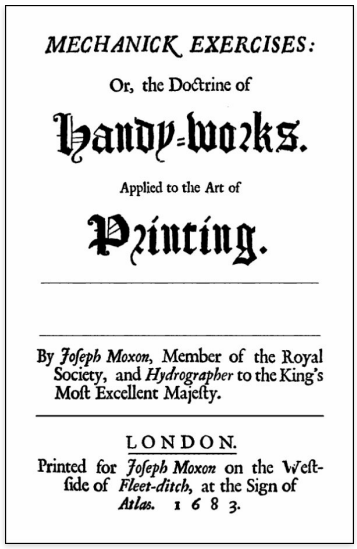
ASSIETTE A compound consisting of bole, bloodstone, and gelena (lead sulfide, PbS), used to prepare the edges of books for gilding. See also: GLAIR. RE

ASTERISK **1.** The symbol (*) used to mark a corrected page (CANCEL) supplied to the binder to replace an incorrect leaf (CANCELLAND).2@MAB A sign used by the printers at the bottom of the front page of the duplicate-leaves printed to supply the place of those cancelled.3@ABB A star used by printers at the bottom of the pages meant to supply the places of those cancelled (*see also* CANCEL). RE

ASTERISK, or little star *, directs the reader to some note in the margin, or at the bottom of the page. Two or three asterisks generally denote the omission of some letters in a word, or of some bold or indelicate expression, or some defect in the manuscript.—Murray. • When there are more than one note in a page, the asterisk is the first reference used. DAP

ASTRONOMICAL CHARACTERS The Twelve Zodiacal Constellations. • ♈ Aries. ♉ Taurus. ♊ Gemini. ♋ Cancer. ♌ Leo. ♍ Virgo. ♎ Libra. ♏ Scorpio. ♐ Sagittarius. ♑ Capricorn. ♒ Aquarius. ♓ Pisces. • Names and Characters of the Planets, with Dragon's Head and Dragon's Tail. • ☉ The Sun. ♄ Saturn. ♃ Jupiter. ♂ Mars. ♁ Earth. ♀ Venus. ☿ Mercury. ☽ The Moon. ☊ Dragon's Head. ☋ Dragon's Tail. • Planets discovered since 1780. • ♅ Uranus. ⚳ Ceres. ⚴ Pallas. ⚵ Juno. ⚶ Vesta. • The Character of the Aspects. • ☌ Conjunction. ⚹ Sextile. ☍ Opposition. △ Trine. □ Quartile. • The Moon and its changes are thus designated:— • ● Denotes a New Moon. ☽ First Quarter of the Moon. ○ The Full Moon. ☾ Last Quarter of the Moon. • Authors' Names. *See* Botanical Authorities. Law Authorities. Organic Remains. DAP

ATLAS A volume consisting of maps, with or without descriptive material, which is issued to supplement or accompany a text, or is issued independently. An "atlas" is also defined as a volume of plates, engravings, etc., illustrating any field of knowledge. Atlases are sometimes difficult to bind because of narrow margins, stiff and/or heavy paper, or foldouts. RE



MECHANICK EXERCISES:

Or, the Doctrine of

Handy-works.

Applied to the Art of

Printing.

By Joseph Moxon, Member of the Royal Society, and Hydrographer to the King's Most Excellent Majesty.

LONDON.

Printed for Joseph Moxon on the Weſt-ſide of Fleet-ditch, at the Sign of Atlas. 1 6 8 3.

Or, the Doctrine of Handy-works. Applied to the Art of Printing. By Joseph Moxon , Member of the Royal Society, and Hydrographer to the King's Most Excellent Majesty. LONDON. Printed for Joseph Moxon on the Westside of Fleet-ditch , at the Sign of Atlas . 1 6 8 3.
Joseph Moxon, Moxon's Mechanick Exercises, Volume 1, 1683

ATLAS FOLIO The largest of the folios, with dimensions of approximately 25 or 26 x 17 inches. See also: ELEPHANT FOLIO. RE

ATLAS PAPER A large size of drawing paper similar to map paper except that it is usually coated and made in a basis weight that is heavier so as to minimize SHOW THROUGH. Originally, the term referred to a paper suitable for printing maps and atlases; today, however, MAP PAPER is the more commonly used term. 17 RE

ATTACHING BOARDS The process of gluing the tapes and spine-lining material to the inside of single boards or between SPLIT BOARDS, or the LACING-IN of the cords through holes drilled or punched in boards. In general, it is the binding process of joining the boards to the text block; it is not to be confused with CASING-IN. In edition and library binding, the term has no meaning other than gluing the boards to the covering material, either by hand or by means of a CASE-MAKING MACHINE. 236,335 RE

ATTAPULGITE CLAY A fibrous claylike material, essentially ($(OH_2)_4$ $Mg_5Si_8O_{20}(OH)_2$ -- $4H_2O$), rich in magnesium, and used as a filling material in papermaking, usually in coatings for reproduction papers. The clay is also called "fuller's earth," from its ability to remove dirt and grease from wool, a process called "fulling." 17 RE

AUREOLE A light or luminous area surrounding the blind impressions of a book cover; it is caused by the leather not being wetted all over, but only on the areas being tooled. RE

AUTHOR'S PROOF **1.** The clean proof sent to an author after the compositors' errors have been corrected.2@DAP After the errors of workmanship have been put to rights, a clean proof is printed and sent to the author or editor, who makes on it such alterations and amendments as he may think proper. This is called an Author's Proof; and the compositor is paid for the time occupied in making these alterations in the types. AMP

AUTHOR'S BINDING A copy of a book to be presented by an author. Such bindings were normally produced in a superior manner; gilt vellum bindings were common in the 16th century, and panelled morocco in the 1 7th and 18th. The term has little meaning today. 69 RE

AUTOMATIC CLAMPING A term used with reference to the clamp of a cutting machine, which descends upon any height pile to be cut and exerts approximately the same clamping pressure for all heights and types of material. 145 RE

AUTOMATIC SPACING The BACK GAUGE of a cutting machine that moves forward a pre-determined distance following each cut. It is most effective in cutting long-run, large-sized sheets requiring many cuts. 320 RE

AUTOMATIC STITCHER-FEEDER MACHINE A bookbinding machine that gathers and inserts a number of folded sheets and stitches them through the folds. The sheets are either fed by operators to the carrier saddle at various stations, or are fed automatically. As each folio is carried along the saddle, another is fed over it at each station until the section or book is complete. When the section reaches the end of the machine it is automatically knocked even, saddle stitched and delivered to a receiving trough. 179 RE

AUX PETITS FERS See: PETITS FERS. RE

AVAILABLE CHLORINE The amount of chlorine (usually about 35%) in the bleaching powder used by papermakers in bleaching paper pulp, that can be relied upon for bleaching purposes. 197 RE

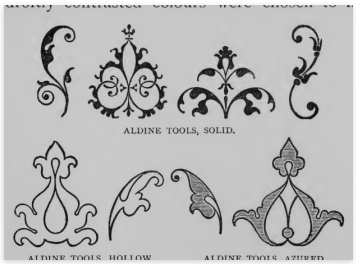
AVARAM (BARK) A tree (Cassia auriculata) found in India, the bark of which is one of the most important sources of indigenous tannin of the Indian Subcontinent. The bark usually has a tannin content of approximately 18%, along with about 10% soluble non-tans. Avaram has long

been used extensively by Indian tanners, and it is because of it that the extensive Madras export trade in light-tanned or half tanned leathers was established. Although WATTLE (BARK) has largely superseded it in the tannage of cattle hides, avaram is still in great demand for the tannage of goat- and sheepskins, i.e., "East India kips." Avaram is self-bating and penetrates the skin rapidly, producing a pale colored, tough, elastic leather. Used alone, the leather is likely to develop a reddish color when exposed to sunlight; however completion of the tannage with MYRABOLANS prevents this from happening. Avaram is considered to be an ideal tannin for the preparation of half tanned skins or kips that are to be shipped elsewhere for finishing. See also: VEGETABLE TANNINS. 175 RE

AWL A pointed tool used in bookbinding for piercing holes in paper for fold sewing, side sewing, or for punching holes in boards preparatory to lacing-in. Awls are available with different points and shapes for different uses; a straight, relatively blunt awl is used for punching holes in boards, while a curved and relatively sharp one is used in sewing. 183 RE

AZURE' TOOLS Used in binding, where the heavy and wide marks, instead of being a solid mass, are made with horizontal lines. NBL

AZURED Ornamentation outlined in gold and crossed with horizontal lines. BIB



ALDINE TOOLS, HOLLOW. ALDINE TOOLS, AZURED.
Brander Matthews, Bookbindings Old and New: Notes of a Book-lover, 1896

AZURED STYLE Ornamentations outlined in gold and crossed with horizontal lines in the manner of indicating azure in heraldry. NBL

AZURED TOOL A finishing tool with closely spaced parallel lines cut diagonally across its surface—so called from the use of heraldic illustrations of thin horizontal lines to indicate the color blue. The tool appears to have been introduced in France in about 1545. • 59 RE

B

B-STAGE A secondary stage in the reaction of some thermosetting resins, characterized by softening of the resin when heated and swelling when in the presence of certain liquids. but without complete fusing or dissolving. The "b-stage" is also characterized by a progressive increase in viscosity. The resin portion of an uncured thermosetting adhesive is usually in this stage. Also called "resitol." See also: A-STAGE; C-STAGE. 309 RE

B.A An obsolete designation for a pattern in book cloth resembling linen weaving. RE

BABUL (BARK) A tree (Acacia arabica) found in India and Africa, the bark of which yields one of the most important indigenous tanning materials in the Northern areas of India and Pakistan. The average tannin content of the bark is about 12%, along with about 8% soluble non-tans. Babul is one of the condensed class of tannins, and, when used alone, tans very slowly and produces a leather that is somewhat harsh and dark in color, but firm and durable. It is usually used along with MYRABOLANS to improve color and reduce other undesirable characteristics resulting from the use of babul alone. In recent years the use of babul bark has declined in favor of WATTLE (BARK). See also: VEGETABLE TANNINS. 175 RE

BABY CALF A CALFSKIN leather produced from small, lightweight skins of calves that have not been weaned. It has a smooth or fine-boarded grain surface and is free of any artificial surface pattern. The finish is glossy and is produced by ironing, glazing, or plating. Baby calf is fairly tough leather with a dermal network of fine, even texture. See also: VEAL. 61 RE

BACK **1.** 1. See: SPINE. 2. To shape a ridge or shoulder on the sides of the spine of a text block after sewing. See: BACKING. 3. The main portion of a HIDE (1), obtained by cutting off both sides of the belly and the head. 4. Boards composed of plies of different stock, the side of superior quality being called the "top" and the other side the "back." RE **2.** tight and loose. Binding is said to be tight back when the leather, cloth or other material of the back is pasted or glued to the back of the book. This style of binding is commonly used in fine work. Most books, often quite large ones, were formerly bound in this way. NBL

BACK BOARDING The process of BOARDING (1) leather with the flesh side in for the sole purpose of softening it. RE

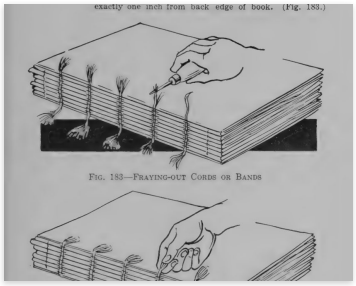
BACK BOXES In cases for Italic where there are no small capitals, also in Old English, and similar founts, the boxes in the upper case, that are appropriated to small capitals in Roman letter, are styled *Back Boxes*, and serve to lay two-line Capitals in, and other irregular sorts. DAP

BACK CORNERING See illustration The process in bookbinding of cutting away a small triangular piece of the head and tail edges of the boards of a book at the joints. The cut is made at two angles, one to the board edge and the other to the thickness of the board. The amount removed and the angle of the cut are determined by the width of the leather turn-ins and their thickness where they meet the edge of the board. The purpose of back cornering is to relieve the strain on the joints of the book when the covers are opened; otherwise, a strain would occur because of the additional thickness of the leather caused by the turn-ins. Back cornering also facilitates setting and shaping the headcaps. Back cornering was at first done on the inside of the boards, allowing for "laced-in" headband cores or tabs. By the late Middle Ages, back cornering was a standard procedure for books with folded-down or stubbed cores. The modern method of cornering on the outside surfaces of the boards facilitates the current method of headcapping and probably stems from the 18th century. 237,335 RE

BACK COVER See: LOWER COVER. 2. The outside surface of the lower cover of a publication, such as a periodical issue. The term is used here with reference to publications that contain printed or illustrative matter on the outside of the cover. RE

Fig. 33. Folded paper for hollow back cover.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

BACK EDGE The left-hand or gutter of a RECTO (1), corresponding to the right-hand edge of a VERSO (1). The opposite edge is the back edge of publications that read from right to left. RE



paste. To accomplish this use your awl and separate the fibres in the ends of cords, first cutting each off exactly one inch from back edge of book. (Fig. 183.)
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BACK FOLDS The folds of the sections of a book, through which they are sewn. or otherwise fastened to one another. In context, they are sometimes referred to simply as folds. See also: SECTION (1). 237 RE

BACK GAUGE A movable device on a cutting machine against which the pile of paper or board is placed when measuring the line at which the material is to be cut. RE

BACK GLUING MACHINE An edition binding machine used to glue up the spines of books and automatically convey them along a drying section which quickly sets and hardens the glue. The maximum size book that can usually be processed in such a machine is 12 by 9 inches, and the minimum 3 by 2 inches, with a thickness up to 2 1/2 inches. A fully automatic back gluing machine can process up to 2,400 books an hour. See also: TRIPLE LINER AND HEADBANDING MACHINE. 343 RE

BACK LINING See: SPINE LINING. RE

BACK MARGIN The INNER MARGIN, or the margin between the point where the sections or leaves are joined and the edge of the print. In books that read from left to right it is the left-hand margin of a printed recto, corresponding to the right-hand margin of the verso. Also called "gutter margin." 102 RE

BACK MARK The disfiguring ridge or "mark" in a sheet of paper which has been dried on a pole or line. Also called "pole mark," or "stick mark." RE

BACK OF A COMPOSING STICK That part on which the bottom of the types rests.—M. DAP

BACK SAW A short, fine-toothed hand saw stiffened by means of a metal rib along its back edge. It is used to saw-in the kettle kerfs and the grooves for sawn-in cords. Although almost any small saw will suffice in lieu of the back saw, it has the advantages of being short, stiff and easy to hold. It must be very sharp to avoid tearing the paper. Also called "tenon saw." RE

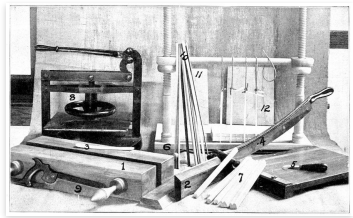


PLATE I 1. Lying Press 2. Backing Boards 3. Bone Folder 4. Paper Cutter 5. Head Knife 6. Sewing Frame 7. Backing Sticks 8. Letter Press used as Standing Press 9. Back Saw 10. Joint Rods 11. Pressing Tin 12. Pressing Board
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

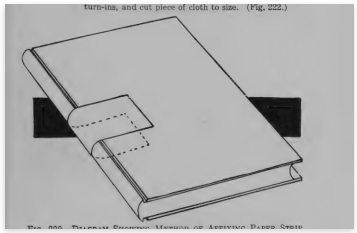
BACK STAY A piece of girth or leather fastened to the lower hind rail at one end and to the top rim of the coffin at the other, in wooden presses, to check the running out of the carriage beyond the point which will allow the tympan to rise clear of the front of the platen. DAP

BACK TO FORE EDGE The distance from the spine to the fore edge of a book. The term is probably used mainly to indicate that a book is of uniform thickness across its width. i.e., that the boards are parallel. The implication is that there has been proper compensation for any swelling of

the spine caused by sewing or excessive guarding. See also: BACKING; CONVEX COVERS. 335 RE

BACK-MOLDING IRON See illustration An implement, usually made of iron, approximately 20 inches long, 6 inches wide and 2 1/2 inches thick, and used in forming the millboard for the SPRING-BACK of a book. The iron is made with several grooves of various widths on both sides. 264 RE

BACKBONE SPINE (2) of a book. RE



Fic. 220—D1AGRAM SHOWING METHOD OF AFFIXING PAPER STRIP TO BOARDS, WHILE THEY ARE IN POSITION ON BOOK, TO DETERMINE PROPER BACKBONE WIDTH FOR COVER
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BACKED 1. A book that has had its spine shaped to create the shoulders to receive the boards. See: BACKING. 2. A damaged leaf of a book, either text or plate, that has been "laid down on" or adhered to silk, paper, linen, plastic film, adhesive film, etc., for reinforcement. See also: NYLON. 3. See: REBACKED. RE

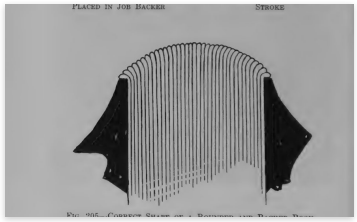


Fig. 205—CorrEcT SHAPE OF A ROUNDED AND BACKED Book
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BACKED-FILLED FINISH A type of finish used on cotton cloth. The filling material is applied to the "back" side of the cloth to supply the required body and finish, and does not appear on the "top" or exposed side. 269 RE

BACKER also *backing machine* A hand- or power-operated machine used for BACKING books. The backer stems from the days when a book was rounded by hand and then placed in the backer to quickly form the shoulders for the boards. Today, in both edition and library binding, the most common method is to round and back books in two consecutive operations in a ROUNDING AND BACKING MACHINE. Unusually large books, which will not fit in a machine, are generally backed by hand or in a hand-operated backer. See also: JOB BACKER. 256,264 RE

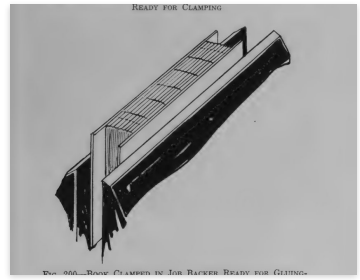


Fig. 200—-Book CLAMPED IN JOB BACKER READY FOR GLUING- UP
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BACKING **1.** See illustration The process of shaping a ridge or shoulder on each side of the spine of a text block prior to the application of the spine lining material. The backs of the sewn sections or leaves are bent over from the center to the left and right until shoulders are formed against which the boards will fit. The dimension of the shoulders is determined by the thickness of the boards to be used, which, in turn, is determined by the size and bulk of the book. In addition to providing for the boards, backing also:1) allows for the swell of the spine caused by the thread used in sewing, or by excessive guarding; 2) helps maintain the round of the book by the fact that each leaf from the center outward is folded over the leaf next to it so that it cannot work its way forward and thus cause the book to cave in (See: START); 3) helps impart more flexibility to the book by creating a slight crease in each leaf near the spine, to the extent that backing has something of a scoring effect which makes the book easier to open and facilitates turning the leaves (See: SCORE); and 4) makes a better joint for the cover, one which opens easier and is stronger, since the point of strain during opening is spread over a strip of the covering material, e.g., a FRENCH JOINT. • Furthermore, the angle of conformation of the spine caused by backing probably provides for better vertical standing support of the text block. • Backing may be accomplished by hand with the use of a BACKING HAMMER or, in the case of edition and library binding, by means of a ROUNDING AND BACKING MACHINE. In some cases e.g., very large books, backing may be done in a BACKER as a separate operation. • Some authorities consider the backing of a book to be the most important and difficult of all the processes in the

craft of hand bookbinding, and poor or inadequate backing is certainly one of the major sources of problems in the processes of edition and library bookbinding. • Although books dating from at least as early as the beginning of the second half of the 15th century were often rounded, backing for the purpose of forming shoulders seems not to have been an established procedure before 1500, or perhaps somewhat later. It is uncertain when bookbinders discovered that rounding and backing was a superior bookbinding technique. The swell caused by sewing sometimes causes books to assume a slight round with no effort on the part of the bookbinder, and, over a long period of time, the pressure of the boards perhaps even results in the effect of backing.2@NBL Bending over the folds at the back of a book to form a ridge or projection called a joint. RE 209,236,335,339

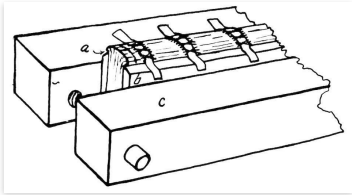


Fig. 22. Ready for backing. a, Joint. b, Backing boards. c, Lying, or finishing press.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

BACKING BOARDS **1.** The boards used in hand binding to assist in BACKING a book. Backing boards are generally made of a very hard wood and are frequently faced with strips of metal. The upper edge of the board is beveled at an angle of approximately 80°, over which the outer sections or leaves on both sides of the text block are bent. The board is also thicker at this edge than at the lower, so that when it is placed on the side of the text block near the spine and secured in the LYING PRESS, the force of the press is concentrated nearest the spine.2@MAB Are used for backing or forming the joint. They are made of very hard wood or faced with iron, and are thicker on the edge intended to form the groove than upon the edge that goes towards the foreedge, so that the whole power of the laying-press may be directed towards the back.3@ABB Used when backing and for forming the groove. They are made of very hard wood, and sometimes faced with iron; are thicker on the edge intended to form the groove than upon the edge that goes towards the foredge, so that the whole power of the lying press may be directed towards the back.4@BCB wedge-shaped bevelled boards used in backing (see Fig. 40).5@NBL Used for backing or forming the joint. They are made of very hard wood or faced with iron, and are thicker on the edge intended to form the groove than upon the edge that goes toward the fore-edge of the book, so that when placed one each side of the book and all are placed in the laying press, the whole power of the press is directed toward the back. RE 92,183,335

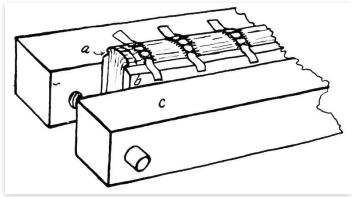


Fig. 22. Ready for backing. a, Joint. b, Backing boards. c, Lying, or finishing press.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

BACKING FLANNEL A heavy cloth material used at times to line the spines of larger books. A more common technique today is to use two linings, usually a first lining of cloth over which is applied a paper lining See also: SPINE LINING FABRIC. 27,196 RE

BACKING HAMMER **1.** A heavy iron hammer with a short handle, heavy face, and wedge-shaped head, used in rounding and backing books. It is sometimes referred to as a "collet hammer" or "bumping hammer" See also: BACKING; ROUNDING AND BACKING MACHINE.2@MAB The hammer used for backing and rounding: it has a broad, flat face, similar to a shoemaker's hammer. RE 335

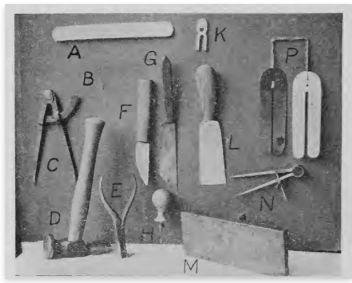


Fig. 5.—A, bone folder ; B, Sewing needle ; C, wing compasses ; D, Backing hammer ;
W. B. Pearce, Practical Bookbinding: A Text-book, 1908

BACKING IRON See: BACK-MOLDING IRON. RE

BACKING MACHINE **1.** A machine for backing cheap work.2@BCB used for backing cheap work in large quantities; it often crushes and damages the backs of the sections.3@NBL A machine for backing books. If not carefully handled it is apt to injure books by crushing and

breaking the paper at the folds. Used on publishers' binding. ABB

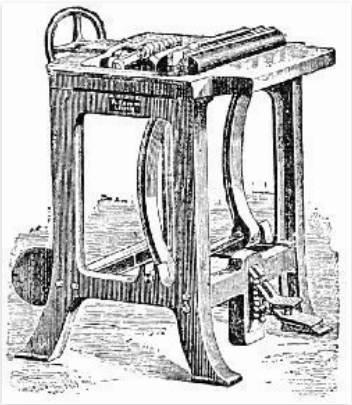
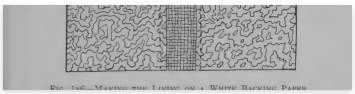


Fig. 40—Backing machine for small shops.
Paul Adam, Practical Bookbinding, 1903

BACKING PAPER See: INLAY (1); SPINE LINING PAPER. RE



Fic. 186—MAKING THE LINING ON A WHITE BACKING PAPER
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BACKING PRESS **1.** A vertically oriented press with steel plates brought together by means of a single screw. The top edge of each plate is beveled to an angle of approximately 80°, so that when the plates are closed on the text block, the press serves the same function as BACKING BOARDS.2@NBL A press having two, vertically mounted, steel plates brought together by a screw. A book is held in this press with the back slightly projecting above the plates, and then backed with a hammer. RE 25

Backing Press
John Cotton Dana, Notes on Bookbinding for Libraries, 1906

BACKS In a form of bookwork, the backs are those pieces of furniture placed between the sides of the pages and the cross of the chase, in quartos, octavos, and duodecimos; and, when a sheet is folded, form, except in quartos, the margin of part of the fore edge of a book. *See* Imposing. Margin. DAP

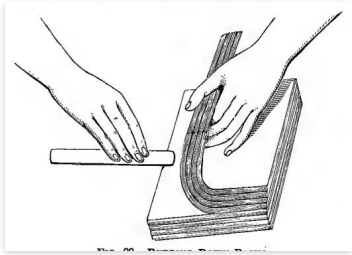


Fig. 22.—Rubbing Down Backs.
W. J. E. Crane, Bookbinding for Amateurs, 1885

BACKSIDE OF THE FORM, is the under side that touches upon the correcting stone or press stone.—M. DAP

BACKSTRIP 1. A term used incorrectly with reference to the SPINE of a book. See also: REBACKED. 2. See: GUARD (1). 3. See: INLAY (1). RE

BACTERIAL RESISTANCE The resistance of a material to the growth of bacteria and/ or mold. This property represents one of the more significant advantages of resinous adhesives over the conventional adhesives. 258 RE

BACTERICIDE A material used in small concentrations, e.g., 0.1% by weight of the material being treated, to kill, or inhibit the growth of, bacteria that may occur in liquid or solid adhesives, or

may attack carbohydrate or proteinaceous adhesive films. 222 RE

BAD COPY Such copy as is ill written, or has much Italick, Latin, or Greek, or marginal notes, or few breaks, &c.—M. The term is now used only of manuscript that is badly written, and the words or the sense difficult to make out, with many interlineations. When this is the case, it is usual to pay something extra per sheet. For Greek, and marginal notes, an extra sum is always given, as may be seen in the Scale of Prices. • Bad Register. *See* Out of Register. DAP

BAD WORK Any fault at the case or press, is in workmen's language called *Bad Work*.—M. We now call it *Bad Workmanship*; and by the term *Bad Work* is understood solid matter; that is, not leaded; with long paragraphs; no white lines nor branching out; no short pages; nor any white pages; such work is also called *A Solid Dig*; any other work is also called *Bad Work*, that is tedious in the execution, or difficult to perform, and does not fetch the workman a remunerating price. DAP

BADIER, FLORIMOND fl 1645–1660 A Parisian bookbinder, apprenticed to Jean Thomas in 1630, who became a master bookbinder in 1645. His name is associated with the art of POINTILLÉ (1) and sumptuous doublures. Badier also used a distinctive finishing stamp cut in the shape of a man's head. Only three signed bindings of his are known; many bindings attributed to him may be the work of imitators. At one time, Badier was considered by some authorities to be the legendary LE GASCON; this was largely because of his pointillé style. 73,347 RE

BAG BINDING An additional protective covering provided a book. It is usually made of leather. See also: GIRDLE BOOK. 104 RE

BAGASSE PULP A paper pulp obtained from the crushed stalks of sugar cane (usually considered to be Saccharum officinarum), following the extraction of the juices. The pulp is prepared for use by mechanical disintegration in water, either with or without chemical treatment. The pulp produced is coarse. bulky, and of low strength, and is used principally in the manufacture of boards. 72 RE

BAGGULEY, THOMAS An English bookbinder, of Newcastle under Lyme, who, in the late 19th century, devised a method of tooling vellum and similar materials in permanent colors. Bagguley limited his technique to vellum, as he considered leather to be too lacking in purity of color to offer a satisfactory ground for unrestricted color decoration. Because of the delicate nature of his work, he further restricted his technique to vellum doublures. See also: SUTHERLAND DECORATION. 94 RE

BAKE When the compositor lays up a form to clear it away, after a work is finished, if he does not rinse the letter as well as if it were rinsed for present use, or rather better, the ink that is dissolved among the lye would, with long standing by, harden between the letter, and make the letter stick so fast together that when it comes afterwards to be distributed, the compositor cannot without great difficulty and trouble get them asunder. This sticking together of the letter is called *Baking of the Letter*. And compositors in this case say *The Letter is Baked*.—M. This is the case particularly with new letter, if it be not distributed almost as soon as worked off; for if it be afterwards allowed to remain some time locked up in the chase, it is very difficult to separate and distribute, and causes great loss of time, and injury to the letter. • The usual remedy for this inconvenience is to pour boiling water on the pages repeatedly, which tends to make the letters separate more readily; but still the compositor has to press them against the edge of his case, which makes the ends of his fingers sore, and when he cannot accomplish it in this way, he not unfrequently must have recourse to his teeth. Soaking the new letter in soap and water before it is used, is said to be the best remedy. • Baldwin, Elizabeth. *See* Donations. DAP

BALL KNIFE An old blunt-edged knife, that pressmen lay by, to scrape their balls with.—M. It is generally an old table knife; but a sharp-edged one is better than a blunt one, if it be carefully used. The use of the Ball Knife is now nearly superseded by the adoption of composition rollers. DAP

BALL LEATHERS The exterior coverings of the balls, made either of pelts, of tanned sheep's skins.—M. Ball Leathers, dressed with oil, were introduced within the author's recollection; but, although more durable, and sweeter in use than pelts, they were not adapted to produce fine work, and were therefore soon discontinued. DAP

BALL LININGS When balls are made of pelts, the wool in the first instance is covered with the pelt of an old ball, previously soaked in the pelt pot and well scraped; this is again covered with a new pelt, and nailed to the ball stock, which makes the ball complete. The old pelt is called

the *Ball Lining*, and makes it firmer in the neck, and also wear longer. DAP

BALL NAILS The nails that ball leathers are tacked to the ball stocks with.—M. DAP

BALL NECK That part of the ball which is immediately between the stock and the body of the wool, just below the nails, is named the *Ball Neck*, or the *Neck of the Ball*. • DAP

BALL RACK DAP

Two round tapering wooden pins fastened into a feather-edged piece of elm, and nailed to the near cheek of the press, in which to place the balls when they are not in use, nearly on a level with the ink block. There is frequently an additional one, for two balls, nailed higher up to the same cheek, under the cap, for a pair of spare balls, or to keep them separate when necessary; pelt balls injure each other when kept together for any length of time; and composition balls should never be left one upon the other, for they adhere to each other, and the surface is frequently torn in separating them.

Moveable ball racks are sometimes used for convenience, with the rack fastened to an upright piece of wood, fixed into a cross piece to serve it for standing upon.

BALLS.

Two circular pieces of pelt, leather, or canvass covered with composition, stuffed with wool and nailed to the ball stocks, used to cover the surface of the article to be printed with ink, in order to obtain an impression from it. Moxon says they were occasionally stuffed with hair; and that if the ball stocks were six inches in diameter the ball leathers were cut about nine inches and a half diameter. They are made larger, according to the work they are required for; those used for Newspapers were the largest.

Pelt Balls are superseded in London by composition Balls and composition rollers, and nearly so in the country; but when I recollect that the most splendidly printed English books were executed with pelt Balls, and that a printer may be so situated in the country, or in some foreign place, as not to be able to procure composition Balls or rollers, I think it useful to give directions how to make and manage Balls of pelts, so that wherever a printer may be situated, he may sustain no great inconvenience, provided he has a skin at his command: and I shall in the first place give an old Pressman's directions for this purpose, who was well and practically experienced in every variety of presswork, and who wrote them expressly for this work.

"The pelt being well soaked, the pressman scrapes with the ball knife a little of the wet and filth off—twists it—puts it on the currying-iron, holding an end in each hand, and curries it, by pulling it strongly backwards and forwards, till it becomes warm and pliable, and the grease adheres to his hands, so that the pelt is in danger of slipping out of them while currying: without treading he cuts the pelt into two equal parts, across, and scrapes both sides of them; he then lays one of them on a press stone, or on any other stone that is large enough, and stretches it and spreads it well with the grain side downwards: the pelt of an old ball being well soaked, he cleans it, scraping it partially, so that some of the moisture may remain in it, and spreads it on the new pelt, as a lining, but does not stretch it nearly so much as the new one, and then nails an edge of them to the ball stock: the wool, being previously carded or combed, he lays in single locks one upon another, crossways, till he has enough for the size of the Ball which he is making. If it be for a newspaper it must be very large; if for bookwork, to be used with common ink, it must be smaller in proportion; but in both cases he brings the ends of the locks of wool into one hand, forming it into the shape of a ball very slightly, and puts these ends into the bowl of the stock; then bringing the opposite edge of the pelt to that already nailed, he also nails that to the ball stock; then he nails two other parts of the pelt opposite to each other, between those parts before nailed; then he plaits the pelt, nailing it regularly on the ball stocks; and cuts off the superfluous edges of the skin. The linings ought to be large enough to be nailed to the ball stock equal with the skin. Then he makes another ball, exactly the same as the first; and if both have a full even face, with no hillocks or dales, he has got a pair of good Balls.

"After having knocked up his Balls, he washes both them and the stocks well, and lets them lie out of the water a quarter of an hour; then placing one edge of the face upon the edge of the bank, the coffin of the press, or upon any other convenient place, and the end of the ball stock against his breast, he takes the handle of a sharp table knife in one hand and the end of the blade in the other, and scrapes it regularly and rather strongly from the plaits to the face of the Ball, at every scrape turning round the Ball, which brings out such a quantity of grease and moisture, as obliges him at the first to wipe his knife at every scrape; he thus proceeds, till he can scarcely bring any more out of the skin. He then places a sheet or sheets of paper on the face of the Ball, and rubs it well with his hands, till the Ball is thoroughly dry, his companion doing the same to the other Ball: they then begin to work the form.

"If a pressman has to execute fine work with strong ink, he stuffs the Balls harder with wool

than he does for weak ink; because strong ink lugs or stretches the skin very fast, and soon slackens the Balls, if not hard stuffed.

"I was several years employed on fine work and strong ink, in an office where it was not allowed to tread a skin; this circumstance caused me to try the above-mentioned plan, and experience has taught me that it is by far the most preferable method.

"I also know by experience that a greasy skin is the best for strong ink, if treated in this manner; because it always keeps mellow until the balls are worn out, and there is less trouble in capping them.

"Making Balls is a nasty job: there is an old proverb in the trade, that '*The devil would have been a pressman, if there were no Balls to make;*' that is, the printer's devil." *See* Pelts.

Tanned sheep's skins, dressed with oil, have been used, to avoid smell, and for durability: they were more durable than pelts; but they were not calculated for producing fine impressions, not being soft; and, in consequence, not retaining dirt or other extraneous matter on their surface; this occasioned picks, and rendered them unsuitable for printing small letter or fine engravings with neatness.

When the pressmen leave work at night, the pelt balls are capped; that is, they are wrapped up, each in a blanket steeped in urine; and this is always done when they are not in use: it keeps them soft, and in working condition; but they are to be scraped, and dried with paper, to get rid of the moisture, each time they are wanted. There have been many attempts to supersede the use of urine, on account of its disagreeableness and smell; but no substitute, to my knowledge, has answered the purpose so well with pelts.

Composition Balls and composition rollers have, as I previously observed, superseded the use of pelt balls in the metropolis, and nearly so in the country. This has arisen from their superior cleanliness and sweetness, and being equal to pelts in producing good work. They can also be procured, generally, at the moment they are wanted, in the best working state; since their introduction the manufacture of them has become a new business, and they are supplied at so moderate a rate, (either per week or quarter,) and may be renewed as often as required, that scarcely a printing office in London at the present day troubles itself to make Balls; and hence no pressman need ever complain of having bad Balls as an excuse for bad workmanship.

These Balls will be found peculiarly convenient in small offices, where even one press is not in constant employment; for they may be kept for any length of time without injury to them; and if they be preserved in a proper temperament, will be always ready for use at the moment required. If they should become a little too dry, they may be restored to a proper state for working in a very short time by sponging them over with water, and distributing them; or, if there be time, by placing them in a damp situation, in order that they may imbibe moisture.

They may be easily made in an office at a distance from town, where it may be both inconvenient and expensive to have them removed backwards and forwards, by having a shallow dish formed of tin, &c. pouring the melted composition in it, and before it is cold attaching a piece of canvass to it sufficiently large to form a Ball of the size wanted. The facing will be thus thicker in the middle and taper off to the edge, which will be quite thin; and the edge of the composition should be continued well over the rounding of the Ball, to prevent it ever touching the form in beating, and thus avoiding any ill effects from portions of ink or dirt that would lodge at the extremity of the composition, and come in contact with the types or engraving. *See* Composition.

Rack for the printing balls

Rack for the printing balls
William Savage, A Dictionary of the Art of Printing, 1841

BALL STOCKS Turned of Alder or Maple. They are about seven inches in diameter, and have their under side turned hollow, to contain the greater quantity of wool or hair, to keep the ball leathers plump the longer.—M. They are now made of Elm, and the handles are Beech: but an improvement has been made in this article of late years, although it has not been generally adopted, viz. turning the bowl and handle in one piece, instead of having the handle fitted into the bowl, which frequently came loose, and was troublesome to the Pressman, often catching the skin of his hand, and pinching it. The usual size of the bowl for bookwork, is five inches and a quarter in diameter. • BANK. • A deal table, on which the Pressmen have the paper when printing. It was called a Horse in Moxon's time. *See* Horse. It is useful to have a small drawer in the front of it, in which the Pressmen may put their thin paper for overlays, their paste points, and many other articles that would otherwise be lying upon the shelf or platen. DAP

A tool to hold an inked ball
William Savage, A Dictionary of the Art of Printing, 1841

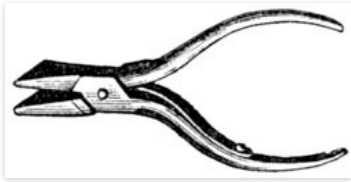
BALL TOOL A small finishing tool cut in the shape of a ball. RE

BAMBOO A giant grass of the tribe Bambusseae, located in the tropical areas of the Eastern Hemisphere, and cultivated successfully in some parts of the southern United States. The fibers are not unlike those of straw in many aspects. Bamboo fibers have an average length of 2.4mm., which puts them between the softwood and hardwood fibers. It is used extensively in India for the manufacture of all grades of chemical pulp and paper. Paper made from it is relatively soft and bulky, with a high tearing resistance but relatively low burst and tensile strength. Although writing and printing papers are produced from 100% bamboo pulp, superior results are realized when the bamboo is blended with other pulps that increase burst and tensile strength. • Bamboo is also the traditional material used in making molds and other devices used in the manufacture of handmade paper. 17,143 RE

BAND BOARD A wooden block about 9 by 12 inches, 6 inches thick at the head and 5 at the foot, on which headbanders in library binderies used to lay their zinc boards with dampened headbands, prior to attaching them to the text blocks. 256 RE

BAND DRIVER **1.** A blunt, chisel-shaped tool, usually made of wood, and used in hand binding to attain uniformity and also to correct any irregularities of the bands on which the book is sewn. See also: BAND NIPPERS.2@MAB A tool used in forwarding to correct irregularities in the bands of flexible backs.3@ABB A blunt chisel used in forwarding, to correct any irregularities in the bands of flexible backs. RE 94,261

BAND NIPPERS **1.** See illustration Pincers which have broad, flat jaws, used for straightening the bands of a book sewn on raised cords, and also for nipping up the leather during covering. The better nippers are nickleplated or made of stainless steel to avoid discoloring the leather, and are equipped with a spring to keep the jaws open when in use.2@ABB Flat pincers used for nipping up the band in covering.3@BCB pincers with flat jaws, used for straightening the bands (see Fig. 61). For nipping up the leather after covering, they should be nickelled to prevent the iron staining the leather.4@NBL Pinchers with flat jaws used for straightening bands by nipping up the leather after it is in place. They should be nickeled to prevent the iron staining the leather. RE 161

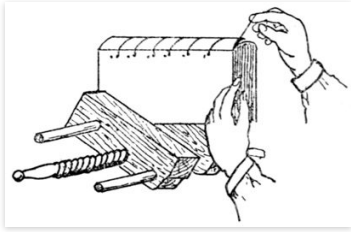


Band Nippers.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

BAND PALLET A type of PALLET (1) used to impress a complete design on the spine of a book between the raised bands. Sometimes called a "butterstamp." 97 RE

BAND PATTERN A device, generally made of brass, with holes drilled indicating the position of the bands of books to be sewn on raised cords. 264 RE

BANDING See: BANDS (2). RE



Head-banding.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

BANDS **1.** See illustration 1. The cords or thongs on which the sections of books are sewn. They may be raised for FLEXIBLE SEWING, sawn-in for RECESSED-CORD sewing, or FLEXIBLE NOT TO SHOW. Early bands (or thongs, as they were originally called) were made of leather, which was not very durable, or tawed skin, which was very durable. Leather thongs began to be replaced by cords during the latter years of the 16th century. Hemp and linen cords are commonly used today. • Sewing on raised bands came into use in England sometime between the 12th and 13th centuries, although the technique had been introduced into northern Europe centuries earlier. The first raised band sewing was on double bands, ranging in number from two to five. The bands were positioned so that there was a greater space between the bands themselves than between the top and bottom bands and the head and tail of the book. Single bands began to replace double ones and, by the mid-16th century, had become predominant in the more economical styles of binding. • 2. Strips of reinforcing material (usually leather) which extend across the spine, or spring-back, and onto

the sides of a book, usually a stationery binding. The bands may be placed on the boards before covering, in which case they are called "underbands," or over the covering material, where they are known as "overbands." Bands are used to strengthen large blankbooks in the area of the joints, and to provide additional leather at areas of heavy surface abrasion. They also protect, to some extent, the lettering on the spine of the book. When overbands are used, they are generally decorated in some manner, usually in the design of their lacing or riveting; this step is needed because adhesive alone will not keep the overbands attached to the book. In the case of underbands, the decoration of the covering leather is often concentrated around the area of the bands. • The size and position of the bands, both over and under, are based on definite proportions of the cover of the book. Bands may be single, double, or double straight. When single bands are used, the cover is divided into 19 equal parts. Each band is 3/19 the length of the cover, and there are 3/19 the cover length between the bands. The top and bottom bands are each 2/19 from the head and tail edges of the cover, respectively. All three bands extend into the cover 2/5 of its width. Double bands, in addition to providing additional strength across the spine, also provide an additional thickness of leather along the edges of the boards. These bands are more complicated than single bands, as the bands at head and tail are equal to 5/19 of the length of the cover, with 2 of the 5/19 bands extending the full width of the cover, while the other 3/19 extend only the customary 2/5. The center band also extends 2/5 the width. With double band there is no space between the bands and the head and tail of the boards. • A variation of the double band is the double straight. In this technique, the length of the cover is divided into five equal segments. Each band is 1/5 the length of the cover. The head and tail bands extend the full width of the cover, while the middle one extends the customary 2/5. • Bands were also used to some extent in limp vellum binding, in which case the bands were sewn through the sections of the book. • The use of bands as a technique for strengthening bindings has been practiced since at least the 14th century. At one time they were commonly referred to as "Russia bands" because of the use of RUSSIA LEATHER in making them. • 3. Lines in gold or in blind impressed by means of a pallet across the spine of a book sewn on recessed cords in the same positions as would be occupied by the raised bands used in flexible sewing. 4. False bands attached to a HOLLOW BACK book or a TIGHT BACK book sewn on recessed cords, in imitation of flexible sewing. 5. The strips of brass attached to the tail edges of the covers of large blankbooks, for the purpose of protecting the leather covering from wear. 6. A form of decoration consisting of wide parallel lines with ornaments impressed between them.2@MAB The twines whereon the sheets of a volume are sewn. When the book is sewed flexible the bands appear upon the back. When the back is sawn so as to let in the twine, the appearance of raised bands is produced by glueing narrow strips of leather across the back before the volume is covered.3@BIB (1) The cord whereon the sheets of a volume are sewn. (2) The ridges on the back caused by the bands raising the leather.4@ABB The cord whereon the sheets of a volume are sewn. When a book is sewn "flexible" the bands appear upon the back. When the back is sewn so as to imbed the cord in the back, the appearance of raised bands is produced by gluing narrow strips of leather across the back before the volume is covered.5@BCB (1) the cords on which a book is sewn. (2) The ridges on the back caused by the bands showing through the leather.6@NBL The strings, cord or twine on which a book is sewed. They are usually made of hemp, are loosely twisted, are 2, 3, 4-ply according to the size of the book, and cost about 35 cents per pound. This twine is loosely twisted that it may be flexible and less likely to break when glued and dried, and that it may be easily frayed out at the ends for pasting down on the inside of the covers. RE 83,123,152,236,241,256,264,343

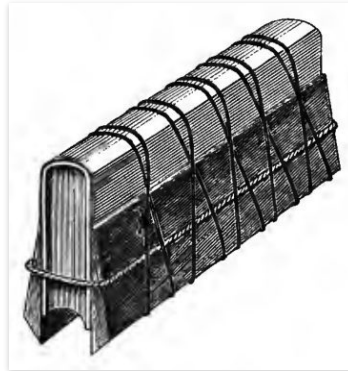


Fig. 112.—Tying up Bands.
W. J. E. Crane, Bookbinding for Amateurs, 1885

BANDS FRAYED The cords (bands) of a book which have been separated (frayed out) into individual threads. The frayed out cords, which extend out from the text block 1 to 2 1/2 inches,

are glued between split boards, and are frayed out so as to avoid bulging of the boards. Cf: LACING-IN. 25 RE

BANDSTICK See illustration 1. A hard, smooth length of wood, frequently beechwood, used in pressing and smoothing the leather over the bands on the spine. The bandstick may consist of a narrow strip having a smooth sharpened edge on one side, in which case it is used to work one side of a band at a time, or it may be grooved so that the stick fits over the band. The latter type may have graduated grooves on both sides to accommodate bands of varying widths. 2. A tapering length of hard, smooth wood, used in pressing and smoothing the leather on the spine between the raised bands. Also called "rubbing-up stick." 232,264 RE

BANK A table about four feet high, to lay sheets on at press. AMP

BANK NOTES On the 13th of January, 1819, Mr. James Fergusson, of Newman Street, Oxford Street, printer, sent to the Commissioners for inquiring into the Prevention of Forgery of Bank Notes, his plan for that purpose, of which the following is his published description. • "My plan is reared upon the solid foundation of putting it in the power of every individual to be *certain* whether a Bank-note is genuine or spurious *by inspection*. I propose, in order to form the ground-work of Bank-notes, to cast a fount, or several founts, of types, formed of such a peculiar shape, that, when printed from, the impression would appear, at first sight, like a line engraving; while, at the same time, when examined more closely, every part of it might be easily read. Although it is not in my power, without going to considerable expence, to produce a specimen of such types as ought to be made for this purpose, yet no one will deny that they may be obtained by means of punch-cutters and letter-founders. This being granted, let me suppose that I have got such types; I should then proceed to compose a page with them of the size of a Bank-note, consisting of such subject-matter as may be deemed advisable,—probably, an explanation of the way by which forgery could be detected. From this page of moveable types, I should make a stereotype plate; and I should then, by stamping or engraving upon the stereotype plate, put the promissory words of the Bank-note, with the addition of whatever ornamental lines might be thought proper. This stereotype plate, so formed, would give, by one pull at the letter-press, a completed Bank-note, unless it might be deemed requisite to add the numbering; and a signature or signatures, in writing. Having got *one* stereotype plate in the way I describe, I should use it for no other purpose than to obtain others; and from them I could easily make plates to any amount that may be necessary, all which would yield impressions obviously alike. As the promissory and ornamental parts of the note, *in white*, will purposely be made to intersect the words printed *in black* all over the surface of the note, the intersections will prove an *infallible* guide to distinguish a spurious note from a genuine one. This contrivance of intersections being the leading feature in my plan, I have denominated it *The Intersection Plan*. • "Individuals, when familiarized to notes issued upon this principle, would naturally select some portion to which they might easily refer, to ascertain the genuineness of a note. And, for further security, if necessary, the Bank might print what I may call *Standards*, for the use of the public, to be sold for a trifle, merely to insure their preservation. The Standards to be printed from the same plates as the notes themselves, but on paper quite of another texture and colour from the note paper, for the purpose of proving the correctness of the intersections." *See* Forgery. DAP

BANKRUPTS, Scotland. 2 & 3 Vict. c. 41. "An Act for regulating the Sequestration of the Estates of Bankrupts in *Scotland*. • s. 143. "And be it enacted, That from and after the Commencement of this Act the Keeper of the *Edinburgh Gazette* shall on each Day of Publication furnish a Copy thereof to the Keeper of Edictal Citations and to the Bill Chamber Clerks, who shall keep the same regularly filed, and make the said Gazettes on all Occasions patent to the Lieges at Office Hours, on Payment of a Fee of Sixpence and no more. • s. 144. "And be it enacted, That no Advertisement inserted in the *London Gazette* or in the *Edinburgh Gazette* by virtue of this Act, or the said recited Act of the Fifty-fourth Year of the Reign of His Majesty King *George* the Third, intituled *An Act for rendering the Payment of Creditors more equal and expeditious in* Scotland, or an Act of the Sixth and Seventh Year of His late Majesty, intituled *An Act for regulating the Process of Cessio bonorum in the Court of Session, and for extending the Jurisdiction of Sheriffs in* Scotland *to such Cases*, shall be charged by the Keepers of the said Gazettes for Publication therein at a higher Price, nor shall a higher Price be paid for such Publication, than the Sums specified in the Schedule (L.) hereunto annexed. • s. 145. "And

be it enacted, That from and after the Commencement of this Act all Conveyances, Assignations, Instruments, Discharges, Writings, or Deeds relating solely to the Estate belonging to any Bankrupt against whom Sequestration has been or may be awarded either under this or any former Act, and which Estate, after the Execution of such Conveyances, Assignations, Instruments, Discharges, Writings, or Deeds, shall be and remain the Property of such Bankrupt for the Benefit of his Creditors, or the Trustee appointed or chosen under or by virtue of such Sequestration, and all Discharges to the said Bankrupt, and all Deeds, Assignations, Instruments, or Writings for reinvesting the said Bankrupt in the Estate, and all Powers of Attorney, Commissions, Factories, Oaths, Affidavits, Articles of Roup or Sale, Submissions, Decrees Arbitral, and all other Instruments and Writings whatsoever relating solely to the Estate of any Bankrupt sequestrated as aforesaid, and all other Deeds or Writings forming a Part of the Proceedings ordered under such Sequestration, and all Notices or Advertisements inserted in the *London* and *Edinburgh* Gazettes relative thereto, shall be exempt from all Stamp Duties or other Government Duty." • SCHEDULE (L.) • "*Table of Prices payable for Advertisements in the London or Edinburgh Gazettes.* • • Bar. *See* Press Bar. DAP

BAR ROLL A ROLL (1) cut with a series of parallel raised lines at right angles to its sides. RE

BARIUM CARBONATE A white compound ($BaCO_3$), insoluble in water. The use of BARIUM HYDROXIDE in the deacidification of paper results in the formation of barium carbonate as the alkaline reserve in the paper, due to the action of atmospheric carbon dioxide on the barium hydroxide. RE

BARIUM HYDROXIDE A white, toxic alkali ($Ba(OH)_2$), formed by the reaction of barium monoxide with water, or by the action of sodium hydroxide on soluble barium salts. It is one of the agents used in the non-aqueous deacidification of paper. RE

BARIUM SULFATE A white, soluble, heavy compound ($BaSO_4$), obtained either from the natural mineral barytes, or by chemical treatment of barium with sulfuric acid, and used both as a filler and coating pigment in paper manufacture, particularly photographic papers. It is used alone or in combination with other pigments. It has good affinity for ink, a bright color, and good opacity. It does not, however, produce a high finish. It is also used to form the pigment LITHOPONE. The artificial compound is also known as "blanc fixe." 72 RE

BARK 1. The outer surfaces of trees and other woody plants. The inner side of the bark of certain trees, e.g., birch, has been used in the past as a surface for writing. Bark books were rather common in Central Asia and the Far East until comparatively recent times. Bark is vulnerable to dampness and curling in climates of high relative humidity and to cracking in dry areas. 2. See: VEGETABLE TANNINS. 102 RE

BARK SKIVER A vegetable (oak bark) tanned sheepskin, light tan in color, and used extensively in the 19th century as a covering material for law books. It is not considered to be either permanent or durable. See also: LAW SHEEP. RE

BARK TANNED A general term used to indicate a leather that has been vegetable tanned mainly by means of tannins derived from the bark of trees as distinguished from mixed tannages. See also: VEGETABLE TANNINS. RE

BARKOMETER An instrument used to measure the weight of a vegetable tannin liquor per unit volume. RE

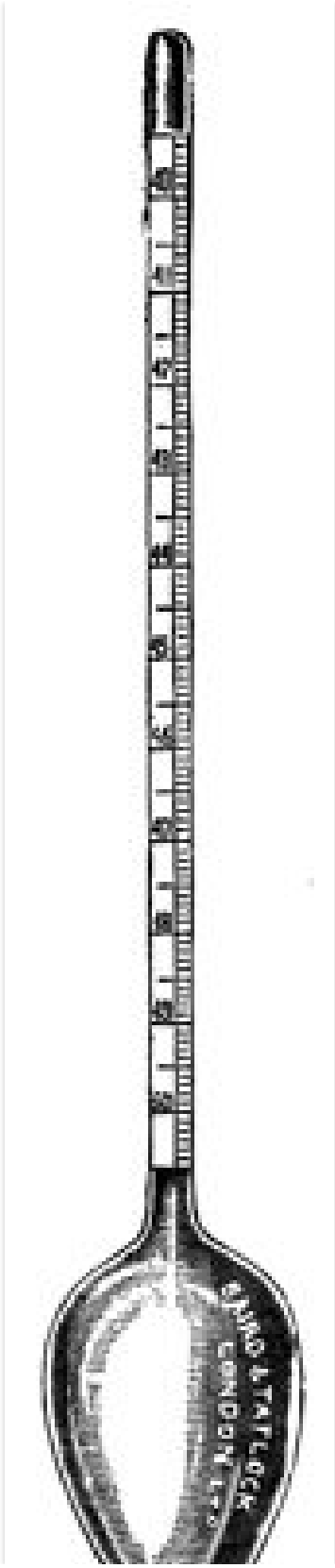


Fig. 24 BARKOMETER
K. J. Adcock, Leather: From the Raw Material to the Finished Product, 1910

BARM SKIN The name given a leather apron sometimes worn by bookbinders. RE

BARRIER SHEET A leaf inserted in a book to prevent the transfer of ink (and possibly acid substances) from a plate or illustration to a facing page, as well at times to elucidate the plate or illustration it accompanies. The sheet may be a highly sized paper, so called acid-free paper, or, more often, glassine paper. It may be loose in the book, sewn in with the binding, or, in the usual case, tipped to the leaf it protects. Barrier sheets are frequently made of an inferior quality of paper, one which will eventually develop acidity that can in turn be transferred to the facing text leaves, weakening them. For this reason, they should be removed, or, if they bear letterpress and therefore must be retained, deacidified and buffered, strengthened (if necessary), and reinserted in the volume. See also: ACID MIGRATION. 173 RE

BARROW, WILLIAM J. 1904–1967 An American document restorer and former director of the W. J. Barrow Research Laboratory, located in Richmond, Virginia, at one time considered by many authorities to be the leading independent scientific center for research into paper and the deterioration of paper. Barrow developed a process for laminating brittle documents between tissue and cellulose acetate film, as well as a highly effective means of deacidifying paper. He demonstrated the actual facts of paper stability over the past four centuries and developed a durable paper having a high degree of permanence. Barrow was also involved in other investigations connected with paper and ink for a period of more than 30 years, and was probably the most important single contributor to the knowledge of methods of achieving permanence and durability of archival materials. The Barrow laboratory ceased operations in 1977. See also: DEACIDIFICATION; LAMINATION. 7 RE

BARTLETT, ROGER c 1633–1712 An English bookbinder who was apprenticed to Samuel Satterthwaite in 1647, and was set up in his own business in London in 1654. He subsequently left London and set up business in Oxford some time after the great fire of 1666 and began producing the excellent gold-tooled presentation books for which he is well known. His bindings include certain distinctive features, including rows of floral volutes along cottage roofs, as well as swags hanging from the eves. Bartlett retired

to his birthplace, Watlington (in Oxfordshire) in 1711 or 1712, apparently having sold his bindery. The latest important binding executed by Bartlett is dated 1685, but records indicate that he continued binding thereafter. 50,205,253 RE

BARYTES See: BARIUM SULFATE. RE

BASE 1. See: ALKALI. 2. A metal block on which a die or electro for stamping or embossing is mounted. 3. A printing plate for a blocking press over which cases are tied, and which provides a solid foundation for producing sharp impressions. RE

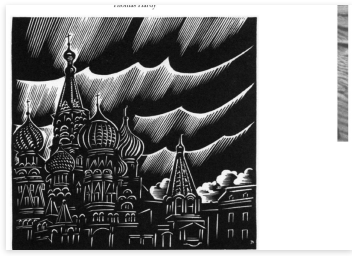
BASE COAT The first of a multiple system of coatings. The base coat is frequently a relatively inexpensive filling material designed to prevent excessive penetration of subsequent and often more expensive coatings. RE

BASE FABRIC In general, the basic cloth used for covering books, regardless of the final form it may take, i.e., coated, impregnated, or filled. Base cloths are usually of cotton, thoroughly cleaned, free from waste, evenly woven, with the warp yarns woven in pairs. 209 RE

BASIC DYES A class of dyes, usually synthetic, that act as bases, and which are actually ANILINE DYES. Their color base is not water soluble but can be made so by converting the base into a salt. The basic dyes, while possessing great tinctorial strength and brightness, are not generally light-fast; therefore their use in the dyeing of archival materials is largely restricted to those materials not requiring this characteristic. Basic dyes were at one time used extensively in dyeing leather, mainly because they are capable of combining directly with vegetable-tanned leather without the use of a mordant. See also: DYE, 17,62,72 RE

BASIC SIZE The sheet size of paper, determined by trade custom, as that agreed upon for calculating the BASIS WEIGHT of the paper. Initially it was the size which could be printed, folded and trimmed with the greatest economy. Some of the specifications for basic sizes in use in the United States are: • Type of paper Size (in inches) • Bible 25 X 38 • Blanks 22 X 38 • Blotting 19 X 24 • Bond 17 X 22 • Book 25 X 38 • Cover 20 X 26 • Glassine 24 X 36 • Gummed 25 X 38 • Index 25 1/2 X 30 1/2 • Ledger 17 X 22 • Manifold 17 X 22 • Manuscript 18 X 31 • Mimeograph 17 X 22 • Newsprint 24 X 36 • Offset 25 X 38 • Onionskin 17 X 22 • Opaque 25 X 38 • Poster 24 X 36 • Tag 22 1/2 X 28 1/2 • or 24 X 36 • Text 25 X 38 • Tissues 24 X 36 • Vellum bristol 22 1/2 X 28 1/2 • Writing 17 X 22 • All are based on a ream of 500 sheets. 17,316,324 RE

BASIL A vegetable-tanned, sheep- or lamb-skin, producing a soft, smooth leather but with only moderately good wearing qualities. Its smooth surface lends itself well to graining in imitation of other skins, such as goat. There are several types of basil, including E.I. (East India), N. Z. (New Zealand) and Aus. (Australia), all of which are generally tanned with native or mimosa bark. Crust basils are tanned loose in pits and sold dry as taken from the drying sheds; strained basils are tanned as crust, but wet down, set out with a slicker, stretched and allowed to dry; tawed basils are sheepskins dressed with alum and salt and finished in a white or nut brown color; and organ basils are also tawed but with the salt removed. Diced basils are skins which have been dyed red, glazed, and embossed with a diced cross line. Because of their relatively poor wearing characteristics, basils are not often used today in bookbinding, although in the first half of the 20th century they were employed fairly extensively in binding cheaper blankbooks, and the like. 61,69,343 RE



St. Basil's
Peter D. Verheyen (ed.), The Bonefolder: E-journal for the Bookbinder and Book Artist (complete run), 2009

BASIS WEIGHT The actual weight of a ream of paper (normally 500 sheets, but at times 480 or 516), cut to its BASIC SIZE. The standard, or basic, size ream varies with different grades of paper. Some papers and boards are produced to a specified caliper (thickness), rather than to a specific weight; an example of this is heavy cover paper. The United States Government Printing Office uses a unit of 1,000 sheets, which is also used in the M.M. SYSTEM. In most foreign countries, as well as in certain domestic test procedures, the standard size is a square meter, with the weight being expressed in grams per square meter. The basis weight of board is commonly expressed in pounds per 1,000 square feet. Book paper basis weights are based on the 25 by 38

inch sheet size, while cover paper weights are calculated on a size of 20 by 26 inches. 17,72,334 RE

BASKET In printing offices where there are large founts of letter, and the fount cases of any particular fount are not sufficient to hold the superfluous sorts, the surplus is put in coffins, and deposited in round baskets, till wanted. DAP

BASKET CLOTH A fancy weave of cloth, usually a better grade of buckram with a pattern similar to the wicker work in baskets. In the first decades of the 20th century it was used to some extent in edition binding. 256,264 RE

BAST FIBERS Strong woody fibers obtained from both the phloem and pericycle of various plants, and used in the manufacture of paper. Bast fibers, which include those of hemp, jute, mitsumata, and ramie, among others, are generally thinner than cotton fibers but their tubes have thicker walls than does cotton. Bast fibers are also generally stiffer and stronger than cotton fibers. 17,42,198 RE

BASTARD TITLE A short title preceding the general title of a work. AMP

BASTARD TYPE Type with a face larger or smaller than its regular body: as Nonpareil on Minion body, or Minion on Nonpareil body. AMP

BATHBRICK Powdered brick used in dusting the GOLD CUSHION before laying on the GOLD LEAF for cutting. Its purpose is to prevent the leaf from sticking to the cushion. 130,335 RE

BATIK A cloth consisting of a dyed fabric of which parts which are not intended to be colored are protected by wax, which is later removed. Batik is used for covering books, particularly in the area of Indonesia where the technique originated, and also as a novelty in other areas. 332 RE

BATING A process which is usually defined as "reducing" or "removing." The basic purposes of DELIMING and bating are to remove calcium hydroxide (or other alkali) from the skin, to lower pH, and, of great importance, to treat the skin substance with proteolytic enzymes so as to obtain desired grain appearance in the finished leather. Bating also serves to impart softness, stretch, and flexibility to the leather, while at the same time providing the basis for a clean, smooth grain by loosening scud consisting of hair roots, pigment materials and grease. It also eliminates all traces of the firm, plumped, and swollen state of the skin induced by the alkaline unhairing liquors by bringing the skin into a soft, fallen condition. Today bating is employed mainly in tanning light leathers, such as those used in bookbinding, where drape, flexibility, and softness of handle are of primary importance. • The origin of bating is somewhat obscure but probably dates back to the time when LIMING was not a common practice. It may have been originated by a tanner who noticed that skins badly soiled with dung often produced a softer, stretchier, silkier leather. • As recently as the early years of the present century, the process of bating consisted of immersing the delimed skins in water at a temperature of 35–40° C., and then adding a liquid paste of pigeon or hen dung. The skins were run in this liquor until they acquired a particularly soft, flaccid and silky handle. The finished leather was found to have a very smooth, clean flat, flexible grain and was very soft and stretchy. Considerable variations in time, temperature and quantities were used for various types of leather. The effect of bating was produced by enzymes, which, under appropriate conditions of temperature and pH, are capable of dissolving and digesting some of the protein constituents of the skin. In a properly controlled process they are given only sufficient time for further removal of undesirable interfibrillary proteins, or to modify or weaken those fiber structures which, by binding the collagen fibers tightly together, would cause the grain to be wrinkled and the resultant leather to have no stretch. • Today bating is accomplished by the the use of enzymes extracted from animal tissue, e.g., the pancreas of swine or sheep, or from microorganisms such as molds and bacteria, called respectively pancreatic and bacterial bates. 248,275,291,306,363 RE

BATTER **1.** When the face of any letters gets injured in a form, it is termed a Batter. • This accident frequently occurs:—in the course of working at press a letter or letters will draw out in beating, and occasionally be left on the form without being perceived; this, when the next impression is pulled, injures the page on which it was left;—a pin, needle, or bodkin, used as pickers, will sometimes be laid on a page and forgot—and other small articles, which produce the same injury. It also happens with forms reared up at the ends of frames, where the faces of the letter in the forms are put to each other, with a quoin, or a piece of furniture, to prevent them touching, which being accidentally displaced, the letter gets injured. The only thing to be done when these accidents occur, is to replace the letters; this however is too frequently done without showing a revise to the Reader or

Overseer; and thus errors creep into a work, which no care on the part of a Reader can prevent. To steady careful men these accidents seldom happen; and they ought to be guarded against, in as much as they cause loss of time to the workmen, and expense of materials to the master printer; and when letters or words must be replaced, the work should never be proceeded with at press, previously to its being examined. • When a fine engraving on wood is at press, the workman should be most particularly careful, as an accident might thus spoil an expensive work of art, which it might be impossible to replace. • When a Batter unfortunately happens at press in working stereotype plates, it is too frequently overlooked by the pressmen, and the work proceeds in a deteriorated state; while, generally speaking, if the same accident had happened to a form of moveable types it would have been set right. The reason is, that while in the latter case the accident could be remedied in a few minutes, the stereotype plate on the other hand would have to be taken out of the form and sent to the founders, and would not be repaired in less than five or six hours, during which time the pressmen would be unemployed, to their loss. This is one cause that operates against the more general use of stereotype plates.2@AMP Types accidentally injured in a form. DAP

BATWING SKIVER A bookbinder's expression for the thinnest SKIVER produced. It is made from the flesh split of sheepskin, and was at one time used for linings and title labels for law and similar books. 91,274 RE

BAUMÉ also *Baumé hydrometer* A hydrometer for measuring the density of liquid and gum solutions, named after its inventor, Antoine Baumé. The Baumé scale is either of two arbitrary hydrometer scales, one for liquids heavier than water and the other for liquids lighter than water, that indicate specific gravity in degrees. The calculation (in the United States) for liquids heavier than water is: • 60° 145 • Specific gravity at --- F = --- • 60° 145 • -° Baumé • and for liquids lighter than water: • 60° 140 • Specific gravity at --- F = --- • 60° 130 • +° Baumé • Slightly different conversions are used in other countries or in specific industries. 179,362 RE

BEAD **1.** 1. An old American term for HEADBAND. 2. A small twist formed when twisting the silk or cotton in headbanding. 3. A fore-edge clasp made of cat gut and beads, used to keep vellum bindings tightly closed. See also: CLASPS.2@MAB The little roll formed by the knot of the headband.3@NBL A little roll formed by the knots of the headband. RE 83,250,261

BEADING The small twist formed when twisting the silk or cotton in head-banding. ABB

BEAMHOUSE OPERATIONS The processes in leather manufacture that take place following curing and preceding the actual tannage of the skin. These processes include some or all of the following: SOAKING (1), LIMING, UNHAIRING, SCUDDING, FLESHING, DELIMING, BATING (or PUERING), DRENCHING, and PICKLING, not necessarily always in the order given. The skin may also be split before tanning. The principal objectives of beamhouse operations are to rid the stock of substances not wanted in the finished leather, notably the class of proteins known as keratin, and to put the skins into the proper chemical and physical condition for subsequent processing. To produce satisfactory leather, beamhouse operations must be carried out in such a manner that no damage is done to the fibrous (collagen) part of the skin that is converted into leather, nor to its internal structure. • The term derives from the "beam," a convex wooden slab sloping upward from the floor, over which the raw stock is placed for trimming, fleshing, unhairing, or scudding by hand. 248,363 RE

BEARD OF A LETTER **1.** is the outer angle of the Square Shoulder of the *Shank*, which reaches almost up to the *Face* of the *Letter*; and is commonly scraped off by the *Founder*: As in § 2. ¶ 2.2@AMP The outer angles supporting the face of a type and extending to the shoulder. MOX

BEARD OF A LETTER, is the outer angle of the square shoulder of the shank, which reaches almost up to the bottom of the face of the letter; and is commonly scraped off by the Founder.—M. DAP

BEARER **1.** A piece of reglet pasted on the frisket to ease any particular part in a form that has too much pressure on it from the platen of the press. —M. • Double Pica reglet is used for this purpose, as its thickness is equal to the difference between the height of the types and the furniture; and this application of it makes this sized reglet in general a scarce article in a printing office. • Where any parts of the impression of a form come off hard, which from various causes occasionally happens, particularly at the edges of the pages, and at the foot of a short page, a bearer is applied to ease that part; but some care however is required in its application—it must

not bear upon any printed matter at the back of it, for if it does, it will smear and deface that part, nor is it necessary to place it close to the part, but it may be put at some distance, and if convenient near the outer edge of the paper, and made to rest on the flat part of the furniture. • After selecting a piece of reglet of the proper length, paste one side of it, and place it with the pasted side uppermost upon the furniture where it is required, then turn down the tympans and frisket and rub that part with the hand to make it adhere to the frisket; or, as is usually done, after the form is beat, when the next pull will make it adhere; if it be not quite sufficient, a thickness or two of a wrapper pasted on it will ease the pull sufficiently on that part. • *High Bearers*, are pieces of furniture made barely letter height; they are used where separate wood cuts are printed, or very small forms; they are placed on the press stone, usually pasted down, but at such a distance from the printed matter that neither the balls nor the rollers touch them in inking the form; they lighten the pressure on the extremities, and tend to equalize the pull if the carriage be not run in exactly to its place, by the platen bearing upon them. If they be not sufficiently high, they may be added to by overlays pasted upon them.2@AMP A strip of reglet to bear off the impression from a blank page. A long piece of furniture, type-high, used in working jobs. A solid-faced type interspersed among the blank parts of a page composed for stereotyping, to resist the pressure of the knife when the plate is shaved. DAP

Bearer-lines The top line and bottom line in a page prepared for stereotyping. AMP

BEAT To cover the surface of the types with ink by means of the balls.—M. *See* Fine Presswork. DAP

BEAT FAT If a Pressman takes too much ink with his balls, he *beats fat*. The black English faced letter is generally beaten fat.—M. At the present day we understand by *Fat* Beating, that a pressman beating carefully, goes gradually two or three times over the form, so that every part of the surface of the type is touched six or seven times by the face of the balls; and is thus uniformly covered with a proper quantity of ink. DAP

BEAT LEAN **1.** Is to take but little ink, and often: all small letter must be beaten lean.—M. This and the preceding term *Beat Fat*, have changed their meaning since the days of Moxon; to beat lean now, is to beat lightly, and quickly make a riddance of work, without much regard to its quality.2@MOX is to *Take* but little *Inck*, and often: All *Small Letter* must be *Beaten Lean*. DAP

BEATER A machine used in papermaking. It consists essentially of a tank, usually provided with a partition or "mid-feather," that contains a heavy roll designed to revolve against a bedplate. Both roll and bedplate can be fitted with horizontal metal bars set on edge. In operation, the pulp material in a water slurry circulates between the roll and bedplate and is rubbed, cut, macerated, and separated into a fibrous mass for further processing into paper. Sometimes fillers, loadings, dyes, etc., are added to the stock in the beater. Some authorities contend that the beater, introduced in 1670, was partially responsible for the decline in quality of paper, as miniscule iron particles, breaking away from the sides or working parts of the machine, entered the paper and caused it to deteriorate. See also: REFINER. 17,58 RE

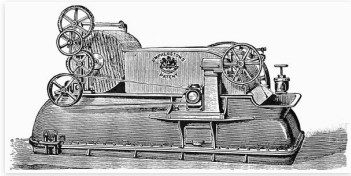


Fig. 50. —Umpherston Beater.
R. W. Sindall, The Manufacture of Paper, 1908

BEATER SIZED A paper which has been sized by means of materials added to the BEATER, or if not the beater, to the pulp before sheet formation, as contrasted to paper that has been SURFACE SIZED, or TUB SIZED. 17 RE

BEATING 1. A hand operation of flattening the leaves or sections of a book before sewing, the purpose of which is to compress or, in the process of rebinding, to remove the backing shoulders. See: KNOCKING OUT THE GROOVE. Books are seldom beaten today. See: BUNDLING (1); NIPPING (1); SMASHING. 2. The process of swelling and separating the fibers and fibrils of rags, wood pulp, etc., either batchwise or in a BEATER, or by passage through a REFINER. 261,350 RE

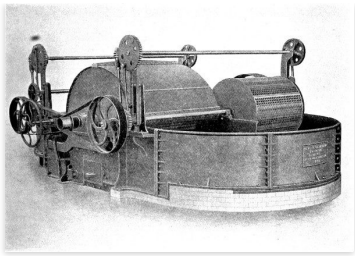
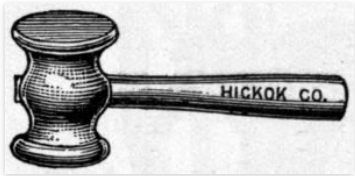


Fig. 13. —The "Hollander" Beating Engine.
R. W. Sindall, The Manufacture of Paper, 1908

BEATING HAMMER **1.** A heavy, short-handled hammer, with a bell-shaped face, used in beating the leaves and sections of a book so as to flatten and compress them. Such hammers generally weigh 10 to 14 pounds, and sometimes even up to 16 pounds. The introduction of the ROLLING MACHINE (1827) made the beating hammer virtually obsolete.2@ABB The heavy short-handled hammer used in beating (generally about 10 lbs.).3@NBL The heavy, short-handled hammer used in beating, weighing generally about 10 lbs. Books are beaten to make the leaves lie close to one another. RE 172,236



Beating Hammer
John Cotton Dana, Notes on Bookbinding for Libraries, 1906

BEATING STONE **1.** A marble or litho stone, or a flat plate of iron, set in a frame filled with sand, on which the leaves or sections of books are beaten.2@ABB The bed on which books are beaten.3@BCB the "stone" on which books were formerly beaten; now generally superseded by the rolling machine and standing press.4@NBL The bed of stone or iron on which books are beaten. RE 261

BED **1.** The base of a standing (or similar) press, on which books are placed and toward which the PLATEN descends.2@DAP To bed or lay the press stone in the coffin, so that it shall lie firm and solid in all parts.—M. There are different ways of bedding a press stone: some bed it in bran; some in plaster; but the general way is with paper. To effect this the paper ought not to have any large knots in it, and should be cut to the size of the coffin, and if there be any inequalities in the bottom of the stone, there must be additional pieces of paper placed under it to fill them up. When it is supposed there is sufficient paper in the coffin to raise the stone high enough, it is slung in on two pieces of cord, and a trial made of its firmness; if it rocks, it is lifted out again, and additional paper placed in those parts where the stone did not rest firmly. When it is properly bedded, the ends of the cords are tucked in at the sides of the stone so as to be easily picked out again with a bodkin. When the stone has got to lie solid with working, the upper side should be about a Brevier higher than the coffin. • Although I have mentioned cord, as being generally used for slinging the stone into the coffin, and lifting it out again, yet strong flat tape is decidedly superior; the stone lies more solid with it than with cord, and is not so liable to break. • Benefactions. *See* Donations.3@AMP The flat part of the press on which the form is laid. RE

BEDFORD STYLE Hand-stained bindings produced from a leather sometimes referred to as "fair calf" (a bark tanned calfskin), washed over frequently with a weak solution of potassium carbonate (K_2CO_3), and exposed to light. The staining process took as long as 6 months. In addition to the potassium carbonate, copperas (ferrous sulfate—$FeSO_4$), also known as "green vitroil," was used to produce a particular effect. The carbonate gave a warm brown-toned sprinkle, the sulfate gave a gray, and the two together gave a black. Cf: ETRUSCAN CALF. 94,154,236,347 RE

BEDFORD, FRANCIS 1800–1884 An English bookbinder whose work was considered to be unsurpassed by any of his contemporaries. Bedford worked for Charles Lewis until the latter's death in 1836, and then with John Clarke until 1850 when he started his own business. Bedford copied earlier Venetian bindings, with twisted or Saracenic ornaments, as well as later Veneto-Lyonese bindings common in England during the reign of Elizabeth 1. He also produced many imitations of the mosaics of ANTOINE MICHEL PADELOUP. 347 RE

BEESWAX A wax obtained from the hives of bees, i.e., an animal wax. Beeswax is a complex substance secreted by the worker bees for the purpose of constructing honeycombs. The wax is obtained by melting the honeycomb structure, and then filtering the wax before it is allowed to set. Beeswax usually contains a number of mineral wax adulterants. The wax, which is often bleached by shredding it into thin flakes and setting it out in the sun, has a softening range of 62–66° C. It is used: 1) to lubricate the thread

used in sewing books by hand; 2) with LANOLIN and other substances for LEATHER DRESSINGS. In the latter use it is considered valuable by some conservationists because, as it is harder than most other waxes, it supplies body to the dressing at a reasonably low softening temperature, and also provides a polished or glossy finish which some find desirable; its use, however, as well as that of any wax on leather, is considered by a number of authorities to be detrimental to the permanence of leather; 3) as a base for the colors used in MARBLING; and 4) to provide a suitable surface for burnishing the gilt edges of books, although it is generally considered to be inferior to CARNAUBA WAX in this application, as carnauba is less likely to streak. 29,291,335 RE

BEESWING See: HIDE BUFFING. RE

BELGIAN HARE A long-legged breed of rabbit found in Belgium, the hind leg of which was the traditional implement used by gold beaters to apply finely powered gypsum (BRIME) to the goldbeater's skins. This was done to eliminate as much roughness as possible to allow the gold to expand freely and evenly over the skin. 29 RE

BELLY The extreme left or right side of a complete hide, removed by cutting the hide along a line parallel to the spine and at such a distance from it as to remove approximately 23% of the total area of the hide for the two bellies. The belly includes the front and hind shank. The line of cutting is determined more accurately for any individual hide by noting the change in feel from the denser structure of the crop to the looser structure of the belly. 61,363 RE

BELLY GRAIN The tanned, outer grain side split from a BELLY. RE

BENCH KNIFE Two blades, the upper of which is curved and fitted with a handle, while the lower is drilled and countersunk so that it can be bolted to the bench. Bench knives are made in various sizes to cut from 16 to 42 inches. They are useful for cutting lightweight board, but are not as heavy or efficient as the BOARD CUTTER. 66 RE

BENCH SEWING An obsolete term applied to sewing a book through the folds, the significance being that the sewing was done on a SEWING FRAME, or bench. RE

BENCHED An obsolete term referring to a book prepared for sewing or some other forwarding operation. It was also applied to the process of flattening the backing ridge of a section. See: KNOCKING OUT THE GROOVE. 164,256 RE

BENGALESE DAP

The following article is extracted from Nathaniel Brassey Halhed's Grammar of the Bengal Language.

"Exclusive of the Shanscrit, there are three different dialects applied (tho' not with equal currency) in the kingdom of Bengal: Viz. the Persian, the Hindostanic and the proper Bengalese; each of which has its own peculiar department in the business of the country, and consequently neither of them can be universally adopted to the exclusion of the others.

"What the pure Hindostanic is to upper India, the language which I have here endeavoured to explain is to Bengal, intimately related to the Shanscrit both in expressions, construction and character. It is the sole channel of personal and epistolary communication among the Hindoos of every occupation and tribe. All their business is transacted, and all their accounts are kept in it; and as their system of education is in general very confined, there are few among them who can write or read any other idiom: the uneducated, or eight parts in ten of the whole nation, are necessarily confined to the usage of their mother tongue.

"The Shanscrit, or sacred language of Hindostan, from whence the dialect of Bengal immediately proceeds, is supposed by its professors to be the most antient and most excellent in the world. They assert that it exceeds every other language in the number of its letters, and esteem this excess as an incontrovertible argument of its antiquity and superiority.

"The Bengal Alphabet, like that of the Shanscrit, consists of FIFTY letters, in the following order.

"*First Series.*

"*Second Series*.

"It is to be observed, that in the Bengal alphabet, all the names of the consonants commence with the respective consonants which they denote; as *ko*, *go*, *jo*, &c. whereas in English, seven of them are preceded by a vowel: *ef*, *el*, *em*, *en*, *ar*, *ess*, & *ex*. It follows from hence, that the short vowel of the Bengalese is invariably subjoined to the consonant with which it is uttered, and never precedes: as ক and গ always stand for k*o*, and g*o*, and in no case for *o*k, or *o*g.

"The vowels, as used in composition, when joined with consonants, have a very different figure from those which are in the first series of the alphabet. I shall here insert a table of the forms of vowels in composition, corresponding to those which are initial or single.

"*A Table of the corresponding Vowels.*

"By the original structure of this language every consonant inherently possesses the short vowel on which its utterance depends; it is plain therefore on this principle, that no two consonants could have been joined together, and successively pronounced in the same syllable, but that a vowel must necessarily have intervened. As an expedient to remedy this inconvenience, a set of distinct characters were invented, called ফলা P,h*o*laa, or adjuncts. They are certain subordinate and subsidiary figures, that may be attached to each of the consonants in the alphabet respectively, to provide against the too frequent recurrence of the internal vowel.

"These *P,holaa*, are presented in a distinct series or alphabet, consisting of eleven subservient marks or signs, for different letters; which are here joined to ক k*o*, the first of the single consonants, and which may, in the same manner, be applied to all the other letters.

"The twelfth word of the series, (which seems to be added by the Bengalese merely to fill up the rhythm) relates to another subject, which will be explained in a subsequent remark.

"The reader must remember, that the letter র r*o*, in its proper character, is never joined to any other letter or adjunct; but its figure is entirely changed by a connection with other consonants, as will be seen in the following series.

"*The twelve* P,holas.

"The compound letters may be formed by three methods: either by placing one letter immediately under another, or by blending two letters together, so as to make one character from their union; or by making the first of the two consonants much smaller than the other letters. This last mode seems to be the most common.

"সিদ্ধি sh*ee*dd,h*ee*, called the twelfth *P,holaa*, is a word always prefixed to the class of vowels contained in the first Series of the alphabet. *Sheedd,hee* is part of a Shanscrit sentence, which means *be it properly performed*; and as these words are usually prefixed to the class of vowels, that Series has obtained the name of *sheedd,hee*.

"*The Series* Sh*ee*d,h*ee*.

অ *o*, is always an initial letter.

আ aa, is also initial.

"I shall set down a few of the most common contractions of letters which are constantly used by all the Bengalese, as being more expeditious, as well as more elegant than a simple junction of the single letters, whose office they perform.

ক্র kr*o*, stands for ক্র the kirr*o* *Pholaa*.

[#] *o*kt*o*, is ও to blended with ক k*o*; its regular form is [#].

কু k*oo*, stands for ক k*o* with hr*o*sw*oo*kaar.

[#] ung*o*, is compounded of ঙ ng*oo*-*o* with গ g*o* subjoined.

[#] *o*ggy*o*, is another figure for the *Pholaa* [#].

[#] m*oo*, is ম m*o* and ব w*o* compounded. The simple form is [#].

[#] *o*shn*o*, for [#] i. e. ণ aan*o* subjoined to ষ sh*o*.

[#] sh*oo*, initial and medial, [#] sh*oo*, final; two figures for [#].

[#] This figure stands for both [#] *o*tt*o* and [#] t*oo*.

[#] g*oo*, is used for [#].

[#] h*oo*, stands for [#].

[#] *o*hr*o*, is kr*o* *Pholaa* subjoined to হ h*o*.

[#] tr*o*, stands for [#].

[#] roo, is used instead of [#].

[#] *o*hl*o*, is ল l*o* subjoined to হ h*o*.

[#] *o*nd*o*, compounded of ণ aan*o* and ড d*o*.

[#] *o*hj*o*, is হ h*o* and জ j*o* blended together.

[#] *o*hm*o*, a compound of হ h*o* and ম m*o*.

[#] *o*st*oo*, is স s*o* and ট t*o*, with hr*o*sw*oo*kaar subjoined.

[#] *o*str*o*, is the letter স s*o* compounded with ট t*o*, and the kr*o* *Pholaa*.

[#] j*oo*, stands for [#].

[#] *o*gd,h*o*, [#] *o*dd,h*o*, [#] *o*nd,h*o*, represent ধ d,h*o* severally subjoined to গ g*o*, দ d*o*, and ন n*o*.

[#] this figure is called *o*rdd,h*o*-t*o*, i. e. *semi-to*; for *o*rdd,h*o* signifies *half*. It is used for the letter ত t*o* without its internal vowel; and in the middle of a word is generally represented by ২ the numerical figure of *two*.

[#] *o*ty*o*, is the preceding [#] blended with the *kyo pholaa*.

"I shall now proceed to a few marks of reference commonly used by the Bengalese.

"[#] This figure is always put at the top of every writing, and is meant as an invocation to G*o*nash, the Deity of Knowledge and Arts; it is called G*o*nashar aak*o*ree, or the crook of *Gonash*. So the Mahometans always begin with the letter [#] *aleph*, as a token of the unity of God.

"[#] Chaandb*oo*ndaa, is a mark put over certain letters to give them a very forcible nasal expression.

"৺ Eeshw*o*r, is properly one of the deities of the Hindoo Trinity. The name of God was supposed too holy to be inserted among the general class of words, and was therefore written at the top of the page, and wherever this name should occur in a sentence, the mark here specified was put as a reference to it. The form still remains, but the usage is degraded into a mere compliment: for in all petitions, or letters from inferiors to their superiors, the name of the person addressed is now put at the top, and this sign of reference occupies the place in the body of the letter, where the name should regularly have been inserted.

"[#] Sree properly signifies prosperity, and is prefixed to every name which they mean to mention with respect; as sree sree Raam, sree sree G*o*nash.

"One or more of these titles of Hindoo deities is first written on every piece of paper, as an amulet or charm, before any letter, petition or other writing whatever, is committed to it. In the same manner the Mahometans universally apply their *Bismillah* (or, *In the name of God*.) as we formerly wrote *Emanuel* at the top of letters, and still continue to commence a ledger with Laus Deo.

"The denominations of the cardinal numbers are so irregular in Bengalese, that I find it will be necessary to exhibit them as far as one hundred. And it must be observed as a particularity, that the ninth numeral of every series of ten, is not specified by the term of nine in the common order of progression, but takes its appellation from the series immediately above; as for instance the number *twenty nine* is not expressed by *nobeesh*, which should seem the proper denomination, but is called *oonteesh*, or one less than thirty. So *thirty nine* is *oonchaa-leesh*, or one less than forty.

In respect to the Bengalese types with which Halhed's grammar is printed, he thus observes, "The public curiosity must be strongly excited by the beautiful characters which are displayed in the following work: and although my attempt may be deemed incompleat or unworthy of notice, the book itself will always bear an intrinsic value, from its containing as extraordinary an instance of mechanic abilities as has perhaps ever appeared. That the Bengal letter is very difficult to be imitated in steel will readily be allowed by every person who shall examine the intricacies of the

strokes, the unequal length and size of the characters, and the variety of their positions and combinations. It was no easy task to procure a writer accurate enough to prepare an alphabet of a similar and proportionate body throughout, and with that symmetrical exactness which is necessary to the regularity and neatness of a fount. Mr. Bolts (who is supposed to be well versed in this language) attempted to fabricate a set of types for it, with the assistance of the ablest artists in London. But as he egregiously failed in executing even the easiest part, or primary alphabet, of which he has published a specimen, there is no reason to suppose that his project, when compleated, would have advanced beyond the usual state of imperfection to which new inventions are constantly exposed.

"The advice and even sollicitation of the Governor General prevailed upon Mr. Wilkins, a gentleman who has been some years in the India Company's civil service in Bengal, to undertake a set of Bengal types. He did, and his success has exceeded every expectation. In a country so remote from all connexion with European artists, he has been obliged to charge himself with all the various occupations of the Metallurgist, the Engraver, the Founder, and the Printer. To the merit of invention he was compelled to add the application of personal labour. With a rapidity unknown in Europe, he surmounted all the obstacles which necessarily clog the first rudiments of a difficult art, as well as the disadvantages of solitary experiment; and has thus singly on the first effort exhibited his work in a state of perfection which in every part of the world has appeared to require the united improvements of different projectors, and the gradual polish of successive ages."

The gentleman here spoken of was Charles Wilkins, Esq., a descendant of the learned Bishop Wilkins, and one of the founders of the Asiatic Society. He was afterwards created Doctor of Laws, and appointed Librarian to the East-India Company at their establishment in Leadenhall Street. He was reputed to be the best Shanscrit scholar in Europe.

The Bengalese Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

Bentonite A claylike mineral consisting largely of montmorillonite, and characterized by its high absorptive power and active colloidal properties. It is usually dark, dull, and powdery, but waxy on freshly cut surfaces. Its color varies from yellowish-green to nearly black. Bentonites are products of the change of volcanic ash, and are characterized by an alkaline oxide and alkaline earth content of 5 to 11. They are used as a filler in paper, for deinking paper pulp, for decreasing pitch problems in papermaking, and the like. The name derives from its discovery in Benton, Wyoming. 17 RE

BENVENUE Half a crown paid by a new workman to the Chapel when he commences, which is always spent. If a journeyman wrought formerly in the same printing house, and comes again to work in it, he pays but half a benvenue. If a journeyman smout more or less on another printing house, he pays half a benvenue.—M. *See* Ancient Customs. • This custom is still retained in printing offices, and the amount generally paid is the same as it was in the seventeenth century, though the value of half a crown then was considerably more than it is now. Under particular circumstances the Chapel sometimes takes less; and the workmen always add something each, so as to be able to provide bread and cheese and a draught of porter to welcome the new comer. The word is now pronounced *Bevénue*; it is evidently a corruption of the Fr. *bien venu* or *welcome*. • DAP

BENZENE A colorless, aromatic hydrocarbon (C_6H_6), usually obtained by the carbonization of coal, or from petroleum fractions by means of catalytic dehydrogenation. It is used to remove excess glair or grease from leather bindings. Although used extensively in the past. it is seldom used today because of its high flammability and extremely toxic nature. It is not to be confused with benzine (also used for the same purposes), which is a petroleum product obtained by distillation. RE

BERGAMOT A pear-shaped fruit (Citris bergania), the rind of which yields a pungent oil, used at one time as a preservative for paste. 371 RE

BETA CELLULOSE That part of a cellulosic material which will dissolve in an alkaline solution under the conditions of th ALPHA CELLULOSE test, but which will reprecipitate if the alkaline solution is acidified. See also: GAMMA CELLULOSE 17 RE

BETWEEN BANDS The spaces on the spine of a book between the raised bands, either the ones on which the book is sewn or the false bands attached to give the outward appearance of genuine bands. For purposes of decoration, the spaces are referred to as panels. 94 RE

BEVEL **1.** 1. The angle of the bevel of BEVELED BOARDS. 2. The angle of cut of the edges of a

panel or of an INLAY (4) or ONLAY.2@AMP Slugs cast nearly type-high, with a beveled edge, used by stereotypers to form the flange on the side of the plates. RE

BEVELED BOARDS also *beveled edges* **1.** The boards of a book, and especially the large, thick boards of heavy books. which have been cut or sanded on the outside or inside edge along the head, tail, and fore edge. The purpose of beveling is to remove the clumsy effect of thick boards and create a pleasing, tactile quality. • The outside edges of boards usually were square until the 13th century; after that time, they were often beveled, sometimes steeply, or, in the case of decorated bindings, on a more gentle slope. The inside edges were also frequently beveled during the 15th century, particularly in Germany. • When the outer edges of boards are beveled the edge along the spine is also often beveled on the inside, so that it follows the swelling of the spine.2@NBL Very heavy boards for sides, chamfered along the edges. RE 58,236

BEVELLED BOARDS **1.** Very heavy boards for the sides champered around the edges.2@ABB Very heavy boards with bevelled edges; used for antique work. MAB

BHABAR See: SABAI GRASS. RE

BIBELOT An unusually small book. See also: MINIATURE BOOK. RE

BIBLE ORTHOGRAPHY Many religious works are printed with numerous extracts from the Holy Scriptures without any reference to the Book, Chapter, or Verse, and as they are frequently made from memory, they are generally inaccurate. I am clearly of opinion that wherever a quotation is made, it should be given literally as it appears in the work from which it is taken, otherwise it is worse than useless,—for it misleads. With regard to extracts from the Bible, I hold it indispensable that they should be given without the slightest variation from the original; but as many words in the Bible vary in their orthography from Johnson's Dictionary, which is the book of reference generally in use, and as the authorized editions of the Scriptures differ in this respect from each other in many instances, I have collated the King's Printers, the Oxford, the Cambridge, and the Edinburgh editions with Johnson's Dictionary and with each other, for the purpose of enabling the printer to preserve uniformity in orthography with little trouble to himself in reprints of the Bible, and in extracts occurring in religious works, according as the author may prefer any of these editions. • These variations from each other do not extend to words but are confined to the orthography, and to the difference of the same expression being given in one word, in two words, or in being made a compound word; thus in the Cambridge and the Edinburgh Bibles there are a great number of compound words, while in the King's Printers and Oxford Bibles the same words are given either joined together as one word or made into two words; and we find very few compound words, except proper names. I have also given the Bible orthography where Johnson gives two ways of spelling a word. The result will be seen in the following Table; which also shows the variations, to a certain degree, that have taken place in the language during the last two hundred years. • The late Mr. Thomas Bensley, who was printer to the University of Oxford, told me, about the year 1805, that they had a sealed copy there, as a standard to read from; if this be the case, it is difficult to account for their copies of late years having numerous variations from the earlier editions. I think it very desirable that there should be a standard edition that we could refer to, as a pure text; and it would also be desirable to know on what authority these variations are made in the holy Scriptures, for every word, every point, nay every capital letter, I believe, was carefully considered before it was adopted in the first edition of the authorized version in 1611, and this too by a considerable number of the most learned men of the kingdom, who had the direction of the work. • With regard to the words in the Bible printed in Italic characters, Dr. Myles Smyth, one of the two appointed Revisers of the authorized version, in the Preface to the first edition, published in 1611, gives the following reason for their use:— • "Moreouer, whereas the necessitie of the sentence required any thing to be added (for such is the grace and proprietie of the Ebrewe and Greeke tongues that it cannot, but either by circumlocution, or by adding the verbe or some word, be vnderstood of them that are not well practised therein), wee haue put it in the text with an other kinde of letter, that it may easily bee discerned from the common letter." • The Preface was written and affixed by the King's command. The first Edition of the Bible was printed in Black Letter, and the "other kinde of letter" was roman; when the Black Letter was disused, and the Roman character substituted, the "other kinde of letter" was changed to Italic. Dr. Smyth was afterwards Bishop of Gloucester.

• • "The Hebrew word, which is in our English Bible rendered 'The Lord,' is in the Hebrew the High and Holy name of God himself, the most solemn of all words—Jehovah. It is a general rule throughout the Old Testament, that, wheresoever the word 'Lord' is printed in capital letters, it will be found on looking into the Hebrew Bible, that the word there written was Jehovah. And for this difference, between the translation and the original work, the following reason is given. The later Jews have a fancy that this name of Jehovah is so sacred and aweful, that it could never be spoken, excepting by the High Priest once in a year, without the sin of taking God's name in vain. And accordingly when, at this day, they read the Scriptures in their Synagogues, whenever the word Jehovah is used, they say Adonai, or Lord, in its place. But the learned men, by whom our English Bible was translated, had been instructed in Hebrew by the Jews; and were so far moved by their example, as to feel the same anxiety, with their teachers, to prevent this name from being commonly spoken. Instead, therefore, of writing 'Jehovah,' they have written for the most part 'The Lord:' but they have written it in capital letters that the Lord of Heaven and Earth might be distinguished from all His creatures."—Bishop Heber's Sermons, vol. ii. • England is the only Protestant country in Europe where the printing of Bibles is a monopoly. • For the allowance of the duty on paper used in the printing of Bibles, *see* Paper. DAP

BIBLE PAPER A very lightweight, highly opaque paper, used primarily for low bulk books, such as Bibles, dictionaries, etc. Its basis weight generally ranges from 14 to 30 pounds (25 X 38—500). Bible paper of a basis weight of 20 pounds bulks up to 1,100 sheets per inch. The paper is generally produced from bleached chemical wood pulps, often with the addition of mixes of linen and/or cotton fiber, along with rag pulps, flax, and the like. Bible paper is heavily loaded with titanium oxide or other high grade pigments to improve opacity. Other important characteristics, other than printability, include strength, good folding endurance, and permanence. The term "Bible paper" is sometimes used with reference to any book paper having a basis weight of 30 pounds or less. See also: INDIA PAPER. 17,58,365 RE

BIBLE STYLE A style of binding at one time applied to all flexible, round-cornered, leather bookbindings. See also: YAPP STYLE. 256 RE

BIBLIOGENESIS Of or relating to the production of books. RE

BIBLIOGONY Of or relating to the production of books. Also called "bibliogenesis." RE

BIBLIOLOGY The scientific description of books from the earliest times to the present, including all of the materials and processes involved in their production. RE

BIBLIOPEDIST The craftsman or worker who binds books; a bookbinder. The term is most appropriately applied to one who binds books by hand. RE

BIBLIOPEGIC Of or relating to the binding of books. RE

BIBLIOPEGISTIC Of, or relating to, a bookbinder, especially one who binds books by hand. RE

BIBLIOPEGY The art or craft of binding books. The term is more appropriately applied to the craft of binding books by hand. RE

BID A written, usually legally binding, offer of a bookbinder, generally the owner of a bindery, but sometimes an individual bookbinder, to bind the books of another for a certain price, either by the individual book or by lot. A bid may be negotiated in any of several manners, usually according to the wishes of the customer. The binder may quote a flat price for all materials submitted for binding, regardless of style or format; he may quote two prices, one for serial publications or serial-format materials and another price, usually lower, for monographs and similar materials; he may bid on all work according to the height of the trimmed and cased work, e.g., up to and including 8 inches, over 8 inches and including 10 inches, etc., usually with an additional charge for extra thickness, e.g., greater than 2 1/2 inches; he may quote a flat rate for materials according to type, i.e., textbooks, fiction, reference books, theses, etc.; or, he may quote according to both height and format, e.g., 8, 10, 12 inches, etc., serials, 8, 10, 12 inches, etc., monographs, and so on. A bid may also include a stipulation (and a quote) of extra charges, as for example, hand sewing, pockets, stubbing, scoring, guarding, etc. • In extra (hand) binding, on the other hand, the binder will generally quote an estimated price for the individual book, or for a specified group of books, with the understanding that the final price (which to a great degree will depend on the amount of time spent on each book) may be higher or lower. • Assuming there is no decrease in the quality of

the binding provided, and that the binder adheres faithfully to the specifications, the advantage of a bid situation is that the library may enjoy lower prices for its binding. The disadvantages, however, probably outweigh any monetary saving. Bookbinding, whether by a company or an individual, is essentially a service and not a commodity, and a successful binding program, i.e., one that is designed to preserve a collection over the long run, depends more on mutual cooperation and recognition as to the purpose of the library, as well as what the binder can and cannot do, than on any possible savings resulting from a low bid. RE

BIGHT The length of a single stitch in a machine-sewn book. RE

BILL, with letter founders, a specific proportionate number of types, the datum from which the proportion is estimated being 3,000 lower case ems. A bill of Pica weighs 800 pounds, including italic, which is in the proportion of one tenth of the roman. The term "bill" is not used among printers, although it is by the letter founders; this would be styled by printers, a fount of Pica of eight hundred weight. • Smith is, as far as I am aware, the first writer who published the number of each sort that the founders cast to 3,000 ems; and he also made some alterations in the numbers previously cast by the letter founders, "by enlarging the numbers of some sorts, and by lessening the quantity of others," "to try whether a fount of letter would turn out more perfect than it sometimes does." • Later writers have copied Smith's numerical list of sorts, as well as his altered numbers, and by copying his words without mentioning his name each of them appears to the public as having suggested an improvement, while, in fact, the founders pay no regard to these proportions, but cast from a scale of their own. • The late Earl Stanhope gave another scale of numbers, produced by counting the letters and points to a certain extent in Enfield's Speaker; but as he discarded the ligatures, and added what he called "Logotypes," his numbers are not followed. • I do not know on what datum the number of each letter was originally obtained, as cast by the founders; but it is well known in practice that a great number of imperfections are always wanted in a printing office; and from the construction of language it appears there always will be a great number of particular sorts deficient, whatever the proportions may be at first. In proof of this it may be stated, that a new fount of letter shall be cast for the purpose of printing a work; in composing this letter it shall be found that there is a great deficiency of some letters, and a superabundance of others: to bring the whole fount into use, for the purpose of composing as many pages as possible, the deficient sorts are cast, till the proportions answer to each other. When this work is finished, another author's work is to be printed with the same letter: the disproportion is again felt; those which at the first were deficient are now superabundant, and those which were abundant will be deficient; so that the master printer, to keep the whole of his letter in use is obliged to be continually casting those deficiencies and thus enlarging his founts. • The disuse of the long f, which took place some years ago, and also of ct, has varied the proportions considerably of the letters composing their combinations, b, h, i, k, l, and t. • The following Table shows the old numbers, also Smith's and Earl Stanhope's; those at present cast by the letter founders, I give on the authority of Messrs. Caslon and Livermore. • • *A Bill of Pica, containing 3,000 lower case ems. Weight 800 Pounds. Italic One Tenth of Roman.* • In Lists of Names, Indexes, and similar matter, the number of capitals specified in this Bill would be greatly deficient; as would also be the case with the accented letters for works in the Latin and French languages. The figures and the em and en quadrats would be found very inadequate for table work: in fact, in all these cases it would be imperative to cast additional numbers. • Earl Stanhope introduced the following sorts, each in one piece, of which he gives the following numbers to be cast for a fount of the preceding weight:—an, 1,620—in, 1,731—of, 1,035—on, 897—re, 1,509—se, 1,152—th, 3,024—to, 1,095.—*See* Logotype. • His Lordship, in fact, attempted to introduce too many alterations in printing. I had the honour of knowing him for some years, and he frequently described to me his intended improvements: one was, to make the bottom of the boxes in the cases concave, so that the types should always be convenient for the compositor to pick up; another was, to lay four different sized types in the same pair of cases; another, to alter the curve at the top of the f, and discard its ligatures; another, to cast certain Logotypes. Some of these were not improvements in practice; and the others, except they had been generally adopted, would have destroyed uniformity in works that were printed in different houses, in addition to the great expense and inconvenience both to letter founders and printers. In attempt-

ing too much, none of his plans were adopted, so far as related to composing. • Discarding the long ſ has also abolished ſb, ſh, ſi, ſk, ſl, ſſ, ſſi, ſt, and has consequently increased the number of the round s, and the connected letters. • • *Canon 20 em Bill, for Job-work.* • Bill of Exchange. *See* Forgery. DAP

BIND See: BIND ALL; BIND AS IS; BIND FROM SHEETS; BIND IN; BOOKBINDING. RE

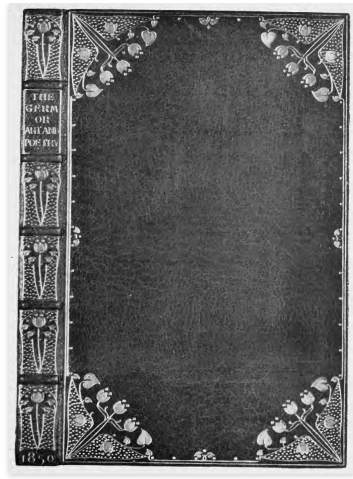
BIND "AS IS" An instruction to the binder to bind material in the order, or in the condition, in which it is received from the library, regardless of any seeming imperfections, e.g., a missing issue of a serial, a missing title leaf, etc. RE

BIND ALL An instruction to the binder to bind a volume, usually a serial publication, with title page, index, advertisements, or any other material attached. RE

BIND FROM SHEETS Bookbinding which originates from the flat or folded sheets, usually the former, as received from the printer. Binding from sheets is carried out principally in edition binderies, although pamphlet binding, as well as blankbook binding, might also be considered as such. A book to be bound by hand will generally be in better binding condition if received in sheets (or gatherings), but this occurs only in rare instances today. 83 RE

BIND IN An instruction to the bookbinder to bind into the book separate supplementary material, as designated by the customer. RE

BINDER **1.** 1. One who binds a book; a bibliopegist, or bookbinder. 2. A looseleaf binder (or notebook). 3. A material used to cause other materials to bond, or adhere, or, in papermaking, to cause fibers to bond, coatings to adhere, etc. 4. An adhesive substance, usually of liquid or molten form, used to create adhesion between aggregates, globules, etc. It is distinguished from an ADHESIVE in that it performs an internal adhesive function rather than a surface adhesive function.2@NBL A temporary cover for periodicals and pamphlets, usually so arranged that it may be taken off and attached to successive numbers of a publication. RE 17,142,309



IsouTid by Cobdcn-Sanderson at the Doves Binder ,-. (RossETTi. The Germ, or. Art and Poetry). London,' 1850. See Item No. 257. *Maggs Bros, Book Bindings: Historical and Decorative, 1921*

BINDER'S BLOCK See: BINDER'S BRASS. RE

BINDER'S BOARD The wood, pasted paper, single- or multiple-ply sheets, or other base stock, for the covers of any bound or cased book, i.e., any book in hard covers. Boards, in one form or another, have been used to cover and thereby protect the leaves of codices since the earliest times of bookbinding. • Although PASTEBOARD (1) was used very early in the Near East, in Europe, until about 1500, boards were nearly always made of wood (usually oak), hence the name. These wooden boards varied greatly in thickness, even up to one inch, although it is entirely possible that very thick boards were designed to contain relics, as well as to cover the book. The use of wooden boards began to decline in favor of pasteboards during the first quarter of the 16th century, and in time paper "boards" virtually replaced wood entirely, except in certain novelty or specialty uses. • Boards made of tarred rope, sailcloth, netting, and the like, came into use in England for more expensive bindings sometime around the beginning of the 18th century, and continued to be employed extensively until World War Il, or for sometime thereafter, when they became very expensive and difficult to procure. These so-called tar, semi-tar, and rope boards, which are generally referred to as MILLBOARD (1), are very hard and stiff. • The binder's boards of today are usually made of paper and are available in many weights and thicknesses. Machine-made boards are generally available in four qualities: 1) machine boards, including a wide range of boards made from paper on a cylinder or

Fourdrinier machine. These are usually single-ply, solid boards made to full thickness in one operation. They generally range in thickness from 0.030 to 0.300 inch; 2). STRAWBOARD, which originally was the yellowish board from Holland (and was sometimes called Holland board), but which now represents a generic board made from straw or similar material; 3) CHIPBOARD, made from waste paper, wood chips, and other inexpensive materials; and 4) RAG BOARD, made from rag stock. • In terms of permanence, the various types of boards used today are probably of equal quality. Even old strawboard, which would appear to be the least permanent of all, shows little deterioration with age, even after a hundred years. Its characteristic brittleness is a physical property of this type of board and has little to do with deterioration. That boards in general deteriorate very little may be due largely to the fact that the boards of a book are generally, though not always, completely covered over and are thus largely protected from atmosphere, light, and other potentially damaging effects. It is perhaps interesting to note that, in terms of permanence (as the term is generally understood), strawboard and pasteboard, possibly due to the absence of metallic impurities, are probably more "permanent" than the hard and tough millboard. • The weight (thickness) of the boards used in bookbinding should be appropriate to the size and weight of the volume being bound, and will generally range in thickness between 0.060 inch and, in the case of very large volumes, 0.205 inch in thickness. See also: LAMINATED BOARD. 143,162,180,198,230,236 RE

BINDER'S BRASS A brass block engraved in relief with letters or a design, and used for blocking the covers of books, by means of either a hand-operated press or an automatic blocking machine. Cf: ZINCO. 307 RE

BINDER'S CLOTH A cloth binding of any age, which is not the product of EDITION BINDING. The term was most commonly used to indicate collections of pamphlets, French novels, etc., which the collector did not have bound in leather. Such bindings are almost always blocked from type or standard dies, and, if decorated at all, usually in an ordinary manner. Exceptions date from the earliest years of edition binding in cloth, when materials and style were still in the early stages of development. 69 RE

BINDER'S RECORD The record kept by a binder, for the purposes of maintaining an accurate record of the various materials received from different customers. Such records generally include instructions for binding or special attention, including the manner in which similar materials were bound in the past, color of covering material, type of covering material, recorded size, lettering format, style and size of type, and the like. 24,259 RE

BINDER'S STAMP 1. The stamp or label applied to a book indicating the bindery that bound the book, and sometimes the month and year in which the book was bound. It is generally located on the inside tail edge of the lower cover. This method of signing a bookbinding first became fashionable in the 20th century. 2. See: BINDER'S BRASS 261 RE

BINDER'S TICKET A small engraved or printed label, usually found on the upper outside corner of one of the front flyleaves, giving the name (and usually the address) of the bookbinder. Tickets were used from the early 18th century until about 1825, but were not often seen in England until about 1780. The use of the ticket gave way to the practice by binders of lettering their names in gilt, blind, or ink, usually on the bottom turn-in of either upper or lower board. This record was sometimes referred to as a "name pallet." A variation of the ticket, usually printed, was used by some edition binders during the 19th century, and was usually located on the inside tail edge of the lower cover. 69 RE

BINDER'S TITLE The form in which the title of a book appears on the spine or cover, the implication being that the title on the outside may differ, usually by being abbreviated, from the title as it appears on the title page. RE

BINDER'S WASTE 1. See: WASTE SHEET (1). 2. Scraps of cloth, leather, board, etc., too small to be classed by themselves. 3. The scrap paper resulting from the trimming of books, and which, being clean, white, and unprinted, commands a premium price in the waste paper market. RE

BINDERY A book-binding establishment. NBL

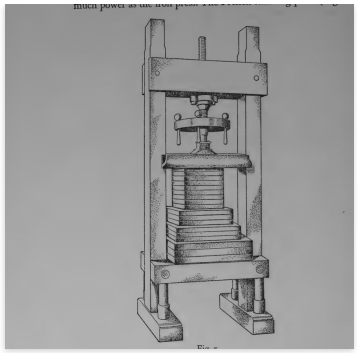


Fig. 5. a the most satisfactory of them all for a small bindery. It has a oo wooden frame with an iron screw and an ingenious de-
F. R. Smith, Bookbinding, 1929

BINDERY TAPES The tapes used to cover the binding edge of checkbooks, composition books, pads or tablets of writing paper, scrapbooks, and the like. They are also used as gussets for file folders, and as reinforcements for the punched edges of loose-leaf notebook paper. Bindery tapes make use of a variety of backing materials, ranging from Holland, cambric, and gusset cloths, through strong latex-impregnated materials to embossed, coated kraft papers. The tapes are made in a variety of colors, and most are applied automatically on stripping machines. The adhesive used on these tapes must be of reasonably high quality and strength, must have a moderate amount of working life after wetting, and must be capable of bonding quickly after application. Also called "gum stripping tapes." 309 RE

BINDERY WAREHOUSE The unit or division, usually in an edition bindery, where the simpler forms of binding, i.e., pamphlets, single periodical issues, as well as other miscellaneous operations, such as cutting, folding, stapling, etc., take place, as contrasted with the main bindery, where the more elaborate styles of binding occur, generally those involving sewing. Many finishing operations, e.g., blocking, are common to both. The term is more prevalent in Great Britain than in the United States. 58 RE

BINDING **1.** 1. The style in which a book is bound, e.g., edition binding, library binding, etc. 2. The covers of a bound book. 3. The finished work resulting from the processes involved in binding a book. 4. The concept of securing the leaves or sections of a publication so as to keep them in proper order and to protect them. 5. The style in which a book is decorated, e.g., fanfare style, cottage style, etc.2@DAP In locking-up a form, if the head-stick be longer than the width of the page and the thickness of the back-stick; or the side or foot stick extend beyond the page and the other be a little too long; or any part of the furniture double over some other part, so as to prevent the quoins wedging the matter tight, it is termed *Binding*: *the head-stick binds*; *the side-sticks bind*, &c.—M. RE

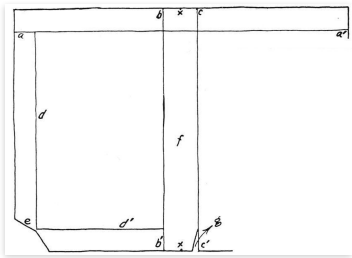


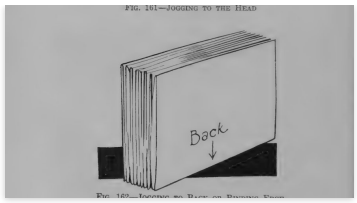
Fig. 17. Marking of cloth for Case Binding.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

BINDING AGENT An intermediary between a bookbinding establishment, usually a library bindery, and the customer, although not directly employed by either. The binding agent is a more-or-less independent salesman who solicits business for a commission. RE

BINDING BEFORE PURCHASE A term generally considered to mean the purchase of books by a library in sheets, to be bound according to the library's specifications before they receive any wear, and while the paper is still fresh, clean and unwrinkled. • Binding before purchase is rare today, except for PRE-LIBRARY BOUND publications, which is not strictly the same thing. 25 RE

BINDING BOOK A book used by a library, in which the particulars of materials sent out for binding or rebinding are entered. It may vary in the information recorded, from a simple list of titles to full bibliographical information and binding instructions. The binding book has been largely superseded by the BINDING SLIP. 94 RE

BINDING EDGE The edge of the gathered leaves or sections that is sewn, or otherwise secured. The binding edge of books published in the Western world is traditionally the left edge of a recto, corresponding to the right edge of a verso, but it may be any edge, the most common variant being the head. RE



Fic. 162—JoGcinc To Back or BINDING EDGE
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BINDING MARGIN See: INNER MARGIN. RE

BINDING POST A metal post, generally threaded, used to secure pre-punched loose leaves between stiff or semi-flexible covers. Binding posts, which may be adaptable to expansion, are frequently considered a permanent form of binding. See also: POST BINDER 256,274 RE

BINDING PRIORITIES The ranking or ordering of different types of library materials to be bound or rebound. Priorities may be based on a variety of factors, including historical or research value, age, condition, use, monetary value, special or local interest, format, or combinations thereof. The establishment of priorities frequently, if not usually, implies that the library: 1) does not have sufficient funds to bind everything it acquires; or 2) does not consider it necessary to bind or rebind everything. An example of a system of priorities would be: 1) books of value, or of special interest to the library, that should be bound or rebound without regard to cost; 2) books of permanent interest but of no special monetary value, that should be library bound, but for which the best work would be too expensive; and 3) books of temporary interest that need to be held together and kept in readable condition for occasional reference or short-term hard usage. 84,208,326 RE

BINDING PROCESS The two major divisions of BOOKBINDING, which are FORWARDING and FINISHING (1). Forwarding entails the binding operations, which are the work of the bookbinder; finishing includes decoration and embellishment of the outside (and sometimes the insides of the boards) surfaces of the covers (including the creation of the design), and is the work of the artist. Both operations may be, and frequently are, especially in the United States and Great Britain, performed by the same person. RE

BINDING PROGRAM The policies and procedures of a library relating to the care and preservation of its book collection, insofar as such procedures relate to library binding. A sound binding program is based on four fundamental factors: 1) a set of defined procedures within the library, with assignment of authority and responsibility, preferably to one person; 2) a binding budget adequate not only for the binding of new acquisitions but for rebinding in a systematic manner; 3) written binding specifications designed to provide for the preservation of the book collection, based on the purposes and goals of the library; and 4) an agreement or contract with a library binder of recognized competence. 208 RE

BINDING QUIREWISE A method of sewing a book, in which the sections are placed one inside another and then sewn or saddle stitched through the combined back folds. 179 RE

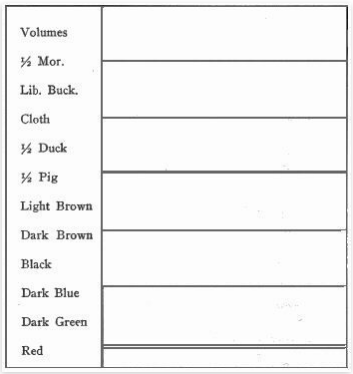
BINDING RECORD also *bindery record* A record of books sent to the binder. This may consist of circulation cards, duplicate binding slips, or special records kept in a book. RE

BINDING SCHEDULES The times of pick-up and delivery by the binder from and to the library. Aside from the method of transportation, which should be by means of the binder's own truck, or at least on a non-commingled basis on contract, and not by common carrier, the binding schedule depends largely on five factors: 1) when the volume can best be spared from the library; 2) the most convenient time for preparing books for binding; 3) when the binder can bind books with the least delay; 4) when the library can accumulate a sufficient number of volumes to make up a shipment of reasonable size; and 5) when the library is in the best position to pay for the work done. 131) RE

BINDING SCHEMES A term at one time used to describe an organized scheme carried through an individual's or library's book collection, in which, for example, all books on history were bound in red, technical books in black, fiction in brown, poetry in buff, books relating to the sea in blue, books on travel in orange, and so on. Such schemes have declined in popularity since the turn of the century, and particularly since the development of systematic classification schemes. See also: BRIGHTER BINDING. 310 RE

BINDING SLIP A card, slip, sheet, or other form of written instructions sent to the bindery with each volume, or set of volumes, specifying the binding requirements for that volume or set. The typical binding slip generally specifies the author (if any), title (sometimes binding specifications abbreviated), classification number, other bibliographical information, binding style (un-

less previously agreed upon), color of covering material, as well as any peculiarities of the book that should be brought to the attention of the binder, such as margins, condition of the paper, foldouts, loose material (for pockets), etc. A multiple form provides identical copies for the binder, as well as the library, and serves as verification for the work specified. RE



Binding slip. Size 6x4 in.
Arthur Low Bailey, Library Bookbinding, 1916

BINDING SPECIFICATIONS The description of the materials, manufacturing processes, and standards of workmanship to be employed in binding books for a library or similar institution. Material specifications include the quality and weight (or size) of thread, paper, cloth (or leather), adhesives, mending tissues, gold, foil, inks, etc., of such things as endpapers, guards, stubs, hinges, inlays, linings, tapes, sewing thread. covering materials, and the like. Manufacturing specifications include collation, preparation for sewing, special checking, reinforcing, removing back folds, scoring, construction and attachment of endpapers, trimming, gluing-up, blocking, casing-in, inspection, etc. Workmanship specifications include sewing, rounding and backing, adhesion of materials, turn-ins, squares, corners, trimming and the like. Specifications, it should be noted, are not intended to instruct the binder in how to bind a book, but only to insure an acceptable end product. 16,25,83 RE

BINDING VARIATIONS Differences in the bindings of books issued in the same edition by a publisher. The differences might include color or type of cloth, blocking, etc. Such variations may stem from a number of manufacturing causes, especially if all copies printed are not bound at the same time, or some are rebound, as in REMAINDER BINDING. Variations may also result from unsatisfactory storage conditions. 69,156 RE

BIRCH (BARK) The bark of the common European birch (Betula verrucosa) or (B. pubescens), used in leather manufacture, particularly in Russia, for hundreds of years. The outer bark, which peels off easily, is not used; it is the inner bark from which the tannin, in the amount of 10 to 15%, and 11% soluble non-tans, is extracted. Older trees, those 50 to 60 years of age, yield the richest tannin. Used alone, birch produces a pliable, leather of a yellowish-brown color; it is, however, more often mixed with some other tannin, often willow bark. In addition to tannin, the oil obtained from the bark is used to dress the leather, imparting to RUSSIA LEATHER its characteristic odor. Other species of birch have been used to a limited extent in North America and India. See also: VEGETABLE TANNINS. 175 RE

BIRCH BROOM A "broom" made of strips of birch wood and used for stirring the MARBLING SIZE. A birch broom has been the traditional implement for this operation, but whether it was because of the quantities of water used, the screening action of the birch strips, or some other reason, is not clear. 97,335 RE

BITE **1.** 1. The ability of an adhesive to penetrate or dissolve the uppermost layer of the adherends. 2. That quality in paper which causes it to take ink, pencil, or printing impressions readily. 3) In engraving, the corrosion of the metal by acid, i.e., the action of acid dissolving away superfluous metal.2@DAP If the frisket is not sufficiently cut aw4`ay, but covers some part of the form, so that it prints on the frisket, it is called a *Bite*.—M. It interposes between the form and the paper to be printed on, and prevents the latter receiving the inked impression intended to be transferred to it. A pressman looks carefully over his first sheet to see that all is right, and if there be a bite he cuts it out of the frisket with his scissors; if one should at first escape his eye, it is cut out as soon as it is perceived.3@AMP An irregular white spot on the edge or corner of a printed page, caused by the frisket not being sufficiently cut out. RE 138,139

BITES An informal expression sometimes used to indicate pieces of paper torn from the margin of a leaf, so-called because of their occasional resemblance to "bites." RE

John Hannett, Bibliopegia; or, The Art of Bookbinding in All Its Branches, 1848

BLACK BOOK An obsolete term applied to any of the various books, usually of a devotional nature, so-called from the style of their type, the color of their bindings, the nature of their contents, or combinations thereof. They also frequently had BLACK EDGES. 274 RE

BLACK EDGES The edges of a book that have been blackened by sponging them with ink, followed by ivory black, lampblack, or antimony mixed with paste. Although used extensively in the 19th century on devotional and funereal publications, they are uncommon today. 152,241 RE

BLACK LEAD Commercial powdered graphite, which, when mixed with water, glair, and (sometimes) Armenian bole, is applied to the edges of books before gilding. See also: GILT EDGES. 335,371 RE

BLACK LETTER is the name now applied to the Old English or Modern Gothic character, which was introduced into England about the middle of the fourteenth century, and became the character generally used in manuscript works before the art of printing was publicly practised in Europe. On the application of that art to the multiplying of books, about the middle of the fifteenth century, the Block Books, and, subsequently, those printed with moveable types, were in this letter, to imitate writing, and were disposed off as manuscripts. When the first William Caslon commenced the business of type founding he made great improvements in their shape, and his Gothic or black letter remains unequalled, viewing it as an imitation of ancient writing, the purest shape for the character originally intended for a counterfeit manuscript. I am sorry to see our present founders giving way to a barbarous caprice of fancy, by introducing arbitrary shapes, which were unknown to our ancestors when this character was in general use; for it appears inconsistent to call the following Letters Old English, or Gothic, • *The Alphabet.* • A B C D E F G H I J K L M N O P Q R S T U V W X Y Z • a b c d e f g h i j k l m n o p q r s t u v w x y z • Astle, in his Origin and Progress of Writing, says, "The Modern Gothic, which spread itself all over Europe in the twelfth and thirteenth centuries, is improperly so called, because it does not derive its origin from the writing anciently used by the Goths and Visigoths, in Italy and Spain, but this Modern Gothic is the most barbarous or worst kind of writing; it took its rise in the decline of the arts, among the lazy schoolmen, who had the worst taste; it is nothing more than the Latin writing degenerated. This writing began in the twelfth century, and was in general use (especially among monks and schoolmen) in all parts of Europe, till the restoration of the arts, in the fifteenth century, and longer in Germany and the northern nations: Our statute books are still printed in Gothic letters." Astle's work was published in 1784. • *Blacks in the British Founderies.* • *Ten Line Pica.*—Caslon. • *Five Line Pica.*—Caslon. • *Four Line Pica.*—Caslon. • *Two Line Double Pica.*—Caslon. • *Two Line Great Primer.*—Caslon. Wilson. • *Two Line English.*—Caslon. • *Double Pica.*—Caslon. Figgins. Wilson. • *Great Primer.*—Caslon. Figgins. Wilson. • *English.*—Caslon. Thorowgood & Besley, formerly Wolf's. Figgins. Wilson. • *Pica.*—Caslon. Thorowgood & Besley. Caxton. Figgins. Wilson. • *Small Pica.*—Caslon. • *Long Primer.*—Caslon. Thorowgood & Besley. Figgins. Wilson. • *Bourgeois.*—Caslon. • *Brevier.*—Caslon. Wilson. • *Nonpareil.*—Caslon. Wilson. • Blackwell, Beale. *See* Donations. DAP

Five 'letters'
William Savage, A Dictionary of the Art of Printing, 1841

Blackletter Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

BLACK STEP A heavy line, 6 points thick and about 24 points long, which appears on the back of a folded section of a book after the printed sheet is folded. The collective black steps run from the head to the tail of the gathered sections, generally about 24 points below each other. When the book is gathered the black steps appear as a diagonal line running from head to tail across the back of the text block, and any missing or misplaced section immediately becomes obvious because the black step is broken. Also called "back mark," "collating mark," and "quad mark." 156 RE

BLACKING THE SQUARES The process of coloring the edges and squares of the boards of a book, as well as the headcaps, with a black pigment, such as vinegar-black mixed with gum arabic, so as to

enhance the effect of tooling in blind. The technique is uncommon today. 152,241 RE

BLACKS 1. An obsolete term for a grade of book cloth of a "common" quality, dyed throughout. 2. A general term applied to black papers used for covers, photograph albums, and the like. 256 RE

BLANC FIXE See: BARIUM SULFATE. RE

BLANK BOOKS Applied to a large variety of books which are bound with blank leaves, or leaves having ruled lines and little or no printing: account books, memorandum books, ledgers, etc. The binding of such books is a special trade. NBL

BLANK COVER A term sometimes applied to the covers of a bound book that are not blocked or ornamented in any manner. RE

BLANK LEAVES The unprinted leaves at the front and back of a book. They may be an integral part of the book as received from the publisher (printer's flyleaves), or they may be added by the bookbinder (binder's flyleaves). They are not necessarily part of the endpapers. 69 RE

BLANK PAGES When blank pages occur in a work, particularly in duodecimos and smaller sizes, the compositor will find it an advantage to set them up the exact size of the pages of the work, and made up to his gauge, so that he will have his register good without the trouble that attends filling the blank up with pieces of Furniture by guess work, which causes extra trouble to the pressman. DAP

BLANK ROLLING A method of sprinkling a FLESHER, in which an iron solution is applied to the leather and rolled in. The nap is then restored by brushing. RE

BLANK TOOLING See: BLIND TOOLING. RE

BLANK-LINE A line of quadrates. AMP

BLANKBOOK Originally, a book in which the printing was limited to page headings or divisions. The page was generally blank or ruled and was intended to receive writing. Today, blankbooks include a variety of items, including account books, albums, scrapbooks, exercise and manuscript books, etc. Blankbooks intended for the accounting of court records, etc., are generally ruled, horizontally and/or vertically, to facilitate writing. Since in most cases the information recorded is considered to be of permanent value, the paper and binding of the book must be of superior quality. Called "account book" in Great Britain. See also: BLANKBOOK BINDING. 227,274 RE

BLANKBOOK BINDING A style of binding for books meant to be written in and which, therefore, must lie flat at any place the book is open. Blankbook binding is one of the principal subdivisions of STATIONERY BINDING and differs greatly from the other major nit of binding, LETTERPRESS BINDING. One of the major differences is that blankbooks, or account books, as they are also called, are rounded but not backed, having instead a SPRING-BACK, which, in conjunction with the LEVERS, causes the spine of the book to "spring" up when the book is opened, thus giving full access to the gutter of the opposing pages. The best blankbook binding is very durable, with sewing on wide bands of webbing, rather than tapes, the ends of which are secured between split boards. The books also have heavy linings and strongly reinforced endpapers, called "joints" in a blankbook. In addition, it is not unusual for the folios to be sewn first to heavy cloth guards before being sewn to the webbings. Additional strength is sometimes imparted by hubs on the spine (which also protect the lettering) and bands either over or blankbook frame under the covering material. Although formerly always covered in leather, many blankbooks are now covered in heavy duck or canvas. Called "account-book binding" in Great Britain. 58,320,339,343 RE

BLANKBOOK FRAME An obsolete term for a sewing frame designed to be used when tapes instead of cords are used in sewing. See also: SEWING FRAME. 115 RE

BLANKBOOK PAPER See: LEDGER PAPER. RE

BLANKET A woollen cloth used in the tympan. AMP

BLANKETS Flannel steeped in urine, in which pelt balls are wrapped up at nights, and when they are not in use, to keep them soft. • Woollen cloth, or white baize, to lay between the tympans.—M. The blankets used for fine work are either superfine woollen cloth or fine kerseymere; for the finest work, paper alone is used. *See* Presswork. DAP

BLANKING 1. The process of blocking book cloths that are patterned, i.e., grained. Before the use of hot dies and foils eliminated the need for blanking, the cloth was struck with the uninked die, which flattened out the pattern or grain of the cloth, leaving a smooth surface to take the ink on the subsequent strike. 2. A term sometimes used

incorrectly with reference to blinding. See: BLIND TOOLING. 91,365 RE

BLASPHEMY DAP

9 & 10 Will. 3. c. 32., intituled, "An Act for the more effectual suppressing of Blasphemy and Profaneness."

"Whereas many persons have of late years openly avowed and published many blasphemous and impious Opinions, contrary to the Doctrines and Principles of the Christian Religion, greatly tending to the Dishonour of Almighty God, and may prove destructive to the Peace and Welfare of this Kingdom: Wherefore for the more effectual suppressing of the said detestable Crimes, be it enacted by the King's most excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and the Commons, in this present Parliament assembled, and by the Authority of the same, That if any Person or Persons, having been educated in, or at any Time having made Profession of the Christian Religion within this Realm, shall by Writing, Printing, Teaching, or advised Speaking, deny any one of the Persons in the Holy Trinity to be God, or shall assert or maintain there are more Gods than one, or shall deny the Christian Religion to be true, or the Holy Scriptures of the Old and New Testament to be of Divine Authority, and shall upon Indictment or Information in any of his Majesty's Courts at *Westminster*, or at the Assizes, be thereof lawfully convicted by the Oath of two or more credible Witnesses; such Person or Persons for the first Offence shall be adjudged incapable and disabled in Law, to all Intents and Purposes whatsoever, to have or enjoy any Office or Offices, Employment or Employments, Ecclesiastical, Civil, or Military, or any Part in them, or any Profit or Advantage appertaining to them, or any of them: And if any Person or Persons so convicted as aforesaid, shall at the Time of his or their Conviction, enjoy or possess any Office, Place, or Employment, such Office, Place, or Employment shall be void, and is hereby declared void: And if such Person or Persons shall be a second Time lawfully convicted as aforesaid, of all or any the aforesaid Crime or Crimes, that then he or they shall from thenceforth be disabled to sue, prosecute, plead or use any Action or Information in any Court of Law or Equity, or to be Guardian of any Child, or Executor or Administrator of any Person, or capable of any Legacy or Deed of Gift, or to bear any Office, Civil or Military, or Benefice Ecclesiastical for ever within this Realm, and shall also suffer Imprisonment for the Space of Three Years, without Bail or Mainprize, from the Time of such Conviction.

s. 2. "Provided always, and be it enacted by the Authority aforesaid, That no Person shall be prosecuted by virtue of this Act, for any Words spoken, unless the Information of such Words shall be given upon Oath before one or more Justice or Justices of the Peace, within four Days after such Words spoken, and the Prosecution of such Offence be within three Months after such Information.

s. 3. "Provided also, and be it enacted by the Authority aforesaid, That any Person or Persons convicted of all or any of the aforesaid Crime or Crimes, in Manner aforesaid, shall for the first Offence (upon his, her, or their Acknowledgment and Renunciation of such Offence or erroneous Opinions, in the same Court where such Person or Persons was or were convicted, as aforesaid, within the Space of four Months after his, her, or their Conviction) be discharged from all Penalties and Disabilities incurred by such Conviction; any thing in this Act contained to the contrary thereof in anywise notwithstanding."

Repealed as to denying the Trinity, by 53 Geo. 3. c. 160. s. 2. which is extended to Ireland by 57 Geo. 3. c. 70. *See* Libels.

53 Geo. 3. c. 160., intituled, "An Act to relieve Persons who impugn the Doctrine of the *Holy Trinity* from certain Penalties."

s. 2. "And be it further enacted, That the Provisions of another Act passed in the Ninth and Tenth Years of the Reign of King *William*, intituled *An Act for the more effectual suppressing Blasphemy and Profaneness*, so far as the same relate to Persons denying as therein mentioned, respecting the *Holy Trinity*, be and the same are hereby repealed.

s. 3. "And whereas it is expedient to repeal an Act, passed in the Parliament of *Scotland* in the First Parliament of King *Charles* the Second, intituled, *An Act against the Crime of Blasphemy*; and another Act, passed in the Parliament of *Scotland* in the First Parliament of King *William*, intituled *Act against Blasphemy*; which Acts respectively ordain the Punishment of Death; be it therefore enacted, That the said Acts and each of them shall be, and the same are and is hereby repealed.

s. 4. "And be it further enacted, That this Act shall be deemed and taken to be a Public Act, and shall be judicially taken Notice of as such by all Judges, Justices, and others, without being specially pleaded."

60 Geo. 3. c. 8. "An Act for the more effectual Prevention and Punishment of blasphemous and seditious Libels."

"Whereas it is expedient to make more effectual Provision for the Punishment of blasphemous and seditious Libels; be it enacted by the King's most excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the Authority of the same, That from and after the passing of this Act, in every Case in which any Verdict or Judgment by Default shall be had against any Person for composing, printing, or publishing any blasphemous Libel, or any seditious Libel, tending to bring into Hatred or Contempt the Person of His Majesty, His Heirs or Successors, or the Regent, or the Government and Constitution of the United Kingdom as by Law established, or either House of Parliament, or to excite His Majesty's Subjects to attempt the Alteration of any Matter in Church or State as by Law established, otherwise than by lawful Means, it shall be lawful for the Judge, or the Court before whom or in which such Verdict shall have been given, or the Court in which such Judgment by Default shall be had, to make an Order for the Seizure and carrying away, and detaining in safe Custody, in such Manner as shall be directed in such Order, all Copies of the Libel which shall be in the Possession of the Person against whom such Verdict or Judgment shall have been had, or in the Possession of any other Person named in the Order for his Use; Evidence upon Oath having been previously given to the Satisfaction of such Court or Judge, that a Copy or Copies of the said Libel is or are in the Possession of such other Person for the Use of the Person against whom such Verdict or Judgment shall have been had as aforesaid; and in every such Case it shall be lawful for any Justice of the Peace, or for any Constable or other Peace Officer acting under any such Order, or for any Person or Persons acting with or in Aid of any such Justice of the Peace, Constable, or other Peace Officer, to search for any Copies of such Libel in any House, Building, or other Place whatsoever belonging to the Person against whom any such Verdict or Judgment shall have been had, or to any other Person so named, in whose Possession any Copies of any such Libel, belonging to the Person against whom any such Verdict or Judgment shall have been had, shall be; and in case Admission shall be refused or not obtained within a reasonable Time after it shall have been first demanded, to enter by Force by Day into any such House, Building, or Place whatsoever, and to carry away all Copies of the Libel there found, and to detain the same in safe Custody until the same shall be restored under the Provisions of this Act, or disposed of according to any further Order made in relation thereto.

s. 2. "And be it further enacted, That if in any such Case as aforesaid Judgment shall be arrested, or if, after Judgment shall have been entered, the same shall be reversed upon any Writ of Error, all Copies so seized shall be forthwith returned to the Person or Persons from whom the same shall have been so taken as aforesaid, free of all Charge and Expence, and without the Payment of any Fees whatever; and in every Case in which final Judgment shall be entered upon the Verdict so found against the Person or Persons charged with having composed, printed, or published such Libel, then all Copies so seized shall be disposed of as the Court in which such Judgment shall be given shall order and direct.

s. 3. "Provided always, and be it enacted, That in *Scotland*, in every Case in which any Person or Persons shall be found guilty before the Court of Justiciary, of composing, printing, or publishing any blasphemous or seditious Libel, or where Sentence of Fugitation shall have been pronounced against any Person or Persons, in consequence of their failing to appear to answer to any Indictment charging them with having composed, printed, or published any such Libel, then and in either of such Cases, it shall and may be lawful for the said Court to make an Order for the Seizure, carrying away, and detaining in safe Custody, all Copies of the Libel in the Possession of any such Person or Persons named in such Order, for his or their Use, Evidence upon Oath having been previously given to the Satisfaction of such Court or Judge, that a Copy or Copies of the said Libel is or are in the Possession of such other Person for the Use of the Person against whom such Verdict or Judgment shall have been had as aforesaid; and every such Order so made shall and may be carried into effect, in such and the same Manner as any Order made by the Court of Justiciary, or any Circuit Court of Justiciary, may be carried into Effect according to the Law and Practice of *Scotland*: Provided always, that in the Event of any Person or Persons being reponed against any such Sentence of Fugitation, and being thereafter acquitted, all Copies so seized shall be forthwith returned to the Person or Persons from whom the same shall have been so taken as aforesaid; and in all other Cases, the Copies so seized shall be disposed of in such Manner as the said Court may direct.

s. 4. "And be it further enacted, That if any Person shall, after the passing of this Act, be legally convicted of having, after the passing of this Act, composed, printed, or published any blasphemous Libel or any such seditious Libel as aforesaid, and shall, after being so convicted, offend a Second Time, and be thereof legally convicted before any Commission of Oyer and Terminer or Gaol Delivery, or in His Majesty's Court of King's Bench, such Person may, on such Second Conviction, be adjudged, at the Discretion of the Court, either to suffer such Punishment as may now by Law be inflicted in Cases of high Misdemeanors, or to be banished from the United Kingdom, and all other Parts of His Majesty's Dominions, for such Term of Years as the Court in which such Conviction shall take place shall order.

s. 5. "And be it further enacted, That in case any Person so sentenced and ordered to be banished as aforesaid, shall not depart from this United Kingdom within Thirty Days after the pronouncing of such Sentence and Order as aforesaid, for the Purpose of going into such Banishment as aforesaid, it shall and may be lawful to and for His Majesty to convey such Person to such Parts out of the Dominions of His said Majesty, as His Majesty by and with the Advice of His Privy Council shall direct.

s. 6. "And be it further enacted, That if any Offender who shall be so ordered by any such Court as aforesaid to be banished in Manner aforesaid, shall after the End of Forty Days from the Time such Sentence and Order hath been pronounced, be at large within any Part of the United Kingdom, or any other Part of His Majesty's Dominions, without some lawful Cause, before the Expiration of the Term for which such Offender shall have been so ordered to be banished as aforesaid, every such Offender being so at large as aforesaid, being thereof lawfully convicted, shall be transported to such Place as shall be appointed by His Majesty for any Term not exceeding Fourteen Years.

s. 7. "And be it further enacted, That the Clerk of Assize, Clerk of the Peace, or other Clerk or Officer of the Court having the Custody of the Records where any Offender shall have been convicted of having composed, printed, or published any blasphemous or seditious Libel, shall, upon Request of the Prosecutor on His Majesty's Behalf, make out and give a Certificate in Writing, signed by him, containing the Effect and Substance only (omitting the formal Part) of every Indictment and Conviction of such Offender to the Justices of Assize, Oyer and Terminer, Great Sessions, or Gaol Delivery, where such Offender or Offenders shall be indicted for any Second Offence of composing, printing, or publishing any blasphemous or seditious Libel, for which Certificate Six Shillings and Eight-pence and no more shall be paid, and which Certificate shall be sufficient Proof of the Conviction of such Offender.

s. 8. "And be it further enacted, That any Action and Suit which shall be brought or commenced against any Justice or Justices of the Peace, Constable, Peace Officer, or other Person or Persons, within that Part of *Great Britain* called *England*, or in *Ireland*, for any thing done or acted in pursuance of this Act, shall be commenced within Six Calendar Months next after the Fact committed, and not afterwards; and the Venue in every such Action or Suit shall be laid in the proper County where the Fact was committed, and not elsewhere; and the Defendant or Defendants in every such Action or Suit may plead the General Issue, and give this Act and the special Matter in Evidence at any Trial to be had thereupon; and if such Action or Suit shall be brought or commenced after the Time limited for bringing the same, or the Venue shall be laid in any other Place than as aforesaid, then the Jury shall find a Verdict for the Defendant or Defendants; and in such Case, or if the Jury shall find a Verdict for the Defendant or Defendants upon the Merits, or if the Plaintiff or Plaintiffs shall become Nonsuit, or discontinue his, her, or their Actions after Appearance, or if, upon Demurrer, Judgment shall be given against the Plaintiff or Plaintiffs, the Defendant or Defendants shall have Double Costs, which he or they shall and may recover in such and the same Manner as any Defendant can by Law in other Cases.

s. 9. "And be it further enacted, That every Action and Suit which shall be brought or commenced against any Person or Persons in *Scotland*, for any thing done or acted in pursuance of this Act, shall in like Manner be commenced within Six Calendar Months after the Fact committed, and not afterwards, and shall be brought in the Court of Session in *Scotland*; and the Defender or Defenders may plead that the Matter complained of was done in pursuance of this Act, and may give this Act and the special Matter in Evidence; and if such Action or Suit shall be brought or commenced after the Time limited for bringing the same, then the same shall be dismissed; and in such Case, or if the Defender or Defenders shall be assoilzied, or the Pursuer or Pursuers shall suffer the Action or Suit to fall asleep, or a Decision shall be pronounced against the Pursuer or Pursuers upon the

Relevancy, the Defender or Defenders shall have Double Costs, which he or they shall and may receive in such and the same Manner as any Defender can by Law recover Costs or Expences in other Cases.

s. 10. "Provided always, and be it further enacted, That nothing in this Act contained shall be held or considered as in any respect altering the Law or Practice of *Scotland* regarding the Punishment of Persons convicted of composing, printing, publishing, or circulating any blasphemous or seditious Libel."—*See* Libels.

BLEACH 1. A chemical, usually an oxidizing or reducing agent, used to whiten or increase the brightness of a material, e.g., paper or paper pulp. See also: BLEACHING (1) 2. A solution of chlorine or a similar chemical. 3. To whiten or increase the brightness of a material, or to remove stains from paper. See: BLEACHING (2). RE

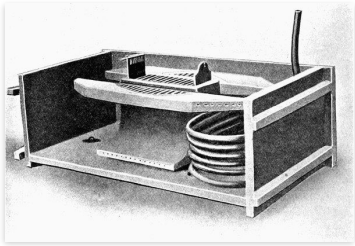


Fig. 12. —Oettel and Haas' Apparatus for the manufacture of Electrolytic Bleach Liquor.
R. W. Sindall, The Manufacture of Paper, 1908

BLEACHED GROUNDWOOD PAPER A paper manufactured from groundwood pulp which has been bleached by means of a suitable chemical, e.g., sodium peroxide, zinc hydrosulfite, etc, or a combination of chemicals. It is substantially brighter than unbleached groundwood paper and is not significantly less bright than paper produced from bleached sulfate or sulfite pulps. 17,72 RE

BLEACHED SULFATE PAPER A class of paper generally used in grades of white, as well as for boards requiring strength. The pulp is fully bleached with chlorine dioxide, or the dioxide plus peroxide, with or without hypochlorite, in multistage bleaching operations. Its high brightness is attainable with strength characteristics not substantially lower than that of an unbleached chemical pulp. 17,72 RE

BLEACHED SULFITE PAPER A paper which has been bleached in one stage by means of peroxide or hypochlorite, or in a multistage operation using peroxide and/or chlorine dioxide. The paper has high brightness with good stability. 17,72 RE

BLEACHING 1. The process of treating pulps used in papermaking with chemicals to alter their color so that the pulp and the resulting paper will have greater brightness. Such bleaching is usually accompanied by partial removal of noncellulosic materials, e.g., LIGNIN. • 2. The process of chemically treating archival materials in order to remove stains, discoloration, foxing, etc., and/or to restore brightness. Both oxidizing —i.e., chemicals which take up electrons—and reducing—i.e., chemicals which give up electrons—chemicals are used, the former much more extensively than the latter. Chemicals which are, or have been, used include CALCIUM HYPOCHLORITE, CHLORAMINE T. , CHLORINE DIOXIDE, FORMALDEHYDE, HYDROGEN PEROXIDE, POTASSIUM METABISULFITE, • SODIUM CHLORATE, SODIUM CHLORITE, SODIUM HYPOCHLORITE, and SODIUM PEROXIDE. 3. The process of lightening the color of a vegetable-tanned leather by means of the removal of the oxidized tannins and insoluble matter from the outer surfaces of the skin, usually by treatment with a solution of sodium carbonate, washing, and then treatment with diluted acid. Chrome-tanned leathers are usually bleached by treating the skin with acid solutions of syntans and at times by precipitating white pigments in the grain layer of the leather to impart a bleached appearance. 4. The destructive effects of chemical agents on water colors, inks, fugitive colors, etc. 5. The generally undesirable and destructive effect of natural and artificial light on archival materials, especially cloth and leather bookbindings. 62,77,218,320,323 RE

BLEACHING OIL-TANNED LEATHER BY EXPOSURE TO THE SUN The Rosary Leather Mills. Ashtead
K. J. Adcock, Leather: From the Raw Material to the Finished Product, 1910

BLEACHING POWDER See: CALCIUM HYPOCHLORITE. RE

BLED The printed image, plates, or illustrations of a book that have been cut into during trimming, e.g., BLEED BORDER, BLEED ILLUSTRATION. RE

BLEED **1.** 1. To trim the edges of a book to the extent that part of the letterpress is removed. 2. A printed image which runs off the edge of a page. 3. The process of deliberately trimming so as to "bleed" a page. See also: BLEED BORDER; BLEED ILLUSTRATION.2@MAB When a book is cut into the print it is said to bleed.3@ABB When a book has been cut down into the print it is said to have been bled.4@NBL When a book on being trimmed is so cut that some of the print is taken off it is said to bleed. RE 82,365

BLEED BORDER A heavy border on a printed page or sheet, especially on the cover of a pamphlet or booklet, printed in such a position that part of it is cut away in trimming. RE

BLEED ILLUSTRATION An illustration that runs to one or more edges of the page, leaving no margin. If the bleeding is to be accomplished by means of cropping, the illustration must be designed so that nothing of importance is removed by trimming. When an illustration occupies an entire page, it is said to bleed on three sides, i.e., head, tail, and fore edge, and run flush to the gutter. See also: CENTER SPREAD. 131 RE

BLEEDING 1. See: BLEED. 2. The removal of color from a paper or paper pulp due to the action of water or another liquid, which dissolves the coloring matter. 3. Discoloration of the surface of a paper due to the migration of residual oils. 4. The tendency of colored papers to stain contiguous leaves, usually due to the presence of water or moisture of some kind. 5. The diffusion of uncombined materials from the interior of leather to the grain surface where they may contaminate other materials or mar the appearance of the leather. This usually occurs at elevated temperatures and is commonly designated as staining. 17,72,325,363 RE

BLESBOCK A South African antelope, Damaliscus albifrons, the skin of which has been used to produce a bold-grained leather, in imitation of SEALSKIN. RE

BLIND BLOCKING The process of lettering or decorating a book with BINDER'S BRASS or ZINCO only, i.e., without gold leaf, ink, or foil. 307 RE

BLIND FINISHING Any of the several techniques of decorating a binding by tooling without the use of gold, or other leaf metals, or coloring materials. Blind finishing includes: 1) impressing the surface of the covering material with a heated tool (See: BLIND TOOLING); 2) embossing leather from the flesh side while wet, with the pattern being outlined by an indented line; and 3) cutting the leather so as to create a design in relief. See: CUIR-CISELÉ. RE

BLIND IMPRESSIONS Virtually the same process as BLIND BLOCKING, except that it generally applies to hand tooling. In blind impressions, there are generally two impressions of the tool or letter, the first made through the design or lettering on paper with a warm tool and a second done directly on the impression. This second step assures an evenness and straightness of the impression, and, because the impression through the paper is larger, the second makes the final impression the correct size. 161 RE

BLIND LINES 1. The impressed lines on the spine of a leather binding along each side of the raised bands. Such lines are usually impressed with a two-line PALLET (1). 2. The blind lines made by a FILLET (1) without the use of leaf metal or foil. 335 RE

BLIND STAMPING A term originally used with reference to stamping a leather cover with small, unheated tools that were cut intaglio so that the impression was in relief. See also: BLIND TOOLING. 236 RE

BLIND TOOLING **1.** A method of decorating a book in which impressions are made in the covering material, usually leather or tawed skin, by means of heated tools, pallets, rolls, fillets, or combinations of one or more of these. As the name implies, blind tooling does not entail the use of leaf metal, foil, or any other coloring material, with the possible exception of carbon, which is sometimes used to darken the impressions. • The effect of blind tooling rests largely on the depth and uniformity of the impressions (which makes it unsuitable for use with hard covering materials) and the ability of the heated tool to produce a darkened color (see above)—factors which make leather, especially in the lighter shades, an ideal medium for this method of decoration. • The critical aspects of the technique are the temperature of the tool and the degree of dampness of the leather. In general, the damper the leather the cooler the tool should be, and vice versa. In tooling leather blind, the surface is given a quick initial strike to "set" the leather in the impression. The tool is then impressed again and rocked slightly, which polishes and darkens the impression. When blind lines run across the spine of the book, polishing is accomplished by sliding a pallet along the lines; on the covers, where a fillet is used for long lines, it is fixed so that instead of rolling, it

slides along the impression. • Blind tooling has been used as a means of decorating books since the early days of bookbinding, and can be traced back to COPTIC BINDINGS of the 7th or 8th centuries, and even earlier. There is reason to believe that the technique was brought to Europe from the Mediterranean area about the same time as other Coptic techniques being used, possibly by imported craftsmen; however, little is known of blind-tooled bindings until the 12th century and early part of the 13th. In one form or another, the technique has been used continuously up to the present day, but during the 16th to 18th centuries, its use was more or less limited to inferior calf- and sheepskin bindings. Near the end of the 18th and during the early years of the 19th centuries blind tooling was often used on fine bindings in conjunction with gold. Also called "antique tooling." RE **2.** The impression of finishing tools without gold leaf.3@BCB the impression of finishing tools without gold. BIB 94,123,130,236,335

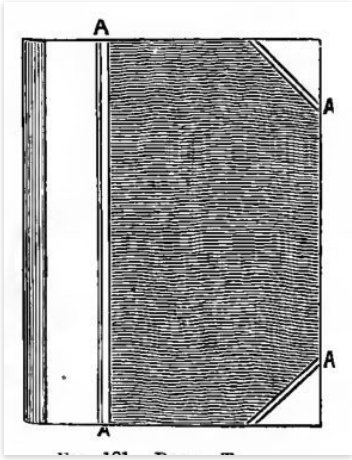


Fig. 121.—Blind Tooling.
W. J. E. Crane, Bookbinding for Amateurs, 1885

BLIND WARBLES See: WARBLES. RE

BLIND-STAMPED PANEL also *blind-stamped binding* A form of decoration on the covers of a binding impressed by means of an engraved stamp (bearing a complete design) on the dampened leather. Virtually all early plates were cut intaglio (with a three dimensional effect and not as a two dimensional printing block), the resulting image on the cover being in relief. Panels were still being used in (German) bookbinding until well into the 18th century. • The art originated in the Low Countries, and was practiced there from the 14th century on. Characteristic designs consisted of animals in circles or loops of foliage. The art flourished in France from about 1488 to 1528; in Germany, extensive use was made of blind-stamped panels on covers of pigskin bindings, mainly after 1550. The blind-stamped panel was in use in England from about 1480 to 1580, but it was not really popular until about 1500. The most used motifs included the royal arms and heraldic devices. Rectangular panels made with a single stamp continued in use until about 1623. • Because of the great pressure required to impress a complete design, a standing press of some kind must have been used. • The most commonly used leathers for these bindings were calfskin and pigskin. 140,166,236 RE

BLIND-TOOLED **1.** When the tools are impressed upon the leather, without being gilt, they are said to be blind or blank.2@ABB When a book has been impressed with tools |174| without being gilt, it is said to be "blind-tooled" or "antique." MAB **3.** When tools are impressed upon the leather, without gold, they are said to be blind or blank, and the book is blind-tooled. This tooling is sometimes called antique. NBL

Colours—Blue, Olive Green, Maui's, Terra Cotta, and Gold. Background—Blind-tooled.
Bookbinders and Machine Rulers Consolidated Union, The Bookbinding Trades Journal, 1904

BLISTERS 1. Bubbles or pockets of air, water vapor, solvent vapor, etc., trapped between the board and PASTEDOWN of a book, causing the board paper to bulge, forming a blister. A blister effect may also be caused by a small mass of adhesive, which stretches the covering material, or by failure of the covering material to adhere properly, causing a protuberance or "blister" between board and covering material. 2. Defects in paper resulting from too rapid drying of the web or poor condition of the drying felts which allows

air between the felt and web. Blisters are also defects in coated papers caused by too rapid expansion of moisture in the interior of the sheet when subjected to the high drying temperatures of web presses. 5,17 RE

BLOCK **1.** A piece of metal, without a handle, bearing an engraved or etched design and used in decorating the covers of a book. It is intended to be used in a press. See also: BLOCKING (1); BLOCKING PRESS.2@AMP The mahogany forms on which stereotype plates are placed for printing. RE 82,234

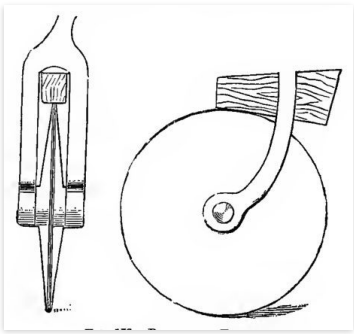
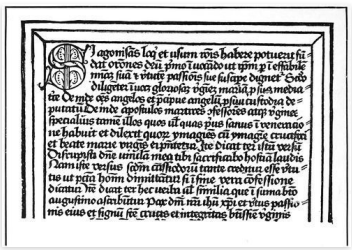


Fig. 139.—Block for Fillet.
W. J. E. Crane, Bookbinding for Amateurs, 1885

BLOCK BOOK A book printed from cut blocks of wood. Although it is presumed that block books preceded the invention of printing from movable metal type, most of the extant examples of block books are from the period 1460 to 1480, i.e., subsequent to printing from metal types. Each block was cut for an entire page, and, in the earliest examples, each leaf was printed only on one side, usually with a thin, brownish ink. The spread of printing virtually eliminated the demand for this type of book but they continued to be printed until at least the end of the 15th century. These later examples were printed on both sides of the leaf with ordinary printing ink. Block books are essentially picture books, sometimes with a small amount of text, also cut in wood. 69,140,156 RE



TEXT PAGE FROM A BLOCK BOOK "Ars Moriendi," printed in the fifteenth century
Edmund G. Gress, The Art and Practice of Typography, 1917

BLOCK PRINTING The process of printing from hand-carved blocks of wood or linoleum. Modern blocks, which are made up of relatively heavy lines and solid areas, are cut for relief printing, and are inked or colored only on the uncut surfaces. If printing in two or more colors is required, the colors can be applied and printed in one impression, printed in two or more impressions, or two or more blocks can be cut. In the early days of block printing, it was a common practice to print the outline of the design and then apply the colors by hand. The relatively soft surfaces of blocks of wood or linoleum limit the number of impressions that can be made. 234 RE

BLOCKED-UP **1.** Letter is said to be blocked-up, when in the progress of a work it is all composed, and from any cause none of the forms can be worked to disengage part of it, in order to proceed. This may arise—from the Author not returning the proofs regularly—from the Reader not reading them for press—from a flush of presswork in other works—from the non-attendance or negligence of the pressmen—or from compositors, in a companionship, keeping each too much copy in his hands, whereby all the letter is composed before they join their matter. From whatever cause it arises it is a great detriment, and unhinges the regular train of work, and ought always to be avoided as much as possible. • The term is also applied when the Pressmen use too much ink in working a form; and when a form has been neglected to be washed, and the ink left to dry on the face—*It is blocked-up with ink.* • Blocks, for stereotype printing, *see* Risers. DAP **2.** When the fount of type is all set, and none is available for present use. AMP

BLOCKING 1. The process or technique of impressing a design into the covering material of a book by means of a stamp or BLOCK having an engraved or etched surface. The term applies to the impressing of type, blocks, etc., with foil, leaf, etc., or without (BLIND BLOCKING). Since the area that can be blocked by hand is relatively small (about one square inch, or less), large areas are blocked using a BLOCKING PRESS. The permanency of the blocking, particularly when gold leaf is used, depends largely on the pressure applied by the craftsman, or the force of the blocking press, which drives the raised surfaces of the block or die into the covering material. Hand blocking may be done on curved or flat surfaces, while blocking by means of a press is

generally done on flat surfaces only. 2. The surface tackiness that book cloths sometimes develop as they age. 3. An undesirable condition in which a dry adhesive film is reactivated by heat, pressure, moisture, etc., and adheres to a material in contact with it. 94,179,236,276,309 RE

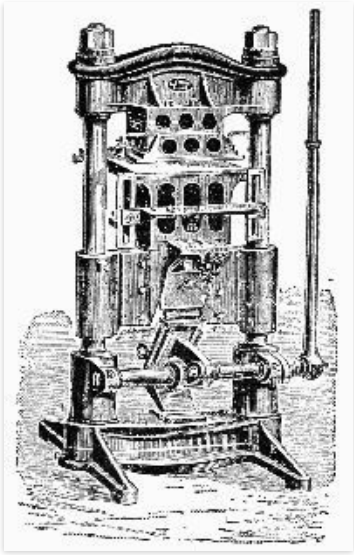


Fig. 64—Blocking press.
Paul Adam, Practical Bookbinding, 1903

BLOCKING FOIL A thin plastic film with a high vacuum deposit of gold or other metal and backed by a pressure-sensitive adhesive. White and colored pigments are also available. They are used in the same way as gold leaf, the impression being obtained by means of a heated die, block, type, etc. Blocking foils are used extensively in library and edition binding. 81,92,161 RE

BLOCKING POWDER A finely ground resin used in dusting over the impressions in silk and velvet before gold tooling. Such resins are used in lieu of GLAIR because moisture would stain the silk or velvet. The powder has the advantage of requiring only a moderately hot tool, whereas glair requires considerably more heat to make the gold adhere. Blocking powder, however, does not provide the solidity of adhesion to gold leaf that is obtainable with a liquid size; therefore, it is generally used only when a liquid size is impractical. 154 RE

BLOCKING PRESS **1.** A press which heats blocks and impresses lettering. designs, etc., into the covers of books. In edition binding this is done automatically, gold or pigment foils being fed through the machine on a thin plastic BLOCKING FOIL. The blocking press is used for BLIND BLOCKING or ink blocking; heat is not required for the latter process. When gold leaf is used it is laid directly on the book cover. The blocking press first came into use in England in the period 1830–32 for gold blocking on book cloths. Before this time books were blocked with a block that was heated off the press and then laid on the cover and pressed. Also called "embossing press" and, in the United States, "stamping press." RE **2.** Another and more general term for the arming press; one of the chief implements used in cloth work. Used for finishing the side of a cover by a mechanical process.3@BCB a press used for impressing blocks such as those used in decorating cloth cases.4@NBL Another and more general term for the stamping or arming press; one of the chief implements used in cloth work. Used for finishing or decorating the sides and back of a cover by a mechanical process. ABB 107,203,236

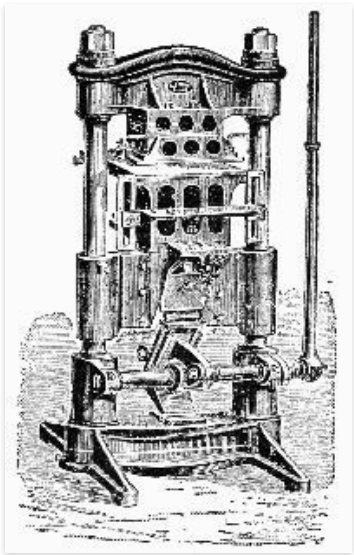


Fig. 64—Blocking press.
Paul Adam, Practical Bookbinding, 1903

BLOCKS OR BLOCKING TOOLS An engraved stamp used for finishing by means of the blocking press. ABB

BLOOD STONE BURNISHER See: BURNISHER(S) (1) RE

BLOOM 1. A deposit of ellagic acid formed in and on leathers tanned with vegetable tannins of the pyrogallol class, probably as a result of the action of enzymes native to the original source, i.e., bark, acorns, etc. Although bloom affects the physical properties of leather in that it increases weight yield, firmness, and water resistance, it is deposited in insoluble form and is not chemi-

cally combined with the fibers of the leather. Its presence at times gives an unsightly appearance to the leather. 2. A misty surface appearance in an illustration, caused by an excess of acid or too much drier in the ink. 3. The dulling film that sometimes appears on varnish and glossy paint films, particularly in industrial atmospheres. It usually consists of minute crystals of ammonium sulfate produced by the reaction between sulfur dioxide, ammonia, and oxygen in condensed moisture on the film. Bloom can appear on a freshly lacquered surface when rapid evaporation of the solvents causes the temperature of the surface to fall below the dew point. Moisture is deposited on the film, causing a limited precipitation of cellulose nitrate and giving the film a permanent cloudy appearance. 175,195,306,363 RE

BLOTTING PAPER A completely unsized sheet of paper, generally used to take up excess ink from hand-written documents, letters, etc. It is also used to absorb moisture from freshly washed or deacidified book and manuscript papers, prints, maps, etc. It is often made from high grade rag or cotton linters, and also from chemical or mechanical wood pulps, or mixtures thereof. The paper is porous, bulky, and has a low finish and little strength. Basis weights generally range from 60 to 140 pounds (19 X 24—500). Aside from its use as an absorbent paper, it can be ground up, mixed with size, and used to fill in worm and other small holes in paper. 17,316 RE

BLUE also *blue sort* Hides and skins that have been chrome tanned but not finished. Such skins are usually called "in the blue," or "blue sort." 325 RE

BLUE AGATE MARBLE A cover marble, consisting of black coloring in large (united) drops, with blue streams down the boards uniting with the black. See also: GREEN AGATE MARBLE. 97,152 RE

BLUE STORMONT MARBLE A marble pattern used for both endpapers and edges, consisting of a red vein with indigo fillers dotted with numerous small interstices in the form of a fine network. This pattern was popular during the first half of the 19th century, but was also used in the 18th. See also: STORMONT MARBLE. 97,236 RE

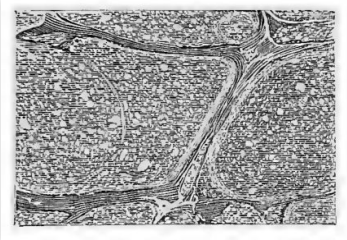


Fig. 92.—Blue Stormont Marble.
W. J. E. Crane, Bookbinding for Amateurs, 1885

BLUE-AND-GOLD EDITION A format for volumes of poetry, essays, etc., popular in the United States in the 1870s. The covering cloth was blue and the edges were gilt. The books were small, measuring about 6 by 3 1/2 inches. 169 RE

BLUEPRINT PAPER A paper produced from cotton fiber pulp, bleached chemical wood pulp, or combinations thereof, in basis weights of 12 to 30 pounds (17 X 22—500). It has a well-formed, fairly smooth surface, good wet tensile strength, and, although well-sized, uniform absorbency. Blueprint paper must not contain chemicals which might have an adverse effect on its sensitizing materials. The paper is sensitized by treating the base paper with chemicals, including potassium ferrocyanide, as well as with iron salts, such as the oxalates and tartrates. 17 RE

BOARD **1.** A generic term for a stiff and thick "paper." The distinction between board and paper is somewhat vague; however, in general, board is heavier in basis weight, thicker, and stiffer than paper. Most sheets 0.012 or more inches in thickness are considered to be boards, while nearly all less than 0.006 inch are termed paper; most of those in between these dimensions are also classed as paper. Blotting paper, in excess of 0.012 inch, however, is still classed as paper, and liner board, although sometimes less than 0.012 inch thick, is classed as board. See also: BINDER'S BOARD.2@MAB Are of various kinds, such as pressing, backing, cutting, burnishing, gilding, &c. The pasteboards used for side-covers are termed boards. The boards used for cutting books "out of boards" are called steamboat-boards. Tinned boards are used for finished work; while brass or iron-bound boards are used for pressing cloth-work.3@BIB A temporary binding with a cover made of boards and paper.4@ABB Are of various kinds, each denoting the work it is intended for, such as pressing boards, backing, cutting, burnishing, gilding, etc.5@NBL Are of several kinds, such as pressing, backing, cutting, burnishing, gilding, etc. The paste-boards used for side covers are

termed boards. The boards used for cutting books "out of boards" are called steamboat-boards. Tinned boards are used for finished work, while brass or iron-bound boards are used for pressing cloth-work. See also In boards. RE 17,19,42

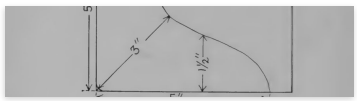
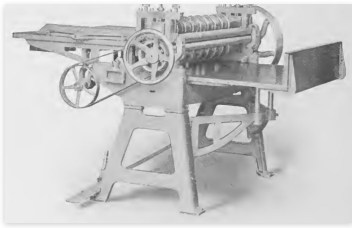


Fig. 112—PLAN OF DESIGNING BOARD CORNERS
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BOARD CUTTER A lever type of cutter mounted on a flat bed and used for cutting hard millboard, and similar materials. The bed is equipped with a movable gauge against which the stock is placed for accurate cutting, and a foot-operated clamp which secures the material for cutting. The blade usually has one or more counter-weights at the end opposite the handle to help prevent the knife from falling accidently, and also to reduce the effort required to raise the blade. See also: BENCH KNIFE; ROTARY BOARD CUTTER. 66 RE



Robertson Rotary Board Cutter.
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

BOARD KNIFE 1. A knife of elliptical shape attached to the arm of a hand-operated BENCH KNIFE. 2. One of the circular knives of a ROTARY BOARD CUTTER. 66 RE

BOARD MACHINE See: CYLINDER MACHINE. RE

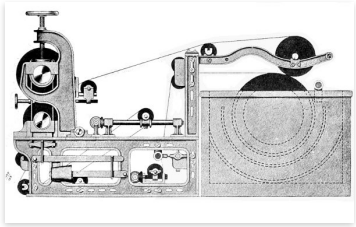
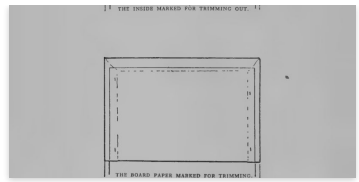


Fig. 41. —Section of Wet Press, or Board Machine.
R. W. Sindall, The Manufacture of Paper, 1908

BOARD PAPER **1.** See: PASTEDOWN.2@BCB the part of the end papers pasted on to the boards.3@NBL Those parts of the end papers which are pasted onto the boards. RE



THE BOARD PAPER MARKED FOR ine
| *Alex J. Vaughan, Modern Bookbinding: Letterpress and Stationery Branches, 1929*

BOARD RACK A case made of strong deal boards, with broad ledges nailed on the inside of the two sides, to slide letter boards in: they are for the purpose of putting boards in with pages and jobs on; as the matter is safer and less likely to be broken, and more out of the way than when scattered about on bulks, and also takes up less room. The sizes are usually such as will admit demy and royal boards; but in houses where works on large paper are printed, they have board racks that will admit suitably larger boards. DAP

BOARD SHEARS Heavy shears, usually fitted to a table, and with a gauge for cutting boards. NBL

BOARD SHEARS
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BOARDED LEATHER A leather which has been softened and the grain side of which has been lightly creased by the process of BOARDING (1). RE

BOARDING 1. A method of producing a design on the grain side of leather, as well as softening it, by means of a series of creases produced on the surface of the skin. Boarding is accomplished by folding the leather, grain side to grain side, and working the fold board knife across its surface. A straight or "willow" grain results when the skin is boarded on one direction, and a box or "cross" grain when it is also boarded at right angles to the first. Boarding a third time in a direction diagonal to the first two produces a pebbled-grain pattern. Boarding may be done by hand, using a cork-surfaced board called a GRAINING BOARD, the fold of the leather being rolled under the board, or, as is the usual case today, by means of a boarding machine, in which the leather is rolled between two cylinders, one

covered with cork or rubber and the other with felt or rubber. 2. See: GRAINED UP. 306,363 RE

BOARDS 1. A generic term for the pieces of wood, metal, or metal-edged wood used to assist in gripping books while in process of being bound. Such boards are used in pressing, backing, bundling, gilding, trimming, and other operations. 2. The state or condition of being IN BOARDS or OUT OF BOARDS. 3. See: BINDER'S BOARD. RE

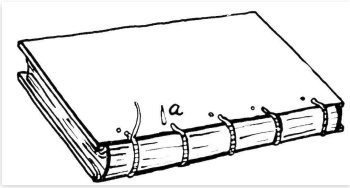
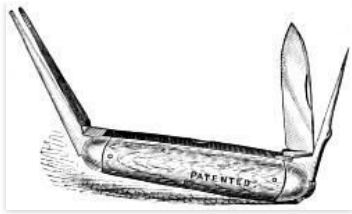


Fig. 26. Lacing cords into boards.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

BOCK A leather made from the skin of a so-called Persian sheep, which is a sheep that has coarse hair instead of wool. It was used in the latter part of the 19th and early part of the 20th centuries as a substitute for goatskin. When finished and grained usually embossed) in imitation of MOROCCO, it was referred to as "bock morocco." 91,256 RE

BOCK MOROCCO The name given to a leather made of Persian sheepskin usually finished in imitation of morocco. It does not wear well and soon decays. NBL

BODKIN **1.** A piece of steel wire filed tapering to a point; the thick end being fixed in a short wooden handle. Its use is to pick wrong letters out of a page in correcting, in order to their being replaced by right ones. A fine hackle tooth makes the best bodkin, and the finer the point the better.2@AMP A delicate awl-like tool used for correcting errors in type.3@ABB A strong and short point of steel fixed in a wooden handle, for making the holes through the mill-boards. The slips upon the back of the book are laced through the holes for attaching the mill-board to the book.4@BCB an awl used for making the holes in the boards for the slips. DAP



KNIFE AND BODKIN.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

BODKIN OR STABBING-AWL **1.** A strong point of iron or steel, fixed on a wooden handle, to form the holes in the boards required to lace in the bands. Used also for tracing the lines for cutting the fore-edge.2@NBL A strong point of iron or steel fixed in a wooden handle to form the holes in boards through which to lace bands. Used also for tracing lines for cutting fore-edges. MAB

BODY **1.** The size of the shank of any type from the back of it to the front, or the square of the m quadrat: thus English Body, Pica Body, &c.—M. *See* Types. Typographical Points. DAP **2.** The shank of the letter. AMP

BODY BOARD See BODY PAPER. RE

BODY OF THE WORK The subject matter of a work is usually so termed, to distinguish it from the notes, the preface, introduction, contents, and index. DAP

BODY PAPER The foundation paper or board for finished papers, such as art, chromo, coated, gummed, and others, which are made by coating or treating with composition. 82 RE

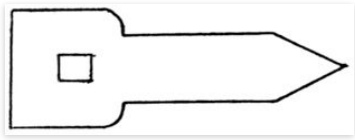
BOLE **1.** A preparation used in gilding edges.2@ABB A red earthy mineral, resembling clay in character, used in the preparation for gilding edges. MAB

BOLSTER A piece of stout leather strap nailed to the near long rib of a wooden press, at the fore end, and padded under so as to raise it sufficiently high; its use is to check the running out of the carriage, by friction, at the proper place to permit the tympan to rise clear of the platen, when the pressmen are in a train of work, a similar piece being nailed under the carriage. In iron presses a bar projects between the ribs on which is secured an inclined plane of wood, and in some iron presses a spring is screwed on the near long rib for the purpose. It prevents the sudden jerk upon the back stay, and also upon the carriage when it is run out. DAP

BOLT **1.** The folded edge at the head, tail, or fore edge of a section of an unopened book.

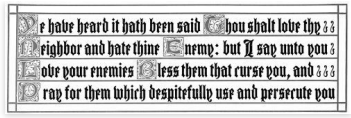
Depending on location, it is known as a head bolt, tail bolt, or fore edge bolt. Bolts are generally located at the head and fore edge, but cannot be located at all three edges in any one section. The folded edge opposite the fore edge is not a "bolt," but a spine fold, or "last fold." Bolts are often opened quickly and with little care, resulting in ragged edges that are difficult to handle when turning leaves. A dull knife used carefully will result in a clean cut, while a knife that is too sharp is difficult to control and often cuts away from the bolt and into one or more leaves.2@MAB The fold in the head and foreedge of the sheets. Also the small bar with a screw used to secure the knife to the plough.3@ABB The fold in the head and foredge of the sheets. The iron bar with a screw and nut which secures the knife to the plough.4@BCB folded edge of the sheets in an unopened book.5@NBL Folded edge of sheets in an unopened book. RE

BOLT KNIFE One of the two types of knives that can be used for cutting the edges of books with the PLOW. The bolt knife is fastened to the shoe of the plow, consequently its position cannot be changed, as can that of the SLIDING KNIFE. The sliding type is less expensive and easier to attach, and has almost completely superceded the bolt type. RE



Bolt Knife.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

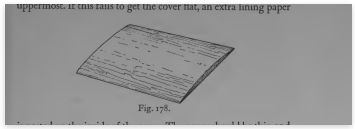
BOLTS The pieces of furniture that are placed between the head lines of the pages in a form of twelves, to form the margin at the head of the pages, are called *Bolts*. • The bolts are cut to the width of the page, so that the gutters go a little way between them, and secure the sides of the pages the whole length: I would recommend to the compositor to cut his bolts square at the ends, and of such a length that they shall go into the measure of his composing stick easily; he will thus prevent the folios or any letters at the extremities of the head lines falling down, as well as the bolts binding against the gutters. DAP



EXAMPLE 116 Corner ornaments may have been suggested by the bolts on inscription plates or by the cross lines on books
Edmund G. Gress, The Art and Practice of Typography, 1917

BOND 1. In adhesives, the process of joining two structures together, i.e., to create an assembly by means of adhesive linkage. 2. A form of insurance agreement under which a bonding company guarantees to pay a library within stated limits for any financial loss, or for failure of the binder to perform in accordance with the terms of the contract, i.e., to follow specifications, to charge the agreed-upon price, to return materials within the time specified in the contract, or to otherwise be found in default of the contract. 3. See: BOND PAPER. 309 RE

BOND PAPER A grade of writing or printing paper, now only vaguely associated with bonds, legal documents, etc., i.e., where durability and permanence are required. Bond paper today is widely used for forms, invoices, etc., and is a strong, tough paper that can take stiff, hard ink that dries by oxidation rather than by penetration. Bonds are produced from cotton fiber pulp, bleached chemical wood pulps, or combinations thereof. Although a bond is a typical writing paper, almost all of it is printed, e.g., letterheads; therefore it must have good printability, as well as good writing and erasing qualities. It must also possess cleanliness, formation, color, finish, and freedom from fuzz. It is usually made in basis weights ranging from 13 to 24 pounds (17 X 22—500). 17,287,316 RE



is pasted on the inside of the cover. The paper should be thin and tough, such as a bond paper. It must be dampened on both sides
F. R. Smith, Bookbinding, 1929

BOND STRENGTH The unit load, applied in tension, compression, flexure, peel, cleavage, or sheer, required to break two adherend materials, with failure occurring in or near the plane of the bond. The bond strength of adhesives used in archival work should be such that stress to the point of failure will result in failure of the adhesive, rather than either adherend. 309 RE

BONDING STRENGTH The resistance of paper, either coated or uncoated, to splitting or to the

picking or lifting of its surface while being printed. 17 RE

BONE CUTTING A colloquial term used with reference to the slitting operation performed when an insert must be tipped-in a section, rather than onto the first or last leaf. 339 RE

BONE DUST An abrasive composed of crushed and ground bones, which, when mixed with powdered chalk and pumice, is used to clean vellum bindings. RE

BONE GLUE A GLUE processed from the collagen content of bones, mainly from "green" or fresh bones of bovine animals. Bone glue prepared from solvent-extracted, degreased bones is called "extracted bone glue." 184 RE

BONET PAUL 1899–1972 An artisan and bibliophile who turned to the art of creating designs, Bonet was probably the most influential French designer of bookbindings of his day. He was at first influenced by the bindings of PIERRE LE GRAIN. While his early work was in purely geometrical gold fillet design, his later creations were related more closely to the spirit and theme of the book being decorated. Bonet had available to him the best bookbinders and gilders in Paris, and with them he concentrated on the contrasting textures of leathers, wood, and even metals, with surfaces scultptured and pierced, achieving nearly mathematical repetition of linear forms and even surrealist effects produced by collage and photography. See PLATE IX. 104,347 RE

BONNET BOARD A very hard-rolled, thin, smooth-surfaced board similar to file indices; sometimes used for notebook covers. RE

BOOK **1.** See illustration • 1. A collection of written, printed, illustrated, or blank leaves of paper, parchment (or vellum), papyrus, or other flexible or semi-flexible material, strung or bound together. Today, in its most familiar form, a book is considered to be one or more folded and gathered sheets of paper, fastened together at one edge, and trimmed on one or more of the remaining three edges to form a continuous series of uniform leaves. Specifically, a book is a collection of single sheets or folded leaves, bearing printing or writing, that have been folded, stitched, sewn, or secured by adhesive along the binding edge, generally rounded and backed, and usually secured between boards that have been covered in cloth, paper, or like material, or which have been bound in leather. See: CODEX. 2. A collection of tablets of wood, ivory, or other rigid material, containing writing, drawings, etc., and sometimes covered with blank covers of the same or different materials. 3. A continuous roll of parchment, or similar material, or a book and job folding machine strip of parchment creased between columns and folded in the manner of a CONCERTINA FOLD, and containing writing, etc. See also: SCROLL (1).2@NBL sizes of. See folio, quarto, octavo, sixteenmo, thirty-twomo, etc. RE 102,123,156,161

BOOK AND JOB FOLDING MACHINE A type of buckle folding machine having four folding levels, each at right angles to the preceding and following levels, which permit up to four right angle folds, resulting in 16 leaves (32 pages) from one sheet. This type of machine also has one and sometimes two parallel sections, which enables it to produce a section of up to 64 leaves from one sheet. Book and job folding machines are also sometimes equipped for cutting, padding, and trimming. See also: FOLDING MACHINES. 320 RE

BOOK BASIS The BASIC SIZE of the sheet of paper most often used in book printing in the United States- 25 by 38 inches. RE

BOOK BLOCKS Flat, smooth boards of varying lengths and thicknesses, with one end shaped to fit the spine of a rounded book, and used to support the cover while pasting down the board paper or leather joint, and also when tooling the turn-ins or doublure. The block prevents strain at the joint of the book. RE

BOOK CLOTH RE

A generic term for the woven fabrics used in covering books. They are usually, but by no means always, woven cotton fabrics, which may be bleached or mercerized, dyed, filled with pigment colors, gelatinized, starched, coated or impregnated, calendered, and embossed (grained). They are divided into classes according to type and quality. Specifications for the fabrics used for book cloths are:

Book Cloths
(starch-filled and impregnated)
Group Weight
A Light
B Medium
C Heavy
C-1 Heavy
Buckrams
(starch-filled and impregnated)
Group Weight
D Light
E Medium
F Heavy

The specific (minimum) requirements for these fabrics are as follows below:

Group Stripped-cloth Warp plus filling Breakings strength Breaking
weight—not threads per inch— sum (warp plus strength—
less than: not less than: filling—not not less
less than: than:
Pounds Pounds
Ounces/square yard Warp Filling
A 1.7 92 60 38 15
B 2.1 104 77 50 20
C 3.4 104 105 55 42
C-1 4.2 94 120 64 48
D 4.7 58 110 65 35
E 6.0 106 165 100 55
F 7.9 110 200 120 70

The breaking strength sum for embossed cloths has been established as 25% less than the figure for cloths that are not embossed.

Pyroxylin treated fabrics, which were introduced in about 1910, represented a major breakthrough in book cloth. The term "pyroxylin treated," as applied to book cloths, means either pyroxylin coated or pyroxylin impregnated cotton fabrics. The difference between the two is the quantity of protective coating applied and the manner of application, as well as the type of material treated. The pyroxylin composition consists of gelatinized nitrocellulose, a plasticizer to impart softness and flexibility, coloring matter, and a solvent. The fabrics used for impregnation are lightweight muslins, while those used for coating are heavier drills, twills, and sheeting. Coated fabrics are sometimes embossed in imitation of leather. The surface of impregnated fabrics retain the texture of the base materials. Pyroxylin impregnated fabrics are superior to starch-filled fabrics because their surfaces are more water resistant, they are more resistant to insects and fungi, and are generally stronger. They wear well and are particularly suitable for use in library binding. Pyroxylin coated fabrics are used extensively in edition binding because of the decorative effects obtainable. They, too, are water repellant and immune to insect attack and fungi, but they do not wear as well as impregnated cloths because of cracking at the joints and occasional peeling of the coating.

Book cloths for cheaper editions are closely woven, lightweight, starch-filled cotton fabrics, sometimes lightly embossed to conceal the weave of the fabric. They are generally attractive but have little strength or durability. They are also vulnerable to water spotting and soiling, and cannot be wiped clean. In addition, they are generally unsuitable for printing by offset lithography.

The book cloth used in library binding is generally of two types, pyroxylin impregnated and starch filled. The Library Binding Institute specifications for impregnated cloth, i.e., buckram, call for a base fabric of cotton, the warp yarns of which are to be woven in pairs, and with specifications the same as for group F, above. In addition, the Institute requires that the dye used must penetrate through the fabric so that both sides will be covered equally prior to the application of the impregnating compound (except in the case of "linen" type finishes). The impregnating compound must be uniform and homogeneous and be of either the nitrocellulose or cellulose acetate type. The weight of the impregnating compound must constitute at least 10% of the total weight of the finished fabric and must contain no oxidizable oils. The plasticizer, including oil (if any), must not exceed 20% by weight of the impregnating compound, nor must the weight of the pigment exceed 25% of the com-

pound. Residual solvents, if any, are not to exceed 0.01% by weight of the finished fabric, and the pH of the cloth, as measured by standard methods, is not to be less than 6.5 nor more than 7.5, except in the case of the use of acid dyes, in which case the pH must not be less than 6.0. Cloth specifications state that the finished cloth shall be sufficiently water resistant to permit no penetration of water within a period of ten minutes, as determined by the ring test. The finished cloth is to be sufficiently grease resistant to permit no penetration of oleic acid within a period of five minutes, as determined by the ring test. The finished cloth must be capable of adhering permanently to boards and board papers under normal processing using either an animal glue or a resinous adhesive, and must resist rub-off to the degree that loss by abrasion shall not exceed 8% by weight of the fabric, when subjected to abrasion for 10 minutes by flint paper (2/0), on a disc 2 inches in diameter rotating at 1,250 rpm under 3 pounds of pressure. The finished cloth is to be free of marked odor, and its fastness to light shall be such that it will not lose color or fade when subjected to fadeometer exposure for 15 hours.

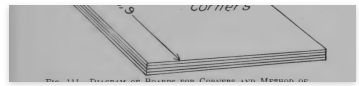
Cloth as a covering material for books is said to have been introduced, in England, by William Pickering, possibly as early as 1821–23, although books bound in burlap go back to the 1760s. Pickering's cloth was calico, a soft clothing material which disintegrated in the presence of glue unless it was lined with paper. ARCHIBALD LEIGHTON is generally credited with being the first to introduce a really durable cloth for covering books. The first true book cloth was a dyed and glazed calico, prepared with a starch filler to make it resistant to the moisture in glue.

The first cloth had little character and was aesthetically unpleasant. It was also without natural texture and the threads gave it a somewhat raw and unfinished appearance. What was needed was some sort of decoration which would make the threads less obvious. When this came about, it took the form of embossed grains worked on the material, either in the roll or piece. One of the earliest designs, introduced in 1831, was a water finish, which may have been an outgrowth of the watered silk patterns that were introduced in 1828; it was used only for a short period because of its high cost and poor durability. See also: CLOTH GRAINING.

For several years following the introduction of cloth, it was the usual practice of binders to buy the cloth in its basic white color, and then have it dyed, filled, and otherwise prepared for use, or to dye and finish it themselves. Embossing was done at first by means of ribbon embossers, but this was expensive, and the larger binderies did their own embossing by means of manually operated, heated rollers. By the 1840s, however, the complete manufacture of finished book cloth had become a separate business.

Notwithstanding its obvious advantages, it was not until the middle of the 19th century that cloth largely replaced paper in regular edition binding. The rapid increase in the use of cloth was largely due to the successful methods that were developed of blocking in gold on cloth-covered cases. It was then possible to give cloth bindings a finished appearance which enabled them to be compared favorably with hand-tooled leather and, therefore, acceptable as a permanent binding.

71,89,147,187,188,209,236,264,286,326,341



Next cut out carefully 4 pieces like Fig. 113. Binding the edge of the large board is the next step. Using the 1," black, gummed muslin, gummed book cloth or the like, "strip" the edges like Fig. 114.
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BOOK CONSERVATION See: CONSERVATION; RESTORATION. RE

The upstairs of the book conservation workshop.
Peter D. Verheyen (ed.), The Bonefolder: E-journal for the Bookbinder and Book Artist (complete run), 2009

BOOK CORNERS Protective caps for the corners of book covers, sometimes made of leather, but also of metal or the same material that covers the book. Also called "corners." See also: BOSSES. RE

BOOK COVERS A protective cover or CHEMISE of soft leather, such as DOESKIN (1), or, in the case of blankbooks, a material such as canvas, sewn or slipped over a leather-covered book for protection against abrasion, moisture, light, etc. Soft leather covers were common in the Middle Ages and early Renaissance, and canvas or cloth slip-on covers are still being used for blankbooks. 115 RE

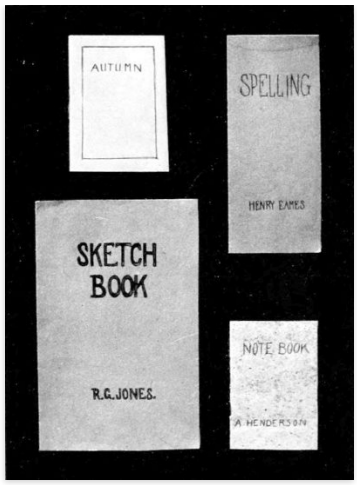


Plate V. The simplest possible designs for book covers, involving good spacing and careful lettering.
Florence O. Bean, Bookbinding for Beginners, 1914

BOOK CRAFTS The operations that are carried out in the production of books, including papermaking, printing, design of books, design and production of illustrations, and bookbinding. 335 RE

BOOK FORMING AND PRESSING MACHINE A machine used in edition binding which applies heat and pressure by means of "creasers" to shape the spine of the text block. Such a machine is generally designed to be used in conjunction with a CASING-IN MACHINE. See also: BUILDING-IN MACHINE. 320 RE

BOOK HOUSE A printing office in which the printing of books is the chief business carried on: in many houses in London the materials for this purpose are most abundant; but at the same time they very rarely keep any great assortment of large type for jobs. *See* Job House. DAP

BOOK JACKET A wrapper originally used to protect the covering material of the book from soiling or other damage, but now also used for promotional purposes. It may be plain, printed, or illustrated, and is flush with the covers of the book at head and tail, but folded over the fore edge of both covers. It is usually detachable. Modern book jackets are often very elaborately designed and are frequently printed in color. The book jacket, in one form or another, can be traced back to the 16th century. Also called "book wrapper," "dust cover," "dust jacket," "dust wrapper," "jacket," and "wrapper." 12,156,252 RE

BOOK JACKETING MACHINE A machine which automatically places jackets on newly bound edition bindings. The majority of such machines can jacket books up to a maximum of 10 by 8 by 2 inches, generally at speeds up to 35 books or more per minute. 343 RE

BOOK LABEL A simple printed or engraved name ticket (usually paper but sometimes leather), stuck to the inside of the upper cover or one of the front flyleaves of a book, generally for purposes of identification or ownership. A more elaborate label is known as a BOOKPLATE. 69 RE

BOOK LICE See notes on the electronic edition • Very small wingless insects of the order Corrodentia, usually of the family Atropidae, that will attack paper and book materials, and appear capable of living on mold and mildew. Also called "deathwatch." See also: BOOKWORMS. RE

BOOK PAPERS A class or group of cultural papers which have in common characteristics that, in general, make them suitable for the graphic arts. The various characteristics are designed to meet the requirements of the method of printing and the end use of the publication produced. Book papers are produced from rag pulps, mechanical and chemical wood pulps, esparto pulp, cotton fiber pulps, reclaimed paper stock, or combinations of different pulps. Mineral fillers, sizing, coloring matter, or other materials are added to the pulp in whatever combination is needed to give the appearance, strength, opacity, brightness, printability, permanence, etc., to fit the immediate or end use of the paper. The bulk of this type of paper is produced on a conventional FOURDRINIER MACHINE and is machine dried; however, some book papers are made on cylinder and hand molds. • Uncoated book papers are used in the printing of periodicals, books, pamphlets, and the like, and are converted into other products such as tablets, ledger paper, etc. They are generally made on a Fourdrinier machine and may or may not be surface sized. They are made to various bulk specifications and in a variety of finishes, including antique, eggshell, machine, English, a:nd super-calendered, as well as in special or fancy finishes. Uncoated papers are made in basis weights 30 to 150 pounds (25 X 38—500), the most common weights being 30 to 70 pounds. • Coated papers are used in the printing of periodicals, books, pamphlets, etc., where the use of fine halftone illustrations may be required. They are well sized and possess good tearing strength. The base papers are coated with white mineral pigments mixed with adhesives such as casein, starch, latex, resin, or glue, either on the paper-

making machine as part of the manufacturing process or as a separate operation subsequent to the manufacture of the base paper. Waxes or soaps may also be added to the coating mixtures to add to the finish and feel of the paper. The mineral pigments employed include clay, satin white, barium sulfate, calcium carbonate, calcium sulfite, and titanium oxide, which may be applied as such or in mixtures, the selection of the combination used being determined by the effect required. The adhesives and the amounts used are selected according to the surface strength of the coating md its resistance to moisture and vehicles used in the printing inks. Coated papers may be coated on one or both sides with a single or double coating. Virtually all are supercalendered, with finishes ranging from a dull matte to a high gloss. The basis weights for these papers range from 30 to 150 pounds (25 X 38—500), with 40 to 80 pounds being most common. Coated papers usually have a brighter color, greater opacity, and a higher finish than uncoated book papers. 17,36,40,63,78,323,346,366 RE

BOOK POCKET A receptacle of stiff paper, cloth, buckram, leather, or an ordinary envelope, pasted on the inside of a book usually the lower cover to hold loose material, maps, charts, user cards, etc. Some book pockets, such as those found in many English (as well as Continental) almanacs from the late 17th to the early 18th centuries, have concertina (expansion) folds at head and tail and open at the fore edge. Sometimes a COMPENSATION GUARD is required to provide for the thickness of the material in the pocket. The opening of the typical pocket is at the head, or less often, at the binding edge. 12 RE

BOOK PRESS The Book Press, in the warehouse department, used for pressing books previously to their delivery, is the common screw press with a perpendicular screw, screwed down by means of an iron bar; it is also used for pressing paper when wetted, for the purpose of improving its condition previously to the process of printing, and also in cylindrical or machine printing to cause the paper, and particularly large sheets, to lie flat, which are otherwise apt to wrinkle in being carried round the cylinders upon a flat surface. In large establishments Bramah's hydrostatic press is generally used for these purposes, as being much more powerful and expeditious both in its use and in its effect. *See* Hydrostatic Press. DAP

BOOK REPAIRER The so-called one man bookbinder or repairer, an itinerant bookbinder who offers to bind, rebind, restore and/or clean books in a library, generally quickly and at low cost. Book repairers are not nearly so numerous as they were in the past; however, they still exist, and probably many thousands of books have been "restored," some well and some poorly, by these itinerant bookbinders. 131 RE

BOOK REST A device designed to hold a book in position during the tooling of the area where the spine curves around onto the sides. Its advantage is that it provides a better angle at which to work, as well as better sighting. The sloping sides of a FINISHING PRESS are also used for the same purpose. 130 RE

BOOK SANDER A machine used in library binderies to remove the spine folds of a book having binding margins so narrow that the folds cannot be trimmed away in a cutting machine. Modern sanders can be adjusted to remove as little as 1/32 inch. The sander is also preferred by many library binders because it is faster than a cutting machine. 164 RE

BOOK SIZES The dimensions of books, as measured, in inches, centimeters, or millimeters, from head to tail and from spine to fore edges of the cover. The descriptions given to book sizes are based on a still currently used system that involves using the size of a leaf as a fraction of the folded sheet on which it was printed. With reference to the printing of books, an even number of leaves always results when a sheet is folded, i.e., 2, 4, 8, 16, etc., resulting in printed pages on each side of the leaf, i.e., 4, 8, 16, 32, etc. Except for the largest size, the FOLIO (1), the name of the size indicates the fractional part of the sheet one leaf occupies, e.g., quarto (2 folds, 4 leaves, 8 pages), 1/4 Of the sheet; octavo (3 folds, 8 leaves, 16 pages), 1/8 of the sheet, etc. In this system, since books are printed from different sizes of sheets (See: BOOK BASIS), the fractional designation by itself cannot denote an exact size; therefore it is a common practice to give the name of the sheet before the fractional name, e.g., royal octavo, which is an octavo 1/8 the size of a sheet 20 X 25 inches or, excluding the SQUARES, a book 10 x 6 1/4 inches (before trimming). Paper is cut to so many sizes, however, that the terms crown, royal, post, etc., unless qualified, are practically meaningless. See: SIZES OF PAPER. Untrimmed sizes for three commonly used sheet sizes are given below. The customary trim of 1/8 inch at head and tail will reduce the

height of the text block by 1/4 inch; however, the size of the bound book. assuming 1/8 inch squares will make the height of the book the same as the sizes given. It should be mentioned that not all sheet sizes given are folded to produce books of the very small size indicated. All folds, following the first, are right-angle folds. • The common book-trade designation of sizes was originally related to a sheet of handmade paper measuring 19 X 25 inches, which was the common size of the papermaking mold. When folded to 8 leaves, or 16 pages, and trimmed, each was 6 1/2 X 9 1/4 inches, approximately, and was the standard dimension of an 8vo. When folded to make 16 leaves, or 32 pages, it was a 16 mo. With the present great variety of paper sizes, all dimensions are by necessity only approximate. • Book sizes • Size Name Times Leaves Pages Size of Untrimmed • (in inches) Folded per Sheet per Sheet Page (leaf) • 25 by 38 folio 1 2 4 25 by 19 • 25 by 38 quarto 2 4 8 19 by 12 1/2 • 25 by 38 octavo 3 8 16 12 1/2 by 9 1/2 • 25 by 38 sixteenmo 4 16 32 9 1/2 by 6 1/4 • 25 by 38 thirty-twomo 5 32 64 6 1/4 by 4 3/4 • 25 by 38 sixty-fourmo 6 64 18 4 3/4 by 3 1/8 • 20 by 25 folio 2 4 20 by 12 1/2 • 20 by 25 quarto 2 4 8 12 1/2 by 10 • 20 by 25 Octavo 3 8 16 10 by 6 1/4 • 20 by 25 sixteenmo 4 16 32 6 1/4 by 5 • 20 by 25 thirty-twomo s 32 64 2 1/2 by 3 1/8 • 20 by 25 sixty-fourmo 6 64 128 3 1/8 by 2 1/2 • 18 by 23 folio 2 4 18 by 11 1/2 • 18 by 23 quarto 2 4 8 11 1/2 by 9 • 18 by 23 octavo 3 8 16 9 by 5 3/4 • 18 by 23 sixteenmo 4 16 32 5 3/4 by 4 1/2 • 18 by 23 thirty-twomo 5 32 64 4 1/2 by 2 7/8 • 18 by 23 sixty-fourmo 6 64 128 2 7/8 by 2 1/4 • Size names and their equivalents • Old Name Modern Name Abbreviation Symbol • folio folio fo or f • quarto quarto 4to 4° • sexto sixmo 6to or 6mo 6° • octavo octavo 8mo or 8vo 8° • duodecimo twelvemo 12mo 12° • sextodecimo sixteenmo 16mo 16° • octodecimo eighteenmo 18mo 18° • vincestmo-quartO twenty-fourmo 24mo 24° • vegisemo-quarto twenty-fourmo 24mo 24° • trigesimo-decundo thirty-twomo 32mo 32° • quadragesimo-octavo forty-eightmo 48mo 48° • sexagesimo-quarto sixty-fourmo 64mo 64° • British book sizes • Size Name Octavo Size Quarto Size • pott 6 1/4 by 4 8 by 6 1/4 • foolscap 6 3/4 by 4 1/4 8 1/4 by 6 3/4 • crown 7 1/2 by 5 1O by 7 1/2 • large crown 8 by 5 1/4 10 1/2 by 8 • large post 8 1/4 by 5 1/4 10 1/4 by 8 1/4 • demy 8 3/4 by 5 5/8 11 1/4 by 8 3/4 • post 8 by 5 10 by 8 • small demy 8 1/2 by 5 5/8 11 1/4 by 8 1/2 • medium 9 by 5 3/4 11 1/2 by 9 • small royal 9 1/4 by 6 1/8 12 1/4 by 9 1/4 • royal 10 by 6 1/4 12 1/2 by 10 • super royal 10 1/4 by 6 3/4 13 1/2 by 10 1/4 • imperial 11 by 7 1/2 15 by 11 52,69,140,156,169 RE

BOOK SUPPORT A wood or metal device generally placed to the right side of a row of books on a shelf to support and maintain them in a vertical position. Book supports are available in several forms: 1) the spring type, which hangs from the ribbed shelf above (but which sometimes does not reach down to the smaller books); 2) the metal support, with a stamped-out metal tongue that slips under the first few books; it rests on the same shelf as the books to be supported, and should be flanged to prevent it from "spearing" or otherwise damaging the books; 3) the type that locks into the ribbed shelf on which the books rest, and which can be difficult to slide if the locking key becomes twisted; 4) the magnetic support, which is usable only on ferrous metal shelves; and 5) wooden supports, some of which are very elaborate and are generally used to support more valuable books, or books in specially designated areas. The better book supports have a felt- or cork-covered base, especially for use on wooden shelves, and, for valuable books, a felt- or cork-covered face. The typical metal support is generally available in two sizes—regular, about 6 inches tall, and oversize, about 9 inches tall. RE

BOOK WALL The arrangement in a double-sided case of one or more sets of books displaying the upper and lower covers of craft bookbindings where comprehensive designs flow across adjacent surfaces to create a unified image. The book wall is the creation of the contemporary English bookbinder PHILIP SMITH. 311 RE

BOOK WRAPPER See: BOOK JACKET RE

BOOK-DRILL 1. A linen cloth used to reinforce endpapers. This type of reinforcement is sometimes required because opening the cover, particularly in the case of side sewn books which have little flexibility, strains the sewing and will eventually cause the endpaper to break away unless it is reinforced. 2. A high-speed electric drill used for producing holes of a very small diameter through the paper of books to be overcast but not resewn. A similar drill, usually in a press, is used to drill holes completely through the leaves of a book that is to be side sewn. RE

BOOKBINDER A craftsman who binds book; a binder; a bibliopegist. The term is also applied to one who creates the designs for the finishing of a

book, but who may or may not actually execute the design. Although usually assumed to mean a hand bookbinder, the term is frequently applied to the owner or manager of a bookbinding establishment, e.g., a library bookbinder. RE

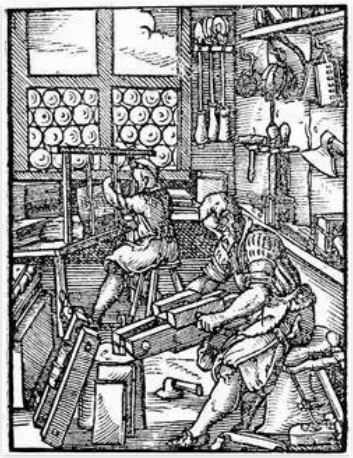


Fig. 105.—Bookbinder's shop in the sixteenth century. Engraving by Jost Amman.
Henri Bouchot, The Printed Book: Its History, Illustration and Adornment, 1887

BOOKBINDER'S TYPE Individual letters and number of ordinary type, without handles, designed to be set in a LETTERING PALLET or BLOCKING PRESS, and used to letter books. The use of the pallet or press gives uniformity to the lettering and saves time, but it does not give the freedom and individuality that is available with the use of HAND LETTERS. Type, on the other hand, is extremely useful when lettering a number of copies of the same title. 339 RE

BOOKBINDERY A place where books are bound, such as a library or edition bindery, etc. Also, as generally understood, a place where various operations connected with printing, but not always with bookbinding, are carried out, such as ruling, perforating, numbering, folding, gathering, padding, etc. See also: BLANKBOOK BINDING; BOOKBINDING; EDITION BINDING; GENERAL JOB BINDING; GENERAL OFFICE STATIONERY BINDING; LIBRARY BINDING; MANIFOLD BINDING; MECHANICAL BINDING; PAMPHLET BINDING. RE

BOOKBINDING RE

The hand and/or machine processes by which leaves or sections (usually paper, but also parchment (or vellum), papyrus, etc.) are secured within covers to form a codex or book, as opposed to a roll.

Historically, bookbinding did not exist in the manner of today until the codex began to replace the scroll, or roughly 2,000 years ago, when parchment notebooks came into use. Leaves of a quadrangular shape were found to be more convenient than scrolls but they had to be secured and covered for protection. Although classical texts and ecclesiastical works did exist in codex form before the 1st century A.D., the codex did not become common for other works before the 4th century.

The earliest extant decorated bookbindings were altar Bibles, which were often elaborately bound and ornamented with jewels, gold, and ivory. Bookbinding in leather, however, was an art believed to have been practiced by the Copts in Egypt. Surviving examples of Coptic bindings, in red and brown leather, from the 8th and 9th centuries, represent a maturity of style and a variety of techniques which would indicate experience in bookbinding that probably developed over hundreds of years. Unlike European bindings of later times, they appear to have been executed by specialists in diverse forms of leather decoration and display a wide range of artistry, including tooling, piercing, and working with a stylus.

The earliest known Islamic bindings were influenced by Coptic methods and techniques. The format they used for these early books was what we sometimes refer to today as OBLONG, or "landscape." At first the Islamic binders tooled only in blind, and in a formal style, but by the 11th century the characteristic Islamic design consisted of an oval center design with triangular cornerpieces, and, by the 13th century, the present day book format had been adopted and gold was being used in finishing. See: GOLD TOOLING. Two hundred years later floral designs were replacing geometric patterns and some pictorial bindings were being executed by means of embossing. Vivid coloring and delicate filigree tooling were used with considerable effect on the DOUBLURE (1), and, by the 16th century, lacquered bindings of excellent quality were being produced. By the 16th century, however, Islamic binding began to deteriorate, and the decline has persisted to this day.

In Europe, the earliest known example of a decorated leather bookbinding is that of the Gospel according to St. John, found in the tomb of St. Cuthbert (d. 687); it is almost certainly an English binding of the 7th or 8th century. Although this remarkable binding shows the influence of Coptic and Islamic binding, European binding took on its own characteristics and by the 10th century had progressed along totally different lines from that of the Levant. One of the principal differences was in the manner of sewing, which was on raised bands; embellishment, too, developed along different lines, almost always being in the form of blind tooling executed with individual tools.

Gothic bindings of the second half of the 15th century were mainly decorated with blind lines and individual tools, but the ROLL (1) which was first used in Germany, was also developed during this period (in about 1470), while the PANEL STAMP was being used in the Netherlands as early as the 13th century. The art of CUIR-CISELÉ was also practiced in German speaking countries. Gothic bindings continued to be produced in Germany and Eastern Europe until after the 16th century; however, by about 1470 or so, gold tooling was introduced into northern Italy (probably Venice), with the influence of the Near East being seen in the designs, the pattern of individual tools, as well as the superior delicacy of the workmanship.

Until about the middle of the 16th century the gold tooled bindings produced in Italy were the best in Europe; other countries, especially France, imitated the Italian style. By 1538, however, morocco leather was being used in France, replacing calfskin, and from that time onward the Parisian craftsmen have produced bindings that have seldom been exceeded in beauty and craftsmanship. The tools used in this great era of French bookbinding were derived by way of pattern books for embroidery or metalwork from Oriental or arabesque models; most of the designs incorporated interlacing strapwork. Elaborations of this strapwork were seen in the FANFARE STYLE.

The most characteristic early 16th century English bindings were those blocked in blind with panel stamps of the royal arms (which represented only a form of decoration and not royal ownership), while the earliest recorded use of gold tooling in England dates from 1519. Gold tooling did not become common in England until about 1530.

Fine binding declined in France in the 17th century despite the artistry of the fanfare patterns and tools having POINTILLÉ outlines. One notable

binder of that time was FLORIMOND BADIER, who also worked in pointillé tooling. In England, where variegated colors and delicate tooling became standard, the golden age of English bookbinding was during the period of the Restoration. Some of the tools in use at that time were of the pointillé style, while others, including small floral volutes, were more English in character. A common feature of many English bindings of this time was the broken pediment associated with the COTTAGE STYLE.

The early 18th century witnessed a revival of French bookbinding, including the mosaics of AUGUSTIN DU SEUIL and ANTOINE MICHEL PADELOUP. High standards were also displayed in DENTELLE bindings with their lacy gold tooled borders, some being the work of the Derome family. See: DEROME STYLE. English binding deteriorated in the first half of the 18th century, partly because English craftsmen hung on to the cottage style after it had lost its effectiveness, and partly because they then began working with the uninspiring HARLEIAN STYLE. And yet, the 18th century produced ROGER PAYNE, a bookbinder who has been called England's greatest, and one of the few English binders the French thought worthy of copying. In addition, the 18th century produced another of England s great bookbinders, EDWARDS OF HALIFAX, who produced some remarkable TRANSPARENT VELLUM bindings.

The use of onlays and inlays increased during the 19th century, the bindings often being tooled in the cathedral style. See: CATHEDRAL BINDINGS. From about 1840 to 1880 there was little innovation in leather binding in any country, the emphasis being on delicacy and precision in tooling in the manner of previous times. The 19th century witnessed three major factors which have had an enormous effect on bookbinding to this day: 1) the rise of edition binding with its rapid development of a great variety of machines designed to produce books by the millions; 2) a severe decline in the quality of both paper and leather produced for the manufacture of books; and 3) the introduction of cloth as a book covering material. See: BOOK CLOTH. In the latter part of the last century new vigor was infused into fine binding largely through the efforts of MARIUS MICHEL in France and THOMAS J. COBDEN-SANDERSON in England.

In France, following World War I, the origins of contemporary binding are to be found in the work of PIERRE LEGRAIN during his brief career as a bookbinder in the 1920s. His influence was enormous and is still being felt, and, in turn, those he influenced, including PAUL BONET, have had considerable influence upon their successors.

The influence of Cobden-Sanderson was also felt well into the 20th century. The fact that he was an amateur bookbinder and not apprenticed to the trade of bookbinding seemed, in part, anyway, to have freed him from the deleterious influences that held sway during a great part of the 19th century, as manifested in the generally poor workmanship and even poorer materials plus a mania for retrospective binding. Cobden-Sanderson founded an amateur school of binding, which proceeded to flourish under DOUGLAS COCKERELL, who was Cobden-Sanderson's apprentice at the Doves Bindery. Cockerell, also, through his writings as well as his bindings, has had a considerable influence on the craft.

English bookbinding fell on hard times between 1920 and the Second World War, not in small part because of book collectors' desire to have their books in original mint condition (including book jacket), a desire which persists to this day. The fine binder had but little opportunity to apply modern concepts of design to modern books.

Bookbinding following the war was given considerable impetus by the efforts of EDGAR MANSFIELD in design and ROGER POWELL in construction. The teaching of Mansfield, which commenced at the (then) London School of Printing in 1948, has influenced, at least to some degree, the concepts of design of virtually all contemporary English and American bookbinders.

Operations. There is a reasonably well-marked distinction between that part of the bookbinding trade dealing with books meant to be read, known as letterpress (from the time when all books were printed by letterpress), and those intended to be written in, called stationery binding. Each of these may again be divided into four groups, according to the particular class of binding involved:

Letterpress binding

1. Extra leather binding, i.e., hand binding
2. Library binding
3. Edition (or publisher's) binding
4. Miscellaneous binding, e.g., pamphlet binding

Stationery binding

1. Blankbook (account-book) binding
2. Manifold binding

3. Exercise and notebook binding

4. General office and stationery

binding, e.g., checkbook binding.

The operations of bookbinding begin with the folding of the sheets into sections (or signatures) and conclude, in library and edition binding, with casing-in; and in hand binding, with the pasting down of the board papers. The finishing of a hand-bound book, while also a part of bookbinding, is generally considered to be artistic work. In a very general sense, the operations may be divided into three very broad categories: the steps involved in preparation for binding, FORWARDING, and finally, FINISHING (1). Preparation includes all the operations up to and including folding, most of which are actually the work of the printer and not the bookbinder. (See: BINDERY WAREHOUSE.) Forwarding, as the name connotes, carries the book up to covering and pasting down (or casing-in), as well as edge gilding, marbling, etc. Finishing includes lettering and any decoration. Since edition and library bindings are blocked (lettered and/or decorated) before being cased, forwarding and finishing are somewhat intermingled. The sequence of operations followed by the bookbinder or bindery from the time the sheets (in edition binding and occasionally hand binding) or books and/or periodical issues (library binding and hand binding) are received to final inspection are as follows: NOTE: B refers to blankbook binding, E to edition binding, H to hand binding, and L to library binding.

B E H L

x x Entering record

x x x Folding (only occasionally in hand binding)

x Sorting to remove incorrectly or poorly ruled sheets

x x x Gathering (only in hand binding if sheets have to be folded;

in edition binding, gathering sometimes follows the

tipping on of endpapers)

x x Collating

x Removing spine folds for oversewing or adhesive binding)

x x Pulling (in preparation for resewing through the folds)

x x Knocking out the old backing ridge (if required)

x x Mending, guarding, general repairs, etc.

x x Guarding plates, refolding maps, making stubs, etc.

x x x Pressing (bundling)

x x x x Making joints for blankbooks, or endpapers for others

x Guarding first and last three folios (sections)

x x x Marking and preparing for sewing

x x x x Sewing and attaching endpapers or joints

x Nipping or smashing

x Fraying cords

x x x x Gluing up the spine

x x x x Trimming (See alternative hand binding method, below)

x Cutting fore edge out of boards

x x x x Rounding

x x x Backing

x Cleaning off spine and drying

x Clothings

x Making tongue

x x Lining spine

x Cutting head and tail out of boards

x x Cutting and preparing boards

x Paring and slotting tongue

x x Case-making

x x Cutting leather

x Making spring-back (may be done in batches in advance)

x Attaching spring-back (and levers)

x x Making plate or casting type for blocking

x x Blocking case

x x Attaching boards

x Trimming ends of spring-back

x x Paring leather

x x Covering

x x Trimming margin of turn-ins

x Siding

x x Casing-in and/or building-in

x x Pasting down board papers

x x Pressing

x Cutting index

x Numbering (occasionally follows folding)

x x Decorating and/or lettering

x x Cleaning off

x Jacketing

There are four basic characteristics of a well-bound (modern) book: flexibility, durability, solidi-

ty, and accuracy.

Flexibility is a characteristic of the spine of the book which allows the book to open freely with minimum strain on the structure. The factors affecting flexibility include the method of sewing (or otherwise joining the leaves or sections), the grain direction of the paper, the presence of tipped-in plates, the characteristics of the paper, the lining of the spine, rounding and backing, and finally, the materials and techniques used in covering the book. See: FLEXIBLE SEWING; OVERSEWING; ADHESIVE BINDING; MACHINE DIRECTION; PAPER; SPINE LINING;

HOLLOW BACK; TIGHT BACK. Durability is a characteristic of a binding which enables it to withstand flexing, abrasion, impact, tearing, and staining or soiling. It is built into a binding in certain places, but particularly in the sewing, attachment of the endpapers, rounding and backing, the lining of the spine, and the attachment of the boards (in hand binding), or casing-in or building-in (in edition and library binding). Inferior materials, and especially inferior adhesives, spine linings, endpapers and covering materials will adversely affect durability. See: ROUNDING; BACKING; ENDPAPERS; LACING-IN; CASING-IN.

Solidity is a characteristic a book displays when it has the appearance of a compact entity, lies flat when closed, and is loosely jointed at the spine. Good pressing (or casing-in), gluing, and especially good rounding and backing, are essential, as also is the use of boards of a suitable weight. Accuracy is a somewhat vague term, but is manifest in the ability of the book to stand vertically without leaning or falling over. This is accomplished by square trimming, proper attachment of the boards (or case-making and casing-in), and square cutting of the boards.

56,57,71,89,92,94,100,115,126,135,152,157,170,200,202,225,236,242,243,252,270,271,279,280,320,335,343,371,372

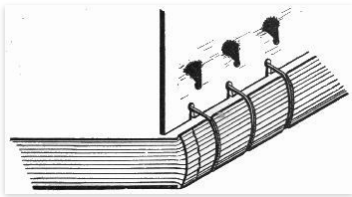
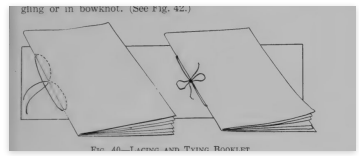


Figure 11.—Bands laced in, and ends frayed out. Based on illustration in Report of the Committee on Leather for Bookbinding. Edited for Society of Arts, London, 1905.
Arthur Low Bailey, Library Bookbinding, 1916

BOOKING The act of putting the different gatherings of a work together, in the warehouse, so as to make complete books. This is done by laying the gatherings in order upon a table, and, commencing with the first, taking them up in order; by adopting this method they are gathered under hand, as it may be termed, the succession being placed at the bottom as the person proceeds. The reverse of this method, is, however, to be preferred; to commence at the end of the work, and as the gathering is held in the hand, and rests on the arm, to lay the others upon it as they are taken up, so that in this way the commencement of the book will be the last to be gathered. DAP

BOOKLET A small book. The term "booklet," like PAMPHLET, has been defined in a number of ways, including: 1) an affected term for a short book or pamphlet; 2) a small book, commonly bound in paper and generally used for advertising purposes; 3) a small book containing up to but not more than 24 pages, which is sufficient for classification as larger than a pamphlet; 4) a stitched pamphlet of eight or more pages, usually with a cover, and small enough to be carried in one's pocket; 5) a publication containing more pages than a pamphlet but fewer than a book and which may have a paper, limp, or stiff cover; 6) any pamphlet that is sewn or stitched but not permanently bound; and 7) a paper-covered publication in book format ranging in size from a few pages to a small-scale edition of a book. 139,142,256,316 RE



Fic. 40—LACING AND TYING BOOKLET
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BOOKMARK 1. See: REGISTER. 2. Any printed or woven paper or other material, an inch or 2 wide and usually 4 or more inches in length, used in marking a place in a closed book for future reference. Bookmarks are frequently decorative, carrying advertisements or commemorative illustrations. RE

BOOKPLATE A label, usually printed or engraved, frequently with a distinctive design, identifying the owner of a book, and usually pasted or tipped to the inside of the upper cover. Bookplates may be simple to the point of giving only the name of the library or other owner (sometimes with the expression "ex libris" included), or very elaborately designed, frequently with heraldic emblems or insignia. • The use of the bookplate can he dated back to at

least as early as 1516, but in England, France, and Germany they did not become popular until the 18th century. There was a tremendous revival in their use and study in the 1890s, and again since about 1965. During both periods collectors have formed societies, produced journals and publications, and actually commissioned many bookplates for their own sake, that is, not necessarily intended for use in books, but rather for exchange with other collectors. • Over the years many eminent engravers have designed bookplates, and among the examples still extant are a great number which were executed with considerable skill. Because of the relative scarcity of engravers in America before 1800, bookplates were rare before that time; however, since about 1840, they have been fairly common in this country. • Their use in libraries is quite common today, but in some institutions, largely for reasons of economy, the bookplate has been replaced by a rubber stamp. 69,200 RE

A BOOKPLATE.
Walter Crane, Of the Decorative Illustration of Books Old and New, 1896

BOOKS 25 Hen. 8. c 15. intituled, "An Act for Printers and Binders of Books." • "'Whereas by the Provision of a Statute made in the first Year of the Reign of King *Richard* the Third, it was provided in the same Act, That all Strangers repairing into this Realm, might lawfully bring into the said Realm printed and written Books, to sell at their Liberty and Pleasure; (2) by Force of which Provision there hath come to this Realm sithen the making of the same, a marvellous Number at printed Books, and daily doth; and the Cause of the making of the same Provision seemeth to be, for that there were but few Books, and few Printers within this Realm at that Time, which could well exercise and occupy the said Science and Craft of Printing; nevertheless, sithen the making of the said Provision, many of this Realm, being the King's natural Subjects, have given them so diligently to learn and exercise the said Craft of Printing, that at this Day there be within this Realm a great Number cunning and expert in the said Science or Craft of Printing, as able to exercise the said Craft in all Points, as any Stranger in any other Realm or Country: (3) And furthermore, where there be a great Number of the King's Subjects within this Realm, which live by the Craft and Mystery of Binding of Books, and that there be a great Multitude well expert in the same, yet all this notwithstanding, there are divers Persons that bring from beyond the Sea great Plenty of printed Books, not only in the *Latin* Tongue, but also in our maternal *English* Tongue, some bound in Boards, some in Leather, and some in Parchment, and them sell by retail, whereby many of the King's Subjects, being Binders of Books, and having no other Faculty wherewith to get their Living, be destitute of Work, and like to be undone, except some Reformation herein be had:' Be it therefore enacted by the King our Sovereign Lord, the Lords Spiritual and Temporal, and the Commons, in this present Parliament assembled, and by Authority of the same, That the said Proviso, made in the first Year of the said King Richard the Third, from the Feast of the *Nativity* of our Lord God next coming, shall be void and of none Effect. • s. 4. "Provided alway, and be it enacted by the Authority aforesaid, That if any of the said Printers or Sellers of printed Books, inhabited within this Realm, at any Time hereafter happen in such wise to inhance or increase the Prices of any such printed Books, in Sale or Binding, at too high and unreasonable Prices, in such wise as Complaint be made thereof unto the King's Highness, or unto the Lord Chancellor, Lord Treasurer, or any of the Chief Justices of the one Bench or of the other; that then the same Lord Chancellor, Lord Treasurer, and two Chief Justices, or two of any of them, shall have Power and Authority to enquire thereof, as well by the Oaths of twelve honest and discreet Persons, as otherwise by due Examination by their Discretions. (2) And after the same inhancing and increasing of the said Prices of the said Books and Binding shall be so found by the said twelve Men, or otherwise by Examination of the said Lord Chancellor, Lord Treasurer and Justices, or two of them; that then the same Lord Chancellor, Lord Treasurer and Justices, or two

of them at the least, from Time to Time shall have Power and Authority to reform and redress such inhancing of the Prices of printed Books from Time to Time by their Discretions, and to limit Prices as well of the Books as for the Binding of them; (3) and over that the Offender or Offenders thereof being convict by the Examination of the same Lord Chancellor, Lord Treasurer and two Justices, or two of them, or otherwise, shall lose and forfeit for every Book by them sold, whereof the Price shall be inhanced for the Book or Binding thereof, three Shillings four Pence; the one Half thereof shall be to the King's Highness, and the other Half to the Parties grieved that will complain upon the same in Manner and Form before rehearsed." • (*Sections* 2. *&* 3. *Repealed by* 3 *Geo.* 4. *c.* 41. *s.* 2.) • By the Act 3 & 4 Will. 4. c. 52. s. 58. Books. are absolutely prohibited to be imported for Sale, being "first composed or written or printed in the United Kingdom, and printed or reprinted in any other Country, except Books not reprinted in the United Kingdom within Twenty Years; or being Parts of Collections the greater parts of which had been composed or written abroad." • By the "Table of New Duties, 1834," in 4 & 5 Will. 4. c. 89., the Customs Duties Inwards are for "Books in the Foreign living Languages, being of Editions printed in or since the Year One thousand eight hundred and one, bound or unbound, the cwt. 2*l.* 10*s.*" • 2 & 3 Vict. c. 23. s. 1. Drawbacks on Excise Duty. "For every Pound Weight Avoirdupois of printed Books in perfect and complete Sets, or, if periodical Publications, in perfect Parts or Numbers, and of blank, plain, or ruled Account Books, whether bound or unbound, made of or printed or ruled on Paper made and charged with Duty in the United Kingdom, and which shall be exported as Merchandise, a Drawback of One Penny Halfpenny." *See* Paper. • Books. (Ireland.) • 4 Geo. 4. c 72. "An Act to repeal the several Duties and Drawbacks of Customs, chargeable and allowable in *Ireland*, on the Importation and Exportation of certain Foreign and Colonial Goods, Wares, and Merchandize, and to grant other Duties and Drawbacks in lieu thereof, equal to the Duties and Drawbacks chargeable and allowable thereon in *Great Britain*." • • Duties of Customs on Goods, &c. imported into Ireland. DAP

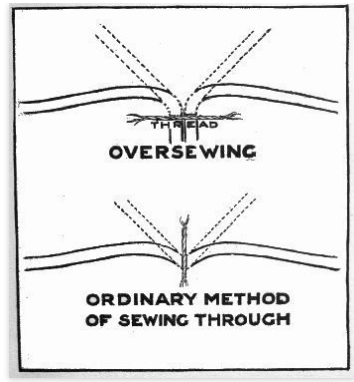


Figure 6.—From "About Public Library Books and Their Binding" by Cedric Chivers.
Arthur Low Bailey, Library Bookbinding, 1916

BOOKS IN SHEETS "Books" as received by the binder in flat (unfolded) sheets, which must be folded, gathered and collated, and which must then have any maps, illustrations, etc., inserted before the actual binding processes. The sheets are sometimes identified by a SIGNATURE (1), which may be either a letter and/or number, and in the case of sets may include the volume number, printed at the tail margin (in the direction line) of the first, and occasionally on succeeding pages of each. Before the rise of edition binding most publications were delivered to the bookseller in sheets, to be bound to the customer's order. "Books in sheets" today is almost exclusively a term restricted to edition binding. 83,335 RE

BOOKS OF PERMANENT INTEREST A category established by Douglas Cockerell shortly after the turn of the century in an effort to categorize the time, effort and funds to be expended in binding books of an "intermediate" nature—i.e., books of permanent scholarly, historical, etc., interest, but of relatively little monetary or esthetic interest, which should be solidly and well bound, but for which the most expensive work would be inappropriate. In Cockerell's day, this category of books was bound by hand, sewn with linen thread around cotton or linen tapes, which were secured between split boards (when the books were large and heavy), and covered with strong cloth or the most durable leather, or a combination of the two, e.g., quarter or half bindings. In greatly modified form, the Library Binding Institute has continued to define this category of books. See: PERMANENT MATERIALS. See also: BOOKS OF TEMPORARY INTEREST; BOOKS OF VALUE. 83 RE

BOOKS OF TEMPORARY INTEREST Books that must be bound and kept clean and usable for only occasional use. This category assumes that the handling such books receive and the storage area of the library will suffice for less than a full and "permanent" binding, which is often not the case. See also: BOOKS OF PERMANENT INTEREST. RE

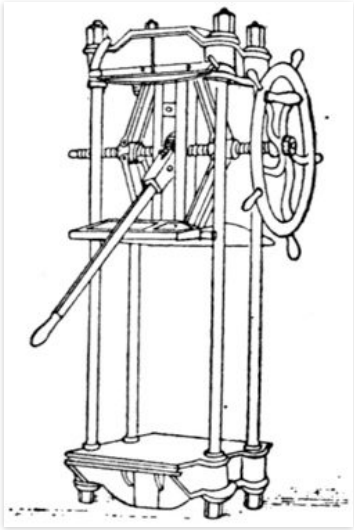
BOOKS OF VALUE Books that are valuable and/or rare, which may or may not have any special scholarly value, or books of special interest to a particular library, and which are bound in the best manner and with the best materials. See also: BOOKS OF PERMANENT INTEREST. RE

BOOKS WITH THICK heavy leaves are sometimes guarded or hinged throughout that they may open freely. A narrow strip is cut from the back of each leaf. This strip is then again attached to the leaf from which it was cut by a strip of thin paper or muslin which acts as a hinge. The leaves are then bound together through and by the strips cut from them. NBL

BOOKWORMS The larva of any of some 160 species of beetles. The mature female insect lays her eggs on the edges of books, or in the crevices of bookshelves, and the larvae, when hatched. burrow into the books, or shelves, riddling them with tiny tunnels. Various bookworms, as they are mistakenly called, have been identified, or supposedly identified, among which are: Anobium domesticum, A. eruditus, A. Paniceum, A. pertinax, A. punctatum, and A. striatum; Acarus cheyletus and A. eruditus; Dermestes lardarius; Aecophora pseudospretella; Sitodrepa paniceum; Attagenus pellio; Lepisma saccharina; Ptinus fur; Antherenus varius; Lyctus brunneus; Catorama mexicana; and Rhizopertha dominica. Of the types, the most notorious and destructive are: Sitodrepa paniceum, the drugstore beetle, the female of which is capable of producing as many as 800,000 descendants in a year; Lyctus brunneus, the powder-post beetle, which consumes wooden bookshelves and cases, packing the holes with a flourlike debris, so that nothing substantial remains of the shelf; Ptinus f ur, the spider beetle, first mentioned by Linnaeus in 1766, which can cause severe damage to books, papers, and leather if left undisturbed for long periods of time; Anobium punctatum, the common furniture beetle, the larvae of which bore long cylindrical holes in books and bookshelves; Catorama mexicana, the Mexican book beetle; Dermestes lardarius, the larder beetle, which prefers cheese, ham, etc., but which will devour leather if nothing else is available; and Rhizopertha dominica, which has caused extensive damage in libraries. • Most of these so-called bookworms are small and dark- or reddish-brown. They enter libraries through windows, poorly fitting doors, etc., and seem to proliferate in libraries where dust, dirt, heat, darkness, and poor ventilation are prevalent. • The measures used over the years for the control or elimination of bookworms are virtually legion, including numerous remedies to be rubbed into leather, added to paste, sprinkled on bookshelves and books, etc. Among the many remedies used are: alum and thymol, alum and vitriol (sulfuric acid), (oil of) anis, beeswax, benzene, bitumen, borax, buckbean, cajeput oil, camphor, chili, chloropicrin, cinchona, cinnamon, cloves and oil of cloves, colcynth, copal varnish, copper, cresote, derris, (oil of) eucalyptus, formalin (formaldehyde), kerosine, khuskhus, lac varnish, lavender, margosia, mercuric chloride, mirbane oil, nitrobenzene, muriatic (hydrochloric) acid, musk, myrrh, naphthalene, nicotine, orrisroot oil, ozone, pennyroyal, pepper, petroleum, phenol, porpoise oil, pyrethrum powder, Russia leather shavings, sandalwood, sassafras, shellac, snuff, thyme, thymol, turpentine. vermouth, and wormwood. Some of these remedies were totally ineffective: some were temporarily effective; and some were as destructive as, or even more so than, the pests themselves. • Any preparation or process used to destroy the larvae or beetles must have sufficient residual effect not only to destroy existing larvae but also larvae which will hatch subsequent to the initial treatment. Treatment should be applied in conjunction with proper ventilation, temperature and humidity control, and cleanliness, so as to discourage future infestation. • Fumigation is frequently used to rid libraries of beetle and larvae infestation. Four general methods are used: 1) fumigation of the entire library with hydrogen cyanide, carbon disulfide, or methyl bromide, which, of course, necessitates closing the library for several days; 2) fumigation of batches of books in specially designed vacuum chambers, with a combination (1:9 by weight) of ethylene oxide and carbon dioxide, which is a method well suited to the fumigation of new acquisitions; 3) routine fumigation of the entire collection, carried out batchwise in a chamber, using methyl bromide; and 4) fumigation of one or more books in a small airtight box, using paradichloro-benzene crystals, which is a method suitable for use by the private

collector. Although the first method is potentially dangerous and causes considerable inconvenience, it is the only one which will destroy beetles or larvae which are on the bookshelves. See also: BOOK LICE; SILVERFISH. 47,143,247,335 RE

BOOMER PRESS A now obsolete modified form of the STANDING PRESS. The power of the boomer press was obtained by a combination of four levers working on toggle joints, through which passed a right and left hand screw. The rotation of these screws caused the pressing surfaces to approach or move apart with a uniform motion, according to the direction of the rotation. This press had several advantages over the regular standing press, including: 1) once the pressure was applied it did not release slightly as the ordinary press is likely to do, so that the material under pressure remained under full pressure, and could, therefore, be pressed in somewhat less time; and 2) the enormous pressure it was capable of exerting. 8,97 RE



Boomer Press.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

BORDER 1. An ornamental design in a repeat pattern in blind or gold around the edges of the covers of a book, frequently enclosing one or more center pieces of a different design. 2. An ornamental design along one or more sides of a page of an illuminated manuscript or of the body of printed matter, or surrounding an illuminated miniature. RE

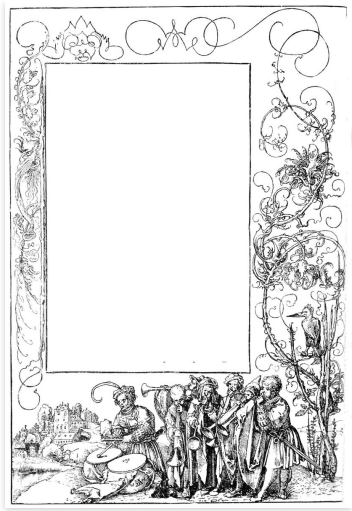


Fig. 46. Illuminated border drawn by Albert Dürer in 1515.
J. H. Middleton, Illuminated Manuscripts in Classical and Mediaeval Times, 1892

BORIC ACID A weak, volatile acid (H_3BO_3), obtained naturally, or by treating borax with a mineral acid. It is used to thicken and preserve adhesives made of GUM ARABIC. 142 RE

BORNEO CUTCH See: ACACIA. RE

BOSSES **1.** Brass or other metal knobs, studs, SHOES, or ornamentation fastened to the cover of a book for ornamental value or to prevent the leather from being scratched or otherwise marred. Bosses originally were attached to books that were meant to lie on a lectern and not stand on bookshelves. Not all books were provided with them, and they were more common in Germany than elsewhere. There was usually one boss at each corner of both covers and another in the middle of each cover, or ten in all, although the center bosses were sometimes left off. It is commonly assumed that the use of bosses declined with the advent of printing from movable metal type, the proliferation of books, and vertical shelving in cupboards and book stacks. In addition, the relative increase in the use of pasteboard instead of wooden boards also reduced the use of bosses, although in Germany, where wooden boards were still common in the 16th century, they continued to be used more often than elsewhere. Today, books with bosses are frequently kept in boxes so as to prevent damage to adjacent books on the shelves. See also: ROLLER SHOES. See PLATE 1.2@MAB Brass plates attached to the sides of volumes for their preservation.3@BIB Brass or other metal pieces attached to the covers of a book, for ornamentation or protection.4@ABB Brass or other metal

ornamentations fastened upon the boards of books; for ornament or preservation.5@NBL Brass or other metal ornaments fastened upon the boards of books. RE 69,83,236

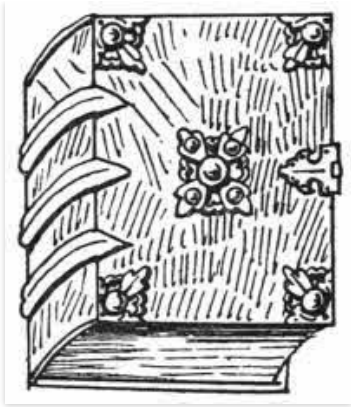


Fig. 46. —Mediæval book with bosses, corner pieces and clasps.
Cyril Davenport, The Book: Its History and Development, 1907

BOTANICAL AUTHORITIES, DAP

with the Abbreviations by which they are generally referred to.

A. & S.—Albertini and Schweinitz, Writers upon Fungi.

Ab. China.—Abel (C.). A Voyage to China. 4to.

Ab. Ins.—Abbott's Natural History of the Insects of Carolina. fol.

Ac. Boh.—Abhandlungen einer Gesellschaft in Bœhmen, zur Aufnahme der Mathematik, der Vaterlændischen Geschichte und der Naturgeschichte. 8vo. *Pragæ*, 1775–1789.

Ac. Bon.—De Bononiense Scientiarum et Artium Instituto, Commentarii. 4to. *Bononiæ.* 7 vols. 1748—1791.

Ach.—Acharius. A Swedish professor, and writer upon Lichens.

Ac. Got.—Commentarii Societatis Regiæ Scientiarum Gœttingensis. 4to. 1751. 1754. 1769. 1816.

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Adan.—Adanson. A French systematic botanist.

Afz.—Afzelius. A Swedish professor.

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Ander.—Anderson. A London merchant; published a paper on Pæonies.

Andr.—Andrews. A famous botanical draughtsman.

Andrz.—Andrzejowski. A Russian botanist.

Ard.—Arduini. An Italian botanist.

Ard. M.—Arduini (Pietro). Memoria di Osservazioni e di Sperienze sopra la Coltura e gli Usi di varie Piante. 4to. *Padova*, 1766.

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B. C.—Botanical Cabinet. By Loddiges and Sons.

B. M.—Botanical Magazine. By Curtis, Sims, &c.

B. & W.—Bartling, M. D. and Wendland, of Göttingen, botanists.

B. R.—Botanical Register. By Ker and Lindley.

Bac.—Bacle. A German botanist?

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Baldw.—Baldwin, M. D. of Savannah in Georgia. A botanist.

Banks.—Banks. A great traveller and patron of science.

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Bart.—Barton, M. D. Formerly a professor at Philadelphia.

Bartr.—Bartram. Formerly a nurseryman at Philadelphia.

Bartr. It.—Bartram (Will.). Travels through South and North Carolina. 8vo. *Philadelphia*, 1791.

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Bauh.—Bauhin, brothers; professors of medicine, published 1620, 1650.

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Beau. Ow.—Allioni. Palisot de Beauvois. Flore des Royaumes d'Oware et de Benin. 2 vols. fol. *Paris*, 1805.

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Beauv.—Palisot de Beauvois. A French traveller and botanist.

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Bedf.—Duke of Bedford. A great promoter of botany.

Bel.—Bellardi. An Italian botanist.

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Benth.—Bentham. An English botanist, secretary to the Horticultural Society, London.

Berg.—Bergius. A Swedish writer upon Cape plants.

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Bert.—Bertolini. A writer upon the Flora of Italy.

Bes.—Besser. A Russian professor, resident in the Crimea.

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Biv.—Bivona. A Sicilian botanist.

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Boer.—Boerhaave. An old Dutch botanist.

Böhm.—Böhmer. A German botanical writer.

Bois.—Boissieu la Martinière, who accompanied La Peyrouse.

Boj.—Bojer. A professor of botany in the Isle of France.

Bol.—Bolton. An English writer on Fungi.

Bolt. Fil.—Bolton (James). Filices Britanniæ. 4to. *London*, 1785–1790.

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Borc.—Borckhausen. A writer upon the Flora of Hesse Darmstadt.

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Bouch.—Boucher. A writer upon the French Flora.

Bouché.—F. A. G. Boucher. A French botanist.

Bow.—J. Bowie. A collector of plants for Kew Gardens.

Br.—Patrick Browne, M. D. Author of Civil and Natural History of Jamaica. An Irish botanist.

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Brad. Suc.—Bradley (Richard). Historia Plantarum Succulentarum. 4to. *London*, 1716–1727.

Bred.—Bredemeyer. A German.

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Brig.—J. Brignoli. Professor at Verona.

Brm.—Burmann. A Dutch editor of other people's works.

Broeg.—Broegelmann. A German botanist.

Brong.—A. Brongniart. A French botanist.

Brot.—Brotero. A Portuguese botanist.

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Burc.—Burchell. An English botanist, and traveller at the Cape of Good Hope.

Burg.—Burgsdorf. A German botanist.

Bux.—Buxbaum, M. D. A Russian botanist; travelled through Armenia.

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C. Bauh.—Caspar Bauhin. A celebrated botanist of the seventeenth century.

C. & R.—Castagne and Robillard. French botanists?

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Cam.—Campana. An Italian cultivator.

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Campd.—Campdera. A Spanish botanist.

Carey.—W. Carey, D. D., of Serampore.

Carm.—Capt. D. Carmichael. A Scotch botanist.

Cass.—H. Cassini. A French botanist.

Castag.—L. Castagne. A French botanist?

Cat.—M. Catesby. A botanist, and traveller in North America.

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Chaix.—A French botanist and ecclesiastic.

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Cham.—Chamisso. A German traveller round the world.

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Clar.—J. Clarion. A French botanist.

Clem.—S. Clemente. A Spanish agriculturist.

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Co. C.—Colville's Catalogue. Plants cultivated in Colville's nursery, Chelsea.

Col. Cas.—Colladon (Fréderic). Histoire Naturelle et Médicale des Casses. 4to. *Montpelier*, 1816.

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Coll.—J. F. Colladon. A Genevese botanist.

Com.—Commelin. A Dutch garden botanist.

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Cus.—Cusson. A Swiss writer upon Umbelliferæ, whose wife burnt his herbarium.

Cyr.—Cyrilli. An Italian botanist.

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Dav.—H. Davies, D.D. A Welsh botanist.

Deb.—Debry. A botanist of Frankfort.

Dec.—Decandolle. A celebrated French systematic botanist.

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Desr.—Desrousseaux. A French botanist.

Desv.—Desvaux. A French professor of botany.

Deth.—Detharding. A botanist of Rostoch.

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Domb.—Dombey. A French traveller in South America.

D. Don.—David Don. Librarian to the Linnean Society.

G. Don.—George Don.

Dor.—Dorthes. A French botanist

Dou.—Douglas. A collector of plants.

Dow.—Downe.

Dry.—Dryander. A Swedish botanist.

Dub.—Dubois. A French botanist.

Duch.—Duchesne. A French botanist or horticulturist.

Dufr.—Dufresne. A French writer upon Valerians.

Dufr. Val.—Dufresne (Pierre). Histoire Naturelle et Médicale de la Famille des Valerianées. 4to. 1811.

Duh.—Duhamel. A celebrated French physiological botanist.

Duh. Ar.—Duhamel du Monceau (Henri Louis). Traité des Arbres et Arbustes qui se cultivent en France en pleine terre. 2 vols. 4to. *Paris*, 1755.

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Dunal.—Dunal. A French botanist.

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BOTANY DAP

The following is a list of the Technical Terms most commonly employed in Botany:—

Abnormal, contrary to general rules.

Accumbent, lying against anything, in distinction to lying upon; as the cotyledons of some cruciferous plants.

Acerose, stiff and slender and sharp-pointed, as the leaves of a pine-tree.

Achenium, a small, hard, one-seeded fruit, resembling a seed.

Aciculate, needle-shaped.

Acinaciform, scymitar-shaped.

Acinus, a bunch of succulent berries, as of grapes.

Acrogen, a plant which grows at its end only, without increasing in diameter, as ferns, and all flowerless plants.

Aculeate, covered with prickles.

Aculeus, a prickle.

Acuminate, tapering to the point, but flat.

Adnate, growing to any thing by the whole length.

Adventitious, appearing accidentally.

Æstivation, the arrangement of the parts of the flower before they expand.

Alabastrus, a flower-bud.

Albumen, a substance interposed in some seeds between the embryo and the seed coats.

Alburnum, the young wood; sap-wood.

Amentum, a catkin; the male inflorescence of the hazel, &c.

Amplexicaul, clasping a stem.

Anastomosing, the growing together of two parts which meet from different directions.

-androus, a Greek termination expressive of the male sex.

Anfractuous, doubled abruptly in several different directions.

Angiocarpous, having seeds enclosed in a pericarp.

Annotinous, a year old.

Anther, the case containing pollen.

Apetalous, having no petals.

Apiculate, abruptly pointed.

Apocarpous, where the carpels are distinct from each other.

Apophysis, the enlarged base of the theca of some mosses.

Apothecium, the shield, or mass of reproductive matter of a lichen.

Appendiculate, having some kind of appendages.

Arachnoid, resembling a spider's web.

Areolate, divided into little spaces.

Aril, a peculiar wrapper of some seeds, as the mace of the nutmeg.

Arista, the beard or awn of grasses.

Asci, the cases in which the spores of lichens are enclosed.

Ascidium, a hollow leaf looking like a water vessel; as the pitcher of Nepenthes.

Attenuated, gradually tapering to a point without becoming flat.

Auriculate, having two lobes (like ears) at the base.

Awn, see *Arista*.

Axil, the acute angle formed by the junction of the leaf, &c. to its axis.

Axillary, growing in an axil.

Axis, the root and stem either taken together or separately.

Baccate, fruit covered with soft flesh.

Barbate, covered with long hairs resembling a beard.

Beard, a tuft of long hairs.

Biconjugate, in two pairs, placed side by side.

Bidentate, having two teeth.

Bifarious, arranged in two rows.

Bifid, divided into two shallow lobes.

Bifoliate, having two leaflets.

Bifurcate, twice forked.

Bijugous, in two pairs, placed end to end.

Binate, growing in pairs.

Bipartite, divided into two deep lobes.

Bipinnate, twice pinnate.

Biserrate, twice serrate.

Brachiate, when branches stand nearly at right angles to the stem from which they proceed.

Bract, the leaf or leaflet from the axil of which a flower grows.

Bulb, a scaly, underground bud.

Bulbotuber, a short, roundish, underground stem resembling a bulb.

Caducous, falling off sooner or later.

Cæsious, of a bluish grey colour.

Cæspitose, growing in tufts.

Calcar, a spur or horn; as in the Nasturtium.

Calcarate, having a spur or horn.

Calyculate, having a whorl of bracts on the outside of a calyx, or of an involucre.

Calyptra, the hood of a moss.

Calyx, the external envelope of a flower.

Cambium, a viscid secretion formed in the spring between the bark and wood of Exogens.

Campanulate, bell-shaped.

Canaliculate, channelled.

Cancellate, a leaf which has veins without connecting parenchyma.

Capitate, growing in a head.

Capitulum, a collection of flowers in a head.

Capsule, any dry many-seeded fruit.

Carinate, having a kind of keel.

Carnose, fleshy.

Carpel, one of the parts of a compound pistil; a single leaf rolled up into one of the integers of a pistil.

Carunculate, a seed having fungous excrescences growing near its hilum.

Caryopsis, a dry one-seeded fruit resembling a seed, but with no distinction between the seed coat and pericarp.

Caudate, prolonged into a sort of tail.

Cauline, of or belonging to the stem.

Cernuous, drooping.

Chalaza, a spot on a seed indicating the place where the nucleus is united to the seminal integuments.

Ciliated, fringed with hairs like an eyelash.

Cinereous, ash-coloured.

Circinate, rolled inwards from the point to the base.

Circumscissile, dividing into two parts by a spontaneous transverse separation.

Cirrhous, terminating in a tendril.

Clavate, club-shaped.

Claw, the stalk of a petal.

Clypeate, resembling a round buckler.

Cochleate, resembling the bowl of a spoon.

Collum, the point where the stem and root are combined.

Columella, a central part of the fruit of a moss, round which the spores are deposited.

Column, the combination of stamens and style in Orchideous and other plants.

Comose, having hairs at one or both ends, if speaking of seeds; being terminated by coloured empty bracts, if applied to inflorescences.

Conduplicate, doubled together.

Confluent, growing together so that the line of junction is lost to the sight.

Conjugate, growing in pairs.

Connate, growing together so that the line of junction remains perceptible.

Connective, the fleshy part that combines the two lobes of an anther.

Connivent, converging, as the anther of a potato blossom.

Conoidal, approaching a conical form.

Continuous, proceeding from something else without apparent interruption.

Contorted, twisted in such a way that all the parts have a similar direction, as the segments of the flower of an Oleander.

Convolute, rolled together.

Corculum, the rudimentary axis which connects the cotyledons of the embryo.

Cordate, heart-shaped.

Coriaceous, of a leathery texture.

Cormus, a solid, roundish, underground stem, as in Crocus.

Corneous, of a horny texture.

Corniculate, shaped like a slender horn.

Corolla, the second of the two envelopes that surround the stamens and pistil.

Corona, a combination of fertile and barren stamens into a disk, as in Stapelia.

Corymbose, when the branches surrounding a common axis are shortest at the top and longest at the bottom, so as to form a level-topped whole.

Costa, the midrib of a leaf.

Cotyledons, the leaves of the embryo.

Crateriform, shaped like a goblet.

Crenelled or *Crenated*, having rounded notches at the edges.

Crested, having some unusual and striking appendage arising from the middle.

Cruciate, when four parts are so arranged as to resemble the arms of a Maltese cross.

Cucullate, hooded, rolled inwards so as to conceal any thing lying within.

Culm, the straw of grasses.

Cuneate, wedge-shaped.

Cupule, the cup of the acorn, the husk of the filbert, chestnut, &c.; a peculiar combination of bracts.

Cuspidate, abruptly rounded off with a projecting point in the middle.

Cuticle, the external skin.

Cyathiform, cup-shaped, more contracted at the orifice than crateriform.

Cymbiform, having the form of a boat.

Cyme, an inflorescence having a corymbose form, but consisting of repeatedly-branched divisions.

Cymose, resembling a cyme in appearance.

Decandrous, having ten stamens.

Deciduous, falling off.

Declinate, curved downwards.

Decumbent, lying prostrate, but rising again.

Decurrent, produced downwards, as the base of a leaf down the stem.

Decussate, crossing at right angles.

Dehiscence, the act of opening of anther or fruit.

Deltoid, having the form of a triangle or Greek Δ.

Dendroidal, resembling a small tree.

Dentate, with sharp-pointed notches and intermediate curves instead of re-entering angles.

Depauperated, imperfectly developed; looking as if ill-formed from want of sufficient nutriment.

Depressed, flattened from point to base.

Diadelphous, having the stamens in two parcels.

Diandrous, having two stamens.

Dichotomous, repeatedly divided into two branches.

Dicotyledonous, having two cotyledons.

Didymous, growing in pairs, or twins; only applied to solids and not to flat surfaces.

Didynamous, having two pairs of stamens of unequal length.

Digitate, fingered, diverging from a common centre, as the fingers from the palm.

Dimidiate, half-formed, or halved, or split into two halves.

Diœcious, having stamens on one plant and pistils on another.

Dipterous, having two wings.

Discoidal, with the central part of a flat body differently coloured or marked from the margin.

Disk, a fleshy circle interposed between the stamens and pistils.

Dissepiments, the vertical partitions of a compound fruit.

Distichous, arranged in two rows.

Divaricating, diverging at an obtuse angle.

Dodecandrous, having 12 stamens.

Dolabriform, hatchet-shaped.

Drupe, such a fruit as the peach, consisting of a stem surrounded by flesh or fibrous matter.

Ducts, spiral vessels that will not unroll.

Dumose, having a compact bushy form.

Duramen, the heart-wood of timber.

Echinate, covered with hard sharp points.

Elaters, little spirally-twisted hygrometrical threads that disperse the spores of Jungermannias.

Elementary organs, the minute parts of which the texture of plants is composed.

Emarginate, having a notch at the point.

Embryo, the rudimentary plant before germination commences.

Endocarp, the hard lining of some pericarps.

Endogen, a plant which increases in diameter by addition to its centre, as a palm-tree.

Enneandrous, having 9 stamens.

Ensiform, having the form of a straight and narrow sword blade.

Epicarp, the external layer of the pericarp.

Epidermis, the skin of a plant, in the language of some writers; the cortical integument according to others.

Epigynous, growing upon the top of the ovary, or seeming to do so.

Equitant, when leaves are so arranged that the base of each is enclosed within the opposite base of that which is next below it; as in Iris.

Estivation, see *Æstivation*.

Exogen, a plant which increases in diameter by the addition of new wood to the outside of the old wood; as an oak-tree.

Farinaceous, mealy.

Fasciated, banded.

Fasciculated, collected in clusters.

Fastigiate, when the branches of any plant are pressed close to the main stem, as in the Lombardy poplar.

Filament, the stalk of the anther.

Filiform, slender and round like a thread.

Fistular, tubular but closed at each end; as the leaf of an onion.

Flabelliform, fan-shaped.

Flagelliform, resembling the thong of a whip.

Flexuose, wavy.

Floccose, covered with little irregular patches of woolliness.

Floret, a little flower.

Floscule, ditto.

Foliaceous, having the colour and texture of a common green leaf.

Foliation, the arrangement of young leaves within the leaf-bud.

Follicle, a simple fruit opening by its ventral suture only.

Foramen, the passage through the integuments of an ovule by which impregnating matter is introduced into the nucleus.

Fovilla, the fertilizing principle of pollen.

Frond, the leaf of a fern or of a palm.

Fruit, the full-grown ripened pistil.

Fugacious, lasting but a short time.

Fungoid, resembling a fungus; that is, irregular in form and fleshy in texture.

Funiculus, the stalk by which some seeds are attached to the placenta.

Fusiform, spindle-shaped, thickest in the middle, and tapering to each end.

Galbulus, a small cone whose scales are all consolidated into a fleshy ball, as in Juniper.

Galea, the upper lip of a labiate flower.

Geniculate, knee-jointed, when a stem bends suddenly in its middle.

Gibbous, prominent, projecting.

Glabrous, having no hairs.

Gladiate, the same as ensiform, but broader and shorter.

Gland, 1. the fruit of the oak, the hazel, &c.; 2. an elevation of the cuticle which usually secretes either acrid or resinous matter.

Glandular, covered with glands of the second kind.

Glaucous, covered with bloom like a plum.

Glochidate, covered with hairs which are rigid and hooked at their point.

Glume, one of the bracts of grasses.

Gymnospermous, having seeds which ripen without being enclosed in a pericarp.

Gynobase, an elevated part of the growing point of a flower-bud, rising between the carpels and throwing them into an oblique position.

Gyrate, see *Circinate*. Also, surrounded by an elastic ring, as the theca of ferns.

Hastate, having the form of a halbert-head; that is, with a lance-shaped centre crossed at the base by two lobes of a similar form standing at right angles with the centre.

Helmet, the hooded upper lip of some flowers.

Heptandrous, having 7 stamens.

Hexandrous, having 6 stamens.

Hilum, the scar left upon a seed when it is separated from the placenta.

Hirsute, covered with harsh long hairs.

Hymenium, the gills of a mushroom; that part in Fungi where the spores are placed.

Hypocrateriform, salver-shaped; having a cylindrical tube and a flat border spreading away from it.

Hypogynous, arising from immediately below the pistil.

Icosandrous, having 20 or more perigynous stamens.

Imbricated, overlapping, as tiles overlie each other on the roof of a house.

Incumbent, lying upon any thing.

Indehiscent, not opening when ripe.

Induplicate, doubled inwards.

Indusium, the membrane that overlies the sori of ferns.

Inferior, is said of a calyx when it does not adhere to the ovary; is said of an ovary when it does adhere to the calyx.

Inflorescence, the collection of flowers upon a plant.

Infundibuliform, shaped like a funnel.

Innate, growing upon any thing by one end.

Innovations, the young shoots of mosses.

Intercellular, that which lies between the cells or elementary bladders of plants.

Internode, the space between two nodes.

Interrupted, when variations in continuity, size, or development alternately occur in parts which

are sometimes uniform; as when pinnated leaves have the alternate leaflets much the smallest, and when dense spikes are here and there broken by the extension of internodes.

Involucre, a collection of bracts placed in a whorl on the outside a calyx or flower-head.

Involute, rolled inwards.

Labellum, one segment of a corolla, which is lower than the others, and often pendulous.

Labiate, divided into an upper and a lower lip, as the corolla of dead nettle.

Lacunose, having numerous large deep depressions or excavations on its surface.

Lamina, the blade of a leaf.

Lanceolate, shaped like a lance-head; that is, oval, tapering to both extremities.

Lateral, originating from the side of any thing.

Latex, the vital fluid of vegetation.

Lax, not compact or dense.

Leaflet, a division of a compound leaf.

Legume, a kind of fruit like the pod of a pea.

Lenticular, small, depressed, and doubly convex.

Lepidote, covered with a sort of scurfiness.

Leprous, the same.

Liber, the newly-formed inner bark of Exogens.

Ligula, a membranous expansion from the top of the petiole in grasses.

Limb, the blade or expanded part of a petal.

Linea, very narrow, with the two sides nearly parallel.

Lip, see *Labellum*.

Loculicidal, when the carpels of a compound fruit dehisce in such a way that the cells are broken through at their back.

Locusta, the spikelet, or collection of florets of a grass.

Lomentum, a legume which is interrupted between the seeds, so as to separate into numerous transverse portions.

Lunate, formed like a crescent.

Manicate, when hairs are interwoven into a mass that can be easily separated from the surface.

Marginal, of or belonging to the edge of any thing.

Medullary, of or belonging to the pith.

Micropyle, a small passage through the seed, called the foramen when speaking of the ovule. See *Foramen*.

Mitriform, conical, hollow, open at the base, and either entire there or irregularly cut.

Monadelphous, with the stamens united into one parcel.

Monandrous, with one stamen only.

Moniliform, shaped like a necklace.

Monopetalous, with several petals united into one body by their edges.

Mucronate, tipped by a hard point.

Multifid, divided into many shallow lobes.

Multipartite, divided into many deep lobes.

Muricated, covered with short, broad, sharp-pointed tubercles.

Muriform, resembling the bricks in the wall of a house.

Navicular, shaped like a very small boat.

Nectary, any organ that secretes honey.

Nerves, the stronger veins of a leaf.

Node, the part of a stem from which a normal leaf-bud arises.

Normal, according to general rules.

Nucleus, the central part of an ovule, or a seed.

Nucule, a small hard seed-like pericarp.

Oblique, larger on one side than on the other.

Ochrea, two stipules united round the stem into a kind of sheath.

Octandrous, having eight stamens.

Operculum, the lid of the theca of a moss.

Ovary, the hollow part of a pistil containing the ovules.

Ovate, having the figure of an egg.

Ovule, a rudimentary seed.

Palate, the lower surface of the throat of a labiate corolla.

Palea, either the inner bracts of the inflorescence of a grass, or the bracts upon the receptacle of the flower-head of a Composita.

Paleaceous, covered with paleæ.

Palmate, the same as digitate, only the divisions more shallow and broader.

Panduriform, oblong, narrowing towards the base, and contracted below the middle.

Panicle, a compound raceme; a loose kind of inflorescence.

Papilionaceous, a flower consisting of standard, wings, and keel, like that of a pea.

Pappus, the calyx of a Composita, as of dandelion.

Parenchyma, the pulp that connects the veins of leaves.

Parietal, growing from the lining of any thing.

Pectinate, divided into long, close, narrow teeth like a comb.

Pedate, palmate, with the lateral segments lengthened and lobed.

Pedicel, one of a great many peduncles.

Peduncle, a flower-stalk.

Peltate, attached within the margin.

Pentandrous, having five stamens.

Perfoliate, surrounding a stem by the base, which grows together where the margins touch.

Perianth, a collection of floral envelopes, among which the calyx cannot be distinguished from the corolla, though both are present.

Pericarp, the shell of a fruit of any kind.

Perichætium, the leaves at the base of the stalk of the fruit of a moss.

Perigone, same as Perianth.

Perigynous, growing from the sides of a calyx.

Perisperm, same as Albumen.

Peristome, a curious set of processes surrounding the orifice of the theca of a moss.

Peronate, laid thickly over with a woolly substance ending in a sort of meal.

Personate, labiate, with the palate of the lower lip pressing against the upper lip.

Petal, one of the parts of a corolla.

Petaloid, resembling a petal in colour and texture.

Petiole, the stalk of a leaf.

Petiolar, of or belonging to the petiole.

Phyllodium, a petiole transformed into a flat leaf-like body.

Pileus, the cap of a mushroom.

Pilose, covered with short fine hairs.

Pinnate, divided into a number of pairs of leaflets; *bipinnate*, each leaflet is also pinnate; *tripinnate*, each secondary leaflet pinnated also.

Pinnatifid, divided in a pinnated manner nearly down to the midrib.

Pistil, the combination of ovary, style, and stigma.

Pith, the central column of cellular tissue in an Exogen.

Placenta, the part of the ovary to which the ovules are attached.

Plane, quite flat.

Plumule, the rudiment of a stem in the embryo.

Pollen, the powder contained in an anther.

Pollen-tubes, the membranous tubes emitted by pollen after they fall on the stigma.

Polyadelphous, when the stamens are combined into more than two parcels.

Polyandrous, when there are more than 20 hypogynous stamens.

Polypetalous, when the petals are all distinct.

Pome, a fruit like that of the apple, pear, &c.

Præfloration, same as Æstivation.

Prickle, same as Aculeus.

Primine, the external integument of the ovule.

Pseudobulb, the solid above-ground tuber of some Orchideæ.

Pubescent, covered with very fine soft down.

Pulverulent, covered with a powdery appearance.

Putamen, same as Endocarp.

Pyriform, shaped like a pear.

Quartine, the innermost integument but one of the ovule.

Quinate, combined in fives.

Quintine, the innermost integument of the ovule.

Raceme, an inflorescence like that of the currant.

Rachis, the axis of inflorescence.

Radical, arising from the root.

Radicle, the rudimentary root in the embryo.

Ramenta, soft, ragged, chaff-like hairs growing upon the petiole of ferns.

Raphe, the line of communication between the hilum and chalaza.

Raphides, acicular or other crystals scattered among vegetable tissue.

Reniform, kidney-shaped.

Resupinate, inverted, so that the part which is naturally lowermost becomes uppermost.

Reticulated, traversed by veins having the appearance of network.

Retuse, blunt, and turned inwards more than obtuse.

Rhizoma, a creeping stem like that of Iris.

Ringent, same as Personate.

Root-stock, same as Rhizoma.

Rostrate, furnished with a sort of beak.

Rosulate, having the leaves arranged in little rose-like clusters.

Ruminated, pierced by numerous perforations full of chaffy matter like a nutmeg.

Runner, the prostrate stem of such plants as the strawberry.

Sagittate, resembling the head of an ancient arrow.

Samara, a kind of one-seeded indehiscent pericarp, with a wing at one end.

Sapwood, the newly-formed wood, which has not been hardened by the deposit of secreted matter.

Sarcocarp, the intermediate fleshy layer between the epicarp and endocarp.

Scale, an abortive leaf.

Scape, the flowering-stem of a plant.

Scarious, dry, thin, and shrivelled.

Scrobiculate, irregularly pitted.

Scutellum, the fructifying space upon the thallus of a lichen.

Secund, arranged or turned to one side.

Secundine, the second integument of the ovule.

Sepals, the leaves of the calyx.

Septa, same as Dissepiment.

Septicidal, when the dissepiments of a fruit are divided into two plates at the period of dehiscence.

Septifragal, when the dissepiments of a fruit are broken through their middle by the separation of the back of the carpels from the centre.

Sericeous, silky.

Serrate, toothed like the edge of a saw.

Sessile, seated close upon any thing, without a stalk.

Setose, covered with setæ or bristles.

Shield, the fructification of lichens.

Sigmoid, bent like the letter S.

Silicle, a short two-valved pod, such as is found in garden cress.

Silique, the same but longer, as in the cabbage.

Sinuate, turning in and out in an irregular manner.

Sori, the fructification of ferns.

Spadiceous, resembling a spadix, or bearing that kind of inflorescence.

Spadix, the inflorescence of an arum; an axis closely covered with sessile flowers, and enclosed in a spathe.

Spathaceous, enclosed within a spathe, or bearing that kind of bract.

Spathe, a large coloured bract which encloses a spadix.

Spatulate, shaped like a druggist's spatula; that is, long, narrow, and broadest at the point.

Spike, an inflorescence in which the flowers are sessile upon their axis.

Spikelet, one of a great many small spikes collected in a mass, as in grasses.

Spine, a stiff, sharp-pointed, leafless branch.

Spongiole, or *Spongelet*, the tender, growing tip of the root.

Spore, or *Sporule*, the reproductive body of flowerless plants, analogous to the seed of flowering plants.

Squarrose, composed of parts which diverge at right angles, and are irregular in size and direction.

Stamen, the fertilizing organ of a flower, consisting of filament and anther.

Standard, the upper single petal of a papilionaceous flower.

Stellate, arranged in the form of a star.

Stigma, the upper end of the style, on which the pollen falls.

Stipe, the stalk that bears the head of a mushroom; also the stalk of the leaf of a fern; also the stalk of any thing, except of a leaf or a flower.

Stipulate, furnished with stipules; *exstipulate*, having no stipules.

Stipule, the scale at the base of some leaf-stalks.

Stomate, a minute hole in a leaf, through which respiration is supposed to be carried on; a breathing pore.

Strigose, covered with stiff unequal hairs.

Strophiolate, having little fungous excrescences surrounding the hilum.

Stupose, having a tuft of hairs in the middle or at the end.

Style, the stalk of the stigma.

Subulate, awl-shaped.

Syncarpous, having the carpels consolidated.

Terete, taper.

Ternate, united in threes.

Testa, the skin of the seed.

Tetradynamous, having six stamens in four parcels; two of which consist of two stamens, and two of one each.

Tetrandrous, having four stamens.

Thallus, the leafy part of a lichen; the union of stem and leaf in those and some other tribes of

imperfect plants.

Theca, the case which contains the sporules of flowerless plants.

Tomentose, covered with short close down.

Toothed, the same as Dentate.

Torulose, alternately contracted and distended.

Torus, the growing point of a flower, on which the carpels are placed.

Triandrous, having three stamens.

Trifarious, arranged in three rows.

Trifid, divided into three lobes.

Trifoliolate, having three leaflets.

Tripartite, divided into three deep divisions.

Tripinnate, when each leaflet of a pinnated leaf is pinnate; and the leaflets of the latter are pinnate also.

Triternate, when each leaflet of a ternate leaf is ternate, and the leaflets of the latter are ternate also.

Truncate, abruptly cut off.

Tube, the part of a flower where the bases of the sepals, petals, or stamens are united.

Tuber, a deformed, fleshy kind of underground stem.

Turbinate, shaped like a spinning top.

Umbel, an inflorescence whose branches all radiate from one common point.

Umbilicate, having a depression in the middle.

Umbonate, having a boss or elevated point in the middle.

Undulated, wavy.

Unguiculate, furnished with a claw, or short stalk.

Urceolate, shaped like a pitcher.

Utricle, a small bladder.

Vagina, the sheath formed by the convolution of a flat petiole round a stem.

Valve, one of the parts into which any dehiscent body divides.

Vascular, containing vessels; that is, spiral vessels or ducts.

Ventricose, inflated.

Vernation, the manner in which the young leaves are arranged in their leaf-bud.

Verrucose, covered with warts.

Versatile, swinging lightly upon a sort of pivot.

Verticellate, arranged in a whorl.

Vexillum, same as Standard.

Villous, covered with long, soft, shaggy hair.

Virgate, having long, slender rodlike shoots.

Vitellus, a fleshy bag, interposed between the embryo and albumen in some seeds.

Vittate, striped, as distinguished from fasciate or banded.

Whorl, an arrangement of more leaves than two around a common centre upon the same plane.

Fig. 7. Miniature from the manuscript of the work on Botany by Dioscorides, executed in Constantinople about 500 A.D.
J. H. Middleton, Illuminated Manuscripts in Classical and Mediaeval Times, 1892

BOTCH **1.** A piece of bad workmanship; or where improper materials are used and do not answer well.2@AMP A bungling, incompetent workman. DAP

BOTTLE ARSED An epithet applied to letter, when, either through a fault in casting, or dressing, it is wider at the bottom of the shank than it is at the top. • This is an old term, and as such I have inserted it; but, owing to the superior skill, or the greater care, of the present letter founders, such a thing now never occurs. DAP

BOTTLE RUBBER See: GOLD RUBBER. RE

BOTTLED Type wider at the bottom than at the top. AMP

BOTTOM COLOR The base color applied to a leather and then corrected to the desired shade by the application of succeeding colors during the finishing process. In SUEDE LEATHER, however, the bottom color is the final shade. 164,248 RE

BOTTOM COMBS See: MARBLING COMBS. RE

BOTTOM EDGE See: LOWER EDGE. RE

BOTTOM LINE The last line in the page, except that in which the signature, or the catch word or direction word, is inserted. DAP

BOTTOM NOTES The notes at the bottom or foot of a page. They are usually composed in a type two sizes smaller than that used for the body of

the work: thus, if the work be printed with a Pica type, the notes will be composed in Long Primer; if with English, the notes will be Small Pica. They are also termed *Foot Notes*. DAP

BOTTOM SPLIT The innermost layer of a split cowhide. Because they are relatively thick, cowhides are generally split into at least two layers (and sometimes three) if they are to be used as a "light" leather. If split once, the two layers are the grain and flesh splits; if split twice, the layers are the grain, middle, and bottom split. When processed into leather the bottom split is called a BUFFING (1). 363 RE

BOUILLY See: CUIR-BOUILLI. • bound flexible. A term sometimes used to indicate a book that has been sewn on single or double raised cords, the slips of which have been laced into the boards. See also: FLEXIBLE SEWING; LACING-IN. 115 RE

BOUND IN An insert which has been sewn in with the sections of a book. See also: BIND IN. 131 RE

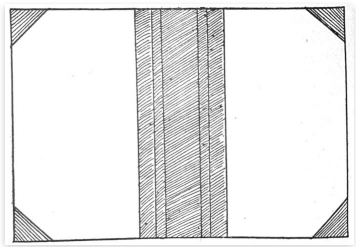
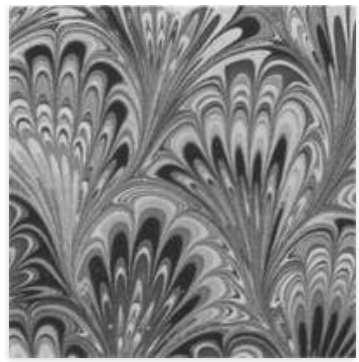


Figure 8—Outside cover of a book bound in two materials. Buckram for back and corners; cloth or paper for the sides.
Ben Davidson, Bookbinding Self Taught, 1925

BOUQUET MARBLE A drawn marble pattern formed in the manner of small flowers side by side and used mainly for marbled endpapers. The bouquet is generally produced from two or three shades of brown and one throwing of black. After the colors have been dropped on, drawn with a stylus and combed in the usual manner, a rake is drawn through the colors right and left across the entire surface of the size in such a manner that the teeth of the second row trace exactly through the pattern left by the teeth of the first row. A somewhat different pattern is produced by treating the colors in the same manner but omitting the marbling comb and spreading the drops of color only with a stylus into very narrow cross lines followed by raking. 151,327 RE



BOUQUET MARBLE.
Josef Halfer, The Progress of the Marbling Art, 1893

BOURGEOIS The name of a type, a size larger than Brevier, and smaller than Long Primer. It is not enumerated in Moxon's list of the sizes of types. *See* Types. DAP

BOW THE LETTER When compositors pick a bad letter out of a form in correcting, it is usual to rub the face of it on the stone and to *bend* the shank, if it be not a thick letter; this is done to prevent such letters being distributed and used again; in Moxon's time it was styled *bowing* a letter. After the form is locked-up and the stone cleared, these *bowed* (or *bent*) letters are thrown into the shoe. DAP

BOWL A small wooden bowl, which it is usual to have in composing rooms, in which to carry water to different parts for the purpose of wetting matter. DAP

BOWL OF THE BALL STOCK The hollow part of the ball stock, in the crown of which the handle is inserted; it is filled with wool, and the pelt, or canvass, is nailed to it. An old one is generally used for a paste bowl in the press-room. DAP

BOWYER Extract from the Will of Mr. William Bowyer, Printer, who died on the 18th of November, 1777, when he had nearly completed his 78th year. • "*And now I hope* I may be allowed to leave somewhat for the benefit of printing. To this end, I give to the master and keepers, or wardens and commonalty, of the mistery or art of a Stationer of the city of *London*, such a sum of money as will purchase Two Thousand Pounds, three *per cent.* Reduced Bank Annuities, *upon trust*, to pay the dividends and yearly produce thereof, to be divided for ever equally amongst three printers, compositors or pressmen, to be elected from time to time by the master, wardens, and assistants, of the said company, and who at the time of such election shall be sixty-three years old or upwards, for their respective lives, to be paid half yearly; hoping

that such as shall be most deserving will be preferred. And whereas I have herein before given to my son the sum of Three Thousand Pounds four *per cent.* Consolidated Annuities, in case he marries with the consent of my executors: now, I do hereby give and bequeath the dividends and interest of that sum, till such marriage takes place, to the said Company of Stationers, to be divided equally between six other printers, compositors or pressmen, as aforesaid, in manner as aforesaid; and, if my said son shall die unmarried, or married without such consent as aforesaid, then I give and bequeath the said capital sum of Three Thousand Pounds to the said Company of Stationers, the dividends and yearly produce thereof to be divided for ever equally amongst six other such old printers, compositors or pressmen, for their respective lives, to be qualified, chosen, and paid, in manner as aforesaid.—*It has long been to* me matter of concern, that such numbers are put apprentices, as compositors, without any share of school-learning, who ought to have the greatest: in hopes of remedying this, I give and bequeath to the said Company of Stationers such a sum of money as will purchase One Thousand Pounds three *per cent.* Reduced Bank Annuities, for the use of one journeyman compositor, such as shall hereafter be described, *with this special trust*, that the master, wardens, and assistants, shall pay the dividends and produce thereof half-yearly to such compositor: the said master, wardens, and assistants, of the said company, shall nominate for this purpose a compositor who is a man of good life and conversation, who shall usually frequent some place of public worship every *Sunday*, unless prevented by sickness, and shall not have worked on a newspaper or magazine for four years at least before such nomination, nor shall ever afterwards whilst he holds this annuity, which may be for life if he continues a journeyman: he shall be able to read and construe *Latin*, and at least to read *Greek* fluently with accents; of which he shall bring a testimonial from the rector of *St. Martin's, Ludgate*, for the time being: I could wish that he shall have been brought up piously and virtuously, if it be possible, at *Merchant Taylor's*, or some other public school, from seven years of age till he is full seventeen, and then to serve seven years faithfully as a compositor, and work seven years more as a journeyman, as I would not have this annuity bestowed on any one under thirty-one years of age: if, after he is chosen, he should behave ill, let him be turned out, and another be chosen in his stead. And whereas it may be many years before a compositor may be found that shall exactly answer the above description, and it may at some time happen that such a one cannot be found; I would have the dividends in the meantime applied to such person as the master, wardens, and assistants, shall think approaches nearest to what I have described. And whereas the above trusts will occasion some trouble; I give to the said Company, in case they think proper to accept the trusts, two hundred and fifty pounds."—Extracted from Anecdotes, Literary and Biographical, of Mr. Bowyer, by J. N. [John Nichols?] *in Gent. Mag. Dec.* 1778, *p.* 570. • 6,000*l.* stock was immediately transferred by the executors of Mr. Bowyer, and now stands in the name of the Company; the yearly dividend is 180*l.*—Hansard's Typographia, p. 280. *Note.* DAP

BOX **1.** 1. A container for maps, bundles of loose sheets, samples of materials, disintegrating books, etc., that may be open at one end or completely closed in. See also: CUT CORNER PAMPHLET FILE; PAMPHLET BOX; PRINCETON FILE; PULL-OFF BOX; SLIPCASE; SOLANDER BOX. 2. A leather "marble" consisting of marbling water thrown on in small drops, followed by small spots of brown and black. Additional marbling water is then thrown on in large drops, followed by small spots of blue sprinkled on. When all is dry, scarlet and two or three coats of orange are sprinkled on. The leather is bent and twisted in several places during the course of applying the colors and water to form veins. 3. A surface pattern in leather, usually black calfskin, consisting of fine, box-shaped creases formed by BOARDING (1) the skin in two directions, head to tail and belly to belly. See also: WILLOW (2) 4. The trough-like receptacles on a folding machine into which the folded sections drop. 5. One of the magazines of a gathering machine.2@DAP The divisions of a case, in which the letters lie, are termed Boxes; as the *a* box, the *e* box, the *i* box, &c. • Box. The female screw in the head of a press, in which the spindle works. It is made of brass, and is usually cast on the screw of the spindle, round on the outside with a projecting part of about half an inch on the whole length of each opposite side, to keep it firm in the head, and prevent it turning round. It is fitted tightly into the head, and kept in its place by two bolts, driven into the under side, with return heads which project over the bottom of the box. It is also called the Nut of the Spindle.3@AMP The

compartments of a case in which the types are placed. RE 66,152,339,363

BOX POCKET A stiffened three-dimensional BOOK POCKET. RE

BOX SIDE A cowhide cut in half down the backbone, full chrome, semi-chrome, or vegetable tanned, and usually colored black. It has a grain pattern of fine box-shaped creases formed by BOARDING (1) in two directions. head to tail and belly to belly. When colored it is usually called WILLOW SIDE. 61 RE

BOXWOOD The best boxwood used in engraving is of a good yellow colour, of a fine close grain, that has been of a slow growth, clear of knots and any imperfections, such as cracks or flaws; the finest lines may be engraved on this wood, as it is both hard and tough, and, with care in printing, the number of impressions that may be taken from an engraving on it would appear incredible. Papillon, in his History of Engraving on Wood, gives a specimen, from which, he states, there had been upwards of three hundred and seventy thousand impressions previously printed; and if the block had been carefully cleaned, and well printed, it would still have produced respectable impressions. Boxwood of a dull bad yellow colour, and of an open coarse grain, is not fit for engraving on, neither is wood that is of a blackish colour at the heart; for, in these cases, it has begun to decay, is brittle and tender, and if engraved on, the lines would not stand, but would fail in printing. Our principal supply of boxwood comes from the Levant, and is called Turkey box. DAP

BRACE **1.** A character cast in metal thus marked ⁀. The compositor is to have these cast of several breadths, viz. to several number of lines of a designed body (most commonly of Pica body) that they may hook in or brace so many lines as his copy may show him.—M. • It is used in poetry at the end of a triplet, or three lines which have the same rhyme. • Braces are also used to connect a number of words with one common term, and are introduced to prevent a repetition in writing or printing.—Murray. • Braces are cast to different bodies as high as English; and braces on Long Primer are now cast from three to eight ems in length, which look much neater than the old fashion of middles and corners, filled up with metal rules. • The founders in casting long Braces always make the swell in the face of them proportionably thick to their length, so that in using them with small letter they look heavy and clumsy; I would recommend that long Braces should be cast to a small body, not larger than Brevier, and the faces of all the lengths uniform, so that when there happens to be a range of them of different lengths in a page they might harmonize, and not make such an incongruous appearance as they now do. When Braces are wanted longer than those already cast, I would not use middles and corners, but make them of Brass Rule in one continued piece, which has a better appearance than when they are joined, and which may be made with a file in a neat manner by any clever compositor. • Bracket. *See* Crotchet. • Bramah's Press. *See* Hydrostatic Press.2@MOX is a Character *Cast* in *Mettle* thus marked The *Compositer* is to have these *Cast* of several Breadths, viz. to several numbers of *Lines* of a designed *Body* (most commonly of *Pica Body*) that they may hook in or Brace so many *Lines* as his *Copy* may shew him; as at *Charge* is a Brace of four *Lines*. See also § 24. ¶ 1. DAP

BRADAWL An AWL with a chisel edge used for piercing holes in boards in preparation for LACING-IN. 133 RE

BRADEL BINDING A type of binding having a hollow back, and not unlike a library binding, except that it is considered to be temporary. The style was originated in Germany by Alexis Pierre Bradel, also known as Bradel l'ainé, and also as Bradel-Derome, son-in-law and successor to Nicholas-Denis Derôme. The style was taken to France sometime between 1772 and 1809. Bradel bindings generally have split boards into which are attached the extensions of the spine lining cloth. The edges are uncut, sometimes with the head edge being gilt. They generally have a leather or linen spine. In France the style was known as "Cartonnage à la Bradel," or as "en gist." See also: LESNÉ, FRANÇOIS A.D. 347 RE

BRAILLE BOOK also *Braille binding* A book printed by the Braille process, i.e., the dampened paper is embossed with codes of raised dots. Braille books are bound much like other books except that they are generally liberally stubbed and they are not pressed after casing-in, as the pressure would flatten the raised characters. RE

BRAILLE PRINTING PAPER Paper used in the Braille printing process. It is usually produced from a high quality chemical wood pulp in basis weights of 32 to 36 pounds (17 X 22–500). Significant properties required include a smooth surface, good elongation, and high tensile strength. 17 RE

BRANCHING-OUT Opening or extending the matter in title-pages, heads of pages, or other parts, and also in jobs, with quadrats, leads, reglet, or other proper materials. DAP

BRANDING 1. A method of marking a book with hot irons that burn letters or symbols into one or more edges, generally for purposes of indicating ownership. Branding was most often employed in Mexico, and was initiated in the early 17th century by the monks in charge of convent libraries. Brands of iron or bronze were used, usually on the head edge, although it was sometimes done on the fore edge and occasionally on both head and tail edges. Unfortunately, the process often damaged the covers, title pages, and endpapers; however. as a mark of ownership, it was effective in deterring the theft of books, as the brand could only be removed by trimming deep into the margins. 2. The process of rolling a FLESHER or SHEEPSKIN with hot rolls for the purpose of smoothing the skin. 115,264,274 RE

BRASHINESS The relative inflexibility of the cast film of a dry animal glue. The term also refers to brittleness of an adhesive resulting from drying, plasticizer migration, and the like. 222 RE

BRASS BOARDED A leather, usually a cowhide BUFFING (1), that has been boarded by hand or grained with a faint parallel line effect. 256 RE

BRASS BOARDS also *brass bound bounds* See: BACKING BOARDS; CASING-IN BOARDS. RE

BRASS RULES Pieces of brass of different thicknesses made letter high, to print with.—M. They are made in lengths of fourteen inches, but of late years lengths half as long again have been made; one of the edges is bevilled so as to print a fine line, and when a thicker line is required the bottom edge is placed uppermost, which is the full thickness of the brass; by this means lines of different thicknesses are obtained, and also double lines, a thick one and a fine one when required. They are used for column lines in table work; to separate matter that requires to be distinct; and to be placed round pages. • I have found in practice that the best way of forming a good joining at the corners with brass rule, is to cut the rules a little longer than the precise length wanted, and to let one piece project a little at each corner; to push the other piece close up, and, when the form is locked up, then to file the projecting parts away, which makes the corners equal, as shown below. • Wherever two rules join, the end of that which abuts on the other should be cut with a little bevil, so that the upper side should project a little to form a junction with the face of the other; this also prevents the rule binding at bottom. • An ingenious compositor will make many things out of brass rules, such as neat long braces, instead of using middles, corners, and metal rules, which rarely join well, swell rules of different varieties, and many fancy rules, as occasion may require. • In cases where diagrams are required, and there is no engraver within reach, they may be formed by a clever workman, with brass rule. There have been of late years many ingenious and elaborate performances with this article in imitation of architectural drawings of buildings, with pillars, &c.; and I believe no one has displayed more ingenuity and skill in the production of such works than Mr. Ebenezer Parkes, of Fetter Lane. DAP

Two rectangles side by side
William Savage, A Dictionary of the Art of Printing, 1841

BRAYER

1. 1. An old term for a pestle with which ink was spread before being applied to a printing surface. Made of wood, it was round, flat at one end, and had a handle at the other end. 2. A printer's hand inking roller, also used in making BRAYER PRINTS.2@DAP A round wooden rubber with an upright handle, almost of the fashion of a ball stock, but solid and flat at the bottom, and not above three inches in diameter. It is used on the ink block, to bray or rub out ink with so as to spread it out in such a manner that a small quantity may be taken up when the ball is pressed upon the block, tolerably diffused upon the surface, and not in a mass, which causes the ink to be more expeditiously distributed, with less risk of making monks and friars.

BREAD, SALE OF, Ireland.

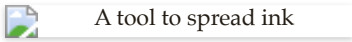
1 & 2 Vict. c. 28. "An Act to repeal the several Acts now in force relating to Bread to be sold in *Ireland*, and to provide other Regulations for the making and Sale of Bread, and for preventing the Adulteration of Meal, Flour, and Bread, in that Part of the United Kingdom called *Ireland*."

s. 7. "And be it enacted, That no Baker or other Person who shall make Bread for Sale in *Ireland*, nor any Journeyman or other Servant of any such Baker or other Person, shall, at any Time or Times, in the making of Bread for sale in *Ireland*, use any Mixture or Ingredient whatever in the making of such Bread other than and except as herein-before mentioned, on any Account or under any Colour or Pretence whatsoever in the making of such Bread, upon pain that every such Person, whether Master or Journeyman, Servant or other Person, who shall offend in the Premises, and shall be convicted of any such Offence by the Oath, or in case of a Quaker by Affirmation, of One or more credible Witness or Witnesses, or by his, her, or their own Confession, shall for every such Offence forfeit and pay any Sum not exceeding Five Pounds nor less than Fifty Shillings, or in default thereof shall, by Warrant under the Hands and Seals of the Magistrate or Magistrates, Justice or Justices before whom such Offender shall be convicted, be apprehended and committed to the House of Correction, or some Prison of the City, County, Borough, or Place where the Offence shall have been committed, or the Offender or Offenders apprehended, there to remain for any Time not exceeding Three Calendar Months, with or without hard Labour, from the Time of such Commitment, unless the Penalty shall be sooner paid, as any such Magistrate or Magistrates, Justice or Justices shall think fit to order; and it shall be lawful for the Magistrate or Magistrates, Justice or Justices before whom any such Offender or Offenders shall be convicted to cause the Offender's Name, Place of Abode, and Offence to be published in some Newspaper or Newspapers which shall be printed or published in or near the City, County, Borough, or Place where the Offence shall have been committed; and the Proprietor and Proprietors, Printer and Printers, and every other Person or Persons concerned therein, are hereby authorized to print and publish the same when he, she, or they is or are required so to do by or by the Order of such Magistrate or Magistrates, Justice or Justices; and he, she, or they is and are hereby indemnified from any Prosecution or Prosecutions for printing and publishing the same or causing the same to be printed and published in such Newspaper or Newspapers by or from any Person or Persons whomsoever, any Law, Statute, or Usage to the contrary thereof in anywise notwithstanding; and the Costs and Charges of such printing and publishing shall be paid out of such last-mentioned Penalty or Forfeiture, in case any shall be so forfeited, paid, or recovered."

s. 11. "And be it enacted, That every Miller, Mealman, Flour Factor, or Baker in *Ireland*, in whose House, Mill, Shop, Stall, Bakehouse, Bolting-house, Pastry Warehouse, Outhouse, Ground or Possession any Ingredient or Mixture shall be found which shall, after due Examination, be adjudged by any Magistrate or Magistrates, Justice or Justices of the Peace to have been deposited there for the Purpose of being used in adulterating Meal, Flour, Dough, or Bread, shall, upon being convicted of any such Offence, either by his, her, or their Confession, or by the Oath, or in case of a Quaker by Affirmation, of One or more credible Witness or Witnesses, forfeit and pay on every such Conviction any Sum not exceeding Ten Pounds nor less than Forty Shillings for the First Offence, Five Pounds for the Second Offence, and Ten Pounds for every subsequent Offence, or in default of Payment thereof shall, by Warrant under the Hand and Seal or Hands and Seals of the Magistrate or Magistrates, Justice or Justices before whom such Offender shall be convicted, be apprehended and committed to the House of Correction or some Prison of the City, County, or Place where the Offence shall have been committed, or the Offender or Offenders shall be, there to remain for

any Time not exceeding Three Calendar Months, with or without hard Labour, from the Time of such Commitment, (unless the Penalty be sooner paid,) as any such Magistrate or Magistrates, Justice or Justices shall think fit and order; and it shall be lawful for the Magistrate or Magistrates, Justice or Justices before whom any such Offender shall be convicted to cause the Offender's Name, Place of Abode, and Offence to be published in some Newspaper or Newspapers which shall be printed or published in or near the City, County, Borough, or Place where the Offence shall have been committed; and the Proprietor or Proprietors, Printer or Printers, and every other Person and Persons concerned therein, are hereby authorized to print and publish the same when he, she, or they is or are required so to do by or by the Order of such Magistrate or Magistrates, Justice or Justices; and he, she, or they is and are hereby indemnified from any Prosecution or Prosecutions for printing and publishing the same or causing the same to be printed and published in such Newspaper or Newspapers by or from any Person or Persons whomsoever, any Law, Statute, or Usage to the contrary notwithstanding; and the Costs and Charges of such printing and publishing shall be paid out of such last-mentioned Penalty or Forfeiture, if any such shall be so forfeited and paid or recovered."

3. A wooden or glass rubber, flat at the bottom, used to bray or spread out ink on the ink-block.



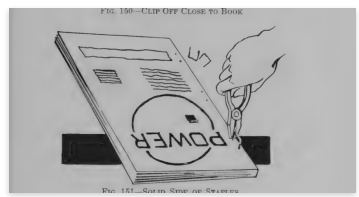
A tool to spread ink
William Savage, A Dictionary of the Art of Printing, 1841

BRAYER PRINTS Decorative endpapers and cover prints produced by rolling an inked brayer over paper under which flat objects, such as leaves, ferns, etc., have been placed. Alternative methods are to ink the objects and press the paper on them with a clean brayer, or to roll the inked brayer over the paper and then place objects underneath and roll with an ink of a different color. 183 RE

BRAZIL WOOD The heavy wood of any of the tropical trees, family Leguminosae, which yield a red, water-soluble dye, brazilin ($C_{16}H_{14}O_5$) which at one time was used to produced coloring materials used both in marbling and in dyeing leather. Brazil wood dyes have been largely superceded by the synthetic dyestuffs. RE

BREAD CRUMBS The particles of ordinary crustless bread, used by some restorers to remove loose dust from maps, charts. etc., and for dry cleaning the leaves of books. 173 RE

BREAK **1.** 1. The parting of adjacent sections of a book due to failure of the sewing. See also: START. 2. A crack in the gold or foil BLOCKING or tooling of a book. 3. In papermaking, a complete separation of the web of paper, either on or off the machine. 4. In leather manufacture, the minute wrinkles formed when the grain surface of leather is bent so that its grain side is sharply concave. If the wrinkles formed are very fine. and there are many of them to the linear inch, the leather is said to have a fine break, whereas if they are large and there are relatively few to the linear inch, the leather is said to have a coarse break. A very important aspect of the "break" in leather is that when the leather is flexed to cause the break to appear, it should disappear once the leather is again flattened. Since a fine break is considered to be one of the more important characteristics of leather, tanners attempt to obtain as fine a break as possible. In order to achieve this, it is necessary to prevent excessive cohesion of the fibers in the grain surface of the leather, which is one of the major purposes of FATLIQUORING leather. Break is influenced to a great extent by the amount of oil in the grain layer and increases in fineness with an increase of oil. • The butt area of a skin usually has a finer break than the belly; tighter skins have finer breaks than looser ones, and a leather like calfskin will have a much finer break than cowhide. • Improper methods of finishing may cause an otherwise fine break to become coarse, but the kind of tannage has little effect on break.2@DAP A piece of a line.—M. The last line of a paragraph. • Breve. *See* Accented Letters.3@MOX a piece of a *Line*. Also the *Mettle* that is contiguous to the *Shank* of a *New Cast Letter*: This *Break* is formed in the *Mouth-piece* of the *Letter-mould*, and is called a *Break*, because it is always broke from the *Shank* of a *Letter*. RE 102,248,363



sections or signatures. Find the "break" between sections and remove one section at a time by "peeling" it away from book. (Fig. 152.)
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BREAKING LENGTH The length of a strip of paper, cut either in the machine or cross direction, or a strip of cloth, cut either in the warp or filling direction which would break of its own weight when suspended vertically. It is a value calculated from the tensile strength of the material. Under normal circumstances paper will have a greater breaking length in the machine direction than in the cross direction, and cloth a greater breaking length in the warp direction than in the filling. 42,98,341 RE

BREAKING STRENGTH 1. See: BURSTING STRENGTH. 2. The breaking load or force, expressed in pounds per inch, required to rupture a material, such as cloth or paper. breathing. A property of leather, characterized by a resistance to water in the liquid form but having the ability to allow the passage of water vapor. "Breathing" is considered important in maintaining the suppleness and handle of leather, and is one reason why some conservationists oppose the use of hard waxes in leather dressings. RE

BRETHREN OF THE COMMON LIFE See: BROTHERS OF THE COMMON LIFE. RE

BRETONS, PERE ET FILS, LE Two renowned producers of marbled papers of 17th century France. They produced finely veined papers, some of which, with fine veins of gold and silver, were very exquisite. The Bretons also made excellent papers stenciled with flowers on paper with a highly calendered surface. 217 RE

BREVIER The name of a type, a size smaller than Bourgeois, and larger than Minion. In Moxon's time 112 Brevier bodies measured a foot. *See* Types. DAP

Fig. 62. Rückseite von einem Brevier. Ende des 15. Jahrhunderts. Nürnberg, Germanisches Museum.
Paul Adam, Der Bucheinband: Seine Technik und seine Geschichte [de], 1890

BRICK GUARD A type of COMPENSATION GUARD, but specifically one side stitched to the text block to compensate for pocket material. 339 RE

BRIGHTENING AGENTS Chemical agents at one time used extensively in leather dye batches to brighten the color of the finished leather. One such agent was sulfuric acid, which is not only destructive but virtually impossible to remove from leather effectively and completely. Another was formic acid, which, being weaker and more volatile, was less destructive. See also: P.I.R.A. TESTED. 298 RE

BRIGHTER BINDING A movement initiated in about 1910 in Great Britain by Alexander Philip to encourage libraries to have their books bound in bright. colorful cloth, so as to enliven the appearance of the then drab and colorless bookstacks in the libraries of that time. The belief was that bright bindings meant bright cheerful libraries, whereas a library filled with dark blue and black bindings had the opposite effect. Se also: BINDING SCHEMES. 261 RE

BRIGHTNESS Originally, a judgement of the amount of light reflected to the eye from the surface of a material, regardless of hue or color saturation. Brightness is now measured by optical comparators. Many factors affect the brightness of a material such as paper, including the degree of bleaching of the pulp, as well as the addition of chemicals. Chemically treated high-grade text and book papers have a brightness in the range of about 96 (on a scale of 100), coated papers range from about 70 to 85, while mechanical wood machine-coated papers are in the range of

about 60 to 75. Newsprint is generally below 60. [17,72 RE]

BRIGHTNESS REVERSION A paper pulp, and particularly a bleached paper pulp, which has lost BRIGHTNESS because of natural or artificial aging. [17 RE]

BRIME A finely powdered burnt GYPSUM. Brime is dusted on GOLDBEATER'S SKIN in order to eliminate as much friction as possible during the MOLD (2) stage in the manufacture of gold leaf. [29 RE]

BRING-UP To bring-up a form of types is to place overlays over those parts on which the pressure is deficient in order to increase it and to equalize it over the whole surface of the form. • With wood-cuts, in which an equal pressure over the whole surface is not wanted, it is to place underlays on the bottom of the block, under those parts which require to come stronger than the rest, these are the dark parts and the foreground, and to cut away the tympan sheet over the light parts and the distances when requisite, and to overlay those parts which require to be firm, with smooth thin paper. I have always found India paper the best, but the minute hard particles and all the extraneous substances, should be taken out by scraping it carefully with a knife, so as to render it quite smooth and even, otherwise the engraving will be injured. • In order to produce the finest impression possible, it is necessary that it should be the impression of the surface of the types and the engraving, and the surface only; therefore it is requisite to have very little blanket in the tympans, and that of the finest kerseymere or woollen cloth, or paper alone, so that it shall not be pressed in between the lines, which, when the pressman neglects this precaution, produces rough coarse lines; of course the overlays should be as few as possible and of very thin paper. *See* Fine Presswork, Making Ready, Overlay, Underlay. [DAP]

BRINING A method generally used in the larger abattoirs for curing hides and skins for transportation to tanneries. After flaying. the hides are washed thoroughly to remove blood and soluble protein matter and the hair is scraped under a spray of water. The flesh side is brushed vigorously to remove surplus flesh. The hides are then hung in pits or run in large paddles in a very strong solution of sodium chloride. using 30 pounds of salt to every 10 gallons of water. This gives a very good and uniform salt penetration for heavy hides in 1 to 14 hours. The hides are then drained and piled and treated with salt in the WET-SALTING process. The purity and strength of the brine must be checked before it is reused, as it may become contaminated with halophilic bacteria. The use of a salt solution as a preliminary treatment for preserving cowhides has been standard practice in South America for many years, and has been in commercial use in the United States since about 1935. Brining, followed by wet-salting, is a more expensive method of cure than salting alone; however, it reduces putrefactive damage to the hides to a considerable extent over simple salting. [248,306 RE]

BRISTOL BOARD A lightweight board that can be made on either a Fourdrinier or cylinder papermaking machine. There are three types of bristols: 1) index, 2) mill, and 3) wedding. They range in thickness from 0.006 inch and greater. The original bristol board, made in Bristol. England, was a pasted board made of rag content paper, but very little bristol today is of this character. Bristols are sometimes filled, but are more commonly pasted or plied, the thicker sheets being made by pasting sheets of the same stock together until the desired thickness is attained. They are designated as 2-ply, 3-ply, etc., according to the number of sheets used. The highest grade of bristol is wedding, followed by index and mill. [17,234,320 RE]

BRITISH MARBLE A marble pattern, with or without veins, which somewhat resembles the SPANISH MARBLE. It is usually executed entirely in varying shades of black although colors are sometimes used. [241,369 RE]

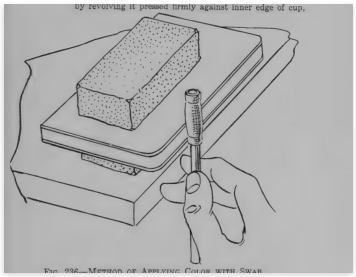
BRITTLENESS The property or condition of a material, such as, paper, board. adhesives etc, that causes failure of the material when it is deformed by bending. As virtually any material will fail if bent or folded a sufficient number of times, brittleness is of practical interest only when deformation producing failure is small or the number of folds is relatively small in number. • Over the course of many years. high acidity in paper, and particularly acidity resulting from inorganic acids of low volatility has been suspected of being the chief cause of brittleness in paper. This acidity can be attributed to several sources: 1) papermaking procedures, e.g., excessive ALUM in sizing or excessive chlorine in BLEACHING (1), which may lead to the formation of acid; 2) ink; and 3) conditions of storage, which may allow acid gases such as SULFUR DIOXIDE to gain access to the paper, which. in the presence of heat and other conditions. may lead to the formation of acid. See also: ACID;

ACID GASES; ACIDITY; ACID SIZE; DEACIDIFICATION; DURABILITY (OF PAPER); FOLDING ENDURANCE. 17,34,41,348 RE

BROAD also *broad fold* **1.** 1. A sheet of paper which, after being folded, has the grain direction running with the shorter dimension of the paper. 2. A sheet of paper folded in such a manner that the resulting pages are wider than they are deep, i.e., an OBLONG fold or page, as distinguished from an upright page or "deep fold." RE **2.** The technical name of a piece of furniture equal in width to a broad quotation. DAP

Fig. 61. —Broad-leaved Wattle (Acacia pycnantha).
H. R. Procter, The Principles of Leather Manufacture, 1903

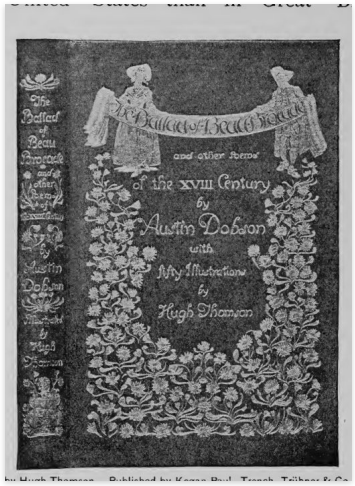
BROAD-SIDE **1.** a Form of one full *Page*, Printed on one side of a whole Sheet of Paper.2@AMP A form of one page, printed on one side of a whole sheet of paper. MOX



apply color to edges with broad-side of swab, moving swab lengthwise of edge. (Fig. 236.) Endeavor to color entire three edges with one dip of swab, by revolving it
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BROADSIDE A form of one full page, printed on one side of a whole sheet of paper, whatever size the paper may be of: thus, we have demy broadsides—royal broadsides—double crown broadsides, &c. DAP

BROCADE 1. A book cloth, generally made from silk or cotton, woven in jacquard construction and characterized by allover formal design of slightly raised floral and figure designs introduced by additional threads in the filling. 2. In papermaking, a heavily embossed cover paper. 3. A marbled paper with a brocadelike pattern. 183 RE



"THE BALLAD OF BEAU BROCADE," BY AUSTIN DOBSON.
Brander Matthews, Bookbindings Old and New: Notes of a Book-lover, 1896

BROCHURE A "stitched work" (from the French "brocher," to stitch). It is a short printed work, with or without a paper or self-cover, and sewn or stitched. 139 RE

BROKE UP When plates are turned over and folded at a short distance from the back-edge, before they are placed so as to enable them to turn easily in the volume, they are said to be broke up. The same process is sometimes applied to the entire volume. MAB

BROKEN also *broken back* 1. The tendency of a book to open readily at a place or places where the binding has been forced or strained, causing the book to lose its shape. This may be caused by: 1) improper opening of a new book that is tightly bound; 2) improper backing, which flattens the spine and affects its contour; 3) using paper with the grain running at right angles to the spine, resulting in leverage and causing THROW OUT of one or more sections; 4) sections, either with or without plates, that are too bulky, and are forced apart during backing, leaving ridges; and 5) the use of animal glue during the gluing process before rounding and backing, that is too cold or is not sufficiently flexible. In a TIGHT BACK leather binding, it may result in ridges appearing on the spine where the leather has been forced away from the paper. 2. A book broken completely through so that it is in two or more pieces. This generally occurs in relatively

old books, particularly those of the 19th century, in which the paper and glue have become so embrittled and inflexible that when the book is opened, it breaks apart. 83,102 RE

BROKEN LETTER By broken letter is not meant the breaking of the shanks of any of the letters, but the breaking of the orderly succession in which the letters stood in a line, page, or form, &c. and mingling the letters together, these mingled letters being called pie.—M. Instead of Broken Letter it is now styled Broken Matter. DAP

BROKEN LINE 1. A blocked or finished line or rule intentionally "broken" by uniformly spaced openings. 2. A blocked line that is not solid as a result of breaks in the gold leaf. 256 RE

BROKEN MATTER **1.** The deranging the order of types after they are composed, so as to make it pie. Moxon styles it Broken Letter, which *see*.2@AMP Pages of type disrupted and somewhat intermingled. DAP

BROKEN NECK A ball is said to be broken-necked, when the wool in the bowl of the ball stock separates from the body of wool in the ball; so that when the ball is held in a horizontal position by the handle it hangs down in a flabby manner. DAP

BROKEN OVER When plates are turned over or folded a short distance from the back edge, before they are placed in the volume, so as to facilitate their being turned easily or laid flat, they are said to be broken over. When a leaf has been turned down the paper is broken. ABB

BROKEN UP When plates are folded over a short distance from the back edge before they are placed in the book, that they may be turned easily, they are said to be broken up. The same process is sometimes applied to an entire book. NBL

BROKERS Binding agents, who were go-betweens or self-appointed salesmen of publishers or library binders, and who solicited binding business and then let out the work to the lowest-priced bidder on their list. Mason Locke Weems ("Parson Weems"), the creator of the George Washington cherry tree myth, seems to have been one such agent, working between binders and the publisher, Matthew Carey. Binding brokers, who flourished in the United States well into the 20th century, are rare today. 131,308 RE

BRONZE LEAF See: DUTCH GOLD. RE

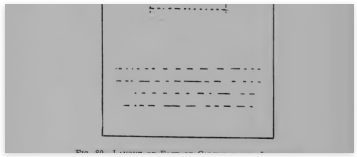
BRONZE POWDER A metallic powder made from various bronze or brass alloys and used principally in lacquer or varnish vehicles, or with bronzing liquid, as the so-called gold paint. The powder can be prepared to duplicate every shade of gold from a pale or lemon color to a deep coppery hue. Bronze powder darkens or discolors after a relatively short time, and this, plus the fact that the paint made from it has a lackluster, grainy quality, makes it unsuitable for use in bookbinding. 236 RE

BRONZED EDGES A decorative edge pattern on a book produced by impressing bronze leaf on the edges by means of an engraved roller. The leaf is first pressed into the gravure and then rolled on the edge. This technique was generally executed over colored edges, with albumen or gum arabic being used to secure the leaf to the paper. Bronzed edges were employed mainly in the latter part of the 19th century. RE

BROTHERS OF THE COMMON LIFE Associations of clerics and laymen that originated in the Netherlands in the 14th century. The reformers, Gerhard Groote and Florent Radewyns, inspired a small group of men at Deventer (Holland) to join together in community life in pursuit of holiness. The movement spread throughout the Netherlands and Germany and was influential until the time of the Reformation. • One of the principal occupations of the Brothers was the production of books. but, unlike the monastery scribes, they established their book trade specifically for the purpose of supporting their organization, using the profits derived from the sale of books in their missionary work. In addition, instead of offering their works in Latin, they issued them in the vernacular of the area in which they were produced. • At the Convent of St. Jerome at Ghent, the Brothers were noted for the excellence of the manuscripts and bindings they produced. Two examples of their work are embellished with a panel representing their patron, St. Jerome, kneeling before a crucifix. In the background, beyond the mountains, is a view of the belfry of Ghent, surmounted by the dragon, and the spires of three churches. • Their first book was issued in 1476 from the Nazareth Monastery in Brussels. 141 RE

BRUSH An implement used for the application of paste. glue, or other adhesive liquid, powder, glair, etc., to the surface of paper, board, cloth, leather, or other material. A brush is composed of a gathering of hair or bristles (natural brushes), or some synthetic material. secured in a plas-

tic compound and held in a metal ferrule which is crimped around a handle. A high quality brush always has the natural tips of the hairs or bristles. The various shapes of brushes are achieved by cutting, trimming, and fashioning the root (butt) ends of the hairs. A pointed brush, for example, is shaped by inserting the hairs, tips downward, in a brass "cannon," in the size and shape made for the purpose, and trimming them at the root end. Very superior brushes have a considerable hold of hair within the ferrule, sometimes as much as is seen beyond the ferrule, while cheaper brushes have but little hold. 66,233 RE



18. Draw in your lettering in gold ink, first penciling the letters, afterwards using stub pen or fine pointed brush (Fig. 80). Finally glue off the back of calendar pad, affix it to board
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

BRUSHING The process of developing a mild luster on the finished surface of a leather by the action of a rotary brush. The term is also used with reference to freeing the surface of leather of the fine fibrous dust created by buffing—i.e. by drawing the skins between a pair of long rotary brushes. 363 RE

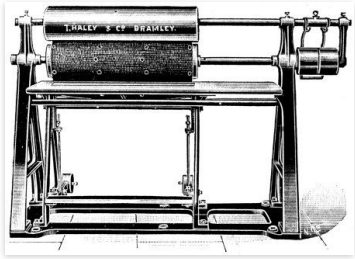


Fig. 42. —Brushing Machine.
H. R. Procter, The Principles of Leather Manufacture, 1903

BRUSHING OUT See: FIBRILLATION. RE

BUCKLE 1. The wrinkling near the head and binding edge of a section, which may be caused by paper that is too thick, or by too many folds in forming the section, and which may be accentuated by the grain direction of the paper being incorrect—i.e. running from spine to fore edge rather than head to tail. 2. Book covers or cover boards that have been warped and twisted in several directions. See also: COCKLE (1–3). 131 RE

BUCKLE FOLDING See: FOLDING RE

BUCKRAM **1.** A BOOK CLOTH made from cotton or linen, usually the former, and closely woven, occasionally with a double warp. It is filled or coated and calendered to give it a smooth finish which blocks well and is reasonably durable. Originally, the term applied only to a starch-filled fabric; today, however, it applies also to coated and impregnated fabrics having a heavy base. The material used to fill the interstices and/or cover the base fabric is usually pyroxylin, but it may be starch, china clay, clay, or other nonfibrous material.2@NBL Properly a coarse linen cloth, stiffened with glue or gum. Most buckram, so-called, is made of cotton. See also Linen-finish buckram and Art canvas. RE

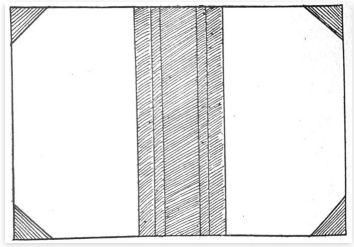
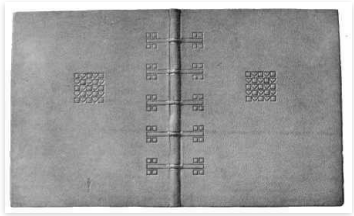


Figure 8—Outside cover of a book bound in two materials. Buckram for back and corners; cloth or paper for the sides.
Ben Davidson, Bookbinding Self Taught, 1925

BUCKSKIN A leather produced from the hides of male deer or elk. It usually has a suede finish and is oil tanned or alum tawed. It has a soft texture, and is pliable and reasonably strong. Examples of its use (in England) can be traced back to the 16th century. Imitation buckskin is sometimes made from sheepskin. See also: DEERSKIN. 278,325 RE

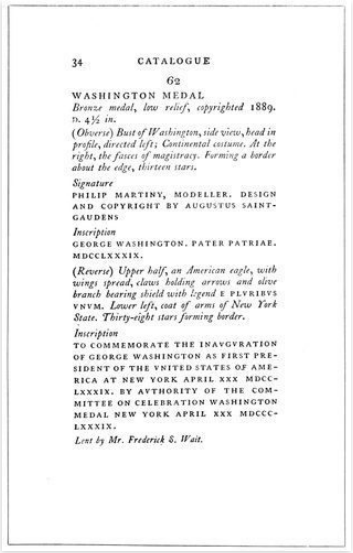


BOOKBINDING IN BUCKSKIN, WITH INLAY AND TOOLING. DESIGNED BY PROF. JOSEF HOFFMANN EXECUTED BY THE WIENER WERKSTAETTE
Charles Holme (ed.), The Art of the Book, 1914

BUDS A decorative ornament filling a small panel on a ROLL (1), usually in the conventionalized form of a spray bearing buds. 250 RE

BUFF LEATHER A leather which has a yellowish, cream or white surface and is finished with a soft, velvet nap. It is produced from cowhide from which the grain layer has been removed by FRIZZING. It is an oil-tanned leather. 351 RE

BUFFALO A leather produced in imitation of RUSSIA LEATHER, but of far greater strength than the genuine leather. It is made from the hide of the large, shaggy-maned North American ox, Bison bison, and was used extensively in covering books in the United States in the latter half of the 19th century. RE



34 CATALOGUE

62

WASHINGTON MEDAL

Bronze medal, low relief, copyrighted 1889.

D. 4½ *in.*

(*Obverse*) *Bust of Washington, side view, head in profile, directed left; Continental costume. At the right, the fasces of magistracy. Forming a border about the edge, thirteen stars.*

Signature

PHILIP MARTINY, MODELLER. DESIGN AND COPYRIGHT BY AUGUSTUS SAINT-GAUDENS

Inscription

GEORGE WASHINGTON. PATER PATRIAE. MDCCLXXXIX.

(*Reverse*) *Upper half, an American eagle, with wings spread, claws holding arrows and olive branch bearing shield with legend* E PLVRIBVS VNVM. *Lower left, coat of arms of New York State. Thirty-eight stars forming border.*

Inscription

TO COMMEMORATE THE INAVGVRATION OF GEORGE WASHINGTON AS FIRST PRESIDENT OF THE VNITED STATES OF AMERICA AT NEW YORK APRIL XXX MDCCLXXXIX. BY AVTHORITY OF THE COMMITTEE ON CELEBRATION WASHINGTON MEDAL NEW YORK APRIL XXX MDCCCLXXXIX.

Lent by Mr. Frederick S. Wait.

EXAMPLE 192 Interesting page from a sewing-machine catalog. By Matthews-Northrup Works, Buffalo, N. Y.
Edmund G. Gress, The Art and Practice of Typography, 1917

BUFFED LEATHER A leather from which the top surface of the grain has been removed. See also: BUFFING (2); CORRECTED GRAIN. 61 RE

BUFFING **1.** 1. A very thin innermost split of a hide, usually a cowhide, which is colored and grained to give the appearance of the outer surface of the hide. A buffing is created when a hide is split into three layers. At one time it was used extensively for linings, as well as for covering trade books. It was never used in fine bookbinding. 2. The process of producing a fine nap on the grain surface of leather by means of carborundum paper or on the flesh sides of small skins by the action of an emery wheel. In sandpapering the grain surface of leather, the sharp edges of the carborundum, or other abrasive material, cut the microscopic fibrils in the grain surface and produce a fine nap on the surface. Many of the grain defects in a leather do not penetrate into the leather nearly to the depth of the grain layer, and can be entirely removed by buffing. When a leather is buffed to a measurable depth, as it may have to be if the grain defect is very deep, it is said to be buffed; when it is buffed to a lesser depth, it is said to be snuffed. When a leather is buffed so lightly as not to impair the grain pattern, the leather is said to have a CORRECTED GRAIN. 3. The process of polishing the leather covers of a book with a soft fabric wheel.2@NBL The name given to the thin sheet of cowhide taken off in the operation of buffing or splitting. It is usually of very inferior quality. RE 264,278,325,358,363

Fig. 6 BLADED CYLINDER FOR "BUFFING" LEATHER
K. J. Adcock, Leather: From the Raw Material to the Finished Product, 1910

BUFFINGNETTE A water-resistant cloth made in imitation of leather. While it is adequate for the sides of books that receive considerable use, as it is stain and water resistant, it is not adequate for full covering, as it does not wear well in the areas of the joints. It is also difficult to block, and labels do not adhere to it well unless the surface is abraded and coated with shellac. 105 RE

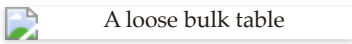
BUILD IN also *building in* The process of placing newly cased-in library books between smooth or brass-bound boards and applying pressure in a standing press or hydraulic press, or applying dry heat and (considerable) pressure for a brief time (usually 8 to 15 seconds) in a hydro-press or BUILDING-IN MACHINE. Building in forms the joints, compresses the book, secures it firmly in its case and reduces substantially any possibility of board warpage. See also: CASING-IN. 139 RE

BUILDING-IN MACHINE A machine used to BUILD IN the text block of a book into its case or covers. Building-in machines substitute heat and great pressure for the element of time required to set and cure the adhesive and form the joints. For intermittent or relatively small production, a single-clamp machine, such as the type often found in library binderies, is often adequate. It can build in books up to 12 by 14 by 4 inches in size, and can process up to five books per minute, depending upon the skill of the operator and the CLAMP DWELL setting of the machine. In general, the longer the dwell time, the more solid the binding, which is essentially the reason why a book built in by this type of machine is not as solid as one left in a press for a longer period of time. In edition binding, multiple-clamp machines are usually used, and can process up to 36 books per minute. In edition machines, books may be manually inserted, or fed in automatically after CASING-IN. See also: CASING-IN MACHINE. 320 RE

BUILT-UP LETTERING Multilined decorative lettering, "built up" by forming the letters with pallets and gouges rather than by the use of hand letters. 335 RE

BUILT-UP PATTERNS Decorative patterns in blind or gold built up from individual line and solid tools. 310 RE

BULK **1.** 1. The thickness of the gathered leaves or sections of a book before sewing, or the thickness of the bound book before its covers are attached, or before casing-in. 2. The thickness of a sheet of paper in relation to its weight. With two papers of equal weight per ream, the one which "handles" the thicker is said to "bulk" the better. 3. The thickness of a specified number of sheets of paper or board under a specified pressure. Bulk here is important in gauging the thickness of a proposed book. 4. In papermaking in its most correct meaning, "bulk" is the ratio of fiber volume of a sheet to total volume, including air spaces which may be void or filled with loading or sizing materials. See also: BULK EQUIVALENTS.2@DAP A platform fixed to the end of a frame on which to put a letter board with letter; there is another sort sometimes adopted, called a Loose Bulk, which is a small table made of deal, for the same purpose, but moveable to any part where it is most convenient to use it. • BULLET. • When a workman, at case or press, either for neglect, want of punctuality, or for gross misconduct, is discharged instanter, and the usual notice of "a fortnight" is not given, it is said, *He has got the Bullet*. RE 17,234,261,264



A loose bulk table
William Savage, A Dictionary of the Art of Printing, 1841

BULK EQUIVALENTS The number of pages per inch of a paper of a given caliper (thousandths of an inch): • Caliper/ Pages • 4 sheets per Inch • 5.5 1,454 • 6.0 1,332 • 6.5 1,230 • 7.0 1,142 • 7.5 1,066 • 8.0 1,000 • 8.5 942 • 9.0 888 • 9.5 842 • 10.0 800 • 10.5 762 • 11.0 726 • 11.5 696 • 12.0 666 • 12.5 640 • 13.0 614 • 13.5 592 • 14.0 570 • 14.5 552 • 15.0 532 • 15.5 516 • 16.0 500 • 16.5 484 • 17.0 470 • 17.5 456 • 18.0 444 • 18.5 432 • 19.0 420 • 19.5 410 • 20.0 400 • 20.5 390 • 21.0 380 • 21.5 372 • 22.0 364 • 22.5 356 • 23.0 348 • 23.5 340 • 24.0 332 • 24.5 326 • 25.0 320 • 25.5 314 • 26.0 308 • 26.5 302 • 27.0 296 • 27.5 290 • 28.0 286 • 28.5 280 • 29.0 276 • 29.5 272 • 30.0 266 • 30.5 262 • 31.0 258 • 31.5 254 • 32.0 250 • 32.5 246 • 33.0 242 • 33.5 238 • 34.0 234 • 34.5 232 • 35.0 228 • 35.5 224 • 36.0 222 • 36.5 218 • 37.0 216 • 37.5 212 • 38.0 210 • 38.5 208 • 39.0 204 • 39.5 202 • 40.0 200 • 40.5 198 • 41.0 194 • 41.5 192 • 42.0 190 • 42.5 188 • 43.0 186 • 43.5 184 • 44.0 182 • 44.5 180 • 45.0 178 • 45.5 176 • 46.0 174 • 46.5 172 • 47.0 170 • 47.5 168 • 48.0 166 • 48.5 164 • 49.0 162 • 49.5 162 • 50.0 160 52 RE

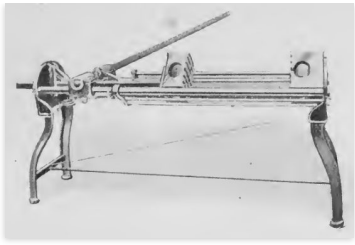
BULKED UP A deliberate attempt to make a book thicker and, therefore, of a more substantial appearance. Books, and especially novels, are sometimes "bulked up, ' i.e., printed on BULKING BOOK PAPER so that a higher price may be charged. Such paper, however, is often inferior in both strength and printing quality to a more compact paper. 256 RE

BULKING BOOK PAPER A paper produced to give maximum bulk per unit ream weight. It is produced from a number of paper furnishes designed to impart this property, including cotton linters, rag pulp, esparto, and chemical wood pulps. Some grades contain a large percentage of mechanical wood pulp mixed with other pulps. The paper furnish is provided with little or no fillers. This paper is usually made to specifications of finish, caliper, or both. Bulking book paper picks easily and often causes difficulties in printing. See also: BULKED UP; NOVEL PAPER. 17 RE

BUMPING HAMMER See: BACKING HAMMER. RE

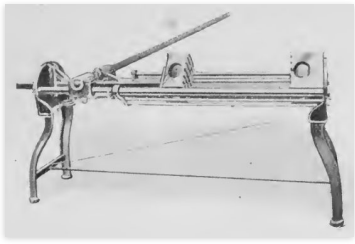
BUNDLE **1.** 1. A seldom used term applied to a printed sheet that has been folded to make a section. 2. A unit of board measure, generally of weight of 50 pounds. The actual number of boards in a bundle will depend on area and caliper of the boards. 3. At one time, a package of paper containing 2 perfect reams, or 1,000 sheets, but in today's usage, a package of paper weighing about 125 pounds and containing any number of sheets, depending on the size, caliper, and type of paper.2@DAP A bundle of paper consists of two reams. *See* Paper, Ream. • Bur. *See* Rag. RE 17,316

BUNDLING 1. The process of tying up the sections of a book under pressure before GATHERING (1), for the purpose of keeping them clean, flat, and ready for gathering, while at the same time compressing them into a compact and solid state. 2. The process of gathering together a number of skins of leather, usually 12, of the same kind, weight, and grade. The total area of leather is indicated on the bundle. 179,320 RE



CRAWLEY BUNDLING PRESS No. 358.
George A. Stephen, Commercial Bookbinding: Processes and Machinery, 1910

BUNDLING PRESS also *bundling machine* See illustration A type of press used to compress the newly folded sections of a book or group of books, usually of the same title. Bundling presses are usually of three types: 1) the hand-bundling press, which consists of a floor stand on which two jaws are mounted horizontally. One of the jaws is stationary and the other movable. The group of sections with strings around it is placed between the jaws and compressed by forcing the movable jaw towards the stationary one. The jaws are designed so as to allow for the tying of the bundles while under pressure; 2) the power-bundling press, which is either vertically or horizontally oriented, and in which a movable bed is driven toward a stationary head by power supplied by an electric motor through a system of gears and racks; and 3) the pneumatic bundling press, which may also be vertically or horizontally oriented, in which the movable jaw is driven by a piston to which power is supplied by compressed air. In all three types, when the sections of several books are to be bundled together, the groups are placed between boards, bundled, and the entire group, including boards, is tied before being removed from the press. 142,320,339 RE



CRAWLEY BUNDLING PRESS No. 358.
George A. Stephen, Commercial Bookbinding: Processes and Machinery, 1910

BUR Rough edge of a type which the founder neglected to take off in dressing. AMP

BURIED CORDS See: SAWING IN. RE

BURNISH **1.** 1. The glossiness or brilliance produced by rubbing the gilt edges or leather cover of a book with a burnishing or polishing tool. See also: BURNISHER (5) (2). 2. In papermaking, to burnish or polish the surface of a paper. See also: GLAZED (1).2@MAB The effect produced by the application of the burnisher to the edges.3@BIB The gloss produced by the application of the burnisher to the edges after coloring, marbling or gilding.4@ABB The gloss produced by the application of the burnisher to the edges. RE 94

BURNISHED The effect produced by the application of a burnisher to edges. NBL

BURNISHED EDGES The colored or gilt edges of a book which have been polished, usually by means of a bloodstone or agate implement called a BURNISHER (2). See also: BURNISHER(S) (2). RE

BURNISHER also *burnishers* **1.** See illustration 1. One who burnishes the edges of a book. 2. The tools used to burnish the edges of a book. They are made of metal, agate (quartz), or bloodstone set in handles. The bloodstone type is the best and also the most expensive. Burnishers are generally available in two basic shapes—flat and toothed. They are relatively delicate tools and chip easily if handled roughly; they may be kept smooth and in good condition by rubbing them on the flesh side of a piece of leather coated with whiting, or, if too rough to be smoothed in this manner, by rubbing them on a zinc-lined board coated with a small amount of flour or emery mixed with machine oil.2@MAB Are pieces of agate or bloodstone affixed to handles.3@ABB Pieces of agate or bloodstone affixed to convenient handles.4@NBL Pieces of agate or bloodstone affixed to handles. With them a gloss is produced on the edges of a book. RE 66,99,278

Fig. 104. The burnisher is shown here held in the right hand — ready for the next operation —— See Figs. 106 & 107 .
Edward Johnston, Writing and Illuminating, and Lettering, 1906

BURNISHING BRUSHES A black lead or shoe brush, having stiff but not harsh bristles, and used, after coating the edges of a book with black lead, to burnish the edges before glairing for edge-gilding. 66 RE

BURNT GYPSUM See: BRIME. RE

BURNT SUGAR One of the coloring materials which, when dissolved in water, can be used to restore the proper tone or shade to the leaves of

a book that have been washed. The burnt sugar is added to the resizing bath, and the paper is "toned" at the same time it is sized. 154 RE

BURNT UMBER A dark brown pigment produced by calcining raw umber, and used in a mixture of red ochre, oil, and water, as a sprinkle for the edges of books. See also: SPRINKLED EDGES; UMBER. 371 RE

BURST FACTOR The BURSTING STRENGTH of paper in grams per square centimeter divided by the BASIS WEIGHT of the paper in grams per square meter, which gives the burst factor as a numerical value. See also: BURST RATIO. 17,72 RE

BURST RATIO The BURSTING STRENGTH of a material in points per pound. See also: BURST FACTOR. RE

BURSTING STRENGTH The combined tensile strength and stretch of a material as measured by the ability of the material to resist rupture when pressure is applied under specified conditions to one of its sides by an instrument used for testing the property. Testing for the bursting strength of paper is a very common procedure, although its value in determining the potential permanence or durability of paper is suspect. See also: BURST FACTOR; POINTS PER POUND. 17,72 RE

BUTCHER CUTS Damage to hides and skins caused by improper and/ or unskilled flaying, and usually seen in the form of cuts or furrows on the flesh side. In extreme cases, the cuts may go completely through the skin, thus reducing its value greatly. Butcher cuts are sometimes particularly noticeable on parchment and vellum. 363 RE

BUTT 1. That part of a hide or skin corresponding to the animal's back and sides after cutting away the shoulder and belly, and consisting of the thickest and strongest part of the skin. See also: SHELL. 2. Any type of hinge or joint used for reinforcement, or for fastening a bulky insert into a binding. 256,261,325 RE

BUTTERSTAMP See: BAND PALLET. RE

BUTTON OF THE TYMPAN An iron button with a female screw, screwed on a square shanked bolt, that goes through the bottom frame of the outer tympan, in wooden presses, and turns on the upper side of the inner tympan, to assist in keeping it tight in its place. • In very fine work also, when the paper is stout and heavy and large sheets, and it is not customary to fly the frisket, but to turn it down upon the paper before the tympan is turned down upon the form, a button is placed upon the lower frame of the outer tympan, which clasps the extreme end of the frisket, and confines the sheet of paper in its place on the tympan, and prevents it slipping down. DAP

BUTTONHOLE STITCH An embroidery stitch used in making a HEADBAND, and executed by drawing the needle and thread from the upper through the lower edge of the core, and out over the lower thread of the preceding stitch. The stitches are repeated, sometimes in alternate colors, e.g., blue and green, to form a firm line of adjacent loops around the core. • 83,111 RE

C

C The Roman equivalent of 100. See also: ROMAN NUMERALS. RE

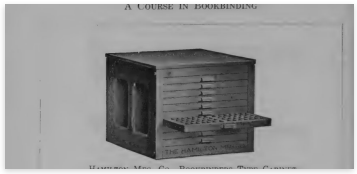
C CLAMP A C-shaped, general purpose clamp that grips between the open ends of the "C" by means of a long, flat-ended screw that threads through one end and presses the clamped material against the other end. It is used mainly for holding leather or book boards while using the SPOKESHAVE. It is called a "G-clamp" in Great Britain. 183 RE

C M PATTERN The code name for a small pebbled pattern in a book cloth. RE

C-PATTERN The code name for a pattern in a book cloth formed by covering the surface of the cloth with small raised dots. Also called "crêpe." 256 RE

C-STAGE The third and final stage in the reaction of some thermosetting resins, characterized by the relatively insoluble and infusible state of the resin. Some thermosetting resins in this stage are fully cured. Also called "resite." See also: A-STAGE; B-STAGE. 309 RE

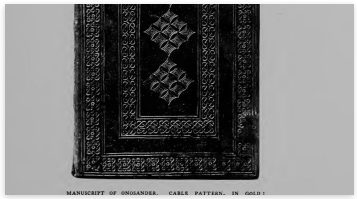
CABINET A receptacle for cases, chases leads, &c. AMP



HAMILTON MFc. Co., BOOKBINDERS TYPE CABINET
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CABINET SIZE See: OBLONG. RE

CABLE PATTERN See: ROPE PATTERN. RE



MANUSCRIPT OF ONOSANDER. CABLE PATTERN, IN GOLD OWNED BY MR. WILLIAM MORRIS
S. T. Prideaux, Bookbinders and Their Craft, 1903

CABRETTA LEATHER A leather produced from the skins of sheep which have hair instead of wool, i.e., straight-haired sheepskins. The leather is produced in India, China, South America, and Africa, the best grades coming from the latter two areas. In the United r States, the term is generally considered to indicate specifically a Brazilian sheepskin. Cabretta is generally chrome tanned and has a very fine grain and a strong fiber network. 61,325 RE

CAHIER A number of loose sheets assembled for binding, or bound loosely together to form a notebook or pamphlet. 2. The French expression for the signature of a bound book. RE

CAKE GLUE Generally, an animal GLUE supplied in large slabs up to 3 inches in thickness. The slabs are broken into small pieces, soaked in cold water until they absorb as much water as possible, and then heated to useable consistency. Flexible (internally plasticized) glue does not have to be soaked. RE

CALCIUM ACETATE A chemical ($Ca(C_2H_3O_2)$. 2HO), prepared by neutralizing acetic acid with lime or calcium a carbonate, and used in the preparation of other acetates and in the deacidification of paper. RE

CALCIUM BICARBONATE A salt obtained by replacing only one of the two hydrogen atoms in carbonic acid (H_2CO_3) by the metallic atom calcium, giving ($Ca(HCO_3)2$). It is employed in a 0.2% solution to carbonate excess calcium hydroxide used in deacidifying paper, and also to precipitate calcium carbonate into the fibers of the paper being treated. The precipitated calcium carbonate acts as a buffer to neutralize any acid that forms in the paper subsequent to treatment. 31 RE

CALCIUM CARBONATE A salt ($CaCO_3$), occurring naturally, usually in sea deposition, and prepared commercially by passing carbon dioxide either through cold lime water, which precipitates the calcite crystalline type, or hot lime water, which gives the aragonite crystalline type. The calcite is the thermodynamically stable

form. Calcium carbonate is sometimes precipitated into paper by suitable chemical reactions to deacidify the paper, and is also used both as a filler and a coating pigment in the manufacture of paper. 31,67,143 RE

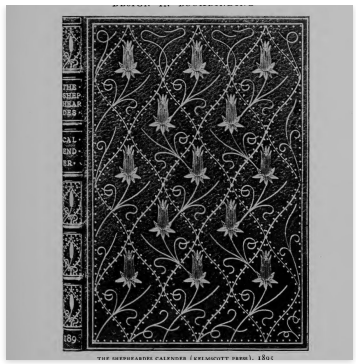
CALCIUM HYDROXIDE A strong alkali ($Ca(OH)_2$), which can be formed by the reaction of calcium oxide (CaO) with water. If the oxide is treated with only sufficient water to make it crumble to a fine, white, dry powder, slaked lime is produced. By slaking the paste formed from the oxide with an excess of water, a suspension called "milk of lime" is formed. A clear solution of the hydroxide in water is known as lime water. Calcium hydroxide is used extensively in a very strong solution (pH of approximately 11.4) in the LIMING and UNHAIRING of hides and skins in leather manufacture, and in the deacidification of paper. In the latter use, the resulting pH is approximately 11.0, and paper so treated is easily oxidized unless the pH is reduced by exposure to carbon dioxide or the paper is treated subsequently with a solution of calcium bicarbonate. 31,363 RE

CALCIUM HYPOCHLORITE Any hypochlorite of calcium, e.g., the normal anhydrous salt (Ca(ClO)2), that is generally found in commercial products containing 70 to 75% available chlorine. Calcium hypochlorite is used by many paper conservationists to bleach archival papers, and it is also used as an oxidizing agent to reduce the effects of FOXING. Its use is potentially harmful, as the chlorine is difficult to remove. Also known as "bleaching powder." RE

CALCIUM SULFATE A salt ($CaSO \cdot H_2O$), very slightly soluble in water. In its natural form, it may exist as anhydrite ($CaSO_4$) or gypsum ($CaSO_4 \cdot H_2O$) It is used as a filler pigment in the manufacture of paper. Precipitated calcium sulfate is known as "crown filler," or "pearl filler." See also: BRIME. RE

CALCIUM SULFITE A salt ($CaSO_3$), prepared by reacting sulfurous acid with calcium hydroxide, and used as a filler coating pigment in paper manufacture. RE

CALENDER Horizontal cast iron rolls with hardened, chilled surfaces resting one on another in a vertical bank at the dry end of the papermaking machine. The paper web is passed between all or part of the calender rolls to increase the smoothness and gloss of its surface. See also: SUPERCALENDER. 17,80 RE



THE SHF.PHEARDES CALENDER (KELMSCOTT PRESS), 1 895
S. T. Prideaux, Bookbinders and Their Craft, 1903

CALENDERED A paper or cloth that has been given a smooth surface by passing it through a CALENDER one or more times. Paper which receives a minimum of calendering is said to have an antique finish. With more calendering it acquires a machine finish, then an English finish, and, finally a supercalendered (highly glazed) finish. See also: CALENDERED CLOTH. 143,276 RE

CALENDERED CLOTH A cloth that has had a filler of starch, usually soybean flour, impregnated into the weave of the base cloth by means of iron or steel rollers exerting a great pressure. If the rolls are heated, a high gloss is also imparted. The cloth may also be embossed during the calendering process. 341 RE

CALF FINISH Originally, the smooth, ungrained finish of any animal skin tanned for use in bookbinding, and later used to designate CALFSKIN finished in a variety of grains in imitation of alligator, lizard, snakeskin, etc. 256 RE

CALF LINED **1.** A lining on the innerside of a limp cover, consisting of CALFSKIN in lieu of the board paper. This type of lining was thin and glued to the leather cover only at the outer edges. This left the covers pliable so that the book could be rolled up. Calf linings have been used at various times, and, although they are still used to some extent today, their most extensive use was in the years immediately before and after 1900.2@NBL When the inside of a limp cover is lined with calfskin, this taking the place of that half of the end paper which is usually on the inside of the cover. This calf lining is thin and soft and is usually glued to the leather cover only at the latter's outer edges, thus leaving the cover pliable. RE 105

CALF OR CALFSKIN Leather made of calves' skins. It has a smooth and uniform surface. It was formerly much used in binding, and is very

beautiful; but that made in recent years lasts only a short time, soon growing hard and brittle and even falling into dust. Even when new the surface is easily broken and torn. NBL

CALF PAPER A colored and embossed paper somewhat resembling leather and used occasionally for covering books. RE

CALF SPLIT A flesh split of a calfskin, sometimes embossed so as to make it resemble the grain side of the skin. The split lacks the necessary strength to be used for anything other than linings and labels. RE

CALFSKIN In its broadest sense, a leather made from the skin of an immature bovine animal. In a more limited sense. however, it is considered to be leather made from the skin of a bovine animal that has not been weaned, or at least has been fed only milk, and whose skin does not exceed a certain weight (15 pounds or slightly more) in the green salted state. The heavier skins of immature milk-fed animals, i.e., those up to 25 or 30 pounds in the green state, are often referred to as "veals" rather than calfskin. • The best calfskins for bookbinding purposes are prepared by tanning in oak bark or sumac tanning liquors. Its freedom from grain defects makes calfskin suitable for finishing in delicate shades of color. It may be finished rough or smooth, the latter being more common, and, as it may be without any noticeable grain pattern, it may be tooled with very little preliminary blinding in. • Books which are full bound in calfskin may be described as being diced, grained, marbled, mottled, scored, sprinkled, stained, or tree, according to the form of decoration used. In addition, special styles are known as divinity, antique, law, reverse, or rough calf. • Calfskin has been used as a covering material for books since 1450, or even earlier, and, up to the end of the 18th century, it was a common bookbinding leather. Thereafter, various forms of sheepskin, and later cloth, replaced calfskin as the most commonly used bookbinding material. • There are two distinct views concerning the durability of calfskin. Some contend that because the skin is from an immature animal, the leather made from it cannot be durable, even when carefully selected and tanned, because the fibers of the skin are not fully developed. Furthermore, there is the argument that, since the skin is very soft, it shows scratches and mars too easily, and, when used, the book must then be varnished or kept in a box. Others, however, argue that if the skins are selected carefully and tanned very slowly in oak bark or sumac, calfskin makes a quite durable leather capable of withstanding considerable wear. • Physiologically, calfskin is not nearly as weak as its detractors maintain. Although the fiber network is indeed lacking the depth of cowhide, the fiber bundles are reasonably stout and contain numerous finer fibers which are long, highly ramified, and of high tensile strength. This is because, in any young animal, the connective tissue, i.e., skin, develops more rapidly than some other parts of the body, such as the muscles. The dermal network of calfskin is therefore reasonably well developed and exhibits remarkable strength and toughness. In addition, there is no denying the fact that there are calfskin bookbindings that have come down to us in their original bindings; many are several hundred years old. In as much as the durability of calfskin before the 18th century was not in doubt, it may be that it was the lowering of tanning standards that resulted in less durable calfskin. Furthermore, the bleaching methods employed to produce light-colored skins, as well as the techniques of decorating calf bindings with acid and other chemicals to produce mottled-, sprinkled-, and tree-calf effects were probably the major reasons for its reputation of insufficient durability. See also: SLUNK; TREE CALF. 207,291,351,363 RE

CALICO A plain white cotton fabric that is heavier than muslin. As early as the first quarter of the 19th century calico was dyed in various colors and used for covering publishers' bindings; it was in fact one of the first cloths to be used for covering books. It is still used to some extent for lining the spines of edition bindings, although for this purpose it is inferior to several other fabrics. See: SPINE LINING FABRIC. 71,236 RE

CALIPER 1. The thickness of a material measured under specified conditions. Caliper is usually measured in thousandths of an inch (mills or points), or, under the metric system, in millimeters. 2. The instrument used to measure the thickness of a material. See also: THICKNESS. RE

CAMBRIC 1. A fine linen thread used in lieu of silk for working headbands. 2. A fine, closely woven white linen fabric, used in library binding for hinges, spine linings, extensions, etc. RE

CAMBRIDGE CALF also *Cambridge sheep* A method of decorating a calf- or sheepskin binding by sprinkling on two tints, leaving a rectangular "pane" (panel) in the center of each cover. This technique was used extensively from the 1670s and again during the early decades of the 18th

century. It was revived and used to a considerable extent during the second half of the 19th century. 371 RE

CAMBRIDGE STYLE An English style of bookbinding practiced largely on theological works and in university libraries. Although used elsewhere, the style was so highly favored by binders in Cambridge in the early years of the 18th century that it became recognized as their speciality, which probably accounts for the name. Books bound in this style were sewn on raised cords, covered in calfskin that was masked and sprinkled in such a manner as to leave a stained central rectangular panel, a plain rectangular frame, which, in turn, was surrounded by a stained outside frame. The books had Dutch marble endpapers and red edges. The spine was pieced with red russia leather labels and had double blind lines at head and tail on each side of the raised bands. The covers were decorated with a two-line fillet close to the edges and on each side of the panel. and with a narrow flower roll worked on each side of the panel close to the lines. There were many variations of this style, including some books tooled in gold, and some with marbled covers and sprinkled panels. 69,154 RE

CAMEO BINDINGS A style of Italian binding of the first half of the 16th century, which was imitated by French binders and also by ROGER PAYNE at a later date. The style consisted of designs in relief made from dies cut intaglio, somewhat in imitation of gems or metals. Leather was the medium most often used, although vellum was also used, being pressed while wet on the die, and with the cavities being filled with a composition of lacquered paste to preserve the shape of the figures. After being attached to the center of the leather cover, they were sometimes gilt and painted. Cameo bindings were a development of the antiquarian interest in classical coins and gems, actual examples of which at first provided the sources of the molds. French examples executed for Henri 11 and Jean Grolier bore a central medallion stamped with an intaglio cut die. The design was embossed on a gilded and colored background. See also: CANEVARI BINDINGS. 110,141,279,347 RE

CAMLET To marble. See: MARBLING. RE

CAMPHOR A crystalline terpenoid ketone ($C_{10}H_{16}O$), occurring naturally in the (+)-, (-)- and (±) forms. Ordinary commercial camphor is the (+) type, obtained from the wood of the camphor tree (Cinnamonum camphora), mainly from Formosa. It can also be manufactured, using pinene ($C_{10}H_{16}$) as the raw material. It is sometimes used in an effort to rid books and bookcases of BOOKWORMS, and as a plasticizer in cellulose nitrate plastics. RE

CANCEL also *cancellans* **1.** 1. A replacement leaf or leaves, printed because of a mistake in the original printing, an imperfect page, etc., that is to replace the corresponding faulty section before the book is actually published. Cancels have been common since the beginning of printing from metal type; however, with the development of high speed printing presses, it has become more economical simply to reprint an entire signature rather than go to the expense of inserting a cancel by hand. • The substitution of the cancel by either the printer or binder depends on when the mistake is discovered. If the binder is to make the substitution, the printer may mark the incorrect leaf with an asterisk to indicate to the binder that he is to cut out that leaf and tip the replacement to the stub. If the replacement leaf bears a signature mark the asterisk should precede the signature letter. • 2. In bookbinding, in a broad sense, all leaves that are not to be bound in. This applies specifically to the waste sheets.2@DAP At the conclusion of a work, if there be any leaves cancelled, it is useful to place a mark in the white line of the odd page of the reprinted leaf, to prevent a mistake on the part of the bookbinder; a *, †, ‡, ‖, or §, either upright or laid flat. This is too frequently neglected, and when the warehouseman omits tearing or cutting the cancelled leaf, the wrong one occasionally is bound in the book. To save press work and paper, cancel leaves are always imposed with the fragments, if possible. • Before the book is gathered, the warehouseman should either tear the cancelled leaf or run his knife up it, so as to prevent it being overlooked by the bookbinder; running the knife up it is the most expeditious method, and, to prevent mistakes, he ought to do this himself, and not to entrust it to boys, as cutting a wrong leaf would cause another leaf to be reprinted, and he might be held responsible for the expense, and also incur censure on account of delay.3@MAB Leaves containing errors which are to be cut out and replaced with corrected pages.4@ABB Leaves containing errors which are to be cut out and replaced by corrected pages (*see* ASTERISK).5@BCB leaves containing errors, which have to be discarded and replaced by cor-

rected sheets. Such leaves are marked by the printer with a star. RE 69,131,234

CANCEL TITLE A replacement title page substituted for the original. See also: CANCEL; CANCELLANDUM. 234 RE

CANCELLAND also *cancellandum* The incorrect, inaccurate, or otherwise disposal leaf that is to be cut out and replaced by a CANCEL. 140 RE

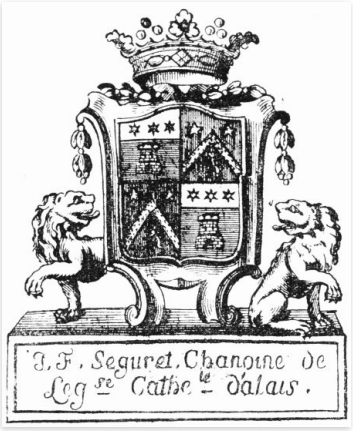
CANCELLATION The removal of a leaf, leaves, or an entire section of a publication because of an error, or for some other reason. When a leaf is removed, the remaining stub is termed a disjunct leaf. Se also: CANCEL; CANCELLANDUM. 12,343 RE

CANCELLED FIGURES Figures cast with a line across the face. AMP

CANDELILLA WAX A WAX found as an exudate on the leaves and stems of a plant (Euphorbia antisyphilitica) found in northern Mexico and the southwestern United States, and obtained by boiling the leaves and stems with water and sulfuric acid. It is yellowish-brown in color and is opaque to translucent. It is classed as hard wax and has a softening range at 64 to 68° C. It is used in making varnish and as a substitute for CARNAUBA WAX to impart a high gloss to leathers that are not glazed. 291 RE

CANEVARI BINDINGS See: GRIMALDI, GIOVANNI BATTISTA. RE

CANON The name of a type, a size larger than Trafalgar, and the largest with a specific name. The body is four Picas, the next size being four line Pica, and so upwards, reckoning by lines of Pica. *See* Types. • DAP



BOOK-PLATE OF CANON SEGURET.BOOK-PLATE OF CANON SEGURET.
Walter Hamilton, French Book-plates, 1896

CANTON FLANNEL A soft cotton fabric, napped on one side, and sometimes used as a spine lining fabric, usually in library binding. The nap side is placed next to the spine. 102 RE

CANVAS A firm, closely woven fabric, usually made of cotton, hemp, or linen, in plain weave, and produced in various weights. Canvas has been used as a covering material for books for centuries, and was one of the principal fabrics used for embroidered bindings. Its greatest use historically, however, has been for rough job bindings, certain varieties of chapbooks, textbooks published between 1770 and about 1830 in England, and some types of reference books. Today its use is virtually limited to the covering of very large books, newspapers, etc., and as a CHEMISE for leather-bound county record books and other large stationery bindings. See also: ART CANVAS; DUCK. 69,82,111,264 RE

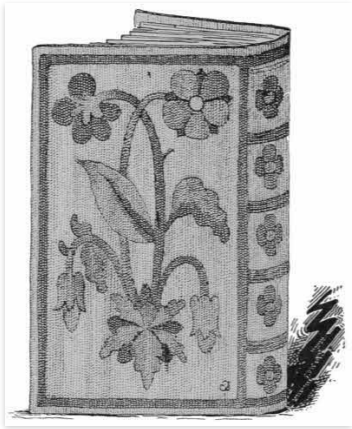


Fig. 80. —English, embroidered binding canvas, seventeenth century.
Cyril Davenport, The Book: Its History and Development, 1907

CANVAS FINISH PAPER A heavy, durable cover paper, made with a textured finish in imitation of canvas. It is used mainly for semi-stiff covers for brochures, pamphlets, etc. 86 RE

CAOUTCHOUC BINDING A particular (and probably first) form of ADHESIVE BINDING, invented by William Hancock, and patented in 1836, in which the single sheets were secured with a rubber solution obtained from the latex of certain tropical plants, especially of the genera Hevea and Ficus. According to Hancock's specifications, the edges of the assembled leaves were roughened and then coated with the caoutchouc, which, when dry, was followed by one to five coatings of a stronger rubber solution. When the last coating was applied a strip of cloth coated with the caoutchouc was applied in a warm,

sticky condition and rubbed down firmly. • Great numbers of these bindings were produced both in England and the United States from about 1840, and the process was used for many of the illustrated "table books" of the 1860s, as well as for many large folios printed on very thick paper. The process afforded both openability and durability, or so for the latter it was believed at the time. Both characteristics depended to a large extent on the purity of the rubber solution, and the degree to which it remained flexible. That it did not remain very flexible has been demonstrated by the fact most caoutchouc bindings have fallen apart. Also called "guttapercha binding," although incorrectly because gutta percha, which is also obtained from tropical trees was tried and found to be unsuitable. 89,236 RE

CAOUTCHOUC POLISH A caout-rubber base varnish, used occasionally in the 19th century for varnishing the leather covers of books. See also: CAOUTCHOUC BINDING. 97 RE

CAP **1.** The top part of a wooden press; it has two mortises at each end to receive the tenons at the upper end of each cheek, by which it keeps the cheeks at a proper distance at the top; and the head is suspended from it by two iron bolts, with screws and nuts at the upper end, by which the pull also is regulated.2@ABB The envelope of paper used to protect the edges while the volume is being covered and finished. DAP

CAPE Originally, a leather made from South African hair sheep. Today it is considered to be any leather made from a hair sheep, except East Indian native vegetable tanned sheep. 325 RE

CAPITALS The following directions respecting the use of capital letters, are extracted from Lindley Murray's English Grammar. • 'It was formerly the custom to begin every noun with a capital: but as this practice was troublesome, and gave the writing or printing a crowded and confused appearance, it has been discontinued. It is, however, very proper to begin with a capital, • '1. The first word of every book, chapter, letter, note, or any other piece of writing. • '2. The first word after a period; and, if the two sentences are *totally independent*, after a note of interrogation or exclamation. • 'But if a number of interrogative or exclamatory sentences are thrown into one general group, or if the construction of the latter sentences depends on the former, all of them, except the first, may begin with a small letter: as, "How long, ye simple ones, will ye love simplicity? and the scorners delight in their scorning? and fools hate knowledge?" "Alas! how different! yet how like the same!" • '3. The appellations of the Deity: as, "God, Jehovah, the Almighty, the Supreme Being, the Lord, Providence, the Messiah, the Holy Spirit." • '4. Proper names of persons, places, streets, mountains, rivers, ships: as, "George, York, the Strand, the Alps, the Thames, the Seahorse." • '5. Adjectives derived from the proper names of places: as, "Grecian, Roman, English, French, and Italian." • '6. The first word of a quotation, introduced after a colon, or when it is in a direct form: as, "Always remember this ancient maxim: 'Know thyself.'" "Our great Lawgiver says, 'Take up thy cross daily, and follow me.'" But when a quotation is brought in obliquely after a comma, a capital is unnecessary: as, "Solomon observes, 'that pride goes before destruction.'" • 'The first word of an example may also very properly begin with a capital: as, "Temptation proves our virtue." • '7. Every substantive and principal word in the titles of books: as, "Johnson's Dictionary of the English Language;" "Thomson's Seasons;" "Rollin's Ancient History." • '8. The first word of every line in poetry. • '9. The pronoun *I*, and the interjection *O*, are written in capitals: as, "I write:" "Hear, O earth!" • 'Other words, besides the preceding, may begin with capitals, when they are remarkably emphatical, or the principal subject of the composition.' DAP

Fig. 203. —Hübner's Exempla , No. 187 (1 4 scale of inscription), " Rustic Capitals " (see p. 297) between A.D. 14–37.
Edward Johnston, Writing and Illuminating, and Lettering, 1906

CAPPING A MAN Wrapping one of the blankets with which the pelt balls are capped about a

man's head, and tying it round his neck. This most filthy and disgusting punishment is very rarely inflicted in a press room; yet I have read an account of a trial at the Old Bailey for an assault, in which this act was the ground of offence. DAP

CAPPING BALLS Wrapping up pelt balls in blankets soaked in urine at night, and when they are not in use, to keep them soft. They are generally left on the floor of the sink. DAP

CAPPING UP also *capping* 1. See: HEADCAP. 2. The process of placing a paper covering or "can" over the edges of a book following headbanding, so as to prevent the edges from becoming soiled or damaged during the subsequent operations. 237,261 RE

CAPS **1.** The leather covering of the headband. Applies also to the paper envelopes used to protect the edges while the volume is being covered and finished.2@NBL Paper coverings used to protect the edges while the book is being covered and finished. Also the leather coverings of headbands. See Head cap. MAB

CAPSTAN A decorative ornament. often found on English and French head-in medallion rolls, the principal feature of which roughly resembled a vertical spindle-mounted drum. 250 RE

CAPUT MORTUUM See: VENETIAN RED. RE

CARBOLIC ACID See: PHENOL, RE

CARBON DISULFIDE A colorless, highly refractive liquid (CS2). It is prepared by heating sulfur and wood charcoal, or by reacting methane with sulfur vapor over a catalyst. It is used in the manufacture of carbon tetrachloride, and for fumigating books. Its customary disagreeable odor results from the presence of small amounts of other sulfur compounds. Carbon disulfide is both toxic and flammable. RE

CARBON INK A modified form of CHINESE INK. Carbon ink is a mixture of finely divided carbon carried in a vehicle of glue or a gum. It is extremely stable, as evidenced by the characters on manuscripts of the 7th to 10th centuries, and even Egyptian papyri, which are darker and more distinct than those of the 16th century, when IRON-GALL INK came into use. Carbon ink has no destructive effects on paper, but it does present problems to restorers because it is so easily affected by water. 143 RE

CARBON LETTERING Carbon in powdered form. used in lieu of gold leaf or other metal or foil for lettering books. particularly when the covering material is canvas, or a similar fabric. The pallet and type are heated as for gold blocking, but the type is coated with carbon and then pressed firmly into the covering material. ART VELLUM is also a suitable material for carbon lettering. In very humid climates, this type of lettering may require several days to dry sufficiently for the books to be handled. At times, carbon ink is used in lieu of carbon. 358 RE

CARBON PAPER A thin paper coated with carbon black or some other coloring matter in a vehicle of wax or an oil-soluble substance and used for making duplicate copies. It is sometimes used by bookbinders to produce a dark color on a bookbinding approximating blind tooling. Carbon paper is also used for making paper pattern layouts prior to lettering, and when the leather does not darken uniformly with water. Size must first be applied, otherwise the carbon will rub off. RE

CARBON TETRACHLORIDE A colorless, mobile, nonflammable, liquid (CCl_4), used as a solvent and grease remover, and as a fumigant for books. It is both toxic and volatile. It also gives off chlorine, which, in the presence of glowing charcoal, e.g., a lighted cigarette, becomes phosgene, which is even more toxic. RE

CARBONACEOUS INKS A general term used in describing a group of inks produced from finely ground carbon or a similar substance, e.g., soot or lampblack, and which are jet black and very stable. A glutinous substance is used as a binder. Such inks are the simplest of all inks to produce and have been known from the earliest times. They have no destructive influences on paper but they do present difficulties to restorers because they are so easily affected by water. The carbonaceous inks may be subdivided into CARBON INK, CHINESE INK, and the SEPIA INKS. 143 RE

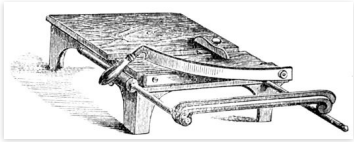
CARBOXYMETHYLCELLULOSE An aqueous adhesive prepared by reacting chloracetic acid ($ClCH_2COOH$) with alkali cellulose, and used in the SUNDEX PROCESS, 198 RE

CARD When several bodies of letter are set in a page, compositors to justify that page to an exact length, put a card to some white line, or other break, and lengthen out the page the thickness of a card. Pressmen also use a card for an underlay. —M. Cards are rarely used now for these purposes; in making up pages, leads and scaleboards are used, and, where great nicety is required, a careful compositor will cut slips of smooth even paper, and use them where a lead

or a scaleboard would be too much. At press, underlays are not used for types; and where an engraving on wood is much too low, the pressman will underlay it with thick wrapper paper. In fact, cards are an article that neither composing rooms nor press rooms are supplied with. DAP

CARD WOOL The act of carding wool to stuff the balls with, to take out the knots, dirt, &c., for the purpose of making the balls softer, more elastic, and to have a more even surface than would be the case if the wool were not carded. This operation is repeated every time a pair of balls is knocked up. Formerly it was teazed, and not carded. DAP

CARDBOARD A board 0.006 inch or more in thickness. It is stiffer than paper. Although the generic term "board" is used in lieu of the term "cardboard" in bookbinding parlance, the covers of many pamphlets, brochures, etc., as well as the card used to line prints, posters, etc., and also used in FILLING IN (1), are of a thickness that would fit them into the definition of cardboard. 17,234,264 RE



Cardboard Machine used for trimming.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

CARDBOARD PRINTS Printed cover-, end-. and other decorative papers, produced by gluing artistically shaped cuts of cardboard to a sheet of cardboard, inking with an oil-base printing ink and pressing on the paper to be decorated. 183 RE

CARDS About a quire of paper, which pressmen use to pull down the spring or rising of a form, which it is many times subject to by hard locking up.—M. • The term is also applied to pieces of scaleboard, old felted hat, or pasteboard, for they are all called cards, cut to the size of the mortises in the cheeks of a wooden press, and laid in them, under the tenons of the winter, and above those of the head, to cause a spring in both these parts, for the purpose of softening the pull. I would never place any cards under the winter, for the reasons assigned under that article. *See* Winter. DAP

BUSINESS CARDS
Edmund G. Gress, The Art and Practice of Typography, 1917

CARET **1.** A caret, marked thus ′ is placed where some word happens to be left out in writing, and which is inserted over the line. This mark is also called a circumflex, when placed over some vowel of a word, to denote a long syllable: as, "Euphrâtes."—Murray.2@AMP A character [^] used in proofreading to denote the place where omitted words should be inserted. DAP

CARNAUBA WAX A yellowish-white or green, sticky exudation on the leaves, berries and stalks of the carnauba palm (Copernicia cerifera), found in South America, and especially Brazil. It is believed to consist largely of myricyl ceretate and myricyl alcohol ($C_{29}H_{59}$. CH_2 . OH). It is used to impart a high gloss to leathers that are not to be glazed, and by bookbinders to polish the edges of books after gilding and burnishing through paper. The wax imparts a high gloss to the edges and is preferred to beeswax by some as it is less likely to streak. Carnauba wax has a softening range of 83 to 84° C., which makes it especially suitable for use in very hot climates. 195,291 RE

CARRAGHEEN MOSS A dark purple, branching cartilaginous seaweed (Chondrus crispus), found on the coasts of Northern Europe and North America. The moss is used in the preparation of MARBLING SIZE, about 4 ounces of the moss being sufficient to make 9 or 10 quarts of size. Carragheen moss was first used in making marbling size sometime after the middle of the 19th century. The extract of the moss is also used as a thickening agent and viscosity stabilizer in some adhesives. 217,237,335 RE

CARRIAGE is a part of the *Press*. For which See § 10. ¶ 9. It is also a part of the *Letter-Mold*: For which See § 15. ¶ 3. MOX

CARRIAGE, is that part of the press that runs in under the platen, including the plank, coffin, &c. I am aware that many printers call the long wooden ribs and frame the carriage; but I am also satisfied that they misname that part of the press: for who ever heard of running in the long ribs? yet to run in the carriage is a common expression; and the name implies that the article moves or travels. This word bore the signification which I assign to it in the seventeenth centu-

ry, for Moxon uses it in this sense. *See* Run in the Carriage. DAP

CARTONNAGE À LA BRADEL See: BRADEL BINDING. RE

CARTOUCHE 1. An elaborate style of decoration popular in Italy about the middle of the 16th century. The decoration consists of elaborately interlaced fillets filling the entire field of the covers, and sometimes accompanied by arabesques, worked in a single line with tools cut in the shapes of flowers. 2. A term meaning literally a scroll or paper with the ends rolled up, bearing the title, and sometimes other information, pertaining to a book. 3. A frame, either plain or decorative, or a scroll, in which the title, name of the cartographer, and other particulars of a map are placed. The cartouche usually appears in a corner of the map, and in old maps it was frequently decorated with scenes, animals, armorial designs, etc. 4. A small rectangular ornament usually found on a ROLL (1), formed by one or more lines, generally with a plain center. 94,234,250 RE

CARTRIDGE PAPER A paper similar in appearance to hard antique paper. It is tough, closely formed, and is usually produced from chemical wood pulps, esparto, or a combination of the two. The degree of sizing depends on th purpose for which it is to be used, and its surface may be rough, semi-rough or smooth. Cartridge paper is generally unbleached or only slightly bleached, and is made in basis weights ranging from 60 to 80 pounds. It is used for endpapers, linings, and compensation guards. The term "cartridge paper" is not generally used in the United States. The name derives from its original use in forming the tube section of shotgun shells. 17,58,182 RE

CASE **1.** 1. The covering material, boards and inlay of a book, i.e., a book cover ready to be attached to the text block. Edition and library bindings have cases and are said to be case bindings. 2. A box or cover made to protect a book. See: PORTFOLIO (1); PULL-OFF BOX; SLIPCASE; SOLANDER BOX.2@AMP The receptacle for type, divided into numerous compartments. RE

CASE BINDING **1.** A general term for a method of bookbinding, introduced in Great Britain in the 1820s. in which the case (covers) of the book is made separately (and, in edition binding, usually in large numbers) from the book (the text block and endpapers) and later attached to it by gluing the board papers of the text block to the inside of the boards of the case. This operation is known as CASING-IN. Case binding is distinguished from those methods of binding in which the covers are not made separately, as in craft bookbinding IN BOARDS (1). Case binding is the principal method employed in both edition and library binding.2@NBL The ordinary cloth binding of commerce. Books in these bindings are folded and sewn, rounded and backed by machinery. A machine also makes the cases, covering the two pieces of cardboard which form the sides with cloth as needed. These cases are separately printed before being put on the books. The book is then glued and put into its case by machinery. RE 203,276,355

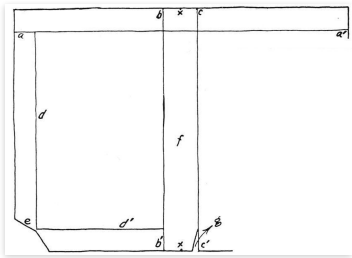


Fig. 17. Marking of cloth for Case Binding.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

CASE HIDE An expression used in Great Britain to describe a stained or otherwise colored leather, generally having a smooth, more or less glossy surface finish. It is sometimes embossed with an artificial grain. Case hide is produced from a full grain or buffed cow hide and is vegetable tanned. 61 RE

CASE IS FULL **1.** A case full of letters, wanting no sorts.—M.2@MOX viz. a *Case* full of *Letter*, wanting no Sorts. DAP

CASE IS LOW When a case grows empty, compositors say, The Case is Low.—M. DAP

CASE RACK A frame made of strong deal boards, with ledges nailed on the inside of the sides, in which to slide cases that are not in use, to keep them safe. They are usually made to contain fourteen pairs of cases; they are two feet nine inches wide in the clear, and seven feet high. • Where full cases of letter are kept for the purpose of expediting any new work that requires great despatch, some houses have a bar of iron from top to bottom, and lock the cases up to preserve the letter. DAP

CASE RUNS OVER When a compositor distributes so much letter into a case as to fill the boxes till the letters mingle with those in the adjoining boxes, he says, his *Case runs over*, or it overflows. This frequently causes additional

errors in the proof, and of course is not an advisable practice. DAP

CASE STANDS STILL When the compositor is not at work at his case, it is said, The Case stands still.—M. Obsolete. DAP

CASE, DAP

in which the letters are laid to compose with.—M.

Cases are always spoken of as pairs; viz. upper case and lower case; when placed upon a frame to compose out of, the front of the upper case rests against the back of the lower case, lying in different inclinations, the back of the upper case being raised to bring the top boxes nearer the hand.

They are generally made of beech; the outer rim and the middle bar stout, to give strength, and to nail the bottoms to, which are lined with paper, to prevent letters falling through cracks, or joints that might open; this lining used to be cartridge paper, which strengthened the bottom, but the joiner now lines them with cheap and thin demy paper; the bottom is made of thin fir deal. The dimensions are —two feet eight inches and a half, sometimes two feet nine inches long; one foot two inches and a half wide, and one inch and a quarter deep; the front being about half an inch broader than the depth, which forms a ledge for galleys to rest against, and also serves as a guard to stop letters, &c. falling over.

It is interesting to trace the changes that take place in any art; hence I have given the arrangement of the letters in cases at different periods, commencing with the first English writer, Moxon, who published his work in the year 1683; then Smith, who published in 1755; the cases before the long ſ was discarded, in my own time; the arrangement now generally used; and a variation, subdividing the boxes in the upper case, and changing the arrangement, both in that and the lower case, to afford room for a greater number of sorts, and to make the access to them more convenient; I have also added the late Earl Stanhope's plan.

In Moxon's cases it will be perceived there are no ç, ſb, ſk, Œ, ‡, ‖, ¶, [, (, |, nor any small capitals.

Smith, in his Printer's Grammar, gives "Schemes for Three Pair of Cases, shewing the Difference in the Disposition of their Sorts." I have given his No. I. and No. III.; No. II. is the same as the one before the long ſ was discarded, with the exception of the q being in the comma box, and the comma in the q box.

This arrangement of the letters before the long ſ was discarded, continued down to our own time, except the transposition of the q and the comma; and the "schemes" Smith gives as No. I. and No. III. became obsolete.

When the long ſ was discarded, and we confined ourselves to one shape of the same letter, the ligature ct was also disused; we thus lost the ct, ſb, ſh, ſi, ſk, ſl, ſſ, ſſi, ſſl, and ſt, which gave ten additional boxes for other sorts; these have afforded convenience for metal rules and braces, which before were wanted, and also for the £ and [#] that are now frequently sent with a fount, particularly the £.

The discarding of the long ſ originated with the late John Bell, who printed and published an edition of Shakspeare, the British Theatre, and the Poets: the change was not generally adopted for some years, and many retained one ſ when two came together, as 'Eſsay;' but the s prevailed, and no other is now used.

In the present arrangement, the figures are brought lower down to be nearer the hand, and the vowels with the diæresis moved higher up; for the same reason the acute accented vowels have changed places with those of the grave accent.

Mr. Johnson, in his Typographia, has given a variation in the arrangement that he has adopted. I do not see any improvement in the lower case to induce master printers to change the general mode, which would only tend to create confusion and put the boxes into pie. A subdivision of the boxes in the upper case, would be useful in two or three pairs in large founts, that had superiors and fractions cast to them; but as few founts have them, these subdivisions would not only be useless, but inconvenient, if applied to all the cases, as they would not leave sufficient room for metal rules, braces, &c., neither do they afford convenience for all the fractions that are cast in a piece; besides, vowels with the long and short accents are so rarely used in the general routine of business, that it is not necessary to cramp the boxes to make provision for them; and there is always room in the back boxes of the Italic cases in which to put sorts that are seldom wanted; to this we may add the additional expense of making these cases, which in an extensive business would be considerable.

Among the various arrangements of the types in cases at different periods and by different persons, I am gratified at being enabled to give that of the late Earl Stanhope, from a stereotype plate of his Lordship's casting; this plan of the cases, the logotypes, the alteration of the letter f, and the shape of the boxes, were never adopted in the trade.

MOXON'S CASES. 1683.

SMITH'S CASES. No. I. 1755.

SMITH'S CASES. No. III. 1755.

CASES BEFORE THE LONG ſ WAS DISCARDED.

PRESENT ARRANGEMENT OF THE TYPES.

STANHOPE COMPOSING CASES.

PECULIARITIES AND ADVANTAGES OF THESE CASES.

First. The nine logotypes now in use are omitted. They are proposed to be printed with separate types, thus: ff, fi, fl, ffi, ffl, &c. instead of ff, fi, fl, ffi, ffl, &c. And the Italic thus: *ff*, *fi*, *fl*, &c. *instead of ff*, *fi*, *fl*, &c. In 20 pages of Enfield's Speaker, (namely, from page 71 to 90, both inclusive,) those logotypes occur only 95 times, viz.

present logotypes.

Secondly. Eight new logotypes are introduced. Their regular and frequent occurrence expedite the process of composition in a very considerable degree; for, in those same 20 pages, the new logotypes would save to the compositor no less than 3073 lifts, viz.

stanhope logotypes.

Thirdly. The introduction of the new logotypes, and the great imperfection of the various existing arrangements of composing cases, have caused the above new and very superior arrangement to be adopted.

Fourthly. The front side of each box of the lower case is made sloping, instead of upright: which shape is convenient both to the view and to the hand of the compositor, and it enables him to lift the types with the same rapidity and ease when the boxes are nearly empty as when they are full. The types are much better preserved from wear, by means of this shape. It also allows the lower case to be made deeper than usual; so that, two of them contain as much as three lower cases on the old construction. At the bottom of each box of the upper case, the internal front arras is filled up.

The saving of time is of immense importance, especially in all cases where dispatch is particularly required. The new cases are, by experience, found to save full *one day* out of *six* to the compositor.

Fifteen boxes on the left-hand side of the upper case are represented empty. They are intended for the sorts which are sometimes used for particular works; such as, accented letters, mathematical marks, &c.

As the asterisk, or star, [*] is very liable to be filled with ink at press, it is intentionally excluded from among the reference-marks.

Stereotyped and Printed by EARL STANHOPE, Chevening House, Kent.

Layout of Upper and Lower cases

Layout of Upper and Lower cases
William Savage, A Dictionary of the Art of Printing, 1841

Layout of Upper and Lower cases

Layout of Upper and Lower cases
William Savage, A Dictionary of the Art of Printing, 1841

Layout of Upper and Lower cases

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William Savage, A Dictionary of the Art of Printing, 1841

CASE-HARDENING An irregular, distorted (drawn) grain in a leather, usually accompanied by hardness and thinness of the leather itself. It is caused primarily by over-tanning. See: OVER-TANNED. 306 RE

CASE-MAKING A general term usually applied to the production of cases for edition bindings, generally by means of semi-automatic or automatic machines. The term may also be applied to library binding, in which case-making is carried out by hand. See also: CASE-MAKING GAUGE; CASE-MAKING MACHINE; CASING-IN. 102,179,183 RE

MEN CASE-MAKING AND GIRLS LABELING
Mary Van Kleeck, Women in the Bookbinding Trade, 1913

CASE-MAKING GAUGE also *case gauge* A gauge used in the production of identical book cases in

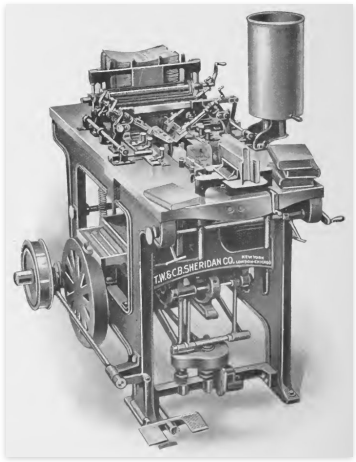
relatively small quantities. The case is made by hand, the gauge being used to indicate where the boards and INLAY (1) are to be placed on the covering material which has been cut to size and glued. Case-making gauges are adjustable for different sizes of cases, turn-ins, and widths of inlay. 259,261 RE

CASE-MAKING MACHINE A hand- or machine-fed machine used to assemble the covering material, boards, and inlays of case-bound edition books. Case-making machines are of two general types: sheet fed, either by hand or machine, and roll fed, by machine. Roll fed machines require two additional steps in their operation as compared with sheet-fed machines, namely, corner cutting and separation of the individual cases. The covering material, however, does not have to he precut. Sheet fed machines receive the covering material in the correct size for the individual case with the corners already cut. • Case-making machines may be modified for use of paper as the covering material, to make round-cornered eases, to use light board instead of paper for the inlays, and to make album covers which have one narrow and one wide board, with a hinge. Modern ease-making machines can produce up to 21 cases per minute with dimensions of 5 1/2 by 7 1/2 inches to 9 1/2 by 15 1/2 inches, with extended capabilities using accessory equipment. • The case-making machine dates back to the latter years of the 19th century; its greatest period of development was 1891–95. 89,196,203,320 RE

CASE-WORK **1.** Work in which the boards are covered and stamped. The volume is then glued upon the back and stuck into them.2@ABB When the cover is made independent of the book, the book being afterwards fastened into it. Refers principally to cloth and bible work. MAB

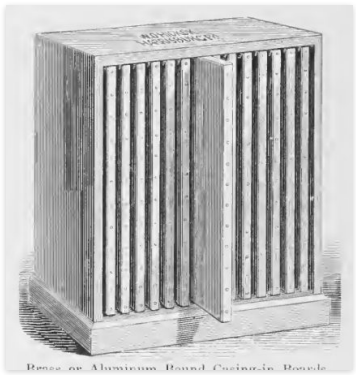
CASEIN An acid-coagulable protein, occurring as a suspension of calcium caseinate in skim milk. It is possible to isolate it as an alkali-solution white powder by treating cow's milk with either mineral acid or rennet. The acid casein is used in the sizing of paper, as a simple adhesive, in the manufacture of coated papers, and as a plastic in leather finishes. Casein adhesives are little used in bookbinding as they can only be made workable by the addition of rather strong alkalies, which makes them unsuitable for use with paper or vellum. 52,198,309 RE

CASING-IN The process of securing the text block and attached endpapers into a case that was produced as a separate operation, lettered and (especially in edition binding) sometimes decorated. In library binding, casing-in generally takes place in a BUILDING-IN MACHINE, or equivalent, while in edition binding, it is generally done in a CASING-IN MACHINE. 179 RE



Parkside Casing-in Machine.
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

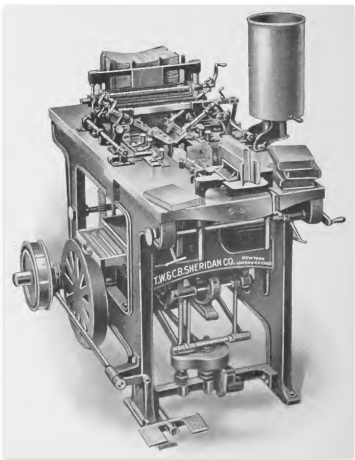
CASING-IN BOARDS Wooden boards cut square at the edge and lined on one edge with a brass strip that extends beyond one or both sides of the hoard about 1/8 inch. The brass extension creates the joints of the book during the CASING-IN operation. Such boards are used when the book is cased by hand and pressed in a standing- or hydraulic press. The BUILDING-IN MACHINE has metal flanges at the edges of the jaws which accomplish the same result. See also: PRESSING BOARDS. 264 RE



Bras-s (11 AliMiinum Bound Casing-in Boards.
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

CASING-IN MACHINE A semi- or fully-automatic machine which fits books into their pre-made cases and completes the binding operation. • Semi-automatic machines require an operator to hang the books in their centers over a metal

"wing." The machine then automatically clamps the book, coats the board papers with adhesive, fits the case on the text block and completes the operation. Three-wing casing-in machines are capable of processing books up to 3 inches in thickness (including covers), and, lying open, 14 inches high and 22 inches wide, at speeds up to 25 books per minute. • A fully automatic machine does not require timed feeding or removal of books. It can process books measuring not less than 3 3/8 inches in height, 2 1/2 to 7 1/2 inches in width and between 1/4 and 1 5/8 inches thick, at speeds up to 35 books per minute. • The casing-in machine came into existence in the latter years of the] 9th century, and its principal period of development occurred during the early years of the 20th century. 89,320 RE



Parkside Casing-in Machine.
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

CASSIE PAPER **1.** The two outside quires of a ream. They are also called Cassie Quires, because they serve for cases to the ream.—M. *See* Outside Quires.2@AMP Formerly, the two outside quires of a ream, consisting of defective sheets. DAP

CAST is to *Cast Letter*. See § 19. ¶ 1. MOX

CAST OFF COPY Counting or Casting off Copy (for both phrases are indifferently used) is to examine and find how much either of printed copy will come in into any intended number of sheets of a different body or measure from the copy; or how much written copy will make an intended number of sheets of any assigned body and measure.—M. It is also used to ascertain how many sheets of a given sized page and letter any quantity of prepared copy will make. • This is generally done by composing a line or two of the copy, if it be manuscript, selected from the part that appears about the average mode of writing, and ascertaining how many lines of the printed or manuscript copy will make even lines in the proposed size; thus, if 10 lines of copy make 7 lines, or 7 lines of copy make 10 lines, the quantity is easily calculated. Allowance must of course be made for chapter heads, short pages, and any whites that may occur. DAP

CASTING OFF Estimating how many pages a certain quantity of copy will make in type. AMP

CASTING UP DAP

Calculating the number of thousands of letters in a sheet of any work, or in a job, in order to fix the price for composing it.

To facilitate the ascertainment of the number of thousands of letters in a sheet of bookwork, and also of jobs, I have given a set of tables, which I believe includes, generally speaking, the sizes of the pages that usually occur in practice. These tables will be found useful to those compositors who are not expert at figures, while those who are so may save time by referring to them, and they may also serve as a check to their own casting up. The figures at the top designate the number of lines the page is long; and the figures in the column specify the number of thousands of letters in a sheet, according to the size named in the head. To ascertain the number of thousands of letters, the established rule is, to take the number of lines the page is long, including the head line and the direction line, and the number of en quadrats in the width of the page, the en quadrat being estimated as the average thickness of the letters, and on multiplying the one by the other the product will give the number of letters in a page; and this product multiplied by the number of pages in a sheet, gives the number of letters in a sheet; where there is a fraction of a thousand, and that fraction amounts to 500 or upwards, it is reckoned and charged as 1,000; when it is less than 500 it is dropped, and not included in the calculation. There are some exceptions to this general rule of taking the dimensions when the type exceeds a certain size, for which *see* Scale of Prices.

TABLE OF THE NUMBER OF THOUSANDS IN A SHEET.

Cast Leads. *See* Space Lines.

First page of six tables
William Savage, A Dictionary of the Art of Printing, 1841

CASTOR OIL A colorless to pale yellow or greenish, viscous, non-drying fatty oil of high viscosity, extracted from beans of the castor oil plant (Ricinus communis). It consists almost entirely of the glyceryl esters of ricinoleic acid. At low temperatures it thickens; it solidifies at approximately -10 to -18° C. It is used in leather finishing processes, and, in the sulfated form, as a preservative for leather bindings. Sulfating the oil, by reacting it with sulfuric acid. allows it to react with water. This is beneficial for books stored under hot, dry conditions, as it helps keep the leather soft and pliable under conditions of low relative humidity. 173 RE

CAT'S PAW CALF An acid-stain pattern on a calfskin binding, somewhat resembling the paw marks of a cat. See also: TREE CALF. RE

CAT'S TOOTH DECORATION A form of decoration consisting of a serrated line resembling a row of teeth. It is usually impressed with a ROLL (1), and is generally used as a border decoration. RE

CATALOG PAPER A lightweight paper, either coated or with an English finish, usually made with a considerable proportion of mechanical pulp, and used for mail-order catalogs, telephone directories, and the like. Uniformity of weight, opacity. finish, formation, and sufficient strength to get through high-speed printing presses are desired characteristics. Basis weights usually range from 19 to 28 pounds (24 X 36—500). 17,324 RE

CATALYST 1. A substance that changes the rate of a chemical reaction without itself being changed. A catalyst may increase the rate (positive catalyst), or decrease the rate (negative catalyst). The final state or equilibrium of the reaction is not changed by the catalyst. only the rate of approaching the final state is changed. Examples of catalytic action in the field of archival preservation include the impurities in paper, such as iron or copper, minute particles of which may inadvertently be introduced into the paper pulp in the beater operation. According to some authorities, these can act as catalysts in the formation of sulfuric or hydrochloric acid in paper. by assisting in the conversion of sulfur dioxide to sulfuric acid, or the chlorine frequently used in bleaching paper pulp, into hydrochloric acid. Leather, also, may contain minute particles of metals which may speed up the formation of sulfuric acid. 2. A chemical substance added to thermosetting resinous adhesives to speed up the cure time of such adhesives. to increase the cross linkage of a synthetic polymer, or to accelerate adhesive drying. 221,235,309 RE

CATCH A metal plate secured to the fore edge, and at times to the head and tail edges, of a book cover, and fixed with a bar, over which the clasp fits. Sometimes a pin is used in lieu of a bar. See also: CLASPS. 250 RE

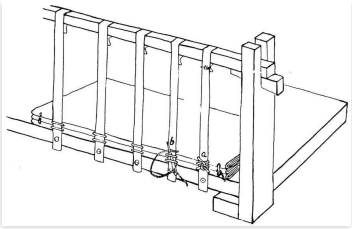
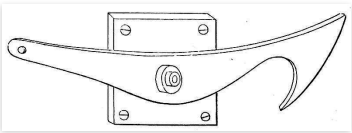


Fig. 21. Sewing Frame and sewing on tapes. a, finished catch or crowsfoot stitch. b, the beginning of the catchstitch.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

CATCH LINE The same as Direction Line. *See* Catch Word. DAP



CATCH LINE.
William Savage, A Dictionary of the Art of Printing, 1841

CATCH OF THE BAR is a piece of wood two inches thick, four inches broad, and ten inches long, with a groove in the lower part of it by which it is screwed to the front of the off cheek, and may be heightened or lowered at pleasure; the top of it is a little bevilled or sloped off, that the bar may by its spring fly up the bevil till it stick.—M. • This catch is in my opinion superior to the one now used, which is a piece of wood nailed to the far side of the off cheek, with an opening in it, through which a sloping piece projects beyond the front of the cheek, for the bar to slide up. The old one appears much easier to justify, by means of the screw, without having any nails to draw. • In very fine press work, where uniformity of pressure is to be preserved, I would always cheek the bar, or bring it home, every pull, and rest a short time upon it. In large forms, however, this is too much exertion for a man to continue; and to obviate this objection I had a catch made for some wooden presses, which, dropping over the bar, held it close to the cheek, and enabled the pressman to rest upon his pull sufficiently long without the continued strain to his arm. It was screwed to the near cheek, and disengaged from the press bar, by pulling a piece of string attached to its other end through the small hole. DAP

A tool to catch the press bar
William Savage, A Dictionary of the Art of Printing, 1841

Another version of the catch tool
William Savage, A Dictionary of the Art of Printing, 1841

CATCH STITCH 1. Any type of locking stitch, such as KETTLE STITCH. 2. A stitch used to gather or "catch up" the sewing threads which pass around the tapes of a book. The purpose of this stitch is to prevent undue looseness of the sewing thread. Also called "link sewing." 83,119 RE

CATCH WORD The first word of the following page set at the right hand end of the line of quadrats at the foot of each page; in which line is also placed the signature in those pages where it is requisite. It is likewise called the *Direction Word*. Catch words are now seldom used, except in reprints, to preserve uniformity in the different editions of the same work. • DAP

Catch-Word **1.** A word met with in early-printed books at the bottom of the page, which word is the first on the following page. Now used to denote the first and last word in an encyclopædia or other book of reference.2@ABB A word used and seen in early printed books at the bottom of the page, which word is the first on the following page. To denote the first and last word in an encyclopædia or other book of reference.3@BCB a word printed at the foot of one page indicating the first word of the page following, as a guide in collating. MAB

CATCHWORD **1.** The word appearing at the bottom of the page following the bottom line of print. It is also the first word of the following page. Catchwords originally appeared on the last page of a quire or manuscript, and were intended to he used by the bookbinder in gathering. Later, they appeared at the foot of every verso or even every page; however, their use in the printed books of Europe was never very consistent. In Italian books of the period 1470–1500 they first appeared at the end of each signature (section), and later at the end of every page. In the 19th century, their use in conjunction with signature marks was redundant and they were discontinued.2@NBL A word placed under the last line on each page of some old-time books, the word being the same as the first word on the next page; a direction word. RE 12,156,234,365

CATECHISMS For the allowance of the duty on paper used in the printing of the Larger or Shorter Catechism of the Church of Scotland, *see* Paper. DAP

CATECHOL also *pyrocatechol* A colorless crystal ($C_6H_6O_2$), soluble in water, alcohol, ether, benzene, and alkalis. An alkaline solution gives a coloration with ferric chloride, which turns brown on standing in air. It can be obtained from CATECHU, a natural dye, or prepared by fusing orthobenzenedisulfonic acid with caustic soda. Catechol is the principal constituent of the condensed (catechol) tannins. See also: VEGETABLE TANNINS. 235,306 RE

CATECHOL TANNINS See: VEGETABLE TANNINS. RE

CATECHU also *cutch* An extract obtained from the wood of Acacia catechu, a tree grown in Eastern India, and other areas, and used in tanning leather. It contains catechin and catechutannic acid. See also: CATECHOL; VEGETABLE TANNINS. 175 RE

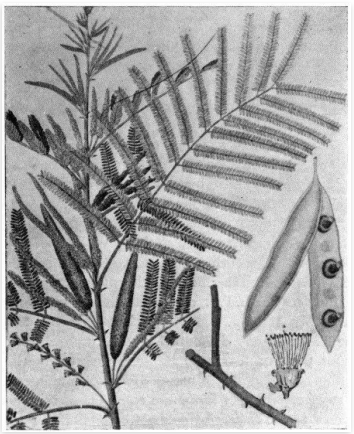


Fig. 60. —Cutch Tree (Acacia catechu).
H. R. Procter, The Principles of Leather Manufacture, 1903

CATENATI See CHAINED BOOKS. RE

CATER CORNER Paper, the sides of which are not at right angles with each other, is termed *cater cornered*. It is disadvantageous for book work, as it cannot be folded even, nor the outside margin made equal; of course the size of the book must be reduced in the binding to make the fore edge and foot of it smooth. • Cater, Theophilus. *See* Donations. DAP

CATGUT A tough cord made from the intestines of animals, such as sheep and other herbivores, and used at times for the core of the HEADBAND, especially when a round band is desired, and also for TACKETING, where additional strength is required for large stationery bindings. 172 RE

CATHEDRAL BINDINGS Bookbindings executed between about 1810 and approximately 1840 in England and France. The name derives from the motifs of the embellishment, e.g., Gothic architecture, rose windows, and the like. The design was either blocked on the cover, as in France, or built up by means of separate tools, as in England. The cathedral style was a revival of the 16th century ARCHITECTURAL STYLE by the 19th century binder JOSEPH THOUVENIN. 69,347 RE

CATIONIC (SUBSTANCES) Substances, such as dyes, tannins, oils, etc., which ionize when dissolved in water, so that the characteristic ion—dye, tannin, oil, etc.—is the cation and has a positive charge. Cf: ANIONIC (SUBSTANCES) 305 RE

CATTIE Imperfect or smutty look of a printed sheet caused by an oily or unclean roller. AMP

CAUSTIC A term used with reference to the hydroxides of alkali and alkaline earth metals, such as sodium, potassium, calcium, barium, etc., so called because they possess corrosive properties. In very dilute solutions, caustics are used to neutralize acidity in paper, to control pH in the bleaching of paper furnishes, etc., and in very strong solutions in leather manufacture to lime and unhair hides and skins. RE

CAUSTIC SODA See: SODIUM HYDROXIDE. RE

CAXTON, WILLIAM c 1416–1491 The English linguist, editor, printer, and publisher, who was the first to print books in the English language. Caxton was born in Kent, possibly in the village of Tenderton, traveled to London in 1438 and became apprenticed to the merchant Robert Large, who was also Lord Mayor of London. Three years later Large died, leaving the young Caxton some 20 marks, a not inconsiderable sum in those days. Possibly as early as 1441 Caxton moved to Bruges and by not later than 1446 had established himself in business there. While in Flanders (1446–76) he became a very successful merchant in the Anglo-Flemish cloth trade, and was made governor of the English Nation at Bruges in 1462. • It was in Bruges that Caxton entered the service of Margaret, Duchess of Burgundy and sister of Edward IV of England. It is believed that he functioned as secretary, librarian, translator, or all three, to Margaret, and it has also been suggested that it may have been her keen desire to have books in her native language that prompted Caxton to take up the trade of translating and publishing books in English. It may have been during a visit to Cologne in 1471–72 that he first encountered the craft of printing, and it is reasonably certain that he

learned the craft from Johann Veldener. • Caxton returned to Bruges in 1472 and there published the first printed book in the English language, Raoul le Fevre's Le Recueil des Histories de Troyes, which he had translated in about 1473–74. It is supposed that Caxton financed the publication but that it was actually printed by Veldener at Louvain. Caxton returned to England in 1476, where he lived for the next 15 years, dying in London in 1491. • Regardless of what some critics may say of Caxton's lack of scholarship and education, his place in history is deserved more because of his ability as a linguist and editor, than as a printer and publisher. Even so, he printed some 18,000 pages, most in folio size, and almost 80 separate books. He did most of the administrative work of the press through his three main assistants, Wynkyn de Worde, Richard Pynson, and Robert Copland. In all, Caxton translated at least 22 books; he may well have translated others that were never published. • It is thought that Caxton probably brought his bookbinding tools from Bruges upon his return to England, because two of his stamps are very similar to those used on books found contemporaneously in the city. Caxton's stamps were used after his death by his successor, Wynkyn de Worde, and some, thereafter, by Henry Jacobi. 50,140 RE

CEDAR MARBLE A cover marble executed by sprinkling black and brown coloring on the covers, followed by orange in various places to give a cloudlike effect. This is followed by red placed near the orange. When this is dry, the covers are coated two or three times with yellow, which is allowed to penetrate evenly into the leather. 97,152 RE

CEDAR OIL A colorless to pale yellow essential oil distilled from the wood of various cedars (Juniperus virginiana, 1. procera, and others), and used by some restorers in a mixture of anhydrous lanolin, beeswax, and hexane. as a leather dressing. The cedarwood oil is said to act both as a preservative and as an agent which aids in forming a bond between the lanolin and wax in leather. See also: LEATHER DRESSINGS. 130,291 RE

CELLULOSE The chief constituent of the cell walls of all plants and of many fibrous products, including paper and cloth. Cellulose is by far the most abundant organic substance found in nature. It is a complex polymeric carbohydrate $(C_6H_{10}O_5)$ n, having the same percentage composition as starch, i.e., 44.4% carbon, 6.2% hydrogen, and 49.4% oxygen, and it also yields only glucose on complete hydrolysis by acid. The portion of a cellulosic material that does not dissolve in a 17.5% solution of sodium hydroxide is termed ALPHA CELLULOSE; the portion that dissolves in an alkaline solution and precipitates upon acidification is known as BETA CELLULOSE; and the portion that dissolves in an alkaline solution but does not precipitate upon acidification is called GAMMA CELLULOSE. See also: CELLULOSE ACETATE; CELLULOSE CHAIN; CELLULOSE FIBERS; CELLULOSE NITRATE; COTTON LINTERS; HEMICELLULOSES; LIGNIN; • PAPER. 72,198 RE

CELLULOSE ACETATE An acetate salt of cellulose, produced from COTTON LINTERS and used in archival work: 1) as a photographic film base (often called "safety film" since it is not readily combustible); and 2) in conjunction with an adhesive, such as one of the polyvinyl resins, in laminating, heat sealing, etc. Cellulose acetate is manufactured in a wide variety of thicknesses, ranging from 0.001 to 0.005 inch, and is clear, hard and glossy. It has little tear strength and has almost the same HYGROSCOPICITY as cellulose itself; however, when moist, it does not stretch as much as paper. 31,34,81,303 RE

CELLULOSE CHAIN also *cellulose molecule* A term used to describe the cellulose molecule, which appears to be built up of between 150 and 1.500 very simple units, in the form of a long, thin structure, not unlike a chain. Each link of the chain consists of a slightly modified form of the common sugar, glucose; the strength of paper depends to a large extent on the continuity of these linkages. Destructive agents, which can weaken and open the individual links of the chain, cause it to break into smaller lengths, resulting in what is generally considered to be BRITTLENESS in the paper. The mechanical strength of any aggregate of cellulose fibers, such as paper, decreases in response to the reduction in chain length, the process continuing ultimately to the point where only glucose remains. 198 RE

CELLULOSE ESTER An ester of cellulose, such as CELLULOSE ACETATE or CELLULOSE NITRATE. RE

CELLULOSE FIBERS The basic raw material used in the manufacture of paper and other cellulose products. Cellulose usually exists in association with substantial amounts of other substances that are removed insofar as possible in the papermaking process. An exception to this is the seed hair fibers, or COTTON LINTERS, which

exist as almost pure cellulose. The approximate cellulose content of some of the materials used in making papers are: • Material % Cellulose • Cotton 98 • Ramie 86 • Hemp 65 • Jute 58 • Deciduous woods 41–42 • Coniferous woods 41–44 • Cornstalks 43 • Wheat straw 42 • The cellulose fibers used in making paper have certain inherent properties which enable them to form a web, i e. a sheet of paper. including: 1) hydrophilicity, which permits them to be readily dispersed in water; 2) a fine structure which permits FIBRILLATION; 3) sufficient fiber length to form a highly entangled web of considerable strength; and 4) the ability to form hydrogen bonds between fibers as the web dries, thus providing additional strength in the sheet of paper. 144 RE

CELLULOSE FILM A transparent film produced from cellulose fibers by a process that involves steeping, shredding, and converting the fibers into a viscose solution, or cellulose xanthate, which is subsequently extruded to convert it into a film. It is made in a limited range of thicknesses, between 0.00085 and 0.0016 inch, and, when rendered moisture resistant, may be used to seal documents, book leaves, etc., for protection. It is a fairly flexible film of considerable strength. 81 RE

CELLULOSE NITRATE A film made from cotton waste, wood, or waste cellulose film. It is produced by the nitration of cellulose, usually with a mixture of nitric and sulfuric acids. It has been used as a film base for photographic purposes, as well as to encase documents, book leaves, etc.; however, its flammability, the fact that it causes severe deterioration of the materials it supposedly protects (because of the generation of oxides of nitrogen which yield nitric acid in the presence of water), and the fact that it cannot be manufactured in thickness down to 0.001 inch, has precluded its use in preservation work. 34,81 RE

CELLULOSE VARNISH A cellulose-base varnish (usually cellulose nitrate), available in an aerosol dispenser, and useful as a protective sealing film over the lettering on a book cover, if used in moderation. It is flammable. 92 RE

CEMENT 1. A term meaning to bond together or to adhere with a liquid adhesive. 2. A liquid adhesive having a solvent base composed of a synthetic elastomer resin. 3. An inorganic paste. 222,309 RE

CENTER AND CORNER PIECE STYLE A common style of decoration, essentially Eastern in origin, featuring a center ornament, circular or (occasionally) oval in shape, and often ARABESQUE, in combination with corner pieces generally made up of a quarter segment of the center ornament. The style was common on the Continent and especially in England from about 1580 to 1620. See also: CENTERPIECE. 243,347 RE

CENTER FOLD See: CENTER SPREAD. RE

CENTER SPREAD The two center pages of a section or, more specifically, the two center pages of a periodical issue, printed side by side on a continuous sheet so that there is no margin between them. Such a publication must be sewn through the center fold to avoid obscuring part of the printed matter. Also called "center fold." 316 RE

CENTER TOOLS **1.** The ornamental stamps on the spine of a volume between the raised bands. Of the customary six spaces, the title is normally in space two (from the top), the author in space four, the year of publication in space six, with "center tools" in spaces one, three, five and six (just above the date).2@NBL Tools cut for ornamentation of center of panels and sides of book covers. RE 94,261,371

CENTER-FOLD SEWING A generic term sometimes used with reference to the sewing of a book through the folds of the sections. See: FLEXIBLE SEWING; MACHINE SEWING; RECESSED-CORD SEWING; TAPE SEWING. RE

CENTER-TO-CENTER 1. The distance from the center of one punched hole (punched through the paper for side sewing or fold sewing) to the center of the next hole. 2. The distance between holes punched through loose-leaf papers, or the covers of a post binding, etc. 83 RE

CENTERPIECE 1. A finishing stamp, usually ARABESQUE, blocked in the center of the cover and generally used in combination with center pieces or corner stamps. It was a popular form of decoration in the late 16th and early 17th centuries. Also called "centerstamp." 2. A piece of metal, usually embossed and engraved, and fastened to the cover of a book. 236,259 RE

CENTERSTAMP See: CENTERPIECE. RE

CENTIPOISE One hundredth of a poise. It is a unit for measuring the viscosity of an adhesive. The viscosity of water at 20° C. is approximately one centipoise. 222 RE

CENTRE-TOOLS **1.** Are single, upright, or independent tools used for the middle of the panels

by the finisher.2@ABB Independent tools cut for the ornamentation of the centre of panels and sides. MAB

CERAMIC PAPER FIBERS Noncellulosic paper fibers produced from inorganic materials. Ceramic fibers include all refractory fibers made of alumina, zirconia. thoria, magnesia, fused silica, hafnia, berylia, titanium oxide, potassium titanate, and their mixtures, with or without silica. By definition, monooxide ceramics, such as alumina ceramics, are composed of at least 80% oxides. More often they contain 90% or more base oxides, while special products may contain 99% and sometimes 100%. The main group of ceramic fibers is composed of silica in admixture with special oxides, such as aluminum and magnesium oxides, barium, and calcium. • Ceramic fibers may be produced in numerous ways, including, blowing methods, spinning methods, continuous-spinning methods, colloidal evaporation processes, vapor deposition, single-crystal and whisker methods, oxidation, crystallization, pseudomorphic alteration, etc. Ceramic paper fiber is not used in book production because of the very high cost of the fibers as compared with wood and other organic fibers; however, such papers do print and fold well and are considerably more durable. 42 RE

CERIPH **1.** The fine lines, and the cross strokes at the tops and bottoms of letters, are termed by the letter founders ceriphs.2@AMP The lines or cross-strokes at the ends of the stem of a letter. DAP

CERTIFICATE DAP

By the act of the 39th Geo. 3. cap. 79., intituled "An Act for the more effectual Suppression of Societies established for Seditious and Treasonable Purposes; and for better preventing Treasonable and Seditious Practices," it is enacted—

a. 23. "And whereas many Societies, established of late Years for treasonable and seditious Purposes, and especially the said Societies of *United Englishmen*, *United Scotsmen*, *United Irishmen*, and *United Britons*, and the said Society called *The London Corresponding Society*, and other Corresponding Societies, have at various Times caused to be published, in great Quantities, divers printed Papers of an irreligious, treasonable, and seditious Nature, tending to revile our holy Religion, and to bring the Profession and Worship thereof into Contempt among the Ignorant, and also to excite Hatred and Contempt of his Majesty's Royal Person, Government, and Laws, and of the happy Constitution of these Realms, as by Law established, and utterly to eradicate all Principles of Religion and Morality; and such Societies have dispersed such printed Papers among the lower Classes of the Community, either *gratis*, or at very low Prices, and with an Activity and Profusion beyond all former Example: And whereas all Persons printing or publishing any Papers or Writings are by Law answerable for the Contents thereof, but such Responsibility hath of late been in a great Degree eluded by the secret Printing and Publication of such seditious, immoral, and irreligious Papers or Writings as aforesaid, and it is therefore highly important to the Publick Peace that it should in future be known by whom any such Papers shall be printed; be it enacted, That, from and after the Expiration of forty Days from the Day of passing this Act, every Person having any Printing Press, or Types for Printing, shall cause a Notice thereof, signed in the Presence of, and attested by one Witness, to be delivered to the Clerk of the Peace acting for the County, Stewartry, Riding, Division, City, Borough, Town, or Place, where the same shall be intended to be used, or his Deputy, according to the Form prescribed in the Schedule hereunto annexed; and such Clerk of the Peace, or Deputy respectively, shall, and he is hereby authorized and required to grant a Certificate in the Form prescribed in the Schedule hereunto annexed, for which such Clerk of the Peace, or Deputy, shall receive the Fee of one Shilling, and no more, and such Clerk of the Peace, or his Deputy, shall file such Notice, and transmit an attested Copy thereof to one of his Majesty's Principal Secretaries of State; and every Person who, not having delivered such Notice, and obtained such Certificate as aforesaid, shall, from and after the Expiration of forty Days next after the passing of this Act, keep or use any Printing Press or Types for Printing, or having delivered such Notice, and obtained such Certificate as aforesaid, shall use any Printing Press or Types for Printing in any other Place than the Place expressed in such Notice, shall forfeit and lose the Sum of twenty Pounds.

s. 24. "Provided also, That nothing herein contained shall extend to his Majesty's Printers for *England* and *Scotland*, or to the Publick Presses belonging to the Universities of *Oxford* and *Cambridge* respectively."

s. 33. "And be it further enacted, That if any Justice of the Peace, acting for any County, Stewartry, Riding, Division, City, Borough, Town, or Place, shall, from Information upon Oath, have reason to suspect that any Printing Press or Types for Printing is or are used, or kept for Use without Notice given and Certificate obtained as required by this Act, or in any Place not included in such Notice and Certificate, it shall be lawful for such Justice, by Warrant under his Hand and Seal, to direct, authorize, and empower any Constable, Petty Constable, Borsholder, Headborough, or other Peace Officer, in the Day Time, with such Person or Persons as shall be called to his Assistance, to enter into any such House, Room, and Place, and search for any Press or Types for Printing; and it shall be lawful for every such Peace Officer, with such Assistance as aforesaid, to enter into such House, Room, or Place, in the Day Time accordingly, and to seize, take, and carry away, every Printing Press found therein, together with all the Types and other Articles thereto belonging, and used in Printing, and all printed Papers found in such House, Room, or Place."

FORMS.

"IV. FORM *of Notice to the Clerk of the Peace, that any Person keeps any Printing Press or Types for Printing*.

"To the Clerk of the Peace for _____ [*here insert the County, Stewartry, Riding, Division, City, Borough, Town, or Place,*] or his Deputy.

"I *A. B.* of _____ do hereby declare, That I have a Printing Press and Types for Printing, which I propose to use for Printing, within _____ [*as the*

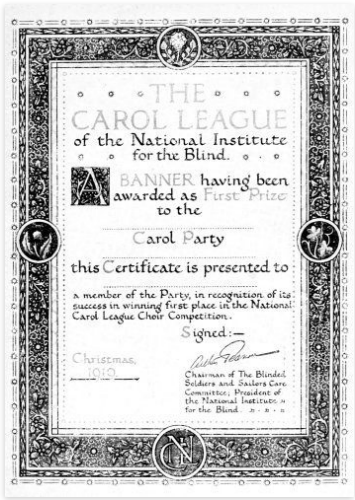
Case may require], and which I require to be entered for that Purpose, in pursuance of an Act, passed in the thirty-ninth Year of the Reign of His Majesty King *George* the Third, [*set forth the Title of the Act*.]

"Witness my Hand, this _____ Day of _____ ." Signed in the Presence } of _____}

"V. FORM *of Certificate that Notice has been given of a Printing Press, or Types for Printing*.

"I _____ Clerk [*or* Deputy Clerk] of the Peace for _____ do hereby certify, That *A. B.* of _____ hath delivered to me a Notice in Writing, appearing to be signed by him, and attested by *C. D.* as a Witness to his signing the same, that he the said *A. B.* hath a Printing Press and Types for Printing, which he proposes to use for Printing, within _____ and which he has required to be entered pursuant to an Act, passed in the thirty-ninth Year of His Majesty's Reign, [*set forth the Title of the Act*.]

"Witness my Hand, this _____ Day of _____ ."



A Design for a Certificate. BY SIDNEY FARNSWORTH.
Sidney Farnsworth, Illumination and Its Development in the Present Day, 1922

CERTIFICATION PLAN A proposal for library binding drawn up in the 1930s by the Joint Committee of the American Library Association and the Library Binding Institute, to enable library binders to apply for certification by agreeing to meet certain requirements, including: • 1. Submitting samples of their work so as to demonstrate the bindery's • capability of producing so called Class "A" work (the samples being • reviewed by a board appointed by the Joint Committee); • 2. Proving responsibility and reliability by means of sworn answers to • questions, and permitting the investigation of replies; • 3. Providing satisfactory references; • 4. Carrying sufficient insurance; • 5. Pledging to conduct the business of the bindery fairly, treat • customers honestly, and maintain minimum standards and good labor • conditions; and • 6. Becoming a member of the Library Binding Institute • The certification of library binders is now solely under the jurisdiction of the Library Binding Institute. 131 RE

CERTIFIED LIBRARY BINDERY A bookbinding establishment in the United States or Canada that specializes in library binding and meets the minimum specifications of the Library Binding Institute, as outlined in the CERTIFICATION PLAN. A certified library binder is defined as one who produces binding which will achieve two objectives: 1) meet the requirements of libraries for an end product capable of withstanding the rigors of normal library circulation or use; and 2) provide maximum reader usability. A certified library binder is required to warrant that the binding covered by his invoice is Library Binding and complies with all requirements of the Library Binding Institute Standards for Library Binding, except as noted in the invoice. Certified library binders are also required to adhere to the Trade Practice Regulation for the Library Binding Industry, maintain compulsory insurance to protect the customer's property in their custody, and participate in the industry quality control program. 131,208 RE

CESSING A technique used to allow excess tan liquor to drain from hides and skins, particularly the former. The hides are piled up flat on a wooden stillage or pallet and covered to prevent overdrying the surface and edges of the pile. Cessing is also used in place of HORSING UP when it is necessary to have a flat leather with no creases. Also called "piling." 306 RE

CHAIN LINES also *chain marks* The widely spaced watermark lines, about 25 mm apart, parallel to the shorter sides of a sheet of laid paper, caused by the "chain wires," i.e., the wires to which the finer laid wires of the MOLD (1) are attached for support. They usually correspond to the position of the bars or ribs of the mold to which they are often fastened. Occasionally, the shadow of the rib can be seen on either side of the chain line. Generally the chain lines run vertically in the leaves of a folio, horizontally in a quarto, and again vertically in an octavo. Sometimes, in the late 17th and early 18th centuries, this rule is reversed because of the use of a split sheet, or the use of a double mold, resulting in "turned chains." 69,136,225 RE

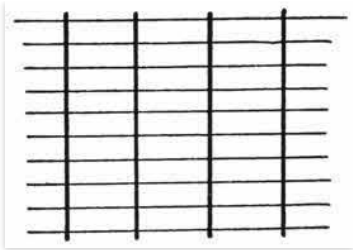
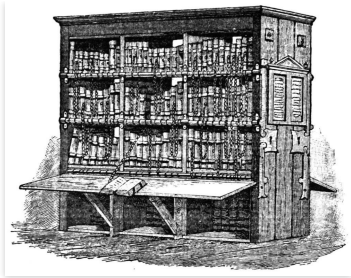


Fig. 61. —"Chain lines" thick, and "laid lines" thin, on paper.
Cyril Davenport, The Book: Its History and Development, 1907

CHAIN STITCH 1. See KETTLE STITCH. 2. An ornamental stitch in an embroidered binding that resembles the links of a chain, and is used in working in silver and other colored threads into the binding. 111 RE

CHAIN WIRES See: CHAIN LINES. RE

CHAINED BOOKS Books that in the past were attached to shelves, reading desks, pulpits, pews, etc., by means of chains. From the 15th to the early 18th century, books were secured in this manner to prevent them from being stolen. The chains used for this purpose varied in length from nearly 3 feet to almost 5 feet, while the links ranged in size from 1 1/2 to almost 3 inches in length, with a width of about 1/2 inch. The problem of the chains breaking when twisted was partially overcome by the inclusion of a swivel in the middle or at one end. • When the books were meant to be stood on end the chains were usually attached to the fore edge of the upper cover (and occasionally the lower) by means of a ring held to the board by a length of thin brass which was bent around the edge of the cover and riveted in place. Often, however, the ring was not used, the chain being attached directly to the clip on the cover. This required that the book be shelved fore edge out, a method of shelving that endured well into the 17th century, even when chains were not used. Books meant to lie permanently on lecterns, or the like, often had the chains attached to the bottom or top edge of the lower cover. • Chains were used, it has been said, because "The thievish disposition of some that enter into libraries to learn no good there, hath made it necessary to secure the innocent books, even the Sacred volumes themselves, with chains—which were better deserved by those persons. who have too much learning to be hanged, and too little to be honest." • The practice of chaining books began to die out by the middle of the 17th century when it became a more common practice to shelve books with their spines out. See PLATE 1, 46,236 RE



BOOK-CASE OF CHAINED BOOKS IN HEREFORD CATHEDRAL.
William Blades, Books in Chains, and Other Bibliographical Papers, 1892

CHALDEE The Chaldee letters, vowel points, and accents, correspond in every respect with those of the Hebrew in figure and power.—Bythner's Lyre of David, translated by the Rev. Thomas Dee, A.B. Dublin, 1836. 8*vo*. DAP

CHALK See: CALCIUM CARBONATE. RE

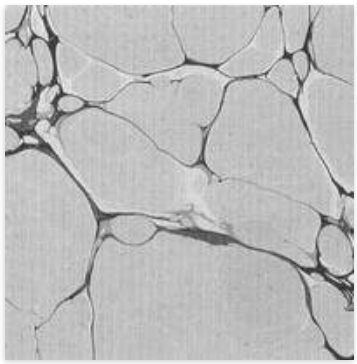
CHALKING 1. The process of applying pumice, brick dust, red earth, or a similar material, to the GOLD CUSHION prior to laying the gold leaf on it for cutting. Chalking helps prevent the leaf from sticking to the cushion. 2. A printing defect caused by the use of an ink that has been overreduced, or an ink that is not suitable for the paper, causing the ink vehicle to soak into the paper leaving the pigment on the surface where it can easily be smudged or rubbed off. 3. A condition encountered in some papers where fine particles of pigment break off the sheet during finishing, converting, printing, or subsequent use. RE

CHALKY APPEARANCE The surface of a coated paper that is lacking in gloss. The condition is probably due more to the type of coating material used, as well as to the coating process, than to the degree of calendering which the paper undergoes. 17 RE

CHAMFERED EDGES See: BEVELED BOARDS. RE

CHAMOIS Originally, a soft. pliable leather made from the skin of the chamois (Rupicapra rupicapra), a small goatlike antelope found in the high mountainous areas of Europe and the Caucasus. Chamois was at one time used to some extent in bookbinding, but is seldom, if ever, used today because it is hygroscopic, and, if kept dry by artificial means, tends to become hard and prone to cracking. The original chamois was a vegetable-tanned leather. Today, the leather called "chamois" is a suede-finished leather made from the FLESH SPLIT of a sheep- or lambskin, or from sheep or lamb from which the grain has been removed by FRIZZING (3),

and tanned by processes involving the oxidation of fish or marine animal oils in the skin, using either only the oils, in which case it is a full-oil tannage, or, in a first stage using formaldehyde and then the oils, in which case it is a combination tannage. In the United States, the term "chamois" without qualification, is restricted to the flesh split of a sheepskin tanned solely with oils. The old term for the full oil process was "chamoising." Also sometimes called "shammy." 170,306,325,363 RE



CHAMOIS.
Josef Halfer, The Progress of the Marbling Art, 1893

CHAMOLETTING An old term for MARBLING. RE

CHAMPLEVÉ BINDINGS Bindings produced between the 11th and 13th centuries. The process involved cutting designs into a thin sheet of gold or copper, which formed the cover, with cavities filled with enamel. Sometimes the enamel was limited to the decoration of borders and corners. Champlevé can be distinguished from CLOISONNÉ BINDINGS by the irregular widths of the metal enclosing the enameled areas. 124,280,357 RE

CHAPEL DAP

Every printing office is called a chapel. The term is supposed to have had its origin from the first introduction of printing into England by Caxton, who executed his works in a chapel adjoining Westminster Abbey. Moxon however gives a different account, for which *see* Ancient Customs.

A chapel, in the technical sense of the word, is when the workmen agree to certain rules for the good order of the printing office.

All the compositors in a composing room, and all the pressmen in a press room, who are journeymen, form the chapel in each department, (for they seldom unite,) in which one of the number is elected, during pleasure, as president, or *The Father*, as he is styled. In their assembled body they enjoin regulations, and enforce their due observance; they also take cognizance of any disputes, and any grievance that may be complained of, that arise within the chapel, when called upon for that purpose; and there is no appeal from their decision.

The chapel is in general sanctioned by the master printer, on account of some of the rules tending to the preservation of his property;—such as the infliction of a fine on any one connected with the house leaving the premises without putting out his candle or leaving it in charge, or for throwing types, quadrats, or furniture, at another; and for the regular despatch of business, so far as regards the forwarding of work in general—but in addition the workmen make particular regulations for themselves, with regard to their own mode of working in companionship, &c. The chapel will also, if appealed to, enforce these bye laws, if I may so term them.

The fine for leaving a candle burning, is, I believe, never remitted; it is generally sixpence for a workman, double for the overseer, and half a crown for the master of the house.

The person who first sees the candle extinguishes it and delivers the candlestick to the Father, who keeps it till the fine is either paid, or promised to be paid; for Monday is the regular pay day in a printing office.

There are frequently a number of devices resorted to to induce a workman to go out after the candles are lighted, for the sake of the fine—the open air being the boundary—such as saying, a person is below who wants to speak to Mr. ——; this is usually avoided by the party giving his candle in charge; that is, saying to some one, *Mr. ——, take charge of my candle*. This person then becomes responsible for the charge as well as for his own candle, and has to pay for both should he leave the house without putting them out, or giving them in charge to some other person.

I have previously said that the office of Father is during pleasure, although I am aware that Mr. Hansard, in his Typographia, has stated it to be otherwise; but I have known instances of the Father being deposed, after having held the office for many years, and a successor appointed and deposed within a fortnight, merely for the sake of the initiatory fine, which is usually a gallon of porter. These instances have occurred when a flush of business caused an additional number of men to be employed in a printing office; some of whom being of a thoughtless disposition, and thinking they could outvote the sedate and the sober part of the workmen, call a chapel for the most trivial purposes, which thus becomes a hinderance to business, as it takes the whole of the men from their work.

But this evil produces its own remedy, when it is carried to too great an extent. Workmen get tired of being called from their employment, and losing time continually, on trifling objects in which they feel no interest: and they check the evil by fining those who call the chapel, when it is evident that liquor is the motive for calling it.

I remember an instance when calling chapels had become a grievance from their frequency, in which the party was so completely checked, that he never ventured to call another. It occurred during a flush of work, when there were temporary hands employed, some of whom were partial to liquor, and eager to fine any one in order to obtain it. After deposing the Father two or three times, and calling chapels many times unnecessarily, a person left his candle burning one evening, and another passing his frame observed, *Here's a candle left; whose is it?* The reply was, Mr.——'s.—*If I had known that, I would have put it out.* This was sufficient to bring the individual before the chapel, as it was held to be an attempt to defraud it of its due, of which the chapel is very jealous. Well, a chapel was called to take cognizance of the charge, without a doubt that they should levy a good fine for what they looked on as a great offence: but the established workmen of the house, and some of the additional men, had got tired of these repeated calls from their employment; and it being proved in the defence, that a party in the house had been for some time expressing a desire to fine this individual, who was of a

warm temper, and had brought a charge against him for a thoughtless expression that was not acted on, the chapel decided that it was a conspiracy against him, acquitted him, and laid a heavy fine upon the accuser.

No person but the Father can call a chapel, which is generally held at the imposing stone: and when any one wishes to appeal to it, he notifies the same to the Father, stating the objects generally, and accompanying the notification with a penny. The Father will sometimes decline to call the chapel, where the object appears trivial; but if the notification be accompanied with the value of a gallon of porter, it is imperative on him to call it, under the penalty of being deposed.

The chapel never assembles without the fee of a gallon of porter, in addition to the fine it may impose; and this fee is always paid, even when it assembles to settle any disputed matter between workmen, when no fine is levied.

If any workman refuses to attend when a chapel is summoned, after being called on by the Father for that purpose, the first business is to proceed to judgment on him for contumacy, which is always punished by a fine;—the chapel then proceeds to the business for which it was called, and when the members cannot agree in their decision, or when the matter becomes personal, they decide by chalking. For this purpose, a large galley is placed on a frame, in that part of the room which is most private and cannot be overlooked, and a line drawn down the middle of it, and at the top over each column is written *for* and *against*, or *yes* and *no*; one of the members then makes a mark, usually on the lenient side, which saves him from ill will, as it must be known on which side he gives his decision; the second generally marks the contrary side, so that the following persons cannot discover how any have voted. The Father, when all have chalked, examines the number on each side, and declares the judgment of the chapel.

It is an invariable rule that the chapel can do no wrong; and it is a crime to find fault with its decisions, which it would certainly punish with a fine if called on for that purpose, and the case was proved. All wagers of half a gallon of porter, or more, go to the chapel, so that they are never evaded, as the liquor is sent for by the chapel, which adjudges who shall pay for it: the consequence is, that when the object is to obtain drink, and perhaps a young man from the country to act on, who is ignorant of the London customs, the cases are often of the most preposterous kind; for instance, an experienced hand has been known to assert in such a case that a mallet was a planer, and to call it by that name, and then offer a wager, in support of his assertion, to the young man, who has accepted it. The chapel decided that it was a planer, and the stranger had to pay for summoning the chapel, and also the amount of the wager, by way of initiation.

The chapel also decides all disputes that may arise in the house, as well private, if it be appealed to, as those which may arise when two or more are employed on the same piece of work, and frequently fixes the price which shall be paid for it; for in doubtful cases a workman will prefer taking the collective opinion of his fellows, to acting on his own judgment, as it may affect them all. In this case the person who is on the work must not take less than the chapel fixes, without permission; and if the employer will not pay it, he, of course, must quit his situation. If, after the chapel has fixed a price for a piece of work, a man should venture to do it for a reduced price, he becomes a "Rat."

In a press room there is sometimes a fine for men throwing water at each other, which dirties and spoils the paper;—and in hot summer weather, when a man has been desirous of a draught of porter, an instance has been known of his falling down in a pretended fit, and when another in kindness has procured some cold water and sprinkled his face with it, the other has jumped up and accused him of throwing water at him, on which he has had to pay the fine.

If any member of the chapel should be hardy enough to oppose its decisions, there are a number of ways practised to bring him, and even the most obstinate, to submission. Every chapel is haunted by an imaginary spirit, named Ralph; and when any person refuses to obey its mandates, this spirit begins to *walk*, as it is termed. The first act is, in general, to hide the offender's composing stick; if this does not answer, his galleys are secreted; then the page cords, which secure his work, are cut, and his labour rendered more than useless, because he has to distribute his pie as well as to recompose his matter; if he still remains contumacious, the whole of the types in his cases are transposed, so that he cannot proceed in his business; and if he should still set the chapel at defiance, he is smoked, all the members of the chapel surrounding his frame, each with a lighted match of brimstone, and singing a doleful ditty; after this he is sent to Coventry, and every man becomes amenable to the chapel, if he assists him, gives him any information, or speaks to him; so that he must either submit to the penalties inflicted, or leave the house. When he submits,

his apparatus is restored, and the types properly arranged again in his cases.

Apprentices never belong to the chapel; neither is the master of the house, nor the overseer, ever allowed to be present when one is held.

Many master printers are decidedly against chapels, as tending to encourage drinking, and the neglect of business; where this has been the case within my knowledge, the grievance has remedied itself, for the sober and industrious prevent the evil going to an extreme; and where there are a number of men employed, the majority will be found opposed to being called from their work repeatedly to decide on fractious or quibbling questions, in which they feel no interest; and by fining a busy meddling person, they put a stop to the frequent calling of chapels, which, as I have said before, are, generally speaking, promoted by temporary workmen, who seldom stop long in a house, and on whose departure the business is carried on in the regular manner, while, if one or two continue to work in the house, they soon fall into the old customs of the permanent men; for among the established workmen of a house chapels are seldom called.

It has also been objected to them that they tend to excite an opposition to the employer on the question of wages. This may have happened; but wherever I have seen a question respecting prices brought before a chapel, I have always seen it discussed in a fair manner, and the value estimated impartially,—the scale being kept in view for any thing nearly similar;—for among a number of workmen there will always be found men of principle, who would not sanction an unreasonable demand for the temporary advantage of a few shillings a week; and these men have always great influence in the decision.

Upon the whole, when I take into account the decreased risk from fire, owing to the fine for candles—the prevention of waste of materials, by throwing them about—the appeal for wrongs done in companionships, or for neglect, or throwing impediments in the way of business, and remedying them—I am of opinion that the advantages attending chapels outweigh their disadvantages, and that the business is carried on with more regularity and promptitude with them than without them, particularly when it is taken into account that the rules and regulations laid down by the employer for the governing of his house, are adopted by the workmen and become chapel laws.

As many of the customs of chapels are passing away, I have been rather more diffuse in this article than the mere definition of the term might seem to require; but as I am not aware that any preceding writer has explained a chapel, I have been led to do so, that the knowledge of old customs might not be entirely lost. *See* Rules.

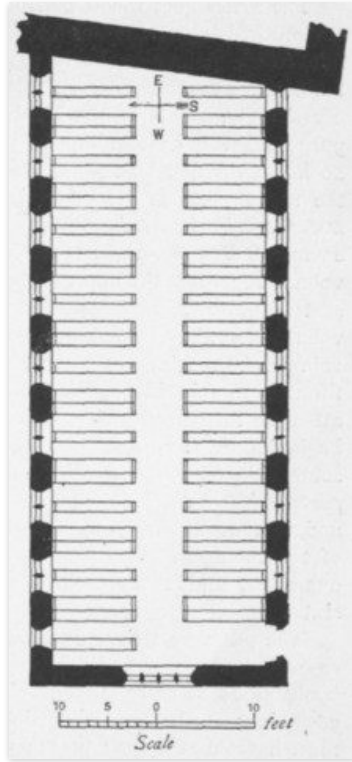


Fig. 88. Conjectural plan of the Library over the Prior's Chapel at Christ Church, Canterbury.
John Willis Clark, The Care of Books, 1901

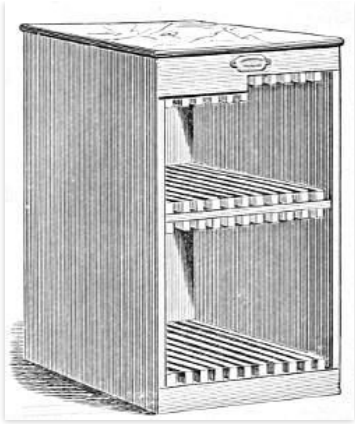
CHAPEL LAWS **1.** The regulations adopted by the men in chapel assembled, for preserving good order in the office, are called chapel laws.2@AMP Rules of a printing-office. DAP

CHARCOAL DRAWING PAPER A drawing paper produced in such a manner as to be suitable for use with charcoal or pencils. It generally has a high cotton fiber content. It is made in basis weights of 60 to 75 pounds. 17 RE

CHARGE, { paper with great pages. is to fill { a page with long and many lines. { a line with many letters.—M. • This term is not in general use: we are more in the custom of saying a full sheet, a full page, a full line. • Charitable Donations. *See* Donations. DAP

CHASE **1.** An iron frame to fasten types in to print with.—M. • A great revolution has taken place with respect to chases. They were formerly made thin and narrow, but are now made thicker, which gives more safety to a form in quoin-

ing; and they are made much broader, both in the rim and the crosses, which adds to their strength and durability. • It is customary to dovetail the crosses into the rim of wrought iron chases, and to have mortises for duodecimos and eighteens, so as to move the crosses according to the size of the work for which the chase is wanted. This plan is convenient in many instances, but it is in many others inconvenient and wasteful. • It is necessary to have chases in an office with the crosses loose, to a limited extent, as they could not well be dispensed with on many occasions; but I would have as few as possible; for the mortises in the rim cut the quoins to pieces, and the loose crosses are frequently used for pokers, and for tightening quoins in forms when they get slack. By these means they are bent and destroyed, and the chases to which they belong are rendered nearly useless. The loose crosses have also another disadvantage: they frequently get mislaid or lost when taken out for folios, or broadsides, and when the chase is wanted for any other size, the cross cannot be found, and the compositor, or person who has the care of the furniture, is obliged to take such a cross as he can meet with, and which he can drive into the mortises with a mallet; this cross is sometimes of a different thickness from the right one, and affects the register of the pages in working, particularly if the furniture and the chase be transposed, as too frequently occurs through carelessness. • There is less waste and destruction when the crosses are rivetted into the rim; for the chases are then always ready for use—the crosses can never be mislaid nor destroyed—and the whole implement is much more durable than when the parts are separate. • Cast iron chases are now coming greatly into use, and answer the purpose very well. The crosses are fast, the whole chase being cast in one piece, so that there must be chases for each size, viz. folios, quartos, and duodecimos; the crosses fixed for these sizes will answer every other, except broadsides. They are cast from a card chase to the largest size; and stand locking up and the usual wear, without breaking. These chases are much cheaper than those made of wrought iron. • There are some chases now made with the inside of the rim bevelled off from the cross to the angle, to answer the purpose of sidesticks and footsticks; a piece of broad, or narrow, being used at the sides and feet of the pages. This plan appears to be economical with regard to furniture. • The usual practice in cutting chases for 18mo. is to place the long cross about one third of the width from one of the sides of the chase, and two thirds from the other, for the purpose of making it fall in one of the backs; by this mode one of the quarters in the offcut has only two pages in it, so as hardly to admit of quoin room, the other has four; and the remainder of the form is also divided unequally, one side of the long cross having four pages, and the other eight pages. This method of imposing an 18mo. is inconvenient, and the large quarter is in danger of falling out. The plan appears to have been adopted merely to cause the long cross to fall in one of the backs, which is of no consequence whatever. I have always imposed eighteens in chases cut for 12mo. which I prefer; for the quarters being more equal, make the locking up more secure, and the only difference in the imposition is, that the long cross falls in a gutter, instead of a back. • Mr. T. C. Hansard took out a patent for "Improvements on, and Additions to, Printing Presses, and various Processes relative to Printing." Among the different articles are chases, which Mr. Hansard thus describes:—"The Demi- (or half) -Chases are made so as to contain the pages imposed within a less measure of square than usual. One side of the rim is made particularly straight, and rather less in breadth than the other three sides: this narrow side forms the part to lie in the middle of the Table of the Press: by turning a pair of chases so made on contrary faces, the two narrow sides will join and form as one chase. The pages are not in these chases, as in others for all sizes above Folios, locked-up by having side sticks and quoins on all four sides, but only on one side, and at each end. The inner Forme being locked up on the right side only, and at each end, and the outer Forme on the left side only, and at each end; and the margin being made when the two demi-chases are laid together on the Imposing Stone, as if the same were one large chase of double dimensions, the pages will require no more margin in the centre of the double sheet, than a fair equal proportion for the division of margin. The chases must be made in proportion to the size of the work intended to be executed." DAP **2.** A rectangular iron frame in which pages of type are imposed. AMP



CHASE CABINET.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

CHASED EDGES See: GAUFFERED EDGES. RE

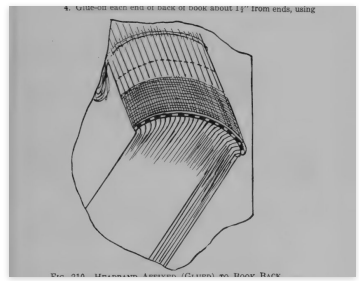
CHECK BINDING A general term for the style of binding in which the sheets are wire stabbed or stitched, and then covered with lightweight strawboards, or checkbook cover boards, which are lined with plain paper, marbled paper, or cloth, and cut flush. Some have round corners. This style of binding is not rounded and backed and has a tight back. Books under 3/4 inch in thickness are generally side stitched, while those over that thickness are nailed or studded. The term derives from the method of binding checkbooks for banks. 256,300 RE

CHECK PILE A procedure for obtaining the desired number of sheets in a PAD without having to count each group. The exact number of sheets is counted for one (check) pad, and, using this pile as a "check pile," the approximate number of sheets is placed in an adjacent pile. Sheets are added or removed from the second pile until the heights of the piles are the same, at which time the second pile supposedly has the same number of sheets as the "check pile." A better method is to use a PAD COUNTER (2). 74 RE

CHEEK THE BAR Pulling the bar of the press till it touches the near cheek. In good work I would always have the pull so justified that when the bar was pulled home, or cheeked, it should occasion the proper degree of pressure of the platen upon the form; this would in some degree assist in procuring equal impressions through all the copies printed; but in heavy or large forms it would be too great an exertion for the pressman to continue doing without some assistance, as such work requires to rest on the pull. I adopted a catch for the bar when cheeked, in some presses, which completely answered the purpose, and enabled the pressman to rest on his pull as long as was necessary, without overstraining his arms. *See* Catch of the Bar. • Chemistry. *See* Elementary Substances. Formulæ, Chemical. DAP

CHEEKING The process of reducing the thickness of the head areas of unhaired skins by means of splitting. RE

CHEEKS **1.** The upright sides of a printing press. —M.2@MOX is a part of the *Press*; for which See § 10. ¶ 2. and part of the *Dressing-block-groove*. For which See § 20. ¶ 3. DAP



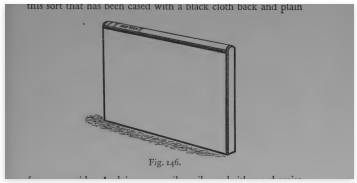
. Lay book in finisher's press again projecting about 1" above "'cheeks"' and tip press up on table so that book is horizon- tal and press vertical. (Fig. 209.)
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CHEESECLOTH A lightweight, unsized cotton fabric, loosely woven and used to a limited extent in edition binding as a spine lining fabric. 120 RE

CHEMICAL WOOD PULP A paper pulp prepared from both coniferous and deciduous trees, in which the LIGNIN and other undesirable materials are removed by cooking the wood with an alkaline sodium sulfide solution, or a sodium sulfite solution, leaving the cellulose fibers in an aqueous suspension of the dissolved lignins, etc. The fibers are washed and are then used "as is' to produce unbleached paper or are bleached to produce white paper. • The fibers from coniferous trees are ribbonlike and have thin walls. Generally, two distinct types of fibers can be distinguished: 1) a broad fiber of a width of about 0.05 mm and a length of about 2.5 to 4 mm, and 2) a narrower fiber about 0.02 mm wide and 1.5 to 5 mm long. The fibers of deciduous trees are shorter than those of the conifers, being between 1and 1.5 mm long, but they are usually thicker. • In chemical tests to determine the presence of chemical wood pulp in paper, an iodine-zinc chloride solution gives a pale violet, pale blue, or reddish blue, depending upon the type of chemical pulp. 93,98,143 RE

CHEMISE 1. A cover of SILK or CHEVROTAIN, used in the 15th century to protect leather bookbindings. The chemise was sometimes used in the

Middle Ages in lieu of binding. 2. A loose cover for a book with pockets into which the boards are inserted. 3. Broadly, the canvas covering used to protect leather-bound stationery bindings. 140 RE



écru paper sides. A plain paper soils easily, and either a chemise
F. R. Smith, Bookbinding, 1929

CHESTNUT The wood of the European chestnut (Castanea sativa) and the American chestnut (C. dentata), from which tannin is extracted. Chestnut tannin extract was used extensively in France and other European countries, as well as in the United States, in the latter part of the 19th century and early 20th century. In the United States its use has declined sharply since the introduction of the Oriental chestnut blight (Endothia parasitica), which has virtually destroyed the American chestnut. Today Italy is the largest producer of chestnut wood extract for tanning. • The bark of the chestnut is not used because it imparts a dark color to the tannin, and its high sugar content would result in a higher percentage of soluble non-tans in the extract. The usual tannin content of the southern European chestnut is 10 to 13%, or higher, which is considerably higher than that obtained from trees in northern climates. The wood does not seem to reach its highest tannin content until the trees are at least 30 years old. • Chestnut extract tans rapidly and produces a firm leather. If used alone, however, it may impart a reddish color to the leather that is not desirable; therefore, it is used in combination with quebracho, mimosa, myrabolans, and valonia. • Chestnut is one of the pyrogallol class of tannins, and has a naturally low pH value. It also has a relatively low salts content and a high acids content. See also: VEGETABLE TANNINS. 175,306,363 RE

Fig. 51. —Chestnut Oak (Q. prinus).
H. R. Procter, The Principles of Leather Manufacture, 1903

CHEVERELL A goatskin PARCHMENT that has been converted into a supple and strong leather with the characteristic bold grain pattern. It proved to be an exceptionally durable bookbinding leather. The conversion was effected by a simultaneous tannage using alum and oil, followed by intensive fatliquoring and staking. Cheverell was used in England, France. and Italy during the 13th to 15th centuries. 291 RE

CHEVRETTE A leather produced from the skin of a young goat which is being, or has recently been, weaned, or the skin of an immature goat. Sometimes, any lightweight goatskin or kidskin is referred to as "chevrette." 61 RE

CHEVROTAIN A leather produced from the skin of any of several very small deer-like mammals of Asia and West Africa, and used in England, principally in the Middle Ages, for chemises. Like the skins of does, lambs and other very young animals, it is soft and supple. It is sometimes inaccurately referred to as CHEVRETTE. 115 RE

CHICAGO POSTS Metal screw posts having two heads, one fastened to a full length post, which is drilled and tapped with a thread, the other attached to a shorter post, which is threaded to be inserted in the main post. The purpose of such posts is to allow additional sheets to be added to the book. 256 RE

CHICORY An herb (Cichorium intybus), at one time added to size solutions to ad just the tone of newly washed book leaves so as to make them match the shade of the unwashed leaves. 83 RE

CHIFFON SILK also *chiffon lining* A sheer, very lightweight fabric in plain weave, made of hand-twisted single yarns of silk and used at one time to repair and reinforce torn leaves, documents,

etc. Although its weight and sheerness permit even the finest print to be legible, it is little used now because of its lack of permanence. 81,120 RE

China clay A white, powdery material arising from the decomposition of granite feldspar. The term originally applied to the beneficiated KAOLIN mined in Europe, but is now applied to all beneficiated kaolin. See also: CLAY, 143 RE

China paper A soft, very thin WATERLEAF (1) paper, produced in China, and elsewhere, from bamboo fibers. It has a pale yellow color and a very fine texture. The usual sheet size is 57 by 27 inches. Is is used for proofs of woodcuts, for woodcuts to he mounted on a stronger paper, and, now and then, for superior editions of books. It is also called "Chinese paper," or "Indian proof paper." • " 17,69 RE

Chinese ink An INK of considerable antiquity, made from lampblack or soot obtained by burning vegetable oils, such as sesame or wood (tung oil). The quality of the oil is of major importance in this type of ink. The collected soot is sifted; heated along with white, transparent oxhide, or fish glue; and pounded in a mortar until it is soft and pliable and can be molded into sticks. This type of ink, having a base of carbon, is very stable when properly prepared, and, not having acidity, has no harmful effects on paper; however, it is easily affected by water. 130,143 RE

Chinese marble A type of cover marble, consisting of solid dark brown over the entire leather cover, with whiting in spots or streaks, over which blue and then large spots of red are thrown. The whiting not covered by color is washed off when the covers are dry. 95 RE

Chinese paper See: CHINA PAPER (1). RE

Chinese wax A white or yellowish crystalline WAX, formed on the branches of the ash tree (Fraxinus chinensis) from the secretion of the coccus insect (Coccus ceriferus). It resembles SPERMACETI WAX, but is harder, more friable and has a higher melting point (80 to 83° C.). It is used in polishing leather, sizing paper, etc. 291 RE

Chinese white A dense form of zinc white—zinc oxide (ZnO)—sometimes used as a bonding agent when coloring the edges of books. 335 RE

Chinese" Chippendale bindings A class of CHIPPENDALE BINDINGS. These bindings were generally covered in red morocco, and were tooled in gold with designs representing "Chinese" motifs and symbols, following the vogue represented in the decorative arts of the mid-18th century. The bindings often featured rococo frames made up of recurving and serrated motifs forming irregular compartments and perches for beehives with bees in flight, boats, Chinese archers and spearmen, columns and pilasters, doves, flowers, grapes and other fruit, horses rising from the sea, lions supporting shields, phoenixes, etc. 347 RE

chipboard A thin, hard-surfaced, grayish board, normally produced from paper stock, including waste papers. It has a relatively low density, and is available in the thicknesses of 0.006 inch and up. It is sometimes used in edition binding for covering boards; in library binding and craft binding, however, it is never used for anything but lining board. 256,277 RE

Chippendale bindings A style of book decoration, where the books were generally covered in red morocco, and were tooled in gold with elaborate rococo borders of swirls and acanthus leaves enclosing areas dispersed with meshes of dotted lines. Incorporated in all this were various figured tools, including dancing angels, trumpeters, doves, fruit, musicians, swooping phoenixes, etc. See also: "CHINESE" CHIPPENDALE BINDINGS, 347 RE

chiseled leather See: CUIR-CISELÉ. RE

Chivers has used a soft thin pigskin with great success, here and in England. NBL

Chivers, Cedric c 1853–1929 A British bookbinder sometimes referred to as the dean of library binders. Chivers developed a method of hand oversewing, in which the stitches pass diagonally through the paper; it is still in use today and is called the "Chivers method." One of the major disadvantages of the usual method of overcasting, or oversewing, groups of individual leaves which are subsequently to be sewn on tapes or cords in the usual manner of hand sewing, is that the book often has a tendency to open up and become strained between the groups; this occurs only when the paper is unusually thick. Chivers' solution was a method by which three holes are punched in each of the sections in such a manner that their positioning alternates from section to section; they are also punched obliquely through the paper to eliminate strain due to side pull. Thread passes through and returns in such a manner that every section is sewn to the next two sections on each side. • Chivers was also famous for his DUROFLEXIBLE BINDING, as well as his VELLUCENT BINDINGS. 94,236 RE

CHLORAMINE T also *sodium p-toluenesulphonchloramide* ($C_7H_7ClNNaO_2S \cdot 3H_20$). White crystals prepared from p-toluenesulphonamide and sodium hypochlorite, and used in a 2 aqueous solution to remove fox marks and stains from paper, and also for general bleaching purposes. It is applied directly to the paper by means of a soft brush or by soaking. It is very difficult to wash out and failure to rid the paper of it may result in the formation of highly destructive hydrochloric acid. 102,265 RE

CHLORINE A commonly occurring, nonmetallic, univalent and polyvalent element (Cl), belonging to the halogens, and used, generally in the form of chlorine dioxide (ClO_2), or hypochlorite ($Ca(ClO)_2$), as a bleach to whiten paper pulp, usually in one or more of the final stages in a multi-stage sequence. Its use as a bleaching agent in paper manufacture began in 1774 but its deleterious effects, while noticed almost immediately, were largely misunderstood or ignored. Chlorine residues are extremely difficult and expensive to remove, and many chlorine compounds break down slowly forming highly destructive hydrochloric acid in the process. Chlorine is also used as a disinfectant in leather manufacture. 198,235 RE

CHLORINE BATH A dilute solution of CHLORINE and water (or the commercial product, Chlorox, diluted with water), used to remove stains from paper, as well as for general bleaching purposes. For the disadvantages of using chlorine solutions for bleaching purposes, see CHLORINE. RE

CHLORINE DIOXIDE A heavy, explosive gas. (ClO_2), produced by the action of chlorine or sodium chlorite, and used in bleaching paper pulp from a water solution, usually in one or more of the final stages of multi-stage sequence. See also: CHLORINE. RE

CHLORINE NUMBER The amount in grams of chlorine gas, or its equivalent in bleaching powder, that can be absorbed by 100 grams of oven dry paper pulp in a specified period of time and under specified conditions. 17 RE

CHLORINE WATER See: CHLORINE BATH. RE

CHLOROPICRIN A colorless liquid (CCl_3NO_2), having a very toxic vapor. It is prepared by treating sodium picrate with chlorine, or calcium picrate with bleaching power, and is used at times in fumigating books. RE

CHOKE If a form be not washed in due time, the ink will get into the hollows of the face of the letter: and that getting in of the ink is called Choking of the Letter, or Choking of the Form—M. It is also said, the letter is choked with ink, or the form is choked with ink, when too much is used. • Cimbric. *See* Runic. • Circumflex. *See* Accented Letters. Caret. • Cities and Towns, Ancient Names of. *See* Names. DAP

CHOP CUT A method of trimming newly printed sheets before folding, in which the large sheet is trimmed on all four sides but the individual leaves are trimmed in the process of separation, after which no further trim is required. This procedure is largely restricted to economy printing. The normal procedure is to trim all four sides of the large sheet, cut it apart to separate the sections, and then trim each individual section. "Chop cut" cannot be used if the individual sheet or section bleeds. 329 RE

CHROME GLUE A light-colored, easily worked glue made from scraps of chrome-tanned leather. It is said to be inferior in strength to regular hide glue. 81 RE

CHROME LIQUOR A solution of basic chromic salt used in CHROME TANNING leather. It is prepared by treating a strong solution of sodium dichromate ($Na_2Cr_2O_7 \cdot 2H_2O$) with a reducing agent, such as sulfur dioxide (SO), or a mixture of glucose and sulfuric acid. 305 RE

CHROME OXIDE also *chromic oxide* A green, insoluble powder (Cr_2O_3), which is the basis for many salts of chromium used in tanning leather by the chrome process. It is also used as a light- and heat-fast green pigment. 305 RE

CHROME RETAN A process in leather manufacture in which the skins are tanned throughout their thickness by the chrome process and, subsequently, are further treated with vegetable and/or synthetic agents. The retanning agents penetrate the skin deeply, but do not necessarily penetrate throughout the skin. See also: SEMI-CHROME TANNAGE. 61 RE

CHROME TANNING A method of tannage stemming back to the discovery, in 1858, that leather could be produced by treating skins with basic chromium sulfate ($Cr(OH)SO_4$). The two basic methods employed today are the one bath and two bath methods, the former being most often used. The most widely used chemical in chrome tanning is sodium dichromate (sodium bichromate) ($Na_2Cr_7O_7 \cdot H_2O$), from which chromium sulfate is produced. • As in vegetable tanned leather, the degree of control exercised in the

tanning process has great influence on the nature of the leather produced. If, for example, the final pH of a chrome-tanned leather is too low, the leather will be flat, hard, and wet, and may show grease spots on the surface; if it is too high, the leather will probably be plump, loose, dry, and may have a drawn grain or be too soft in the BLUE SORT. It is, therefore, imperative in chrome tanning to obtain the optimum pH, i.e., 3.4 to 3.5 in the one bath method, or 3.2 to 3.4 in the combination single and double bath method, and to maintain it. • The two bath method has almost been completely superseded by the one bath tannage, except in certain cases where the older two bath process is thought to give a particularly uniform tannage and a deposit of colloidal sulfur in the leather. • The major characteristics of chrome-tanned leather are its blue-green color and absence of filling power, i.e., an empty tannage. Chrome-tanned leather tends to be softer and stretchier than vegetable-tanned leather, and is very stable in water. Unlike vegetable-tanned or alum-tawed skins, chrome-tanned leather can withstand boiling water and has a shrinkage temperature higher at times than 100° C.; however. it does not resist perspiration or organic acids well and is difficult to emboss. In addition, it does not take gold tooling well and is difficult to fabricate in such operations as turning-in, etc. It is, on the other hand, a very durable leather. 101,164,248,306,363 RE

CHROMIUM SULFATE also *chromic sulfate* A salt of chromium ($Cr_2(OH)SO_4$), in the form of green crystals that are soluble in water and form an acid solution. It is used in CHROME TANNING. 304 RE

CHROMO PAPER A heavily coated paper suitable for color printing. Surface characteristics said to enhance color printing include smoothness, uniformity of ink receptivity, high total reflectance, and neutrality of shade, which means the paper is truly white rather than tinted. The term is not generally used in the United States. See also: COATED ART PAPER. 17,156,324 RE

CIRCLES Finishing tools in the shape of 1/3, 1/2, 3/4, and full circles, in sizes generally ranging from 1/4 to 2 1/2 inches in diameter. See also: GOUGE. 97,137 RE

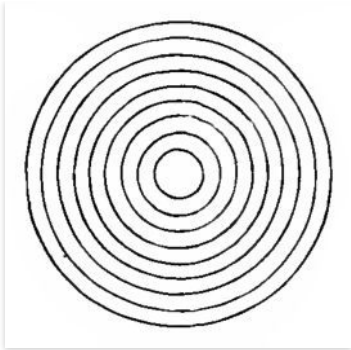


Fig. 137.—Set of Circles.
W. J. E. Crane, Bookbinding for Amateurs, 1885

CIRCUIT EDGES **1.** The projecting flexible covers of limp bindings turned over to protect the leaves and edges of books, usually of a devotional nature. The circuit edge differs from the yapp edge in that the overlap of the cover is not continuous. The covering leather is turned over at head and tail, with an independent flap at the fore edge. The corners are square. This technique allows the flaps to fold flat onto the edges. Sometimes called "divinity circuit," or "divinity edges." See also: YAPP STYLE.2@NBL Bibles and prayer-books are sometimes bound with projecting covers turned over to protect the leaves; these are called circuit or divinity edges. RE 66,94,264

CIRCULAR QUADRATES Blank types curved on one side. AMP

CIRCULAR QUADRATES.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

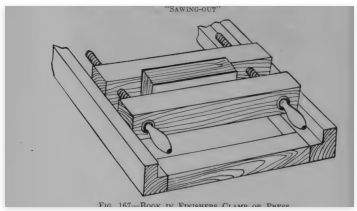
CITRIC ACID A colorless, crystalline or white powdery tricarboxylic acid ($C_6H_8O_7$). Citric acid is used to remove ink, and similar stains from paper, and is particularly useful in removing iron stains. Its advantage over chlorine solutions is that, being a weak and volatile organic acid, it is much less damaging to the paper. RE

CL Abbreviation for CLOTH. RE

CLAM SHELL COVERER A machine used in edition binding to apply paper covers to side stitched books that are not rounded and backed. The machine glues the spine, rolls or presses the

cover onto it, and carries the book to the cover breaker where the back and both sides along the spine are pressed by formers. Book sizes handled range from a minimum of 7 by 5 inches to a maximum of 12 by 9 inches, and up to 1 1/8 inches in thickness (with a special attachment for books up to 2 inches thick), at speeds up to 160 books per minute. 320 RE

CLAMP A device designed to bind, constrict, or press two or more parts together so as to hold them firmly in their relative positions for some subsequent operation, to allow adhesives to set, or for trimming, printing, and the like. They may be operated by hand, mechanically, by air pressure, or hydraulically. 145 RE



Fic. 167—Book IN FINISHERS CLAMP OR PRESS
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CLAMP DWELL The time interval of the holding action of a CLAMP. Although "dwell time" may be controlled manually, as with the clamp of a hand-operated board chopper, the term relates more accurately to the automatic release of a clamp, such as in a BUILDING-IN MACHINE, which holds the pressure for a pre-set length of time. When a clamp does not release immediately upon completion of an operation, it is said to have a "long" dwell. The typical GUILLOTINE cutting machine has such a dwell; the clamp remains on the pile being cut until the knife has risen to a safe height, which prevents the knife from rippling the sheets on its return motion and thus disturbing the pile. 145,320 RE

CLASP **1.** The hook or catch used for fastening the boards together when the book is closed; used formerly on almost every book.2@NBL A hook or catch for fastening the covers of a book together, usually at the fore edge. ABB

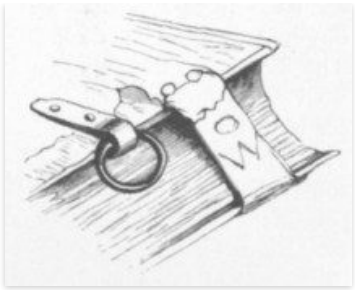


Fig. 74. Part of a single volume, shewing the clasp, the ring for the chain, and the mode of attaching it: Hereford. From a sketch taken in 1876.
John Willis Clark, The Care of Books, 1901

CLASPS See illustration The hinged fasteners of brass, precious metals, iron, etc., often elaborately chased, and intended to secure the covers of books, ledgers, albums, etc. They are sometimes provided with a lock, and are designed to hold the covers of a book closed, or when provided with a lock, to prevent opening by unauthorized persons. Clasps are attached after forwarding is completed except for the board papers, because by that time the final thickness of the book is known and any rivets on the inside of the boards will be covered by the board papers. Because a single clasp has a tendency to distort the boards, two are generally used, and are usually placed opposite the centers of the second and fifth panels of the spine. All metal-hinged clasps have to be made to fit the individual book, as a perfect fit is necessary; however, where the hinge consists of a leather strap, adjustments can easily be made. Stretching of the leather with use, thus causing looseness, can be overcome by making the strap of leather over vellum, which also provides additional strength. • The use of clasps appears to be as old as the codex itself. In its earliest form, which was Coptic bindings, the clasp consisted of a strap attached to the fore edge of the upper cover and wound around the book over the fore edge several times, the bone attached to the end of the strap being tucked between the strap and the lower cover. Another method, which may actually have been used more often than the strap, consisted of the plaited thong with loops which fit over bone pegs at the edge of the lower cover. A clasp of this type seems to have been used in England at least as early as the 12th century. The strap was fastened to the fore edge of the upper cover, and the end, which had a metal-rimmed hole, was taken around to the middle of the lower cover and was attached to a metal pin. • English bookbinders of the 14th century began

using two straps instead of just one, something which had been done earlier and more often on the Continent of Europe. The hole and pin type was more or less abandoned early in the 14th century and replaced by clasps and catches attached to the fore edge. Initially, each clasp consisted of a strip of leather having a metal hook on one end. Later, the metal part of the clasp was the full thickness of the book and was sometimes attached to the board by means of a metal hinge. In bindings of the 15th and 16th centuries, and probably earlier, the location of the clasp is a reasonably accurate indication of the country of origin. English and French bindings usually had them attached to the upper cover with the catch on the lower, while bindings of the Netherlands and Germany had the catch on the upper cover. Italian binders often attached the clasp to the upper covers and often used as many as four clasps. • The velvet-covered books of the royal collection in England in the 15th and 16th centuries often had ornamental gilt clasps, which were often combined with elaborately ornamented gilt cornerpieces and centerpieces which helped prevent abrasion of the velvet. • The use of metal clasps began to decline early in the 16th century, probably because they could not be securely attached to the pasteboards which were replacing boards made of wood. The weight, size, and material of the books being published at that time did not require clasps, and clasps were no longer economically feasible for the normal run of books. In most cases they were replaced by TIES (1). Clasps made of brass were still used in the 16th century for some books which were bound with boards of wood, and silver clasps and cornerpieces were often used on small Bibles and other devotional works as late as the late 17th and early 18th centuries. In certain German bindings, however, e.g., Bibles, clasps were used continuously until the end of the 18th century. his was notably true in America, for example, where almost all German-American bindings, e.g., the Saur Bibles, were issued in calfskin over wood with two heavy claps attached to the lower cover. Brass clasps were revived during the latter part of the 19th century, mainly for Bibles and prayer books, but also for photograph albums, diaries, and the like. They were often attached to metal frames which protected the edges of boards. 83,105,236 RE

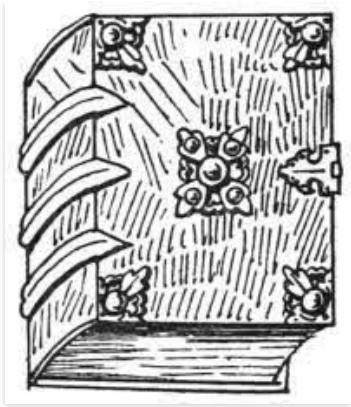


Fig. 46. —Mediæval book with bosses, corner pieces and clasps. *Cyril Davenport, The Book: Its History and Development, 1907*

CLASS "A" LIBRARY BINDING Library binding that meets the standards set forth in the minimum specifications promulgated by the Joint Committee of the American Library Association and the Library Binding Institute. The qualification for Class "A" binding, as accepted today, is set forth, defined and regulated exclusively by the Library Binding Institute, as detailed in its Standard for Library Binding. RE

CLAW of a sheep's foot. The end to draw the ball nails out of the ball stocks.—M. • Claws, for Stereotype Risers. *See* Risers. DAP

CLAY A colloidal, lusterless, fine-grained, earthy substance which generally develops plasticity when wetted but is permanently hard when fired. Chemically clays are aluminosilicates, which do not form large crystals. The finely divided aluminosilicates, which are responsible for the properties associated with clays, are called "clay minerals." Clays with a preponderance of the clay mineral "kaolinite" are used both as fillers and as coating pigments in the manufacture of paper. Other clays are used in small amounts. Used in excess, as it is in some art papers, clay becomes an adulterant to the detriment of the strength and durability of paper. See also: ATTAPULGITE CLAY; BENTONITE; KAOLIN; PAPER CLAY. 17,235,343 RE

CLAY TABLETS The earliest form of the "book." Clay tablets were generally used for records and were inscribed in cuneiform writing on wet clay, which when hardened was usually protected by a cover (outer shell), also of clay, which was inscribed with a copy, abstract, or title of the contents. 12,156 RE

CLAY-FINISHED PAPER A paper, such as imitation art paper, coated with finely pulverized clay to impart a smooth finish suitable for halftone illus-

trations. Such papers present difficulty in binding, as they are difficult to sew (especially to oversew), and there is often the tendency for the clay to separate from the base paper, especially under humid circumstances or if the paper becomes wet. In addition, they are unusually stiff and frequently must be scored. 52,278 RE

CLEAN PROOF **1.** When a proof has but few faults in it, it is called a *Clean Proof*.—M. It is also called a clean proof when it is printed after being corrected, to be sent out, or to be read for press —that is, the pressmen take more care in printing it, and keep the margins clean.2@AMP A proof containing few faults. DAP

CLEAN SHEETS Authors and publishers have generally one copy of each sheet of a work sent to them as it is printed, for the purpose of reference, and to see the progress of the work; these copies are called *clean sheets*. *See* Tops. DAP

CLEANING A general term used to describe the removal of mud, dirt, dust, grease, stains, etc., from the covers or leaves of a book, map, print, etc. Cleaning is done in a variety of manners, depending on the nature of the soiling, the material soiled, and the facilities available. It may range from gentle rubbing with bread crumbs to complete washing and restoration. 173,335 RE

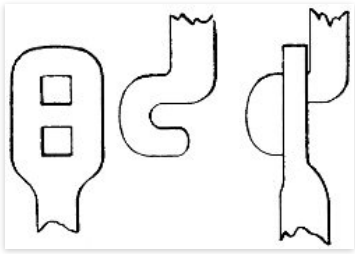


Fig. 97. —Cleaning Rod Joint.
H. R. Procter, The Principles of Leather Manufacture, 1903

CLEANING OFF A term descriptive of a more or less obsolete process of removing excess adhesive from the spine of a book subsequent to lacing-in. Cleaning off is generally done by applying paste to the spine, and, when the glue has softened, scraping off both paste and excess glue with a CLEANING-OFF STICK or plow trimmings. Once a book has been rounded and backed and its shape has been set, the glue on the spine, other than that between the sections, is not required, and, in fact, should be removed to permit greater openability of the book and also to clear the sections of excess glue as a consideration of the binder of the future who may have to rebind the book. Cleaning off also helps in setting the shape of the spine and makes for a cleaner, smoother spine—factors which are very important in the case of a tight back binding. • The increasing use of resinous adhesives in hand binding, such as the polyvinyl group, in lieu of hot glues, has meant that cleaning off has become more difficult, if not impossible, even though the use of these adhesives makes shaping the spine of even greater importance. The plasticized polyvinyls are neither softened by paste nor are they soluble in water; furthermore, they do not seem to affect openability adversely. If, however, removal is necessary, they are alcohol soluble. 83,236,261 RE

CLEANING-OFF STICK A long, thin stick with a rounded but not pointed end, used to clean off excess animal glue from the spine of a book. See also: CLEANING OFF. 172 RE

CLEARING The process of lightening the color and removing metallic stains from the grain surface of newly tanned leather. Clearing is done by drumming the leather in a cold solution of weak acid, e.g., a.25 or 1% solution of oxalic ($H_2C_2O_4$) or sulfuric (H_2SO_4) acid; if heavy STRIPPING (1) or clearing is required, or if the original tannage was not satisfactory for the leather required, it is not uncommon to retan the leather at this time. 306 RE

CLEARING AWAY **1.** When a work is completed, clearing away is the distributing of headlines, chapters, lines of small capitals, and other useful sorts, taking the lines of quadrats away, and tying up the remainder of the matter in moderate sized pieces with old page cord, so as to be ready to be papered up; and tying the furniture, reglets, and leads up, and delivering them to the proper person, who takes charge of them. • The compositor, after laying up the form to be cleared away and washing it well—and matter ought never to be cleared away without undergoing this process—takes a page into a galley—an old one generally—and picks out the leads, if it be leaded matter; he will then push the matter up from the foot and put another page on his galley, and take the leads out of it also; he will then take the headlines away, and put them on another galley; then take the lines of quadrats and reglets out, and put them on a paper under his frame, then the chapters, contents of chapters, any lines with words of Greek, or other useful sorts, and, after pushing the matter close up together, he will tie it firmly up, in pieces rather longer than a full sized octavo page, and if a short line happens to fall at the bottom, put it in some other situation, so that the top and the bot-

tom shall be full lines. He will thus proceed, till his sheet or other quantity be all tied up, taking care to make his pieces of equal lengths, for the convenience of piling them up in the letter closet. • If the work should be in very small pages, so that two in width would not be wider than a large octavo page, he will put two together, side by side, to prevent papering the matter up in long narrow slips. • Having tied all the matter up for papering, he will either place it on a board in a rack, or put it in some other place where cleared away matter is usually deposited till papered up; he will then distribute his headlines, chapters, contents, and other useful sorts into their proper places; and if there be not room in the cases for the quadrats, he will put them into the proper drawers in which the surplus quadrats are kept. • If the work be in folio or quarto, he will tie it up in proportionally sized pieces. • He will then tie up his leads; and if there be any of different thicknesses, he will, of course, assort them, and tie them up separately: he takes a moderate quantity, if they be octavo leads, rather more than the length of a page of matter, and places a piece of reglet at each end of it, to guard the outside leads from injury by the tightening of the cord, and making a slip knot at one end of a piece of old page cord, he places the leads in the noose, and draws it as tight as the cord will bear, then turns the leads over upon the spare cord and draws it tight; he thus proceeds turning the leads over upon the spare cord, and drawing it tight, till he has got turns sufficient round the leads to secure them, and tucks in the end of the cord under the turns two or three times, drawing it tight; he knocks up the ends of the leads upon the imposing stone, gently, not to injure them, and when he has thus tied them all up, he puts them along with his matter. • He ties his reglets up in the same manner, and puts them with the leads. • He puts the quoins into the quoin drawer. • • He inquires of the proper person whether the furniture is to be tied up, or put into the drawers; if the latter, he assorts it—side and foot sticks, gutters, broads, narrows, reglets, and scaleboards, and puts each into its separate drawer; if it be to be tied up, he puts the scaleboard into its proper drawer, and arranges the others neatly and ties them firmly together with old page cord, and delivers them and the chases to the proper person, who may be either the overseer, or some person appointed to take care of the materials.2@AMP Properly disposing of materials after a work has been completed. DAP

CLEARING OUT **1.** Removing the waste-paper and paring away any superfluous leather upon the inside, preparatory to pasting down the lining-paper.2@ABB Removing the waste-paper, and paring away any superfluous leather upon the inside, preparatory to pasting down the end-papers.3@NBL Removing the waste paper and paring away superfluous leather upon the inside, preparatory to pasting down the lining-paper. MAB

CLEARING PIE To separate from each other in the confused mass, and assort the different kinds and sizes of types, and to distribute them into their respective cases; if there be a large quantity of any particular fount, or founts, it is usual to compose them into pages, and, if the letter be not wanted, to paper it up; when that fount is brought into use, a proportionate quantity of pie is given to each compositor to distribute. • This is generally the work of the apprentices during any slackness of business. A quantity of pie is placed on the imposing stone, or, if that cannot be spared for the purpose, on a letter board upon a bulk, and each fount is separated from the other; they are then composed into lines, and either distributed or papered up: although it may appear a roundabout way to compose it, it in reality saves time, as the composed matter is distributed with greater facility. In large establishments the reading boys assort pie at their leisure time. DAP

CLEARING STONE It is a general rule that every person shall, under a penalty, after imposing or correcting, leave a clear stone; that is, the mallet, shooting-stick, furniture, quoins, saw, sawblock, and shears, are to be put in their proper places; any good letters that may be scattered about, distributed; and the bad letters put into the shoe, so that there shall be no impediment to the next person using it. Any of the articles used, or two letters, left on it will render him liable to the fine. DAP

CLEAT See: KERF. RE

CLICKER **1.** The compositor who, in a companionship, receives the copy from the overseer or other person, gives it out to compose, receives the matter back when composed, keeps an account of what each person does, sets the head and direction lines, and the notes if any, makes up the pages, lays them down on the imposing stone, and makes out the account, apportioning to each his proper share; his own share of the bill being always equal with the highest: this refers to working on lines. In other companionships he

receives the copy from the overseer, distributes it to his companions, and receives instructions how the work is to be done.2@AMP The chief of a companionship. DAP

CLOISONNÉ BINDINGS Enamelled bindings produced during the 11th century, mainly by Greek and Italian craftsmen. Cloisonné is a technique of surface decoration in porcelain enamel on metal, in which each color area is surrounded by a thin line of metal, flush with the surface of the enamel. Thin fillets of flattened wire are set on edge and soldered to the metallic base in the desired pattern. The cloisons, or cells, are then filled with a colored vitreous composition, fired, ground smooth, and polished. Cloisonné can be distinguished from CHAMPLEVÉ BINDINGS by the uniform thinness of the metallic lines. 124,280,347 RE

CLOSE FORMATION The closeness of texture and FORMATION of a sheet of paper, i.e., a sheet in which the formation is uniform and free from a WILD (1) or porous appearance when viewed by transmitted light. It is frequently the sizing or loading agents that "close" the sheet by filling the interstices between fibers. A well-closed sheet has more RATTLE and hardness, and generally greater opacity. 42 RE

CLOSE MATTER **1.** Matter with few breaks or whites—M. The term is now understood of works that are not leaded. *See* Bad Work.2@AMP Solid matter with few break-lines. DAP

CLOSE SPACING This term is used when only a middling space is put between words, and sometimes a thin space; for some authors will not allow words to have much space between them, but only just enough to separate them from each other, in which case a thick space is never exceeded. • Close Work. *See* Close Matter. DAP

CLOSED ASSEMBLY TIME The time interval between the completion of assembly of the parts to be adhered and the application of heat, pressure, or both. See also: ASSEMBLY TIME; OPEN ASSEMBLY TIME. 309 RE

CLOSED BOLTS also *closed sections* Any fold in a section that is not perforated or cut during the process of folding, or before the binding process is completed. See also: BOLT. 256 RE

CLOSED JOINT That type of JOINT (1) which is formed when the covering boards are laced on, i.e., where the boards are right up to the backing shoulders. Also called 'tight joint." See also: FRENCH JOINT; LACING-IN; SUPPORTED FRENCH JOINT. 12 RE

CLOTH **1.** A generic term for all of the fabrics employed in bookbinding and conservation. Cloth is made by weaving, felting, knitting, knotting, bonding, or crocheting natural or synthetic fibers and filaments, in various textures, finishes, and weights. It may be plain, filled, coated, or impregnated. Woven cloths, with the exceptions of certain "double warp" cloths, have a warp (the threads that run the length of the cloth over and under the filling), and a filling, also called the weft, running across the grain at right angles to the warp. Both are generally expressed in number of yarns per inch. Since the number of threads in the warp is generally greater than the filling, the strength of a cloth is greater in the direction of the warp (or "grain" of the cloth). • Cloth is made from a wide variety of animal, vegetable, and synthetic fibers. Animal fibers include those obtained from animal hair—e.g., wool—and those obtained from insects, such as silk. Vegetable fibers include vegetable hairs, e.g., cotton; bast fibers from the stems of plants, such as flax, hemp, jute, etc.; and fiber bundles, such as sisal, esparto, straw, etc. The fibers most often used in bookbinding are cotton, flax, and silk. See also: BOOK CLOTH.2@ABB Prepared calico, sometimes embossed with different patterns, used for cloth bindings. RE 52,102,341

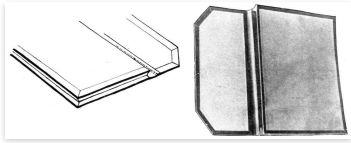


Fig. 50. Showing only the cloth on the edges.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

CLOTH BOARDS **1.** 1. An old term for PRESSING BOARDS used to create the joints of a case binding during the casing-in operation. 2. An obsolete term for the boards of a book. 3. A term sometimes used to indicate a book bound in cloth. 4. See: CLOTH-LINED BOARD.2@NBL Stiff boards covered with cloth. RE 256

CLOTH GRAINING The all-over patterns imparted to cloth to achieve a certain effect. Cloth is grained or embossed, as it is also called, by means of heated flat embossing plates, when done by the piece, or by heated engraved rollers when done by the roll. Grain patterns include rib, wave, ripple, dotted line, diaper, patterned sand, morocco, sand, pebble, crackle, frond, and numerous others. 69,341 RE

CLOTH HINGES 1. Cloth joints extending from the spine of the text block to the insides of the boards of the book, or between split boards. Such hinges are simply an extension of the spine lining fabric. 2. Any cloth or muslin reinforcement of the first and last sections which joins the endpapers to those sections. 3. The board-stiffened, cloth covered "lips" fastened into loose-leaf covers for use in conjunction with metal fasteners or posts. 4. Any cloth jointing used to bind in heavy inserts. 256 RE

CLOTH PRINTING Book cloths decorated by letterpress, offset, or gravure printing. In the latter two processes, even full color photographs and artwork can be printed on a suitable cloth. The picture-cover bindings used by library binders are an example of cloth printing. 234 RE

CLOTH STIFFENED COVER A style of binding consisting of a cloth cover secured to the spine of a book and stiffened on the sides with thick paper or board inserted between the cover and the endpapers. See also: PAPER-STIFFENED COVER. 343 RE

CLOTH STUBS Linen or muslin strips bound into a book, usually during sewing, as a strengthening medium for heavy inserts. RE

CLOTH TOOLING The process of tooling in gold on a cloth binding. As with leather, glair is required, and, in addition, greater pressure is required because the surface of cloth is harder, especially the surface of a filled cloth. Pyroxylin impregnated cloth or imitation leather sometimes has to be washed with methylated spirits before being tooled. 54 RE

CLOTH WEIGHT The weight of a given cloth, measured in ounces per square yard, or ounces per linear yard, depending on the cloth. Starch filled book cloths range from 1.7 to 7.0 ounces per square yard, vinyl coated fabrics from 14 to 31 ounces per linear yard (with a per linear yard allowance of minus 1 ounce to plus 2 ounces), and pyroxylin-coated cotton fabrics from 5.0 to 28.5 ounces per linear yard. The Library Binding Institute specifications for pyroxylin-impregnated buckram call for a cloth of not less than 7.9 ounces per square yard. 209,341 RE

CLOTH-CASED BOOK A case binding having cloth as the covering material. The term is usually restricted to an edition or library binding, particularly the former. 154,339 RE

CLOTH-CENTERED A term applied to a type of duplex paper or board, one having a cloth core (or center), usually canvas, linen, muslin, etc., with paper laminates on both sides. It is used where great strength, resistance to wear, and folding endurances are required, as with large maps. 58,156 RE

CLOTH-JOINTED ENDPAPER An endpaper that is reinforced at the fold by means of a strip of cloth. The cloth joint is used where reinforcement or extra strength is required and the appearance of the cloth strip is not objectionable. For maximum effectiveness the sewing to the text block should be through the cloth. The sewing may be concealed by inserting the cloth joint into a zig-zag; however, as this type of endpaper is utilitarian and used mainly for large account books, this is seldom done. See also: LIBRARY STYLE ENDPAPER. 343 RE

CLOTH-LINED BOARD A board backed with linen or linen canvas. Such boards are used where additional strength is required but additional thickness is not desirable. See also: CLOTH-CENTERED. 58 RE

CLOTHBOUND A book bound in full cloth with stiff boards. RE

CLOTHING UP See: CLOTHINGS; FIRST LINING; SECOND LINING; SPINE LINING (1); TRIPLE LINING. RE

CLOTHINGS The strips of leather, cloth or parchment (or vellum) which are glued to the spine of a stationery binding between the webbings, both to strengthen the spine and help maintain its shape. Also called "strappings. " 82 RE

CLOUDY also *cloud effect* See: WILD (1). RE

CLUB BINDERY A fine hand bindery founded in 1895 by Edwin Holden, Robert Hoe, and other wealthy American bibliophiles, most of whom were members of the Grolier Club. The purpose of the Club Bindery was to provide American bibliophiles with bookbindings of a quality equal to those available in Europe, thus avoiding the delays and other inconveniences of having to send books to Europe to have them bound. William Matthews was given the responsibility of organizing the shop, and he proceeded to hire the Clubs' first craftsmen, Frank Mansell, finisher, and R. W. Smith, forwarder. Other craftsmen employed by the bindery included Henri Hardy and Leon and Paul Maillard, French finishers; Adolf Dehertog and Charles Micolci, a coverer and assistant finisher, respectively; Mary Neill, sewer; Anna Berger, mender, repairer, etc.; and others. • The Club Bindery exerted a consider-

able influence on fine binding in America; unfortunately, however, not even the wealthiest of the stockholders had the resources to supply sufficient work to keep the bindery going. Efforts to transfer ownership of the club to the employees failed and the Club Bindery went out of existence in April of 1909. 331 RE

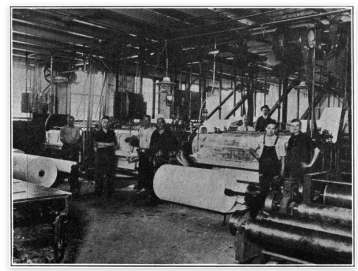
CLYMER'S PRESS Mr. George Clymer, of Philadelphia, first began to turn his attention to the improvement of the printing press in the year 1797. Having completed his object, he came to England in 1817, and introduced his improved press under the name of the Columbian Press: he established a manufactory in London, and the first press he constructed here was completed in 1818, and I believe went to Russia. It is an iron press; there is no screw; the head is a large and powerful lever, which is acted on by other levers to which the bar is attached, and produces the pressure; the platen is attached to the head by a square bar of iron, and the descent is preserved steadily and regularly by two projecting guides, one from each cheek; the platen is raised from the form by a lever with a weight at one end, attached to and above the head, which acts when the pull is eased and the bar flies back. The power of this press is very great, and I have not heard of any failing or breaking, which is an important fact in its favour. It ranks in the opinion of practical men, generally, as the next in estimation to the Stanhope press. The only objection I have heard to this press, was the length that the pressmen had to reach, and the disadvantage in the pull, by the bar being attached to the off cheek; but Mr. Clymer remedied this by attaching it to the near cheek, which not only facilitates the pull, but also enables the pressman to exert his strength more advantageously and with more ease. Mr. Clymer died in 1834, but the manufactory is still continued in Finsbury Street under the firm of Clymer and Dixon. I believe the representative of Mr. Clymer is Mr. A. R. Shaw, who married one of his daughters. DAP

The Clymer Press

The Clymer Press
William Savage, A Dictionary of the Art of Printing, 1841

COAL TAR DYES See: ANILINE DYES. RE

COATED Paper or board which has had its surface modified by the application of clay or other pigment and adhesive materials, or other suitable material, with the intent of improving its finish in terms of printability, color, smoothness, opacity, etc. The term is also applied to lacquered or varnished papers and book cloth, as well as other covering materials. RE



COATING ROOM, APPLETON COATED PAPER CO. This view of the "wet end" of the coating machines shows the rolls going through the coating process, the web of paper traveling along the drying racks appears in the background.
William Bond Wheelwright, From Paper-mill to Pressroom, 1920

COATED ART PAPER A coated paper particularly suitable for printing, especially halftones where definition and detail in shading and highlights are an essential consideration. It is usually a paper of good quality, with a high brightness and a glossy, highly uniform printing surface. 17 RE

COATED COVER PAPER A paper made in heavy weights and used for the covers of pamphlets, catalogs, etc. It is usually coated on both sides and is available in white and colors, with a dull or high finish. Good folding strength is an essential property. 17 RE

COATED ONE SIDE See: SINGLE COATED PAPER. RE

COATING The mineral substances used to cover the surface of a paper or cloth for the purposes of creating a new surface having certain desirable properties. This property in paper is usually that of printability, but may also be for purposes of decoration. In cloth it is usually used to increase strength and water resistance, but its decorative effect may actually sometimes be of greater importance. The coating material fills the interstices of the cloth or the minute "hills and valleys" which are present in the surface of even highly calendered paper. 143,323 RE

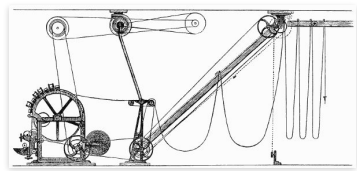


Fig. 45. —Sectional Elevation of "Coating" Plant.
R. W. Sindall, The Manufacture of Paper, 1908

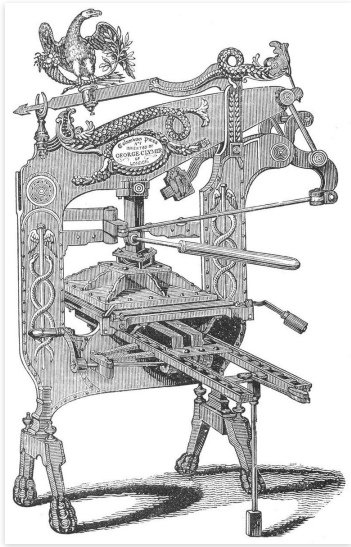
COATING CLAY A CLAY used to coat paper. Coating clays are of a smaller particle size and higher brightness than filler clays. It is a refined clay, usually KAOLIN, that meets specifications. Freedom from grit, correct particles, good color and brightness, low viscosity, and purity of mineral type are among the requirements. 17 RE

COBDEN-SANDERSON STYLE An arrangement of graceful curves or stems, flowers, buds and leaves, treated conventionally; the background being often powdered with nebulae of gold stars or dots. The lettering of title, etc., on back and sides is treated fancifully and often made an integral part of the design. NBL

COBDEN-SANDERSON, THOMAS J. 1840–1922 See illustration An 1892 binding by Thomas J. Cobden-Sanderson on an 1841 copy of J.R. Lowell's A Year's Life. Reproduced from Bookbindings by T.J. Cobden-Sanderson, printed by the Spiral Press, 1969, for the Pierpont Morgan Library. (18.3 cm. by 11.5 cm. by 1.5. cm.) • An English lawyer who left the legal profession to take up bookbinding, working for six months under Roger de Coverley before opening his own shop. Cobden-Sanderson produced some 100 bindings, and his work was generally considered to be superior to that of his contemporaries. His forwarding was excellent, and his finishing was skillfully designed and executed, and noted as much for its restraint as for its elaboration. He produced these bindings with the use of only a relatively few simple tools worked in intricate combinations. He designed his own tools, and, with the exception of sewing and edge gilding, did all of his own forwarding. Cobden-Sanderson signed his bindings with the initials C S and the date, usually on the doublure, a practice widely imitated since by craft binders. • Cobden-Sanderson's binding had a highly beneficial influence on the binding of his day. To a certain extent, he started bookbinding on a path away from the situation in which the vast majority of bookbinders seem unable or unwilling to consider new approaches, except within the narrow limits of accepted methods. His influence on his contemporaries was considerable, and it is not unreasonable to maintain that his influence is being felt to this day. • Cobden-Sanderson gave up his own bindery in 1893 to establish the Doves Bindery, originally for the purpose of binding the publications of William Morris' Kelmscott Press. He did no more binding from this time, but restricted his activities to creating the designs and supervising the work of the bindery. 2,94,236,281,347 RE

COCHINEAL A red dyestuff obtained from the dried bodies of the female of the insect Dactylopius coccus. The deep red color of the dye stems from carminic acid ($C_{22}H_{22}O_{13}$). Cochineal was used extensively in the 19th century in the production of red marbling colors and scarlet lakes. It is also used in the dyeing of wool and silk. 97,235 RE

COCK-UP LETTER It is not unusual to begin a work, and the divisions of it, as Parts, or Books, with the first word set in capitals, and the first letter a larger capital, justified to range at the foot with the others, and bearing about the same proportion to them that capitals bear to their own small capitals; whatever proportion there may be between the first letter and the other part of the word, if it be justified to range at the foot, it is styled a Cock-up Letter. DAP



COCK-UP LETTER.
William Savage, A Dictionary of the Art of Printing, 1841

COCKERELL, DOUGLAS BENNETT 1870–1945 An English bookbinder, first apprentice to THOMAS J. COBDEN-SANDERSON. Many of Cockerell's bindings are elaborately tooled with symmetrical arrangements of conventionalized flowers and leaves, sometimes within compartments formed by interlaced lines which often flow from the raised bands. This style, which he apparently originated, gives spine and covers unity, and shows that the designs were conceived essentially in terms of a book cover. His interlacing patterns usually have no loose ends, and his plant forms appear to expand. Small

spaces are filled in with gold dots, and butting lines are strengthened by a thorn, often with a dot at each side. • Cockerell was not only a fine bookbinder but also performed a service in his teaching and writing, pointing out some of the destructive methods then being used by binders, such as excessive paring of leather and thinning of slips, headbanding with inadequate tying down, the use of acids on leather to create decorative effects, etc. He also called for sound principles in construction and the use of chemically and mechanically sound materials. He encouraged the use of native-dyed goatskins for covering, and did much to establish the use of the ZIG-ZAG ENDPAPER, which until recently was used extensively by craft binders. He also was aware of the merits of alum-tawed skin, and his use of it in rebinding manuscripts, and particularly his use of tawed goatskin on the Codex Sinaiticus, helped establish the reputation of durability which this type of skin enjoys today. He also promoted the use of rough edge gilding (See: ROUGH GILT). • Cockerell's publications included Bookbinding and the care of books, Some notes on bookbinding, and Bookbinding as a school subject. 94,217,236,347 RE

COCKERELL, SYDNEY 1906- A British bookbinder and senior partner of Douglas Cockerell & Son, a firm established by his father DOUGLAS COCKERELL. • Cockerell has designed and fabricated marbling equipment, and has been largely responsible for the revival of the art of marbling paper. He is also the inventor of the pneumatic ram used in tooling, the ball bearing fillet, and the tract-guided fillet. In addition, he has contributed to the knowledge of book structure, e.g., the idea of using a free guard around the first and last sections of the text block and also the use of free guards around the folds of vellum sections. • He assisted with the repair and binding of the Codex Sinaiticus, and has repaired and bound several early manuscripts, including the Codex Bezae. • Cockerell is an honorary member of the Society of Scribes and Illuminators, a Fellow of the International Institute for Conservation of Historic and Artistic Works, and a Master of the Art Workers Guild. His publications include Marbling paper, the appendix to Bookbinding and the care of books, and The repairing of books. He has also contributed to several handbooks and encyclopedias. RE

COCKLE also *cockled* 1. A wrinkled or puckered condition in a sheet of paper or board (or vellum) caused, in the case of paper or board, by non-uniform drying and shrinkage, or from heat and humidity, and, in the case of vellum, by humidity. 2. A condition of the paper in books caused by excessive humidity and wetting. Cockling in books is magnified significantly if the grain direction of the paper is not parallel to the binding edge. 3. A term also applied to book covers (boards) rising, pulling, waving or curling, and caused by incorrect grain direction of the covering cloth, board paper, or the board itself, or by the use of the wrong type of adhesive or too much adhesive. 4. A warty growth in sheepskin. 98,139,156,335 RE

COCONUT OIL A nearly colorless, fatty oil extracted from coconuts of the palm (Cocus nucifera), or from copra, and used to make gold leaf adhere to the surface of the covering material before impressing the heated tool or die. RE

CODEX also *codices* An ancient book composed of leaves of writing material fastened together so as to open like a modern book, as distinct from a SCROLL (1) or VOLUMEN, which it superseded. It was introduced originally in the 1st century A.D. The English word derives from the Latin caudex or codex, meaning a tree trunk or stem stripped of bark. Originally, the name was applied to two or more tablets of wood, metal, or ivory, hinged together with rings, the inner sides of which were covered with wax which could be inscribed with a stylus. Later on the term was applied to books of this format made of papyrus. vellum, or parchment. Although papyrus usually appeared in the form of a scroll, and parchment and vellum in the form of the codex, there was a brief intermediate stage, the papyrus codex. This came at a time when parchment was not yet fully accepted, partly because it was thought to be a somewhat vulgar material, and partly because, when the codex was new, it was not realized that papyrus was not really suitable to that format. • Scribes and bookbinders have long attempted to match the sides of materials forming the leaves of books. The early scribes were concerned with the arrangement of the sides of papyrus, which were different because of the placement of the strips, and therefore the orientation of the fibers, during manufacture. When the number of sheets of papyrus were placed one upon another with each one the same way up, and were then folded down the middle to make a section, the first half of the section had the horizontal lines uppermost, while the second half had the vertical lines uppermost. This

method was sometimes adopted, whereas in other cases the sheets were alternated so that horizontal faced horizontal, and vertical faced vertical. In the case of vellum, the practice is to arrange the leaves so that flesh-side faces flesh-side and grain-side faces grain-side, in much the same manner as such papers as azure are faced light side to light side and dark side to dark side. Even modern day book papers have sides, a felt side on the machine-made papers and a wire side on hand-made papers. 94,123,192,236,365 RE

Fig. 15 Ezra writing the Law. Frontispiece to the Codex Amiatinus. In the background is a press with open doors. The picture was probably drawn in the middle of the sixth century A.D.
John Willis Clark, The Care of Books, 1901

COFFEE The common beverage obtained from the plant, genus Coffea, and used by some restorers to tint the leaves of books that have been washed and/or bleached, so as to tone them to the shade of those leaves that were not treated. 335 RE

COFFIN That part of a wooden press, in which the stone is bedded. • Type Founders usually send small quantities of sorts in brown paper made into a cone, and twisted at the small end, similar in shape to what grocers use for small articles; where there are no fount cases, or where they are full, compositors do the same with superfluous sorts; these conical papers are called *Coffins*. • The frame and bottom of a slice galley, into which the slice slides, is also called the coffin. *See* Galley. DAP

COGGER'S PRESS The cheeks of this press are of wrought iron, the head is of cast iron, very strong, and secured in its place by screws and nuts, and appears sufficient to bear the greatest power that can be applied in the ordinary process of printing, without injury. The pressure is obtained by a spindle with a screw working in the head, and at the bottom of it is a collar in which are fixed two studs of case-hardened iron with convex faces, which act upon two inclined planes of unequal degree of inclination; so that, when the platen first begins to descend, the descent is quick, but as the platen reaches the point of pressure, the velocity is diminished and the power proportionably increased, till arriving at a part of the plane nearly horizontal, and the levers taking the most advantageous positions, the highest degree of pressure is obtained. The inclined planes are of hard steel, dovetailed in the bottom of a circular brass box resting on the centre of the top of the platen; it contains oil, so that the studs dip into it every pull. The power is obtained by the bar being attached to a multiplied cross arm lever. Should the inclined planes break, or be injured, they can easily be taken out and replaced with new ones. DAP

COHESION The union of the particles of one substance by means of primary and secondary valence forces. As applied to an adhesive, cohesion exists when the particles of an adhesive (or the adherend) are held together. Cf: ADHESION. 309 RE

COIL BINDING also *coiled binding* See: SPIRAL BINDING. RE

COLD FLOW See: CREEP. RE

COLD GLUE Synthetic adhesives that do not require heating and which effect adhesion simply by drying. Cold glues are being used more and more in bookbinding, particularly in library and hand binding. See also: RESINOUS ADHESIVES; FISH GLUE. RE

COLD GOLD See: GOLDMARK. RE

COLD PRESSING A bonding operation in which the parts to be joined are subjected to pressure without the application of heat. In hand binding, virtually all pressing comes under this definition, whereas in edition and library binding, some pressing operations require the application of heat. 309 RE

COLD-SETTING ADHESIVE An adhesive that sets at a temperature below 20° C. (68° F.). Most of the adhesives used in bookbinding fall into this category. RE

COLLAGEN The principal constituent of the fiber-network layer of hides and skins used in producing leather. Collagen is organized in long, wavy bundles which vary in diameter from abut one to twenty microns. These bundles branch in

a complex and random manner to form a three dimensional network upon which many of the qualities of leather depend, and it is this complex network of fibers which provides leather with its unique character. • Collagen is a protein of the scleroprotein class, which is the most important constituent of the connective tissue of an animal. The molecules (14 X 2900 Å) appear to comprise a triple helix of linear polypeptide strands, composed of glycine, proline, and hydroxyproline. When collagen is boiled in water, the strands separate and undergo partial hydrolysis, yielding gelatin. 291,363 RE

COLLATE **1.** To put the leaves, issues, or sections of a serial publication or book in the correct order; to make certain that no maps, charts, illustrations, etc., are missing; to determine if margins are adequate for the desired type of sewing, as well as for trimming; to note tears, or other damage to leaves in need of repair; and to determine the general condition of the publication, including the paper on which it is printed, the grain direction of the paper, the presence of bled illustrations, and the need for pocket material, stubs, guards, etc., for the purpose of selecting the most appropriate binding style.2@DAP To examine the signatures in each gathering, to see that they are right and perfect. Moxon styles it Collation Books. • The person who has to collate, (generally the Warehouseman, as he is answerable for the correctness of the delivery of books,) takes a heap of a gathering and places the first or signature page uppermost, towards his right hand, and with the point of a sharp bodkin, or a penknife, picks up the corner of each sheet, in order to see that each signature is right, passing his thumb under them as they rise, to keep what he examines separate from the heap, and thus proceeds till he has examined one gathering; he then slips this gathering a little back on the heap, and proceeds with another, till he has gone through eight or ten, which he turns over to his left hand upon the table, where they are ready to fold; and he thus proceeds till he has collated a sufficient number for his delivery, or the whole number of the work, as the case may require. • • In the course of his progress he will find some sheets laid the wrong way, these he puts right; in some cases the boys will have taken two sheets of the same signature up, he takes one of these out; in other cases, there may be duplicate signatures, and the right one in order wanting; he calls out to the gathering boys to give him the right sheet, and draws out the duplicate as before, and sometimes a signature is wanting, which he also calls for. In these cases the wrong sheets that are taken out of the gathering are called *Drawn Sheets*, and are laid down on their respective heaps, to be re-gathered. • Although not customary, I have known a warehouseman use neither a bodkin nor a penknife, but slip up the corner of the sheet with the end of his forefinger, in order to examine the signatures: any one who adopts this practice should be particularly careful to have clean fingers, or he will soil the corners of many sheets, and disfigure his work. • Colon. *See* Punctuation. RE

COLLATING **1.** Examining the signatures, after the volume is gathered, to ascertain if they be correct and follow in numerical order.2@BIB Examining the signatures, after a volume has been folded and gathered, to ascertain if they be in correct sequence.3@ABB Examining the sheets by the signatures after the volume has been folded, |175| to ascertain if they be in correct sequence.4@NBL Examining the signatures, or sheets, after a volume is gathered, to ascertain if they be correct and follow in numerical order. Also, examining a book page by page to see if it is complete. MAB

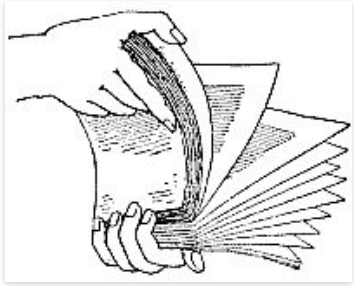


Fig. 14—Collating.
Paul Adam, Practical Bookbinding, 1903

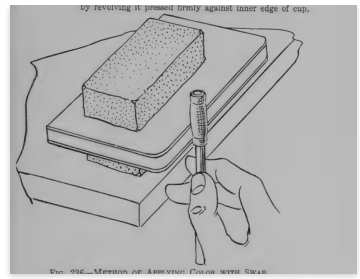
COLLATING MARK See: BLACK STEP. RE

COLLATION 1. That part of the description of a book, other than its contents, as a physical object. Collation gives the number of volumes, pages, columns, leaves, illustrations, photographs, a maps, etc., as well as the size and format. 2. The process of comparing minutely, page by page, line by line, or even symbol by symbol, either visually, or by means of electro, electromechanical, or chemical means, in order to determine whether or not two books are (more or less) identical copies or variants. 69,156 RE

COLLET HAMMER See: BACKING HAMMER. RE

COLOR 1. The multiple phenomena of light, manifest in the appearance of objects and light

sources that are specified and described totally in terms of a viewer's perceptions pertaining to hue, lightness, and saturation for physical objects, and hue, brightness, and saturation for sources of light. The normal human eye is sensitive to a range of wavelengths from approximately 3.8/10,000 to 7.6/10,000 mm., with the longest wavelength being perceived as red, followed in descending order by orange, yellow, green, blue, indigo and violet. These are called Newton's spectral colors, i.e., they are seen when a beam of sunlight is split into its component parts, as it passes through a prism. Notwithstanding this separation, however, a precise limit for any single color cannot be made because the spectrum undergoes a continuous transition throughout the series. If the human eye perceives all seven kinds of light in the spectrum, and in the same proportions, the "color" seen is white. • The color of a particular object is usually contingent on the white light striking the surface of the object and being completely or at least partially absorbed in the surface of the material, with the remaining light being reflected from it. Consequently, when a person sees the color "red," for example, it means that all of the incoming wavelengths (white light) have been absorbed by the surface of the object viewed except those wavelengths which constitute the color we have designated as red. If the light reflected from the surface of the object is allowed to pass through a further colored layer before reaching the eye, such as, for example, a transparent yellow film, more light will be absorbed, and the result will be a mixed color, i.e., orange. This process is called "subtractive color mixture," or color obtained by successively eliminating light of different wavelengths from white light. • Pigments, as well as dyes and inks, are mixed with one another to create new hues according to the subtractive system. In theory, any chromatic hue may be obtained by a mixture of the three primary colors. In practice, however, many hues can only be approximated by mixing primaries. See also: COOL COLORS; FAST COLORS; FUGITIVE COLORS; WARM COLORS. • 2. Pigment or aniline colors used on the edges of books or on endpapers for tinting or coloring purposes. 3. The suspension or slurry of the materials for use in the pigment coating of paper. 17,140,233,234,350 RE



apply color to edges with broad-side of swab, moving swab lengthwise of edge. (Fig. 236.) Endeavor to color entire three edges with one dip of swab, by revolving it
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

COLOR FASTNESS That property of a pigment or dye, or the leather, cloth, paper, ink, etc., containing the coloring matter, to retain its original hue, especially without fading, running, or changing when wetted, washed, cleaned; or stored under normal conditions when exposed to light, heat, or other influences. Color fastness in paper is measured with a fadeometer, and in cloth by a launderometer. See also: FAST COLORS; FUGITIVE COLORS. 17,209 RE

COLOR LAKE See: LAKE. RE

COLOR REVERSION See: YELLOWING. RE

COLORED BRUSHED TOP The decoration of the head edge of a book by means of coloring and brushing with a stiff brush. 343 RE

COLORED BURNISHED TOP The decoration of the head edge of a book by means of coloring followed by burnishing. 58 RE

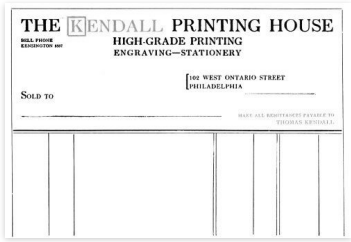
COLORED EDGES The edge or edges of a book that have been decorated with water colors or dyes applied to the edge or edges and usually burnished. The colors are generally mixed with thin glue and edge gilding size. The most commonly used colors are red, yellow, green, and blue; brown, black and pink have also been employed. If only one edge is colored, it is usually at the head. • Coloring the edges of books appears to be virtually as old as the codex itself, the earliest known example being purple edges on a 4th century book. Red, ochre, and yellow were often used in the 15th to 17th centuries, while solid red edges sprinkled with yellow were popular in the first half of the 16th century. Colored edges have been common to the present day in miscellaneous binding and from the late 19th century on edition bindings. • Although the coloring of edges appears to be purely for decorative effect, its actual function has always been to protect the edges from dust, dirt, and handling. See also: ANTIQUE EDGES; FORE-EDGE PAINTING; GILT

EDGES; MARBLED EDGES; RED UNDER GOLD EDGES; ROUGH GILT; • SPRINKLED EDGES. • Primary colors are: red, yellow, and blue. Secondary colors, derived • from primary colors, are: • Primary Colors Secondary Colors • red and yellow orange • yellow and blue green • red and blue purple • Tertiary colors, derived by combining primary and secondary colors, are: • Primary Colors Secondary Colors Tertiary Colors • red and yellow orange citrine • yellow and blue green • red and yellow orange russet • red and blue purple • yellow and blue green olive • red and blue purple 161,236,335,343 RE

COLORED ENDPAPERS Generally, tinted endpapers made from handmade paper. Colored or tinted endpapers appear to have been first used sometime near the end of the 16th century. Some of the earliest examples were printed with small repeated patterns that sometimes require up to three woodblocks for their execution. Of these papers, probably the greater number are of Dutch or German origin, although many are English. The Italian colored endpapers are generally very well done, often bearing small patterns devised on a geometrical scale. In the execution of these papers, the color was used in a very liquid form, producing a kind of blotted effect. In the 18th century these papers were also used for covering inexpensive trade bindings. 172 RE

COLORED INKS Inks of various colors used for both printing and writing. Numerous dyes and pigments have been used in the manufacture of these inks. Those made from pigment and vegetable colors were used for hundreds of years, but are rarely used today. Inks made from minium (red lead), red ochre (rubrica) or vermillion were used by the Romans, while in the middle ages verdigris or metallic inks (powdered gold or silver in a gum) were often used. From about 1600 to the time the first use was made of inks produced from alizarin or aniline dyestuffs (1861), natural indigo, logwood, cochineal, and similar vegetable pigments were commonly used ingredients in colored inks. • Inks made from synthetic dyestuffs. while inert in solutions of the dye and water, and therefore not harmful to paper, are not nearly as permanent as iron-gall or carbon inks, although they are more permanent than the early synthetic dyestuffs. 143 RE

COLORED PAPER Paper colored on one or both sides during manufacture by means of coloring pigments. When its use is to be for cover papers, endpapers, etc., the shade may range from light to very dark; for printing purposes, however, the usual colors are the light shades, since a dark ink is not very legible on too dark a paper. and printing very light inks on dark paper is not generally practical as two impressions are usually required to obtain adequate opacity. Duplex papers are those with different colors on the two sides of the sheet. (, 204) 204,234 RE


THE KENDALL PRINTING HOUSE
HILL FOUNDE KENSINGTON 1807
HIGH-GRADE PRINTING
ENGRAVING—STATIONERY
102 WEST ONTARIO STREET
PHILADELPHIA
SOLD TO
MAKE ALL REMITTANCES PAYABLE TO THOMAS KENDALL

EXAMPLE 317 Large treatment that would look well in harmonious colors on colored paper
Edmund G. Gress, The Art and Practice of Typography, 1917

COLORED PASTE-PAPERS Decorative endpapers produced by mixing color with paste and soap and spreading the mixture over two sheets of paper, which while still wet, are pressed together. When separated, the transfer of color from the sheets produces a mottled effect on each. Colored paste-papers are sometimes used for covering books, although they have little water resistance unless waxed. Green, red, and blue are among the most commonly used colors. See also: COLORED ENDPAPERS; PASTE PAPERS. 172,371 RE

COLORED PRINTINGS The name of an inferior quality of paper, containing a considerable percentage of mechanical wood pulp and used for the covers of pamphlets and similar publications. 156 RE

COLORED UNDER GILT The edge or edges of a book gilded over a coloring (usually red) of dye or water color. Pigment colors are generally unsuitable for this decoration. Colored under gilt is used extensively for Bibles and devotional works. 343 RE

COLORIMETER An instrument for measuring or specifying color by means of comparison with synthesized colors. i.e., by reference either to other colors or to complex stimuli, not in general identical with the actual color stimulus, and giving results not independent of abnormalities in the color vision of the observer. The typical colorimeter has a built-in standard light source, three colored filters, photoelectric cells or phototubes, a standard reflecting surface, and, in mod-

ern instruments, photoelectric cells and electronic circuits to replace the human eye as the receptor. The results of a colorimeter examination are expressed as "chromaticity coordinates. " 197,233 RE

COLOURS In Hayter's "Introduction to Perspective Drawing and Painting," is a diagram of the three primitive colours, with their combinations, which show the best contrasts. He says, this is highly useful for a painter to understand: and I think it is highly useful for a printer also to understand; for it will enable him to make the best disposition of colours in printing so as always to produce a superior effect to what could be done without the guidance of a correct principle. I shall give the passage. • "You may try another experiment in proof of the primitive superiority of red, yellow, and blue, over all other colours. First draw a circle; then, with the same opening of the compasses, set one foot on the circumferent line, and draw a second circle; and again, with one foot of the compasses on the point where the two circles bisect, draw a third; cover one whole circle with yellow, another with red, and another with blue (letting each dry before you lay the next); the colours intermixing by the equilateral intersection of the three circles, will produce green, orange, and purple; and the central portion, taking all the three colours, will be neutral of the black class, and nearly black, according to the strength of the three separate lays of the primitive colours. By this diagram you will have a certain proof of the colours which are most adapted to oppose each other, from which the knowledge of their harmonizing properties may be derived. You will find a primitive colour always opposite to a compound one; as, blue will be opposite *orange*, red opposite *green*, and yellow opposite *purple*; which must determine them to be the natural opposites: this is highly useful for a painter to understand." • Columbian Press. *See* Clymer's Press. DAP

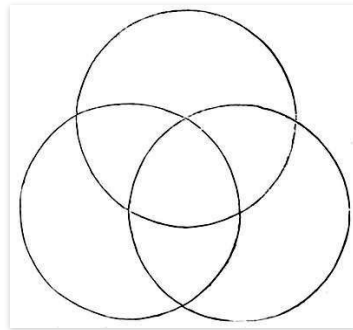
Three overlapping circles
William Savage, A Dictionary of the Art of Printing, 1841

COMB BINDING A form of MECHANICAL BINDING consisting of a plastic strip on the spine from which curved prongs extend. They are inserted into holes punched into the leaves to be held. The name derives from the resulting "comb" appearance of the binding. This type of mechanical binding provides a more-or-less solid spine on which the title of the publication may be printed. Its disadvantages, however. are many: leaves may be removed quite easily by unauthorized persons, and groups of leaves often slip from the grasp of the flexible prongs. In addition, leaves tend to tear from the binding because the large, usually rectangular, slots leave relatively little paper along the line of the punched holes. 316 RE

COMB MARBLE See: NONPAREIL MARBLE. RE

Drawing of the colors thrown on [see preceding table] for Nonpareil or Comb Marble. See Page 106 .
Josef Halfer, The Progress of the Marbling Art, 1893

COMB WOOL The same as Card Wool, which *see*. DAP



COMB WOOL.
William Savage, A Dictionary of the Art of Printing, 1841

COMBED EDGES The edges of a book decorated with black, red, blue, and yellow colors, in the ratio of 1:2:3:4 respectively, in a combed, figure-eight effect. RE

COMBINATION OIL TANNAGE A type of tannage, or process of tannage, in which the skin is first tanned with formaldehyde and is subsequently treated by the OIL TANNING process. Some CHAMOIS leathers are tanned by this method. 61 RE

COMBINATION PRESS A particular type of press, either manufactured commercially or home-made, frequently the latter, that serves more than one purpose, e.g., as a LYING PRESS that can be turned on its side and used as a NIPPING PRESS, or a press that serves as a STANDING PRESS, BACKING PRESS, or as a press for CASING-IN, having brass-edged boards built into both cheeks. 173,231 RE

COMBINATION STYLE An old term used in America for a binding in which the forwarding was done as though for a hand-bound book, i.e., boards to be laced-in, followed by covering, but then having the cover (case) made separately. The case was then "hung on" the text block, the cloth joints were glued down and a lining paper was glued to the insides of the cover boards. 256 RE

COMBINATION TANNED A general term sometimes applied to a leather tanned by two or more tanning processes. Combination processes include CHROME TANNING followed by VEGETABLE TANNING, i.e., CHROME RETAN; vegetable tanning followed by chrome tanning, or SEMI-CHROME TANNAGE: tanning with formaldehyde followed by treatment with oil, or COMBINATION OIL TANNAGE. 61 RE

COMBINED TANNIN IN LEATHER Tannin that has combined so vigorously with the hide or skin protein that it cannot readily he removed by washing. 363 RE

COMBINED WATER-SOLUBLE MATTER (IN LEATHER) See textual note • That material present in leather in a state of loose chemical combination with the hide protein and which can be removed from finely ground leather only by prolonged washing. 363 RE

COMBS **1.** Instruments with wire teeth used in marbling.2@NBL Instruments with wire teeth used in marbling. The colors being upon the surface of water, the comb is drawn across a portion in such a way that a new form is developed. ABB

COME AWAY The ability of a heated finishing tool to separate or "come away" cleanly during blind tooling without sticking to the dampened leather and thus damaging the grain surface. Rubbing the tool over the flesh side of a piece of scrap leather which has been rubbed with a mixture of white wac and lard (1.25 parts wax to 1.0 part lard) facilitates clean removal of a tool. 97 RE

COME DOWN **1.** The toe of the spindle is said to come down by pulling the bar: so is the bar when it is pulled near the hither cheek: also, the Pressman is said to come down the form with his balls.—M.2@MOX the *Toe* of the *Spindle* is said to *Come down* by *Pulling* the *Bar*: So is the *Bar* when it is *Pull'd* near the hither *Cheek*: Also, the *Press-man* is said to *Come down the Form* with his *Balls*: For which See § 24. ¶ 13. DAP

COME DOWN THE FORM Beating from the off side to the near side of the form is termed Coming down the form. • DAP

COMES OFF A form that receives a good impression, Comes off well, if a bad impression, it Comes off ill, or it Comes not well off. Also a phrase used in gathering of books; for a heap that is gathered off is said to come off.—M. • Comma. *See* Punctuation. DAP

COMMERCIAL BINDING A term understood to mean the binding of both short and long runs of identical books largely by machinery, i.e., edition binding, but not including blankbook binding, pamphlet binding, or padding, in distinction from the binding of single books of dissimilar nature, such as craft binding and library binding. 81,115,320 RE

VENETIAN GOLD-TOOLED COMMERCIAL BINDING, EARLY SIXTEENTH CENTURY.
William Salt Brassington, A History of the Art of Bookbinding, 1894

COMMON BINDING An English term for a quality of binding that includes sewing on tapes by machine, cloth joints, a canvas or sheepskin spine lining, strawboards, and a covering of sheepskin or buckram. RE

COMMON CALF also *common sheep* A very simple style of leather binding, often not headbanded or backed, and without pastedowns or lettering on the spine. They were produced for the inexpensive edition or retail trade, particularly during the 17th and 18th centuries. The vast majority of the 17th century bindings were in full leather, as were those of the first half of the 18th; thereafter they were also bound in half leather. 237 RE

COMMON CARRIER An individual or firm that undertakes to transport books to or from a bindery or library on a commercial basis, and who is responsible for losses as prescribed by law. The majority of the library binders today either own and operate their own vehicles or arrange for transportation on a NON-COMMINGLED contract basis. RE

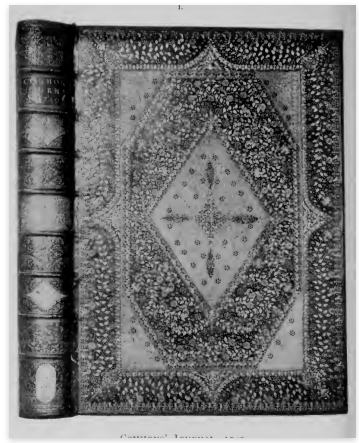
COMMON MARBLE A type of thrown marble, applied to leather covers, and consisting of black and brown streaks applied by throwing or sprinkling. The black is generally applied first. 97,152 RE

COMMON PRAYER For the allowance of the duty on paper used in the printing of Books of Common Prayer, *see* Paper. • Commons, House of. *See* Privilege. DAP

Fig. 18. — Common Prayer. London, 1662. Charles II.
Cyril Davenport, Royal English Bookbindings, 1896

COMMON RED A red marbling color prepared from a mixture of Brazil wood, nut galls, and sal amoniac (ammonium chloride) boiled in water. 97 RE

COMMONS also *common color* An obsolete English term for a grade of book cloth intermediate in quality between the cheaper linens and more expensive extra cloths and buckram. Commons were dyed before receiving the final coat of color. The thready appearance noticeable on linen-finished cloth was less apparent on commons because of the dye and additional coating. 256,276 RE



Commons' Journal, 1749.
Sir Edward Sullivan, Decorative Bookbinding in Ireland, 1914

COMPANION Two pressmen working at the same press call one another Companions.—M. Two or more compositors employed on the same piece of work also call each other Companions. Both parties frequently abbreviate the word, and call each other Comp. DAP

COMPANIONSHIP

1. When more than one compositor is employed upon any work it is styled a companionship.

There are different ways of working in companionships: one is, for each to work on his own account, to write his own bill, charging what he has done, and correct his own matter. At other times all the individuals work is charged and received in gross in the name of the companionship, and the division into the respective earning of each is made by the clicker.

In this case, to prevent unfairness, arising from any of the companions taking an undue advantage over the others, the copy should be strictly kept from their inspection, and a stated quantity invariably given out for each when any of them are out of copy, and not before; by this means each of them will have an equal chance for any fat that may occur. I have found in practice this method to be the fairest for all the individuals.

Another method is working on time or in pocket, where each individual exerts himself to further the work in any way that appears to the clicker the best, either composing or correcting, as the case requires. In this form of companionship the whole of what is done is written in one bill, and equally divided among the companions, provided they have been punctual in their attendance, and have not taken more than the prescribed time for their meals, &c.; otherwise they are subject to fines for infraction of the rules agreed to for their guidance.

As it often happens that a work is required to be printed with the greatest possible despatch, the plan of working upon Lines is frequently adopted, which is found in practice to be the most expeditious method of facilitating the work at case.

As soon as a work that requires despatch is put in hand, the overseer selects such men as are able to complete a great quantity of work in a given time, and appoints one of them who thoroughly understands his business, and is in other respects qualified, to undertake the management of the work, and to do every thing which would interfere with the regular business of distributing, composing and correcting. This person is styled the clicker.

While the companionship proceeds to the distribution of letter, the clicker applies to the overseer for the copy, receives instructions respecting it, and procures leads and every other necessary sort. He then draws out a table in the following form, or something similar.

In the first column he sets down the name of each compositor when he takes copy; and in the second the folio of the copy, that he may be able to ascertain instantly in whose hands it lies. In the third column he notes down the number of lines each man has composed opposite to his name, as fast as the galleys are brought to him. In the fourth he sets down such remarks respecting the copy, &c. as may be necessary, and also any circumstance that may occur in the companionship.

When the members of the companionship are ready for their first taking of copy, they are to receive it from the clicker in small quantities, taking care that the two first have shorter takings than any of the others, to prevent as much as possible any delay in the making up. During the time the first taking is in hand, the clicker sets the head, the head lines, white lines, signature lines, together with side notes, and other extraneous matter.

As soon as the first person brings him his matter, he counts the number of lines, and inserts it in the table; he then gives him another taking of copy, and proceeds with the making up. The same plan is observed with the rest of the companionship.

When the first sheet is made up, he lays the pages on the stone, and informs the overseer of it, who will then immediately provide chases and furniture.

The work will now proceed rapidly, provided there be no hinderance with respect to letter, &c. If the clicker find that he cannot make up the matter as fast as it is composed, he should call the companion who is last in copy to his assistance. In this case the clicker counts the lines he has composed, sets them down in the table, and takes notice of the time he is off, which is to be made up to him by a deduction from the share of each person.

The proofs should be read immediately after they are pulled, and given to the clicker to be corrected. As soon as this is done, he gives the proof to the compositor whose matter stands first, who should immediately lay up the forms and correct his matter, then forward it to the next, and so on, till the sheet be corrected; the compositor whose matter is last in the sheet then locks it up, and carries the forms to the proof press.

As soon as one of the companionship is out of copy, and there is no more to be given out, the lines of the whole must be counted off, and set down in the table, and then every one does as much as he can for the general benefit. If there be not work

enough to employ the whole, those who are not wanted may go to their regular work, and the time of their absence, till the rest of the companionship return to theirs, will be deducted from their respective shares.

In the outset the value of the lines is calculated, so that each of the companionship shall be paid, in the first instance, for what he composes: the head and direction lines, the white lines, the branching out, the short pages, and the white pages, are termed fat; these the clicker sets, they are included in the general account, and the amount divided among the companionship. By this means each compositor will receive a share of the whole, according to the number of lines he composes, and an equal share of the fat, and the clicker's share of the bill must be equal to that of the person who has set the greatest number of lines.

If leads, or any other materials, run short, a clever and active clicker will not wait for a supply from the overseer, who may be prevented attending to him at the moment, but will immediately forage for them himself, well knowing that expediting the work is for his own advantage as well as for that of the companionship.

Those companions who do not compose half as many lines as the compositor who has the greatest number, receive only a share of the fat equal to one half of what those do who have worked regularly; and those who do not compose more than one quarter, only receive equal to one quarter of a regular share.

Comparative Size of Types. *See* Types.2@AMP All the hands employed on a work.

COMPENSATION GUARD A thickness of linen or paper, usually the latter, bound into a volume to compensate for the thickness of folded maps, charts or other bulky material within the text block, or pocket material, so as to incorporate such material without distorting the shape of the book. They are sometimes made by binding in a full section of blank leaves placed ahead of the bulky material, and then cutting out all except a narrow portion after binding. The more common method, however, is to bind in folded strips of guard paper when the book is to be sewn through the folds, or strips of paper when the book is to be oversewn or otherwise sewn through the sides of the leaves. 102 RE

COMPENSATION PAD A pad of waste paper, slightly thicker than the difference in thickness from the spine to fore edge of a sewn book (the difference in thickness being the result of sewing swell). The pad makes the book the same thickness from spine to fore edge and overcomes the problem of distortion when the guillotine clamp is applied during trimming of the head and tail edges of the book. 276 RE

COMPLEMENTARY COLOR One of a pair of colors usually considered to be in extreme contrast to each other. Red and green, yellow and violet, and blue and orange are pairs of complementary colors. The complementary of a primary color is produced by mixing the other two primary colors, e.g., green (which is a mixture of yellow and blue) is the complementary of red. 233 RE

COMPOSING DAP

The term composing includes the practical knowledge of picking up letters, spacing, justifying lines, and emptying the composing stick when full.

Although expedition is a most desirable qualification in a compositor, yet alone it is far from constituting a good workman: and the man who possesses no other claims to the title will be found competent to little more than setting reprints, in which no judgment is required, and where he has only to arrange letter for letter, point for point, and line for line; on which employment he may whistle, sing, talk, or laugh, without inconvenience to himself; for the process being merely mechanical, and the mind not being occupied in the smallest degree, if he make a mistake of a word, it will be detected at the end of the line; or, if there be a double, or an out, of lines, either will be detected when the page is finished.

How different is the case with the man who is anxious to deserve the title of a good workman, and to maintain it: in his youth he has been equally desirous with the other to acquire expedition; and, having attained it, he has felt that other requisites were necessary;—he has read, to obtain information—he has examined the best workmanship, as specimens for his guidance—he endeavours to compose accurately—he is careful and uniform in his spacing—he justifies his lines to an equal tightness—he divides his words, when necessary to divide them, correctly, and with a regard to appearance—and when occasional bits of rule work occur, they are marked by a degree of neatness in being cut to precise lengths, and in the corners fitting with precision—in all the work that passes through his hands there appear the marks of attention and skill.

When a master printer undertakes a work which requires more than ordinary care, and is difficult to execute, the superiority of the man who has endeavoured to improve himself is evident: he is selected to perform it; and he then feels the advantage of his perseverance. At work upon a difficult subject, with an ill written manuscript, his first proofs show him equal to the task—his arrangements of the matter are judicious—his punctuation is correct—when particular sorts are to be justified, they are done with accuracy—when an accented letter is required that cannot be procured in a single type, he makes it with neatness—and when his proof returns from the reader, he will frequently correct it in as little time, as a slovenly compositor will require to correct a proof of a similar size, that is a reprint.

The results to the slovenly and the good compositor are very different. The first is only employed during a flush of work; when that ceases, he has to seek fresh employment; perhaps does not meet with any for some weeks; again obtains a temporary engagement; and thus continues, till old age approaches, and he is rendered incapable of working. The good workman, on the contrary, is prized by his employer, especially if the latter be a workman himself, and a man of judgment. He is looked up to by his fellow-workmen; his situation is permanent, if he choose; his abilities qualify him to be a reader, and if his mind lead him that way, he may obtain such a situation. His knowledge and his merit fit him to become the overseer of a large house; where he has many advantages, and where he continues with credit to himself: unless, perhaps, he chooses to commence business on his own account, which is frequently done, when he invariably obtains the countenance and support of those who have witnessed his skill, his knowledge, his attention, and his industry.

There is another class of compositors who neither possess much skill; nor are very expeditious: I mean such as are of a sober, steady habit. These are useful men in an office where there is a number of reprints; they go on from year to year in a regular routine, and never step out of it: the employer can always depend on them for a regular amount of work, if they have sufficient employment.

There are too many, both good and bad workmen, who lose their time in drinking, gaming, and other vicious and idle pursuits: such persons pay doubly for their dissipation, for they squander the fruits of their earnings, and cut off the source of supply, by neglecting their employment. These men will never be employed in any respectable printing office, where they are known, except on a temporary engagement in a case of emergency. They introduce strife and discord wherever they are, and frequently lead astray the inexperienced youth: they disregard equally instruction and advice, and are not awakened to a sense of their condition, till the most severe lessons in this world are unitedly experienced—old age, poverty, and contempt.

The mere art of picking up letters, and arranging them in the composing stick, is looked upon by many compositors as constituting the whole of their business; who in consequence think that if

they can succeed in picking letters up with facility, they become first-rate workmen; and the terms "Swifts," and "Fire Eaters," by which expeditious compositors are designated in a printing office, gratify their vanity.

It is not necessary to give specific rules, and a minute description, of the manner of picking up each letter, because it is impossible for them to hold good, the letters lying in every possible direction. A few general rules may suffice—to take up the letter at that end where the face is—if the nick be not upwards, to turn it upwards in its progress to the composing stick—to convey it to the line in the composing stick with as few motions as possible—to aim at no flourishes with the hand, which only lose time.

I would advise an inexperienced youth, when he comes to work among a number of men, to observe the manner of one of the best and quickest compositors: he will, perhaps, at first conclude that he is looking at a very slow workman, for the first appearance is fallacious; but when he examines more closely he will find his mistake, for what he at first took for slowness is the true principle of expedition; he will perceive no false motion, which invariably delays progress; the fingers go to one particular letter, take it up, convey it to the line direct, while the eye is directed to another letter which the fingers convey in the same manner to the line; thus letter after letter accumulate to words, lines, and pages, with a quickness that looks like magic, while to the spectator it seems to be only the pace of the tortoise. Let him look at another; there appears all bustle, all expedition; the body and head in continual motion; the hand so quick in its evolutions, that he gazes with astonishment on the apparent rapidity of arranging the letters: let him look again with more attention, and he will find that the man whom he supposed so slow makes no mistake, loses no time, but continues steadily and uniformly making progress: while the other frequently misses taking hold of his letter; then makes two or three flourishes with his hand and his head before he takes hold of another; and then his hand continues dancing and see-sawing, and after three or four of such motions, made with great rapidity, the letter is finally deposited in the line. This manner of lifting the letters is in reality the pace of the tortoise, although it has the appearance of the speed of the hare.

Regularity of spacing, and a due proportion of distance between words, contribute in a material degree to improve the appearance of a book.

When the lines are very short, or the type very large in proportion to their length, all general rules, both of dividing and spacing, must give way to necessity; for in such cases it is impossible at all times to space regularly, or to divide the words correctly.

There is a great diversity of opinion with respect to spacing; some authors and printers choosing to have the words wide apart, and others, on the contrary, preferring to have them nearly close together; the one, requiring an en quadrat, or two thick spaces, and the other, a thin space only, between the words. Both of these, in my opinion, go to an extreme: I prefer using a thick space generally, and justifying with thinner and hair spaces; so that there will rarely be a necessity for any violent inequality in the distance of the words from each other.

When a work is double leaded, or has reglet between the lines, it requires to be wider spaced than when it is solid: in the two first cases, two middling spaces, or a thick and a thin space, will not be too much; in the latter, a thick space will be quite sufficient. And it is necessary to attend to these circumstances; for printing that is open does not harmonize when close spaced, any more than solid matter does when wide spaced, which makes it look full of pigeon holes; for the distance between the words should bear some proportion to the distance between the lines.

When one or two letters require to be got in, or to be driven out, the difference between a thick space and a middling one is not perceptible to the eye, particularly if the compositor is careful to place the latter before or after a v or w, after a comma that comes before a v or w, or after a y; and, in like manner, an additional hair space will not be perceptible if it come after an f, or before a j; or if it come between db, dh, dk, dl, lb, lh, lk, or ll.

The most expeditious mode of regular spacing, perhaps, is to take the spaces as they rise; for there being in the box only three sorts, the thin and the hair spaces being in separate boxes, there will not be any violent disproportion if the line should be full at the first; and the slight disproportion may be easily remedied by changing the situation of two or three: if the line should not be quite full, then the introduction of a few thin spaces will equalise the distances; or the substitution of a few thick spaces for middling ones will have the same effect.

In setting a line of capitals, a careful workman will pay attention to the bearing off of different letters, for many of them when they fall together stand as if there were a space between them, and

produce a bad effect: to remedy this inequality, hair spaces, or bits of paper, are required between those letters that stand close. The inequality is still greater in many instances in a line of Italic capitals, and of course requires the same remedy.

It would be desirable, and would tend to facilitate regular spacing, if there were a greater number of hair spaces cast to a fount than is now the case.

In poetry, the size of the type and the measure are usually so arranged as to admit the longest line to come into the measure, without having occasion to turn it: an opportunity is thus allowed for regular spacing, which is generally done with thick spaces. When a work in poetry is commenced, it is usual for the compositor to divide his space box up the middle with a piece of reglet, or with a piece of thin wood, made to fit tight, and to assort his thick spaces on one side, and the thinner on the other, to save time and trouble in picking them out

As the measure for poetry is sometimes made as narrow as will conveniently allow the regular lines to come in, both to save quadrats, and also to lessen the price of composing, it not unfrequently happens that a line containing long syllables will not admit of thick spaces; in this case, the usual practice is to space close, and get in the line if possible, even with hair spaces, for turning it is attended with inconveniences; the page must be made up short, or long, to preserve the couplets, and it affects the next page, in preventing the stanzas backing each other.

A compositor will always find it advantageous to justify his lines to an equal tightness; and of this he must be sensible when he has to lock up his form: if he have been careless in this instance he will experience a loss of time and find a difficulty in getting his form to lift; and when it does lift, by means of sticking his bodkin into quadrats and spaces to tighten those lines that are slack, it will never be safe; for it is more than probable that many letters will draw out at press, and cause errors in that sheet, (for pressmen are generally careless how they replace a letter that has drawn, and, when it is discovered, they are satisfied if they put it into the right word,) the pressmen scold the compositor, who also, if he be working in a companionship, and should not be the last in the sheet, gets scolded by the compositor who has to lock up the forms, for his carelessness, and for the additional trouble which it causes.

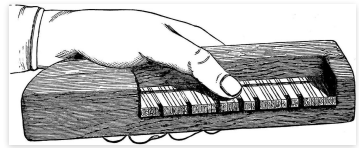
I would avoid having a lower case f at the end of a line; for, being a kerned letter, the dot at the end of the curve is almost sure to be broken off while the sheet is being worked at press.

It is not possible to give particular rules for justifying all the sorts that occur in many works, and that are not in a printing office:—for a Ç, it will be necessary to cut away the shank to the bottom of the face of the letter, and justify a figure of 5 with the top back dash cut off; a long m̃, ñ, or any other letter, must be cut away to the upper part of the letter, and a small lower case l, with the fine lines cut away, fixed flat above; a short ỹ may be made by taking the bottom of an o; m̃ and ñ by cutting the front of a small a away, and laying it lengthways; ŵ and ŷ by inverting a lower case v, after cutting away the cross lines, and making the thick line equal to the fine one with a sharp knife.

Cutting away the shank allows the additional part to stand close to the face of the letter, which improves the appearance. In some instances it will be necessary to cut part of a lead away above the letter, and justify the addition in the vacancy. The compositor should, by all means, be careful to justify every sort that is added so tight as to prevent it from drawing out at press; but not so tight, as to force the words above and below out of line; in fact, they ought to be so managed as, when justified to the letter, to form unitedly its regular body in depth when it is practicable.

The compositor should also be careful to proportion the size of the accent or mark to be justified to the size of the letter, that there may be no disproportion between them.

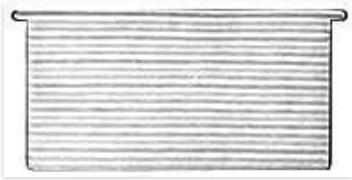
I would recommend to every compositor when he goes to a fresh house, where it is likely he may work some time, to ascertain what founts are in the house, with the two line letters, blacks, flowers, &c.: this knowledge will give him facilities, and enable him to compose a title, or a job, with less sacrifice of time, than if he were not acquainted with the materials contained in the office.



WOODEN COMPOSING-STICK.
William Blades, The Biography and Typography of William Caxton, 1877

COMPOSING RULE **1.** A piece of brass rule cut to the length of the measure, with a small ear or beak projecting at one end, by which to take it out. This rule is laid in the composing stick, and the letters arranged upon it; when the line is full, the rule is taken out by the projecting part, and laid upon the line composed, and this process is continued till the stick is full, when the rule is laid upon the last line as before, the whole of the

matter in the stick is then grasped tight with both hands, (the rule preventing it from bursting,) taken out of the stick, and deposited in a galley.2@AMP A steel or brass rule, with a beak at one end, used in typesetting. DAP



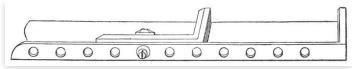
STEEL COMPOSING RULE.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

COMPOSING STICK **1.** The instrument in which the letters are arranged into words and lines. It is generally made of iron, sometimes of gun metal, and long ones for large jobs occasionally of wood. • When made of iron it is formed of a piece of sheet iron, one side turned up nearly half an inch, at a right angle, which forms the back, and when that is turned to the workman at the right hand extremity an end is fitted to it, by screws, rivets, or dovetailing: this end is iron, considerably thicker than the bottom and back, and is soldered in its place to give it strength and stability. • There is a slide by which the length of the lines is regularly justified, which is fixed to the back by a nut and screw passing through a groove in it, and secured in its place by the screw passing through one of the holes in the back, by which means the length of the line can be arranged according to the size of the page. The end of the stick, and also of the slide, must form a right angle with the back, and be parallel to each other, otherwise the lines will be of unequal lengths, and cause much trouble. The English composing sticks generally hold from nine to eleven lines of pica. The French printers use much narrower ones, frequently not holding more than three lines. • Composition. *See* Rollers.2@AMP An instrument in which types are arranged in words and lines. DAP

A composing stick
William Savage, A Dictionary of the Art of Printing, 1841

COMPOSITION LEAF See: DUTCH GOLD. RE

COMPOSITOR He that composes or sets the letters.—M. *See* Composing. DAP



COMPOSITOR.
William Savage, A Dictionary of the Art of Printing, 1841

COMPOSITOR'S BOOK To prevent mistakes, confused bills, and disputes in companionships, and with the employer, it is essentially necessary that a compositor should keep an account of the work that he does, and it is still better that he should be able to ascertain on the instant how much he has composed of any work that he is employed upon; the quantity in each signature; the number of pages charged, and in what signatures; and the forms he has imposed, and the signatures. The following form, it is presumed, will accomplish this object in a simple and easy manner. • • • Compositors' Prices. *See* Scale of Prices. DAP

COMPRESSIBILITY The decrease in caliper of a sheet of paper, expressed as a percentage, resulting from an arbitrary specified increase in load. The conditions under which the determinations are made must be fully specified. Compressibility of paper is of considerable importance in both printing and bookbinding. See also: BUNDLING (1). 17 RE

CONCEALED BINDING A term sometimes used to indicate a MECHANICAL BINDING concealed within a wraparound cover. 54 RE

CONCEALED JOINT See: INVISIBLE JOINT. RE

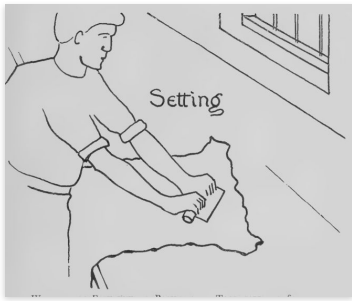
CONCERTINA FOLD See notes on the electronic edition • A method of folding a sheet of paper, first to the right and then to the left, so that the sheet opens and closes in the manner of a concertina. Also called "accordion fold," or zig-zag fold. See also: ZIG-ZAG ENDPAPER. 58,278 RE

CONCERTINA GUARD See illustration A type of GUARD (1) used in conservation binding. It is made of good quality paper (generally Japanese copying paper) and is used so that the adhesive applied to the spine does not come into direct contact with the sections. The depth of each fold does not normally exceed 1/8 to 3/16 inch. The use of the concertina guard makes pulling of the book easier in the event that rebinding is necessary, and also reduces the possibility of damage to the folds of the sections. A forerunner of this technique consisted of loose individual guards around each section of vellum books. This type of guard is used only in the best conservation binding because it is difficult and time consum-

ing (therefore expensive) to sew a book when using the concertina guard. RE

CONDENSATION 1. A chemical reaction in which two or more molecules, e.g., of an adhesive, combine upon the separation of water or some other simple substance. If a polymer is formed, the process is known as polycondensation. See also: POLYMERIZATION. 2. The process of changing from a vapor into a liquid, as when steam condenses into water. RE

CONDITION Balls are said to be in condition, or good condition, when they lug, and the ink is distributed easily and uniformly on their surface; that is, when they are neither too hard nor too soft: when they are either the one or the other, they are said to be in bad condition. *See* Balls. This also applies to rollers. • Paper is said to be in good condition when it has received a proper degree of moisture, been laid a day or two between the boards or in a heap, with weights upon the top board, then turned, which changes the parts is contact, and replaced under the weights for another day, so that the moisture shall be uniformly diffused and equal through the whole quantity of paper to be printed. DAP



WHILE IN THE SEMI-DRY CONDITION CALLED SAMMED.
Alex J. Philip, The Business of Bookbinding, 1912

CONDITIONING A term which has virtually the same meaning as SEASONING, but, unlike that term, is generally considered to refer to the exposure of paper to an accurately controlled and specified environment for the purpose of bringing the moisture content of the paper into equilibrium with the surrounding atmosphere. Standard atmospheric conditions in North America are considered to be 50% relative humidity and 73° F. In other countries the standard calls for a relative humidity of 65% (+2%) and a temperature of 68° F. +3° F.). Conditioning is of considerable importance for papers which must lie flat in sheet form, or which must give good register when printed. Unequal internal strains are set up when paper is dried on the papermaking machine, because the tension in the direction of the web travel. i.e., the MACHINE DIRECTION, produced by drying, is greater in the cross direction. See: ANISOTROPIC BEHAVIOR. • Since most papers are dried to a moisture content of about 3% (by weight of the paper), they tend subsequently to absorb moisture until the moisture content amounts to approximately 5 to 9% (depending upon the humidity of the atmosphere in which they are stored). This tendency is increased once the paper is cut, because cut edges are able to absorb atmospheric moisture faster than the surface of the sheet itself, especially when the paper is stacked in piles. When a stack of paper absorbs moisture, the edges, particularly those corresponding to the cross direction, will expand more rapidly than the center, which causes cockling. In like manner, a "spongy" effect may occur, due to absorption of moisture by the top surface of the upper sheets in the pile. This expansion may take place between the printings of a multi-color printing sequence, or when the paper is dampened as in the offset-litho printing process, with the result that the colors used will overlap in some places and leave gaps in others. Moisture absorption, particularly when the grain direction of the paper does not run parallel to the spine of the book, can cause cockling along the binding edge and waviness in the leaves, resulting in a book that will not close properly. The latter problem can sometimes be overcome, at least to a degree, by pressing the book in an atmosphere of low relative humidity, but the problem of cockling along the binding edge can only be overcome by a method of IMPOSITION which results in the grain direction of the paper running parallel to the binding edge. 17,42,144,156,276 RE

CONDITIONING TIME The time interval between the removal of the adherends from the conditions of heat, pressure, or both, used in accomplishing bonding, and the attainment of approximately maximum bond strength. 309 RE

CONFESSION OF FAITH For the allowance of the duty on paper used in the printing of the book known by the name "The Confession of Faith," *see* Paper. DAP

CONJUGATE LEAVES The leaves of a section which form one continuous piece of paper, i.e., leaves which are said to belong to one another. The form in which the sheet is imposed and folded determines which leaves are conjugate. In a sixteen-page section, for example, the first and six-

teenth, second and fifteenth, etc., leaves will be conjugate. 69 RE

CONRADUS DE ARGENTINA A 15th century German bookbinder, who produced bindings characterized by compartments adorned with well-designed stamps representing roses, fleur-de-lis, etc. Conrad also produced several of the ERFURT BINDINGS of that time. 94 RE

CONSERVATION 1. The conscious, deliberate and planned supervision, care and preservation of the total resources of a library, archives, or similar institution, from the injurious effect of age, use (or misuse), as well as external or internal influences of all types, but especially light, heat, humidity and atmospheric influences. 2. A field of knowledge concerned with the coordination and planning for the practical application of the techniques of binding, restoration, paper chemistry, and other material technology, as well as other knowledge pertinent to the preservation of archival resources. Cf. RESTORATION. RE

The upstairs of the book conservation workshop.
Peter D. Verheyen (ed.), The Bonefolder: E-journal for the Bookbinder and Book Artist (complete run), 2009

CONSISTENCY 1. That property of a liquid adhesive that enables it to resist deformation. The property is not considered to be fundamental to adhesives; it is, however, manifest in the viscosity, plasticity, as well as other properties of the adhesive. See also: VISCOSITY COEFFICIENT. 2. The air-dry (or oven-dry) percentage by weight of fibrous material in a paper stock or suspension. 17,98,309 RE

CONTACT BONDING An adhesive assembly process which utilizes adhesives that are dried to the condition where they display very little adhesive attraction to each other hut still possess considerable cohesive attraction and strength properties. When two surfaces, for example, are coated with an adhesive and allowed to dry to the point where they no longer display TACK. they can he conveniently handled; when the two surfaces are then joined, however. they immediately attract each other and cohere, instantly forming a strong bond. If the two surfaces are allowed to dry for too great a time, however, the ability to cohere is destroyed, unless the adhesive is dampened with a solvent and then allowed to dry once again to the stage of non-tackiness. This type of adhesive is used extensively in attaching plastic laminates to surfaces and is convenient to use in other applications where immediate bonding is important. Such contact adhesives are usually based on synthetic elastomers. RE

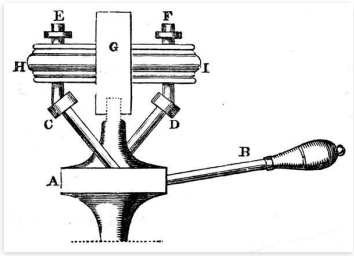
CONTEMPORARY BINDING 1. A bookbinding produced immediately following the printing of the book; or, before 1700, a binding in the style of the decade or even the quarter century. 2. A new binding of an old book done in such a manner as to appear contemporaneous, to a greater or lesser degree, with the original binding, or one of the binding styles of the time when the book was published. Contemporary bindings of this type, while not creative or imaginative, are not unethical provided no attempt is made to disguise the fact that they are new bindings of older books. 373 RE

CONTEMPORARY BINDING INLAID WITH VARIOUS COLORED LEATHERS
Robert Hoe, A Lecture on Bookbinding as a Fine Art (Grolier Club), 1886

CONTINUOUS GUARD A type of guard to which the folios of blankbooks are frequently sewn, the purpose being to allow the book to lie very flat when open. The folds of the guard, which are about 1/2 inch deep, are double the number of the folios of the book. Unlike the CONCERTINA GUARD, the folios (sections) do not fit into the folds of the guard, but rest against the edges of the folds of the guard, with the results that the opposite edges of the guard become the spine of the book, much in the manner of the REVERSED V-GUARD. The continuous guard is usually made of linen. RE

CONTINUOUS TRIMMER A trimming machine which does not have to be stopped and started for each cut, as is the usual case with the typical guillotine cutter. It has a revolving cutting bed equipped with four faces, each of which has its own clamp. When one clamp is filled with books, it closes and the bed makes a quarter revolution carrying the books under the fore-edge knife. While the fore edges are being trimmed, the operator fills the next clamp, the bed makes another quarter turn, and the heads and tails of the books in clamp one are trimmed at the same time the fore edges of the books in clamp two are being trimmed. Another quarter turn brings the books in clamp one over a conveyor where they are released. 339 RE

CONTRACTIONS used in Domesday Book and ancient Records. *See* Domesday Book. Records. DAP



MEDICAL CONTRACTIONS
William Savage, A Dictionary of the Art of Printing, 1841

CONVENTIONAL FOLIAGE A form of bookbinding ornamentation, usually structured by means of individual tools, which is generally unrealistic but still clearly suggestive of foliage. 156,250 RE

CONVEX COVERS Book covers that are convex in shape because the book is thicker in the middle than at the spine and fore edge. Very old books sometimes had covers that were made convex intentionally, apparently in the belief that they could hold and support the leaves better by conforming to the shape of the text block. The text block was curved because the early printers produced books that were somewhat swollen in the middle, the swelling being due to the sheets being dampened before printing so as to obtain a better impression. This resulted in the fibers of the paper in the center part of the sheet being stretched and separated by the force of the type. The fibers did not return to their original conformation following printing, resulting in a slight additional thickness of the paper in the print area. RE

COOL COLORS Colors which are situated in the green-violet half of the color circle, i.e., colors in which blue is dominant. Bluish grays are referred to as cool colors. See also: WARM COLORS. 233 RE

COPAL A resinous substance obtained from the exudations of living trees in areas of the tropics, or from fossils, rendered soluble in alcohol or other organic solvents, and used in the manufacture of printing inks and certain varnishes. In its dry form, it is also used in the manufacture of gilding powders. 156,264 RE

COPE'S PRESS The Albion. This is the production of Richard Whittaker Cope, and is an iron press. The power is produced entirely by levers, which, by means of two strong iron links attached to the head, and working at the bottom on what is called the lugs, communicate the power to the platen, and thus produce the impression: on the return of the bar the platen is lifted from the face of the types by means of a spiral spring fixed on the head of the press. I have repeatedly broken the links, when they were guaranteed to withstand any force in working the press that could be applied to it. On the death of Mr. Cope, the business was continued by trustees for the benefit of the family, and is under the immediate management of Mr. John Hopkinson, who has very much improved this press by taking away the links, and remodelling it: the principle, on the present construction, is the same as that of Sherwin and Cope's Imperial press, with some variation in the application of the cap or knuckle, and also in the adjusting wedges, the screw of which to regulate the pull is at the near side of the piston. DAP

COPOLYMER A complex polymer, resulting from the polymerizing together of two or more different monomers or monomer combinations. A copolymer is a true compound and often has properties distinct from those expected of a physical mixture of the separately polymerized component monomers. An example of an important copolymer used in archival work is the vinyl chloride-vinyl acetate copolymer. RE

COPPER NAPHTHENATE A green cupric salt of naphthenic acid and copper, with the combined fungicidal properties of naphthenic acid and copper. It is practically non-volatile and is used in a 0.1% concentration to control the growth of molds and fungi. There is some risk involved in its use because its presence in paper increases the liability of the paper to damage in a polluted atmosphere, possibly due to the catalytic action

of the copper with regard to sulfur dioxide, resulting in the formation of sulfuric acid. [198 RE]

COPPER NUMBER A number expressing the amount of copper reduced from the cupric to the cuprous state by a given amount of cellulosic material. It is useful as a measure of purity, particularly in relation to the strength and resistance to chemical degradation of paper and board. The copper number gives the degraded celluloses, and particularly those that result from bleaching. Although the copper number test is subject to reservations, it is generally agreed that a lower copper number enhances the chances of longevity of the paper. The test does not, however, apply to lignified fibers, and must be corrected for noncellulosic constituents. [72,143 RE]

COPPERAS See: FERROUS SULFATE. [RE]

COPTIC DAP

The Copts are undoubtedly descendants of the ancient Egyptians; but not an unmixed race, their ancestors in the earlier ages of Christianity having intermarried with Greeks, Nubians, Abyssinians, and other foreigners. Their name is correctly pronounced either *Ckoobt* or *Ckibt*; but more commonly *Goobt* or *Gibt*, and (in Cairo and its neighbourhood, and in some other parts of Egypt,) *'Oobt* or *'Ibt*: in the singular, it is pronounced *Ckoob´tee*, *Ckib´tee*, *Goob´tee*, *Gib´tee*, *'Oob´tee*, or *'Ib´tee*. All of these sounds bear a great resemblance to the ancient Greek name of Egypt (Αἰγυπτος): but it is generally believed that the name of "Ckoobt" is derived from *Coptos*, (once a great city, in Upper Egypt,) now called *Ckooft*, or, more commonly, *Gooft*; to which vast numbers of the Christian Egyptians retired during the persecution with which their sect was visited under several of the Roman emperors. The Copts have not altogether lost their ancient language, their liturgy and several of their religious books being written in it; but the Coptic has become a dead language, understood by very few persons; and the Arabic has been adopted in its stead.

The Coptic language gradually fell into disuse after the conquest of Egypt by the Arabs. For two centuries after that event, it appears to have been the only language that the generality of the Copts understood; but before the tenth century of our era, most of the inhabitants of Lower Egypt had ceased to speak and understand it, [this has been shown by Quatremère, in his Researches on the Language and Literature of Egypt,] though, in the Sa'ee´d (or Upper Egypt), El-Muckree´zee tells, the women and children of the Copts, in his time, (that is, about the close of the fourteenth century of our era, or the early part of the fifteenth,) scarcely spoke any other language than the Sa'ee´dee Coptic, and had a complete knowledge of the Greek. Soon after this period, the Coptic language fell into disuse in Upper Egypt, as it had done so long before in the Lower Provinces, and the Arabic was adopted in its stead. All the Copts who have been instructed at a school still pray, both in the church and in private, in Coptic; and the Scriptures are still always read in the churches in that language; but they are explained, from books, in Arabic. Many books for the use of priests and other persons are written in the Coptic language expressed in Arabic characters.—Lane's Modern Egyptians, vol. ii. 1836.

Gibbon states, that Cavio affords a shelter for the indigent patriarch of the Copts, and a remnant of ten bishops: forty monasteries have survived the inroads of the Arabs; and the progress of servitude and apostasy has reduced the Coptic nation to the despicable number of twenty-five or thirty thousand families.

We know very little of the ancient language of Egypt. Nearly all the remains of it we now possess, have been transmitted to us through the Coptic, Sahidic and Bashmuric Dialects. The Coptic Dialect was spoken in Lower Egypt, of which Memphis was the capital: hence it has been called, with great propriety, the Memphitic Dialect. The Sahidic, from the Arabic word *Sahad*, or *Al Sahad*, the *Upper*, or *Superior*, was the dialect of Upper Egypt, of which Thebes was the capital; it has, therefore, been called the Thebaïc. It is impossible to say which of these two dialects was the more ancient. Georgi, Valperga, Munter, and others, have decided in favour of the Coptic; and Macriny, Renandot, Lacroze, and Jablonsky, with as much show of reason, have contended for the Sahidic. Still, however, the question must be left to conjecture, as we have not sufficient evidence to enable us to decide upon it. Besides these two dialects, which have long been known, there was a third, which was spoken in Baschmour, a province of the Delta.

The existence of three dialects in Egypt has been so satisfactorily proved by Quatremère, Englebreth, and other writers; and so fully confirmed by the Bashmuric fragments which have been discovered and published, that little more need be added. If, however, any doubt remain, the following quotation from a manuscript work of Athanasius, a prelate of the Coptic church, who was Bishop of Kous, will entirely remove it. "The Coptic language," says he, "is divided into three dialects; the Coptic dialect of Miser, the Bahiric, and the Bashmuric: these different dialects are derived from the same language."

The introduction of Greek words into the Egyptian language commenced, no doubt, from the time of the Macedonian conquest, which the introduction of Christianity tended to confirm and extend. The Christian religion contained so many new ideas, that new terms were necessary to express them. These terms the language of Greece would readily supply; which, probably, were adopted by the Egyptians, from the Greek writings of the apostles.

Egyptian literature has recently attracted particular attention. All that has come down to us of the language and literature of ancient Egypt is con-

tained in the Coptic, Sahidic, and Bashmuric dialects; and in the Enchorial, Hieratic, and Hieroglyphic inscriptions and manuscripts.

The Coptic, or, as it has been called, the Bahiric, but more properly the Memphitic, was the dialect of Lower Egypt; the *Mizur* of the Scriptures. This dialect is more regular and systematic in its grammatical construction, and more pure, than the others.

Manuscripts exist, in Coptic, of nearly the whole of the Sacred Scriptures, and of the Services of the Coptic church. The works of some of the early Fathers, and the Acts of the Council of Nice, and also the Lives of a considerable number of Saints and Martyrs, are found in the Coptic dialect.

Dr. Murray says, the Coptic is an original tongue, for it derives all its indeclinable words and particles from radicals pertaining to itself. Its verbs are derived from its own resources. There is no mixture of any foreign language in its composition, except Greek.

The remains which we possess of the Egyptian language, when separated from the Greek, with which it is in some measure mixed up, has no near resemblance to any of the ancient or modern languages.

The importance of the Ancient Egyptian to the antiquary will at once appear, when we consider that a knowledge of it is necessary before the inscriptions on the monuments of Egypt can be properly understood, and the Enchorial and Hieratic manuscripts can be fully deciphered.

The terms Coptic and Sahidic have been adopted instead of Memphitic and Thebaic, lest confusion should be created; as the former are used in those Egyptian publications which have issued from the Oxford University Press.

The Coptic alphabet contains Thirty-two Letters. It will be seen, from a comparison of the alphabets, that the Egyptians adopted the Greek alphabet, with the addition of seven letters.

The Gamma never occurs in Coptic words, except in one or two instances. It is used instead of the Kappa in words derived from the Greek.

The Xi is seldom found in Egyptian words, but principally occurs in words derived from other languages. It is sometimes used instead of *ks*.

The stops used, are one or two points, · : but two points are most commonly used.

The mark used to divide the verses is +.

When the point or short line (`) occurs over consonants, it generally expresses the vowel *e* short.

It appears, from some words derived from the Greek, that the point (`) has been used to express the vowels *a* and *o* short.

When the point (`) occurs above a vowel, it expresses the soft or sharp breathing of the Greeks. When it is found above *e* long, it denotes the sharp accent; but when placed above the other vowels, it either expresses the soft accent, or it denotes that the letter should be pronounced separately, and agrees with the diæresis of the Greeks.

When the point (`) is put over a vowel in the beginning of words derived from the Greek, and which has the aspirate in that language, it indicates a sharp breathing.

Some Coptic words are abbreviated by a line or lines above them.—Tattam's Grammar of the Egyptian Language. 8vo. 1830.

Coptic in the British Foundries.

English. Oxford.

Pica. Caslon and Livermore. Dr. Wilkins's edition of the Pentateuch.

The Coptic Alphabet.

The Coptic and Greek Alphabets

The Coptic and Greek Alphabets
William Savage, A Dictionary of the Art of Printing, 1841

Coptic bindings Bindings produced by the Copts, or Egyptian Christians. The Coptic style of sewing is not unlike that of present-day machine edition sewing, in that it is also in the form of chain stitch linkings appearing as so many braids across the spine of the book. In addition, the covers of Coptic bindings were frequently sewn or laced to the text block by a number of hinging loops. Some Coptic bindings had wooden boards (from about the 4th century to the Middle Ages), but the majority had boards built up by layers of waste papyrus. They also had lined spines with flanges, as well as headbands. They were covered in leather as early as the 4th century and were tooled in blind, or by blind blocking. although decoration with inked and painted ornaments, as well as cut-out openwork backed with pieces of painted or gilded parchment were also used. Decoration consisting of openwork with parchment backing was executed before the leather (which was already cut to size) was attached. as was blind tooling or stamping when the fragile papyrus boards were employed. The tooling was in all likelihood done with unheated tools on moistened leather. Coptic bindings make up the oldest surviving

"family" of leather bookbindings, and represent the ultimate source of all decorated leather bindings. 104,158,236,347 RE

COPY **1.** 1. A single example of a written or printed work. 2. One of the theoretically identical specimens of a work which together comprise an edition. impression, or issue. Different copies may also be printed on different qualities of paper. When printed in a different format, they constitute different editions, e.g., a paperback edition, and generally follow the original issue. 3. An imitation or reproduction of an original work. 4. To imitate or reproduce an original work by printing, or some other means. 5. Subject matter, either manuscript or printed, that is to be put into type or plates. 6. The material to be reproduced by photographic or other means, as well as the result of some process of reproduction.2@DAP The manuscript that is to be printed, or a book that is to be reprinted; in short, any subject that is to be printed, is termed *Copy*. • Where it is possible, copy should always be kept locked up in a fire-proof closet. As it is rare for an author to have a duplicate, the loss of the manuscript would in many instances be irretrievable; it is also necessary to be very careful of the copy of new editions, in which the author or editor has made alterations; of all posthumous MS. works; and of unique copies, which sometimes are entrusted to the printer, the loss or destruction of which would be an unpardonable offence, unless it could be shown that all human precautions had been taken for their preservation. • I cannot omit noticing the careless manner in which many compositors keep their copy, leaving it loose on their frames and in their windows, and frequently neglecting to shut them when they quit work in summer, by which means the copy is sometimes blown away and lost, and at other times portions of it are destroyed as waste paper. The best method of preserving it is to have a paper case, or an old book cover, to put it in, and to keep it in the well of the frame, or the drawer when there is one. • Copy is generally given out to the compositor in regular portions: if it be printed, a sheet at a time; if in manuscript, a chapter, or section, as it may be; for the compositor has never the whole volume in his hands at once, excepting it be bound, and not allowed to be cut up, or taken to pieces. If the author supply it in small quantities at a time, it is usually handed to the compositor as it is received. • Many gentlemen who write for the press fall into an error, that appears inconsistent even with common reasoning; viz. *that the worse the manuscript is written, the more likely the work is to be correctly printed*: for, say they, the more difficulty the printer meets with in reading it, the more pains he is obliged to take to understand the subject; and of course he will print it more accurately than if he could pass it over in a slovenly manner. • In refutation of this prevalent error, I would ask those gentlemen, if they have never received letters from their friends, so hastily and carelessly written that their utmost efforts to decipher every word have been baffled, although they might arrive at the general meaning of the whole; I have myself seen letters which set at defiance all attempts to read them: I would ask those gentlemen, whether in examining ancient MSS. they have not often been perplexed in making out the subject, and after all their endeavours have at last risen from the task in many instances rather guessing at the meaning than being certain of it. Even so, and worse, is the case of the printer with ill-written manuscript, who frequently is ignorant of the subject on which he is engaged; how then is it probable that he should produce a proof as correct as if the manuscript were written in a fair legible hand?—it is neither probable nor possible. I have known more than one author, when appealed to for information on his own writing, unable to read it, and of course unable to explain to the workman the difficulty he was labouring under; and I have heard one of these very persons, among others, maintain, that the worse a manuscript was written, the more probability there was of its being correctly printed. • By the Act of the 39 G. 3. c. 79. s. 29. it is enacted, "That every Person who, from and after the Expiration of forty Days after the passing of this Act, shall print any Paper for Hire, Reward, Gain, or Profit, shall carefully preserve and keep one Copy (at least) of every Paper so printed by him or her, on which he or she shall write, or cause to be written or printed, in fair and legible Characters, the Name and Place of Abode of the Person or Persons by whom he or she shall be employed to print the same; and every Person printing any Paper for Hire, Reward, Gain, or Profit, who shall omit or neglect to write, or cause to be written or printed as aforesaid, the Name and Place of his or her Employer on one of such printed Papers, or to keep or preserve the same for the Space of six Calendar Months next after the Printing thereof, or to produce and shew the same to any Justice of the Peace, who, within the said Space of six Calendar Months, shall require to see the same, shall, for every

such Omission, Neglect, or Refusal, forfeit and lose the Sum of twenty Pounds." RE 12,274

COPY MONEY It appears from Moxon's work, that in his time each compositor received a copy of the work on which he was employed, or, in lieu of it, a sum of money, which was called *Copy Money*. This custom is abolished, and no remains of it exist. *See* Ancient Customs and Take up a Sheet. • Copyright. *See* Literary Property. DAP

CORD MARKER An old term applied to the marks made across the spine of a gathered book to indicate the positions of the cords, tapes or bands on which the book was to be sewn, and, in the case of sewing on recessed cords, where the sawing-in was to be done. 256 RE

CORD SEWING See: FLEXIBLE SEWING; RECESSED-CORD SEWING. RE

CORDING The process of inserting and tying string or cord on hanging cards, calendars, catalogs, and other items, the material being either pre-punched or pierced with an awl. Cording is done either by hand or on semi-automatic or automatic machines. 58,82 RE

CORDING QUIRES The outside quires of a ream of paper.—M. They are now called Outsides, or Outside Quires. *See* Cassie Paper. DAP

CORDOBAN LEATHER Originally, a "leather" that was basically alum-tawed hair sheepskin, usually of a naturally white color but also dyed red. It was first produced in Córdoba, Spain, by a combination of Arab and Spanish craftsmen following the Moorish invasion of the 8th century. Sometime during the 14th or 15th century the method of producing Cordoban changed from tawing to vegetable tannage. Within Spain the name for all these materials, including CORDOVAN LEATHER, was guadameci. The terms "Cordoban." "Cordovan," and "Spanish leather" have been used in England for centuries to denote indiscriminately several kinds of leather, some imported from Spain, others from France and Holland, as well as some actually produced in England and called "cordwain," which is probably a corruption of the French cordouan. 351 RE

CORDOVAN LEATHER A soft. fine-grained, colored leather produced mainly from the SHELL of a horse butt, but now also produced from goat- and pigskin. It is a vegetable tanned and curried leather. The name derives from Córdoba, Spain, where the leather was first produced. Cordovan is well known for its non-porosity, density, and good wearing characteristics. At one time it was used fairly extensively in bookbinding, particularly in Spain. See also: MUDÉJAR STYLE. 291,363 RE

CORDS The cotton, hemp, linen. or silk cords or bands, of varying thicknesses, which extend across the backs of the gathered sections and are used in sewing books through the folds. They are either sunk into saw cuts in the sections, as in RECESSED-CORD SEWING. or rest against the sections to form the raised cords or bands used in FLEXIBLE SEWING. See also: BANDS (1); TAPES; THONGS (2); WEBBING(S) (1). 198,236 RE

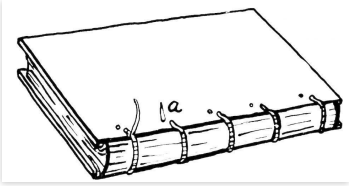


Fig. 26. Lacing cords into boards.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

CORDUROY A durable, cut-pile fabric having vertical ribs, made of cotton or plain and twill weaves, and made in various weights and colors. Corduroy was used to some extent in the early part of the 20th century as a covering material for blankbooks and other large volumes. 264 RE

CORDWAIN An English term for CORDOBAN LEATHER, or CORDOVAN LEATHER. RE

CORIUM See: DERMIS. RE

CORK BACK An imitation leather having a reverse surface of ground cork, producing the appearance of the flesh side of a leather. RE

CORNER also *corners* **1.** 1. The juncture of the two edges of a book cover at the fore edge and head and tail. Types of corners include the LIBRARY CORNER, ROUND CORNER, and SQUARE CORNER. 2. The cloth, leather, or other material on the corners of half bindings. 3. A CORNERPIECE (2). 4. See: BOOK CORNERS.2@MAB The triangular brass tools used in finishing backs and sides. The gilt ornaments used on velvet books. Also, the leather pasted on the corners of half-bound books.3@ABB The triangular tools used in finishing backs and sides. The leather or material covering the corners of half-bound books. The metal ornaments used usually in keeping with clasps.4@NBL Leather pieces pasted on the corners of a half-bound or three-quarter-bound book. RE

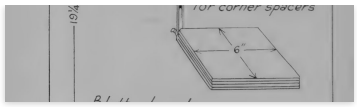
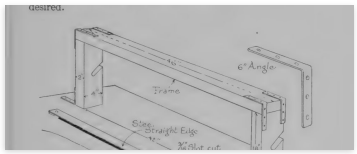


Fig. 110—DIAGRAM OF BLOTTER BASE AND CORNER SPACERS
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CORNER IRONS Irons screwed on the coffin of a wooden press at the extremity of each corner: these irons form a right angle at the outside, and an obtuse angle on the inside, being thicker at the angle than at the extreme ends, so as to allow the quoins to wedge up the form on the press stone. They are quadrat high. DAP



Fic. 93—CONSTRUCTION DIAGRAM OF FRAME, CORNER IRONS, SLOTS FOR RopD, CUTTING STRAIGHT EDGE AND KNIFE SLOT FOR CLOTH CUTTING TABLE
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CORNER KNIFE A type of knife used for cutting leather at the corners of a book in the process of covering. 115 RE

CORNER MITERING See illustration The process or operation of accurately joining the edges of the covering material of a book that has been turned-in at the edges of the board. The purpose is to have a minimum of overlapping of cloth, or a pared overlapping of leather or vellum. • Corner mitering has been altered considerably down through the history of bookbinding. One particular method, which was used well into the 16th century, involved cutting the leather so as to leave a tongue, with the cut- ting usually being done after the leather had been turned-in. In other methods, the leather was turned-in and then cut so that the vertical edges of the leather butted, or nearly so. An opposite technique was to cut the leather before turning it in, with the result that it overlapped a great deal more than is usual today, and left a small gap at the corners. This technique appears to have been in general use from the second half of the 16th century to the end of the 18th or early years of the 19th. Toward the end of this period the leather was pared thinner and the gap at the corner was considerably neater. During the last three-quarters of the 19th century the most common method of corner mitering of full leather bindings was to pare them diagonally and on a bevel before turning-in, so that the two edges overlapped to the extent of the bevel, coming together at an angle of 45° from the corner. 236 RE

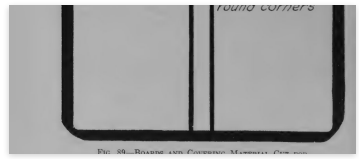
CORNER PULL TEST A test similar to the PAGE PULL TEST, except that the leaf clamping device is limited to gripping only the upper or lower corner of the leaf. This test is designed to determine if a leaf will tear before it can be pulled from the binding, and is used mainly in testing the strength of adhesive bindings. RE

CORNER QUADRATES A quarter section of a hollow square or rectangle. AMP

CORNER QUADRATES.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

CORNER TOOL A bookbinding finishing tool used to make corner designs on a binding. It can also be used to make the center design, four impressions of the same tool resulting in a center pattern. See also: CORNERPIECE (1). 97,261 RE

CORNERED also *cornering* The corners of boards that have been rounded, or the covering material which has been formed around the rounded corner. Boards are generally round-cornered on a cornering machine, or with a curved chisel. 58,139,259 RE



Fic. 89—BoOARDS AND COVERING MATERIAL CUT FOR ROUND-CORNERED COVER
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CORNERING MACHINE A foot- or power-operated machine used for cutting the round (or other shape) corners. of paper, cards, book boards, etc. The machine employs a curved chisel for this purpose. 264 RE

CORNERPIECE also *cornerstamp* 1. A bookbinding finishing tool, usually ARABESQUE, designed to be used at the corners of a leather binding, usually for the purpose of matching a centerpiece or other form of decoration. 2. Metal corners attached to a binding to protect the corners of the covers from damage. Removable pasteboard cornerpieces are sometimes used to protect the corners of books during shipment. 156,310 RE

CORNERS See: BOOK CORNERS. RE

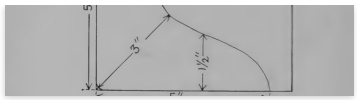


Fig. 112—PLAN OF DESIGNING BOARD CORNERS
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CORRECT **1.** When the corrector reads the proof, or the compositor mends the faults he marked in the proof, they are both said to correct; the corrector the proof, the compositor the form.—M. In the first case, it is now styled reading the proof; in the next, the compositor has to put right the errors and mistakes he has made in the workmanship, previously to the sheet being sent to the author or editor; this he does by picking out the wrong letters or words by means of a sharp bodkin, and replacing them with the right ones; but if he have left an out or made a double, he then takes the matter into the composing stick, and over-runs it till he comes to the end of a paragraph; or the error may make one or more even lines, when the trouble is much lessened; still the length of the page must be had in view and kept right, either by branching out where it will admit of it, or by driving a line or two out, or getting a line or two in in the adjoining pages, according to circumstances, but never to make even lines too suddenly so as to cause the spacing to be unsightly, by being too close, or too wide, for the sake of saving a little trouble in over-running a few lines. • For the regularity and despatch of business a compositor should never delay correcting after he has received the proof: it causes disappointment to the author or proprietors of the work, and injures his employer in his business, by obtaining for him the character of want of regularity and punctuality; it injures the pressmen, by delaying the forms going to press; and it ultimately injures himself, by causing him to stand still for want of letter. It is a general rule in printing offices, that a compositor should always impose as soon as the sheet on which he is at work is out and made up, and that he also should correct his proof without loss of time. *See* Author's Proof. First Proof. DAP **2.** A compositor is said to correct when he amends the faults marked in a proof. AMP

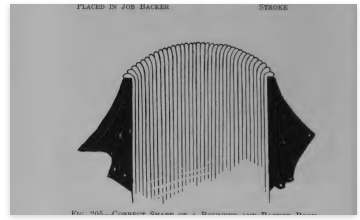


Fig. 205—CorrEcT SHAPE OF A ROUNDED AND BACKED Book
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CORRECT PATTERN The contour of a hide flayed so as to permit the tanner to produce the maximum amount of good leather. It is a standard pattern adopted by packers and tanners. 363 RE

CORRECTED GRAIN A leather from which the surface of the grain has been partially removed by BUFFING (2) to a depth governed by the condition of the stock, and upon which a new surface has been built by means of various finishes. See also: BUFFED LEATHER. 61 RE

CORRECTED WHITE See: DYED WHITE. RE

CORRECTING DAP

is the rectifying of such errors in the types as the compositor may have made, and any defects in the workmanship; it also includes making such alterations as the author, on examining the proof sheets, may think necessary.

The German printers have an implement, made of wood, similar to the back and bottom of a composing stick, in which they gather the corrections, and place it with them in it on the form, without risk of injuring the types, leaving their hands free from incumbrance. This appears to be an improvement on our practice, which is, when the corrections are numerous, to gather them in a composing stick, and place it on the face of the form, for convenience of having them close at hand; this should be avoided, and neither metal, nor any other article that is likely to injure the types or an engraving, should ever be laid on the face of the letter.

The French and the Italians employ a pair of tweezers for picking the wrong letters out of the form, by which they avoid injuring the letter with the bodkin; but there is a bodkin attached to the other end, to use when necessary. They say this is superior to our method of taking out the wrong letter with a bodkin, and executed more readily. In fact, with us there is frequent injury done by the inexperienced or careless workman in using the bodkin: the letter is often injured that is drawn out; if the bodkin is not very sharp, it occasionally slips and spoils the face of six or seven adjoining letters; and, by its injudicious use, the next letter, under the blade of the bodkin, is often rendered useless.

The specimen in p. 191. shows the manner of marking the corrections in a proof. The following is an explanation of the marks therein used, which will enable a gentleman who has to superintend a work through the press to correct the proof sheets in a way that will be clearly understood by the printer, and will tend to promote correctness, by preventing those mistakes that occasionally occur owing to his not comprehending all the marks on the proof.

Where a word is to be changed from small letters to capitals draw three lines under it, and write *caps.* in the margin.

1. The substitution of a capital for a small letter.

2. The marks for turned commas, which designate extracts or quotations.

3. The insertion of a hyphen.

4. The substitution of a small letter for a capital.

5. To change one word for another.

6. To take away a superfluous letter or word, the pen is struck through it and a round topped *d* made opposite, being the contraction of the word *dele*, do thou expunge.

7. A letter turned upside down.

8. The insertion of a word or letter.

9. The substitution of a comma for another point, or for a letter put in by mistake.

10. The substitution of a ; for another point.

11. When words are to be transposed, two ways of marking them are shown; but they are not usually numbered, unless more than three words have their order changed.

12. When a paragraph commences where it is not intended, connect the matter by a line, and write in the margin opposite *run on*.

13. To draw the letters of a word close together that stand apart.

14. The marks for a new paragraph.

15. The substitution of a period or a colon for any other point. It is customary to encircle these two points with a line.

16. Where a space or a quadrat stands up and appears, draw a line under it, and make a strong perpendicular line in the margin.

17. Where there is a wrong letter, draw the pen through that letter, and make the right one opposite in the margin.

18. The transposition of letters in a word.

19. The mark for a space where it has been omitted between two words.

20. The manner of marking an omission, or an insertion, when it is too long to be written in the side margin. When this occurs it may be done either at the top or the bottom of the page.

21. When one or more words have been struck out, and it is subsequently decided that they should remain, make dots under them, and write the word *stet* in the margin.

22. When a letter of a different size from that used, or of a different face, appears in a word, draw a line either through it or under it, and write opposite *w. f.*, for wrong fount.

23. Marks when the letters in a word do not stand even.

24. Marks when lines do not appear straight.

25. The mark for the insertion of an apostrophe.

Where a word has to be changed from Roman to Italic draw a line under it, and write *Ital.* in the margin; and where a word has to be changed from Italic to Roman, write *Rom.* opposite.

To change a word from small letters to small capitals, make two lines under the word, and write *sm. caps.* opposite. To change a word from small capitals to small letters make one line under the word, and write in the margin *lo. ca.* for lower case.

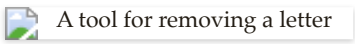
Where the compositor has left an out, which is too long to be copied in the margin of the proof, make a caret at the place, and write opposite, *Out, see copy*.

The specimen when corrected would be as follows.

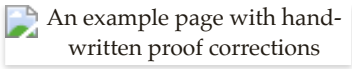
It is sublimely declared in the Christian Scriptures, that "God is Love." In truth, to figure to ourselves under any other character a Being of infinite wisdom to conceive, and power to execute his designs, would appal the imagination of his dependent creatures. Neither can we find, in reasoning à priori, and from the nature of things, any foundation for believing that the misery rather than the happiness of those dependent creatures can be desired or devised by a Being who cannot possibly be actuated by any of the motives from which we know that injustice proceeds, as ignorance, selfishness, or partiality; and who can have entertained, so far as we are able to discover, no other object in creating man, except the intention of finally communicating a larger proportion of happiness than misery. These are the principles from which is deduced the necessity of justice and benevolence in the Creator.

Arguments of this nature will have more or less effect, according to the constitution of the mind to which they are presented. At the same time it must be conceded, that the works of God, generally considered, form the best criterion of his intentions; and that, however indisputable the eternal truths may be which render goodness inseparable from power and wisdom, there still remains a reasonable inquiry, how far the actual appearance of the world justifies this conclusion.

Composing stick for corrections
William Savage, A Dictionary of the Art of Printing, 1841

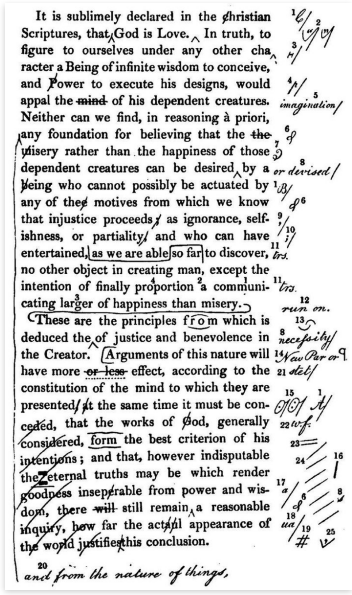


A tool for removing a letter
William Savage, A Dictionary of the Art of Printing, 1841



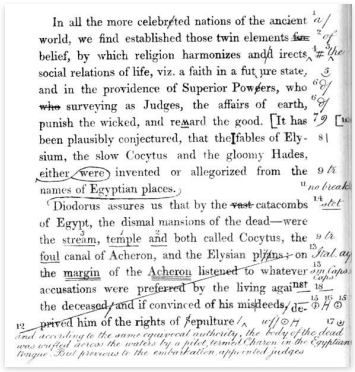
An example page with handwritten proof corrections
William Savage, A Dictionary of the Art of Printing, 1841

CORRECTING STONE The stone on which the compositor imposes and corrects his forms.—M. It is now called *Imposing Stone*, which *see*. DAP



CORRECTING STONE.
William Savage, A Dictionary of the Art of Printing, 1841

CORRECTIONS **1.** The letters marked in a proof are called Corrections.—M. At the present time, the right words or letters that are to replace the wrong ones are understood by the word; thus a compositor, when he collects the right letters for the purpose of correcting a form, is said to *Gather the Corrections*.2@AMP The alterations or errors marked in a proof. DAP



This page is a specimen of Lithographic Printing. The impression from the Type being first taken on Paper, in Lithographic Ink, the Corrections then added with the Pen, and the whole transferred to the Stone from which the Page is printed.
Frederick Saunders, The Author's Printing and Publishing Assistant, 1839

CORRECTOR Moxon uses this word to designate the person whom we now call a Reader. The word is not now used. *See* Reader. • Counting off Copy. *See* Casting off Copy. • Cowper, Edward. *See* Machines. DAP

CORRUGATIONS Wrinkles across the middle of sheets of handmade paper, caused by the paper being wetted during printing and not drying evenly thereafter. The sheet is stretched in the printing area by the force of the press, resulting in uneven tension between the printed and unprinted areas. See also: CONVEX COVERS. 154 RE

CORVINUS BINDINGS Bindings belonging to Matthias Corvinus, King of Hungary (1458–1490) and famous as a patron of the arts. The magnificent library which he gathered together at the royal palace of Budapest contained manuscripts celebrated as the most marvelous masterpieces of Italian miniature painting of the Renaissance. They were executed by the greatest Florentine miniaturists of the day. These manuscripts, embellished with gold and colors on the inside, were adorned with equally superb bindings, many of which are in red velvet or morocco leather, decorated with gold tooling, inlays of leather of a different color. enamel, and cameos. Some were strongly reminiscent of Oriental motifs, while others were more Italian in character. Many manuscripts were also bound in brocade with bosses and clasps of silver. • In 1526 the king's library, which was estimated at anywhere from 1,500 to 3,000 volumes, was sacked by the Turks. 347 RE

COSWAY BINDINGS Leather bookbindings produced in the usual manner, except that they have miniature paintings inset into their covers. They are named after Richard Cosway (c 1742–1821), the English miniaturist. Cosway actually had nothing to do with the execution of these bindings, as they were not introduced until early in the 20th century. They were probably the invention of the firm of Henry Sotheran. booksellers, or their manager, J. Harrison Stonehouse. The books were bound by Robert Rivière, in good quality Levant morocco, with morocco joints, watered-silk linings, and the miniatures painted on ivory, glazed, and insetted in the covers. 236 RE

COTTAGE STYLE also *cottage roof* A style of book decoration in which the top and bottom of a center rectangular panel slope away from a broken center, producing a kind of gabled effect. The spaces are filled in, at times, with French sprays and branches in combination with lacework, and sometimes with the same small tools used in the fan ornament. Although this style of decoration may have originated in France, perhaps as early as 1630, it is most characteristic of English binding of the late 17th century (c 1660) to about 1710. The style was still being used on pocket almanacs and devotional books as late as, or even later than, 1822. 124,158,172,281 RE

COTTON A soft, fibrous, usually white organic substance that clothes the seeds of various plants, especially of the genus Gossypium. The cotton fiber resembles a flat, twisted tube. having a thin wall and a wide central canal. known as the lumen. Because of this wide lumen, the cylindrical fiber collapses upon drying to the form of a flat, twisted tube, somewhat in the shape of a corkscrew. The fiber length may be as much as 30 mm. and the width between approximately 0.01 and 0.03 mm., giving a ratio of length to width of more than 1,000 to 1. Cotton consists of more than 90% cellulose, exclusive of COTTON LINTERS. Since it is almost pure cellulose, cotton fibers are readily affected by acids and moderately strong oxidizing agents. Alkali compounds in moderate amounts and at normal temperatures, however, have little effect on them. Cotton is used extensively in the manufacture of sewing thread, spine lining cloth, book cloth (including buckram), as well as higher grade papers and other products used in archival work. 143,198 RE

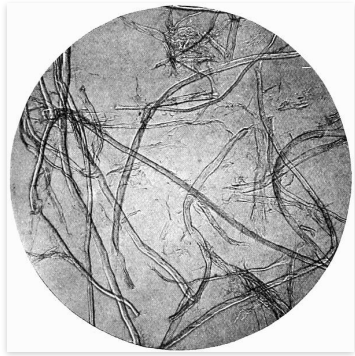


Fig. 46. —Cotton Pulp beaten 8 hours.
R. W. Sindall, The Manufacture of Paper, 1908

COTTON BATING A soft, fluffy cotton fiber, having a sized surface to hold the fibers together, and used as a padding medium for album covers, gold cushions, etc. 256 RE

COTTON CONTENT See: COTTON FIBER CONTENT PAPER. RE

COTTON DRILL See: DRILL (1). RE

COTTON FIBER CONTENT PAPER Papers which are made from cellulose fibers derived from COTTON LINTERS, cotton or linen cuttings, and lint cotton. Flax is also sometimes included in this definition. Also called "rag content paper" and "cotton content paper." 17,93 RE

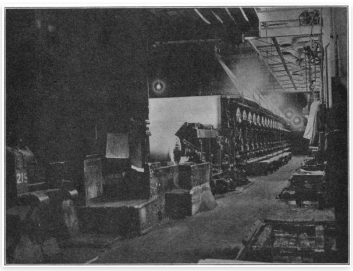
COTTON LINTERS The fine, silky fibers which remain adhered to the seeds of the cotton plant after ginning, including parts of the longer textile fibers, or "lint," as well as coarse, short fuzz fibers in most upland species of the plant. When purified, linters are used in the manufacture of paper. They can be used to replace from 5 to 35% of the rag content of fine papers with little or no loss of strength. Linters improve uniformity and the color properties of paper, and also provide a cleaner, bulkier sheet. Although linters do find use in papermaking, their principal use is as a raw material in the manufacture of cellulose derivatives. 17,42,72 RE

COTTON PARCHMENT A parchmentlike material produced by soaking cotton fibers in a solution of sulfuric acid and then rolling the fibers into sheets. See also: IMITATION PARCHMENT. 197 RE

COTTON THREAD See: SEWING THREAD. RE

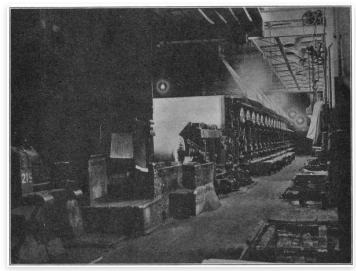
COTTON WOOL A raw cotton wadding, usually referred to as absorbent cotton, and used as an applicator for stains, 3 dyes, and other bindery operations. 237,335 RE

COUCH 1. The operation of transferring or laying sheets of handmade paper from the mold to the felts for pressing. 2. To press the newly made sheets of paper on the felts. 3. To press a sheet on the wire of a cylinder papermaking machine and transfer it onto the felt for pressing and drying. 4. To press water from a sheet on a couch roll of a FOURDRINIER MACHINE, or extra water by means of a suction couch preparatory to transferring it to a felt. 140,197 RE



CYLINDER MACHINE FOR DRYING PULP, THE BROWN CO. The web of pulp is shown as it passes from the cylinder mold over the couch roll toward the driers.
William Bond Wheelwright, From Paper-mill to Pressroom, 1920

COUCH ROLL A roll or cylinder on a papermaking machine the purpose of which is to press, i.e., de-water, or COUCH (4) the newly formed web of paper from the wire, and to transfer the web to the wet press for further de-watering. Couch rolls are of two basic types: the suction couch roll and the pressure couch roll. The suction couch roll is a heavy metal shell drilled with numerous small holes through which a high vacuum exists for the rapid removal of water from the web as it travels over the roll. The pressure couch roll consists of two rolls which apply pressure to the web to remove water. 17 RE



CYLINDER MACHINE FOR DRYING PULP, THE BROWN CO. The web of pulp is shown as it passes from the cylinder mold over the couch roll toward the driers.
William Bond Wheelwright, From Paper-mill to Pressroom, 1920

COUCHER 1. An obsolete term for a large book meant to rest on a table or stand, especially a cartulary, register, or antiphonary. 2. The workman who lifts the newly formed sheets of handmade paper from the mold in which they are formed, and transfers them to the couch board on which he builds up a POST (1). 140 RE

COUCHING 1. See: COUCH. 2. A method of embroidering a binding consisting of gold threads laid on the surface of the cloth and held down by threads of bright red silk coming from the back of the material. Ancient methods of couching were numerous, with zig-zags, wave patterns, and all manners of diapers being produced by the position and arrangement of the stitches that controlled the gold thread. 115 RE

COUNTER 1. An automatic device for recording the output or activity of a machine or device. 2. The bed or base of a blocking press. 3. The interior white area of a type letter. RE

HART'S COUNTER.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

COUNTERBALANCE A device on a board cutter, or similar device, consisting of a bar or rod with a

weight or weights that are adjustable so that they can increase or decrease the counterbalancing effect on the blade. The rod or bar is an extension of the knife, and, by the action of gravity, works to prevent the knife from dropping and also assists in raising the knife following the cut. Although originally intended to enhance the usability of the blade, the counterbalance today is considered to be more of a safety device than a functional part of the cutting operation. 145 RE

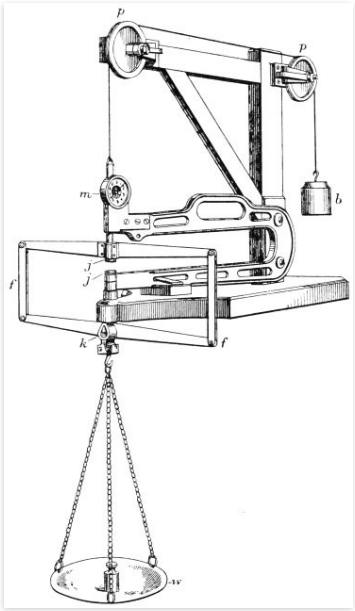


Fig. 11.—Apparatus for Measuring Degree of Falling m = micrometer dial. JJ = jaws between which the skin is placed. b = balance-weight attached to cord passing over pulleys p p , to counterbalance weight of frame f f . k = knife edge supporting pan and weights w .
Joseph Turney Wood, The Puering, Bating and Drenching of Skins, 1912

COUNTERCHANGE A decorative binding motif consisting of a cover broken into divisions in which there is a reversal of dark and light shading. If the cover is divided in half vertically, the left half of the background may be of a dark shade, and the right a light shade, while the panel in the center, also divided vertically, would have a light left and a dark right side. 94,183 RE

COUNTERMARK A smaller and subsidiary WATERMARK found in antique papers, usually in the opposite half of the sheet to the watermark. It usually consists of the name or initial of the papermaker, the date, and the place of manufacture, although small devices such as a small post-horn or cabalistic signs have been used. The countermark was introduced in the 17th century. 69,156 RE

COUNTERSUNK 1. A bookbinding having a panel sunk or depressed below the surface of the covering material, and designed to take an inlay, label, or the like. 2. A type of WATERMARK produced by pressing down the woven cover or face of either a mold or dandy roll. Also called "intaglio" (2). (12,156) 156 RE

COVER 1. The outer covering of a book placed on a text block to protect it both in use and storage, and, in many cases, to serve as a medium of decoration. A cover may be limp, e.g., a LIMP BINDING, which has no boards and the covering (usually vellum) is turned-in on itself and covered with the board papers; semi-limp (or semi-flexible), in which the boards are thin and flexible and are covered with leather or cloth and drummed on. See: DRUMMING ON. 2. A SELF-COVER, as of a pamphlet; or a stiff cover, e.g., more or less rigid boards covered with leather, vellum, cloth, paper, or combination thereof. Stiff covers are usually glued down all over, turned in and covered with board papers. In edition and library binding, the term CASE (1) is more appropriate. 3. The outside leaf of a periodical issue. 131,236,256 RE

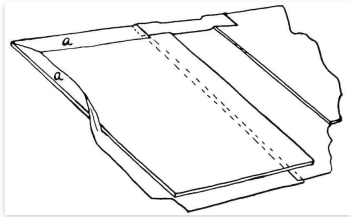
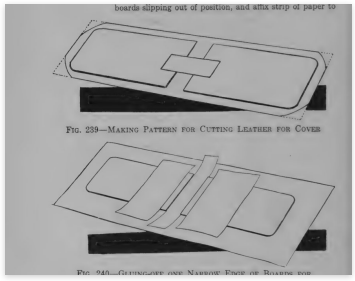


Fig. 19. Half cloth cover showing turn-ins at a.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

COVER BOARDS An obsolete term applied to two thicknesses of board glued together to give greater thickness (and strength) to the boards used for large blankbooks. See also: SPLIT BOARDS. RE



6. Remove book, lay out cover boards on piece of tough paper and mark out your pattern for cutting leather. (Fig. 239.)
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

COVER PAPERS A class of papers used for the covers of pamphlets (other than self-covers), catalogs, brochures, or any other stitched publication, to provide protection during handling and (sometimes) to enhance appearance. They are made in white and a wide range of colors. The majority have plain edges; however, they are also available with deckle edges. Cover papers generally have good folding characteristics, and have rough finishes or are embossed with fancy designs. They are usually produced from chemical wood pulps, sometimes in mixtures with mechanical wood pulp, and, although many are made from pulps containing varying amounts of cotton fiber pulps, they have but little permanence. Various coated papers, including plain, heavy, plastic-coated, cast-coated, metallic, and cloth-lined papers are also used. Common basis weights of uncoated cover papers are 50, 65, 80, and 2/65 pounds (20 X 26–500), while weights of coated papers are 60, 80, and 100 pounds (20 X 26–500). Aside from folding endurance, desired characteristics include dimensional stability, uniformity of printing surface, and durability. 17,86,139,234 RE

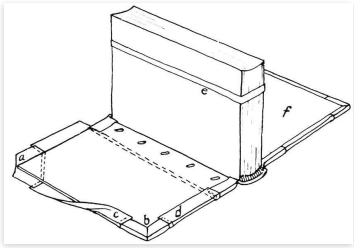


Fig. 31. Pasting on leather corners and cover papers. a, Turn-in of leather. b, Turn-in mitre of leather. c, and d, Turn-ins of paper. e, Taper tied around book. f, End pasted down.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

COVER TITLE 1. The title blocked on the original covers of a book or pamphlet, or a publisher's binding, as distinguished from the title blocked on the spine of a book by a bookbinder. Cf: BINDER'S TITLE 2. In terms of collation, a cover title is one printed on the paper cover of a work issued without a title page. The paper is usually, although not necessarily, of a different stock and color than that used for the text. See also: SELF-COVER. 140 RE

COVER TURNED-IN also *cloth turned-in* The covering material of a book that is turned over the edges and onto the inside surfaces of the boards, the (uneven) edges of which are covered by the PASTEDOWN. Although the term is generally applied to edition and library bindings, books bound by hand are also usually turned-in. In library binding the customary turn-in is 5/8 inch, while in edition binding it is seldom more than 1/2 inch, and frequently less. 58,209 RE

COVERING 1. The material, such as leather, vellum, cloth, paper, or combinations thereof, which cover the spine and usually the sides of a book. 2. The process of pasting or gluing the cloth, leather, etc., to a book. drawing it over the spine and boards, and turning it over the edges of the boards at the fore edge, head, and tail of the book. 161,172 RE

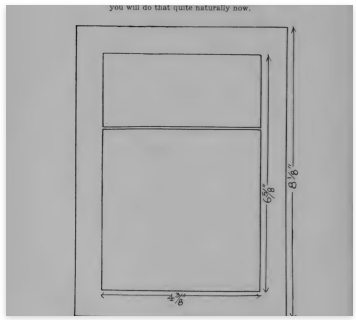


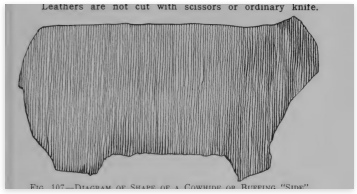
FIG. 69—DIAGRAM OF EASEL BoarpDs, SHOWING LAYOUT AND DIMENSIONS FOR COVERING PAPER FOR VISIBLE SIDE.
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

COVERING FOLDER A FOLDER (1) of bone, ivory, or wood, shaped generally like an ordinary folder, except for a slight arc cut from one edge, leaving a more tapered end with a narrow rounded tip. 115 RE

COVERS BOUND IN 1. A term used to indicate that the original covers of a book are used in the rebinding of the book. It may include the entire covers (including the spine), the boards and their covering only, or simply the covering of the boards. Sometimes this is called "rebuilding old corners." 2. The paper covers of a periodical issue, pamphlet, booklet, etc., included in the original binding because of their bibliographical or illustrative content. In this sense, the term applies mainly to library binding. 12,156,261 RE

COWHIDE **1.** In a strict sense. a leather made from the unsplit hide or the grain split of the hide of a cow; however, the term is sometimes used to indicate leather made from the hide of any bovine animal. The term is not apPlied to leather made from the flesh split of a cow or any other bovine animal. Cowhide has a slight grain or corrugation, and is a tough and strong leather. takes gold tooling well. and, when properly Prepared, wears well. In addition. if it is of the best quality (and handled frequently), it is usually very durable. • Cowhide is not often used for covering books, except possibly very large

volumes, such as blankbooks. Even the usual grain split is far too thick for the usual book, and, if pared to a thickness suitable for such a book, it loses a considerable part of its strength. See also: AMERICAN RUSSIA; IMITATION RUSSIA; RUSSIA LEATHER.2@NBL The thick, coarse leather made from the skin of a cow. By binders it is commonly known as "American Russia," or "imitation Russia." It is much used for binding popular books of fiction. It has a slight grain or corrugation on the surface, is tough and strong, takes gilding well, wears well and if of best quality and handled much is usually quite durable; that is, will last five or six years on popular fiction. RE 102,129,164,343,363



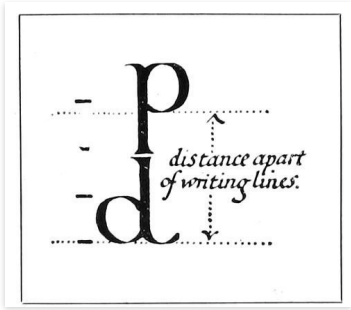
Fic. 107—DIAGRAM OF SHAPE OF A COWHIDE OR BUFFING "SIDE"
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CRACKING 1. A defect in a coated paper caused by the formation of fissures in the coating layer which th_en lifts from the base paper during printing, folding, or some other converting operation. Cracking is a bothersome and frequently encountered defect in art papers. 2. Fissures in the crease of a sheet of Paper when it is folded or scored. 17 RE

CRAFT BOOKBINDING A general term used since the 1890s to indicate the binding of individual books for specific customers. Such work included rebinding. the restoration and/or rebinding of rare books, and (sometimes) the restoration of works of art on paper. See also: EXTRA BINDING. 140 RE

CRAMP IRONS Short pieces of iron, polished on their face, fastened to the under side of the plank, to run the carriage in and out upon the long ribs. They are frequently called the Short Ribs. The two at each end are turned again at the outer ends, to guide the carriage, and prevent any lateral motion, and are called *Guide Cramps*. I have seen them made of bell metal, as having less friction than iron running upon iron. DAP

CRAMPED In composing, when it is necessary to get in a given quantity of matter into a certain number of pages, which are hardly sufficient to contain it, whites are used sparingly, short pages are avoided, and the matter is spaced closer than common; it is then said to be cramped. A compositor is also said to cramp his matter when he does not put whites proportionate to the openness of the work, or to the size of the letter when there is no restriction. DAP



EXAMPLE 504 (A) How descenders are frequently cramped. (B) Compression of upper or lower ends of letters as found in "improved" Caslon Oldstyle
Edmund G. Gress, The Art and Practice of Typography, 1917

CRASH 1. A course, open weave, starched cotton material, sometimes napped on one side, and used in edition binding for lining the spines of books. It is not used in library and hand binding because it ais too lightweight and flimsy. See also: SPINE LINING FABRIC. 2. A cloth pattern peculiar to the buckram grades of book cloth. of a coarse, pebbled effect. 131,173 RE

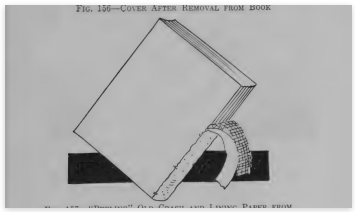


Fig. 157—'"PEELING' OLD CRASH AND LINING PAPER FROM Back OF Book
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CRAYON-RESIST PAPERS Endpapers and other decorative papers produced by rubbing the paper with crayon over some roughened surface, and then covering the rubbings with a water color wash. The wash does not adhere to the areas that are waxed. 183 RE

CRAZING 1. Fine cracks in an adhesive which may extend in a network on or under the surface or through a layer. It is caused by excessive shrinkage characteristics of the adhesive film, too rapid drying of the adhesive, or by flexing of a brittle adhesive. 2. The process by which yellow or transparent parchments often become whiter and more opaque when folded, producing irregular and disfiguring effects at the joints of vellum bindings. 291,309 RE

CREAM SPLIT A leather produced from a split sheepskin that is heavily glazed. RE

CREASABILITY The ability of a sheet of paper or board to be folded without any cracks appearing in the area where the crease occurs. Creasability differs from BRITTLENESS, as the latter property involves a small degree of bending and is generally a manifestation of chemical changes within the paper. 17 RE

CREASE 1. The impression made on a cover by the use of a heated finishing tool, of single or double blind lines. In full leather bindings, they are usually placed near the edges of the covers, while on half-or three-quarter bindings they are usually at the intersection of the leather spine and corners and the cloth or paper sides. 2. To make the band impressions distinct on the spine of a book. 3. The wrinkle, fold, or crimp in paper caused by folding. 4. See: SCORE. 42,204 RE

crease required in the paper. (See Fig. 14.) The whole is turned over, and the operation is repeated ;
W. B. Pearce, Practical Bookbinding: A Text-book, 1908

CREASE RETENTION The ability of a paper, e.g., a GUARD, to remain folded after being creased mechanically. The term assumes that no adhesive is used. Crease retention and CREASABILITY are not the same. 17 RE

CREASER **1.** 1. See: FOLDER (1). 2. A curved finishing tool having lines cut on its face, and used to impress an ornamental blind line or lines on a leather binding. 3. A machine used in edition and library binding for creasing the endpapers even with the back edge of the text block and sealing them down by means of heat. For this purpose, the cloth joint of the endpaper is coated with a heat-sealing adhesive. 4. A device employed in some folding machines for creasing coated papers.2@MAB The tool used in marking each side of the bands, generally made of steel. RE 94,264,322

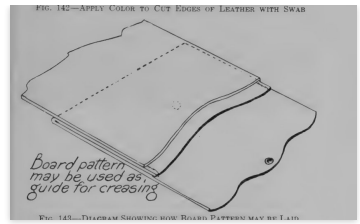


Fig. 143—DIAGRAM SHOWING HOW BOARD PATTERN MAY BE LAID ON OVER CASE TO USE AS A GUIDE FOR CREASER
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CREASING STRENGTH That characteristic of a sheet of paper or board which causes it to retain its tensile strength after it is folded or creased. Creasing strength is of particular importance in the papers used for endpapers. 17 RE

CREEP A change in the dimensions of a material which takes place with time when the material is under constant load, following the initial "instantaneous" elastic rapid deformation. Creep at room temperature is sometimes called "cold flow." 42,309 RE

CRESTING ROLL A type of finishing tool, consisting of a ROLL (1) having two undulating and intersecting lines below and a series of tufts above. See also: HERALDIC CRESTING. 250 RE

CRIMPING The process of applying a series of fine creases or bender marks to the hinges of leaves of loose-leaf books, the purpose of which is to enable the leaves to be turned over easily and to lie flat. The lines of the creasing prevent undue bulking at the area of crimping. A sufficient series of creases closely spaced imparts a rolling effect ensuring a flexibility that is difficult to obtain by any other means. Cf: SCORE. 264,316 RE

CRINOLINE A stiffened, open weave fabric, generally made of cotton, and sometimes used in edition binding as a substitute for CRASH (1) in lining the spines of books. 81,196 RE

CROCKETED CRESTING A binding decoration consisting of rectangular stamps ornamented with crockets, which are small curved designs, or with (roughly) triangular stamps, which, when placed together pointing outwards, present a cresting effect. 250 RE

CROCKING The removal of a dye or pigment from the surface of paper, the coloring or finishing materials from the surface of leather, or the transfer of coloring matter from the surface of one cloth to another by the action of rubbing. 341 RE

CROCODILE LEATHER See: ALLIGATOR LEATHER RE

CROPPED **1.** 1. A book that has had too much of its margins trimmed, especially at the head edge, although not so much that the leaves are BLED. 2 A book that has had its edges cut beyond the shortest, or PROOF (1) leaf. 3. A photograph of which part of the top, bottom or sides is omitted during reproduction, in order to focus attention on a central theme, to bring it into proper proportions for the space it must occupy, or to bleed it deliberately.2@MAB When a book has been cut down too much it is said to be cropped. RE 156,234,365

CROSS Long Cross and Short Cross; two bars of iron crossing each other at right angles and dovetailed into the rim of the chase, dividing it into four quarters. The short cross is the broadest, and has a groove for the points to fall in, for the purpose of making holes in the sheet to work the reiteration in register. DAP

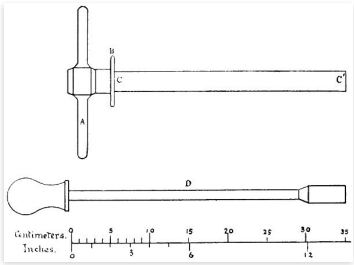


Fig. 63. —Kathreiner's Sampling Tools. A, strong cross-handle; B, guard-disc; C C´, brass tube sharpened at C´; D, brass or wooden plunger.
H. R. Procter, The Principles of Leather Manufacture, 1903

CROSS DIRECTION The direction of a machine-made paper, which is at right angles to the MACHINE DIRECTION, i.e., the direction across the direction in which the web travels. The cross direction of paper generally has less strength and folding endurance than the machine direction, although, in some papers, after aging, the opposite may be true. The cross direction has greater tearing resistance, and paper also expands more in the cross than in the machine direction when the moisture content of the paper increases. See also: AGAINST THE GRAIN; ANISOTROPIC BEHAVIOR. RE

CROSS LAMINATED A board or other laminate having one or more layers oriented at right angles to other layers with respect to the grain direction of the layers. Alternating grain directions of the laminate outward from the center layer is generally assumed. The built-up boards used in the binding of very large books are frequently cross laminated to provide additional strength and also to reduce the possibility of warping. See also: PARALLEL LAMINATED. 17 RE

CROSS LONG Short.* See *Chase*. MOX

CROTCHETS or Brackets [ ] serve to enclose a word or sentence, which is to be explained in a note, or the explanation itself, or a word or a sentence which is intended to supply some deficiency, or to rectify some mistake.—Murray. • Cufic. *See* Koofee. DAP

CROWN FILLER See: CALCIUM SULFATE. RE

CRUSHED **1.** 1. A leather which has been heavily pressed, causing the grain to be flattened, or crushed, thereby leaving a smooth, glazed, yet grained effect. Such leather has an unnatural appearance and is now seldom used in craft bookbinding. 2. A defect in a machine-made paper, having the appearance of a paper with a broken, mottled, or cloudy formation. It may be caused by: 1) running the paper web under the dandy roll while it is too wet; 2) running the web through the presses while too wet; or 3) running the web through the calender or supercalender while still containing too much moisture. Paper crushed at the dandy roll or in the presses results in coarse mottling, while paper crushed in either of the calenders has a finer mottling, often accompanied by blackening.2@NBL Leather which has been pressed between sheets of metal to smooth or give a finish to its coarse grain is said to be crushed. The process is usually applied to morocco or its imitations. See Crushed levant. RE 17,83,94

Design using dyed and crushed inlay technique;
Peter D. Verheyen (ed.), The Bonefolder: E-journal for the Bookbinder and Book Artist (complete run), 2009

CRUSHED LEVANT **1.** A term sometimes applied to a large-grained LEVANT leather bookbinding having a more-or-less smooth polished surface. See: CRUSHED MOROCCO. See also: CRUSHED (1).2@NBL Levant morocco with the grain crushed down until the surface is smooth and highly polished. In fine binding this is done by hand after the leather is on the book. Most crushed levant morocco, however, is surfaced by a machine before it is applied to the book. RE 156,264

Crushed Levant—Inlaid.
Bookbinders and Machine Rulers Consolidated Union, The Bookbinding Trades Journal, 1904

CRUSHED MOROCCO A MOROCCO leather that has had its grain surface crushed to the extent that it is smooth. Crushing of this nature is done before the leather is attached to the book. The characteristic high polish is applied subsequent to binding. Although a certain effect is attained by this process, to a great extent it defeats the original purpose of using morocco leather, i.e., its beautiful grain pattern. 12 RE

CRUSHING MACHINE An early form of the NIPPING PRESS. RE

CRUSHING PLATES See: POLISHING PLATES. RE

CRUST SPLITS A type of leather which, after tannage, has not been further processed but has simply been dried. The term "crust" is used in this sense mainly in association with a leather such as sheepskin, while the term ROUGH TANNED is similarly employed with reference to cowhide. 61 RE

CRUST STOCK Tanned skins awaiting final coloring or finishing. "Crust stock" is a relatively common form in which to ship tanned skins from the country of origin to another country for final processing. (306) RE

CRUSTING The process of storing dry leather for conditioning or aging, during which time it absorbs water from the atmosphere until it reaches equilibrium with the relative humidity of its environment. During this period some of its constituents become more uniformly distributed throughout the thickness of the leather. In addition, greater fixation of the tanning materials may occur. 363 RE

CRUSTY BREAK A BREAK (4) of leather characterized by coarse, sharp wrinkles that are generally displeasing to the eye. 363 RE

CRYSTALLINE CELLULOSE A segment of the molecular structure of CELLULOSE, in which all of the included parts of the individual chain molecules are arranged in a regular, three-dimensional spatial arrangement, as in a crystalline lattice, so that a definite x-ray diffraction is produced. 17 RE

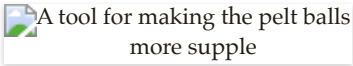
CRÊPE See: C-PATTERN. RE

CRÊPELINE See: SILK GAUZE. RE

CUIR-BOUILLI A method of decorating a book utilizing the capability of a vegetable tanned leather to be molded when wet. After being thoroughly softened in water the leather can be formed or molded into various shapes, which, on drying, retain those shapes with a remarkable degree of permanence. The wet-mold leather can be more permanently set by drying it under moderate heat, the degree of rigidity obtained cuir-ciselé being determined by the drying temperature. A faster method, and one that produces extremely hard and rigid shapes, is to dip the molded leather into boiling water for anywhere from 20 to 120 seconds. This is the process that gave rise to the name "cuir-bouilli." Such a process involves the partial melting of the fixed tannin aggregates in the leather. At a temperature approaching 100C. these aggregates become plastic and can be made to flow and redistribute themselves throughout the fiber network of the leather. On cooling, the fibers become embedded in what can best be called a tough, three-dimensional, polymer network or resin, somewhat similar to the materials made by condensing formaldehyde with substances such as phenol, urea or melamine. The leather actually sets so hard that some books bound in this manner required no boards. The decoration itself was executed by cutting the leather lightly while damp, after which the design was hammered in relief. The shaped leather was then immersed in boiling water, and dried, and the depressions were filled with molten wax so as to preserve the designs. • The molding of leather was known in Saxon times in England, and was widely practiced during the middle ages in both England and on the Continent. The motifs used were generally mythological animals and interlaced foliage. In the late 19th century interest in the molding of leather was revived and used extensively for many objects, including bookbindings. 94,236,291 RE

CUIR-CISELÉ A method of decorating a bookbinding in which the design is cut into dampened leather instead of being tooled or blocked. The design is first outlined with a pointed tool and then dampened. It is then brought into relief by depressing the background, usually by stamping a succession of dots into the leather very close together by means of a pointed tool. Certain parts of the design are sometimes embossed from the flesh side of the leather, and in such cases the decorating must be done before covering. • This technique of embellishment, which may well have been the highest manifestation of the medieval bookbinder's art, was widely practiced only during the 15th century and only in certain areas, principally southeastern Germany and in Spain. No English and Flemish and practically no Italian examples are known. • The finest cuir-ciselé bindings have been identified as the work of MAIR JAFFÉ. More recent (and excellent) examples were produced in France by MARIUS MICHEL,c 1866. 141,236,291,347 RE

CULL PAPER To examine the cording quires, and select the best sheets out from those that are so much damaged as to be unfit for use.—M. DAP



A tool for making the pelt balls more supple
William Savage, A Dictionary of the Art of Printing, 1841

CUMDACH A rectangular box, Usually constructed of bronze, brass, or wood, often plated with ornamentation of silver or gold, and used for the storage of valuable and/or sacred works. 156 RE

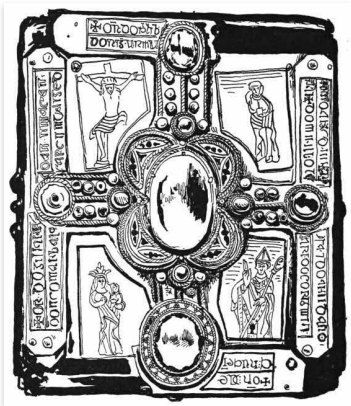


Fig. 49. —The upper cover of the Cumdach of the Stowe Missal.
Cyril Davenport, The Book: Its History and Development, 1907

CUPRAMMONIUM HYDROXIDE A solution of cupric hydroxide in aqueous ammonium hydroxide ($Cu(NH_3)_4 . (OH)_2$), which is capable of dissolving cellulose if the concentration of copper and ammonia are within given limits. The VISCOSITY (2) of a cellulosic solution in cuprammonium hydroxide is often used in quality control in the manufacture of paper. 17 RE

CUPRAMMONIUM VISCOSITY The VISCOSITY (2) of a cellulosic solution, or a paper pulp in cuprammonium hydroxide under specified conditions, especially those of temperature, cellulose concentration, and solvent composition. Cuprammonium viscosity is used to determine the average molecular weight of the dissolved cellulose. 17 RE

CUPRIETHYLENEDIAMINE HYDROXIDE A solution of cupric hydroxide in aqueous ethylenediamine ($Cu(OH)_2 + xNH_2CH_2CH_2NH_2 \rightarrow ([NH_2CH_2CH_2NH_2]_2Cu(OH)_2)$. The solution will dissolve cellulose when the concentration of copper and ethylenediamine are within certain limits. The VISCOSITY (2) of a cellulosic solution in cupriethylenediamine is used in quality control in the manufacture of paper. 17 RE

CUPRIETHYLENEDIAMINE VISCOSITY The VISCOSITY (2) of a cellulosic solution or a paper pulp in cupriethylenediamine hydroxide under specified conditions, especially those of temperature, cellulose concentration, and solvent composition. It is used to determine the average molecular weight of the dissolved cellulose. 17 RE

CURING 1. The process of changing the physical properties of a resin or adhesive by chemical reaction, which may be in the form of condensation, polymerization, or vulcanization, and which is usually accomplished by the action of heat and catalytic action, alone or in combination, with or without pressure. 2. Methods such as BRINING, DRY-SALTING, PASTE DRYING, and WET-SALTING, used to prevent putrefactive or other damage to hides or skins before tanning. See also: DRYING (1). RE

CURING TEMPERATURE The temperature to which an adhesive, or the adhesive and adherends, is subjected to effect curing of the adhesive. The temperature which the adhesive reaches in the curing process—i.e., the adhesive curing temperature—may differ from the temperature of the surrounding atmosphere— i.e., the assembly curing temperature. See also: DRYING TEMPERATURE; SETTING TEMPERATURE. 309 RE

CURING TIME The period of time during which a joint is subjected to heat, pressure, or both, in curing the adhesive. Further curing may take place subsequent to this time period. 309 RE

CURL A defect in paper or board, appearing as a curvature in the sheet, caused by "two-sidedness" of the sheet, which results in unequal shrinkage between the felt and wire sides when the paper or board is subjected to changes in relative humidity. In addition, fiber orientation has an influence on the direction and magnitude of curl. The result of curl is the tendency of the paper or board to form a tube (curl)) at the edges, the axis of which is parallel to the machine direction of the material. 17,42,98 RE

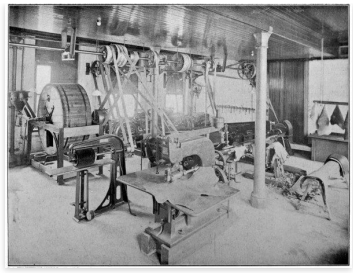
CURL MARBLE A marble pattern consisting of red, blue, green, and yellow (or orange), laid down on the marbling size in that order, or, alternately, brown or red only for one-color curls, and curled by means of a frame which contains as many pegs as the required number of curls, turned two or three times in a circular direction. The curl pattern was in common use from about 1660 to 1870, especially in France, where it was much used for endpapers, but rarely on the edges of books. 217,369 RE

Fig. 95.—French Curl Marble.
W. J. E. Crane, Bookbinding for Amateurs, 1885

CURLING A warping or other distortion of an adhesive joint due to the penetration of moisture or solvents into the adherend surface, causing an unequal contraction and expansion of the adherends. See also: WARPING; WAVY EDGES. 222 RE

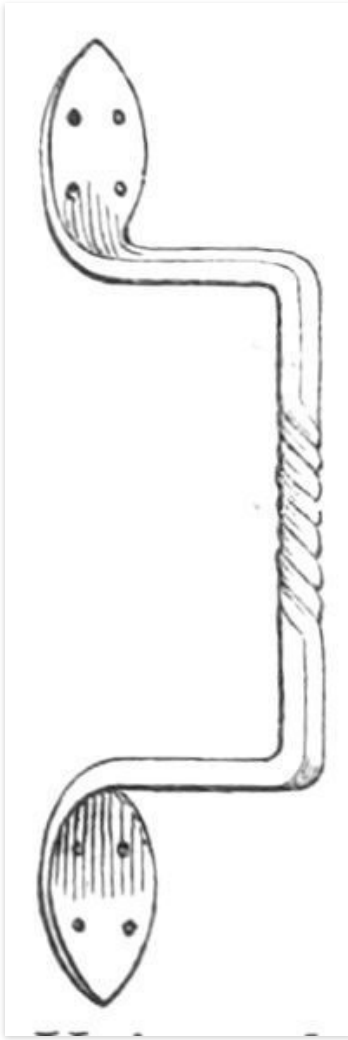
CURRIED LEATHER A leather which has been subjected to the process of CURRYING. CORDOVAN LEATHER is an example of curried leather. RE

CURRYING A process used in tanning heavy leathers, in which oils and greases are incorporated into the tanned hide in order to increase tensile strength, pliability, and water repellency. Currying also affects the finish and grain of the leather. The process is usually carried out in a drum (drum stuffing) using mechanical action. The oils used include mixtures of raw cod oil, paraffin, and beef (or mutton) tallow. See also: FATLIQUORING. 291,363 RE



Currying Shop, Leather Industries Department, Yorkshire College.
H. R. Procter, The Principles of Leather Manufacture, 1903

CURRYING IRON A square bar of iron, bent so as to make the middle part of it project from the post or upright to which the ends are fastened; the ends are flatted out, turned again at right angles, with screw holes, and the middle of the projecting part is twisted. Its use is to curry pelts. DAP



CURRYING IRON.
William Savage, A Dictionary of the Art of Printing, 1841

CURRYING THE PELT Putting it half round the currying iron, or a post, and taking hold of both ends, drawing it backwards and forwards to make it more supple, and to take part of the moisture out. *See* Balls. DAP

CURVILINEAR PRINTING In the year 1805, a Mr. Zach. Allnutt published proposals for "a New Mode of Universal Linear Printing, named by me Curvilinear Printing, being a neat, expeditious, and cheap Method of printing Plans of Rivers, Canals, Roads, Estates, Encampments, Mathematical Figures, and all other Sketches required to illustrate any Subject." • • "The Time required in executing such Plans, and on which a Calculation of their Expence may be easily made, would be, • "For an Octavo Plan of Demy or Foolscap paper not very much crouded, Time one person one day. • "For a Quarto Demy or Foolscap paper not much crouded, or for an Octavo much crouded, Time two days. • "For a Folio Foolscap not much crouded, or Quarto much crouded, Time three days." • He then proceeds to say, that he had published a small pamphlet, in which he had inserted some specimens of Maps of Rivers and Canals, and a Plan of a Building; and executed various Plans of Estates; and of Military Positions (but not with Soldier or Tent Types purposely cast), and a Sketch of a Machine, &c.; and that these specimens were composed with common printing types (except the Trees, Houses, Churches, and Compass, which were cast so as to be moveable,) and printed with a common letter-press. • He proposed to "discover and explain" "the precise Method of such Curvilinear Printing, with a full and particular Description," "if a sufficient Number of Persons, to answer his Expectations, engage as Subscribers of Ten Guineas each." "But if there should not be a sufficient Number of Subscribers hereto according to the Inventor's Expectations, He will be ready to treat with any Person, or Persons collectively, for the sole Use of this New Method or Invention." • I never knew of any person subscribing, or of any printer practising this particular manner of printing; and I believe that Mr. Allnutt's discovery would have sunk into utter oblivion, but for a few of his Proposals, one of which is now lying before me. DAP

CUSPED EDGE STAMP A finishing tool used to produce an indented outline having the appearance of an oak leaf. The leaf effect is generally reinforced by impressing curved lines from the center outwards. Also called "headed outline tool." 141 RE

CUSTOM-BOUND An obsolete term for a book which is bound according to specific instructions, rather than in accordance with general specifications. It was a term used principally in the library binding. See also: CRAFT BOOKBINDING; EXTRA BINDING. 12 RE

CUSTOMER WORK An obsolete term for work produced by the bookbinder for individuals, in distinction from work done for libraries. The term referred principally to library binding. See also: CRAFT BOOKBINDING; EXTRA BINDING. 241 RE

CUT also *cutting* 1. To trim the edges of books. See: BLED; CROPPED; CUT AT THE HEAD; CUT DOWN (1); CUT FLUSH; CUT SOLID (1); • OPENED; OUT OF BOARDS; PROOF (1); TRIMMING (1). 2. A term sometimes applied to a book which has had its edges cut. 3. To cut the cloth, leather, vellum, or paper covering for a book. 4. Cutting so as to enable other operations to be carried out, e.g., a sheet imposed work and turn has to be cut in half before it can be folded. See: IMPOSITION. • 5. The incision made in opening bolts of sections to facilitate tipping-in inserts. 6. The cut made in separating lifts (piles) of sheets for binding. 82,154,196,256 RE

CUT AT THE HEAD A book which has had its head edge trimmed, the usual interpretation being that the fore edge and tail have not been trimmed. 335 RE

CUT AWAY Any part of a section that is removed and not replaced by a CANCEL. See also: CANCELLANDUM. 343 RE

edge of the boards should also be cut away, as is shown in Fig. 39, A.
W. B. Pearce, Practical Bookbinding: A Text-book, 1908

CUT CORNER PAMPHLET FILE A free-standing type of box, the upper rear corners of the sides of which arc cut away to half its height, leaving the upper half of the back and the top open. It is generally used to house pamphlets and other such materials in the book stack. See also: PRINCETON FILE. 156 RE

CUT DOWN **1.**]. A term applied to a book trimmed to a size less than given in specifications. See also: CROPPED . 2. The slipping or dipping of the plow knife when cutting the edges of a book, resulting in an irregular edge. 3. The bands, cords, or tapes on which a book is sewn "cut down" to the correct length for lacing-in or insertion between split boards.2@ABB When a plough-knife dips downward out of the level it is said to "cut down"; on the contrary, if the point is out of the level upwards it is said to "cut up." RE 1,2,256,261

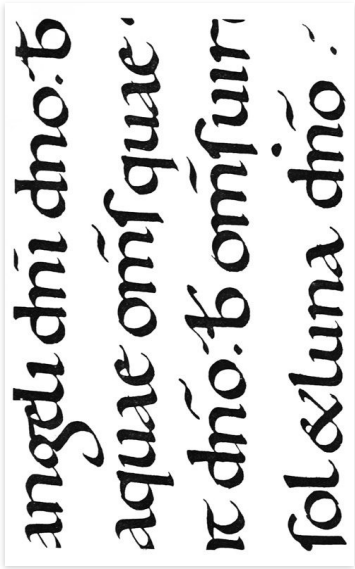


Fig. 172. — Fig. 12 , enlarged twice linear (see p. 305 & Plate VIII.). Note: top line is cut down.
Edward Johnston, Writing and Illuminating, and Lettering, 1906

CUT FLUSH also *cut flush binding* **1.** A book that has no SQUARES, meaning that the leaves and covers are cut even, or "flush." In most cut flush work, trimming is done after the covers (which are usually, but by no means always, paper, limp, or the self-covers of a pamphlet) have been attached. The trimming is generally done in a guillotine cutter. As a (very) general rule, no book with any degree of pretension is cut flush.2@NBL Means that the cloth cover, which is usually limp (without boards), is drawn on the book and the whole cut at once, cover and all, the edge of the cover being cut flush with the edge of the book. It is a suitable way of binding only when strength and elegance are not required. RE 335,339,343

CUT FLUSH, TURNED IN A book having the covering material on the spine cut flush at the head and tail edges but the cloth or paper covering on the sides turned over the edges of the boards. This technique necessitates the book being trimmed before covering. 343 RE

CUT IN BOARDS See: IN BOARDS. RE

CUT ON THE QUARTER A technique of cutting the wooden boards used in bookbinding. They are cut on the line of the medullary rays, thus reducing the danger of warping. 236 RE

CUT OPEN A finishing tool having the design on its face defined by lines. 115 RE

CUT OUT A term sometimes used in edition and library binding meaning: 1) to cut the bolts of sections and remove blank leaves; 2) to die cut folded maps and inserts to allow for folding free of the binding edge; 3) to die cut board patterns to be used in protecting embossed covers when pressing; 4) to die cut panels to size for inserting; 5) to trim the turn-ins of covers; and 6) to cut out compensation material leaving stubs (compensation guards). 256 RE

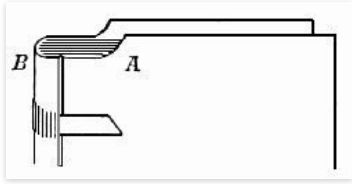


Fig. 115—Boards cut out at head.
Paul Adam, Practical Bookbinding, 1903

CUT OUT OF BOARDS See: OUT OF BOARDS. RE

CUT SIZE A sheet of paper cut in the guillotine or rotary trimmer to dimensions of]6 by 21 inches or less. Size 8 1/2 by 11 inches is the most common "cut size." 17 RE

CUT SOLID 1. The edges of a book which have been cut smooth and even, particularly at the head and fore edge. Library and edition bindings are almost always cut solid, usually by means of a guillotine cutter or three-knife trimmer. When edition bindings do have rough (deckle) edges, it is usually an affectation. Books bound by hand also generally have edges cut solid, but this was by no means true in the past. Edges cut solid make it easier to turn the leaves and also reduce the incursion of dust. 2. The faces of finishing tools that are solid metal,

sometimes with line veinings, in distinction from tools CUT OPEN. 343 RE

CUT STOCK Materials, such as board, cloth, inlays, etc., which have been pre-cut to the proper size for a run of books. The term applies specifically to edition bindings. 269 RE

CUT THROUGH INDEX An INDEX used in stationery binding, e.g., a blankbook, that has all of the leaves of the book allotted to the letters of the alphabet in proportion to the frequency of their use. 276 RE

CUT TO REGISTER A watermarked paper cut in such a manner that the WATERMARK appears in the same position in each sheet. 17 RE

CUT UP Same as the last explanation. ABB

CUT-IN INDEX See: THUMB INDEX. RE

CUT-IN LETTER A type of large size adjusted at the beginning of the first paragraph of a chapter. AMP

CUT-IN NOTE A note justified into the side of a page. AMP

CUT-IN NOTES Side notes that are not arranged in the front margin down the side of the page, but are inserted in the text, the lines of which are shortened to admit the note, as if a piece of the text were cut out, and the note inserted in the vacancy. DAP

CUT-OUT SHAPES also *cut outs* 1. Decorative patterns, generally of a geometric shape, made of cloth, leather, paper, etc., and pasted to the covers of a book. See also: INLAY (4); ONLAY. 2. Special shapes of irregular pieces of paper or board cut out from printed matter by means of steel dies. 139,183 RE

CUTCH 1. A packet of leaves in which thinly rolled and cut gold is first beaten in the manufacture of gold leaf. After the gold is rolled to a thickness of 0.001 inch and 1 1/4 inches wide, it is then cut into 1 1/4 inch squares. Two hundred ninety of these sheets are interleaved with 4 1/2 inch squares of vellum or paper, forming the "cutch," which is secured with heavy bands of parchment. The name derives from the Latin calcare, to tread. See also: GOLD LEAF; MOLD (2); SHODER. 2. A vegetable tannin obtained from the heartwood of Acacia catechu, a tree distributed widely throughout the Indian Subcontinent and adjoining areas. Cutch consists principally of catechutannic acid (25–35%), catechin (2–10%), quercetin, and catechu red. When used alone, it produces a harsh leather, which often has an undesirable yellow color. Although it has been used as a tanning material to some extent, particularly in England and Italy, the term "cutch" is better known as a tannin prepared from the bark of MANGROVE trees. See also: VEGETABLE TANNINS. 29,175 RE

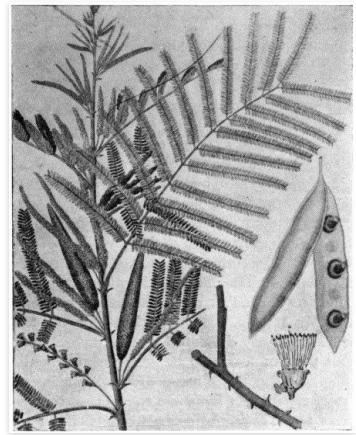
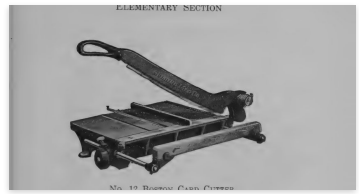


Fig. 60. —Cutch Tree (Acacia catechu).
H. R. Procter, The Principles of Leather Manufacture, 1903

CUTS FOR INDEX Thumb cut apertures made by hand or by a thumb cutter on the fore edge of a book. See: THUMB INDEX. 256 RE

CUTTER or Cutting machine. The machine on which the edges of the leaves of books are cut or trimmed. Running such a machine is now a special branch of the binder's trade. Sometimes called a guillotine. NBL



No. 12 Boston Carp CUTTER Table style for small sizes and thin boards.
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

CUTTER-OUT An obsolete term for the bindery worker who cut the leather covers for books. The job called for an experienced workman, one with a good knowledge of leather, and the ability to detect flaws and shades of color in the skins. 372 RE

Cutter-out.
Zaehnsdorf, A Short History of Bookbinding and a Glossary of Styles and Terms, 1895

CUTTER-PERFORATING MACHINE A multi-purpose machine that can be used for slitting, both large- and pin-hole perforating, punching, tab cutting, index cutting, cutting and creasing, label punching, round corner and thumb-hole cutting, trimming, strip cutting, scoring, slitting, embossing, nipping, and blocking, by means of standard attachments and interchangeable tools. Such machines are generally hydraulically powered. 343 RE

CUTTING BOARD **1.** 1. A wedge-shaped board of beech or other hard, fine-grained wood, similar to a backing board but with a square top edge. Cutting boards are available in various lengths, the most common being 8, 12, and 15 inches. The top edge is generally about 5/8 inch thick and the bottom edge about 1/4 inch. They are used in the LYING PRESS when trimming edges with the PLOW, and also for edge gilding. 2. A specially constructed block about 3 feet square, composed of small blocks of hard wood set on end and glued together. The top is treated with oil to help keep the surface smooth. It is used as a block for cutting leather.2@BCB wedge-shaped boards somewhat like backing boards, but with the top edge square; used in cutting the edge of a book and in edge-gilding.3@NBL Wedged-shaped boards somewhat like backing-boards, but with the top edge square; used in cutting the edge of a book and in edge-gilding. RE 161,183

CUTTING IN BOARDS **1.** cutting the edges of a book after the boards are laced on.2@NBL Cutting the edges of a book with a plough after the boards are laced on. BCB

CUTTING MACHINE See: GUILLOTINE; THREE-KNIFE TRIMMER. RE

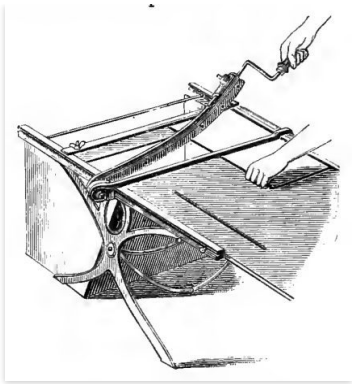


Fig 62.—Board-Cutting Machine.
W. J. E. Crane, Bookbinding for Amateurs, 1885

CUTTING PLATES Millboard, zinc, or glass surfaces on which endpapers, guards, and similar materials are cut. Millboards are superior for such cutting as they do not dull the edge of the knife as quickly; however, they must be replaced more often. 133 RE

CUTTING PRESS **1.** when the lying press is turned, so that the side with the runners is uppermost, it is called a cutting press (see Fig. 46).2@NBL When a lying press is turned so that the side with the runners is uppermost it is called a cutting press. BCB

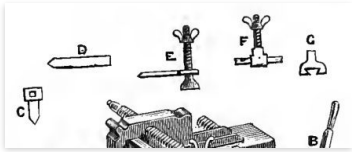


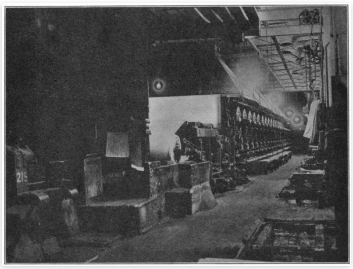
Fig. 5.—Laying or Cutting Press.
W. J. E. Crane, Bookbinding for Amateurs, 1885

CUTTING STICK A length of wood, plastic, or soft metal, inserted in the table of a GUILLOTINE, against which the knife edge strikes. It is usually square, but in some machines it is round and can be rotated by hand or power so as to present a fresh surface after a certain number of cuts. A worn stick will cause the knife to chew the paper rather than cut it cleanly. 145,338 RE

CUTTING THE FRISKET Cutting those parts of the paper away so as to allow the types to print on its own paper, and to keep the margin clean. —M. • Cylindrical Printing. *See* Machines. • Dagger. *See* Obelisk. • Dances. *See* Form Dances. DAP

CUTTLEBONE also *cuttlefish bone* A piece of shell or bone from a cuttlefish, used to smooth and polish the mended edges of a torn leaf by removing the excess fibers of the paper used for the repair. 83 RE

CYLINDER MACHINE A papermaking machine which utilizes a wire curved around one or more cylinders or molds that are partially immersed and rotated in vats containing a dilute stock suspension. The pulp fibers cling to the wire and are formed into sheets on the cylinders as the water drains through and passes out at the ends of the cylinders. The wet sheet is couched off the cylinder onto a felt held against the cylinder by a couch roll. Cylinder machines consist of one of more cylinders, each of which forms a sheet composed of the same or different stocks. The multi-cylinder machine forms webs which are successively couched one upon the other before they enter the press section. This allows for considerable variation in thickness and weight of the finished sheet, as well as for the formation of bristols. The press section and the dry end of the cylinder machine are essentially the same as those of the FOURDRINIER MACHINE. The cylinder machine was invented in 1805 by the Englishman Joseph Bramah, and was improved considerably in 1808 by John Dickinson. In England it is called a "board machine," or "vat machine." • 17,60,180,320 RE



CYLINDER MACHINE FOR DRYING PULP, THE BROWN CO. The web of pulp is shown as it passes from the cylinder mold over the couch roll toward the driers.
William Bond Wheelwright, From Paper-mill to Pressroom, 1920

D

D The Roman equivalent of 500, although the symbol probably was not used by the Romans themselves. The Roman symbol for 1,000 was Cl, and early printers designated 500 as I , which later became D. See also: ROMAN NUMERALS. RE

D & F In RULING, the abbreviation for downs and feints. See also: f. RE

DAMASK 1. A decorative design of variegated patterns or crocheted compartments on a book cover. 2. A firm, lustrous fabric made with flat, conventional patterns in satin weave on a plain-woven ground on one side and a plain-woven pattern on a satin ground on the reverse side. It is usually made of cotton, silk, rayon, or combinations thereof. It has been used as a book cloth. RE

DAMMAR (GUM) Any of several semifossil or recent resins, principally of East Indian origin, but especially a soft, clear to yellow recent resin obtained mainly in Malaysia and Indonesia from trees of the family Dipterocarpacae (especially of the genera Shorea, Balanocarpus and Hopea) and used in the manufacture of PRINTING INKS. RE

DAMPING STRETCH The alteration in the dimensions of a sheet of paper when it becomes wet. Since paper fibers increase more in diameter than in length when moistened, the dimensions of the sheet will increase more in the cross direction than in the machine direction. This is one reason why it is essential that the "grain" or machine direction of book papers be parallel to the binding edge of the book. Handmade papers, when moistened, generally expand more or less equally in all directions, as these papers have no definite grain direction. 17 RE

DANDY A roller affixed to paper-making machines. The wet web of paper carried on the endless wire of the machine passes under this roller and is pressed by it. It gives the laid or wove appearance to the sheet, and when letters, figures, or other devices are worked in fine wire on its surface it produces the effect known as water-marking. NBL

DANDY ROLL A light skeleton roll or cylinder, covered with wire gauze, which exerts light pressure on the wet web of paper at a point near the first suction box. Its purpose is to mark the sheet (web) with a design carried on the surface of the roll, either to produce a wove or laid effect in the web, or, when letters, figures, or other devices are worked in wires on the surface of the roll, a WATERMARK. • In the latter case, the roll is known as a watermarking dandy. Originally, the dandy roll was driven by the Fourdrinier wire, but with the development of higher speed papermaking machines, it became the practice to drive the dandy roll separately in order to eliminate drag which would result in distortion of the watermark. Plain dandy rolls are now used extensively to level the surface of the web and improve or assist in sheet formation. See also: LAID MOLD. 17,98,189,365 RE

DANISH DAP

The Danish alphabet consists of twenty-seven letters.

Remarks on the Alphabet.

Q, q, (Ku, pronounced *coo*) is here omitted, being not merely superfluous and useless, but even prejudicial to a faithful representation of the language, by observing the origin and affinity of words, for instance, *Kvinde*, woman, is derived from *Kone*, wife; *bekvem*, convenient, from *komme*, to come (Fr. venir); *Kvartér*, a quarter of an hour, is also called *Kortér*; *Kvast*, tuft, is originally the same word as *Kóst*, broom; and *kvæle*, suffocate, the same as the English *kill*. The Q is therefore justly rejected by the celebrated grammarian P. Syv, as also by the learned Prof. S. N. J. Bloch in his *Danske Sproglære*, Odense 1817. It is however still used by some, but always followed by *v*, never by *u* in any Danish book, as, *Qvinde*, *beqvem*, *Qvarter*, &c.

The Alphabet.

Z, z, (Zet, pronounced *sett*) has crept from the German orthography into a few words, which should be written by *s*, according to the true pronunciation; as, *Zobel*, sable; *Zire*, to adorn; better *Sobel*, *sire*.

Å has been, till the beginning of this century, commonly represented by *aa*, according to the old Low German orthography, but *å* is found in ancient Danish and Norwegian manuscripts: its reintroduction, proposed by the celebrated Danish grammarian Höjsgård 1743, later by Schlegel, Baden, Nyerup, Schrejber, Thonboe, &c. has, in the last decennium, been realized in about thirty separate books or pamphlets by Prof. A. Gamborg, Mr. H.J. Hansen, Mr. N.M. Petersen, and also by E. Rask, and several anonymous writers. At all events the sound is simple, and continually interchanging with other simple vowels (*a*, *æ*, *o*,) in the inflection and derivation of words, for instance, *tæller*, to count, in the past tense *talde* or *tålde*, counted; *gå*, to go, *Gang*, gait, *gængse*, current, common; from *Får*, sheep, is derived *Færøerne*, the Farroe islands. Thus even in kindred dialects; as, *Vingård*, vineyard; *Tåre*, tear, German Zähre; *Måned*, month, German Monath; *åben*, open, &c. Whereas *aa* is sometimes long *a*, sometimes even to be read in two syllables as: *Haarlem*, *Aaron*, *Kanaan*, *Knud Danaast*, the name of a Danish prince. The learner however will find *aa* for *å* in most printed books hitherto published.

Æ, like Å, represents a simple vowel sound, and must never be separated or resolved into *ae*, which make distinct syllables, for instance, *bejae* (be-ya-e), affirm.

Ø and Ö are commonly confounded, so that Ø is used for both sounds in books printed in the Gothic type, Ö in those in the Roman character.

There are no diphthongs in Danish, but *aj*, *ej*, *oj*, *uj*, *öj*, even though written by some *ai*, *ei*, *oi*, *ui*, *öi*, are pronounced with the open sound of the vowels and a distinct *y* consonant following, never like *ai*, *ei*, French *oi*, *ui* or the like, for instance, *ej*, not, sounds like English *eye* or *I*; *Konvoj*, a convoy, like the verb *to convoy*, &c.

In like manner *av*, *ev*, *iv*, *ov*, *æv*, *øv* are pronounced as clear vowels followed by a distinct *v* consonant or rather *w*, for the *v* also is softer after the vowels than at the beginning, for instance, *tav*, was silent; *Brev*, letter; *stiv*, stiff; *Tòv*, cable; *Ræv*, fox; *døv*, deaf. The sound of *w* is particularly observable, when another consonant follows, for instance, *tavs*, silent; *Evropa*, Europe; *stivne*, to stiffen; *hovne*, to swell; *Hævn*, revenge; *søvnig*, sleepy, drowsy.

As to the division of words into syllables, *j* is always referred to the preceding vowel, which is in these cases constantly pronounced short and sharp, for instance, *Vej-e*, ways, not *Ve-je*. The other consonants are usually referred to the vowel following, when single; or divided between the preceding and succeeding vowel, when more than one, no care being taken to distinguish the radical parts from the accessories, but in compound words, for instance, *Da-ge*, days, from *Dag*, day, but *for-ud-sige*, foretell, from *for-ud*, beforehand, and *sige*, tell, say.

It is a great advantage in the Danish orthography, that every noun substantive is written with a capital letter at the beginning, as numbers of words, else perfectly alike, are thereby easily distinguished at the first view. Ex.

On the other hand, adjectives of national names are usually written with small initials, contrary to the English usage, as, *dansk*, Danish; *norsk*, Norwegian; *svensk*, Swedish; *hollandsk*, Dutch; *engelsk*, English; *angelsaksisk*, Anglosaxon.

Though the Roman character is daily gaining ground, being introduced into the Transactions of the Royal Academy of Copenhagen, and of most other learned societies in Denmark and Norway, as also used in many excellent works of private authors, yet the monkish or Gothic form of the letters is still preferred by many.

In this character the capital J is also usually applied for the I, for instance, Jsrael and Jesus; the long ſ is constantly applied in the beginning of syllables, even in the combinations: ſk, ſl, ſp, ſt.

For å, has been proposed another figure, viz. [#], which has been adopted by the celebrated Capt. Abrahamson in his first edition of Langes *Dänische Gramm. für Deutsche*, as also by Rask, in the first edition of his Icel. Grammar; that he has afterwards preferred the å, is not only from patriotic motives; this figure being found in old Danish MSS. down to 1555, but also because it is introduced into several other languages, as Swedish and Laplandic, and has even been used in the upper German dialects; also in the Bornholm dialect by Mr. Skougaard, in the Farroic by the Revd. Mr. Lyngbye, and in the Acra (on the coast of Guinea) by Capt. Schönning, whereas [#] is used nowhere else in the world.—From Rask's Danish Grammar, Copenhagen, 1830.

Dash. *See* Punctuation.

The Danish Alphabet

The Danish Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

DATES, TRANSLATION OF The conversion of dates, usually from the Roman into Arabic. Other than Arabic, the most common imprint date (or date of publication) to be found in books, at least those publication of the Western world, are the Roman numeral dates. They are translated: • Roman Arabic • I, i or j 1 • II or ii 2 • III or iii 3 • IV or iv 4 • V or v 5 • VI or vi 6 • VII or vii 7 VIII or viii 8 • IX or ix 9 • X or x 10 • XI or xi 11 • XII or xii etc. 12 • XX or xx 20 • XXX or xxx 30 XL or xl also XXXX 40 • L or l 50 • LX or lx 60 • LXX or lxx 70 LXXX or lxxx, also XXC 80 • XC or xc also LXXXX 90 • C or c 100 • CL or cl 150 • CC or cc 200 • CCC or ccc 300 CD or cd, also CCCC 400 • D or d, also I&revc; 500 • DC or dc, also IC 600 • CM or cm 900 • M or m also CI&revc; 1,000 • Hebrew dates found in imprints may be converted to the Christian date by consulting the Jewish encyclopedia under Calendar, Table 1. Islamic dates may be converted by consulting the tables found in John J. Bond's Handy Book of rules and tables for verifying dates with the Christian era, 4th ed. London, 1889, pp. 228–250. The French Revolution calendar is given below: • 1 Sept. 22 1792 • -1 • 2 Sept. 22 1793 • -2 • 3 Sept. 22 1794 • -3 • 4 Sept. 23 1795 • -4 • 5 Sept. 22 1796 • -5 • 6 Sept. 22 1797 • -6 • 7 Sept. 22 1798 • -7 • 8 Sept. 23 1799 • -8 • 9 Sept. 23 1800 • -9 • 10 Sept. 23 1801 • -10 • 11 Sept. 23 1802 • -11 • 12 Sept. 24 1803 • -12 • 13 Sept. 23 1804 • -13 • 14 Sept. 23 1805 • -14 • Dec. 31 1805 • end • Months (12 of 30 days each, with five additional days) • Vendémaiaire (vintage) Brumaire (fog) Frimaire (sleet) Nivôse (snow) Pluvôise (rain) Venlôse (wind) Germinal (seed) Floréal (blossom) Prairial (pasture) Thermidor or Fervidor (heat) Fructidor (fruit) RE

DAYLIGHT The maximum distance between the platen and the bed of a press when it is opened fully. Daylight is also defined as, or is an indication of, the maximum number of books, or books and pressing boards, that can be placed in the press at any one time. RE

DEACIDIFICATION A term generally considered to mean the removal of acid from, or the reduction of the acidity in, a material, such as paper. The usual process of deacidification is to treat the paper with a mild alkali which initially neutralizes any acid present and is then converted into a compound that remains in the fibers of the paper to act as a buffer to neutralize any further acidity that may develop (usually as a result of exposure of the paper to atmospheric SULFUR DIOXIDE). High concentrations of strong alkalies are to be avoided because if the pH of the paper is allowed to rise to a very high level, i.e., 10.0 or above, and to remain there for any length of time, there is risk of oxidation of the cellulose under such alkaline conditions. In the usual case, however, even if the pH, immediately subsequent to acidification, is as high as 10.0, reaction with atmospheric carbon dioxide usually reduces it below that point. • The weakness of most deacidification methods is that slightly alkaline papers are immune to acid attack only for as long as the free alkali remains, and when this is neutralized the paper is again vulnerable. In order to prevent this, the amount of residual alkali remaining in the paper following treatment should be equivalent to at least 3% calcium carbonate by weight of the paper. See also: ALKALINE RESERVE; DOUBLE DECOMPOSITION; NON-AQUEOUS DEACIDIFICATION; VAPOR-PHASE DEACIDIFICATION. 31,33,39,198,265 RE

DEAD HORSE Matter charged and paid for before it is set. AMP

DEAD SPOTS The low-finished areas in an otherwise highly finished paper. RE

DEAD WHITE A neutral white, such as that of a paper having no perceptible tint. RE

DEAKINS Very small calfskins. RE

DECKLE 1. The removable, rectangular, wooden frame forming the raised edge of the wire cloth of the mold used in making paper by hand; it confines the paper stock suspension on the wire cloth. 2. On the Fourdrinier papermaking machine, the arrangements along the side of the wire on which the papermaking stock flows, which prevent the stock from flowing over the edge of the wire. This type of deckle may be moving or stationary. 17 RE

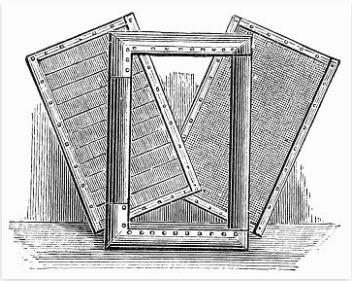


Fig. 14. —The Hand Mould showing Frame and Deckle.
R. W. Sindall, The Manufacture of Paper, 1908

DECKLE EDGE **1.** The feather edge or edges of a sheet of paper formed where the stock flows against the deckle, or, in handmade papers, by the stock flowing between the frame and the deckle of the mold. A simulated deckle edge may also be formed by means of a jet of water or air. Handmade paper usually has four deckle edges and machinemade paper, two; however, a machinemade paper can be manufactured with four simulated deckle edges. An "imitation" deckle edge is one produced on a dry sheet of paper by such means as tearing, cutting with a special type of knife that gives a deckle edge effect, sand blasting, sawing, etc. • Early printers looked upon the deckle edge as a defect, and almost invariably trimmed most of it off before binding; however, collectors wanted to see traces of the "deckle" as proof that the book had not been trimmed excessively, or CROPPED , as deep trimming was a notorious practice particularly in the 17th century (and even to this day). In the latter part of the 19th century, it became the fashion to admire the deckle edge for its own sake, and to leave books printed on handmade paper untrimmed. This left the book with ragged edges that collected dust, were unsightly (to some), and difficult to turn. In modern books, deckle edges are largely an affectation, and entirely so if the book is printed on machine-made paper. RE
2. The rough untrimmed edge of hand-made paper. Deckle-edges are poorly imitated by cutting and tearing machine-made paper, sometimes with the aid of a jet of water. NBL 1,2,17,82,94,102

DECORATED COVERS 1. See: FINISHING (1). 2. In library binding, an illustration, design, or special lettering on the upper cover of a book. A decorated cover would also include books, such as paperbacks with illustrated covers when the original cover is attached to the cloth cover, with or without coating. 3. In edition binding, a design, illustration, or special lettering blocked or printed by offset on the book cloth. 131,183 RE

DECORATED PAPERS Papers used for covers, endpapers, linings, portfolios, etc., and degreasing decorated in some manner. See: BRAYER PRINTS; CARDBOARD PRINTS; CRAYON-RESIST PAPERS; CUT-OUT SHAPES; FOLD AND DYE PAPERS; INK AND FOLD PAPERS; PARAFFIN PRINTS; PASTE PAPERS; PATTERNED PAPERS; PRINTED PAPERS; STENCIL PRINTS; STRING PRINTS. RE

DECORATIVE ROLL Any patterned FILLET (1) that deviates from a plain straight line. RE

DEERSKIN A leather with a loose, open structure, made from the skin of deer, or other animals of the family Cervidae. It was used for bookbinding purposes as long ago as the 8th century. In the Middle Ages it was largely superseded by calfskin, sheepskin, and goatskin. 140,291 RE

DEFECTIVE BINDING Any imperfections in the paper, sections, plates, printing, cloth, leather, etc., that make up a bookbinding. 256 RE

DEFECTIVE SHEETS Sheets of printed paper discarded in the process of binding because of paper or printing defects and/ or binding spoilage. 256 RE

DEFOAMERS Agents which inhibit the build up of foam, or which reduce foam or entrapped air by causing the bubbles to burst, thus releasing the air. Most commercial defoamers are mixtures of surface-active agents, hydro-carbons, alcohols, polymers, etc., to increase their effectiveness in multiple applications. Defoamers are used in papermaking operations. Also called "anti-foam agents. " 17 RE

DEGRAIN 1. To remove the grain from a leather, generally by pressing or rolling the hide or skin under pressure. See: CRUSHED (1). 2. SUEDE LEATHER finished on the flesh side, the grain layer having been entirely or partially removed, following tannage, by splitting or abrasion. 61 RE

DEGREASING The removal of excess natural grease from skins, mainly sheepskins, but also

other skins which may happen to be particularly greasy. Degreasing may be necessary because excessive amounts of grease in a skin may interfere with uniform penetration of tannins or dyes, cause difficulties in finishing processes, and/or show as dark, greasy patches in the finished leather. • A typical method of degreasing is with the use of paraffin. The well-drained, but still damp, pickled skins are drummed vigorously with about half their weight of paraffin oil (or kerosine, water, and salt), which loosens the grease. To aid penetration of the paraffin into the wet skin, a small amount of a wetting agent, e.g., 5% of a non-ionic wetting agent, may be added. The loosening of the grease is hastened by heating the paraffin beforehand. At the conclusion of the paraffin drumming, the now greasy paraffin is drained off. A considerable amount of greasy paraffin may still be held in the skins and can be removed by squeezing processes, such as SETTING OUT, or by centrifuging. However, as these processes are difficult and expensive to carry out, it is more usual to wash the skins in a 5% salt solution. Salt must be used as water alone would result in acid swelling. 306,363 RE

DEGREE OF TANNAGE The number of pounds of tannin that are combined with 100 pounds of hide protein. 363 RE

DELAMINATION 1. The splitting apart of one or more of the layers of a laminate due to failure of the adhesive, or cohesive failure of the laminate. 2. The removal of the laminating material from a document. Delamination of cellulose acetate film may be accomplished by soaking the sandwiched document in a solution of acetone, assuming proper tests have indicated that the ink on the document will not be affected by the solvent. Delamination is difficult to accomplish and generally more than one treatment is required to remove all traces of the laminate. See also: LAMINATION; SUNDEX PROCESS. 218,309 RE

Dele ℌ.*—A proof-reader's mark, signifying to take out. AMP

DELE, Lat. The second person singular, imperative mood, of the active verb *deleo*, to blot out, to expunge. This is a word that is much used in a printing office; and its initial, with a round top, [#] or [#], is the regular mark in proofs to expunge a letter, word, or words that are redundant. *See* Correcting. DAP

DELIGNIFICATION The process by which LIGNIN is removed from cellulosic materials by means of chemical treatment. The residue that remains consists of cellulose, hemicelluloses, and other carbohydrate materials. 17 RE

DELIMING The process of neutralizing the alkali, e.g., calcium hydroxide, used in liming and unhairing hides and skins. Deliming, which usually takes place in conjunction with BATING, is accomplished by running the hides or skins in a drum or paddle to which has been added water and a proprietary compound consisting of a mixture of an ammonium salt (preferably ammonium sulfate) and proteolytic enzymes at a water temperature of 80 to 90° F. For more efficient control, and to produce a particularly fine grain in the leather, the ammonium sulfate (or boric acid), in the amount necessary to neutralize the lime, is added before the addition of the bating enzymes. 291,363 RE

DELIVERED FLAT Printed sheets delivered to the binder unfolded, as they come from the press. The term relates largely to edition binding, but is also applicable in many cases to pamphlet and stationery binding. RE

DELIVERING BOOKS It is the general practice with publishers to leave a work when finished, in the warehouse of the printer, and to send written orders for the delivery of a part, as occasion or convenience suits; the warehouseman should always be prepared to deliver copies to these orders at the moment, otherwise complaint will be made against him, and he will incur blame; but he ought not on any account to deliver copies without a written order, for should there happen a mistake, or an omission in the publishers making an entry, credit will not be given for them, and he will become responsible. He ought invariably to enter them instanter, and take the person's signature to the entry, and file the order. He will then be enabled, when an account of the delivery is called for, to prove its correctness. DAP

DELUXE BINDING A somewhat abused term originally indicating a book bound by hand in leather, the implication being that superior materials and methods were used throughout. The term is also used by edition binders (or publishers) to indicate a book covered in a superior grade of cloth (or imitation leather, or a book supplied with a box or case. See also: EXTRA BINDING. 12,264,365 RE

DELUXE EDITION An edition of a work produced on a grade of paper superior to that of the standard edition, more-or-less expensively bound, sometimes printed with special type, and often

limited in number. At times, however, the term is used merely as a selling term with little or no justification. 12,140 RE

DENDRITIC GROWTHS Minute to relatively large discolorations in a sheet of paper due to oxidation of minute particles of metal present in the paper. The presence of the metal is generally believed to be due to the use of metal beaters. etc., in the manufacture of the paper. With the passage of time, irregular fern-shaped designs radiate from the particles. See also: FOXING. 140 RE

DENIER A unit of fineness of silk, rayon, or nylon yarn, equal to the fineness of a yarn weighing 1 gram for each 9,000 meters. Denier increases with the square of the fiber diameter. 42 RE

DENIM A firm, durable, twilled fabric, usually cotton, woven with colored warp and white filling threads and sometimes used in bookbinding for covering large books, e.g., blankbooks, where additional strength and durability are required. 183,196 RE

DENSITY Tn general, the ratio of the weight of a material to its volume, or the mass of the material per unit volume. Density should not be confused with POROSITY. See also: APPARENT DENSITY. RE

DENTELLE also *dentelle border* **1.** An 18th century style of book decoration, usually in gold, consisting of a combination of elliptical scrolls of slightly shaded leafy character joined to clusters and horders of great richness, resembling lace, and pointing toward the center of the cover. ANTOINE MICHEL PADELOUP has often been credited with the introduction of the dentelle style, which actually took its inspiration from embroidery and the decorative arts rather than lace. Of the many binders who used this technique, the most notable were the Deromes and PIERRE-PAUL DUBUISSON. RE **2.** A fine tooled border resembling lace-work. MAB **3.** A style resembling lace work, finished with very finely cut tools. BIB **4.** As the word expresses. A style resembling lace work, finished with very finely cut tools. ABB 69,172,279,363

Fig. 126. —French gold tooled binding "Dentelle à l'oiseau," by Derôme le Jeune.
Cyril Davenport, The Book: Its History and Development, 1907

DENTELLE BORDER A tooled pointed border with finely dotted or Gascon ornaments in imitation of lace. NBL

DENTELLE Á L'OISEAU See notes on the electronic edition • DENTELLE decoration which includes birds in the design of the borders. The principal bindings featuring this motif were done by Nicolas Derome. See also: DEROME STYLE. 156 RE

DERMIS That part of a hide or skin below the epidermal-dermal junction, consisting of a condensation of fibrous connective tissue which supports blood and lymph vessels, sebaceous and sudoriferous glands, hair follicles and their associated muscles, etc. In the grain layer of the dermis these fibers become very thin and tightly woven, and arc so interlaced that there are no loose ends on the surface beneath the epidermis. Consequently, when the epidermis is carefully removed, a smooth layer is revealed, sometimes known as the hyaline layer, which gives the characteristic grain surface of leather. Toward the center of the dermis (or corium) the fibers are coarser and stronger, and the predominant angle at which they are woven can indicate the properties the resultant leather will display. If the fibers are more upright and tightly woven, a firm, hard leather with little stretch can be expected, while if they are more horizontal and loosely woven, a soft, stretchier leather can be anticipated. The interior of the dermis is generally the strongest part of the skin. 291,306,363 RE

DEROME STYLE **1.** A style of book decoration practiced by the Derome family of France in the 18th century. The most famous of the family was

Nicolas Denis Derome (active 1761-c 1789)—Derome le juene—who was also known the the "great cropper" because of his tendency to trim excessively. Nicolas Derome also used sawn-in cords in order to obtain the HOLLOW BACK, which prevents the spine of the book from flexing and thus possibly cracking the gold. He also achieved great fame by his use of the DENTELLE border, taking the dentelles of Padeloup as models. His also are made up of dentelle tools in combination, rather than in repetition, and are represented by symmetrical corner tooling of a very richly engraved floriated scroll work. An essential feature in Nicolas Derome's finest dentelles is a small bird with outstretched wings. See also: DENTELLE À L'OISEAU. RE **2.** This style has ornaments of a leafy character, with a more solid face, though lightly shaded by the graver. The ornaments are often styled Renaissance, being an entire change from the Gascon. The Derome is best exemplified in borders, Vandyke in design; it is simple in construction but rich in effect, and is appropriate for art publications. Time, eighteenth century. NBL 154,342,363,373

DESCENDING LETTERS Letters that go down into the lower shoulder of the body; as, g, j, p, q, y. AMP

DESIGNATION MARK The letters which correspond to the initial letters of a title of a book, and any volume number, sometimes printed along side the SIGNATURE MARK to assist the binder in gathering. 156 RE

DESIGNER BOOKBINDERS A British society of bookbinders founded in 1951 as "The Hampstead Guild of Scribes and Book binders." In spirit it succeeded the Hampstead bindery, which, about 1900, operated with the "Guild of Women Binders." While originally centered in Hampstead, London, the present society reached the point where no member lived there, and, as the calligraphic elements also declined. the name "Guild of Contemporary Bookbinders" was adopted. Tn 1968 the present name was assumed. One of the goals of the society is "to exert a progressive influence on the design and technique of bookbinding," (2(b) of the Constitution). Full membership is open by election to any amateur or professional bookbinder who has attained the required standard. Candidates submit samples of their work on which a vote is taken by the Executive Committee. Many outstanding bookbinders, including Edgar Mansfield (the first president), Ivor Robinson, and Bernard Middleton, have served as president of the society. RE

DEVELOPED DYES Dyes whose colors are developed after application by treatment with sodium nitrite ($NaNO_2$). Developed yes are used on suede leathers so as to prevent CROCKING. RE

DEVIL **1.** A stick fitted with short quills set at a downward angle. The devil is the traditional implement used for frothing GLAIR. RE **2.** The pressman sometimes has a week boy to take sheets, as they are printed, off the tympan: these boys do in a printing house commonly black and daub themselves; whence the workmen do jocosely call them *Devils*; and sometimes *Spirits*, and sometimes *Flies*.—M. The boys that make the fires, sweep the rooms, assist in the warehouse, and go on errands, are now called *Devils*, or *Printers Devils*; but in the trade they are generally styled *Errand Boys* and *Warehouse Boys*. *See* Fly. • Diæresis. *See* Accented Letters. • DAP **3.** The errand-boy of a printing-office. AMP 261

DEW POINT The temperature at which a vapor, especially in the atmosphere, begins to condense. See also: RELATIVE HUMIDITY. RE

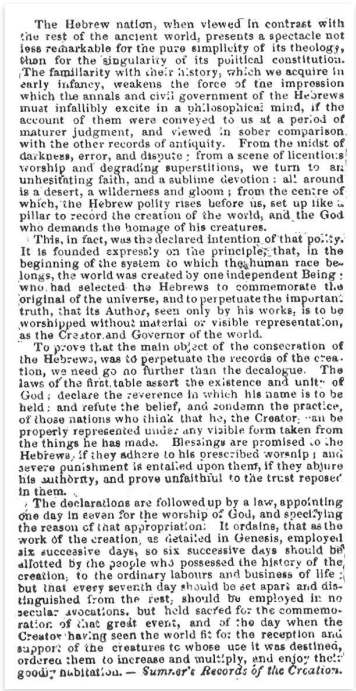
DEXTRIN An intermediate product formed during the hydrolysis of starch to sugars. There are three classes of dextrin: 1) amylodextrin, which gives a blue color with iodine and is soluble in 25% alcohol; 2) erythrodextrin, which gives a red color with iodine and is soluble in 55% alcohol; and 3) achrodextrin, which gives no color with iodine and is soluble in 70% alcohol. • All are soluble in water but are precipitated by strong alcohol. They are used as adhesives in the manufacture of gummed tapes and paper. 17,198,235 RE

DHAWA also *Indian sumac* A tree (Anogeissus latifolia) common to many parts of India, the leaves of which yield a tannin used in that country. The tannin content of the leaves varies considerably, ranging from less than 30% to more than 50%, depending on the age of the trees when the leaves are gathered. The proportion of soluble non-tans is 10 to 13%. Dhawa is considered to be well suited for the tanning of light leathers, giving a soft leather of a light color and firm texture. Dhawa is also the source of GHATTI GUM, See also: VEGETABLE TANNINS. 175 RE

DIACRITICAL MARKS Marks over, under, after, or through various letters in the alphabets of several languages, designed to indicate the nature or stress of the sounds they represent. While lowercase letters having accent marks are cast as units, in display printing it is sometimes neces-

sary to cast accent marks separately, i.e., the so-called floating accents. In library binding, diacritical marks are generally added by hand after the case has been blocked. Commonly used marks include: • acute ´ • cedilla ¸ • circumflex ˆ • Umlaut (or dieresis) ¨ • grave ` • tilde ˜ RE

DIAMOND The name of a type one size smaller than Pearl, and the smallest that is cast in the British founderies. It originated in casting a type with a pearl face upon a smaller body, for the purpose of getting in, in printing pocket Bibles; the founders subsequently cut it with a smaller face, and made it completely a distinct size. It is not enumerated in Moxon's list. *See* Types. • Dilly, Charles. *See* Donations. DAP



The Hebrew nation, when viewed in contrast with the rest of the ancient world, presents a spectacle not less remarkable for the pure simplicity of its theology, than for the singularity of its political constitution. The familiarity with their history, which we acquire in early infancy, weakens the force of the impression which the annals and civil government of the Hebrews must infallibly excite in a philosophical mind, if the account of them were conveyed to us at a period of maturer judgment, and viewed in sober comparison with the other records of antiquity. From the midst of darkness, error, and dispute; from a scene of licentious worship and degrading superstitions, we turn to an unhesitating faith, and a sublime devotion: all around is a desert, a wilderness and gloom; from the centre of which, the Hebrew polity rises before us, set up like a pillar to record the creation of the world, and the God who demands the homage of his creatures.

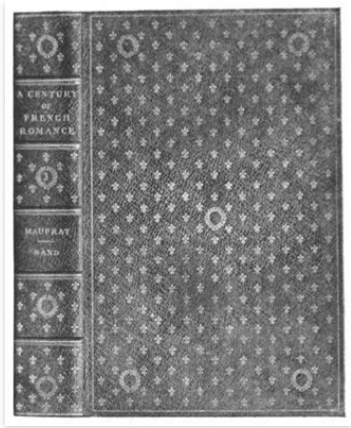
This, in fact, was the declared intention of that polity. It is founded expressly on the principle, that, in the beginning of the system to which the human race belongs, the world was created by one independent Being: who had selected the Hebrews to commemorate the original of the universe, and to perpetuate the important truth, that its Author, seen only by his works, is to be worshipped without material or visible representation, as the Creator and Governor of the world.

To prove that the main object of the consecration of the Hebrews, was to perpetuate the records of the creation, we need go no further than the decalogue. The laws of the first table assert the existence and unity of God; declare the reverence in which his name is to be held; and refute the belief, and condemn the practice, of those nations who think that he, the Creator, can be properly represented under any visible form taken from the things he has made. Blessings are promised to the Hebrews, if they adhere to his prescribed worship; and severe punishment is entailed upon them, if they abjure his authority, and prove unfaithful to the trust reposed in them.

The declarations are followed up by a law, appointing one day in seven for the worship of God, and specifying the reason of that appropriation. It ordains, that as the work of the creation, as detailed in Genesis, employed six successive days, so six successive days should be allotted by the people who possessed the history of the creation, to the ordinary labours and business of life; but that every seventh day should be set apart and distinguished from the rest, should be employed in no secular avocations, but held sacred for the commemoration of that great event, and of the day when the Creator having seen the world fit for the reception and support of the creatures to whose use it was destined, ordered them to increase and multiply, and enjoy their goodly habitation. — *Sumner's Records of the Creation.*

No. 6. An Impression from an Electrotype Copy of a Page of Diamond Types.
William Savage, A Dictionary of the Art of Printing, 1841

DIAPER a term applied to a small repeating all-over pattern. From woven material decorated in this way. BCB



A Century of French Romance Edition work. Persian Morocco. Semis (powder or diaper design) "stamped" in gold.
Trow's Printing and Bookbinding Co., Bib-li-op-e-gis-tic: Pertaining to the Art of Binding Books, 1889

DIAPER PATTERN 1. A gold- or blind-tooled decorative pattern, consisting of a motif constantly repeated in geometric form. The pattern may consist of figures such as diamonds, lozenges, or flowers, separated only by background. or by constantly repeating compartments, each filled with designs. 2. A publisher's cloth with a cross-hatched effect of minute lozenges or squares. Diaper cloths were popular in the late 1830s and 1840s, and have remained standard patterns on fabrics in one form or another ever since. 3. The uniformly patterned background for pictorial scenes in illuminated manuscripts. Its extensive use dates from the latter part of the 13th century. 83,94,156,347 RE

DIATOMACEOUS SILICA also *diatomaceous earth* The siliceous remains of microscopic diatoms, which are aquatic plants. Diatomaceous silica is used as a dulling or flattening agent in coating and as a filler in paper. Also known as "infusorial earth" and "kieselguhr." 17 RE

DICED PATTERN also *diced leather* 1. The decorated cover of a book tooled with cubes or diamonds. RUSSIA LEATHER is often "diced" and diced calf has been used frequently since the first quarter of the 19th century. 2. A pattern ruled or embossed in leather in the form of diamond squares. 3. A pattern in publishers' book cloth, in the form of a bold diamond, popular between 1835 and 1845. 140,159,261 RE

DIE An engraved stamp used in embossing a design or letter in leather, or on cloth or paper. See also: HAND LETTERS; STAMP (1) 139 RE

DIE CUTTING 1. The process of cutting special shapes (cutouts) in leather, cloth or paper. The

cutouts are used for labels, inlays, onlays, etc. 2. The process of lowering the background leather, leaving the cut out area, or counter, undisturbed and raised above the impression. 189,316,320 RE

DIE SUNK A depression produced by the application of a die or block, either heated or cold. See also: BLIND TOOLING; BLOCKING (1). RE

DIEHL, EDITH 1876–1953 One of the foremost American women bookbinders. Diehl studied the craft in France, Belgium, and England—in the last named country under T. J. Cobden-Sanderson at the Doves bindery—and also with Sangorski and Sutcliffe's bindery. She opened her own shop in 1906, in New York City, and achieved her principal fame through her teaching. Diehl was at one time associated with the bindery of William E. Rudge. She is also the author of Bookbinding; its background and technique (1946). 347 RE

DIETHYL ZINC An organometallic compound ($Zn(C_2H_5)_2$), that is readily volatile (B.P. 123° C. at one atmosphere). It has been proposed as a vapor-phase deacidifying agent, and gives promise of being effective; it leaves an alkaline reserve of zinc oxide in the paper, which not only protects against acid but is an effective fungicide as well. Treatment must be carried out in the absence of air or moisture, as diethyl zinc ignites on contact with air and explodes on contact with moisture. This requires that the books be absolutely dry before treatment; therefore they must be treated with the gas in a vacuum chamber and the excess diethyl zinc must be removed or neutralized before the chamber is opened. Treatment with diethyl zinc leaves the paper with a pH of approximately 7.5 and does not appear to have any adverse effect on leather or other book materials. RE

DIETHYLENE GLYCOL A colorless and almost odorless chemical ($C_4H_{10}O_3$), miscible with water, alcohol, and chloroform, but insoluble in benzene and carbon tetrachloride. It is a solvent for cellulose nitrate, but not for the acetate. It is used as a softening agent for textile fibers, as a moistening agent for glues and paper, as a solvent for certain dyes, and as a plasticizer in some leather finishes. RE

DIGESTER A vessel in which pulpwood, straw, esparto, rags, or other cellulosic materials are treated with chemicals and heat to produce the pulp used in the manufacture of paper. A digester is usually constructed to withstand elevated pressures and is made of materials designed to resist the chemicals used in pulp preparation. Digesters may be cylindrical, spherical, horizontal, vertical, stationary, rotating or designed to tumble. Most are stationary. A digester may be designed for batch operation, in which it discharges its pu lp at the conclusion of a fixed cycle, or it may be designed for continuous operation, in which case it moves the raw material and chemicals at a fixed rate from the charging end to the discharging end. 17 RE

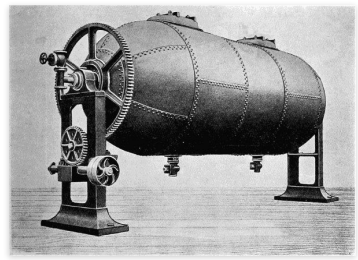


Fig. 26. —A Cylindrical Digester for Boiling Fibre.
R. W. Sindall, The Manufacture of Paper, 1908

DILUENT A substance added to another, e.g., an adhesive, to reduce its concentration, or to an ink, to reduce its viscosity, and so on. Water is the principal diluent used in archival work. See also: EXTENDER (1); THINNER. 309 RE

DIMENSIONAL CHANGES IN LEATHER The increase or decrease in the thickness and area of a leather due to increasing or decreasing relative humidity of the surrounding atmosphere. 363 RE

DIMENSIONAL STABILITY That property of a paper, board, etc., which relates to the consistency of its dimensions. The property is associated with changes occurring in a material due to changes in moisture content, the application of load, or simply with the passage of time. Dimensional stability of paper is important in printing, especially in multi-color processes, since papers with poor dimensional stability may give misregister. This is because, when they are run through the press, the dimensions change from one color run to the next. See also: CREEP; HYGROEXPANSIVITY. 17,139 RE

DIP A term sometimes applied to a batch of books, which have been trimmed, jogged and clamped, and are then ready to be "dipped" for marbling the edges. 256 RE

DIPLE A mark in the margin of a book to show where a fault is to be corrected.—Bailey's Dict. This word is not used in the profession. DAP

DIPTYCH See illustration An ancient hinged writing tablet consisting of two tablets of wood, ivory or metal, having wax in the hollowed

inner surfaces, on which writing could be done with a stylus. The hinges were generally metal rings or thongs threaded through the holes. Near the outer edge on the inside of one tablet as a small trench designed to hold the stylus, which was a small bone or metal instrument pointed at one end for writing and flat at the other end for removing writing in the wax. In the middle of each inner side a small knob protruded to keep the wax surfaces apart. Ordinary diptychs were generally made of beech, fir, or citron wood, but those made for ceremonial use, or for important recipients, were often made of ivory, sometimes beautifully carved, and fitted with gold or jewels. The most lavishly embellished specimens belong to the Byzantine period, 530 to 560. Because they were small enough to hold in one hand, in Latin they were sometimes called "pugillaria." The diptych is interesting because it is both a manuscript and a binding. 12,109,373 RE

Fig. 13. —Roman diptych stylus.
Cyril Davenport, The Book: Its History and Development, 1907

DIRECT DYES A class of ANILINE DYES, 50 called because they have such great affinity for cellulose fibers, i.e., paper and some cloths. While both these and ACID DYES are sodium salts of dye acids, direct dyes do not require the use of a MORDANT. • Their shades are duller than those of either acid or BASIC DYES and they tend to have less tinctorial value than the basic dyes; however, they have the very important advantages of being much more lightfast than the basic dyes, and in certain instances, more so than even the acid dyes. 17 RE

DIRECTION **1.** The word that stands alone on the right hand in the bottom line of a page.—M. It is the first word of the following page. *See* Catch Word. DAP **2.** the word that stands alone on the Right Hand in the bottom *Line* of a *Page*. MOX

Figure 1 illustrates the contention that slope in either direction does not deprive Capitals, Lower-case or Italics of their essential differences.
Paul A. Bennett (ed.), Books and Printing: A Treasury for Typophiles, 1951

DIRECTION LINE **1.** The line of printed characters in a publication when the abbreviated title of the book, i.e., the DESIGNATION MARK, follows the signature mark, or letter, printed at the foot of the first page of each sheet. It is intended to serve as a guide to the binder when gathering. Until the end of the 18th century the direction line, printed below the text of the page, and often between the text and the footnotes, contained the CATCHWORD, signature, press figures, and occasionally the volume number or part number. See also: SIGNATURE AND CATCHWORD LINE. RE **2.** The line the direction stands in.—M. *See* Catch Word. DAP 140,156

DIRECTION WORD See: CATCHWORD. RE

DIRECTIONAL VENTILATING POWER The ventilating power of leather, which is greater in one direction than in the other, in that it allows water to migrate more freely from the flesh side to the grain side than vice versa. 363 RE

DIRECTORY PAPER A lightweight printing paper made with a substantial proportion of mechanical wood pulp. The balance of the pulp is usually unbleached sulfite or semi-bleached sulfate pulp, although the paper is also made from deinked paper stock plus chemical wood pulp. Its essential characteristics are uniformity of basis weight. opacity, strength, and a finish suitable for high speed printing. Permanence is not considered to be an essential property. Usual basis weights are 18 to 28 pounds (4 x 36—500). It is used main1y for printing telephone directories, city directories, and the like. 17 RE

DISC REFINER A type of REFINER consisting of one or more matched pairs of discs lined with a pattern of ribs. One disc rotates, while the other is stationary or rotates in the opposite direction. The paper stock flows from the center outward,

or vice versa, and is macerated, rubbed, and cut (refined). The degree and extent of the refining depends upon several factors, including the pressure between the discs, the type of ribbing on the faces of the discs, and the consistency of the pulp suspension. 17 RE

DISC RULING MACHINE See: RULING MACHINES. RE

DISHED A defect in electrotyped plates, the centre of a letter being lower than its edges. AMP

DISODIUM PYROPHOSPHATE A chemical ($Na_2P_2O_7$) used as a mold inhibitor in paper. It is used in an aqueous solution of 1 1/2 ounces of disodium pyrophosphate, 1/6 ounce of potassium ferrocyanide, and 1/2 ounce of soda crystals in 1 gallon of water. The purpose of the soda crystals is to prevent the paper from turning a greenish hue after treatment. The inhibitor solution may be made up with an addition of gelatin or glue, or other sizing material, if the paper to be treated must be also sized. 198 RE

DISTRIBUTING Returning types to their various boxes after having been printed from. Spreading ink evenly over the surface of a roller. AMP

DIVI-DIVI The tannin-rich pods of a large genus of trees and woody climbers (Caesalpinia) native to the tropics and sub-tropics The most important is Caesalpinia coriaria. Divi-divi pods contain a high percentage of tannin (40–4%) which is easily leached out. It is one of the pyrogallol class of tannins and produces a light-colored leather. It is usually used along with other tannins, because when used alone it produces a leather that is soft and spongy in a damp atmosphere and which lacks pliability in dry weather. In addition, the amount of sugary matter present in the pods results in too rapid fermentation of the tan liquor. This may produce reddish stains in the leather, which can, however, be controlled to some extent by the use of appropriate antiseptics. Divi-divi is also used in leather manufacture as a dye. See also: VEGETABLE TANNINS. 175 RE

DIVIDERS 1. The draftsman's instrument used in bookbinding for a variety of purposes, including measuring the distance between bands or webbings and cutting stock, patterns, etc. 2. The heavy sheets of cardboard or paper, frequently of cover-paper weight or heavier, used to divide the sections of a book when two or more sections. parts, or issues are bound together. 264,274 RE

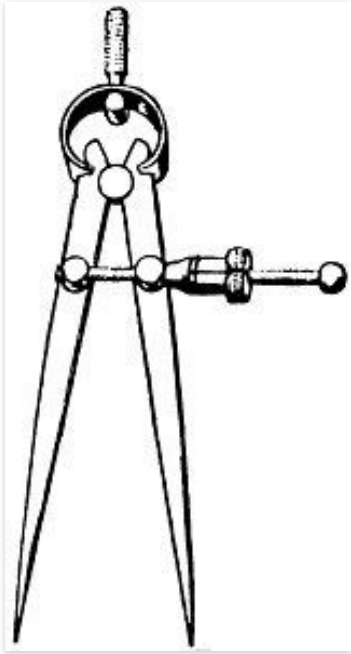


Fig. 6.—Dividers
Douglas Cockerell, Bookbinding, and the Care of Books, 1901

DIVIDING DAP

There are practical rules in printing for dividing words where the whole of a word cannot be comprised within the line; and there are also grammatical rules for the same object. Every printing office has some peculiarity on this subject.

The most general practical method of dividing words is to preserve the primitive word at the end of a line, and carry the termination to the next line; but this cannot always be done, as the following few instances will show. In these and similar cases it will be better to avoid dividing the word, and either drive the whole out, or get the termination in, as the spacing of the line will best allow.

Words whose plurals are formed by the addition of s, which adds another syllable to them, by making the last into two, ought not to have these two syllables divided; such as—

The terminations of words, chion, cial, cient, cion, cious, shion, sian, sion, tial, tion, and tious, ought never, in my opinion, to be divided, as they each form one sound, although Murray and Walker say they form two syllables.

When the primitive word cannot be retained at the end of a line, I would prefer the prefixes ab, ac, ad, al, anti, be, bi, co, com, con, de, di, dia, dis, en, in, per, pre, pro, re, sub, super, un, when words in which they occur require to be divided; provided it does not cause any great violence in the spacing.

When it is necessary to divide a word at the end of a line, it is also necessary to study the appearance of the termination of that line, as well as of the commencement of the succeeding line, for they are equally affected. An improper division of a word will sometimes look better than a proper one, but it ought always to be avoided, if possible.

It frequently happens that the last syllable, when it is short, has a meagre appearance at the beginning of a line; when this is the case, it is preferable to drive out another syllable, provided the appearance and the correctness of the first part of the word are not compromised.

It is not usual, and is looked on as bad workmanship, to divide a word with a single letter at the end of a line, for it may be driven out, or, if the line be wide spaced, the next syllable may be got in; but should the second syllable of the word be a long one, or the last syllable a very short one, it will then be advisable to overrun a preceding line or two, to get rid of the objectionable division.

Neither is it usual to carry over the last syllable of a word if it consist of two thin letters only; for the hyphen is more than equal to one of them, and changing two or three spaces will make room for the other, without affecting the appearance.

Some persons object to the dividing of words at all in printing, as being unnecessary and displeasing to the eye; but then they must sacrifice all regularity of spacing, which is still worse, and has the appearance of bad workmanship. I would recommend that a compositor should make each give way a little to the other, always preserving such an uniformity in spacing that there should be no glaring disproportion in different lines.

Avoid dividing words in lines following each other, so as not to have hyphens at the ends of two adjoining lines, but never have three or more divided words at the ends of consecutive lines; although five or six may occasionally be seen, yet in book work it is held to be bad workmanship, and should never be allowed to pass. Neither is it desirable to divide proper names, nor the last word in a page so as to have part of a word to begin the succeeding page, particularly when it is an even one; sums of money and series of figures are never divided.

It is not possible in every instance to divide words correctly, particularly when the page is of a narrow measure, and the type large; when this happens, the compositor is obliged frequently to sacrifice correctness to necessity; but when the page is of a width proportionate to the size of the type, he may in the usual way of workmanship preserve his regular spacing, and also his correct dividing.

The preceding observations may be looked on as practical ones for printing. Lindley Murray gives the following grammatical directions for dividing words.

"1. A single consonant between two vowels must be joined to the latter syllable: as, de-light, bri-dal, re-source: except the letter x; as, ex-ist, ex-amine: and except likewise words compounded; as, up-on, un-even, dis-ease.

"2. Two consonants proper to begin a word, must not be separated; as, fa-ble, sti-fle. But when they come between two vowels, and are such as cannot begin a word, they must be divided; as, ut-most, un-der, in-sect, er-ror, cof-fin.

"If the preceding syllable is short, the consonants must be separated: as, cus-tard, pub-lic, gos-ling.

"3. When three consonants meet in the middle of a word, if they can begin a word, and the preceding vowel be pronounced long, they are not to be separated; as, de-throne, de-stroy. But when the vowel of the preceding syllable is pronounced short, one of the consonants always belongs to that syllable; as, dis-tract, dis-prove, dis-train.

"4. When three or four consonants, which are not proper to begin a word, meet between two vowels, the first consonant is always kept with the first syllable in the division: as, ab-stain, com-plete, em-broil, dan-dler, dap-ple, con-strain.

"5. Two vowels, not being a diphthong, must be divided into separate syllables; as, cru-el, deni-al, soci-ety.

"A diphthong immediately preceding a vowel, is to be separated from it: as, roy-al, pow-er, jew-el.

"6. Compounded words must be traced into the simple words of which they are composed; as, ice-house, glow-worm, over-power, never-the-less.

"7. Grammatical, and other particular terminations, are generally separated: as, teach-est, teach-eth, teach-ing, teach-er, contend-est, great-er, wretch-ed, good-ness, free-dom, false-hood.

"Two consonants which form but one sound, are never separated: as, e-cho, fa-ther, pro-phet, an-chor, bi-shop. They are to be considered as a single letter.

"8. In derivative words, the additional syllables are separated: as, sweet-er, sweet-est, sweet-ly; learn-ed, learn-eth, learn-ing; dis-like, mis-lead, un-even; call-ed, roll-er, dress-ing; gold-en, bolt-ed, believ-er, pleas-ing.

"*Exceptions.* When the derivative word doubles the single letter of the primitive, one of those letters is joined to the termination: as, beg, beg-gar; fat, fat-ter; bid, bid-ding.

"When the additional syllable is preceded by *c* or *g* soft, the *c* or *g* is added to that syllable: as, of-fen-ces, cotta-ges, pro-noun-cer, in-dul-ging; ra-cer, fa-cing, spi-ced; wa-ger, ra-ging, pla-ced, ran-ger, chan-ging, chan-ged.

"When the preceding single vowel is long, the consonant, if single, is joined to the termination: as, ba-ker, ba-king; ho-ping, bro-ken; po-ker, bo-ny; wri-ter, sla-vish; mu-sed, sa-ved.

"The termination *y* is not to be placed alone: as, san-dy, gras-sy; dir-ty, dus-ty; mos-sy, fros-ty; hea-dy, woo-dy; except, dough-y, snow-y, string-y, and a few other words. But even in these exceptions, it would be proper to avoid beginning a line with the termination *y*.

"Some of the preceding rules may be liable to considerable exceptions; and therefore it is said by Dr. Lowth and others, that the best and easiest directions for dividing the syllables in spelling, is to divide them as they are naturally separated in a right pronunciation, without regard to the derivation of words, or the possible combination of consonants at the beginning of a syllable."

Before quitting this subject, it should be stated that there is yet a mode of dividing, which is peculiar to the philologist. To him it appears but natural that a compounded word should be divided at the point where its elements were originally conjoined. With respect to a purely English compound we find this to be one of Murray's rules; but in an adopted word, however much from its recurrence it may seem to have become our own, the scholar's eye is offended, if, where a division has become requisite, it be made in violation of etymological principles. This remark must be understood as having reference only to the division which would occur in the neighbourhood of the point of junction: in other respects he does not impugn the validity of the rules which are in general laid down. To apply with precision this principle, which, when judiciously practised, is frequently very highly approved, it is evident that an acquaintance with the language from which the imported word has been derived, is necessary: yet, as a person not thus qualified may occasionally be required to make his divisions in conformity with this system, it has been thought desirable to subjoin a brief list of words in which an uninitiated person would be most likely to err. A few of the following divisions will appear a little startling, and they are in consequence generally evaded; but it has been thought proper in this place to conceal nothing from the general eye which may appear to militate against the full adoption of the system. The words selected are but a few of the very large class of compounds; but the rest have been omitted, as their analytical and their syllabical divisions will in general be found to coincide.

* This word has had the singular fortune of having been all but universally mis-spelt; having in its present form the appearance of being what is inadmissible—the compound of a Latin and an English word. A few years ago an ingenious critic, in a work which he published, corrected this spelling by writing the word "frontispice." As the word comes immediately from *frontispicium*, the emendation appears to have been judiciously made. (Compare *auspice*, from *auspicium* = avispicium.) It may not be unnecessary also to observe, that the amended form is that in which it appears in the

French language. The division of the corrected word would be fronti-spice.

DIVIDING INTO SECTIONS A term applied to the process of dividing the leaves of a book to be oversewn into "sections" following the removal of the hack folds. The normal thickness of each section is 0.055 inch; however, books printed on paper that is unusually thick or bulky are sometimes divided into sections 0.065 inch in thickness. 209 RE

DIVINITY BINDINGS See: ECCLESIASTICAL BINDINGS. RE

DIVINITY CALF **1.** 1. A plain, drab, khaki-colored calfskin binding, popular in the mid-19th century for theological and devotional books. The style was particularly popular in the rebinding of books of an earlier time. The bindings were tooled in blind with single lines terminating in OXFORD CORNERS. • The style sometimes also featured beveled boards and red edges. Sometimes called "Oxford style." 2. A leather used principally for the inside cover linings of limp leather prayer books and small Bibles. (69, 156. 371) RE **2.** A dark brown calf used generally for religious books, and worked in blind or antique. ABB **3.** A dark brown calf bookbinding decorated with blind stamping, and without gilding; so called because formerly used in binding theological books. NBL 69,371

DIVISORIUM Commonly called Visorum.—Smith. *See* Visorum. DAP

DO UP An old term of English origin for the processes of folding, stitching and wrapping, or binding books in cloth. RE

DOCUMENT PARCHMENT 1. A paper made to replace the more expensive genuine PARCHMENT, and used for legislative acts, treaties, and the like. It is produced from selected linen and cotton fibers, and is almost always surface-sized with high quality animal glue or with special tub sizings. Document parchment is produced in basis weights of 48, 56, 72, and 88 pounds (17 X 22–1,000). The paper should be manufactured in such a manner as to insure maximum permanency and durability. 2. A vegetable parchment paper used for diplomas and documents. 17 RE

DOESKIN 1. A soft, supple leather made from the skin of an adult female deer and used in England as early as the 16th century for covering books. 2. A soft. supple leather, usually white or cream colored but sometimes dyed, having a fine suede finish, produced from lambskin or sheepskin split and and tanned by a combination tannage, e.g., formaldehyde and oil, or formaldehyde and alum. See also: BUCKSKIN. 172,278 RE

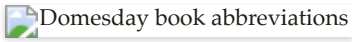
DOG EAR 1. An oversize, unfolded corner in a publication caused when a sheet in a pile of paper having a corner turned under is trimmed in the guillotine. After trimming, the corner of the defective sheet extends beyond the trim size of the sheet when the folded corner is then unfolded. The dog ear is often useful in early books in determining the size of the leaf and the sheet because it reveals the size of the untrimmed leaf. 2. The turned-down corner of a leaf. See: DOG EARED. RE

DOG EARED A book or other publication having one or more corners of the leaves turned down, generally by readers. RE

DOMESDAY BOOK The register of the lands of England, framed by order of William the Conqueror. It was sometimes termed *Rotulus Wintoniæ*, and was the book from which judgment was to be given upon the value, tenures, and services of the lands therein described. • In 1767, in consequence of an address of the House of Lords, His Majesty George III. gave directions for the publication of this Survey. It was not, however, till after 1770 that the work was actually commenced. Its publication was entrusted to Mr. Abraham Farley, a gentleman of learning as well as of great experience in records, who had almost daily recourse to the book for more than forty years. It was completed early in 1783, having been ten years in passing through the press, and thus became generally accessible to the antiquary and topographer. It was printed in facsimile, as far as regular types, assisted by the representation of original contractions, could imitate the original. • • • • The type with which the Domesday Book was printed, was destroyed in the dreadful fire which consumed the printing office of Messrs. Nichols in Red Lion Passage, Fleet Street, London, February 8, 1808. • Abbreviations in Domesday Book, from Hutchins's Domesday Book for the County of Dorset. • Superior Letters, which are of frequent occurrence in contracted Records, are generally laid in the small capital boxes. • • The character & is displaced to make room for [#] and [#] on works using those characters exclusively. • There are various characters, such as [#], [#], [#], [#], [#], [#], and others, that do not frequently occur, which may be kept in the two boxes in the upper case marked "various;" a

general box is necessary in every Domesday case. • The characters c̄, ḡ, m̄, &c., placed in the figure boxes, are a variation only of ċ , ġ , ṁ , &c., and the two sorts are never used together in the same work. *See* Records. DAP

Layout of the Domesday case
William Savage, A Dictionary of the Art of Printing, 1841



Domesday book abbreviations
William Savage, A Dictionary of the Art of Printing, 1841

DOMESTIC GOAT GOATSKIN, and, in general. virtually any skin imported in the cured state, i.e., dry-salted or wet-salted, and then converted into leather in the importing country. 363 RE

DOMINOTIERS The name given to the earliest known "marblers" of historical importance—the dominotiers of France. The name derives from the Italian domino, a word which refers to the little cloak or hood, which was part of the working apparel of the early marblers. The dominotiers apparently were highly successful, as they were shortly granted royal permission to form a guild, along with the wood engravers. Those specializing in the making of marbled papers were called marbreurs. Unfortunately, because of its highly perishable nature, very little of this early marbling has come down to us. 217 RE

DONATIONS DAP

Abstract of the Charitable Donations at the Disposal of the Court of Assistants of the Worshipful Company of Stationers. I have selected those Donations only which relate, directly or indirectly, to Printers.

William Norton, a printer of great note, lived in St. Paul's Churchyard, who died in 1593. He gave six pounds thirteen shillings and four pence, yearly to his company, to be lent to young men, free of the same Company. The Company in their Abstract of Charitable Donations say "to the Poor of the said Company."

Mr. Christopher Meredith, in 1655, gave 10*l.* a year, to be paid in quarterly pensions to the poor of the Company.

Thomas Guy, Esq., M.P., an eminent bookseller, and the munificent founder of the hospital which bears his name, gave to the Company, in 1717, 1,000*l.* "to enable them to add 50*l.* a year, by quarterly payments, to the poor members and widows, in augmentation of the quarterly charity."

Mr. Theophilus Cater, in 1718, gave 1,000*l.* to the Company, on condition of their paying him an annuity of 50*l.* for his own life.—After his death, 40*l.* to be thus disposed of: to the minister of St. Martin's, Ludgate, for a sermon, 1*l.* 10*s.*; to the reader, 5*s.*; to the clerk and sexton, 2*s.* 6*d.* each, 5*s.*; to fourteen poor freemen of the Company, 14*l.*; to ten poor men of St. Martin's, 10*l.*; to ten poor men of Christchurch, 1*l.* each. The remainder, (being 4*l.*) towards a dinner for the master, wardens, and assistants.

Mrs. Beata Wilkins, in 1773, gave the picture of Doctor Hoadly, lord bishop of Winchester, now in the Stock-room; and the interest and produce of all the money arising from her forty-pounds share stock (computed at 320*l.*) to be distributed, annually, amongst six poor men and six poor widows, not pensioners to the Company, in the month of December, before Christmas.—*Note.* The produce of the share was laid out in the purchase of 358*l.* 11*s.* 4*d.* five per cent. Navy annuities. The yearly dividend is 17*l.* 18*s.* 6*d.* To which the Court add 1*s.* 6*d.* to make the dividend to each annuitant 1*l.* 10*s.*

William Bowyer. *See* Bowyer.

William Strahan, Esq., M. P., in 1784, gave 1,000*l.*, one half of the annual interest to be divided in equal shares or proportions to five poor journeymen printers, natives of England or Wales, freemen of the Company; the other half in equal shares or proportions to five poor journeymen printers, natives of Scotland, without regard to their being freemen or being non-freemen of the Company.—*Note.* The yearly dividend of this bequest is 39*l.* 14*s.* 10*d.*—to which 5*s.* 2*d.* (part of a subsequent donation by Andrew Strahan, Esq.) has since been added, to make the dividend to each annuitant 4*l.*

Thomas Wright, Esq., late alderman of London, in 1794, gave 2,000*l.* four per cent. Bank annuities, the dividends to be distributed as follows; upon the first day of January 50*l.* 8*s.* amongst twenty-four poor freemen of the said Company, not receiving any other pension from the Company, 2*l.* 2*s.* each. To the clerk of the Company 3*l.* 3*s.* for his trouble upon this occasion. And 26*l.* 9*s.* residue of such dividends, for providing a dinner for the master, wardens, and assistants, of the Company, upon the day of distribution.

Mr. Richard Johnson, in 1795, gave all the remainder of his property whatsoever, to the Company, upon the following conditions: that they allow his sister, Mary Johnson, 50*l.* per annum, and 10*l.* per annum to his uncle Lockington Johnson, or to his wife, Elizabeth Johnson, during their natural lives. After the deaths of his sister and uncle, and his wife, the whole property to be divided half-yearly, "among five very poor widows, who have seen better days, above the age of sixty, whose husbands were liverymen, and in a good way of business; were either stationers, printers, booksellers, or binders."

Charles Dilly, Esq., in November, 1803, (being then a member of the Court of Assistants,) transferred 700*l.* three per cent. annuities to the Company, the dividends to be "paid equally to two widows of liverymen of the Company, who have lived in better circumstances, and met unexpected misfortunes, but who, through their conduct and manners in life, are deserving of superior help. And if there should be candidates of sixty years of age, or upwards, I should wish them to have the preference."

Mrs. Elizabeth Baldwin, widow of Mr. Richard Baldwin a liveryman, gave 250*l.* stock in the three per cents, the dividends to be laid out and expended in the purchase of five great coats, to be annually given to five poor liverymen or freemen of the said Company in the first week of the month of December for ever.—*Note.* Mrs. Baldwin died 19th August, 1809.

Andrew Strahan, Esq., M. P., (first benefaction,) in January 1815, transferred 1,225*l.* four per cent.

annuities to the Company, the interest, viz. 49*l.*, to be applied as follows, viz.,

"Eight pounds per annum to each of the six pensioners amongst my father's annuitants who shall have been earliest elected into that list, in lieu of the 4*l.* which they at present enjoy. And whenever any of the pensions of 8*l.* each shall become vacant, the pensioner who shall stand first on the list of my father's annuitants of 4*l.* to succeed to such vacancy, without troubling the court to make a new election, except for the vacancy occasioned thereby in the annuitants of 4*l.* And as 5*s.* 2*d.* is added by the court to make up the pensions of my late father 4*l.* to each annuitant, I would have the sum of 5*s.* 2*d.* (part of the surplus of 1*l.*) applied to that purpose. The remaining 14*s.* 10*d.* I would have given to the beadle of the Company, who has some trouble in receiving the petitions.

"The pensions above given it is my wish should be paid twice in the year; the one half at the same period as the pensions given by my late father, and the other half at midsummer.

"I observe that my father's pensioners are to be elected annually, which, I believe, may not always have been strictly complied with; but, by being so bequeathed, it enables the court to displace any individual who may at any time after his being elected appear to the court not to be deserving; and it is my wish that the court should have the same power of displacing any of the pensioners of eight pounds who shall appear to them undeserving."

John Nichols, Esq., transferred to the Company, in June, 1817, 500*l.* four per cent. annuities, "as an addition of a small supplement to the works of my late friend and partner, Mr. William Bowyer," [*See* Bowyer.] "to pay the dividends to the persons mentioned in the following list; one of whom has worked for me more than fifty years, another much more than forty, and the others nearly thirty years.

"15*l.* a year to Thomas Bennett, in addition to the annuity he now enjoys.

"5*l.* a year to William Morlis, in addition to what he now enjoys, or may hereafter enjoy.

"On the death of Bennett, his 15*l.* to be divided into three annuities, for James Rousseau, John Meeson, and James Robinson, if then living, otherwise to any other compositor or pressman of good character, not less than forty-five years of age, and who shall have been at least twenty-one years free of the Stationers' Company.

"On the death of Morlis his five pounds to be added to the person who then stands first on the list; so that eventually there will only be one annuitant of ten pounds, and two of five pounds each.

"The annuitants to be paid at the same times as those of Mr. Bowyer." J. N.

Andrew Strahan, Esq., M. P., (second benefaction,) transferred in March, 1818, the further sum of 1,000*l.* four per cent. annuities, "to pay the dividends half-yearly in portions of ten pounds to four distressed old printers. No person to be eligible till he be sixty-five years of age: he may be freeman or non-freeman, compositor or pressman, or have been for many years employed regularly as corrector or reader in a printing-office within the Bills of Mortality, and not necessarily one of my late father's annuitants or of mine."

Luke Hansard, Esq., (first benefaction,) on the 11th of July, 1818, transferred to the Company 1,000*l.* four per cent. annuities, the interest to be given, in two annuities of 10*l.* a year each, to such objects above sixty-five years of age, free of the Company, and letterpress printers, (compositors or pressmen,) as the court shall judge proper.

The other 20*l.* to be given yearly to four freemen of this Company, printers, booksellers, stationers, warehousemen, or bookbinders, above sixty years of age, at 5*l.* a year each, as the court shall think proper objects of this donation.

Luke Hansard, Esq., (second benefaction,) in September, 1818, transferred to the Company 1,500*l.* three per cent. annuities; in trust to give to every youth bound at their hall, a neatly bound Church of England Prayer-book, as printed by his majesty's printer in London, bound up with the New Version of Psalms.

The number of Prayer-books thus to be disposed of, are taken at 200, which at a presumed price of 2*s.* 7*d.* each, will cost yearly 25*l.* 16*s.* 8*d.*

Then to give yearly to two of his warehousemen (named) 6*l.* 6*s.* each.

Also to "such warehouseman, or binder, or stationer, or other person in the class to whom the court has been accustomed to give such annuities, above sixty years of age," 6*l.* 6*s.*

The residue of 5*s.* 4*d.*, and whatever residue may be left from the 200 Prayer-books not being wanted, or from the cost being less, to be applicable for such purposes as the court shall think proper.

Beale Blackwell, Esq., gave, July, 1817, so much Bank stock as at the time of his death would produce the annual sum of 100*l.*, to be every year distributed equally amongst twenty deserving journeymen letterpress printers; the first distribution of which took place in October, 1821.

A more detailed account of these charitable donations and benefactions will be found in a pamphlet of 32 pages, printed by order of the court in 1819, and given to each liveryman.

This account is copied from Hansard's Typographia.

DONGOLA A term sometimes applied to leathers such as goatskin, sheepskin or calfskin tanned and finished to resemble KIDSKIN. RE

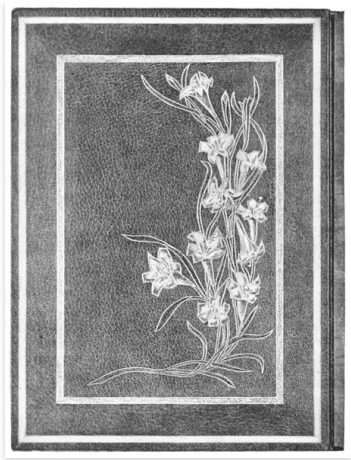
DOPE A solution of a cellulose ester, such as cellulose acetate or nitrate, or a cellulose ether, such as ethyl cellulose or benzyl cellulose, in a volatile solvent, such as acetone, amyl acetate, etc., and used as a coating for paper. See also: LACQUER. 17 RE

DOS À DOS BINDING A form of bookbinding in which two books, usually small and frequently of a complementary nature, e.g., a Psalter and New Testament, are bound back to back so that they open in opposite directions, one of the three boards being the common lower board of both volumes. The spines and fore edges are opposed. Their upper boards are usually either embroidered or covered with gold-tooled leather. However the dos à dos binding is picked up, it opens at the beginning of one of the two books. 69,156,347 RE

DOTTED LINE STYLE See: PINHEAD STYLE; POINTILLÉ (1). RE

DOTTED QUADRATS, or dotted leaders. Quadrats with dots on them, similar to full points, at regular distances. They are cast from an en, with one point, to four ems. • In tables of contents, indices, and other similar matter, dotted quadrats are preferred to metal rules, or hyphens, being thought to have a neater appearance. DAP

DOUBLÉ When the inside of the cover is lined with leather, it is termed a doublé. BIB



Memorial Volume—Doublé Royal Purple Levant. Floral design inlaid and hand colored.
Trow's Printing and Bookbinding Co., Bib-li-op-e-gis-tic: Pertaining to the Art of Binding Books, 1889

DOUBLE **1.** A sheet that is twice pulled and lifted never so little off the form after it was first pulled, does most commonly (through the play of the joints of the tympan) take a double impression: this sheet is said to double. Or if the pressman run in so, as the foreside of the platen print with the first pull into part of the second pull, or the hind edge of the platen print with his second pull into part of his first pull; either of these twice printing is called *Doubling*. Doubling also happens through the loose hanging of the platen, and through too much play the tenons of the head may have in the mortises of the cheeks; and indeed through many wearings and crazinesses that often happen in several parts of the press.—M. Moxon's account of doubling and its causes refer to the two pull wooden presses, but some of them apply equally to iron presses. • In composing, the term is applied when a word, a line, a sentence, or any part of the copy is composed twice; that is, if the compositor's eye catch a part that he has already composed, and he repeats it. DAP **2.** Among compositors, repetition of words; among pressmen, a sheet that is twice pulled and mackled. AMP

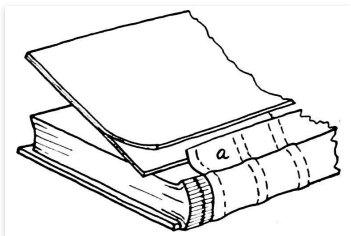


Fig. 23. putting on double boards. a, The slip.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

DOUBLE COATED PAPER 1. A paper or board which has received two coatings on the same side with either the same or different coating materials. A paper or board coated on both sides is not double coated but is coated two sides. 2. A paper or board heavily coated, but not necessarily with two coatings. 17,52 RE

DOUBLE CORD SEWING A book sewn on double raised cords, i.e., two cords set adjacent and almost touching, the sewing thread leaving and re-entering the section through one hole. Double cord sewing is substantially stronger than sewing on single cords and the sections are better supported against the pull of the thread where required most. i.e., at the point where the thread leaves and re-enters the section. See also: FLEXIBLE SEWING. RE

DOUBLE COVERS A term used in pamphlet binding to indicate two covers, the inner one of which is of the same type and color paper as the outer, but of a lighter basis weight. RE

DOUBLE DAGGER This is the technical name of a mark used as a reference, ‡; it is generally placed the third in order,—after the obelisk or dagger. DAP

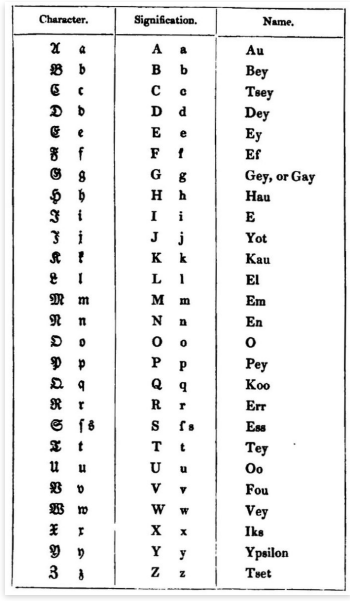
DOUBLE DECOMPOSITION A chemical reaction that takes place between two compounds, in which the first and second parts of one compound unite with the second and first parts, respectively, of the other compound. One of the compounds is usually insoluble. The principle of double decomposition has been used in deacidifying paper, as, for example, when a soluble calcium or magnesium salt is dissolved in water and the paper is immersed in it. After the paper has been dried it is then impregnated with a soluble carbonate, such as that of ammonium or sodium. Sodium carbonate and calcium chloride, for example, react to form insoluble calcium carbonate and soluble sodium chloride: $CaCl_2 + Na_2CO_3 \rightarrow CaCO_3\downarrow + 2NaCl$; or, using calcium chloride and ammonium carbonate: $CaCl_2 + (NH_4)_2CO_3 \rightarrow CaCO_3\downarrow + 2NH_4Cl$. • The soluble sodium or ammonium chloride is removed by washing the paper with water, and it is important that the chloride be removed as completely as possible, as its presence in the paper is potentially harmful. The advantage of the double decomposition method is its simplicity, plus the fact that a much greater alkaline reserve can be deposited in the paper than is generally possible with most other methods. RE

DOUBLE GOLD 1. GOLD LEAF that is twice the customary thickness, or approximately 1/100,000 to 1/125,000 inch in thickness. 2. Regular gold leaf that is doubled upon itself before laying down. Double gold leaf, of this form, or as described above, is easier to handle and gives a brighter and more solid appearance. It is used mainly in edge gilding. 130,335 RE

DOUBLE HEADBANDS Headbands for very large volumes worked on two lengths of thong, or other core. This type of HEADBAND usually appears in the form of a thicker band with a thinner band in front or above. 83,152 RE

DOUBLE KETTLE STITCH A KETTLE STITCH tied twice so as to provide additional strength. 335 RE

DOUBLE LETTERS Æ, œ, ſt, ſh, and several others cast on one shank, are called double letters: ſ and f have several ascending letters joined to them, because their beaks hanging over their stems would (were they not cast on one shank) ride upon the tops of the stems of the adjoining ascending letters.—M. • By discarding the ſ, we have lessened the number of our double letters, which are now reduced to the diphthongs æ and œ, and to ff, fi, fl, ffi, and ffl, which are so termed by printers. DAP



Character.	Signification.	Name.
𝔄 𝔞	A a	Au
𝔅 𝔟	B b	Bey
ℭ 𝔠	C c	Tsey
𝔇 𝔡	D d	Dey
𝔈 𝔢	E e	Ey
𝔉 𝔣	F f	Ef
𝔊 𝔤	G g	Gey, or Gay
ℌ 𝔥	H h	Hau
ℑ 𝔦	I i	E
𝔍 𝔧	J j	Yot
𝔎 𝔨	K k	Kau
𝔏 𝔩	L l	El
𝔐 𝔪	M m	Em
𝔑 𝔫	N n	En
𝔒 𝔬	O o	O
𝔓 𝔭	P p	Pey
𝔔 𝔮	Q q	Koo
ℜ 𝔯	R r	Err
𝔖 ſ 𝔰	S ſ s	Ess
𝔗 𝔱	T t	Tey
𝔘 𝔲	U u	Oo
𝔙 𝔳	V v	Fou
𝔚 𝔴	W w	Vey
𝔛 𝔵	X x	Iks
𝔜 𝔶	Y y	Ypsilon
ℨ 𝔷	Z z	Tset

The Germans also make use of the following double letters in printing:
William Savage, A Dictionary of the Art of Printing, 1841

DOUBLE MOUNTING The process of attaching one label over a larger one of a different color. It gives the effect of a colored border around the smaller label. 86 RE

DOUBLE NARROW A piece of furniture equal in breadth to two narrow quotations. There are different sizes used in making margin, and in imposing, viz., double broad, double broad and narrow, broad and narrow, broad and double narrow. • DAP

DOUBLE PICA The name of a type, one size larger than Paragon, and one smaller than Two-Line Pica. It is equal in depth to two Small Pica bodies. *See* Types. DAP

DOUBLE PLATE 1. See: DOUBLE SPREAD (1). 2. A single unit of illustration extending across two contiguous pages, often printed on a folio so imposed that it becomes a CENTER SPREAD. RE

DOUBLE REGISTER Two registers in one book. See: REGISTER. (1) RE

DOUBLE SCORED Paper that has been scored along two distinct, closely spaced lines. Double scoring allows for a partial rolling effect of the leaf and thereby improves turning. Cf: CRIMPING. See also: SCORE. RE

DOUBLE SKIN See: PIPING (1) RE

DOUBLE SLIPCASE 1. A SLIPCASE in two parts, one of which fits into the other. 2. A single slipcase fitted inside with a divider which enables it to accommodate two books while keeping their covers from touching. RE

DOUBLE SPREAD also *double truck* 1. Two facing pages on which printed matter is spread across as if they were one page. When an illustration is printed this way two blocks are used unless the spread is in the center of the section, in which case it is a CENTER SPREAD. Also called "two page spread." See also: CONJUGATE LEAVES. 2. The application of an adhesive to both adherends of an assembly. 139,309 RE

DOUBLE THICK COVER PAPER Two thicknesses of cover paper laminated together with adhesive to produce a very stiff cover paper. The more common basis weights are 100 pounds (two 50-pound sheets) and 130 pounds (two 65-pound sheets). RE

DOUBLE TWO SHEETS ON A method of sewing a book on tapes that is reputed to give still greater strength than the ALL ALONG method. Each section is sewn "two sheets on" with the preceding section, resulting in each section being sewn to the sections both above and below it. This gives greater holding power because two threads pass through each section; consequently, if one thread breaks the other still holds the section. Unless the first and last sections are sewn all along, however, the weakness of this method is that these sections, which receive the greatest strain when the book is being used—particularly the first section—are not held very securely. In addition, not all of the sections are held by the kettle stitches. 196 RE

DOUBLE-SHEAR STROKE The multiple movement of the descending knife of a guillotine. First, there is the downward motion through the pile being cut; second, the single-shear motion across the face of the pile; and third, the double-shear motion where the cutting edge of the knife starts to cut higher at one side of the pile and by a rocking motion becomes approximately parallel when it reaches the bottom of the cut at the table. The double-shear stroke thus cuts more like a scissors, with the knife edge entering each sheet in the pile at its side and gradually cutting across it. The advantages of the double-shear stroke are: 1) less power required to cut: 2) less strain on the machine and the knife; 3) a more perfectly cut edge; and 4) a smoother face to the pile. Cf: SINGLE-SHEAR STROKE. 145 RE

DOUBLE-SIXTEEN FOLDER A particular folding machine capable of folding two 16page sections or one 32-page section. This folder can also be equipped to produce two 32-page sections, though of a smaller page size. Double 16s have three folding levels and four sets of folding rollers. The sheet is slit in half at the first folding level and each half is folded individually at right angles at the second level. It is folded once again at the third level, which has only one set of folding rollers; in this level, if the sections are to be outserts, each of the two folded sheets is folded in succession, whereas if the sections are inserts, both sheets are combined and folded together. A fourth folding level may be added to make the machine capable of producing two 32page sections. See also: FOLDING MACHINES. 320 RE

DOUBLE-STITCHED BINDER A commercial type of "binder" sometimes used for in-house repair of books. It consists of two lengths of heavy cloth sewn together along two parallel lines, the distance between them being approximately the thickness of the book to be recased. Each layer is gummed on the outside surface. The spine of the book is attached to one layer of cloth along with the new endpapers, while the other side is attached to the inlay and boards. The standard widths (between rows of sewing) ranges between 1/4 inch and 3 inches. 138 RE

DOUBLE-TONE INK A printing ink consisting of a mixture of an oil-soluble dye. a stable body pig-

ment of a different color, and a medium. Such inks are used for the printing of halftones when a gravure effect is desired. The halftone is actually printed in the usual manner; however, sometime later overtones appear on the print, due to the dye of the ink spreading as a halo around the printed dots forming the image. Paper finish and tone also affect the result. 140 RE

DOUBLED **1.** An impression in leather, such as in blind tooling, which is said to be doubled when the tool has been twisted in the impression, or when a repeat impression does not fall exactly over the first. RE **2.** When in working a tool a second time it is inadvertently not placed exactly in the previous impression, it is said to be "doubled." ABB

DOUBLING The unintentional printing of a repeat image from a single form that is out of register. Doubling is particularly troublesome in halftone work because it adversely affects both tone and color values. It may be caused by several things, including rippling of the paper or premature contact with the form or offset blanket. It may also occur if sheets slip in the gripper or if the paper stretches during printing. Play in the press cylinders resulting in printback of ink picked up from the paper by the blanket can also cause doubling, as can the succeeding printing unit being slightly out of register with the original print. 17 RE

DOUBLURE **1.** 1. An ornamental inside lining of a book cover, which takes the place of the regular pastedown and fly leaf. It is usually of leather or (watered) silk, generally with a leather hinge and is often very elaborately decorated. The typical doublure consists of a silk fly leaf and a leather board covering, but sometimes both board covering and fly leaf are of silk; rarely, both are of leather. In a strict sense, however, the term refers only to leather linings. • The doublure was known in Turkey at least as early as the 14th century, but the earliest known European doublures are a binding of about 1550 in the British Museum. Their use was revived in the reign of Louis XIV (1643–1715), but they were not used very extensively until about 1750, after which they became very popular. Doublures have been used continuously since that time—more so in France, where they have always been more popular than elsewhere. The word itself is French, meaning "lining" or "doubling of material." Also called "ornamental inside lining." 2. In a very general sense, an ornamental endpaper. See PLATE X. RE **2.** the inside face of the boards, especially applied to them when lined with leather and decorated. BCB **3.** The inside face of the boards, especially applied to them when lined with leather and decorated. When thus lined a cover is said to be "double." NBL 172,236,335,343

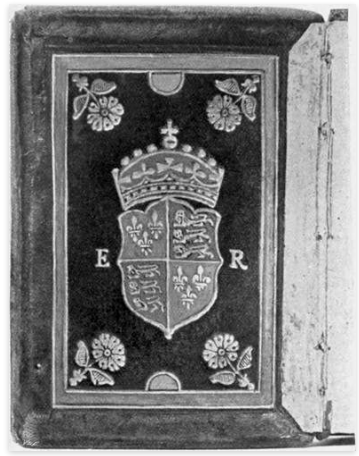


Fig. 6. — Prayers, etc. Malborow, 1538 (Doublure). Edward VI. *Cyril Davenport, Royal English Bookbindings, 1896*

DOUBLURE MARGIN In a strict sense, the space on the inside of a book cover between the DOUBLURE (1) and the edges of the board, which, when there is no doublure, are simply the TURN-INS (1). 173 RE

DOWN AT THE HEAD 1. Sections which have not been fed properly to the head gauge of the cutting machine, causing an "up and down" appearance in the heads of the sections of a book. 2. Plates or maps that have not been placed up to the top edge of the leaf. 256 RE

DOWNTIME The time during which a machine, department, or entire bindery is inactive during normal working hours, because of repairs, setting-up, lack of material, etc. Downtime becomes extremely costly in certain plants, such as paper mills, edition binderies, or binderies specializing in adhesive binding, because of the very high cost of the equipment used, as well as the cost of idle labor. 316 RE

DRAG The pulling effect on the first and last sections (or leaves) of a book, caused by endpapers that have been attached directly to the sections (or leaves), rather than being sewn to the tapes or to a guard which is attached to the sections or leaves. RE

DRAW **1.** 1. The displacement of the cut sheets by the thickness of the guillotine cutting knife. Draw is a common cause of imperfectly cut paper. 2. The dragging action of the knife of a

cutting machine, which tends to draw a book or pile of sheets out from under the clamp when cutting papers are heavily coated with clay. 3. The tension applied to paper between the sections of a papermaking machine, such as the press or drier sections. RE **2.** When a form is working at press, and any of the letters are loosely justified, or from any other cause are not tight in the form, and the adhesion of the ink and balls or rollers pulls them out, they are said to draw. This accident too frequently occurs; and as it is not always perceived, errors arise which neither the care nor the skill of the reader can prevent; when it is perceived, after an impression or two have been pulled, the pressmen often put the letters into the wrong place, and thus cause an error. They are occasionally left by the ball on the form, and produce a batter, which is a waste of materials, and of time in repairing it. A good compositor guards against this evil by care in justifying his lines, and also in locking up. DAP 17,145

DRAWER-HANDLE TOOL A finishing tool often used in England and the Netherlands during the second half of the 17th century. It was generally used in groups or sequences, and is so named because of its similarity to the handle of a drawer. 156,347 RE

DRAWING COLOR The darkening of the impressions made in leather during blind tooling. This is done by means of a hot tool, a smoked tool (soot or lampblack [carbon] or carbon paper), or by wetting the leather with water or vinegar. 115 RE

DRAWING ON also *drawing over* A term sometimes applied to the process of drawing the leather covering over the spine of a book, preparatory to turning and setting the head. RE

DRAWN FLANKS The flank area of hides and skins that have shrunk and display furrowed lines on the grain surface over the underlying blood vessels. RE

DRAWN GRAIN A grain in a leather which shows an irregular pattern of creases or narrow grooves, produced by tanning the skin in such a manner that the main thickness has contracted relative to the grain layer, which is then fixed in a puckered or "drawn together condition." 61 RE

DRAWN MARBLE A general term applied to a type of edge marble consisting of multi-colored scales. The colors used are black, blue, or green, yellow and red, put on the size in that order. The black is dropped on in such a manner that the first drop comes into contact with the edge of the second, the second with that of the third, and so on, so that a color ribbon is formed. The blue (or green) is placed on the size in unconnected drops on both sides of the black. The yellow is dropped on both sides of the black so that each drop of blue has a yellow center and the red is placed so that each drop of yellow has a red center. The colors are then drawn by a stylus in wavy lines through each other past the black, producing white lines between the colors. The comb is then drawn across producing the scales. Variations of drawn marbles, in addition to comb edges, include the "American, " "bouquet, " "peacock, " and "snail." 264 RE

DRAWN SHEETS In collating books in the warehouse, after they have been gathered, duplicate sheets, and sheets of wrong signatures, are occasionally found; arising, in the one instance, from the carelessness of the gathering boys, in taking up more than one sheet of the same signature; and, in the other, from a lift of another sheet being occasionally taken down and mixed in the heap: in these cases the sheets are drawn out of the book, and laid on one side, and, after some accumulation, are replaced upon their respective heaps, to be gathered again right. These sheets are called *Drawn Sheets*. DAP

DRAWN-IN also *drawing in* See: LACING-IN. RE

DRAWN-ON COVERS also *drawn-on solid* A term applied to the binding of square-backed periodical issues, pamphlets, and paperbacks, in which the cover is attached by gluing it to the spine. When the endpapers are pasted down, it is said to be "drawn-on solid." 156,307 RE

DRENCHING An old method of deliming and acidifying unhaired skins, in lieu of BATING or PICKLING, by means of immersion in a water infusion of fermented barley, sour dough, flour, or the husks of cereals. The organic acids (lactic and acetic) in the solution neutralized any remaining lime in the stock and the particles of barley, etc., exerted a cleansing action of the skins, absorbing dirt and greases, etc. The cleansing action was very effective because the enzymes produced by the bacterial cells not only broke down the carbohydrates in the plant materials to produce acids but also digested the mucopolysaccharides of the ground substance.
• Drenching was often difficult to control, as the enzymes did not restrict their attack to the carbohydrates either in the solution or the skins, but often degraded the fibers of the dermal network as well. In addition, too much acid

swelling was produced with resulting impairment of the skin structure and, therefore, of the quality of the leather produced. • When drenching is used today, as in certain vegetable tannages calling for specific acid conditioning during the early stages of tanning, weak solutions of organic acids, such as lactic, acetic and formic, are used in lieu of fermented cereal solutions. • Because of the gas bubbles of carbon dioxide produced by fermentation, which caused the skins to rise to the surface of the paddle, the process was also called "raising." 291,363 RE

DRESS A CHASE, or, Dress a Form, is to fit the pages and the chase with furniture and quoins. *See* Margin. DAP

DRESSING A general term applied to the series of processes involved in converting rough tanned hides and/ or crust leather into finished leather. See also: CURRYING; LEATHER DRESSINGS; PURE DRESSED. 61 RE

Dressing a chase or form Fitting the pages and chase with furniture and quoins. AMP

DRESSING BLOCK Made of pear tree, because a soft wood, and therefore less subject to injure the face of the letter; it is commonly about three inches square, and an inch high.—M. Used the same as our planer. *See* Planer. DAP

DRIED-IN STRAIN also *dried-in stress* That part of potential strain or stress remaining in machine-made paper subsequent to manufacture. The property is caused by tension or restriction of shrinkage during drying as the web moves through the papermaking machine. Dried-in strain diminishes with time and can be reduced rapidly in the presence of high humidity or if the paper is wetted. See also: ANISOTROPIC BEHAVIOR. 17 RE

DRILL 1. A strong, heavy, durable cotton fabric in twill weave, used as a base for certain grades of imitation leather, and sometimes finished for use as a covering material for very large books, e.g., blankbooks. 2. To make a round hole in paper for the purpose of overcasting or side sewing, usually by means of a high-speed drill. The term also applies to making holes in paper for loose-leaf, spiral, or similar type of binding. 3. A hand- or power-drill for making holes in book paper, binder's board, etc. . 183,256 RE

DRIPPING PAN Literally so, made of tinned iron, extending the whole length of the press, fixed under the long ribs, to preserve the floor from the droppings of oil. • They are useful articles; for presses to be kept in good working order require to be frequently oiled; and for want of a dripping pan, I have known the oil run through the joints of the floor upon a pile of paper in a room underneath, and spoil a considerable quantity. DAP

DRIVE OUT When a compositor sets wide, he is said to drive out or run out. In founding, if letter be cast too thick in the shank, it drives out.—M. If copy make more than was calculated on, they say, it drives out; if less, and it is intended that it shall make the precise quantity decided on, they say, you must drive out; that is, it must be branched out in proportion, and not cramped. DAP

DRIVE PUNCH A hollow steel punch used for making holes in leather, paper, etc., for eyelets and snap fasteners. RE

DROPPING COLORS The placement of MARBLING colors on the size in the marbling trough. Also called "throwing colors." 327 RE

DROPPING OUT After a form is locked up, and, when it is being lifted from the stone, or being laid upon the imposing stone, or the press, any letters, spaces, or quadrats fall out, it is said something drops out, or something has dropped out; this may arise from some of the lines being badly justified—some of the leads riding—or some of the furniture binding—or similar causes —and frequently produces errors at press by other letters drawing out. *See* Form Dances. • In this case, before the form is put to press, it should be examined to ascertain the cause, and any impediment to its safety should be removed. • Drum. *See* Wheel. • DAP

DRUM A revolving cylindrical container used in leather manufacture for such operations as washing, tanning, dyeing, fatliquoring, etc. It is usually equipped with pegs inside for lifting and agitating the stock. The operation of tumbling the stock is known as "drumming." RE

DRUMMING ON The process employed in attaching silk doublures. A special technique is required because adhesives cannot be applied directly to silk as they would penetrate the material. A piece of silk larger than the space enclosed by the turn-ins and leather joint is laid on a piece of paper the exact size of the enclosure. The edges of the silk are turned over the paper and glued to the back. The paper is then glued to the board. The silk is secured only at the edges and is otherwise free (like a drum), being drawn taut but not glued down. If the

DOUBLURE extends to the very edge of the board, the enclosure is filled in with thin board to bring the board surface up to the level of the turn-ins and joint. RE

DRY To change the physical state of an adhesive applied to an adherend by the loss of solvent constituents by evaporation, absorption, or both. RE

DRY OPEN A method used on combination case bindings that involves hanging the book in its case, gluing down the cloth joints with the cover boards held open, and allowing the book to dry in that position before completing the binding process. 256 RE

DRY PRESSING An obsolete term applied to the operation of pressing out the indentations made in paper by the type during printing, so as to make the printed sheet smooth. Pressing of this nature was done in a standing- or hydraulic press, the printed sheets being placed between sheets of hard-rolled boards. 138 RE

DRY SIZE A powdered size used in goldtooling suede leathers, velvet, silk, and also cameo papers. See also: ALBUMEN; BLOCKING POWDER. RE

DRY STAMPING A technique used in the production of multi-colored paste patterns for end- and other decorative papers. Colored paste is first brushed over the surface of the paper, the paste brush then being drawn from top to bottom of the sheet in regular strokes, leaving a uniform layer of color on which parallel brush marks are faintly discernible. While the surface is still wet, a dry printing implement is pressed on the wet color. When it is removed, some of the color adheres to it, leaving a faint unit on the paper of a lighter color than the remaining background. An engraved brayer is also used at times to create a continuous design. 86 RE

DRY STRENGTH The resistance to failure of an adhesive joint measured immediately after drying under specified conditions. See also: WET STRENGTH. 309 RE

DRY TACK That characteristic of some adhesives, and especially nonvulcanizing rubber adhesives, to adhere to themselves during the period in which volatile constituents are evaporating, even though they may appear to be dry. Also called "aggressive tack." 309 RE

DRY-RUB RESISTANCE The resistance offered by the coated or uncoated surface of a material to wear resulting from mechanical action on the surface of the material. See also: WET-RUB RESISTANCE. 17 RE

DRY-SALTING A method of preserving hides and skins for storage and/or transportation before tanning, so as to prevent PUTREFACTIVE DAMAGE, by curing them in a very strong solution of brine—i.e., about 30 pounds of salt for every 10 gallons of cold water, followed by drying, or by WET-SALTING, followed by drying. In both methods, the hides are subject to a thorough and uniform salt penetration and are then hung up to dry. Dry-salting substantially reduces the weight of the hides and therefore the cost of transportation that is incurred in wet-salting; it also reduces or eliminates many of the dangers involved in simple DRYING (1). Large numbers of hides, however, require great quantities of salt. In dry-salting, care must be taken that: 1) drying is carried out gradually and evenly; otherwise the hides may become too hot and partially gelatinize, which not only prevents drying of the inner layer and causes the hides to become hard and brittle, but also results in the gelatinized parts leaving holes when the stock is later returned to its normal wet condition; and 2) when the hides are to be tanned, they must be soaked in water until they have taken up as much water as they had before curing; dry-salted hides require more time and more careful soaking than does wet-salted stock. • Sodium chloride (NaCl) is the most commonly used salt for this process, but a salt "earth" known as KHARI, is actually to be preferred because it contains about 60% sodium sulfate ($Na_2 SO_4$), 20% magnesium sulfate ($Mg SO_4$) and 5% sodium chloride, and is less hygroscopic than common salt. It is more suitable for the hot, humid areas during the rainy seasons, from which most dry-salted hides are prepared. 248,291,363 RE

DRYING 1. A method of preparing hides and skins for storage and/or transportation so as to prevent PUTREFACTIVE DAMAGE. • Drying is employed principally in situations where insufficient salt is available for WET-SALTING, or where the cost of salt is too high to be economical. • As bacteria must have a certain amount of moisture or free water if they are to attack a hide or skin, putrefaction can be effectively stopped or prevented by removal of the water to the point where the skin contains only 10 to 14% moisture. At this point the activity of the bacteria ceases, and some types are killed, while the others dry up into spore form, in which they can remain for long periods or until there is enough water for

them to again become active. • Curing by drying requires considerable care, especially with thick hides, because: 1) if drying is too slow, as may be the case in relatively wet, cold climates, putrefaction may occur before the moisture content is low enough to inhibit bacteria; and 2) if drying is too rapid and the temperature is too high, part of the wet skin will begin to gelatinize, which will show as holes in the hide when it is subsequently brought back to its normal moisture content. Too rapid drying also makes the hide hard and brittle and prevents drying of the inner layers. • Drying as a means of curing is usually practiced in countries with hot, dry climates. The skins may be: 1) ground dried—by simply spreading them out on the ground, sometimes on a bed of twigs or stones. This is potentially dangerous because of poor ventilation on the ground side and too high a temperature on the exposed side, plus contamination with dirt; 2) sun dried—in which the skins are hung or laid over poles or wires in the sun. This method affords better ventilation and quicker drying, but may result in heat damage or pole or wire marks, showing as hard creases down the skin; 3) frame dried—in which the skins are loosely stretched out on frames, which are arranged so that they do not receive the direct rays of the mid-day sun. This results in less danger of heat damage and a superior, flatter shape; however, a skin shrinks on drying, and if it is stretched too tightly on the frame, overstraining may cause thinness and weakness; and 4) shade dried—where the skins are dried in an open-sided, covered shed, designed to avoid the direct heat of the sun but to allow good ventilation. See also: DRY-SALTING. 2. The process of allowing books to be "set" after each operation, involving the use of adhesives and/or seasoning a book in a press after casing-in or covering. 256,291,306,363 RE

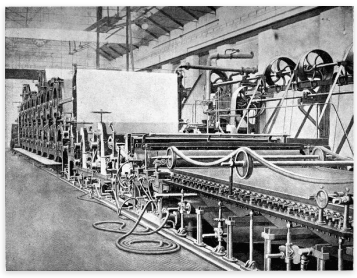


Fig. 39. —Paper Machine showing Wire, Press Rolls, and Drying Cylinders.
R. W. Sindall, The Manufacture of Paper, 1908

DRYING CRACKS Fissures in the surface of a paper coating caused by an unduly rapid evaporation of the moisture in the coating. RE

DRYING MEMORY A characteristic of certain hot-melt adhesives which causes them to attempt to return to the shape or configuration they had when they set. When a hot-melt adhesive is applied to the flat spine of a book, and the book is subsequently rounded and backed, the "memory" of the adhesive tends to cause it to revert to the original flat configuration it had when it set, thus also flattening the spine of the book. This loss of round will eventually cause the binding to fail, i.e., the book will become loose in its case because of the strain of the backing shoulders caused by the loss of round. RE

DRYING TEMPERATURE The temperature to which an adhesive, the adherends, or both, is subjected in order to dry the adhesive. The temperature of the adhesive in process of drying may differ from the temperature of the surrounding atmosphere. See also: CURING TEMPERATURE; SETTING TEMPERATURE. 309 RE

DRYING TIME The length of time during which an adhesive, the adherends, or both, is allowed to dry, during which time no heat, pressure, or both is applied. See also: CURING TIME; SETTING TIME. 309 RE

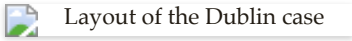
DRYING TUNNEL A tunnel in which damp leather is placed for drying in a current of air, often under carefully controlled conditions of temperature and humidity. RE

DU SEUIL, AUGUSTIN 1673–1746) See notes on the electronic edition • A celebrated Parisian bookbinder who held the position of royal binder to Louis XV of France. Du Seuil employed lavish doublures and rectangular panels with an armorial panel in the center. He was one of the first bookbinders to execute MOSAIC BINDINGS, although PADELOUP is generally credited with their introduction. He is the only French binder written of in English literature, being mentioned in Pope's fourth moral essay: • His study! With what authors is it stored? • In books, not authors, curious is my Lord; • To all their dated backs he turns you round; • These Aldus printed, those du Seuil bound. • Du Seuil married into the Padeloup family and worked with Antoine Michel Padeloup at the beginning of Padeloup's career. . 94,372 RE

DUBBIN A paste prepared from cod oil and tallow, the proportions of which vary according to the time of year—in winter generally two parts oil to

one of tallow, and the reverse in the summer. There are two types of tallow in general use, one of which is mutton (melting point 40–45° C.), and the other beef (melting point 35–40° C.). Dubbin is used to incorporate oil into some tanned leathers in the STUFFING (2) or CURRYING processes. 306 RE

DUBLIN Plan of a Lower Case as used at Dublin. The Upper Case is the same as used in London. DAP



Layout of the Dublin case
William Savage, A Dictionary of the Art of Printing, 1841

DUBUISSON, PIERRE-PAUL fl 1746–1762 An 18th century French bookbinder, who succeeded ANTOINE MICHEL PADELOUP as royal binder. Dubuisson excelled in the creation of dentelles similar to those of the Deromes, and was an accomplished heraldic designer as well as bookbinder and gilder. He, and his father, Rene, specialized in the binding of almanacs, devising the shortcut of decorating their covers with well-designed engraved plaques designed to be used in a press, instead of working with individual tools. 94,347 RE

DUCK **1.** A plain, closely woven, durable fabric, now usually made from cotton. It is woven in various weights and used for covering large, heavy books, especially blankbooks, and other large stationery bindings. RE **2.** sometimes called Canvas. This is made by many firms in a wide range of colors and qualities. It is in fact a heavy cotton cloth. Slate-colored duck 28 in. wide, 10 oz. to the yard, costs about 20 cents per yard. This is a firmly woven, smooth material. We have used a light green. It takes printers' ink for lettering fairly well, though it soon soils if handled. It is a very desirable binding for heavy books not much used. All such books should be stiffened by pasting or gluing cloth on the backs, if loose back, and should be reinforced at head and tail. NBL 264

DUCK'S BILL **1.** A tongue cut in a piece of stout paper and pasted on the tympan at the bottom of the tympan-sheet, to support the paper when laid on the tympan. AMP **2.** A tongue cut in a piece of stout paper, which is pasted on the tympan at the bottom of the tympan sheet, to support the white paper when working, instead of pins; the paper to be printed rests in the slit behind the tongue, and takes a good bearing. • It is seldom used except in the best work, where the paper printed is fine, stout, large, and expensive, when extra precautions are taken to prevent waste. DAP

A tool to support paper in the press
William Savage, A Dictionary of the Art of Printing, 1841

DULL GILT The edges of a book that have been gilt and then burnished through thin paper, producing a solid, uniformly dull metallic surface. See also: GILT EDGES. 154,335 RE

DULL-COATED A paper having a coated surface that is low in gloss. It is usually a free sheet base stock coated two sides with calcium carbonate or blanc fixe, and finished with a flat or smooth surface offering minimum gloss or glare. It is made to standard book sizes and weight, and is suitable for printing fine halftones. 17,156 RE

DUMB A more-or-less obsolete term used in lieu of "blind" with reference to blind printing, blind tooling, blind perforating, etc. 256 RE

DUMMY 1. A made-up text block, generally of blank leaves, sewn and trimmed but not cased or covered and meant to represent the bulk of a forthcoming publication. 2. The layout of a forthcoming book, including the actual arrangement of the printed matter, specifications for type, illustrations, etc. 3. A piece of leather or cloth mounted on a board to show the exact size and lettering of a publication, usually a periodical. See also: RUB (1). 129,139,156,234 RE

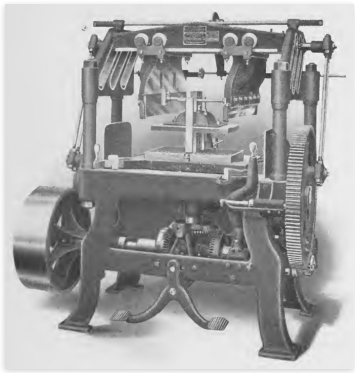
DUODECIMO **1.** See: TWELVEMO. RE **2.** The size of a book, generally for shortness written 12mo, and hence frequently incorrectly so pronounced. It is formed by folding a sheet of paper into twelve portions or leaves, making twenty-four pages. *See* Imposing. DAP **3.** or *12mo.*—Twelve pages to a form. AMP

DUODECIMO.
William Savage, A Dictionary of the Art of Printing, 1841

DUODO BINDINGS Bindings executed by Parisian gilders for Pietro Duodo, Venetian ambassador

to Henri IV of France, 1594–1597. The distinctive feature of his bindings (and apparently most of his library consisted of small books similarly bound) was rows of laurel wreaths enclosing various small flowers, the central wreath enclosing his arms. This style was imitated by English binders of the early 18th century and by French binders in the late]9th century. 140,347 RE

DUPLEX 1. A term used with reference to the texture, finish, or color of a paper. A duplex texture refers to a paper that may be smooth on one side and rough on the other, while a duplex finish refers to a paper that may have a linen finish on one side and a burlap finish on the other, and so on. A duplex color refers to a paper that is stained on one side only, or that is colored with different colors on either side. A duplex color may also be obtained by laminating together two papers of different colors. 2. A general term applied to a paper or board with two or more plies. 17 RE



Seybold Duplex Trimmer.
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

DUPLEX BOOK TRIMMER A type of cutting machine having two trimming knives parallel to each other on opposite sides above a central cutting table. The table consists of a cutting block equipped to clamp the pile firmly. Two piles of books, each 5 to 6 inches high, are placed spine to spine against the gauges. This brings the fore edges of each pile on opposite sides at the table and under the knives. After cutting the fore edges, the other edges of the book are brought into position by giving the table a quarter turn. This also changes the position of the knives on the knife-bars above, drawing them closer for trimming the heads and tails of both piles simultaneously. See also: THREE-KNIFE TRIMMER. 142 RE

DUPLEX PAPER See: DUPLEX. (1) RE

DURABILITY (OF PAPER) The degree to which a paper retains its original strength properties while at the same time being relatively heavily used, as a manuscript or book. Realistically, the expression implies a paper which has a high initial strength, e.g., a paper carefully produced from cotton fibers, rags, or a high grade chemical wood pulp, as opposed to one produced from a combination of chemical and mechanical wood pulps, for example, which has relatively little initial strength. • Some 80 years subsequent to the development of the (Fourdrinier) papermaking machine, there was the beginning of a widespread concern over the relatively rapid deterioration of paper, and in the years between 1885 and 1930, various governmental and other groups, such as the United States Department of Agriculture, the German government, the Royal Society of Arts (Great Britain), and the Library Association of Great Britain, investigated the problem. The earliest of these investigations focused attention on the method of paper manufacture; only much later did it become apparent that the materials used in making paper, the care taken in stock preparation, and the sizing and bleaching agents utilized also had to be considered. • Research into the qualities (both durability and permanence) of paper has been fairly extensive in recent decades. The overall collective results of this research would seem to indicate that the retardation of paper deterioration requires: 1) careful control of stock preparation at every stage of manufacture, and avoidance of excessive beating of the fibers, which shortens and therefore weakens the fibers and also sometimes prevents proper felting during sheet formation. In addition, impurities, inherent in the stock and/or incorporated from equipment, e.g., copper or iron, must be avoided or removed insofar as possible; 2) great care taken to remove the chemicals used in pulping, e.g., sulfates and sulfites, so as to avoid subsequent hydrolysis of the paper; 3) the removal of unbleached cellulose fibers so as to prevent possible deterioration; 4) avoidance of excessive mineral loadings, as too much loading inhibits felting of the fibers and also weakens the paper; 5) tub-sizing (preferably with gelatin) of archival and/or papers to be handled frequently, as this type of sizing not only adds a protective film to the paper but also strengthens the paper considerably; 6) that bleaching agents, e.g., chlorine compounds, be removed as completely as possible in order to avoid the possibility of the formation of hydrochloric acid in the paper; 7) that mechani-

cal wood pulp, which contains a relatively high percentage of impurities, e.g., lignin, and which also has very short fibers, should be avoided in archival and heavy use papers; and 8) that the paper be manufactured in such a manner that it retains its coatings over a long period in storage. • Books, documents, and other archival materials should be housed in airconditioned quarters having controlled temperature and relative humidity. Taking into consideration that people probably will be working in the storage (bookstack) area, a reasonable temperature might be 60 to 65° F, with a relative humidity of 50 to 60%. The area should also be as dark as practical, with time switches that turn off lights automatically. The area should be completely free from dirt, and insects and their larvae. If fluorescent lighting is used, which gives off less heat than incandescent lighting, it should be filtered, as the ultraviolet light radiated from fluorescent lights over a long period of time could cause deterioration of book papers. 32,36,40,143,157,198 RE

DURO-FLEXIBLE BINDING also *duro-flexile* A style of library binding devised and patented by Cedric Chivers in the latter part of the 19th century. The duro-flexible binding was designed to give additional strength where most needed, i.e., in the hinges and first and last sections. This was done by lining the endpapers with jaconet and using a three-jointed endpaper. The books were sewn all along on linen tapes. The spines were lined with a pliable leather, and both tapes and lining were secured between split boards. They were covered with a thin, vegetable-tanned pigskin, with linen on the sides. 94,236 RE

DUST COVER 1. See: BOOK JACKET. 2. A blank leaf inserted at the end of a pamphlet or booklet having a self-cover. dusting. The process of spreading ground, raw vegetable tanning materials over and between hides being tanned in layer vats to add to the tanning strength of the tan liquor. Dusting was a common practice before the days of concentrated tanning extracts. 363 RE

DUST JACKET also *dust wrapper* See: BOOK JACKET. RE

DUTCH ANTIQUE MARBLE A modification of the NONPAREIL MARBLE. RE

DUTCH BINDING An obsolete term for a style of binding that includes a vellum or parchment spine, usually of a green color. 152 RE

Fig. 83. —Dutch binding in tortoiseshell and silver.
Cyril Davenport, The Book: Its History and Development, 1907

DUTCH CORNER See: LIBRARY CORNER. RE

DUTCH GILT PAPERS also *Dutch flowered papers* A type of highly decorative papers that were not marbled but were printed by means of blocks of wood or metal, or by engraved rollers. They were used from about 1700, and, although known as "Dutch gilt" or "Dutch flowered," they were actually produced in Germany and Italy, the Dutch connection possibly arising from the fact that the papers were imported into Holland for reexport to France and England, although not all of them arrived in France and England by that route. • A great variety of designs was employed in these papers, many being in imitation of the brocades and damasks of the period. Some have figures of huntsmen, animals and birds, saints, mythological beasts, and Renaissance strap and scroll patterns; many arc embossed, and some are printed on colored paper. • The probable method of their execution consisted of transferring gold size to the paper by means of wooden plates or engraved rollers, the former first being pressed onto a pad saturated with the size, the latter having the size painted on. When the size on the paper had dried to the correct state, the gold was dusted on, and, when the size was dry, the superfluous gold was brushed off. If it was desired to have the gold raised the size was thickened with yellow ochre or red lead. The method of coloring is unknown, but it may have been done by dabbing or stencilling. 217,236 RE

DUTCH GOLD also *Dutch metal* The generic name for a blocking foil that has found considerable use as a substitute for gold leaf since the latter years of the 19th century. It was introduced in

Germany and its use, in sheet form, expanded rapidly, followed by a similar foil in roll form. Although often referred to as "bronze leaf," bronze being an alloy of copper and tin, it is actually composed of brass, which is an alloy of copper and zinc. As the amount of copper is increased, the color of the leaf deepens. Unlike gold leaf, Dutch gold discolors, tarnishing more rapidly in polluted environments. When blocked on leather, the leaf or foil turns green very quickly; and even when blocked on cloth or paper, it will eventually discolor. Discoloration is due to the action of gases in the atmosphere, such as hydrogen sulfide (H_2S), plus heat and light. Great differences exist in the rate of tarnishing among the various brass foils, however; flat foil for some reason discolors less rapidly than the rolled Dutch gold. This may be due to the high melting-point waxes used on the flat foil but not on the rolled, which coat the metallic particles after they are deposited on the material in the blocking process. This coating apparently acts as a (partial) seal against the deteriorative effect of the atmosphere. Because of the chemical action of the plasticizers in pyroxylin fabrics, the deterioration of the foil is more rapid on these fabrics than on starch filled fabrics. 233,236,264,356 RE

DUTCH MARBLE A marble pattern executed by dropping a series of colors, usually yellow, and blue (in that order), which are then drawn together and intermingled by means of a comb, so that instead of shells and veins being produced, the pattern consists of a series of small, sharp scallops. • The Dutch marble is a pattern that has been used frequently in blankbook binding from the early 19th century to the present day. RE

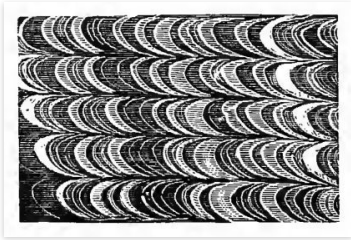


Fig. 102.—Dutch Marble.
W. J. E. Crane, Bookbinding for Amateurs, 1885

DUTCH METAL **1.** See: DUTCH GOLD. RE **2.** An imitation of gold leaf, sometimes used on cheap bindings. It soon grows dark or tarnishes. NBL

DUTCH PAPER Originally, a handmade paper produced in Holland, but today any deckle-edge hand- or machine-made paper manufactured in Holland. It is a superior grade of paper used for high quality books, and, if given an antique finish, as artists' paper. Use of the expression "Dutch" may stem from the fact that in Holland handmade or imitation handmade paper is still called "Hollandsch papier," which does not necessarily mean paper made by hand in Holland. { 17) RE

DUTCH SEWING An obsolete (traditional) method of sewing a book, using strips of parchment or vellum in lieu of the customary bands or cords. 152 RE

DWELL also *dwell time* 1. See: CLAMP DWELL. 2. The period of time during which the heated finishing tool is in contact with the leather or gold leaf. RE

DYE A natural or synthetic coloring material, whether soluble or insoluble, which imparts its color to a material by staining or being imbibed by it, and which is employed from a solution of fine dispersion, sometimes with the aid of a MORDANT. • Dyes differ from pigments, which are insoluble materials that impart color by being spread over a surface, or by being mixed in the form of an ingredient, as in the coloring of some papers and leathers. Natural dyes, such as indigo, madder, fustic, butternut, orchil, logwood, catechu, tumeric, etc., are seldom used today. The discovery in the mid-19th century that dyes could be produced artificially from a constituent of coal tar was the first step in the decline of the use of natural dyestuffs. In large part this was because the quality and effectiveness of natural dyestuffs depended on a variety of factors, over which the user might or might not have control. These included: 1) the problem of storage; 2) the time involved in extracting color from the raw materials; 3) dependence upon a growing season; and 4) impurities. On the other hand, dyes made in the laboratory: 1) do not depend on growing seasons; 2) do not have to be ground or chipped to be made usable; 3) are, in many cases (e.g., indigo), chemically the same as the natural dyes; and 4) since they are manufactured in pure form, are unaffected by the impurities that reduce the quality or effectiveness of their natural counterparts. • However, unlike synthetic dyestuffs, natural dyes produce what can be described as unique colors. They can never be duplicated exactly, and this undoubtedly adds to their appeal. No two natural dye lots are identical for the simple reason that each is going to contain impurities peculiar to the plant material from which the dye is produced; therefore, the very characteris-

tics of natural dyes which made them obsolete also make them appealing to many craftsmen of today. • An enormous range of dyestuffs can be obtained from the manufacturers of chemical dyestuffs. They are still often referred to as "coal tar dyes" or, perhaps more commonly, "aniline dyes," because the early materials were prepared from aniline and many of the intermediates required in their manufacture are obtained by the distillation of coal tar. See also: ACID DYES; BASIC DYES; DIRECT DYES; LAKE; PIGMENT. 4,72,235 RE

DYED WHITE The neutralized or "corrected" white paper produced by the addition of blue or red coloring to the bleached pulp. RE

DYEING The art or process of coloring, or altering the color of a material by the addition of another different colored material, in such a manner that the change may be considered permanent. RE

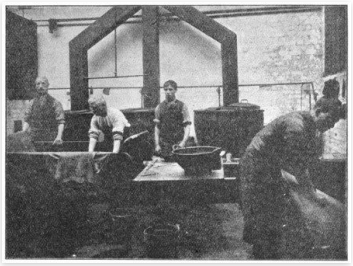


Fig. 91. —Dyeing in the Tray.
H. R. Procter, The Principles of Leather Manufacture, 1903

E

E.I An abbreviation of East India, a descriptive term applied to crust, vegetable tanned cowhide (kip), buffalo hide, or skins such as goat, calf or seep, originating in the Indian Subcontinent and tanned in India, mainly in the south, and especially around Madras. 61 RE

EAR OF THE FRISKET A projecting piece of iron on the near side of the frisket, by taking hold of which the pressman turns down the frisket, and at the same time the tympan; and as it projects a little beyond the tympan, he also raises the sheet off the form by grasping it and the tympan, and by a quick motion quits hold of the tympan, and turns up the frisket by means of the ear. It is sometimes called the *Thumb Piece*. DAP

EARTH COLORS Pigments manufactured by refining naturally colored clays, rocks, and earth, and also the pure iron oxide reds, such as Indian red light red, etc. The iron oxides, although artificial counterparts, are classified with the native red earths. Earth colors are also classified as mineral pigments, along with the manufactured inorganic pigments. They are characterized by good light and heat fastness. 233,306 RE

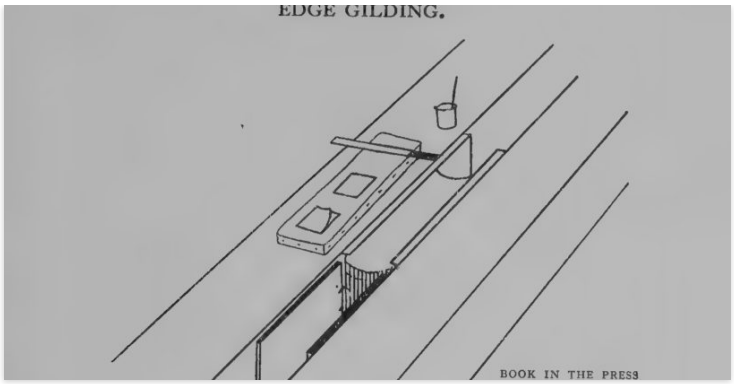
EASY PULL When the form feels the force of the spindle by degrees, till the bar comes almost to the hither cheek of the press, it is called a *Long*, or a *Soaking*, or *Easy Pull*, and is also called a *Soft Pull*; because it comes soft and soakingly and easily down.—M. DAP

EASY WORK With compositors, printed copy, or a fair written hand, and full of breaks, pleases well, and is called good copy, light, easy work: with pressmen, great letter and a small form is called easy work.—M. • The term is not now generally used: what Moxon describes as relating to compositors would now be termed good copy; and with respect to pressmen it would be called light work, or a light form. • DAP

ECCLESIASTICAL BINDINGS A German style of bookbinding in the medieval fashion which became very popular in England following the marriage of Queen Victoria and Prince Albert in 1840. It was used especially for devotional and theological works. Its principal features included thick, heavy, bevelled boards (occasionally papier-mâché was substituted for wood), which were sometimes bevelled only in the middle of each edge, leaving the corners in full thickness. The books were covered in either calfskin of a khaki or brown color or brown morocco and were heavily tooled in blind or black, often with the medieval thin-thick-thin triple fillet. The bindings had OXFORD CORNERS, bright red edges (or gilt over red, and sometimes dull gilt edges which were then GAUFFERED), heavily rounded spines and marbled endpapers in the Dutch pattern. The books were sometimes fitted with clasps. While the bindings were generally well executed, the unusually heavy boards frequently caused the cords to break, resulting in the text block falling out of the hollow-backed "case." Also called "antique," "monastic," or "divinity" bindings. 236 RE

EDGE DECORATION A general term used with reference to the application of gold leaf, color, ink, or other medium, or the tooling, painting, or other form of decoration, of one or more edges of a book. See: ANTIQUE EDGES; CIRCUIT EDGES; COLORED BRUSHED TOP; COLORED BURNISHED TOP; COLORED EDGES; COLORED UNDER GILT; FORE-EDGE PAINTING; GAUFFERED EDGES; GILT EDGES; GILT IN THE ROUND; GILT IN THE SQUARE; MARBLED EDGES; RED EDGES; RED UNDER GOLD EDGES; ROUGH GILT; SPRINKLED EDGES; • TOP EDGE GILT; WHITE EDGES. RE

EDGE GILDING See: GILT EDGES. RE



BOOK IN THE PRESS READY FOR EDGE GILDING.
Alex J. Vaughan, Modern Bookbinding: Letterpress and Stationery Branches, 1929

EDGE GILDING MACHINE A machine, used mainly in edition binding, for gilding the edges of books. The books are placed in the machine and the edges are prepared for gilding in the usual manner. A sheet of gold foil is placed over the edges, and heat and pressure are applied by two heated silicone rubber rollers. The first roller, which is used in conjunction with a sheet of fiberglass, smooths the foil over the edges and insulates the foil from heat until it is under pressure. The second roller then presses directly onto the foil and seals it to the edges. Large numbers of books are edge gilded in this manner, particularly in the Bible publishing business. 229,264 RE

EDGE INDEX A form of the INDEX consisting of marks on the edges of the pages of a book produced by means of printed rules that run to the edge of the sheet (bled) and can thus be seen on the fore edge of the closed book. Edge indexing has the advantage of being part of the printing process, and also allows the use of virtually unlimited headings, as well as adding nothing to the overall cost of binding. Its principal disadvantage is that the user does not know what the mark on the edge refers to while the book is closed. 234 RE

EDGE MARBLING MACHINE A machine used for decorating the edges of book in imitation of MARBLING. • The principle of operation is somewhat similar to that of the platen press. The edge of the book is pressed against the printing surface which has been inked by the form rollers. Any design, color, or combination of colors can be used. The machine may also be used for city directories, etc., where advertising matter is printed on the edges. 264 RE

EDGE ROLL An engraved finishing tool used to impress a design on the edges of the boards of a book, usually one covered in leather. 274 RE

EDGE ROLLED A method of decorating the edges of the boards of a book, usually one covered in leather, in which the edges are tooled in gold or blind by means of an engraved EDGE ROLL. 94,261 RE

EDGE-ROLLED **1.** When the edges of the boards are rolled. It may be either in gold or blind. MAB
2. When the edges of the boards are rolled, either in blind or in gold. ABB

EDGES The three outer extremities of the folded sections of book, usually trimmed and sometimes decorated in some manner. See: EDGE DECORATION. RE

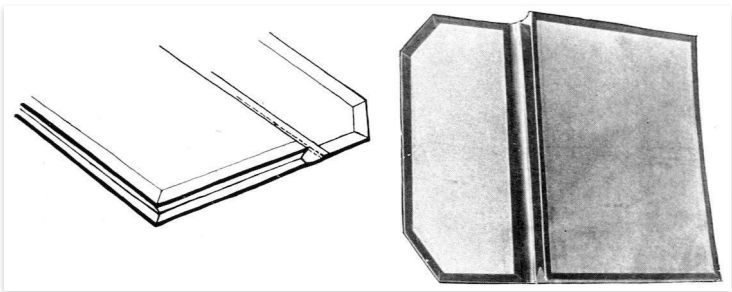


Fig. 50. Showing only the cloth on the edges.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

EDGES CUT A book or pamphlet cut down sufficiently to make all the edges quite smooth. NBL

EDGES GILT Book edges cut and gilded. NBL

EDGES OPENED A book or pamphlet opened, the folds of the leaves being cut by hand with a paper knife. NBL

EDGES RED Book edges cut and colored red. NBL

EDGES ROLLED When the edges of the covers are marked with a roll, either in gold or blind. NBL

EDGES ROUNDED Corners rounded to prevent their becoming dog's-eared. NBL

EDGES TRIMMED A book or pamphlet with the edges cut enough to make them tidy, but not enough to cut the folds of the leaves. NBL

EDGES UNTOUCHED A book or pamphlet with edges uncut and unopened. NBL

EDGING 1. The beveling of an edge, usually of a leather covering, but also paper, vellum, etc., by means of an EDGING KNIFE. The purpose of "edging" a leather cover is to prevent the leather turn-in from bulging, especially at the head and tail of the spine. When applied to paper, the term generally refers to the process of cutting or beveling two pieces of paper so that there is no high or low spot where they are joined. In craft bookbinding today, edging of paper is more or less obsolete, having been superceded by the use of long-fibered Japanese copying paper. 2. See: EDGE ROLLED. RE

Fic. 121—METHOD OF "'PARING" OR EDGING
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

EDGING KNIFE A knife made of hardened steel and used to pare the edges of leather on the flesh side, vellum, paper, etc. See also: PARING KNIFE. 133 RE

EDINBURGH Plan of a pair of Cases as used at Edinburgh. DAP

Layout of the Edinburgh case
William Savage, A Dictionary of the Art of Printing, 1841

EDITION 1. All of the copies of a work printed from the same type or plates, either issued at one time or at intervals. In the latter case, the edition may consist of a number of impressions. A statement of the edition of a book is often printed on the title page or its verso, along with the particulars of any previous editions on the verso. 2. A number of copies of a work printed at any one time, either when the text has undergone changes or the type has been partially or entirely reset, or the format of the book has been altered. The term is also applied to the copies which made up the original issue, i.e., the "first edition," as well as any subsequent editions, e.g., 2nd, revised, etc. 3. The embodiment of a work in a particular typographical form, with different editions embodying an identical text, or varying texts. 4. One of the various editions of a newspaper. See also: EXTRA-ILLUSTRATED; FINE PAPER COPY; FIRST EDITION; IMPRESSION (5); LARGE PAPER COPY; LIBRARY EDITION; • LIMITED EDITION. 12,69,156,234 RE

Fig. 4.—Letters of indulgence, from the so-called edition of thirty-one lines, printed at Mayence in the course of 1454.
Henri Bouchot, The Printed Book: Its History, Illustration and Adornment, 1887

EDITION BINDING The business of binding identical books in quantity, usually for a publisher or distributor, as opposed to binding done for an individual and LIBRARY BINDING. Edition binding usually involves the production of a type of binding known as case binding, generally in hard covers. Paperback books and other books with flexible and semi-flexible covers are produced by adhesive binderies, although adhesive binding is by no means unknown in edition binding. • The designation "case binding" or "casebound" indicates that the cover has two distinct characteristics: it is made separately from the book, and it consists of rigid or flexible boards covered with cloth, paper, leather substitutes, and, upon occasion, leather or other mate-

rials, in such a manner that the covered material surrounds the outside as well as the edges of the boards. • The major distinguishing characteristic of edition binding is the extensive use of semi-automatic and automatic equipment, some of which operates at very high speeds. This equipment is capable of processing thousands of books in a relatively short time, primarily because all of the books processed in one run are of identical size and format. Because a large, modern edition bindery uses as much automatic (and expensive) equipment as possible, edition runs smaller than about 1,500 copies are not ordinarily handled by edition binderies but by job binders and sometimes even library binders. • The equipment commonly found in a large edition bindery includes: • Blocking presses • Board cutters • Book jacketing machines • Bundling presses • Case-making machines • Casing-in machines • Cloth slitting machines • Cutter-perforating machines • Endpaper-signature stripping machines • Endpaper tipping machines • Folding machines • Gathering machines • Glueing-off machines • Nipping presses • Rounding and backing machines • Saddle-stitching machines • Sewing machines • Three-knife trimmers • Tipping machines • Triple liner and headbanding machines • Wrapping machines (book jacketing machines). • The progression of modern edition binding from purely handwork to a high degree of mechanization followed a course which may be divided into four fairly distinct phases: 1) all processes performed by hand or hand-manipulated tools—about 1780 to 1830; 2) a simplifying and speeding up of the processes while the work is still performed largely with hand tools, a change which was due largely to the pressures exerted by the increased speed of printing presses—1830 to 1870; 3) progressive introduction of machines to handle certain manipulations, e.g., folding, gathering, sewing, etc., with the balance of the processes still being done largely by hand—1870 to 1910; and 4) the present state in which the great majority of the processes are performed by machines, a phase which marks the complete breaking away of the modern industry from the parent craft of hand bookbinding—about 1950 to the present. 58,89,299,314,320,339 RE

EDITION DE LUXE Applied to large paper editions of books, and to special editions which are in fact, or are claimed to be, unusually well and expensively made. NBL

EDITION DELUXE 1. A "special" edition of work containing items not found in ordinary editions of the same work, such as additional plates (See: EXTRA-ILLUSTRATED), a larger sheet size (See: LARGE PAPER COPY), etc. 2. A so-called superior edition of a work, characterized by a better grade of paper (sometimes handmade), superior typography, a greater or lesser degree of embellishment, sometimes a better quality of binding, and perhaps a limited number of copies (which are sometimes signed and numbered). The "edition deluxe" is as old as printing itself. In the 15th century a certain number of copies of any high quality book would usually be printed on vellum, or colored paper, such as the blue paper copies of Aldus Manutius, and "fine paper" copies, at an elevated price, were common in the 17th and 18th centuries, while large paper copies have been issued for the past three centuries. Although not necessarily considered "edition deluxe," many thousands of books have been specially (and often elaborately) bound for private collectors. 3. A cheap edition called "deluxe" or "deluxe edition," by a publisher for promotional reasons. 69,94,156 RE

EDWARDS OF HALIFAX A distinguished English (Yorkshire) family of bookbinders and booksellers, of whom William Halifax (1723–1808) and his son James (1756–1816) were the most famous. William Halifax was known for his revival of the FORE-EDGE PAINTING and ETRUSCAN CALF bindings, the latter, which, if not evolved by William, were successfully adopted by him. He also used vellum for covering books, and decorated them with painting of portraits or scenes. In order to protect the paintings Halifax developed his own process of rendering the vellum transparent (although he was by no means the first to make TRANSPARENT VELLUM or parchment) by first soaking it in a solution of pearl ash (potassium carbonate (K_2CO_3)) and then subjecting it to high pressure. The paintings were executed on the underside of the vellum, which was then lined with white paper before being placed on the book. The patent which James Halifax was issued for this process (1785) refers to both the painting of the material, as well as the method of making the vellum transparent: however, it is not entirely clear whether the patent was granted for rendering the vellum transparent, for the paintings themselves, or both. Although it was probably for the vellum process, other techniques for rendering vellum (parchment) transparent were

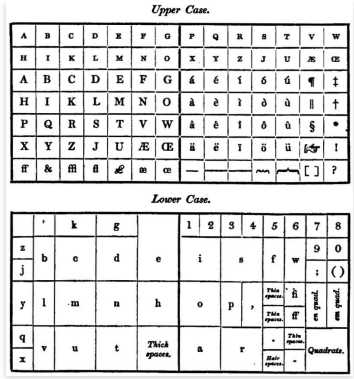
known more than 200 years before his time. His technique was obviously successful, as the colors remain fresh to this day. Having the painting on the underside of the vellum also allows the covers to be cleaned when soiled. • It is known that these bindings were being produced at least as early as 1781 even though the patent was not issued until 1785. There is considerable evidence to indicate that James Halifax was a businessman rather than a craftsman, and, since the books were produced in Halifax at a time when James was elsewhere, it is presumed that William invented the process. • All three specialities seem to have been carried on both in the Edwards' home town of Halifax, where Thomas (1762–1834), another son, was in business until 1826, and in London, where James and John (1785-c 1791) opened a book store in 1784, and Richard (1768–1827) another in 1792. Regardless of its place of origin, however, any binding of the period which approximates any of the three specialities in style, as well as the vellum bindings with blue lettering pieces and key-pattern gold tooling in the prevailing neo-classical style, is apt to be attributed to Edwards of Halifax. 69,113,140,236 RE

EGG ALBUMEN The dried whites of eggs obtained usually as a yellowish powder, and used in the finishing of some leathers, as well as for making GLAIR. 259 RE

EGYPTIAN MARBLE A cover marble executed by coloring the leather covering (before it is attached to the book) with blue, which when dry, is followed by a coating of glair, then potash water (alum). Black is then sprinkled over the leather, and when the black is nearly dry, the leather is washed with water. 95 RE

EIGHTEEN-MO One-eighteenth of a sheet. The eighteen-mo is an unusual method of imposition resulting in a section of 18 leaves, or 36 pages. One method of producing it is to fold a sheet concertina-wise, followed by an envelope fold, followed by a right angle fold. Although used in book production between about 1770 and 1840, it is seldom, if ever, used in bookwork today. It is, however, sometimes used in advertising work, etc., where the folded sheet is to be untrimmed and remain folded in compact form until unfolded for reading. Also written 18mo. Also called "octodecimo." RE

EIGHTEENMO Octodecimo, a sheet of paper folded into eighteen leaves; it is usually termed eighteens. • Electrotype. *See* Galvanism. DAP



EIGHTEENMO.
William Savage, A Dictionary of the Art of Printing, 1841

ELASTICITY The capability of a material to recover from deformation resulting from stress. The property is determined more by the ability of the material to return to its initial shape than by its capacity to be deformed or extended. See also: EXTENSIBILITY; STRETCH. 17 RE

ELASTIN The yellow connective tissue of the skin which furnishes structural support for the blood vessels, sebaceous and sudoriferous glands, and the like. It is woven in the collagen fibers and makes up approximately 0.3% of the structural protein of the hide composition. 305,363 RE

ELECTRIC PEN also *electric stylus* An electrically heated instrument used over a strip of metallic foil to letter the classification number and/or other bibliographical information on the covers of books. 156 RE

ELEPHANT FOLIO A large FOLIO (1), approximately 23 by 14 inches in size. See also: BOOK SIZES. 140 RE

ELLAGIC ACID A crystalline phenolic dilactone ($Cl_4H_6O_8$) obtained from oak galls and bark and probably formed by the hydrolysis of tannin. See also: VEGETABLE TANNINS. RE

ELLIOTT, THOMAS active 1712–1763 A London bookbinder, Elliott was apprenticed to Robert Steele in 1703 and finished his service in 1712. He became bookbinder to Robert Harley, and worked in the HARLEIAN STYLE, which was forced on both him and Christopher Chapman by either Harley, or Harley's librarian, Humfrey Wanley. The books the two produced were solidly bound in a red morocco said to be of an inferior quality. 94,246 RE

ELMENDORF TEST A standard test for determining the internal TEARING RESISTANCE of paper, named after its inventor, Armin Elmendorf. The

Elmendorf test determines the average force in grams required to tear a single sheet of paper after the tear has been started. In conducting the test, one or more sheets are torn through a fixed distance by means of a pendulum. The effort expended in tearing is measured by the loss of potential energy of the pendulum. The scale of the device is calibrated to indicate the average force exerted. If multiple sheets are used, which is necessary if the reading for one sheet would fall below the scale, resistance of one sheet is determined by the formula: • grams of force X 16 • ---------- = grams required to tear one sheet, • number of sheets • where 16 is the conversion factor, unless an augmenting weight is added to the pendulum, in which case the conversion factor becomes 32. • The Elmendorf tester consists essentially of a stationary clamp, a movable clamp carried on a pendulum formed by a sector of a circle free to swing on a ball bearing, a knife mounted on a stationary post for starting the tear, means for leveling the instrument, means for holding the pendulum in a raised position and for releasing it instantaneously, and means for registering the maximum arc through which the pendulum swings when released. 72 RE

EM The square of the body of a type. AMP

EMAIL EN RESOLLE A design consisting of enamel and gold inlaid in glass or rock crystal, and which has been used to a very limited extent as a means of decorating the covers of books. The technique apparently was used by only one person, a French goldsmith, who based his patterns on the engravings of Etienne Delaune. To produce the email en resolle the design is cut into the surface of the ground and then filled with strips of gold leaf. The details of the design are then modeled by very delicate chasing on the surface of the leaf. Translucent colored enamels are then floated over specified areas of the gold. 347 RE

EMBLEMATICAL BINDINGS Appropriate ornaments or symbolical motifs tooled on a leather binding. Some outstanding examples of emblematical bindings were produced, especially in France of the 16th century. 69 RE

EMBOSSED **1.** 1. A leaf or leaves of a book which have had letters or a design raised in relief for the purpose of indicating ownership. The leaves most commonly treated in this manner are the title page and page 99, or descending multiples of 11, i.e., page 88, 77, 66, etc. Embossing is more or less obsolete today, as most libraries have come to realize that it is not only expensive but largely ineffective as a means of deterring theft. 2. Paper, leather, cloth, etc., on which a raised or depressed design is imparted for decorative effects. See also: CUIR-BOUILLI. 3. A design in the covering material of a book, usually one covered in leather, but sometimes cloth or paper, which is in relief. 4. Lettering, or a design, which is raised above the surface of the paper of a book. See: EMBOSSING. 5. See: EMBOSSED LEATHER. RE **2.** When a plate is stamped upon the cover so as to present a raised figure or design, it is said to be embossed. Some inappropriately term this kind of work Arabesque. MAB **3.** When a plate is so stamped upon a sheet or cover as to produce a raised figure or design. NBL 12,58

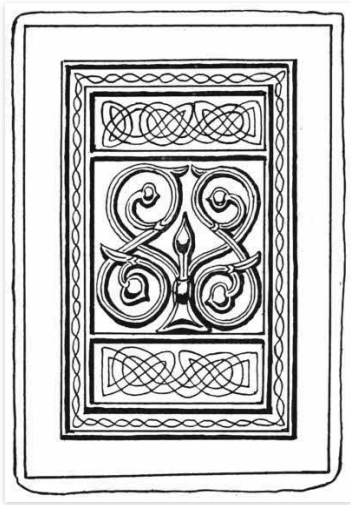


Fig. 87. —English binding of St. Cuthbert's Gospels, in embossed leather.
Cyril Davenport, The Book: Its History and Development, 1907

EMBOSSED LEATHER A leather which has been embossed or printed with a raised design, either in imitation of the grain pattern of some animal, or even unrelated to any natural grain pattern. Cowhide is frequently embossed to give the appearance of another leather, including MOROCCO. 61 RE

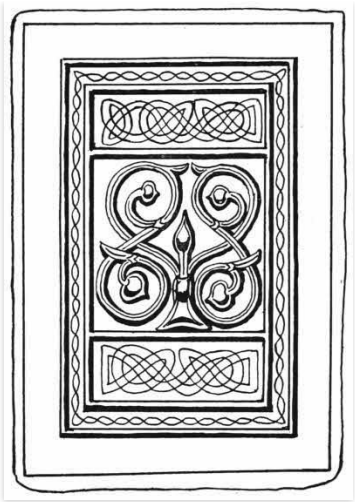


Fig. 87. —English binding of St. Cuthbert's Gospels, in embossed leather.
Cyril Davenport, The Book: Its History and Development, 1907

EMBOSSER 1. The device (usually hand-operated but sometimes operated by air pressure) used for raising letters or a design on the surface of paper, usually for purposes of establishing ownership. See: EMBOSSED (1). 2 The operator of such a device. RE

EMBOSSING 1. The process of raising a surface pattern on leather by means of engraved cylinders or plates, generally employing both heat and pressure. The patterns produced are often simulations of the grain patterns of some animal skins but may also be unrelated to any natural pattern. One roller or plate, in which the design is engraved, is made of steel, while the other, having a softer surface, is made of cotton or papier-mâché. The leather is embossed by passing it over a heated, steel cylinder, thermostatically controlled at a pre-set temperature, or in a press, of which there are two basic types: one in which the pressure is applied by a roller mounted on a moving carriage, and another in which pressure is applied to the platen by mechanical or hydraulic means, but without any lateral movement. In both cases the leather is pressed against a heated plate which is either smooth and polished so that the leather is ironed, or engraved to impart an artificial grain pattern. While the latter type of press is designed to employ heavier pressures, the first type is superior in that the movement of the roller causes a small amount of slip, which imparts a more lively character to the leather. On the other hand, the advantage of the mechanical or hydraulic press is that it can dwell at full pressure, which is desirable for producing deep effects in some embossing processes. • It is important that the design embossed in the leather be as permanent as possible. In this regard both the structure of the skin and the type of tannage are important. A very full and tight structure is required. Calfskin gives the ideal structure for the finer leathers and cowhide for the coarser. Vegetable tannage is far superior to chrome because it builds up the fibers to a much greater extent and makes the structure correspondingly tighter. • Embossing of leather is sometimes (and perhaps frequently) a means of simulating the grain pattern of a superior leather on an inferior and/or less expensive skin. An example of this would be a calfskin embossed in imitation of MOROCCO. • 2. The process of imparting a raised or depressed design in paper: 1) by passing the paper between an engraved steel roll or plate and another roll or plate of a soft or compressible material, such as paper or cotton; 2) by pressing the paper between strong, coarse fabrics; or 3) by passing the paper between etched male and female iron or steel rolls. The operation is used to create decorative effects and is generally applied to book, blotting, or cover papers. Plate or spot embossing is a method by which individual designs, as distinguished from all-over patterns, are embossed. This technique is accomplished by means of vertical presses, the paper being embossed by placing it between the embossing die and the counter or make-ready of the press and forcing it into the intaglio areas of the die. • 3. To impress the marks of ownership into a page of a book by means of a device employing a sunken die and a raised counterpart which raises the design above the paper. See also: PERFORATING. (2) 4. To block the title, author, or other bibliographical information, on the cover of a book. See also: BLOCKING (1). 5. See: BLIND BLOCKING. 94,189,233,234,264 RE

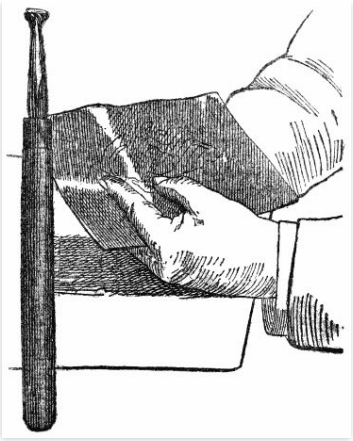
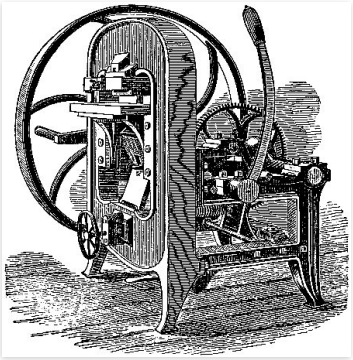


FIG. 13.— BALL-SHAPED STEEL TOOL WITH HANDLE FIG. 14. — POSITION OF HANDS IN EMBOSSING LEATHER
Georges de Recy, The Decoration of Leather, 1905

EMBOSSING PLATE A metal plate cut or etched below its surface and used to produce a design in relief on a material such as leather or paper. RE

EMBOSSING PRESS See: BLOCKING PRESS; EMBOSSING ; FLY EMBOSSING PRESS. 1,2 RE



EMBOSSING PRESS, No. 2.
James B. Nicholson, A Manual of the Art of Bookbinding, 1856

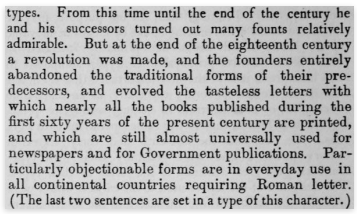
EMBRITTLEMENT 1. The drying and solidification of an adhesive to the point where it exhibits fissures and stress cracks under conditions of low impact. Embrittlement may also be a condition resulting from the migration of the adhesive plasticizer into the adherend, or the solidification and stratification of a cast adhesive coating due to exposure to atmospheric conditions. 2. A loss of flexibility, primarily in paper. See: BRITTLENESS. 222 RE

EMBROIDERED BINDINGS Books that are covered by material embellished with needlework, following a design made specifically for the purpose of decorating a particular book. Embroidered bindings were and still are produced throughout most of the West, but the art reached its highest achievement in England, where the quality of the bindings was unsurpassed. The earliest known English example is of a 13th century manuscript Psalter owned by Anne de Felbrigge; however, the art reached its pinnacle of development in the first half of the 17th century. • The designs employed for embroidered bindings may be conveniently divided into four classes: heraldic, figure, floral, and arabesque. The heraldic designs were always used to indicate ownership, and were most often found on royal books bound in velvet, rarely on silk or satin, and almost never on canvas. Figure designs may be subdivided into three classes: scriptural, such as Solomon, David, etc.; symbolical, such as figures of faith, hope, and the like; and portraits, such as dukes, duchesses, etc. The scriptural designs were generally done on canvas, while the symbolical and portraits were mainly on satin, and (rarely) velvet. The floral and arabesque designs were usually done on small books bound in satin, but were done occasionally on canvas and velvet. • Gold, silver, and silk threads were used for the best work, and were often protected from wear by bordering ornamentation in higher relief formed by threads of silk wound around closely or loosely with fine flat strips of silver-gilt metal. These and other materials were worked singly or twisted together in a variety of manners and worked in a great number of stitches. At times, particularly in the later periods, flat metal shapes were stitched on to save time. A more attractive APPLIQUÉ WORK technique was to make a spiral of metal which, when flattened, looked like a series of rings, and was sometimes used as a border. • Because canvas is generally considered to be a relatively uninteresting cloth, it was generally worked all over, while when velvet covers were used, large areas were not covered, not so much because of the beauty of the velvet, but because of the difficulties involved in sewing piled material. Applique decoration overcame this problem, but when the designs were actually worked directly on the velvet they were almost always in heavy gimp or gold cord. • The edges of large numbers of embroidered bindings were gilt and gauffered (sometimes with the use of color) in keeping with the ornate character of the binding. Other forwarding techniques appear to have been the same as for leather bindings, although the rounding of the spines was less pronounced. The sections were sewn on strips of vellum or thongs, and, while the latter were sometimes left

raised, frequently they were filled in between so as to produce a smooth spine. Later examples were sometimes sewn on cords, which were raised, sawn-in, filled in, or flattened to avoid unevenness. • Embroidered bindings more or less went out of fashion after the 17th century. See PLATE III. 28,111,236,280,342,357 RE

EMERALD The name of a type one size larger than Nonpareil, and one smaller than Minion. It is a size lately introduced. DAP

EMERY A common, dark, granular corundum containing varying amounts of magnetite or hematite and used in the form of powder, grains, or larger masses, for grinding and polishing purposes. RE


types. From this time until the end of the century he and his successors turned out many founts relatively admirable. But at the end of the eighteenth century a revolution was made, and the founders entirely abandoned the traditional forms of their predecessors, and evolved the tasteless letters with which nearly all the books published during the first sixty years of the present century are printed, and which are still almost universally used for newspapers and for Government publications. Particularly objectionable forms are in everyday use in all continental countries requiring Roman letter. (The last two sentences are set in a type of this character.)

EMERY WALKER."
Edward Johnston, Writing and Illuminating, and Lettering, 1906

EMPTY CASE When a compositor cannot compose any more out of a case, from many of the sorts being exhausted, it is termed an empty case, or he says, my *Case is Empty*, although there may be a great number of types in it of other sorts. DAP

EMPTY PRESS A press that stands by, which no workman works at: most commonly every printing house has one of them for a proof press; viz. to make proofs on.—M. The term is now applied to those presses only that are unemployed; the press set apart to pull proofs at is called the Proof Press. *See* Proof Press. DAP

EMULSION A disperse system in which both phases are liquids, one of which is generally water or an aqueous solution, and the other an oil or other water immiscible liquid. The droplets of the dispersed liquid are known as the inner phase of the emulsion because it appears to be inside the liquid medium. The surrounding liquid (the continuous phase), on the other hand, is called the external phase. The dispersion may occur naturally or it may be prepared by mechanical methods (dripping or slowly pouring one of the ingredients into the other while stirring vigorously), or developed as a result of any of several polymerization processes. The liquid in the continuous phase is usually water when the emulsion is designed for pigment coating, as of paper, for example, or for oil penetration, as in the FATLIQUORING of leather. For certain other types of application, the medium may be an organic liquid. To form a stable emulsion, a third ingredient must be present; it is called an emulsifier, or emulsifying agent, and forms absorbed films around the tiny globules of the dispersed fluid to prevent them from coalescing. A common emulsifier is soap. • A familiar, naturally occurring emulsion is whole milk, the inner phase of which consists of globules of butterfat; the external phase is a watery solution of casein, sugar, and other substances. Another natural emulsion is egg yolk, which consists of egg oil in an aqueous solution containing, among other substances, albumen and lecithin; the latter is a lipoid (fatlike) substance that is one of nature's most efficient emulsifying agents. Albumen, also, is a good emulsifier. • Milk and egg yolk are oil in water emulsions. A second type of emulsion is that of water in oil, in which the phases are reversed. An example of this type of emulsion is butter, which has aqueous constituents dispersed in tiny globules throughout the butterfat. Most manufactured emulsions are made by combining the oily ingredient with a colloidal solution, such as casein or albumen; these are not only good emulsifiers, but also confer desirable properties when the emulsion is used as an adhesive. • Emulsions are generally opaque or milky because of the refraction and dispersion of light by the minute droplets, but when dry they become transparent, or nearly so. • In addition to their use in paper and leather manufacture, emulsions are used in edge gilding, gold tooling, and other bookbinding operations. 233,235 RE

EN Half the dimensions of the preceding. AMP

EN GIST See: BRADEL BINDING, RE

ENAMEL 1. An opaque or semi-opaque vitreous composition applied by fusion to the surface of a metal or other substance for purposes of ornamentation and/or protection. See also: CHAMPLEVÉ BINDINGS; CLOISONNÉ BINDINGS. 2. A term applied to a coated paper or to the coating material on a paper. RE

BOOK-COVER OF GOLD AND ENAMEL ADORNED WITH GEMS
William Salt Brassington, A History of the Art of Bookbinding, 1894

ENAMELLED Originally, a supercalendered printing paper coated on both sides with a pigment such as satin white or blanc fixe; today, enamelled is considered to be any coated paper. 17 RE

queen Elizabeth's golden manual of prayers, the binding is of gold enamelled, and is said to
William Salt Brassington, A History of the Art of Bookbinding, 1894

ENAMELLED BINDINGS See: CHAMPLEVÉ BINDINGS; CLOISONNÉ BINDINGS. RE

ENAMELLED HIDE A vegetable tanned cowhide with a flexible, water repellent, multi-layered coating on the grain side, built up in a manner somewhat similar to that used for patent leather, and given a grain pattern by means of embossing. At one time enamelled hide was a cowhide tanned with bark and finished with a mixture of Prussian blue (ferric ferrocyanide ($KFe(Fe(N_6))$) and linseed oil, dried in an oven and grained. 61,351 RE

ENAMELLED SEAL Originally, a Greenland sealskin, tanned with bark or sumac, and treated with a mixture of Prussian blue (ferric ferrocyanide ($KFe(Fe(N_6))$) and linseed oil, and dried in an oven at high temperature. Today the term refers to an imitation sealskin. See: ENAMELLED HIDE. 61 RE

ENCLOSURES Materials left or placed in a book, either accidently or deliberately, and which, unless removed, may cause damage to the paper, binding, or equipment used in binding, or which may be bound into the volume. Such items include paper clips, bookmarks, cataloging and/or binding instructions, rubber bands, newspaper clippings, leaves, flowers, letters, and the like. 173 RE

END BOARD See: LOWER COVER. RE

END LEAF See: FLY LEAF. RE

END LEAVES OR LINING PAPERS Are the sheets which are pasted to the inside of the covers, and are either plain white or colored, according to the style of binding. Marbled papers are largely used on fine leather work. Sometimes in fine

bindings the end leaves are made of silk or leather. NBL

END LINING See: PASTEDOWN. RE

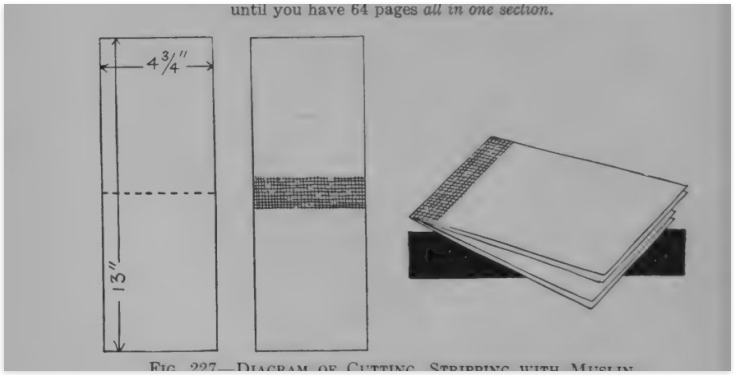


Fig. 227—DIAGRAM OF CUTTING, STRIPPING WITH MUSLIN, FOLDING AND INSERTING END LINING PAPERS
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

END PAPERS OR LINING PAPERS The papers, plain or fancy, placed at each end of the volume and pasted down upon the boards. BIB

END SHEET See: PASTEDOWN, engine sized. See: BEATER SIZED. RE

END-LEAF PAPER A paper manufacturer's term for the white or colored sheets of cotton fiber and/or chemical wood pulp paper in basis weights of 50 to 80 pounds (25 X 38—500), used for the ENDPAPERS of books. It should have sufficient strength to withstand tearing, especially at the joint, high folding strength, resistance to penetration by adhesives, and a pH between 6.5 and 8.5. The sheets are often printed with ornamental patterns and special or significant designs, e.g., library motifs. 17 RE

END-PAPERS **1.** The paper placed at each end of the volume, a portion of which is removed when the lining-paper is pasted down upon the boards. Also called Waste-Papers. MAB **2.** The papers placed at each end of the volume and pasted down upon the boards. ABB **3.** papers added at the beginning and end of a book by the binder. BCB **4.** The papers placed at each end of the volume and pasted down upon the boards. Also, the paper placed at each end of the volume, a portion of which is usually removed when the lining-paper is pasted down upon the boards. NBL

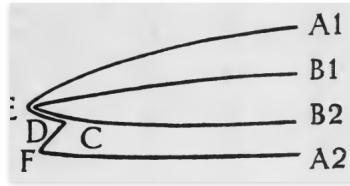


Fig. 6.— End-Papers.
Royal Society of Arts, Report of the Committee on Leather for Bookbinding, 1905

ENDPAPERING MACHINE An edition binding machine that glues sheets of paper folded once only to the first and last sections of a book. RE

ENDPAPERS RE

See illustration The units of two or more leaves placed in the front and back of a book between its covers and text block. In rare instances the endpaper may consist of a single leaf. The endpaper at the front of the book is called the front endpaper, while the one at the back is called the off endpaper, or back endpaper. The leaf nearest the cover (after the WASTE SHEET (1), if any, is removed) is called the PASTEDOWN, or board paper, and, along with the recto of the leaf facing it, may be colored, marbled, ornamented; printed with maps, illustrations, scenes from the book, the motif of the library, etc.; or left blank. The leaf or leaves that are not pasted to the board are sometimes referred to as fly leaves, fly sheets, free fly leaves, or waste sheets.

In hand binding the basic purpose of the endpapers is to take up the strain of opening the covers of the book, which would otherwise be on the first and last sections or leaves. This is of particular importance in the case of the upper cover and first section or leaf. The endpapers (specifically the pastedowns) cover the raw edges of the covering material where it is turned over the boards, as well as the inside surfaces of the boards themselves. The free fly leaves protect the first and last printed leaves of the book. In addition, the board papers and fly leaves next to them have long provided a medium for decoration. See: DOUBLURE (1).

In library and edition binding, particularly the latter, the endpapers perform the crucial function of holding the text block in its covers, or case. In many instances, only the endpapers hold the book and case together. In library binding, on the other hand, where the spine-lining material is considerably more substantial than that used in edition binding, the lining assists considerably in this function.

The paper used for endpapers is of considerable importance—not only the quality of the paper but also the manner in which it is used. Its pH should not be less than that of the paper making up the book, and preferably higher, but it should not, in any case, be less than 6.5 or more than 8.5. The BASIS WEIGHT of the paper should be sufficient so that when the adhesive is applied, the moisture will not cause the paper to cockle, as cockling causes problems when the book is later cased-in. Furthermore, thin paper will swell excessively when moist, and then when it dries will shrink and warp the covers. There is also the danger that the adhesive will strike through and cause the board papers and adjacent leaves to stick together.

The grain or machine direction of the endpapers should be parallel to the binding margin of the book; otherwise difficulty will be experienced in casing-in. When the grain of the paper is at right angles to the binding margin, the expansion of the paper is lengthwise, and, because one edge is secured to the text block (either sewn or tipped to it), that edge cannot expand; consequently the paper will buckle along it. If the book is cased and then pressed, these buckled areas will cause unsightly wrinkles on the board papers.

When colored endpapers are used, they should be made with fast colors so that the moisture of the adhesive will not cause the colors to offset onto the leaves of the book. When endpapers are lithographed or printed with maps or illustrations, they, too, should be printed with an ink that will not offset. (It should be noted that when a book with map, or otherwise pertinent endpapers, must be rebound, the endpapers must be carefully removed and rebound with the book, as they generally cannot be reused as endpapers; this step is expensive, and doubly so when the front and off papers are different, which requires that both be retained.)

Marbled endpapers were at one time used extensively, but today their use is confined almost entirely to a limited number of books bound by hand. If marbled paper is used, the same precautions as to grain direction and color fastness should be observed.

The most commonly used style of endpaper construction, at least in edition binding, consists of nothing more than folded sheets tipped to the front and back of the text block. This structure is not altogether unsatisfactory if the book is to receive careful and little use, but it is entirely unsatisfactory for a book that is to be consulted frequently. Since the endpaper is attached to the text block only by a thin line of adhesive, it pulls loose easily leaving only a flimsy spine lining fabric made of crash or gauze holding the case to the book. There is no reinforcement of the joint; consequently, the board paper splits because of the constant bending as the book is opened and closed. These difficulties can be overcome to a certain extent by the use of a cloth joint. Occasionally the tipped-on endpapers are also sewn to the text block, as though they were additional sections. This however, just weakens them even further, because the sewing thread passes through only one layer of paper, resulting,

in addition to the normal strain, in a cutting effect of the thread.

Cloth-jointed endpapers may have either concealed or exposed joints. With the concealed joint, the fold of the endpaper is reinforced by a strip of cloth which is attached on the side of the paper next to the text block and the board so that it extends about an inch onto the board paper, thus masking the cloth. The additional stiffness in the joint helps to retain its shape, but it also creates a pull on the first few leaves of the first section because it makes the cover more difficult to open.

Separate leaves of paper are used for the board paper and fly leaf in constructing the endpaper having an exposed joint. They are connected by means of a cloth strip which is visible in the joint. In edition binding, these endpapers are made on a stripping machine, and the reinforcing cloth is generally a thin, smoothly finished muslin. In library binding, on the other hand, where the visible cloth joint is used frequently in adhesive binding, the cloth joint usually consists of a strong, durable (cambric) linen. Cloth-jointed endpapers are attached to the text block in several ways. The simplest is to tip them on, which is a weak method. When the papers have a concealed joint, the folded sheet is tipped to the section and the reinforcement is folded around the endpaper and section. The cloth joint is sewn to the text block along with the section. Another method consists of sewing the cloth joint to the section. The cloth is then folded back and glued over the sewing. The endpaper is tipped on, and the cloth is carried over the endpaper and glued down. Unless the book paper is quite flexible, however, this technique will cause the end sections to open as units rather than as individual leaves.

The Library Binding Institute has promulgated standards pertaining to the construction of endpapers to be used in library binding. The endpaper consists of three fundamental parts: a pasted-down or outward endleaf which becomes the pastedown, at least two free flyleaves, and a reinforcing fabric. For monographs and ordinary periodicals, the paper used in the construction of endpaper must have a basis weight of 60 pounds (24 X 26— 500) and must meet the following requirements:

Folding Tensile Tearing

Endurance Strength Strength

(M.I.T.)* (Testing Machines, Inc.) (Elmendorf)

Number of Pounds per Pounds per

folds 1 inch strip 1 inch strip

With the grain** 200 40 140

Across the grain 275 25 144

* Massachusetts Institute of Technology

** In the direction in which the majority of the fibers of a

machine-made paper are oriented.

During the first several centuries of the codex, endpapers consisted of little more than two or four leaves of vellum folded and sewn along with the sections of the book. When paper became the common material for book production, it then became necessary to reinforce the folds of the endpapers. A common type of endpaper, used in the first part of the 16th century, consisted of a fold of white paper employing a strip of vellum for reinforcement. The use of printer's waste for the fly leaves of endpapers was not uncommon during the 16th century.

The practice of reinforcing endpapers began to decline at the end of the 16th century, particularly in commercial binding, partly because there were more small books (where it was thought that reinforcement was not of great importance), and also because it became more and more difficult to obtain waste vellum in sufficient quantities, due to the increase production of books.

When bindings were to have plain white endpapers, it was a common practice to sew on four leaves at each end of the text block. The two outer leaves of each endpaper were often pasted together to create a stronger pastedown, while the two inner leaves were sometimes pasted together to create the "made" flyleaf, commonly associated with marbled or colored endpapers. The doubling of the board papers was done well before the coming of machine-made paper. This practice however, became more important when machine-made paper became prevalent, mainly because early machine-made paper tended to be relatively thin, and therefore weak. All of these techniques died out in the 1830s, after which time the more convenient procedure of making up the endpapers separately from the book became prevalent. Concurrently, it became the usual practice to simply tip the endpapers to the sections instead of sewing them, not only in regular commercial binding but also even in the best leather work.

A widely used method of endpaper construction in the 19th century consisted of pasting a folded white to a folded colored sheet, which was then folded around the free colored sheet to make a waste sheet. A white flyleaf was then tipped on followed by the made endpaper. Another 19th century technique consisted of tipping a folded white sheet to the text block and inserting the white and

colored made-up leaves inside up to the fold. This provided a waste sheet, a colored board paper, a "made" leaf which opened all the way back to the fold, and eliminated the drag of the previous endpaper, and the two flyleaves. A variation of this technique used today consists of pasting the colored and white sheets together, tipping a folded white sheet to the remaining white sheet, and then swinging one of the white sheets around the assembly to serve as a waste sheet.

Cloth-joined endpapers were used as early as the 1840s but were generally not sewn in until this century. When they were sewn, the usual method was to overcast them to the first and last sections before sewing the book. Inner joints of leather were used occasionally in Europe as long ago as the 17th century, especially in France, but it was not until the second half of the 18th century that they became relatively common in the best English morocco and Russia leather bindings. The joints of this period, few of which were sewn in, were frequently used with much wider turn-ins than would be considered appropriate today, and were usually heavily decorated with fillets and rolls, as well as small tools.

Watered silk endpapers were used frequently in fine leather binding during the second half of the 19th century and up to World War 11, but are seldom used today. Watered silk has always been used in conjunction with leather joints. See: DRUMMING ON. See also: LIBRARY STYLE ENDPAPER; MADE ENDPAPER; ZIG-ZAG ENDPAPER.

13,69,209,217,236,335,343

ENGLISH The name of a type, one size larger than Pica, and one smaller than Great Primer. *See* Alphabet. Types. DAP

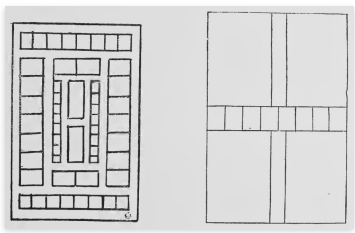


Fig. i shows the old English system, and is copied from a Durham book. Fig. 2 is the Netherlandish system, where the sides were generally impressed with one or more panel-stamps, the spaces between the two stamps being filled up with either a series of small stamps or a band. The older French plan w
William Salt Brassington, A History of the Art of Bookbinding, 1894

ENGLISH FIBREBOARD An English equivalent for that called PASTEBOARD (1) in the United States. It is suitable for small or medium-sized books; however, it has a tendency to warp if too thin a sheet is used for the covers of a large book. 204 RE

ENGLISH LINEN A highly polished linen cloth of considerable strength and durability; it is reasonably permanent if not handled excessively. Also called "legal buckram." See also: LAW BUCKRAM. RE

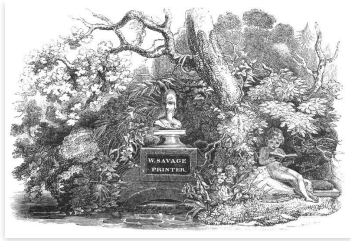
ENGLISH LINEN OR LOW BUCKRAM A linen cloth, highly polished, well colored, strong, durable, made in England, and costing in this country about 70 cents per square yard. In De Jonge's list (De Jonge, dealer in leather, book cloths, etc., 69–73 Duane St., New York) it is called Low buckram. We have used it for the backs of books, light and heavy. It promises to stand indefinitely if not much handled. Under handling it grows soft and flabby like other book cloths, though not rapidly, and without losing its strength. We have discarded it for the books on which we first tried it, periodicals subject to much use. It is not easy to letter in gold by hand, and does not hold gold well under wear. NBL

ENGLISH OPACITY PAPER A paper used where a lightweight paper of good opacity is required. It is made from chemical wood pulp and fillers that afford maximum opacity, and usually contains mechanical wood pulp. It has a smooth machine or English finish, and is produced in basis weights ranging from 25 to 45 poUnds (25 X 38—500). 17 RE

ENGRAVED BINDINGS also *engraved silver silver bindings* Book covers decorated with engraved precious metals, usually portraying some Biblical or other religious scene and frequently further adorned with flowers, etc. The medieval custom of enclosing important liturgical works to be used at the alter in covers of precious metals died out in Western Europe during the Renaissance, in favor of richly embroidered velvet and (later) gold-tooled leather bindings. The fashion for silver or filigree, or even enamelled gold covers, however, continued with devotional books for personal use through the 18th century, especially in German-speaking countries, Italy, and Spain. 347 RE

ENGRAVING 1. The art or process of producing letters or designs on wood, metal, or other substances, by means of cutting or etching, for the purpose of printing or blocking by an intaglio process on paper or other material. 2. An engraved plate, or the impression made from such a plate. 3. An engraved inscription. 4. The

process of taking an impression from an engraved plate. RE



No. 1. An Impression from an Engraving on Wood.
William Savage, A Dictionary of the Art of Printing, 1841

ENGRAVINGS ON WOOD DAP

As the method of printing engravings on wood, here described, applies to what is termed fine printing, it may be as well in the outset to define what is meant by this expression, in its application to this subject.

Fine printing, in this point of view, is the art of obtaining impressions from an engraving on wood, of the surface and the surface only, so as to produce the effect which the artist intended, in the highest state of perfection.

There is a material difference between an engraving on wood and one on copper: the first is engraved in relief, that is, the lines are left standing, and the part which in the impression is to appear white is cut away or, technically, blocked out; the lines of the engraving on copper, on the contrary, are cut in the metal, and the part that is to be white in the impression is left untouched in the metal by the engraver.

There is also a material difference in the manner of obtaining impressions: those from an engraving on wood are produced by coating the surface of the lines with ink by beating it with balls or passing a roller over it, and then, with a piece of paper upon it, submitting it to pressure between two parallel plane surfaces, or by a cylinder rolling over it. An engraving on copper is smeared over the whole face with ink, which is worked into the lines; the surplus ink is then wiped off the surface of the plate, on which a piece of paper is laid to receive the impression, and these are passed between two cylinders, which press the paper into the engraved lines by a violent squeeze.

It will easily be perceived by this slight description that the two processes are completely distinct from each other, although the effect produced is nearly the same.

I will now proceed to describe the process of producing impressions from engravings on wood in a superior manner.

After putting a block on the press, the workman ought to be very gentle in the pull for the first impression, to prevent an accident, which has frequently occurred from thoughtlessness in this particular, by making the pull too hard, and crushing some of the lines; by avoiding this he will be safe, and can proportion his pull to the subject. He should also examine, previous to pulling, that there be nothing on the block—no pins that he may have for his tympan sheet, nor any needle with which he may have been taking out a pick.—Such accidents have happened, and caused great trouble to the engraver, as well as loss of time and disappointment; besides entailing a character of carelessness on the printer.

In imposing a single block, where the press is large at which it is to be worked, it will be in danger of springing out of the chase while beating, from the quantity of furniture about it: it is a good remedy to impose it in a job chase, and to impose this chase again in a larger one; this will cause it to lie flatter on the press, and firmer in the beating, as the small chase can be locked up tight in the large one, without having too much furniture, and the large one can be secured firmly on the press by quoins and the corner irons.

Neither the pressure nor the impression in an engraving on wood should be uniformly equal: if they be, the effect that is intended to be produced by the artist will fail; and instead of light, middle tint, and shade, an impression will be produced that possesses none of them in perfection; some parts will be too hard and black, and other parts have neither pressure nor colour enough, with obscurity and roughness, and without any of the mildness of the middle tint, which ought to pervade great part of an engraving, and on which the eye reposes after viewing the strong lights and the deep shades.

To produce the desired effect, great nicety and patience are required in the pressman; a single thickness of thin India paper, which is the paper I would always recommend to be used as overlays for engravings, is frequently required over very small parts, with the edges of it scraped down, for it is advisable that the overlay should never be cut at the edges, but, even where great delicacy of shape is not required, that it should be torn into the form wanted, which reduces the thickness of the edges, and causes the additional pressure to blend with the surrounding parts.

Particular parts of the impression will frequently come up much too strong, and other parts too weak, it will then be necessary to take out from between the tympans a thickness of paper, and add an additional tympan sheet, cutting away those parts that come off too hard, and scraping down the edges; scraping away half the thickness of a tympan sheet in small parts that require to be a little lightened will improve the impression.

The light parts require little pressure, but the depths should be brought up so as to produce a

full and firm impression.

If a block be hollow on the surface, underlaying the hollow part will bring it up better than overlaying it, at least so much that it shall only require a thickness or two of paper as overlays. If a block be too low, it is advisable to underlay it, for the purpose of raising it to the proper height, in preference to making use of overlays, for they act in some measure as blankets, being pressed into the interstices, and rendering the lines thicker than in the engraving.

It will be necessary sometimes, when the surface of the block is very uneven, to tear away parts of the paper in the tympan, to equalise the impression where it is too hard.

The pressman will find it convenient to pull a few impressions while he is making ready, on soiled or damaged India paper, for out of these he can cut overlays to the precise shape and size that is wanted, as he will constantly find it necessary to do so in instances where great accuracy is required in overlaying particular portions; and in these instances he cannot well do without a sharp penknife and a pair of good small scissars. A fine sharp bodkin and a needle or two, to take out picks, are also needful; but he should be particularly careful in so using them as that he do no injury. The best way to avoid this is to draw the bodkin or needle point cautiously in the direction of the lines.

Engravings that are in the vignette form require great attention to keep the edges light and clear, and in general it is necessary to scrape away one or two thicknesses of paper, in order to lighten the impression and keep it clean; for the edges being irregular, and parts, such as small branches of trees, leaves, &c. straggling, for the purpose of giving freedom to the design, they are subject to come off too hard, and are liable to picks, which give great trouble, and are difficult to be kept clear of. Bearers letter-high placed round the block, if they can be applied without the balls touching them, will be found advantageous; if they cannot, pieces of reglet, pasted on the frisket in the usual way, and taking a bearing on the furniture, must be substituted, but the high bearer is to be preferred where it can be adopted; these bearers equalise the pressure on the surface of the engraving, and protect the edges from the severity of the pull, which is always injurious to the delicacy of the external lines. They also render the subject more manageable, by enabling the pressman to add to, or diminish, the pressure on particular parts, so as to produce the desired effect.

When great delicacy of impression is demanded in a vignette, it will be found beneficial, after the engraving is beat with ink, to take a small ball without ink, and beat the extremities: this will not only take away any superfluity of ink, but will be a means of preventing picks, and give to the edges lightness and softness, particularly where distances are represented.

If the extremities are engraved much lighter than the central parts, underlays should be pasted on the middle of the block, which will give a firmer impression to those central parts of the subject: it would save trouble to cause the block to be a little rounded on the face, as it would give facility in obtaining a good impression.

When highly finished engravings on wood are worked separately, woollen cloth, however fine, should never be used for blankets, as it causes too much impression; two thicknesses of stoutish hard smooth paper, in lieu of it, between the tympans is better: sometimes even a piece of glazed pasteboard is used inside the outer tympan. The parchments ought to be in good condition, stretched tight, of a smooth surface, thin, and of regular thickness, so as to enable the pressman to obtain an impression as nearly as possible from the surface only of the engraved lines.

It is indispensably necessary that the balls should be in the best order, the same as for the finest work; and the pressman should be very particular in taking ink, distributing his balls, and beating the block well, otherwise he will not obtain clear, uniform, good impressions. If the block be small, and it is worked by itself, he will find that he can take ink more uniformly in small quantities, by first taking ink with a pair of regular sized balls, and distributing, and then taking ink from them to work his cut with; and this more particularly if he be using a pair of small balls. For this work he ought always to have the best ink that can be procured.

A large wood cut left on the press stone all night is very apt to warp; when this happens, a good method to restore it to its original flatness is to lay it on its face upon the imposing stone, with a few thicknesses of damp paper underneath it, and to place the flat side of a planer upon it, and four or five octavo pages of tied up letter; in the course of a few hours the block will be restored to its original flatness. This method is preferable to steeping the block in water, which has been frequently practised; for the steeping swells the lines of the engraving, and consequently affects the impression to a much greater extent than this operation. For

retaining the original effect, as it came from the hands of the artist, I would carefully prevent the block ever being wet with water, and, when it had been worked in a form with types, would take it out before the form was washed.

To prevent this warping during the dinner hour or the night, turn the tympan down upon the form, run the carriage in, and pulling the bar handle home, fasten it to the near cheek by the catch, where there is one, or else by a chain or rope, or by a stay to the bar from the offcheek; in iron presses this way is efficacious.

However long a time boxwood may be kept in the log, it will always twist and warp when cut into slices for engraving, on account of fresh surfaces being exposed to the air: large blocks may be restored to their flatness by laying them on a plane surface, with the hollow side downward, without any weight on them, in the course of a night.

When only a few proofs are wanted from an engraving, good impressions may be obtained with little trouble on dry India paper, with about six thicknesses of the same sort of paper laid over it, and pulled without the tympan. This observation applies to small cuts, and those of a moderate size; if proofs are wanted from large ones, it will be found advantageous to put the India paper for a few minutes into a heap of damp paper.

A fine engraving on wood should never be brushed over with lye: the best method that I have found in practice, is to wipe the ink off with a piece of fine woollen cloth damped with spirits of turpentine; and if it should get foul in working, to clean it with a softish brush and spirits of turpentine. It will be found in practice that spirits of turpentine take off the ink quicker, and affect the wood less, than any other article used; and the facility with which the block is again brought into a working state, more than compensates for the trifling additional expense incurred, as nothing more is required than to wipe the surface dry, and to pull two or three impressions on dry waste paper.

The engravers always show an impression when the block is taken home to their employer; and this impression is taken in a manner, where the subject is not of a large size, such as to produce a superior effect to what a printer can with a press, when he has a number to do, which are generally worked in a form with types, and his price so low for printing, as not to enable him to do justice to the subjects. This causes great dissatisfaction to his employer, and he is unable to remedy the grievance; for the engraver's proof is obtained by means of a burnisher, with one thickness of paper in addition to that printed on, so that he can examine each part to bring it up where it is required, and leave the others as delicate as he pleases: he thus obtains an impression from the surface only, perfect in all its parts, with the best ink that can be procured; while the printer gives dissatisfaction, because he cannot, in the way of trade, perform impossibilities.

Papillon, in his work on Engraving on Wood, published in 1766, complains of a plan nearly similar being adopted by the French engravers, with which he finds great fault. The following is a translation of the passage:—

"Some engravers on wood have the knack of fabricating the proofs of their engravings far more delicately, and in a more flattering manner than they really ought to be; and this is the means they make use of—they first take off two or three, in order to adjust one of them to their fancy, and which they think will favour their imposition; having selected it, they only beat anew the parts of the block charged with shades and the deeper strokes, in such a manner, that the lighter ones, distances, &c. being only lightly covered with ink, in as far as not being touched in the new beating, they retain no more than what was left by the preceding impression; the result is, that the new proof comes off extremely delicate in those places, and appears pleasing to the eye; but when this block is printed in conjunction with letterpress, the impressions then appear in their natural state, and totally different from that which they presented on delivery of the work. The strokes are of one equal tint, hard, and devoid of softness, and the distances are often less delicate than the foregrounds. I shall risk little by saying that all the three Le Sueurs have made use of this trick."

The pressman will find it an advantage, if it be necessary to do full justice to an engraving, to have a good impression from the engraver, and place it before him as a pattern, and then arrange the overlays, &c., till he produces a facsimile in effect; but the most valuable lesson will be when he can obtain the assistance of the artist at the press side, to direct him in making ready the cut, and I would advise him by no means to be impatient at the tediousness of the operation, as he will obtain more information how to produce a fine impression by this than by any other means. It will also instruct him how to meet the wishes of the draftsman and the engraver, with regard to effect, in a way superior to any other; and will, with care and attention, ultimately lead him to excellence in printing engravings on wood.

An assertion is now generally promulgated, that machine printing is superior to that of the press, even for engravings on wood, and thus misleading publishers and the public. When I come to speak of machines, and of presses, I will endeavour to show that it is incompatible with the principle of a machine that it can equal a press in producing fine work.

Errand Boy. *See* Devil.

ENTRELACS A method of decorating borders by means of curving garlands and leaves. Their source is Muslim arabesques, with early printed specimens adorning the Historia Romana of Appianus, printed by Erhard Ratdolt of Augsburg in 1477. In their use in book decoration, entrelacs have been used by most French gilders since the 16th century. See also: COTTAGE STYLE; FANFARE STYLE. 140 RE

ENVIRONMENT The surrounding conditions or forces that influence or change books or other archival materials, and which include: 1) the entire climatic and biotic factors that act upon materials and ultimately determine their permanence, or lack of it; or 2) the aggregate of use, misuse, or nonuse that influence the permanence of materials. See also: DURABILITY; PERMANENT MATERIALS. 148 RE

ENZYME A class of complex organic substances that are capable of acting outside of living organisms and can accelerate or catalyze specific chemical transformations, such as the formation of bloom on leather, the tanning of leather (see: BATING), and the modification of native starches in sizing processes. • The rate of an enzymatic reaction depends upon the temperature, pH, substrate concentration, and the presence of activators, co-enzymes, and enzyme inhibitors. The reactions of enzymes usually accelerate with an increase of temperature; however, since enzymes are proteins and are denatured at elevated temperatures, reaction rates increase only to the point where denaturation overcomes the accelerating effect of increasing temperature. • Enzymes exert their influence by combining with the substrate to form an enzyme-substrate complex, which then decomposes to give the products and release the enzyme for further action. Because of this, the rate at which enzyme products are formed depends both on the concentration of the enzyme-substrate complex and the rate of its decomposition. The formation of the complex depends on mass action between the enzyme and the substrate; therefore, taking a given quantity of an enzyme, the complex increases with the quantity sufficient to convert nearly all the enzyme into the complex. 72,195,306,363 RE

EPIDERMIS A protective, hard-wearing layer of keratinous cells, which, although of varying thickness over the body of the animal, is very thin compared with the underlying DERMIS. • It consists of a continuous mass of cells usually differentiated into the following regions: Stratum corneum, or the uppermost layer, containing dry, dead cells, flattened to form a relatively continuous thin outer membrane skin that is highly cornified or keratinized; Stratum lucidum, which is the region where dying cells are located, and which contain an oily substance that renders them translucent; Stratum granulosum, in which the cells contain large granules; Stratum spinosum, where the cells show marked spines or bridges between each other; Stratum basale, where the cells contain living basal cells called keratinocytes and melanocytes; and the lowest region, the epidermal-dermal junction (often called the basement membrane), which consists of a thin zone of ground substance, containing no fibers, lying between the basal cells and the dermal surface. • The epidermal-dermal layer has little resistance to bacteria and enzymes, and is easily attacked by them, as in enzyme UNHAIRING. • It is also easily disintegrated by alkalis, such as caustic soda, sodium sulfide, etc., which is the basis of common commercial unhairing processes. • The term derives from the Greek "epi" (upon) and "dermis," which had its origins in the Greek "derin" (to flay). See also: LIMING 248,291,306,363 RE

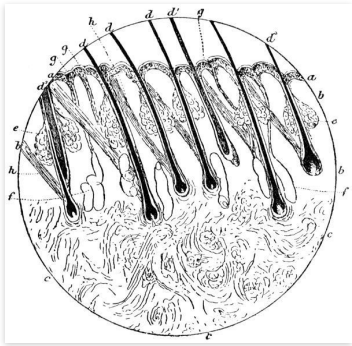


Fig. 9. —Vertical section of calf-skin, magnified about 50 diameters. a , epidermis; b , grain or papillary layer; c , fibrous layer of skin; d , hairs; e , fat-glands; f , sweat-glands; g , opening of ducts of sweat-glands; h , hair-muscles.
H. R. Procter, The Principles of Leather Manufacture, 1903

EPITHELIAL TISSUE The cellular tissue that covers all free surfaces within and without an animal's body, and, in the case of skin, is called epidermal

tissue. The epithelial tissue affords covering and general protection against light, water and other fluids, bacteria, etc. 363 RE

EPOXY RESINS A class of resins produced by the polymerization of epichlorohydrin with diphenylolpropane, and manufactured from phenol and acetone. A range of resins of widely differing molecular weights, e.g., 400 to 6,000, can be produced by varying the proportions of reactants, as well as reaction conditions. Epoxy resins possess exceptional chemical resistance and adhesion. They are usually supplied in two parts, which must be mixed before use. Such resins have limited use equivalent weight in conservation work; however, they are useful where exceptional strength is required, such as in corner rebuilding and box making. 235,309 RE

EQUIVALENT WEIGHT 1. The weight of a particular paper of any size expressed in terms of some other size. Equivalent weights are in direct proportion to the areas of single sheets. If the weight of a given size of paper is known, the equivalent weight of the paper of a different size can be calculated by multiplying the known weight of the paper by the area of the paper required and dividing by the known area of the paper: • Weight of paper of which Area of paper of which • size and weight are known X weight is required • ---------- = equivalent weight • Area of paper of known weight • Thus, the weight of a ream of paper 5 x 40 inches in the substance of 30 to 40 inches, 60 pounds per 500 sheets is: • 60 X (25 X 40) • ---------- • (30 x 40) • = 50 pounds/500 sheets, 25 x 40 inches. • 2. In chemistry, equivalent weight is one of the comparative weights of different compounds, elements, or radicals which possess the same chemical value for reaction when compared by reference to the same standard (usually oxygen, i.e., 8). • Parallel lines also outline a center panel. All of the lines, both horizontal and vertical, cross near the extreme ends forming squares at the corners of the covers. The central panel is usually decorated with a pattern made up of small, almost touching, tools, and both borders are similarly decorated with a succession of tools; those of the broad inner one often are interrupted with a scroll bearing the name of the bookbinder. Many bookbinders of the latter half of the 15th century produced these so-called Erfurt bindings, including CONRADUS DE ARGENTINA and JOHANNES FOGEL. • In an acid, the equivalent weight is the quantity which would yield one gram ionic weight of hydrogen ion (1.008 g.), while in a base, it is the quantity which would yield one gram ionic weight of hydroxyl ion (17.008 g.). Thus an equivalent weight of sulfuric acid (H_2SO_4) is one-half the molecular weight, and an equivalent of aluminum hydroxide ($Al(OH)_3$) would be one-third the molecular weight. 17,58,139,141,195 RE

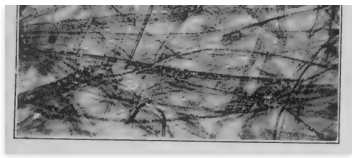
ERASABILITY That property of a material relating to the ease with which writing or printing can be removed by means of mechanical abrasion, the smoothness and cleanliness of the erased surface, and the reusability of the erased surface. 17 RE

ERFURT BINDINGS A university town in Central Germany. the name of which was applied to 18th century bindings featuring a scheme of decoration in which the entire cover is divided by a double border which encloses a long, narrow panel. The outer border is narrow, with a broad inner border separated from it by several parallel lines. RE

ERRATA also *erratum* **1.** Errors or omissions in writing or printing, generally restricted to typographical errors, but sometimes including imperfections in either presswork or binding. They are usually printed on a separate slip or leaf and placed among the preliminaries, or added to an existing page of type at the beginning or end of the book. Errata sheets must frequently be tipped in by the library or the binder. RE **2.** A list of errors that have escaped both the author and the printer. It is generally printed in a small type at the end of the work. It should always be kept down, and never brought out in a prominent manner. Some authors seem partial to extend the errata, by noticing the most trifling mistakes, such for instance as a turned letter, and adding corrections of the writing and of misstatements of facts, as well as new facts which may have arisen; and all under the name errata, as if they were entirely the errors of the printer; in this case they ought to be styled Corrections and Additions. In my opinion, there is no occasion to insert in the errata any thing that does not affect the sense. Mr. Beloe, in his Anecdotes of Literature, states that "the book which is distinguished by the greatest number of errata on record, is that containing the works of Pica Mirandula, printed at Strasburgh in 1507, by a printer of the name of Knoblouch. The errata of this volume occupy no less than fifteen folio pages." DAP 69

ESPARTO GRASS A coarse grass, native to Southern Spain and Northern Africa, obtained from two species, Lygeum spartum and Stipa tenacissima, and used in the manufacture of paper. Esparto fibers have thick walls and are short, normally less than 3 mm in length, with an average length of 1.5 mm. The fiber diameter varies from about 0.005 to 0.015 mm, with an average of about 0.012 mm, giving a length to diameter ratio of 125 : 1. The fibers also tend to be curved. One of the principal characteristics of esparto is its hairs, which are located on the inner surface of the leaf. Looking something like commas, they are commonly referred to as "comma hairs." They are also called tooth cells since they also somewhat resemble teeth. In addition to the hairs, small cells with serrated edges, appearing something like miniature concertinas, are present. Both hairs and cells have a length of less than about 0.06 mm. The best grade of esparto grass is known as Spanish, while the cheaper grade (from Africa) is called Tripoli. • Introduced in England in 1850 by T. Routledge, esparto is used extensively in Great Britain, but is seldom employed in the United States, mainly because of the cost of transporting the grass or pulp made from it. In England, it is employed principally in the production of better grades of book paper. • The presence of esparto in paper is determined by the iodine-zinc chloride test, which stains deep violet, or by boiling the specimen in a 1% solution of aniline sulfate, which turns the paper pink in the presence of the grass. Also called "alfa grass," "halfa grass," and "Spanish grass." See also: ESPARTO PAPER. [17,143,198 RE]

ESPARTO PAPER A paper produced from ESPARTO (GRASS) pulp, usually in a mixture with a relatively small amount of chemical wood pulp. Esparto is generally used in the manufacture of better grades of printing papers (those containing 90 to 95% esparto, the balance being chemical wood). Esparto helps provide better formation and a good bulk for a given basis weight. The paper takes ink readily, presents minimum problems with regard to shrinkage and stretch, has excellent folding properties, and does not tend to dust or fluff during printing. Its major shortcoming is its low strength, which is due to its relatively short fiber length. [17,143 RE]



Esparto Paper: Machine Made.
Alex J. Philip, The Business of Bookbinding, 1912

ESPARTO WAX A yellowish-white WAX obtained from waste liquors in the preparation of ESPARTO (GRASS) pulp. [RE]

ESSENTIAL OIL A naturally occurring volatile liquid, formed in various parts of plant life, principally in the leaves, flowers, or fruit. The main constituents are the terpines, i.e., hydrocarbons which generally have the empirical formula $C_{10}H_{16}$, and their derivatives. They also contain alcohols, aldehydes, esters, ketones, as well as compounds containing nitrogen and sulfur. Essential oils are volatile in steam, have characteristic odors, and leave no oily marks on paper. They are virtually insoluble in water but are soluble in alcohol and ether. Many are susceptible to oxidation in the presence of air or oxygen. They are obtained by steam distillation or by extraction. [RE]

ESTERS Organic compounds formed by the union of an acid and an alcohol (or a phenol) with the elimination of water, and which during HYDROLYSIS break down to these component parts. An ester may also be regarded simply as an organic acid. Esters may be specified either by constituents (e.g., ethyl silicate may be considered to be the silicone ester or ethyl alcohol), or by the ethyl ester or silicic acid. Esters are sometimes used to remove fat and grease stains from paper, and, less frequently, to inhibit bookworms. [233,235 RE]

ETHER A colorless liquid ($(CH_5)_2O$), with a pleasant, characteristic odor. It is highly volatile and its vapor, which is strongly narcotic, forms an explosive mixture with air. It is soluble in water to 7%. soluble in strong sulfuric and hydrochloric acids, and miscible with many organic solvents. Ether is manufactured by passing alcohol vapor into a mixture of 92% alcohol and 67% sulfuric acid at 128 C. It may also be produced as a byproduct in the manufacture of alcohol and ethylene. It is used as a solvent. [RE]

ETHIOPIC The Ethiopic language is descended from the Hebrew, yet approaching nearer to the Arabic than to any other of the Semitic languages. It observes the order of reading and writing from left to right, in common with the

other languages of the same origin. It has twenty-six characters peculiar to itself, of which the order, figure, name, and power are as follow:— • Of these ጸ: and ፐ: are used only in words of Greek and Latin origin. In expressing Arabic these seven, ሰ: ተ: ነ: ከ: ዘ: ደ: ጠ:, and in Portuguese and Italian these three, መ: ቦ: and ለ:, are made use of with the addition of certain horns. • Moreover, none of the above letters are connected, except ገ:, which, in the name of God, sometimes coalesces with ዘ:, in this manner ዘ:, as ለዘለቦሐረ: • The power of the letters approaches nearest to those which have been added, whence it appears that ሀ: ሐ: and ኀ:, also ሠ: and ሰ:, also አ: and ዐ:, and lastly ጸ: and ፀ:, are generally pronounced in the same manner, which causes no small confusion in writing, as one cognate letter is often put for another, so that it should always be borne in mind in looking for a word in the lexicon, that if it is not to be found under one letter, we should continue our researches under the cognate. • These four ቀ:, ጠ:, ጸ:, and ጸ: or ፀ:, have a sound altogether at variance with European custom, and the correct pronunciation can only be learnt by hearing. But one destitute of a preceptor may approach nearer to their genuine sounds, by first prefixing to each the power of the vowel *i*, thus, *ik*, *it*, *ip*, *iz*, and afterwards, having substituted in its place an apostrophe, he may add the vowels, in this manner *'k-a*, *'k-e*, *'k-i*, &c., and similarly with *'t-a*, *'p-a*, *'z-a*, &c. • In Ethiopic the numbers are not represented by the letters, but by certain peculiar figures formed apparently from the Greek letters, and which are included within two small lines, in the following manner:— • The other numbers are compounded from these, the greater being always placed first, as as ፲፩: 11. ፲፪: 12. &c. ፳፩: 21. ፳፪: 22. &c. ፻፩: 101. ፻፪:102. • • In Ethiopic the vowels are not expressed by particular letters, as in the European, or by separate points, as in the Oriental languages, but by certain small lines or circles annexed to the top, middle, or bottom of the letters themselves, or by the shortening or lengthening of one of the strokes, which changes are in number seven; whence arise so many orders of letters, or rather of syllables, of which the first is considered as the simple figure, and the remainder as compound, and are read—the first by *a* short, the second by *u*, the third by *i*, the fourth by *a* long, the fifth by *e* long, the sixth by *e* or *y* short, and the seventh by *o*; in this manner: • • The diphthongs are formed not only by the letters ው: and ይ:, mutes of the sixth order, after a letter of the first or fourth order, as, for instance, አውራኅ: *months*, ተሠይመ *it is appointed*; but also the four letters ቀ: ኀ: ከ: and ገ: with the addition of certain peculiar points, are generally considered to form diphthongs in the first, third, fourth, fifth, and sixth orders, in this manner: • In Ethiopic each separate word is distinguished by two thick points, and the periods by four or more; there are no marks of accentuation. • The preceding observations are extracted from a small treatise on the elements of Ethiopic grammar by George Otho, professor of the Greek and Oriental languages at Marburg in Hesse Cassel, with an acknowledgment of being indebted for his information to Ludolph; and bound in connexion with the "Fundamenta Punctationis Linguæ Sanctæ" of Jacob Alting, printed at Frankfort on the Main, in 2 vols., 1717. • *Ethiopic Types in the British Founderies.* • *English.*—Oxford University. Thorowgood & Besley. Formerly Bynneman's. • *Pica.*—Caslon & Livermore. Thorowgood & Besley. Walton's Polyglot; through Andrews's and James's founderies to Fry. DAP

The Ethiopic Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

Ethiopic numerals
William Savage, A Dictionary of the Art of Printing, 1841

Ethiopic vowels
William Savage, A Dictionary of the Art of Printing, 1841

Ethiopic diphthongs
William Savage, A Dictionary of the Art of Printing, 1841

ETHYL ACETATE A colorless, volatile, highly flammable liquid ester ($CH_3CO_2C_2H_5$), prepared from ethyl alcohol and acetic acid. It is used as a solvent and is not dangerously toxic if handled properly. 54,235 RE

ETHYLENE DICHLORIDE A colorless, toxic liquid ($C_2H_4Cl_2$), with an odor much like that of chloroform. It is prepared by the vapor- or liquid-phase reaction of ethylene and chlorine in the presence of a suitable catalyst. It finds some use as a solvent and is employed in the manufacture of vinyl chloride and in the fumigation of books. RE

ETRUSCAN DAP

The confines of ancient Etruria bordered closely upon the city of Rome, being separated from it only by the Tyber to the south-east and south. There is proof, indeed, that almost all Italy was at one time under the power of Etruria.

Although the Etrurians seem to have arrived at the highest point of civilization, and even of luxury, at an early period, whilst Rome had as yet no existence, and to have been distinguished in a variety of respects far beyond the people of surrounding nations, we are almost wholly ignorant of their history, and even their origin is involved in the greatest doubt.

The people of Etruria, called by the Romans Etrusci or Tusci, are styled Tyrrheni or Tyrseni by the Greek historians.

The difficulties of the Etruscan question are increased by a difference of statement and of opinion in the accounts recorded on the subject, by Herodotus and Dionysius, two of the greatest antiquaries and historians of ancient times.

Herodotus, who, says Athenæus (lib. xii.), obtained his account from Lydians, gives to the Tyrrheni a Lydian origin, and states that they emigrated under the command of Tyrrhenus, one of the sons of Atys: while Dionysius, partly because Xanthus, an historian of Lydia, is silent respecting this emigration, will not allow the tradition to be true, but imagines them to have come from the north. It is not improbable that both are in part correct: the earlier portion of the Etrurians might have come from the north, while the later colony (who must have been advanced in civilization to have effected the voyage) might have been Lydians; and in all probability these subsequent settlers constituted the dominant portion of the invaders of Etruria.—Sir William Gell's Topography of Rome, 8vo. 1834.

The Etruscan language must have been the same, or nearly so, with the Hebrew and Phœnician. For, whether we consider them as descended from Ashur, Peleg, the Egyptians, Phœnicians, or even Celtes, and from some of these they undoubtedly descended, their language must have been either the same with the Hebrew and Phœnician, or nearly related to them. The first Pelasgic settlements in Etruria could not have been many centuries after the deluge, and very few after the dispersion; and at that time the languages, or rather dialects, of the Egyptians, Assyrians, Babylonians, Celtes, Syrians, Arabs, &c., must have approached extremely near to the Hebrews and Phœnicians, which the learned allow to have been almost the same. With regard to the Canaanites or Phœnicians migrating into Etruria, after the first colonies of the Pelasgi or Tyrsenians settled there, it cannot be denied, that their language had received but little alteration from the primitive Hebrew. So that both sacred and profane history concur to evince the Hebrew, Phœnician, and Etruscan tongues to have been, in the earlier ages, nearly the same.

This likewise farther appears from the letters and manner of writing anciently used in Etruria. The letters are almost the same with those of the earliest Greeks, brought by Cadmus out of Phœnicia. The manner of writing is purely Oriental, the letters being drawn from the right hand to the left, consonant to the practice of the Eastern nations. The former point is rendered indisputably clear by the Eugubian tables, in conjunction with the Sigean inscription, and the latter by a bare perusal of the generality of the Etruscan inscriptions. Nay, the very remote antiquity of the first colonies that settled in Etruria, as well as of the Etruscan language and alphabet, may be easily inferred from those inscriptions. For as the Pelasgic alphabet, that prevailed in Greece before the age of Deucalion, consisted of sixteen letters, the Etruscan or Pelasgic alphabet, first brought into Italy, composed of only thirteen letters, must have preceded the reign of that prince. The high, not to say almost incredible, antiquity of the Etruscan language and alphabet, has been clearly evinced in two dissertations, by Mr. J. Swinton, printed at Oxford in the year 1746.—Univ. Hist. 8vo. vol. xvi. 1748.

The author of a "Tour to the Sepulchres of Etruria, in 1839," in a visit to General Galassi's museum at Rome, says, "If we had been surprised at Campanari's exhibition, we were petrified at the general's. Here we saw an immense breastplate of gold, which had been fastened on each shoulder by a most delicately wrought gold fibula, with chains like those now made at Trichinopoly. The breastplate was stamped with a variety of arabesques and small patterns, as usual in the Egyptian style. The head had been crowned with fillets and circular ornaments of pure gold, and a rich mantle had covered the body, flowered with the same material. In this grave also had been found a quantity of arms, round bronze shields with a boss in the centre which was stamped, spears, lances, and arrows; a bier of bronze, as perfect as if made a year ago; a

tripod, with a vessel containing some strange looking lumps of a resinous substance, and which on being burnt proved to be perfumes so intensely strong, that those who tried them were obliged to leave the room. There were many small images, perhaps of lares, or of ancestors, in terra cotta that had been ranged in double lines close to the bier; also some large common vessels for wine and oil, and some finely painted vases and tazze, with black figures upon a red ground, which had been consecrated to the dead. There were wheels of a car upon which the bier had been brought into the sepulchre, and many other things which I do not remember; but the wonder of all these treasures was a sort of inkstand of terra cotta, which had served as a schoolmaster's A. B. C. On it were the Etruscan letters, first in alphabet, and then in syllables, and both the letters and the syllables are the same as the oldest form of the Greek. It was deciphered by Dr. Lepsius, and is the key to all we at present know, and will be the basis of all we are ever likely to know, of the Etruscan tongue."——"This humble article is likely to prove to Europe, what the stones of Alexandria and Rosetta have been before it, the dictionary of a lost language, and the interpreter of an extinct race."

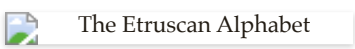
"I noted that upon this inkstand were four alphabets engraved, and after each the syllables,—thus, ba, be, bi, &c., ma, me, mi, and so forth; that one of these is in the oldest or archaic form of the Greek alphabetic letters, and that hence connexion is likely to be traced and demonstrated between the Egyptian, Etruscan, and Pelasgic."

The Primitive Etruscan Alphabet.

To these letters may be added the four following complex characters [#], [#], [#], and [#].

Etruscan in the British Founderies.

Pica.—Caslon and Livermore. Cut by Caslon for the celebrated linguist, the Rev. John Swinton, Oxford, about 1733.

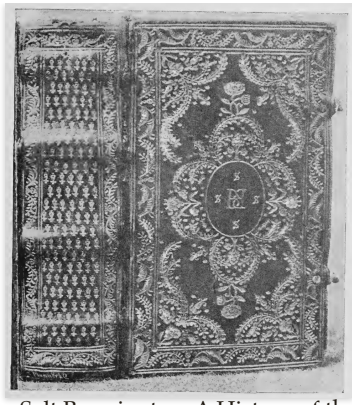


The Etruscan Alphabet
William Savage, A Dictionary of the Art of Printing, 1841

ETRUSCAN CALF also *Etruscan style* A method of decorating calfskin bindings by acid staining, so called because of the contrasting colors or shades of leather (light brown or terra cotta) in conjunction with dark brown or black tooling. The terra cotta shades and decoration represent Greek and Etruscan vases. Etruscan bindings usually have a rectangular panel on each cover, or, occasionally, a plain oval with a classical urn in the center. They are tooled in black, surrounded by a border of Greek palmate leaves, which are also in black. and with outer borders of classical design (Grecian key or Doric entablature) tooled in gold. The spines are also decorated with classical ornaments. • Many 19th century authorities attributed this style to John Whitaker: however, it seems more likely that it was the creation of William EDWARDS OF HALIFAX. • There appears to be no very conclusive evidence as to the origin of the style, but it is known that Edwards employed it at an early date, circa 1785. It was popular during the period 1785–1820. 69,94,97,158,280 RE

EUCALYPTUS A tree of the genus Eucalyptus, which has some 600 or more species, including many with bark rich in tannin. It is believed that only in Australia (to which the trees are indigenous) has the bark been exploited on a large scale, and then entirely from trees growing in the wild. • One particular bark, called Mallet (maletto) bark, obtained from Eucalyptus astringens, is actually one of the world's richest tannin-containing barks, having a tannin content that is often well over 40%, and even as high as 52 to 55. Another tree, mugga, or red ironbark (E. sideroxylon), which is also grown commercially in Morocco, has bark containing 30 to as much as 45% tannin. • While the tanning properties of eucalyptus are good, the tannin tends to produce leather that is too darkish red in color. In addition, Mallet bark is low in soluble nontans (8%) and therefore must be mixed with other tannins or acids to induce swelling or good plumping; mugga tannin fixes slowly giving a leather that is too soft and also dark red in color. See also: VEGETABLE TANNINS. 175 RE

EVE STYLE A framework of various geometrical-shaped compartments linked together by interlaced circles; the centers of the compartments are filled with small floral ornaments and the irregular spaces surrounding them with circular scrolls and branches of laurel and palm. An elaborate style of the end of the sixteenth and beginning of the seventeenth century. NBL



William Salt Brassington, A History of the Art of Bookbinding, 1894

EVEN LINES When a piece of printing has to be executed in great haste, a number of compositors are employed on it, and the copy is cut into small pieces for each, to facilitate the making-up, imposing, and the general furthering of the work; if the copy should be in long paragraphs, the compositors have each to begin a line and to make their copy end a line, frequently with great irregularity of spacing; this is termed making even lines. In daily newspapers it is of constant occurrence. DAP

EVEN PAGE **1.** The second, fourth, sixth, or any other even numbered page is called an even page. • Exclamation, Note of. *See* Punctuation. DAP **2.** The 2d, 4th, 6th, or any even-numbered page of a book. AMP

EXCEPTIONAL VOLUME A term used by the Library Binding Institute to indicate types of books—such as music scores, certain art books, periodicals with narrow binding margins or stiff paper— which require good openability. The Institute specifies that such volumes should be sewn through the folds: when such sewing is used, any weak folds are to be reinforced with bond paper (which is too heavy for this type of guarding): loose leaves are to be hinged, and the sewing done on tapes or (sawn-in) cords. The term applies only to library binding. 209 RE

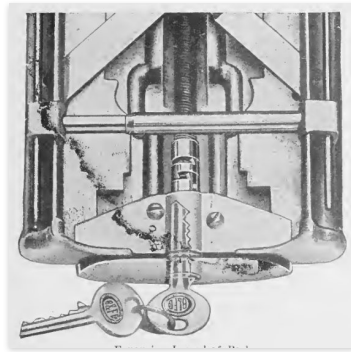
EXCITATION PURITY A colorimetric quantity used in designating depth of color. RE

EXERCISING THE PELT Frequently currying a pelt, to get it into condition, is termed *Exercising the Pelt*, or *Giving the Pelt Exercise*. • DAP

EXPANDABLE CLOTH A type of cloth woven with a crinkled cross-thread and used for lining the spines of books, usually in edition binding. The cloth expands with the spine during rounding and backing. See also: STEAMSET. 140 RE

EXPANDING MEDIUM See: MARBLING SIZE. RE

EXPANSION A change in the dimensions of a sheet or strip of paper or board resulting from atmospheric changes. See also: HYGROEXPANSIVITY. RE



Expansion Loose-leaf Back
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

EXTENDED 1. An addition to the inner or binding margin of a leaf of a book. This procedure is more often required for title leaves, plates, the last leaves of a book, etc., than elsewhere, as these are most likely to become detached, frayed, or otherwise damaged. Occasionally, however, if a book has to be made up from a narrower copy, the narrow leaves may be extended so that their outer edges are even with the other leaves. 2. See: EXTRA-ILLUSTRATED. 69 RE

EXAMPLE 299 Distinction in letterhead design. The rule border, which extended around the entire sheet, was in a shade of ink lighter than that used for the type
Edmund G. Gress, The Art and Practice of Typography, 1917

EXTENDED COVER also *extension cover* A term used in pamphlet binding to indicate covers which extend beyond the trimmed edges of the leaves, as distinguished from CUT FLUSH. See also: SQUARES; YAPP STYLE. RE

EXTENDER 1. In the adhesive industry, a substance, usually one of some adhesive capability, which is mixed into an adhesive in order to increase the amount of the adhesive, and also at times to reduce CRAZING (1). 2. A transparent or semi-transparent chemical added in powder form to a printing ink, either to alter the strength of its color or to improve working properties. 140,309 RE

EXTENSIBILITY The extent to which a material, e.g., rubber, leather, etc., can be stretched without breaking. See also: STRETCH. 17 RE

EXTENSION TABS The leather. cloth or paper tabs made to extend from the fore edges of the leaves of books. usually for indexing purposes. See also: INDEX TAB. 264 RE

EXTRA ACCOUNT-BOOK BINDING An English expression for a particular style of BLANKBOOK BINDING distinguished by an overall superior binding structure, including the taping of six sections at front and back, sewing by hand on webbings, made endpapers with leather joints, marbled edges, a calfskin or cowhide lining, a drawn-on SPRING-BACK (1) of millboard. split boards. and a calfskin or cowhide covering, with Russia bands. See also: BANDING; • STATIONERY BINDING. 343 RE

EXTRA BINDER A somewhat archaic term for a craftsman who uses the best materials available and employs only techniques of forwarding known to be sound. An extra binder often decorates his bindings with a design created specifically for the particular book. 156 RE

EXTRA BINDING **1.** A term originally applied to the binding of books in full leather, usually morocco, in which the best materials and workmanship were used throughout. The term also implied extra care in finishing and extensive use of gold tooling. Today the term is used more loosely and is applied to a book or small lot of books bound with some special care, with attention not only to utility but to beauty of design and workmanship. RE **2.** a trade term for the best work. BCB 69,94,320,343

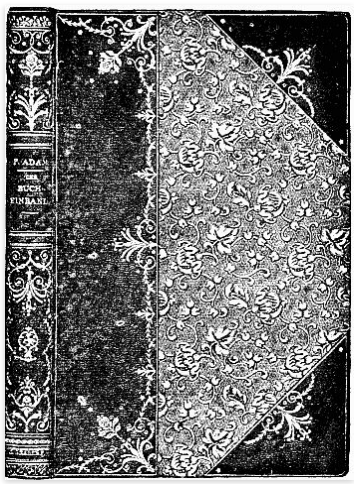


Fig. 102—Rich half-calf extra binding.
Paul Adam, Practical Bookbinding, 1903

EXTRA CALF An obsolete term applied to a book covered in a better grade of calfskin in lieu of morocco. RE

EXTRA CHECK BINDING An obsolete term applied to a style of binding in which the leaves were wire-stitched or stabbed and bound in full canvas or cloth, or quarter-bound in leather with cloth sides. 264 RE

EXTRA CLOTH An obsolete term for a superior grade of book cloth, made of a base of cotton, starch-filled on the reverse side and color-filled rather than dyed. It was made in both a plain finish and in a variety of patterns, the heavy color coating concealing the weave of the fabric and giving a solid color effect. See also: BUCKRAM, 140 RE

EXTRA GILT A term sometimes applied to elaborate gold tooling on the spine and covers of a leather binding. RE

EXTRA HIGH BULK BOOK PAPER A book paper which, in a basis weight of 45 pounds (25 X 38 — 500), bulks 344 pages or fewer to the inch under a pressure of 35 pounds per square inch. 17 RE

EXTRA THICK A term used by library binders to indicate a book greater than a stated specified thickness, usually 2 1/2 inches. The significance of the term is that library binders generally impose an additional charge for each inch or fraction thereof in excess of the prescribed "normal" thickness. RE

EXTRA TIME An hourly charge imposed by a binder or bindery, in the latter example, usually a library binder, for excessive repairs, mending, guarding, scoring, etc., beyond the extent considered "normal" for the average book. "Extra time" would normally apply to operations involved in sewing a book through the folds instead of oversewing. It may also apply to the repair and/or cleaning of water- or smoke-damaged books, or other unusual and/ or time consuming work. "Extra time" is not meant to be applied in cases of regular work involved in library binding, e.g., collating. RE

EXTRA-ILLUSTRATED A book illustrated by means of engravings, variant title pages, and the like, which were not included in the book by the publisher, but added later. This additional matter may consist of original drawings, manuscripts, etc., but it may also consist of leaves taken from other books. The added material may be mounted, inlaid, or trimmed to conform to the size of the other leaves of the book. Also called

"Grangerized" (a term derived from the vogue begun by the publication of James Granger's Biographical history of England, in 1769, in which Granger had blank leaves included so that the owner could insert desired illustrations). 69 RE

EXTRACTED BONE GLUE See: BONE GLUE. RE

EYELET A fastener, made of plastic or metal, and used on looseleaf papers, stiff covers, etc. to protect apertures from tearing o ut where cords, thongs, or fasteners are inserted. RE

EYELET CRUSHER A hand-operated, pliers-like device used for fastening a reinforcing grommet in an eyelet. RE

EYELET PUNCH A punch and die used to make eyelets in cloth, leather or paper, generally for hanging purposes. RE

EYELETTING The process of reinforcing punched holes with plastic or metal grommets. This work is generally done by firms specializing in calendar work, and the like. RE

F

F Abbreviation for feint, which, when applied to ruling, signifies feint ruling, i.e., the fine, pale horizontal lines ruled on a sheet of blankbook paper by means of a ruling machine; vertical feint lines would be indicated by d. & f. (q.v.), or downs and feints. 274 RE

F.T.P Abbreviation of folded, trimmed, and packed, a term applied to books, pamphlets, etc., to indicate that the printed sheets have been folded, trimmed and packed for shipment, usually to a bookbinder. 274 RE

FABRIC See: BOOK CLOTH; CLOTH. RE

'< Dibdiu's Bib. Decameron, vol. ii. p. 430. r Fabric. Bibl. Antiq. c. xix, p. (i07.

'< Dibdiu's Bib. Decameron, vol. ii. p. 430. r Fabric. Bibl. Antiq. c. xix, p. (i07.
John Hannett, An Inquiry into the Nature and Form of the Books of the Ancients, 1837

FABRIC BINDINGS A general term occasionally applied to a binding having a covering material consisting mainly of cloth. Specifically, the term refers to EMBROIDERED BINDINGS. RE

FABRIC BOOK CLOTH A term sometimes applied to a BOOK CLOTH that has had its reverse side surfaced with a soy-bean starch, and which is not calendered. The starch prevents adhesive penetration, while at the same time preserving the natural texture of the fabric. RE

FABRIKOID The trade name for a type of pyroxylin-coated BOOK CLOTH, although it is also at times used in a general sense. In the early period of its use, it was often referred to as IMITATION LEATHER. 196,264 RE

FAC Before the introduction of printing into Europe, and its application to the production of books, the Librarii or writers of books, in Rome, were a regular company who had several immunities: their business was a trade, and they were regulated by certain laws. Besides these writers of books, there were artists whose profession was to ornament and paint manuscripts, who were called Illuminators; the writers of books first finished their part, and the illuminators embellished them with ornamented letters and paintings. We frequently find blanks left in manuscripts for the illuminators which were never filled up. Some of the ancient manuscripts are gilt and burnished in a style superior to later times. Their colours were excellent, and their skill in preparing them was very great. • This practice, of introducing ornaments, drawings, emblematical figures, and even portraits into manuscripts, is of great antiquity. Varro wrote the lives of seven hundred illustrious Romans, which he enriched with their portraits, as Pliny attests in his Natural History. Pomponius Atticus, the friend of Cicero, was the author of a work on the actions of the great men amongst the Romans, which he ornamented with their portraits, as appears in his life by Cornelius Nepos; but these have not been transmitted to posterity. However there are many precious documents remaining, which exhibit the advancement and decline of the arts in different ages and countries. These inestimable paintings and illuminations, display the manners, customs, habits, ecclesiastical, civil, and military, weapons and instruments of war, utensils and architecture of the ancients; they are of the greatest use in illustrating many important facts, relating to the history of the times in which they were executed. In these treasures of antiquity are preserved a great number of specimens of Grecian and Roman art, which were executed before the arts and sciences fell into neglect and contempt. The manuscripts containing these specimens, form a valuable part of the riches preserved in the principal libraries of Europe. The Royal, Cottonian, and Harleian libraries, as also those in the two Universities in England, the Vatican at Rome, the Imperial at Vienna, the Royal at Paris, St. Mark's at Venice, and many others. • When the art of printing was first applied in Europe to the production of books, they were in imitation of, and sold as, manuscripts; and blanks were left at the commencement of the respective divisions of the work, for the illuminator to fill in with the proper letters, and ornaments, as was usual in manuscripts, and so close was the imitation that, even in our own time, it has required the

assistance of a chemical test to ascertain which was manuscript and which was printed. When the secret of printing was divulged, and the deception could not be continued, ornamental letters of a large size were introduced, and printed with two colours, generally red and blue, the letter being of one colour, and flourishes, extending the whole length of the page, in the other, so as to have the appearance of being done with a pen; then succeeded various grotesque figures, in attitudes to resemble letters; afterwards small Roman Capital Letters, with ornaments round them forming a square design; subsequently the block was pierced so that any letter could be introduced, and the ornamented part could be used for any initial; the next descent was for the letter founders to cast the ornament in type metal, and pierce it for general use, and these cast ornaments for letters were called Facs, as an abbreviation, I believe, for Facsimile. The last descent was to the extreme, to put a plain Roman Capital Letter, frequently extending four or five lines in depth; and this is the substitute for a beautiful coloured drawing. DAP

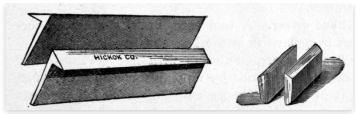
FACE 1. That part of a cowhide, between the ears and eyes to the nose, excluding the cheeks. It is of no use in bookbinding, and is actually generally removed before tanning. It is used in the manufacture of glue. 2. That part of a type character that appears in relief on the printing end of the type and which produces the impression in printing, blocking, etc. 3. The printing surface of a plate. 4. A particular design or style of a font of type. See also: TYPE FACE. 139,156,363 RE

FACE OF A LETTER The surface of that extremity of the type which bears the letter. DAP

Face of a Page or Form.* The Superficies of a *Page* or *Form*, where the *Faces* of every *Letter* lies in the same Plain. MOX

FACE OF A PAGE, or Form. The superficies of a page or form, where the faces of every letter lie in the same plain.—M. DAP

FACED A method of folding used for books made up of DUPLEX (1) paper, in which the sheets are folded in such a manner that the same shades face each other throughout the volume. It is a term used mainly with reference to the binding of blankbooks, which are frequently made up of duplex papers. 159 RE



(L) Backing Boards, Metal (R) Backing Boards, Wood, Steel Faced
John Cotton Dana, Notes on Bookbinding for Libraries, 1906

FACED CLOTH A cloth that is finished (coated and glazed) on one side only. As only one side of the cloth used in covering books is visible when on the book, most book cloths are "faced," in distinction to those in which the cloths are finished on both sides. 261 RE

FACSIMILE BINDING A bookbinding which closely resembles a binding style of previous times. See also: CONTEMPORARY BINDING. (2) RE

FACSIMILE LEAF A leaf (or leaves) prepared so as to closely imitate and replace that missing from a book, usually an older and generally valuable book. RE

FACSIMILIST One who restores a book or binding in such a manner that it retains its contemporary appearance. See also: CONTEMPORARY BINDING. RE

FADEOMETER An accelerated aging testing device which exposes samples of colored materials or coatings to a carbon arc to determine their resistance to fading. The arc emits an intense actinic light which in a matter of hours approximates the destructive effect of a much longer period of ordinary daylight. Although it does not exactly duplicate the effect of prolonged exposure to natural light, it is still an effective indicator of the degree of light stability that can be expected of a material, and of the comparative resistance to fading of a number of samples. See also: ACCELERATED AGING TEST. 72,233 RE

FADING The gradual loss of color of a pigment or dye that is chemically unstable. Unstable dyes or pigments become colorless (or at least less highly colored) compounds when they undergo chemical reactions upon exposure to the ultraviolet radiations of natural light, and to the oxygen, moisture, and other elements of the atmosphere. Dyes and pigments subject to these reactions are generally referred to as FUGITIVE COLORS. • There is no known way of preventing the fading of unstable colors. 143,233 RE

FAIR AGATE A marble pattern consisting principally of black in small widely spaced spots, supplemented by large drops produced by sprinkling potash on the marbling size. 153 RE

FAIR CALF See: LAW CALF. RE

FALL IN The condition of a book in which the spine has collapsed inward after some use, usually because of inadequate or improper rounding, backing, lining of the spine, or combinations thereof. 335 RE

FALLING OUT The same as Dropping out, which *see*. But this term is more generally applied to a page, a quarter, or a whole form, when any one of them falls out of a chase from the shrinking of the quoins and furniture. • In summer time particularly, forms in chase require to be frequently examined, and the quoins tightened, to prevent this accident, and more especially when they have been imposed in wet furniture. Compositors should neither be negligent, nor forgetful of this, as in the progress of a work the forms are in their charge, and if the whole of a form, or part of it, falls out, they not only have to distribute the pie, but to recompose the matter gratuitously. DAP

FALSE BACK A somewhat misleading term applied to a HOLLOW BACK. 115 RE

FALSE BANDS The imitation raised cords (bands) found on some books. They consist of narrow strips of leather (or other material, e.g., vellum) attached directly to the hollow of the cover, or in the case of a tight back binding, directly to the spine of the book. The false bands stand out in imitation of a book sewn on raised cords. In England, they were introduced as early as the 17th century. Cf: HUBS. See also: FLEXIBLE SEWING. 140,172,335 RE

FAN STYLE A style of decorating a book characteristic of Italian bindings of the 17th century, and also Scottish bindings of the 18th century (usually referred to as Scottish "wheel" bindings). In this style a design in the likeness of a fan is tooled on the covers of the book making a full circle in the center of the cover, and often quarter circles in the corners. It represents a development of center and cornerpiece bindings. See also: SCOTTISH STYLE. 156,334 RE

FANCY DUTCH MARBLE A modification of the WAVE MARBLE, consisting of red, black, and any one of a variety of shades of blue. The red is dropped on first, followed by the black in the same proportion but somewhat thicker, and with more ox gall so that it spreads and produces larger spots. The blue is made still thicker so that with still more gall it spreads even more than the black. The surface is finished with more gall and water, which must be spread more than any of the colors. The surface of the size is then raked as for the "wave," and the design is finished with a double comb. 159 RE

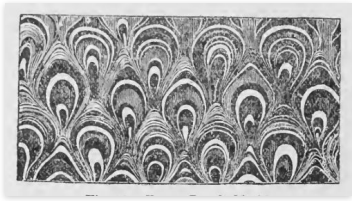
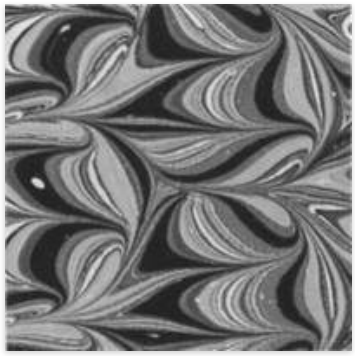


Fig-."38.—Fancy Dutch Marble.
Paul N. Hasluck, Bookbinding, with Numerous Engravings and Diagrams, 1907

FANCY HAND TOOLS See: UNIT TOOLS. RE

FANCY MARBLE An edge marble produced by spreading a finely ground vegetable coloring matter mixed with spirits of wine (a solution of 90% ethyl alcohol in water). The alcohol causes the coloring matter to spread in a diversity of forms, which are then transferred to the edges of the book. 241 RE



FANCY MARBLE.
Josef Halfer, The Progress of the Marbling Art, 1893

FANFARE STYLE **1.** An elaborate style of decoration consisting generally of geometrically formed compartments of varying sizes, each bounded by a ribbon consisting of a single fillet on one side and a double fillet on the other, each of which, with the exception of the center compartment (which is larger or otherwise distinguished), being filled with leafy spirals, branches of laurel, and other sprays, floral tools, rare in the last fifty years or so. See and the like. Fanfare was a rich and luxurious style and called for the greatest skill on the part of the bookbinder. It was imitated, with varying degrees of fidelity, throughout Europe from about 1570 until well into the 17th century, although its elements were largely imitative of previous styles of embellishment. Originally, the style was attributed exclusively to Nicholas and Clovis Ève, but it is more likely that a number of Parisian finishers executed many of these bind-

ing. The name "fanfare," which originated long after the style was first executed, derives from a binding of the 19th century binder, JOSEPH THOUVENIN, who revived the style on a volume he bound in 1829, Les Fanfares et Corvees abbadesques. See PLATE VI.2@NBL When the compartments on a decorated corner formed by fillets or curves, or both, are filled with little branches, vines, etc., the style of decoration is said to be fanfare—from its first having been used on a book of which this word formed the principal part of the title. RE 69,158,253

FANNING This is a term used in the Warehouse, in counting paper. It consists of taking hold of the right hand lower corner of a portion of the paper between the flat side of the fore finger and the end of the thumb, and pinching it tolerably tight; then with a twist of the wrist turning the right hand edge of the paper up, and running the left hand over the surface of the paper, it separates the sheets at the top corner, so as to have somewhat the appearance of a fan, and enables the person to count it with facility. DAP

"FANNING-OUT" TO ALLOW FOR PASTED EDGE PASTING END-LININGS IN QUANTITIES 289
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

FANNING OUT also *fan over* The process of working out the ends of a pile of sheets for pasting, preparatory to tipping, or for counting, folding, etc. Also called "run out," or "running out." 274 RE

FASCICLE Sections of a work which, for various reasons, including the economics of publishing and the convenience of printing, are issued in installments. They are frequently incomplete in themselves and do not necessarily coincide with the formal divisions of the publication. They usually consist of sections, or groups of plates, protected by temporary (sometimes printed) wrappers, and may or may not be numbered or designated as part, fascicle, etc. They present binding problems, particularly in that they do not necessarily coincide with the divisions of the work, and they must either be bound as odd units or held until publication or printing has been completed. Publication in parts, or fascicles, began in England in the early 17th century, become common in the 18th century, and has become relatively also: PARTS OF A BOOK. RE

FAST BACK See: TIGHT BACK. RE

FAST COLORS Those colors which are resistant to the action of external influences, such as light, acids, alkalies, etc. In textile dyeing and other industrial processes, fast colors are those which will satisfactorily resist fading for the useful life of the product in which they are used. In book cloths, the term refers to nonfading over long exposure to artificial light,- but not to natural light. Also called "lightfast," and, inappropriately, "sunfast." See also: FADING; FUGITIVE COLORS. 17,143,233 RE

FAT **1.** With compositors, short pages, blank pages, and light open matter: with pressmen, light forms, forms that only require one pull at wooded presses; and very small numbers, such as five, ten, fifteen, or twenty copies each, are termed Fat. • Fat. *See* Beat Fat.—M.2@AMP Poetry and leaded matter. DAP

FAT FACE **1.** or *Fat Letter*, is a broad Stemmed *Letter*.2@AMP or *Fat letter*.—Broad stemmed letter. MOX

FAT FACE, or Fat Letter, is a letter with a broad stem. For observations on them and specimens, *see* Type. • Fat Form. *See* Fat. • Fat Work. *See* Fat. DAP

FAT TANNING A process of converting hides and skins into a stable, imputrecible material by means of treatments involving the incorporation of soft animal fats which undergo chemical changes while in contact with the fibers of the skin, leading to the fixation of fatty matter. See also: OIL TANNING. 61 RE

FATHER OF THE CHAPEL President or chairman of a composing-room or press-room chosen by the hands. AMP

FATIGUE FAILURE The failure of a material, such as an adhesive or paper, resulting from a number of repetitions of load (or strain), e.g., folding or flexing, in distinction from CREEP, which is a deformation caused by the continuous application of load over an extended period of time. 17 RE

FATLIQUORING The process of introducing oil into a skin following tannage but before the leather is dried. In fatliquoring, which is usually applied to light leathers, the oil is introduced into the leather in such a manner that the individual fibers of the skin are uniformly coated. The

actual percentage of oil on the weight of the leather is relatively small, being about 3 to 10%. • The principal function of fatliquoring is to influence the degree of fiber cohesion which takes place before drying. If there were no cohesion whatsoever, the skin would separate into its constituent fibrils, leaving no leather structure. On the other hand, if all the fibrils and fibers cohered, the skin would then take the form of a hard and horny material having no value as leather. Somewhere between these two extremes there is an ideal degree of cohesion for any given purpose for which the leather is to be used. • The fatliquoring process probably acts to control the differential shrinkage of grain versus corium (dermis) of the leather during drying, thus playing an important role in controlling the degree of tightness of BREAK of the leather. In addition, it also influences the handle, drape, flexibility, durability, stretch, and water resistance of leather, and also adds greatly to its strength. These are factors of primary importance in leather used for covering books. • Fatliquoring is usually carried out in a drum at the highest temperature practical for the type of leather, or about 45° C. for vegetable tanned leather and 60 to 65° C. for full chrome tanned leather. The skins are run in a drum for 30 to 40 minutes. After drumming, the leathers are usually struck out on the flesh side, carefully set out to smooth the grain, nailed or toggled out flat to dry, or paste dried. • To allow a small amount of oil to be spread uniformly over the very large surface area of the leather fibers, it is necessary first to dilute the oil. Although this could be done by means of a solvent, e.g., benzine, it is more economical, safer, and more convenient to emulsify the oil. In an EMULSION with water, the oil is dispersed in microscopically small droplets. It is important that the drops of oil in the water remain as an emulsion until they penetrate the leather, and not separate out as large drops or as a layer of oil, which could not penetrate the leather fiber and result in merely a greasy surface layer. • The properties of the finished leather can be varied by controlling the degree to which the emulsion penetrates before it "breaks," depositing the oil on the fibers. Relatively shallow penetration, which leaves the inner layers of the leather with comparatively little oil, gives a leather that has a tight break and is soft and resilient. On the other hand, if the oil is allowed to penetrate uniformly through the leather, the result will be a leather that is soft and stretchy, with any natural grain looseness accentuated. • The liquors incorporated into the leather are called fatliquors, of which there are several types. One of the earliest was the soap fatliquor, consisting of neatsfoot oil and common soap. When a vegetable-tanned leather is drummed in such a fatliquor, the slight acidity of the tannage neutralized the soap, causing fine drops of oil to be deposited on the fibers. The greater the acidity of the leather, the more rapidly this occurs, so that the oil may be deposited before it has penetrated sufficiently. Consequently, soap fatliquors are described as having poor emulsion stability, and are generally used where a fairly heavy surface fatliquoring is required. It is possible, however, to modify many types of oils chemically so that they become miscible with water without the use of emulsifying agents. • Sulfated oils are used frequently because they give good, fine-oil dispersions and are less sensitive to acid than soap fatliquors. This results in deeper penetration of the oils into the leather before they are deposited. Sulfated oils are prepared by treating fish, animal, or vegetable oils with sulfuric acid at a temperature of 10 to 20° C. The resultant product is washed with a strong brine solution to remove excess acid. The salt is necessary to prevent the sulfated oil from emulsifying with the water. Soda ash is then added to form the sodium salt of the sulfated oil and to neutralize the last traces of the acid. The more the oil is sulfated, which is to say, the more sulfuric acid that has been fixed, the greater will be its stability to acid and the more thorough its penetration into the leather. Conversely, the more acid the leather, the less the penetration. However, increasing the amount of sulfation or water miscibility, decreases the "oiliness" of the oil and therefore its lubricating powers. • Sulfonated oils are prepared by a similar process, usually at a higher temperature; the fatliquor contains the sulfonic group which gives greater stability and emulsions which penetrate deeper into the leather under acid conditions. • Still another method of obtaining emulsifying properties is to sulfite the oil. In this process, the oil is mixed well with a strong solution of sodium bisulfite ($NaHSO_3$), while the mixture is thoroughly aerated by means of compressed air. Sulfited oils behave in a manner similar to sulfated oils, but are usually said to be more acid stable and to afford deeper lubrication. • In addition to the emulsifying element of the fatliquor, a raw oil, such as mineral, castor, neatsfoot, cod or coconut oil is frequently

included in the formulation. See also: CURRYING; STUFFING (2). 248,275,291,306,361,363 RE

FATS The esters of fatty acids with glycerol. They are generally insoluble in water and are not very soluble in cold alcohol. They are soluble in hot alcohol, as well as ether, acetone, carbon disulfide, chloroform, carbon tetrachloride, benzene, as well as other organic solvents. Fats may be hydrolized to glycerol and fatty acids by boiling them with acids and alkalies, by superheated steam, and by the action of certain enzymes, notably the lipases. When alkalies are used for hydrolysis, the fatty acids combine with the alkali to form soap; therefore, alkaline hydrolysis is sometimes referred to as saponification. Fats are used in the tannage of some leathers, in the FATLIQUORING of light leathers, in leather dressings, etc. See also: FAT TANNING; WAX. RE

FATTY ACIDS Monobasic acids which contain only carbon, hydrogen, and oxygen. They consist of an alkyl radical attached to the carboxyl group, and when saturated have the general formula (C_nH_2nO_2) Formic and acetic acids are the two lowest members of this saturated series. Unsaturated fatty acids follow several series, including: 1) the oleic acid series (C_nH_2n-2O_2); 2) the linoleic acid series (C_nH_2n-4O_2); and 3) the linolenic acid series (C_nH_2n-6O_2). There are also other naturally occurring fatty acids that are found in nature mainly as glycerides, which constitute the most important part of the fats and oils, and as esters of other alcohols and the waxes. RE

FAULTY MARGIN An unequal margin, one generally resulting from imperfect REGISTER (3). Such a margin may result in part of the printed matter being obscured by oversewing, or cropped unintentionally during trimming. 156 RE

FEATHER EDGE The finely pared edge of a piece of leather, or a thin, rough edge, such as deckle edge. See also: EDGING (1). 256 RE

FEATHER ORNAMENT An engraved finishing tool resembling a feather. It is found mainly on clasps and catches, but also at times, in the form of a tool used in decorating leather bindings. 250 RE

FEATHER STITCH An embroidery stitch consisting of a line of diagonal blanket stitches worked alternately to the left and right. 111 RE

FEATHER WORK A style of decoration, originally used on Irish bindings of the 18th century, emphasizing curved lines probably made with a gouge, which radiate outward from a central point producing a delicate and very rich feather-like pattern. 156 RE

FEATHERING 1. See: EDGING (1). 2. A printing fault seen as the spreading or feathering of the ink outside the printing area and generally along the direction in which the fibers lie. It may be a result of excess solvent in the ink, an unsuitable paper, or both. 156 RE

FEATHERWEIGHT 1. Papers which are extremely light in proportion to their bulk. Pure esparto papers are the bulkiest, but are difficult to handle, as they are soft and spongy. Paper of standard bulk or above is termed featherweight, while the same grade of paper under the standard bulk is called ANTIQUE BOOK PAPER. 2. A general term indicating lightweight book paper, thin opaque writing paper, etc. 17 RE

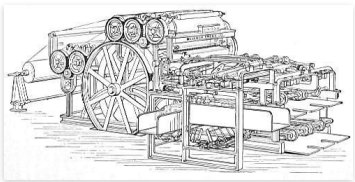
FEATHERWEIGHT BOOK PAPER Paper used mainly for fiction, especially where bulkiness is desired for a given number of leaves. The standard basis weights range from 50 to 80 pounds (25 X 38—500). In England, such papers are made largely from ESPARTO (GRASS). Featherweight book papers are porous and difficult to handle. 17,140 RE

FEED GUIDE An implement attached to a press to aid in correct feeding. AMP

FEEDER An apparatus for feeding paper into a printing press, ruling machine or folding machine, gathered sections into a sewing machine, sewn books into a casing-in machine, etc. It may also be the device on automatically fed machines performing the same function. The first feeders moved the sheet forward and adjusted it, while the sheets in the pile were still separated by hand. From this early "semi-automatic" feeder, which still exists in numerous machines, particularly in library binding, the modern completely automatic feeders were developed. • Three classes of automatic feeders are in general use: 1) the pile feeder, which operates by means of a jet of air which raises the sheet and brings it into contact with a suction wheel which moves it forward into the feed table. As the sheets feed off the top of the pile, the entire pile is raised to keep the top sheet always at the same level. Some pile feeders separate the sheets by means of push fingers that buckle up the corners of the paper and move it forward one sheet at a time; 2) the continuous feeder, which uses bands of webbing to carry the sheets which are previously fanned out and placed on the feeder. The bands carry the sheets

around a roller and up to the feed wheels where a combing wheel advances the top sheet to a guide. At the correct moment, the guide drops and another wheel drops on the edge of the paper and carries it forward. Some continuous feeders use an air jet and suction wheel to advance the sheets; 3) the friction feeder, which operates in a manner similar to the continuous, expect that the sheets are not carried around a roller; in this case each new lift of paper must be slipped under the edge of the previous lift. 278,320,339 RE

Feeding Supplying the press with sheets. AMP



THE BULLOCK SELF-FEEDING PERFECTING PRESS, WITH FOLDER, WILL FLY THE SHEET FLAT, FOLD IT THREE OR FOUR TIMES AT WILL, OR CUT, FOLD, AND PASTE IT AS FAST AS PRINTED
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

FEEL The qualities or properties of texture, finish, bulk, grain, smoothness, suppleness, stretchiness, softness, etc., of leather, paper, cloth, etc., as judged by the sense of touch. Although purely subjective in nature, "feel" is nonetheless one of the properties by which leather and paper are judged. 139,248 RE

FEET OF A PRESS The frame of a wooden press that lies horizontally on the floor, into which the cheeks and hind posts are inserted by means of mortises and tenons. DAP

FELT **1.** 1. The blanket of absorbent material, e.g., wool, placed between sheets of handmade paper that have just been removed from the mold. The purpose of the felt is to absorb water from the wet sheets. See also: COUCH (1, 2). 2. A continuous belt on a papermaking machine, generally made of wool, but also as a combination of wool, cotton, asbestos. and synthetic fibers. Felts perform the function of mechanical conveyors or transmission belts, provide a cushion between the press rolls, and serve as a medium for the removal of water from the wet web. 3. The blanket of a printing press used to soften the impression. 4. The inside lining found in some book boxes. 5. A cloth produced from matted fibers of wool, or wool and fur or hair, and made into a compact material by compression, usually while wet RE **2.** Pieces of felted hats. This is the best substitute for scaleboard, when there is a deficiency of that article, to use as cards in the head of a press; and even when there is no scarcity of scaleboard, a few pieces put in improve the pull. *See* Cards. DAP 17,274

FELT SIDE The side of a sheet of paper that has not been in contact with the Fourdrinier wire, and which therefore is the smooth side of the sheet rather than the WIRE SIDE. The felt side is considered to be the "top" of the sheet. 42,365 RE

FELTED 1. A term sometimes applied to the characteristic of firmness or solidity of a book that has been heavily pressed several times during the course of binding, thus compacting the leaves. 2. See: FELTING. 343 RE

FELTED FIBERS A material used in the manufacture of book-cloth substitutes, as a basis for imitation leathers, and in lieu of spine lining fabric in edition binding. It consists of synthetic fibers felted together into sheets and laminated to impart strength. One of these fiber-bonded fabrics is made from regenerated cellulose, the finished product being reasonably strong and durable. It is impregnated with appropriate fillers for use as a substitute for book cloth and leather. Untreated, the material is much cheaper than spine lining fabric and stronger than paper. Some edition binders use the parallel laid bonded fiber fabric to form the joint between the case and text block. As a book-covering material, this substitute is said to be easy to work and block, but most are aesthetically unappealing, lacking the texture and appearance of substance of cloth and buckram. They are decidedly inferior to leather in virtually every respect. They are marketed under a number of trade names. 81 RE

FELTING The process of intermingling the fibers during the manufacture of paper, either on the wire of the machine, or on the mold when making paper by hand. RE

Female Gage *Screws*, &c. The *Hollow Gage*, or *Hollow Screw* that receives its *Match Gage* or *Screw*, &c. MOX

FENCE 1. The movable guide attachment of a card or board cutter that controls the location and extent of the cut. See also: BACK GAUGE. 2. The thin cards placed between the boards and fly leaves of a book to prevent marking by the turn-ins or tongue of the split boards when pressing, and also, in books having excessive swell after sewing, to facilitate smashing without "throwing out" the sections at the spine. See also:

PRESSING TINS (2). 3. An endpaper of a blankbook. 145,256,276 RE

FENDERS See: FENCE (2) ; PRESSING TINS (2). RE

FERRAR, NICHOLAS 1592–1637 One of the more interesting figures in the history of English bookbinding. Ferrar and his relative, John Collet (as well as Collet's wife and 14 children), and Ferrar's mother, established a semi-religious community called the English Protestant Nunnery, at Little Gidding, in Huntingdonshire, in about 1625. Ferrar employed a bookbinder, who taught the family the craft, as well as gilding and the so-called pasting-printing by means of a rolling press. The members of the community produced the remarkable "Harmonies" of the Scriptures, one of which was produced by Mary Collet for King Charles 1. Some of their bindings were in gold-tooled leather, some were in velvet which had a considerable amount of gold tooling, and one was in red parchment with the center and corners of each cover ornamented with pieces of white parchment, pierced and gilded. Some of the embroidered bindings of this period have also been attributed to the so-called nuns of Little Gidding. 50,205 RE

FERROUS SULFATE An astringent salt ($FeSO_4$), usually obtained in the form of the pale green efflorescent, crystalline heptahydrate ($FeSO_4 .7H_2O$) as a byproduct, and used extensively in the 19th century in the production of SPRINKLED CALF, MOTTLED CALF, and TREE CALF bindings. Unfortunately, its use resulted in severe deterioration of the leather in most cases. It was also used in the execution of the JAPAN MARBLE. • It is sometimes used today in dyeing or finishing with dyewoods to impart a blue-black shade to leather, in the manufacture of writing inks, and in engraving and lithography. Also called "copperas," or "green vitriol." 237 RE

FESTOON DRYING A method of air drying paper. The paper is hung in loops (festoons) over rods which move slowly through a drying chamber in which the temperature and humidity are controlled. This type of drying is used for paper that has been tub sized or coated. 5,17 RE

FIBER 1. A small, slender tube which is the unit cell of vegetable growth and the basic unit of paper pulps. Fibers are sometimes considered to be of two classes, i.e., bast and wood, but they are more appropriately designated by reference to the tissue or region in which they occur. e.g., cortical fibers, pericyclic fibers, phloem fibers, wood fibers, leaf fibers, etc. Other types of fiber, such as mineral, animal and synthetic, are also used to a certain extent in paper manufacture. • The longest natural fibers normally encountered in papers are about one fourth of an inch in length and the shortest about one-sixteenth of an inch. Fibers are generally about 100 times longer than they are wide, although some fibers, such as cotton, have a length to diameter ratio of more than 1,000 to 1. The walls of all fibers are composed of small strands called FIBRILS. • Chemically the fibrils are composed of a number of cellulose chains. Other chemical components in fibers other than cellulose include hemicelluloses and lignin. • The physical properties of length, diameter, wall thickness, and FINES content are the most significant in determining the characteristics of paper made from natural fibers. The approximate relationships between fiber characteristics and paper properties are: • Property of • the Paper: Increased by: Decreased by: • tensile strength long fiber large diameter • stretch long fiber thick cell wall • tearing resistance long fiber, • thick cell wall • folding endurance long fiber thick cell wall • opacity thick cell wall, long fiber • high fines content • bulk long fiber, • thick cell wall • porosity long fiber, large diameter • thick cell wall • formation thick cell wall, long fiber • high fines, • large diameter • The chemical characteristics also have a significant effect on the properties of the paper. The length of the CELLULOSE CHAIN, for example, which is the basic unit in a fiber, contributes greatly to the strength of the fiber. If these chains are naturally short, or have been shortened either by chemical or mechanical treatment or influences, the strength of the fibers will be naturally lower or else reduced; therefore the paper will be weaker. In addition, the paper loses strength if the cellulose chains are shortened due to chemical action subsequent to manufacture of the paper. • Paper pulps that contain a high degree of hemicelluloses are easy to refine, have good bonding strength and low tearing resistance, and good RATTLE. • Excessive bleaching of the fibrous stock, especially when done with strong caustic extractions, results in removal of hemicelluloses. The fibers then have greater flexibility but do not bond together effectively, resulting in a paper that is soft and absorbent. • Unbleached paper pulps tend to contain more lignin than is found in bleached pulps. The presence of lignin results in stiffer, tougher fibers which do not collapse against each other very well, resulting in fewer interfiber bonds being formed during manufac-

ture. Bleached fibers, on the other hand, conform better and afford greater contact between fibers, resulting in a stronger paper. While bleached fibers conform better than unbleached, improper bleaching may result in the loss of hemicelluloses and damage to the cellulose chains. 2. The complex proteinaceous structure, composed of ropelike bundles of fibrils organized in long, wavy bundles that vary in diameter from approximately 1 to 20 microns. These proteinaceous fibers make up the principal constituent of COLLAGEN. 18,72,323,363 RE

FIBER BOARDS 1. Pressing boards made up of laminated sheets of heavily pressed fiber. 2. Pressing boards made of hard wood that have flanges of hard pressed fiber instead of brass or other metal. RE

FIBER COMPOSITION The various types of fibers making up a sheet of paper or board, generally expressed in percentages. Fiber physiology and various staining methods are generally used to determine fiber composition. 17 RE

FIBER ORIENTATION The direction in which the greater proportion of the fibers of a paper have their larger dimension, which is their length. Handmade papers have the least degree of lengthwise orientation due to the multiple shaking of the mold when it is lifted from the vat, which causes the fibers to settle in various directions. Machine-made papers have the greater proportion of their fibers oriented in the longer or MACHINE DIRECTION of the paper; however, some Fourdrinier papermaking machines are equipped with shaking wires that cause more fibers to shift away from the direction of movement of the wire. 157,320 RE

FIBERIZE A process used to reduce wood chips, reclaimed paper stock, dry broke, and other papermaking fibrous materials to individual fibers. The equipment used for this includes disc mills, conical refiners, etc. Sometimes the materials are first softened with water or steam, or by chemical treatment before the mechanical action. 17,98 RE

FIBRILAE See: FIBRILS. RE

FIBRILLATION The process of loosening the threadlike elements known as FIBRILS from the wall of the fiber, thus providing greater surface area for the formation of fiber-to-fiber bonds. Also called "brushing out" 17,98 RE

FIBRILS The fine, threadlike elements that make up the structure of fibers of certain natural and synthetic materials and which are considered to be made up ultimately of long-chain molecules oriented in a bundle in one direction. In vegetable fibers they are the threadlike elements of the wall of the native cellulose fiber, consisting of still finer microscopic microfibrils. In animal fibers they are the long proteinaceous filaments consisting of bundles of submicroscopic micelles, which in turn are made up of very long molecules of collagen twisted together. Fibrils are the smallest physical unit encountered in fibers; at this point the physical area ends and the chemical area begins. 17,291,363 RE

FIBROBLASTS Cellular structures which are thought to participate in the formation of the fibers of connective tissue in animals, i.e., FIBRILS, and which may also be responsible for the formation of ground substance. 26,248,291,363 RE

FIDDLE STITCHING also *fiddling* A term applied somewhat inaccurately to a method of lacing, rather than stitching, executed by winding thread or cord in and around v-shaped cleats of slots sawn at regular intervals in the spine of the gathered sections. See also: SMYTH-CLEAT SEWING. 12,81 RE

FILIGREE DOUBLURES A DOUBLURE (1) consisting of ornamental openwork of an intricate design, frequently of hairlike arabesques, intricate backgrounds of flowering vines with delicate spiraling stems, cut from leather and laid over a contrasting background. See also: ONLAY, 347 RE

FILL also *filling* 1. The heavy paper pasted to the insides of the boards within the edges of the turn-ins. See also: FILLING IN (1). 2. The paper used to fill out albums bound with stubs so as to make the book of equal thickness from fore edge to spine for purposes of trimming, casing-in, etc. 3. The material used to fill a fabric. See: BOOK CLOTH; BUCKRAM 4. See: FENCE (2). 5. See: SPINE LINING (1). 6. See: LOADING (2). 7. See: WEFT. , 341) 274 RE

FILLED A BOOK CLOTH treated with a chemical compound which fills the interstices and/or covers the fibers of the fabric to give it body, color or other desirable physical or chemical characteristics. 102 RE

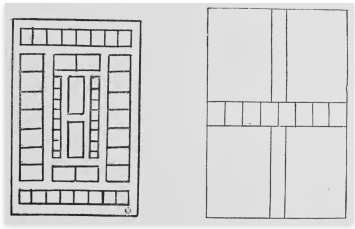


Fig. i shows the old English system, and is copied from a Durham book. Fig. 2 is the Netherlandish system, where the sides were generally impressed with one or more panel-stamps, the spaces between the two stamps being filled up with either a series of small stamps or a band. The older French plan w
William Salt Brassington, A History of the Art of Bookbinding, 1894

FILLER 1. A material, such as acrylic, starch or pyroxylin, used to fill the interstices of a base fabric. The principal characteristics desired include cheapness, flexibility, water resistance, durability, printability, mold and fungi resistance, and resistance to insects and other vermin. See also: BOOK CLOTH; BUCKRAM. 2. Usually, a non-fibrous material added to the fiber furnish of paper. The major characteristics desired include cheapness, opacity, printability, color, and flatness. See also: LOADING (2). 3. The inner ply or plies of a board made up of multiple layers. 4. An ornamented outline or border in gold or color. 5. A relatively nonadhesive substance. such as clay, diatomaceous earth, walnut shell flour, etc., used to extend an adhesive or to provide increased bulk. and/or to improve its working properties, strength, permanence, or other characteristics. See a1so: BINDER (4); EXTENDER (1). 6. See: PADDING (t). 17,22,42,309,350 RE

FILLER CLAY A type of CLAY incorporated into the papermaking furnish before sheet formation. Its purpose is to fill the voids between the paper fibers so as to improve printability, opacity, brightness. etc. Filler clays, such as KAOLIN, may be of a larger particle size than those clays used as COATING CLAY. 17 RE

FILLET **1.** See illustration 1. A wheel-shaped finishing tool having one or more raised bands on its circumference. It is used to impress a line or parallel lines on the covering material of a book, usually one bound in leather. The lines may be continuous or the fillets may have a wedge-shaped gap in the circumference to facilitate starting and stopping lines and also to enable lines to be joined evenly at corners. • It is not known when the fillet first came into use. Bindings of the 12th century, and even earlier, have impressed lines that could have been made with a fillet, but they may also have been impressed with a pallet, or similar tool, dragged across the leather rather than rolled. It is argued that it probably did not precede the roll, which was introduced in about 1470. by any great length of time, because once a wheel-type tool was introduced, it would soon be patterned. It is sometimes called a "roulette" in the United States. • 2. The plain line or lines impressed on a book cover. The so-called French fillet is a triple fillet (always in gold) having unevenly spaced lines. (69, 161. 172, 236, 335) RE **2.** The cylindrical ornament used in finishing upon which simple lines are engraved.3@BIB A cylindrical tool used in finishing, upon which a line or lines are engraved.4@NBL A cylindrical tool upon which a line, lines, or figures are engraved. Used in finishing. MAB 69,172,236,335

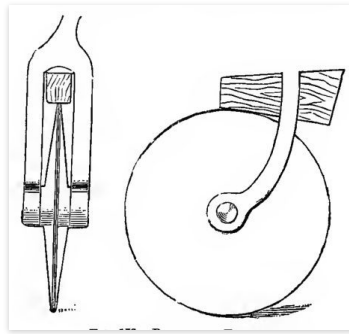


Fig. 139.—Block for Fillet.
W. J. E. Crane, Bookbinding for Amateurs, 1885

FILLET PAD A mechanical device which unwinds ribbon gold (leaf) when gilding by means of a fillet or roll. 264 RE

FILLET ROLLS Finishing tools consisting of brass rolls approximately 3 1/2 to 4 1/2 inches in diameter, with 1, 2, or 3 lines on the circumference. See also: FILLET (1). 264 RE

FILLING See: WEFT; PADDING (1). RE

GATHERING MACHINE (Man operating and women filling the boxes and taking out the
Mary Van Kleeck, Women in the Bookbinding Trade, 1913

FILLING IN 1. The operation of pasting heavy paper to the insides of the boards of a book

within the turn-ins of the covering material. The purpose of filling in is to prevent the thickness of the turn-ins from being noticeable under the board papers. Filling in is done only in craft bookbinding. 2. A fault in blocking, printing, etc., in which the spaces in types, or the spaces between the dots of a halftone block, fill with gold, coloring, or ink. In blocking it may be caused by worn or damaged type, or by a type holder that is too hot; in printing, it may be caused by too much ink, or an ink that is unsuitable for the job, by the form being too high, the rollers being set incorrectly, or by the use of an unsuitable paper, especially one which fluffs. [92,156,161,335 RE]

FILM FORMING That property of an adhesive which enables it to cast a continuous dimensionally stable film. Film forming also refers to the relative strength of the cast adhesive film. Adhesives with good film forming characteristics are those which tend to deposit more uniform films of high structural strength. [222 RE]

FINE PAPER COPY A book printed on paper of a superior quality (which often but not always is larger in size) than the balance of the edition, which is printed on ordinary paper. [RE]

FINE PRESSWORK DAP

This is the technical term for presswork of superior quality; it is in some measure indefinite, for, as presswork is paid a certain price for a given number, and the price advances according to the time and care bestowed on it, that for which the lowest price is paid is termed common work, and after the price has advanced about one half in addition, it is styled fine work; although it may advance gradually to six times the lowest price, or more, it is still called fine work.

In aiming at excellence in printing, it will be found that Presswork deserves particular consideration, as a part on which the beauty of a book so much depends.

It will be necessary, in the first instance, to endeavour to define more particularly what is meant by the term Fine Presswork, for except this be understood, we shall come to no satisfactory conclusion, as workmen vary in their opinions respecting it, and frequently produce sheets of different shades of colour in the same volume, when it is done at different presses, and all under the name of the finest work; and when the same person either actually prints the whole, or superintends it, the work will be executed according to his criterion, without any fixed rule whereby to decide; thus one man shall produce the finest work, according to his opinion, of a pale grey colour, while another will produce it so black and surcharged with colour, that if the ink be not of a very good quality, it will not only smear, but the paper at the edges of the letters, nay, even the whole page, will be tinged with the oil which separates from the colouring matter of the ink, to the entire destruction of all beauty of workmanship.

Fine Presswork is the art of printing perfect impressions from the surface of engravings in relief.

By obtaining perfect impressions, I would be understood that the subject transferred to paper should be an impression from the surface and the surface only of the engraved lines, of such a tone as to produce all the effect of which the subject is capable, without either superfluity or deficiency of colour.

Having thus defined my meaning of the term Fine Presswork, I shall speak of the means by which it is to be produced, which may be of use to those who have not had opportunities of printing splendid books.

The press ought to be in the best condition, otherwise there will be no certainty of the impression being equal, except with great trouble and loss of time. The joints of the tympan should not have any play; if they have, it will affect the register, which being out disfigures the appearance of the book; it also causes a great risk of producing slurs and doubles: the most certain way of having them without play is to construct them on centres, so that if they should work a little loose, they can at any time, with the greatest ease, be tightened by means of the screws on which the centres are formed.

The parchments on the tympans should be thin, and of a uniform thickness, and stretched on the tympans so as not to be flaccid. It is said that the French printers in their finest works used silk on the tympans, on account of its thinness, its smoothness, and uniformity.

The face of the platen ought to be a true plane, and parallel to the press stone, or table. It will be found in practice that an iron platen is superior to a wooden one for producing a sharp clear impression, where fine work is wanted; for, by discarding woollen blankets, the pressure must be increased to obtain this effect, which indents wood, and then requires so many overlays to make a uniform impression, that they produce nearly the same effect as blankets, and it becomes necessary to new face the surface frequently, which is inconvenient and expensive: the iron platen is not subject to this inconvenience; but it is more liable to injure the types, as it will not yield; and should there be any inequality on the surface of the form, owing to it not being well planed down, or to any extraneous matter being upon it or under it, the types must give way, and be destroyed. Generally speaking, the iron platen wears the types more than a wooden one.

The head of the press should be so justified as to produce what is termed a soaking pull; that is, the form should begin to feel the pressure of the platen when about two thirds down; then, when the bar is pulled home, or what is technically called cheeked, which I would always recommend to be done in good work, as it keeps the pull regular and uniform, the power slowly increases, and the paper has time to be pressed gradually on the types, which causes it to receive the ink on all its parts, and produces a clear impression.

This justifying the head relates to wooden presses, where the head and the winter are allowed some play, which is filled up with pieces of scale-

board, called cards, cut to the size of the mortises in the cheeks, and inserted in them upon the tenons of the head, and under the tenons of the winter, allowing the pull to have some elasticity. For my own part, I would have the winter lie solid, and the spring be confined to the head. *See* Winter.

In the iron presses constructed on the late Earl Stanhope's principle, where increased power is produced by means of a compound lever applied to the screw, and where there is no elasticity in the pull, this effect is produced in a greater degree than in a press of the common construction; for, as the platen descends on the form, the power increases considerably, but the motion is slower; thus the effect of the soaking pull is preserved, with a considerable addition of power, owing to the combined action of the screw and the compound lever.

In Ruthven's press, where the platen is suspended from the head, and brought over the form by means of small wheels with grooves in their edges running on the ribs, the pull is regulated by screws on the locking pieces, and also through the springs by which it rests on the ribs, that bring it nearer to, or remove it from the form.

In Clymer's Columbian press, where the power is obtained by a compound lever, the pull is regulated by a screw that connects the bar with the lever, and additionally by thin plates of iron placed upon the top of the platen under the bottom of the spindle. It is also regulated in the same way, in the Albion press, as originally constructed by R. W. Cope.

In Sherwin and Cope's Imperial press the pull is justified by a wedge above the head of the spindle or bolt in the front, which has a screw attached to it with a projecting head, by which the pull is adjusted to the greatest nicety, with ease and facility. Mr. Hopkinson has adopted the same plan in the Albion press since it came under his management on the death of Mr. Cope.

The advantage of having a good press will be unavailing for the production of fine work, if the types are much worn; for it will be found impossible to produce a sharp clear impression if the perfect shape of the letter and the fine lines are rounded and worn away by much use, as, in consequence of this roundness of the letter from wear, it will be necessary to use much blanket in the tympan to bring up the shape of the whole letter, which will produce a gross and indelicate impression of more than the surface.

I have been told that Didot, of Paris, in his most splendid works, never printed more than three sheets from the same fount of letter, when it was sent to the melting pot, and replaced by a new fount.

The colour of the ink must depend on the taste or fancy of the master printer;—but no, I am mistaken, for, unless he prepares his own ink, he is obliged to use that only which is manufactured for general use; and there is little if any choice in purchasing this article, when it is wanted of a superior quality. Leaving the particular shade or tone out of the question, I will state my opinion as to what the qualities of black printing ink ought to be for fine work.

Intenseness of colour.

Impalpability.

Covering the surface perfectly of the type or engraving.

Quitting the surface of the type or engraving, when the paper is pressed on it, and adhering to the paper.

Not smearing after it is printed.

Retaining its first appearance without any change.

Ink ought to be reduced to an impalpable smoothness, either in a mill or on a stone with a mullar; and this is essentially necessary, as the process gives it the next quality—of completely covering the surface of the type, or the lines of the engraving, and that with the smallest quantity; and, with proper care in printing, presents to the eye an impression, in which the edges of the lines are smooth and perfect, and the surface of the impression on the paper is completely covered with ink, without any superfluity; which constitute the perfection of presswork with types.

Another property required in ink is, that it shall not only cover the surface of the lines on the paper printed, but that it shall also quit the face of the type or engraving, and leave it quite clean when the paper is impressed on it, and attach itself to the paper, so as to give a perfect impression of the subject represented, without the colour of the paper appearing through the ink; and that this property, of quitting the type or engraving, and becoming attached to the paper, shall continue the same through any number of impressions, without any accumulation of ink on the surface printed from.

After having obtained these results, and when the printing is as perfect as it can be made by workmanship, still something more is requisite, viz. that the ink shall not smear on being slightly rubbed; and that it shall retain its colour and appearance, without the oil in the ink spreading at the edges, or tinging the paper—in short, that it

shall continue unchanged for any length of time, thus preserving and continuing the beauty of the work.

The balls should be in good condition, otherwise the pressman may exert his skill in vain, with a great loss of time and waste of paper, without the intended effect. They are made smaller and stuffed tighter with wool than those used for common work, which enables the pressman to distribute the strong ink that is used with more facility; they also cover the surface with ink better than if they were softer, and are easier for the workman; for large soft balls, used with ink made very strong with varnish and colour, would be almost unmanageable.

The quality of the paper is of great consequence in fine printing, but it is frequently overlooked by the printer's employers, who are too apt to pay more attention to a showy appearance and a low price, than to quality.

The best paper for receiving an impression, as I have observed in the article Engravings on Wood, is India paper; but as that which comes to England is thin, it is not used for bookwork, neither would it be durable, as it wants toughness to enable it to sustain much wear.

The next best paper for printing is French plate paper, which is superior to English plate paper, as the latter has a good deal of gypsum in its composition, which causes it to be very uncertain in the wetting; for having given it a sufficient quantity of water, judging from appearances and by comparison, and expecting to have it in good condition, the pressman shall find it, when wanted for use, nearly dry, and harsh, and the water unequally diffused; it has then to be wetted again, and particular attention must be paid to the turning and pressing of it, before it is in a proper state for printing on. I attribute this effect to the gypsum, which has had its water of crystallization driven off by fire in preparing it, and the water which it takes up in wetting crystallizes to supply its place. I do not say that all English plate paper is affected in this manner by water, but I have repeatedly experienced it in practice; and in the second wetting, if great care be not taken, the gypsum being already saturated, it will imbibe too much water, which will squeeze out in printing, and prevent the paper from taking the ink uniformly, so as to spoil the impression.

The best English paper for printing on is that which is made of fine linen rags, and moderately sized, without the use of acids in bleaching, and without being adulterated with cotton rags: this paper takes water kindly, is easily got into good condition, receives a good impression, is durable, preserves its colour, and does not act upon the ink.

Messrs. J. Dickinson and Co. have made great improvements in the quality of paper, and manufacture one kind which is admirably adapted for printing, being made by a peculiar process which gives it a particular *affinity* for the ink. They have also introduced improvements in the manufacture which have superseded the use of French paper with us, and have also nearly done so with the Chinese or India paper.

Having thus spoken of what I mean by fine presswork, and of the materials by which it is to be produced, I shall now proceed to describe the process; for when a printing office is provided with materials of the best quality, and the master of it is desirous of producing superior workmanship, there is something more required—he must resolve to lay in a fund of patience, as well as to submit to a great and continued expense of materials, or else he will never excel.

A good pressman will, as a matter of course, be well acquainted with the whole of the usual routine of presswork; in addition to which, to form his judgment, he should make himself acquainted with the most splendid books, and study them as patterns of workmanship.

In making ready it must be evident, that when a clear sharp impression is wanted, the pressure should be on the surface only, without penetrating into the interstices; of course the tympan ought not to be very soft, neither should any woollen blanket be used: the most perfect impression will be obtained when fine thick paper alone is used in the tympans, and even of this article I would not recommend many thicknesses.

After an impression is printed, the pressman examines if it be uniform throughout; if it be, which is very rarely the case, he goes on with the work; if not, he proceeds to overlay, in order to produce regularity of pressure, and of colour, over the whole form.

To effect this object, he takes thin smooth paper, and wherever the impression is weak he pastes a bit of it, of the size and shape of the imperfect part, on the tympan sheet, and proceeds in the same manner with every part that is imperfect; he then pulls another impression to examine the effect of his overlays, and continues to add to them where wanted, till the pressure of the platen is the same in every part, and the impression is uniformly of one shade of colour.

If the impression come off too strong in parts, or at the edges or corners of the pages, or on the head lines, it will be necessary to cut away the tympan sheet in those parts, and, if that does not ease the pressure sufficiently, to cut away the same parts from one or more of the sheets that are within the tympans.

It is generally preferable to overlay on a sheet of stout smooth paper inside the tympan, and particularly where the same press does the whole or great part of a work: this sheet is cut to fit the interior of the tympan, so as not to slip about, and has overlays pasted on it where wanted, to bring up the impression till it is very nearly equal; in all succeeding sheets it saves the pressman a great deal of time, as he will be certain that when he pulls a sheet of another form of the same work it will be nearly right, and he will only have to place thin overlays on occasional parts to make the impression perfect, with very little trouble. On the same principle, where this method is not adopted, preserving and using the same tympan sheet with its overlays, will be more expeditious than having to repeat the operation with every form.

Where short pages occur in a form, the bottoms of them and the edges of the adjoining pages will print too hard, and not prove a clear impression; it will therefore be necessary to have bearers to protect them, which are generally of double pica reglet pasted on the frisket, so as to bear on some part of the furniture or chase; but high bearers, made to the height of the types, are better, when they can be placed so that the balls do not touch them during the process of beating: in such a case they are liable to tear the frisket, from their closely adhering to it by their inky surface and the pressure. They may be placed where the regular foot of the page would have been had it been a full one, to prevent those hard edges which would otherwise be produced. This principle will hold good in all cases of short pages, blank pages, and the edges of wood cuts; but where it happens that some of the edges, or a particular page of a full form, come off too hard, and where there is not room to place a high bearer, then a piece of double pica reglet pasted on the frisket in the usual way will answer the purpose.

It is not necessary that these bearers should be placed close to the part requiring to be eased; they will produce the same effect if placed at a distance, keeping the direction, so that they take a good bearing on the platen, avoiding the frame of the frisket and the points; in using reglet as low bearers, I would recommend that the flat side of the furniture should be turned uppermost to receive the pressure of the bearers, provided they do not bear upon the chase.

When a high bearer does not ease the pull sufficiently on particular parts, its effect may be increased by pasting slips of stout paper on it, as overlays or underlays, and a bearer of reglet may be amended in a similar manner.

It happens occasionally that the tympan causes the paper to touch the form partially on being turned down, and occasions slurs, and this may occur from the parchment being slack or the paper being thin and soft. To prevent this inconvenience it is customary to roll up a piece of paper, similar to bookbinders headbands, and paste it on the frisket adjoining the part; this roll of paper takes a slight bearing on the furniture, and is a remedy. Many pressmen prefer pieces of cork cut to about the thickness of double pica, and pasted on the frisket.

It is neither customary nor advisable to fly the frisket in the best work, and more particularly when large heavy paper is used; it is a convenience in such cases to have a button screwed on the off side of the frame of the tympan, to confine the frisket flat to the tympan; it keeps the paper in its place, assists it in rising from the face of the form, to which it adheres owing to the strength of the ink; it helps to prevent slurring, and the paper from slipping, which occasions waste when it happens: altogether the button is of consequence in preventing accidents in the impression.

In working the white paper, instead of pins stuck into the tympan, to prevent the paper slipping, a duck's bill is frequently used: it is pasted to the tympan at the bottom of the tympan sheet, and the tongue projects in front of it, indeed the tympan sheet appears to rest in it. The bottom of each sheet is placed behind this tongue, which supports it while turning down the tympan. *See* Duck's Bill.

In proceeding with the work the balls should be well cleaned, that no dirt or extraneous matter may be on their surface. They should not be too moist, which would prevent the ink distributing equally on them, and would also prevent it lying equally on the surface of the types or engraving; nor should they be too dry, as in that case they will not dispose of the ink so smoothly as to produce a fine impression; neither will they retain particles of dirt on their surface, but part with them to the form, which will cause picks. The moisture ought to be just so much as to make the pelt or composition soft, when the ink will distribute kindly and equally, which will be perceived by their lugging; they will also part with it to the form equally where

they touch, so that the impression will be sharp and clear.

The ink ought to be rubbed out thin and regular on the ink block, so that in taking ink it shall at the very first be diffused tolerably smooth on the surface of the balls, which causes a greater probability of producing good impressions. It is likewise advisable to keep rubbing the ink out on the block with the brayer, as also to be almost constantly distributing the balls; the consequent friction produces a small degree of warmth, which is of advantage, particularly in cold weather.

As uniformity of colour is requisite for beauty in printing, I would recommend that the pressman should take ink for every impression where the form is large; this I am aware will be thought too troublesome, but I am decidedly of opinion that it is advantageous in producing regularity of colour: it is unpleasant to the eye to see in a splendid book two pages that face each other, the one of a full black, rather surcharged with ink, the other rather deficient in quantity and of a grey colour; yet this must happen when, as is frequently the case, three or four sheets are printed with one taking of ink.

Beating for fine work should not by any means be slighted. The form ought to be gone over two or three times, not with heavy thumps, but slowly and regularly with a firm hand, just raising the balls each time completely clear of the types, and advancing but a little way, so that in fact each part will be beat five or six times over, or more; the face of the type will then be completely covered with ink: but the pressman should be careful not to beat too far over the edges of the pages, nor, if the margin be wide, to let the balls scrape against the edges of another page, as in both cases ink or extraneous matter will be scraped from the balls, and accumulate about the types at the extremities, and thus cause picks and rough lines.

In splendid books, and particularly where the paper is large and heavy and the type large, set-off sheets are used to interleave the whole impression while working, and are continued in it till the printed paper is taken down from the poles, when they are removed by the warehouseman. These set-off sheets are put in when the white paper is working, and moved from one heap to the other during the working of the reiteration. They prevent the ink from setting off from one sheet to another while they are newly printed, which it would otherwise do from the weight of the paper, and also from fine printing being usually worked of a full colour.

For the uniformity of impression I would advise that the pull should be adjusted in the first instance so as to cause a proper degree of pressure on the form to produce a good impression when the bar is pulled home, and then invariably to cheek the bar, and allow it to rest in that position during a short pause; this is easily done in the Stanhope, the Ruthven, the Columbian, and Sherwin and Cope's presses, as the increased power is obtained by a compound lever, which is generally so adjusted as that the lever shall come a small portion beyond the centre of the circle it partially describes when the bar is pulled home, and as it has then reached a point beyond its maximum power, it is easily retained in this position to rest on the pull: the same observation applies to all other presses having, what is usually termed, the increased power, which is the application of a compound lever to a press on the common construction; but in a one pull wooden press, instead of this application, which I must acknowledge I never knew to answer well when applied to these presses, I would recommend when fine work is doing a simple contrivance that I adopted in two presses, which answered the purpose uncommonly well, and enabled the pressmen to rest on the pull uniformly, without too much effort to keep the bar to the cheek, which with a heavy form and a large platen becomes very fatiguing to continue through a number of impressions, if not impossible, with the unaided exertion of the arm. *See* Catch of the Bar.

It will thus be perceived, that to produce press-work of a highly superior character, great expense and much time are required; and that it is requisite to have a good press, and that press to be in good condition; to have new types, or types the faces of which are not rounded by wear; to have good balls, and those balls in good condition; the ink should be strong, of a full black colour, the oil well boiled, to prevent it separating from the colouring matter and tinging the paper, and it should be ground so fine as to be impalpable; the paper should be of the best quality, made of linen rags, and not bleached by means of an acid which has a tendency to decompose the ink; the beating should be carefully and well done, not in a hurried manner, the face of the type should be completely covered with ink, without any superfluity, so as to produce a full colour; and the pull should be so regulated as to have a slow and great pressure, and to pause at its maximum in order to fix the ink firmly upon the paper; these particulars observed, with paper only in the tympans, perfect impressions of the face of the type only will be obtained in the most superior manner, and a splendid book will thus be produced in the best style of printing.

FINE RED A marbling color used before the introduction of synthetic dyestuffs, and prepared by boiling Brazil dust, nutgalls, alum, sal ammoniac (ammonium chloride) and hydrochloric acid in water, or by dissolving Brazil wood in hydrochloric acid. 97 RE

FINES The very short fibers or fiber fragments and ray cells. Both types are very short, consequently they reduce the strength of the paper. The fines from broken fibers have thicker cell walls and larger diameters than those from ray cells, which leads to differences in the final sheet depending upon which types are present. Sometimes also called "flour" or "wood flour." 42 RE

FINISH 1. The degree of brilliance, pliability and working qualities of cloth, leather, or paper. 2. To letter and/or decorate a book. See: FINISHING. • 3. the surface properties of a sheet of paper as determined by its surface contour, gloss, and general appearance. It is a property which is usually determined visually. In uncoated printing papers, there are five major finishes recognized under the general terminology of machine-finish papers; in order of decreasing degree of smoothness, they are: English, machine, vellum, eggshell, and antique. For papers of higher finish, see: SUPERCALENDER finish. • Writing papers, including bonds, ledges, and manilas, generally have finishes called cockle, glazed, machine, supercalendered, and vellum. The finishes used for cover paper include antique, machine, plate, supercalendered, and vellum. The principal finishes for bristols are antique, eggshell, plate, and vellum. 17,72 RE

H. LINEN FINISH.
Coutts and Stephen, Manual of Library Bookbinding, Practical and Historical, 1911

FINISH BREAK A CRUSTY BREAK of a leather—one which can be attributed to improper finishing. RE

FINISHER 1. The bookbinder or gilder who performs the processes of polishing the leather, lettering. and embellishing, which are carried out on a hand-bound book subsequent to forwarding. In France, it is not unusual for the two operations—i.e., forwarding and finishing—to he performed by different persons: in England and the United States. on the other hand, the two are usually done by the same craftsman. except in commercial hand binding. 2. A machine used to apply varnish, lacquer, or other fluid to covering materials by means of a spray or roller, or a printing or blocking plate. 3. A term sometimes applied to flat or cylindrical polishing tools, e.g., a BURNISHER (2). (158. 173) 173 RE

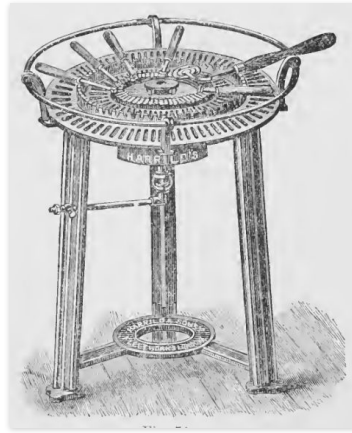


Fig. 73.—Finisher's Press. Fig. 74.—Finisher's Stove.
Paul N. Hasluck, Bookbinding, with Numerous Engravings and Diagrams, 1907

FINISHERS' PRESS Is the same as a laying-press, only much smaller. MAB

FINISHING **1.** 1. The art or process of polishing, lettering, and embellishing the spine, covers. insides of the covers. and sometimes the edges of a book. as well as inlaying, onlaying, varnishing, and otherwise decorating and/or protecting the finished bookbinding. • The purpose of finishing is to identify (letter) and beautify the book. but, at least in the latter case, in such a manner as not to interfere with the strength of the binding. The degree of finishing, depends upon the nature of the book, the craftsmanship of the binder or finisher (gilder. as he is traditionally called), whether another craftsman did the forwarding, and, at times, the wishes of the customer. • Finishing has assumed a very important role in the craft of bookbinding since the earliest times. Almost all early finishing, at least in Europe, was in blind until the latter half of the 15th century, when GOLD TOOLING was introduced into Italy. See also: BLIND TOOLING. • In modern finishing. all but the simplest designs are measured out and drawn or tooled on thin paper. This is then positioned on the cover and heated tools are pressed through. The paper is then removed, and the blind impressions are again blinded-in. This sharpens and deepens the impressions, and, if gold is to be

used, provides a smooth flat surface for the metal. In addition to making it possible to execute extremely difficult patterns without making errors on the leather itself, the use of a paper pattern eliminates the necessity of making basic guide lines in blind upon which the design is then built, and which almost invariably show beyond the tooling. It is uncertain when paper patterns were introduced, but they probably were not used much before 1830. • Not all leathers can be tooled successfully. Aside from the great difficulty encountered in tooling chrome-tanned leathers, only those vegetable-tanned (or tawed) leathers with surfaces firm enough to hold a line, such as goatskin, calfskin, pigskin, etc., are suitable. With the exception of sheepskin, leathers that are loose and stretchy do not retain impressions very well. • Library bindings are seldom "finished" to any greater degree than lettering of the spine, although gold lines and/or symbols are sometimes blocked on the spine. Edition bindings vary widely in the degree of their ornamentation. Whatever ornamentation they may have is usually done by means of blocking or printing. Whichever the case. they are "finished" only in the very broadest sense of the term. See also: BLOCKING (1); GOLD BLOCKING; INLAY (4); ONLAY; POLISHING. • 2. The various operations in paper manufacture performed after it leaves the papermaking machine. Finishing operations include supercalendering, plating, slitting, rewinding, sheeting, trimming, sorting, counting, and packaging. Ruling, punching, pasting, folding and embossing are also at times considered to be paper finishing operations. • 3. The processes in leather manufacture following tannage, including shaving or splitting, dyeing, fatliquoring, setting out, drying, staking, finishing or seasoning, glazing (or plating or embossing), and measuring.2@MAB Is that department that receives the volumes after they are put in leather, and ornaments them as required. One who works at this branch is termed a finisher.3@BIB Comprises tooling, lettering, polishing, etc.4@ABB The department that receives the volumes after they are put in leather. The ornaments placed on the volume. The person who works at this branch is termed a finisher.5@BCB comprises lettering, tooling, and polishing, &c.6@NBL The department which receives books after they are put in leather, and ornaments them as required. It includes lettering, tooling, polishing, etc. Also, the ornaments placed on a book. One who works at this branch is termed a finisher. RE 118,130,161,172,194,236,320,335,343,363

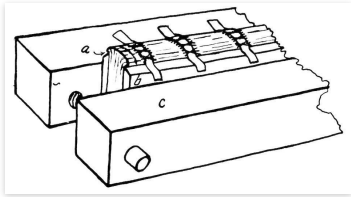


Fig. 22. Ready for backing. a, Joint. b, Backing boards. c, Lying, or finishing press.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

FINISHING PRESS **1.** A small press consisting essentially of two wooden cheeks, connected by a screw at each end. with handles for turning. A press pin is not required for this type of press. The finishing press is similar to the cutting- or lying-press, but is smaller and generally has no runners. It came into use as long ago as the early 19th century, and no basic changes were made in this basic press until a completely different type came into use in the 1880s. This new press consisted of two small cheeks, somewhat like rounded-off backing boards, which moved on joints.2@ABB A small press, used for holding books when being finished.3@BCB a small press used for holding books when they are being tooled (see Fig. 84).4@NBL A small press with which a book is held firmly with its back upward and exposed for work. RE 161

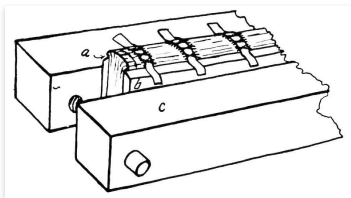
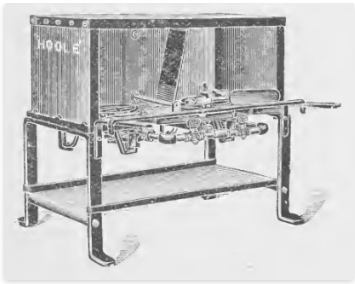


Fig. 22. Ready for backing. a, Joint. b, Backing boards. c, Lying, or finishing press.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

FINISHING STAND 1. A revolving stand consisting of a flat, circular board, covered with a soft, smooth material, mounted on another board. The lower board is stationary and rests on rubber knobs which are attached to its lower surface to raise it and prevent slipping. Ball bearings between the two boards allow the top one to revolve easily, thus making it possible to shift the position of the book with minimum effort. 2. A stand with a sliding shelf and an arm clamp which can be attached to the bench to hold a book while finishing. See also: FINISHING PRESS. 264 RE



right, next to it the gold cushion, then the finishing stand
John J. Pleger, Bookbinding and Its Auxiliary Branches, 1914

FINISHING STOVE **1.** A small stove used for heating finishing and lettering tools. Such stoves generally have a circular plate in the center which is heated. and an outer notched ring to support the handles of the tools. Modern finishing stoves are heated by gas or electricity, and some are controlled by a thermostat. • While little is known of the form of early finishing stoves, many different types were probably used, because they were frequently fabricated according to the bookbinder's own specifications. A great variety were in use during the early years of the 19th century, all of which burned charcoal or coke, as they must have done for centuries. The gas-heated stove was probably introduced in the 1830s, while the electric stove has been in use since the early part of the 20th century.2@ABB A heating box or fire used for warming the various tools used in finishing.3@BCB used for heating finishing tools.4@NBL A small gas heater, similar to a "hot plate," for heating finishing tools. RE 130,161,236,335

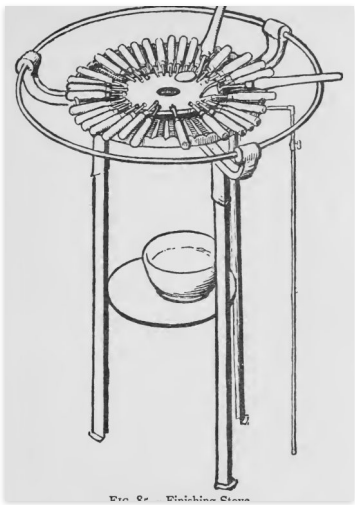


Fig. 85.—Finishing Stove.
Douglas Cockerell, Bookbinding and the Care of Books (1911 text-book edition), 1911

FINISHING TOOLS See: BAND PALLET; CIRCLES; CREASER (2); FILLET (1); GOUGE; HAND LETTERS; PALLET (1); POLISHER; ROLL. (1); STAMP (1); UNIT TOOLS. RE

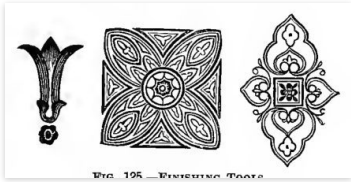


Fig. 125.—Finishing Tools.
W. J. E. Crane, Bookbinding for Amateurs, 1885

FIRE EATER Compositors who are expeditious workmen are styled *Fire Eaters*, and also *Swifts*. DAP

FIRMNESS OF LEATHER That property of a leather reflected in the force required to bend a standard strip of heavy leather through an arc of given radius of curvature. so that the grain surface of the leather forms an arc of a circle of given radius. 363 RE

FIRST The pressman who has wrought the longest at that press, except an apprentice, for he must allow any journeyman, though new come, that style, is distinguished by the name of *First*, the other his *Second*, these call one another companions: generally the master printer reposes the greatest trust upon the care and curiosity for good work of the First; although both are equally liable to perform it. All the privilege that the First has above the Second is, that the First takes his choice to pull or beat the agreed stint first: and that the Second knocks up the balls, washes the forms, teazes wool, and does the other more servile work, while the First is employed about making register, ordering the tympan, frisket, and points, &c., or otherwise making ready the form, &c.—M. • At the present day there is no such distinction; both the pressmen are equal, are equally responsible for the work, and take all the respective parts without any distinction; unless one of them be an acknowledged superior workman, and then he will, as a matter of course, take the lead in making ready, but in nothing else. DAP

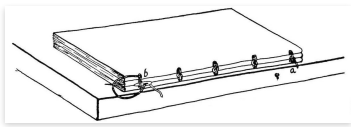


Fig. 14. Sewing all along. a. first two sections tied. b. Kettlestitch.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

FIRST BINDING The original binding of a library book. The term is not generally used with reference to the binding of serial publications. but to the binding of pamphlets in self-covers, paperback books, sewn books in temporary covers, or books in gatherings. 129 RE

FIRST EDITION The entire number of copies of a book or other publication printed from the same setting of type. The books may be printed at any time. A new edition does not come into being until there have been substantial changes in the type, i.e., a corrected edition, additions to the text (which is a revised edition), or until the type has been reset, which would be a new edition, 2nd edition, etc. 69,156 RE

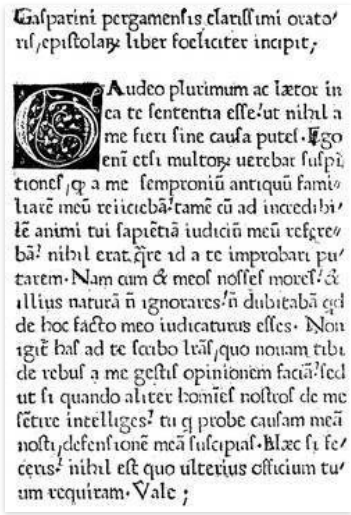
Fig. 21.—Title of the "Apocalypse," by Albert Dürer, printed in 1498. First edition, without text.
Henri Bouchot, The Printed Book: Its History, Illustration and Adornment, 1887

FIRST FORM **1.** The form the white paper is printed on, which generally by rule ought to have the first page of the sheet in it.—M. This is the reverse of the present custom, which is invariably to lay on the inner form first, viz. the one that has the second page in it; except it is directed to the contrary, for some particular reason. *See* Lay on.2@AMP The form first printed, which generally contains the first page of a sheet. DAP

FIRST IMPRESSION 1. The initial application of a finishing tool or hand letter to the covering material of a book. 2. All of the copies of a book printed during the first printing operation and before any alterations or additions are made. Subsequent printings following the first, producing reprints, are called "second impression," "third impression," etc. 140 RE

FIRST LINING The initial strip of material attached to the spine of a book subsequent to rounding and backing. In edition and library binding, it is generally the only lining. See also: SECOND LINING; SPINE LINING (1). 154,343 RE

FIRST PAGE First page of the sheet, which is always placed to the left hand in the first or outer form on the stone, when imposing.—M. In Hebrew works it is placed to the right hand, as in books printed in that language the order of the pages is reversed. DAP


Gaſparini pergamenſis clariſſimi orato-
ris epiſtolar liber feliciter incipit;

Audeo plurimum ac lætor in
ea te ſententia eſſe ut nihil a
me fieri ſine cauſa putes. Ego
enī etſi multos uerebar ſuſpi
tionēs q a me ſempronīū antiquū fami-
liarē meū reiiciebā tamē cū ad incredibi-
lē animi tui ſapiētiā iudiciū meū refere-
bā nihil erat cur id a te improbari pu-
tarem. Nam cum & meos noſſes mores & cā
illius naturā n ignorares n dubitabā qd
de hoc facto meo iudicaturus eſſes. Non
igit̄ hāc ad te ſcribo ut̄ quo nouam tibi
de rebus a me geſtis opinionēm faciā ſed
ut ſi quando aliter homīes noſtros de me
ſētire intelliges tu q probe cauſam meā
noſti defenſionē meā ſuſcipias. Hæc ſi fe-
ceris nihil eſt quo ulterius officium tu-
um requiram. Vale;

Fig. 10.—"Letters" of Gasparin of Bergamo. First page of the first book printed at Paris, in 1470.
Henri Bouchot, The Printed Book: Its History, Illustration and Adornment, 1887

FIRST PROOF The first impression of any matter after it is composed, for the purpose of comparing it with the copy; it is usually printed on a cheap hard sized paper, that will bear writing ink well, to mark the literal errors, and any variations from the copy that may have occurred, in order to assist their correction in the metal. DAP

FIRST PULL In a two pull press of the common construction, the platen only covers half a full form, and to obtain an impression of the whole, the carriage is run in at twice; the first pull prints one half, and the second pull the other half. DAP

FIRSTS 1. Hides and skins that are, or at least are designated as, perfect, i.e., free from holes, tears, putrefactive damage, etc. See also: GOOD SECONDS. 2. A term applied at times to the FIRST EDITION of a book. 335 RE

FISH GLUE An adhesive obtained by boiling the skins of certain fish, particularly the cod fish,

and used cold mainly in the liquid form. It works easily and is used in bookbinding for tipping-in and casemaking. See also: ISINGLASS [191,309 RE]

FISH GRAINED SPLIT A sheepskin split, dyed and finished by embossing with a small "gunpowder" grain. [97 RE]

FISH SCALES A particular grain pattern in a leather resembling the scales of a fish. Leather with this type of grain was at one time used by bookbinders who wanted a leather giving the effect of being blind tooled. [97 RE]

FIXATION VALUE The relative speed with which different vegetable tannins combine with hide substance as measured by the relative amounts which combine under specified conditions. [248 RE]

FIXATIVE A clear solution, such as a synthetic resin in xylene (C_8H_{10}) sprayed or coated on a work of art, a reproduction copy, etc., that "fixes" or stabilizes the image, thus making it more resistant to wear, smudging, etc. Fixatives protect and preserve, but they also at times change the refractive index and may also impart an unnatural sheen to the colors, possibly one not intended by the artist. [233 RE]

FIXED BACK See: TIGHT BACK. [RE]

FIXED TANNIN See: COMBINED TANNIN IN LEATHER. [RE]

FLAG 1. A marker, such as a small strip of colored paper, placed so as to protrude from between the leaves of a book. Its purpose is either to show the position of the book on the shelf, or to indicate that the leaf marked (or the entire book) requires special attention. 2. A slip placed in the center of each section to facilitate sewing of the headband. [139,173 RE]

FLAKING The separating of the coating material from a coated sheet of paper or cloth, appearing in the form of flakes. Art paper and the cheaper grades of coated cloth are particularly subject to this problem. [17 RE]

FLANGE The projection on either side of the spine of a text block that has been rounded and backed. It is commonly, and more accurately, referred to as the SHOULDER (1). [12,256 RE]

FLARING A FORM In working by candle light, when imposing, correcting, or laying a form on the press, it sometimes happens that melted tallow will be spilt on the pages and choke up the letter. To get rid of this tallow, and clean the form again, the compositor lights a piece of paper and puts it on the grease, to melt it; he then brushes it with the letter brush, and, if necessary, repeats the operation. [DAP]

FLARING BALLS When pelt balls are too soft, from having imbibed too much moisture, and are wanted for immediate use, they are flared; that is, the pressman will take a sheet of waste paper, and having rolled it up slightly, will light it, and holding the face of one of the balls downwards, will pass it backwards and forwards over the flame, and then treat the other ball in a similar manner: this not only evaporates the moisture, but also communicates a small degree of warmth to the balls, which causes them both to take ink and to distribute it better than before the operation. • Composition balls are liable to crack, both in distributing, and also when separating them after they have been left in the rack upon each other, particularly when they are new and soft; to remedy this, they are flared, which, when it is judiciously done, melts the surface of the composition and fills up the cracks. They are also flared when the face begins to fail, which melts the composition, and forms a new and smooth surface. [DAP]

FLAT BACK BINDING 1. A hand-bound book which has not been rounded and backed before the boards are attached. The term is also sometimes applied to a book which has lost its round; however FLAT SPINE is a more appropriate term for this condition. The spine of a flat back binding has a tendency to become concave. Also called "square back." See also: FLAT BACK CASE BINDING. 2. A leather binding which does not have bands appearing on the spine. [140,236,335,343 RE]

FLAT BACK CASE BINDING A simple type of (library) binding which has a flat spine and is cased or has a one-piece covering. This type of binding is suitable for typescript, some pamphlets, and adhesive-bound paperbacks. [258 RE]

FLAT CUT INDEX See: CUT THROUGH INDEX. [RE]

FLAT FINISH A paper having a smooth, glare-free finish. [RE]

FLAT SPINE The shape given to books in the 1820s. They were not the same as the FLAT BACK BINDING because they were backed but not rounded, or had very little rounding. The flat spine and HOLLOW BACK came into use at about the same time. [236 RE]

FLATS An old term applied to papers of various types which have a well closed, even formation and a high finish, and which are particularly

suitable for writing purposes. The term derives from the practice of counting into quires and then folding the pack. When it became the practice to deliver writing papers unfolded, they were called "flats." Today the term is usually restricted to papers such as tablet paper, as well as to paper with a smooth, flat finish as distinguished from bond finish. 197 RE

FLAX The bast fiber from the inner bark of the flax plant (Linun usitatissimum), and the source of linen for thousands of years. The bast fiber is about 25 mm long and approximately 0.02 mm thick, giving it a length to diameter ratio of about 1,250:1. It is thinner than the cotton fiber and its tube has thicker walls. It is also stiffer and stronger than cotton, has a rounded section and is knotted at intervals along its length. Linen rags, cuttings, thread, etc., have long been used in the manufacture of paper. See also: BOOK CLOTH; SEWING THREAD. 17,143 RE

FLAYING The process of removing the hide or skin from an animal carcass. Flaying is normally the job of the butcher, and, in general, the methods used in flaying give first priority to producing a good quality carcass, not hide, as the animal is generally slaughtered for its meat. • The animal should be in a clean, healthy condition and the slaughter rapid and efficient. Bruising should be carefully avoided. The animal is bled after slaughter to remove blood from the carcass and also from the small veins and arteries in the skin. If this is not done rapidly, the blood will clot and putrefy, resulting in blue-black markings in the skin. The skin should also be removed immediately, while the carcass is still warm, as removal then is much easier. Subsequent to flaying, the skin cools down more quickly, giving less chance of putrefaction. Some form of curing generally follows flaying. See also: BRINING; DRY-SALTING; PUTREFACTIVE DAMAGE; WET-SALTING. 248,291,306,363 RE

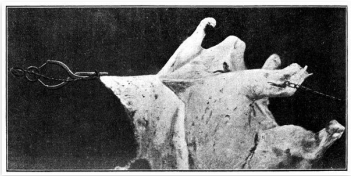


Fig. 1 MECHANICAL FLAYING (dépouille mécanique)]
K. J. Adcock, Leather: From the Raw Material to the Finished Product, 1910

FLEA SEED A small, brown, hard seed, so called because of its resemblance to a flea. It is boiled in water to make MARBLING SIZE. • It was usually used in combination with GUM TRAGACANTH in the execution of the shell and Spanish marble patterns. It was not (and apparently could not) be used for the drawn or combed marbles, as it dragged the colors and did not allow the comb to pass through smoothly. As it has no advantage over CARRAGHEEN MOSS or gum tragacanth, its use was never extensive and it is seldom if ever used at all today. 217,236,369 RE

FLESH SIDE The side of a hide or skin next to the animal, or the side opposite the grain side. See also: BUFFING (1); REVERSE CALF; SPLIT. RE

FLESH SPLIT 1. The inner layer of a hide or skin separated from the main part of the skin by means of a splitting machine. 2. The leather made from such a split. See also: FLESHER. 61 RE

FLESHER The inside split (flesh split) of a lamb- or sheepskin, embossed and finished in imitation of grained leather, and used at times for lining the spines of cheaper blankbooks. See also: BUFFING (1). 61,264 RE

FLESHING One of the beamhouse operations in leather manufacture. Fleshing consists of the removal of areolar tissue from the flesh side of a hide or skin. It usually precedes liming, and is generally done by means of a fleshing machine, or, in hand work, by working the skin over the beam with a sharp, two-handed knife. In European tanneries, fleshing generally takes place following liming and unhairing. • Fleshing promotes the entry of water from the flesh side, which is important as water is absorbed more readily from the flesh side than from the epidermal or grain side. Fleshing also flattens and stretches the skin, has a pronounced cleaning action, and, in the case of greasy skin, such as domestic sheep or pig, removes a quantity of surplus fat. • Good, clean fleshing is important for the success of all subsequent processes, as bits of flesh or fat on the skin can retard the penetration of tannins, fatliquors, and the like. See also: GREEN FLESHING. 291,363 RE

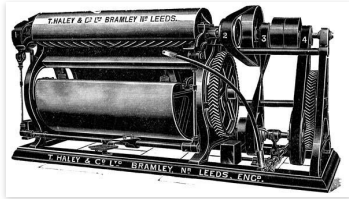


Fig. 18 DEHAIRING AND FLESHING MACHINE
K. J. Adcock, Leather: From the Raw Material to the Finished Product, 1910

FLEUR-DE-LIS-LOZENGE A lozenge shaped finishing tool made up of a fleur-de-lis, or a variation

thereof, the three pedals and stalks of which extend to fill the four corners. 250 RE

FLEURON A finishing tool cut in a nondescript form, partly floral or foliage in nature, generally of a lozenge shape and generally used to fill the lozenge compartments of a panel that is divided by diagonal fillets. 250 RE

FLEXIBLE **1.** When a book is sewn on raised bands and the thread is passed entirely round each band.2@BIB A book sewn on raised bands, with the thread passed entirely around each band, allowing the book to open freely.3@ABB When a book is sewn on raised bands, and the thread is passed entirely round each band. It is the strongest sewing done at the present time. This term is often misused for limp work, because the boards are limp or flexible. MAB

(see Fig. 114). The knife has a long flexible blade, which is bev-
F. R. Smith, Bookbinding, 1929

FLEXIBLE ADHESIVES See: ADHESIVES; FLEXIBLE GLUE; INTERNALLY PLASTICIZED; RESINOUS ADHESIVES. RE

FLEXIBLE BINDING When a book is sewn on raised bands or cords and the thread is passed entirely round each band, and the whole binding is such as to permit the book to be opened readily. NBL

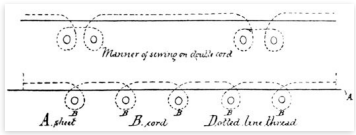
FLEXIBLE ENDPAPER An endpaper designed to provide a flyleaf that is heavier than a single sheet of paper, but is still flexible enough to not interfere with the opening of the book. Developed at the workshop of British binders Roger Powell and Peter Waters between 1960 and 1965, this endpaper is constructed by tipping two folios together in two places: along the spine and along the fore edge. RE

FLEXIBLE GLUE **1.** Generally, an ordinary animal glue containing GLYCEROL or SORBITOL, the softening effect of the latter supposedly lasting longer than the former. These softening agents, or "humectants," are hygroscopic and may, under certain conditions, absorb so much moisture as to promote the growth of mold; consequently a mold inhibitor is generally included in the plasticizer. • The origin of "flexible" animal glues is unknown, but they were certainly in use since early in the 20th century. Their use in bookbinding, however, has declined sharply in recent years in favor of INTERNALLY PLASTICIZED synthetic adhesives, such as the RESINOUS ADHESIVES.2@NBL This is usually made by adding about two tablespoonfuls of glycerine to half a pound of the glue in a dry state. RE 198,236

FLEXIBLE NOT TO SHOW A method of sewing the sections of a book in which the spine of the gathered sections is sawn lightly so that the saw cuts do not penetrate completely through the folds of the sections. The sewing is then done on thin cords, encircling them as in FLEXIBLE SEWING. • If the cords project above the spine after sewing they are hammered into the grooves during backing. Books sewn in this manner may have hollow or tight backs; in the case of the hollow back, the purpose of sewing not to show apparently is to prevent creasing of the leather of the spine by the cords, while attempting to retain the strength of genuine flexible sewing. In the case of the tight back, the purpose is to have a smooth spine and a book with sewing that is stronger than is possible with RECESSED-CORD SEWING; however, in this case, most of the desired benefits are negated because of the need to make the cords extremely thin. 236,371 RE

FLEXIBLE SEWING **1.** A method of sewing the sections of a book to cords or bands which are above the backs of the sections and rest against them, instead of being recessed into the paper. See: RECESSED-CORD SEWING. • The sewing thread is looped completely around the cords, instead of passing in front of them. This type of sewing may be done on single or double cords and is one of the strongest forms of hand sewing known. The method was in use in Europe as early as the 8th century, and represents the foundation upon which hand bookbinding was built and developed for a thousand years. • The number of bands, which were always double (i.e., two cords or thongs adjacent to each other and almost touching), on which 12th and 13th century books were sewn varied from two to five (in the latter case the cords being spaced so there was a greater space between the cords than between the end bands and the head and tail of the book), although examples of books sewn on as many as fourteen cords are known. The use of double cords gradually diminished, however, and by the middle of the 16th century the technique of sewing on single cords had become fairly well established, although largely for smaller books and economical bindings. • The use of flexible sewing has been dominant in fine binding until the present day; however, its use declined sharply from the end of the 18th cen-

tury until the end of the 19th century, when it was revived to some extent due to the efforts of T.J. Cobden-Sanderson and Douglas Cockerell. • Flexible sewing is not suitable for books printed on very heavy paper, nor in cases where the book is made up of very thick sections. It is also unsuitable for use with coated papers. If used on small volumes, the sewing thread and, therefore, the cords, must be proportionally thinner; otherwise there will be a reduction in flexibility. (]61, 72, 236, 335, 343) RE **2.** When the cord rests on instead of being sunk into the back and the thread is carried around it; a book thus sewn usually opens freely. NBL



Flexible sewing.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

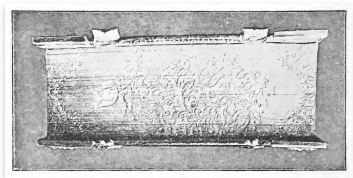
FLEXURAL STRENGTH A measure of the ability of an adhesive film to withstand repeated flexing, bending, twisting, etc. Flexural strength is of paramount importance in the adhesives used in archival work in general, and bookbinding in particular, especially in adhesives used for gluing up the spine and adhesive binding. 222 RE

FLINT HIDES Hides dried without curing. RE

FLOCK PAPER A speciality cover paper produced by coating the sheet with size, either all over or in patterns or designs, and then applying specially dyed flock powder. Flock paper originally was intended to simulate tapestry and Italian velvet brocade. 17,197 RE

FLOCK POWDER Very short or pulverized fiber, such as wool, cotton, or rayon, used in flock printing and to form velvety patterns on cloth and paper. RE

FLORIATED A border, initial letter, or book decorated with small flower or leaf ornaments. 140 RE



U.uiFFiiEi) Edce (Floriated) Book in the British Mcseum.
Bookbinders and Machine Rulers Consolidated Union, The Bookbinding Trades Journal, 1904

FLOSS Cotton or silk thread used in binding single section pamphlets, usually by side sewing tied in a bowknot. 256 RE

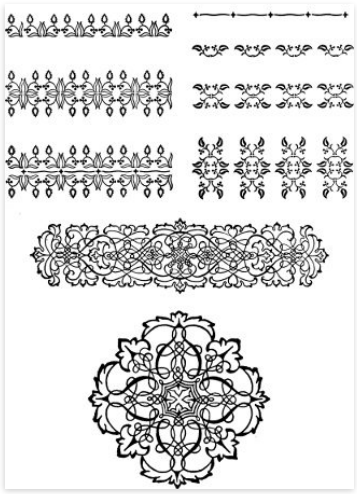
FLOUR See: FINES. RE

FLOURISH STYLE See: FANFARE STYLE. RE

FLOWER-HEADED RIVET A finishing tool cut with an ornamental head in a design resembling a daisy. 250 RE

FLOWERS Types with ornaments cast on their face instead of letters. They are used for borders round jobs, cards, pages, and wrappers of books; and for other embellishments. • Luckombe, in his work on printing, gave many specimens of borders, head pieces, &c. composed of flowers by Mr. Hazard, of Bath; and lately, Mr. Johnson and Mr. Nichols have produced some large and elaborate pieces with this material, by combining an immense number of pieces of different patterns and sizes, to represent pillars and arches; but after all the ingenuity they have displayed, and the patience they have exerted, their productions are inferior to the effect of an engraving; and only tend to prove, in my opinion, that ingenuity and patience are misapplied. • Flowers are cast on bodies from a Pearl up to a Four Line Pica, and of a great variety of patterns. Of late years our letter founders have greatly improved their specimens by the addition of many new designs. • The practice formerly was to cut the pattern perfect on each piece, and many patterns had a line at the foot of each, so that when a border was formed, there was a continual line round the inside. I pointed out to the late Mr. Catherwood, of the firm of Caslon and Catherwood, the inconvenience of both these modes of cutting flowers: in the first case, when the pattern had a solid ground, the flowers joined in that solid part, and, after being used a few times, the angle became rounded, and always showed a separation between each piece; I recommended that the junction should be in the most open part of the design, so that a little rounding of the angle would not be so perceptible: and in the second case, the same cause produced the same effect; for after being used a few times, the angles became rounded, and instead of a continued line, it became a series of short lines, separated from each other by intervals: to remedy this, I suggested to him to discard the line, and that a piece of brass rule should be substituted by the printer, which, being in one piece, would form a continued line, and not be liable to injury from the same cause. He adopted both these plans, and the junction of the flowers that have been subsequently cut has been much improved; but the abolishing of the line has not produced the neat effect I anticipat-

ed, for it rarely happens that the printer will take the trouble of placing a rule within the flowers; in consequence, many of the designs present, when printed, a meagre and unfinished appearance. DAP



Printers' Flowers and Decorations, designed by Percy J. Smith, for the Curwen Press in 1922
Henry R. Plomer, English Printers' Ornaments, 1924

FLUFFING 1. The process of reducing the substance and smoothing the flesh side of a skin or hide during leather manufacture. See also: BUFFING (2); SNUFFING. 2. The removal of the free or loosely bonded fibers, loading material or dust from the surface of paper during impression. Fluff is a particular defect encountered in lithographic printing, and results in the printed matter showing white or gray images in paper fibers, or other material, removed from the surface of the paper. 93,306 RE

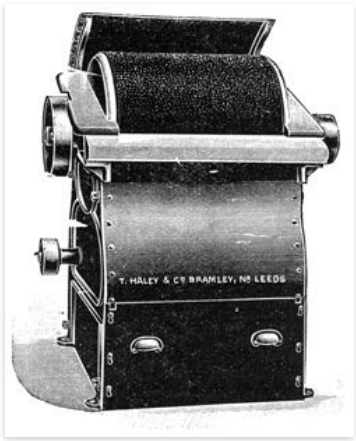


Fig. 33 FLUFFING MACHINE
K. J. Adcock, Leather: From the Raw Material to the Finished Product, 1910

FLUSH also *flush cut* See: CUT FLUSH. RE

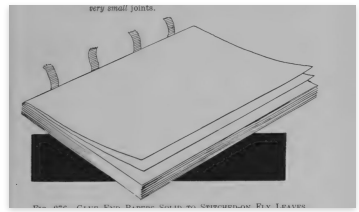
FLUSH BOARD BINDING A style of binding having the boards glued to the board papers and a paper cover glued to the boards. The book is then CUT FLUSH. RE

FLY **1.** *See* Devil.—M. A boy who takes the printed sheets off the tympan as soon as the pressman turns it up, for the sake of despatch: it was most frequently done with newspapers, as they are always pressed for time, and are obliged to work with the greatest expedition. These boys are not now called devils, as in the time of Moxon, but *Flies*, or *Fly Boys*.2@AMP The person or apparatus that takes off the sheets from the press. DAP

FLY EMBOSSING PRESS An early version of the BLOCKING PRESS, which was capable of exerting the enormous pressure required to block covers with engraved plates often of the same size as the cover, even quartos and folios. This type of press was probably introduced sometime in the late 1820s by JOSEPH THOUVENIN and was used extensively until the later part of the 19th century. The description "fly" may stem from the instantaneous release of pressure (the platen "flying" up). 203,236 RE

FLY LEAF A leaf or leaves at the beginning and end of a book, being the leaf or leaves not pasted to the boards, or covers, of the book. See also: ENDPAPERS. 69,335 RE

FLY LEAVES The blank leaves at the beginning and end of a book, between the end papers and the book proper. NBL



Fic. 276—GLUE END Papprs SOLID TO STITCHED-ON FLY LEAVES
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

FLYING FRISKET In working at press, the act of turning down the frisket and the tympan upon the form by the same motion, for despatch; it is always done in the regular way of working, but not in very superior work where the paper is heavy. DAP

FLYING OUT A convex shape to the fore edge of a book, resulting from lack of, or improper, rounding, backing, lining of the spine, or a combination thereof. RE

FLYSWING A very thin SKIVER used extensively for title labels on cloth- and leather-bound books, and generally lettered in gold. In library binding, the "flyswing" has been replaced by labels of paper and (occasionally) cloth. 140 RE

FOGEL, JOHANNES fl 1455-?1460 One of the most celebrated of German bookbinders, Fogel bound at least one and perhaps as many as four copies of the Gutenberg Bible, one of which bears his signature. Fogel's tools included a rope knot and a lute player stamp, as well as triple fillets accompanied by rosettes. He also worked finely made headbands in red, white, and blue silk. All of his bindings are decorated in a manner characteristic of ERFURT BINDINGS, having the long, narrow center panel enclosed in a broad border, with all lines crossing at the ends to form squares in the corners. • Little is known of Fogel after 1460. All of his extant *signed* bindings are thought to have been bound at Erfurt before 1460, and by 1461 some of his stamps were being used in conjunction with others and without his signature on the bindings, but it is not known whether he retired from binding or just stopped signing his bindings. In 1462 his lute player and rope knot finishing tools appear on a binding signed by Paulus Lehener. It is possible, although probably unlikely, that he discarded some tools and acquired others. 141 RE

FOIL See: BLOCKING FOIL. RE

FOLD AND DYE PAPERS Decorative end- and cover-papers which have been folded (in parallel folds several times or into accordion pleats) and painted with color along the edges and corners, or dipped into a dye or paint mixture. Japanese papers are usually used in this technique. 183 RE

FOLD BINDER One of the simplest forms of "binding," consisting of a sheet of cover stock with a series of scores running vertically and extending outward from the center fold to allow for expansion. The grain of the cover stock should run from head to tail so as to facilitate folding and scoring. 146 RE

FOLD SEWING A general term applied to sewing a book through the folds of the sections. See: FLEXIBLE SEWING; FRENCH SEWING; MACHINE SEWING; RECESSED-CORD SEWING; TAPE SEWING (1) RE

FOLD TO PAPER An instruction to the binder to fold the printed sheets of a book so that the edges of the leaves and bolts are even. Cf: FOLD TO PRINT. 156 RE

FOLD TO PRINT also *fold to register* An instruction to the binder to fold the printed sheets of a book to register, i.e., the edges of the printed areas are to be placed exactly over one another. C: FOLD TO PAPER. 156 RE

FOLDED BOOK also *folding book* A form of book consisting of a long strip of paper folded "concertina-wise" and attached at one or both ends to stiff covers. The "folded book" is common in the Orient but much less so in other parts of the world, except in books of an unusual nature, such as books of a pictorial nature with views of places and/or panoramas. 156 RE

FOLDER **1.** 1. A thin length of wood, bone, ivory, or other material, from 6 to 12 inches long, and 1 to 1 1/2 inches wide. The typical folder is approximately 1/8 inch thick. It is tapered to the edges, has rounded edges and ends, and is used in folding sheets by hand and cutting bolts, and also in numerous binding operations. 2. See: FOLDING MACHINES. 3. A publication consisting of one sheet of paper folded to make two or more leaves but not stitched or cut. 4. A large sheet of stiff paper, usually manila, folded once. It has a projection or tag for heading at the top of the rear portion.2@MAB This is a flat piece of bone or ivory used in folding the sheets and in many other manipulations. Also applied to a female engaged in folding sheets.3@ABB A flat piece of bone or ivory used in folding sheets, and in many other manipulations; called also a folding stick. A female engaged in folding sheets.4@BCB a flat piece of ivory or bone, like a paper knife, used in folding sheets and in various other operations.5@NBL A flat piece of bone or ivory used in folding the sheets and in many other manipulations. Also applied to the person engaged in folding sheets. RE 204

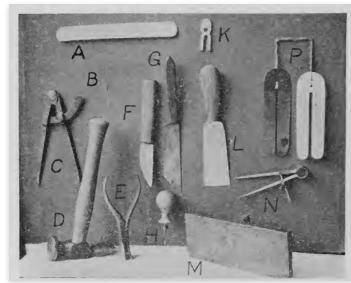


Fig. 5.—A, bone folder ; B, Sewing needle ; C, wing compasses ; D, Backing hammer ;
W. B. Pearce, Practical Bookbinding: A Text-book, 1908

FOLDING **1.** The process of folding flat printed sheets into sections. The number of leaves in a single folded sheet is always a multiple of two:

4, 8, 16, 32, and 64 leaves, giving 8, 16, 32, 64, and 128 pages respectively. Sections with 6, 12, 18 etc., leaves may be obtained by the use of other than standard types of folding, or by the use of more than one sheet, e.g., an envelope fold followed by a right angle fold will give 6 leaves (12 pages), or a full sheet folded three times, plus a half sheet folded twice and insetted within the full sheet will give a section of 12 leaves (24 pages). Although a single sheet of paper can be folded nine times, in bookwork it is unusual to find a sheet folded more than four times, and most sheets are slit or perforated if they are to be folded at right angles more than twice, so as to reduce wrinkling and buckling. • The principal folds are the parallel (or buckle) and right angle, with the latter being the most commonly used fold in bookwork. The parallel fold is generally used for very narrow books, or for those that are printed TWO UP. • The third most commonly used fold, though used far less than either of the preceding, is the concertina fold, which is used for maps and folders, as well as for some book sections. • Almost all folding today is done by machine; however, in the early days of the folding machine, the work was so inaccurate that good folding could be done only by hand. • Folding is done "to the paper" or "to the print," i.e., register. See also: FOLD TO PAPER; FOLD TO PRINT; FOLDING MACHINES; IMPOSITION; REGISTER (4).2@DAP In the warehouse. As the person who collates the books turns them, the gatherings lie ready to be folded, and as they are pushed a little over each other they are readily taken up separately; they are knocked up at the ends and sides, and evenly folded in the back, which is rubbed down with a folder; after this, from a dozen to twenty-five gatherings in thickness are knocked up together and put into the press, which is thus filled and screwed down. After lying a sufficient time in the press, they are taken out and are ready for booking. • Books are never folded across a page; of course some require to be folded the shortest way of the paper, and some the longest way. RE 82,182,229,234,335,339,343

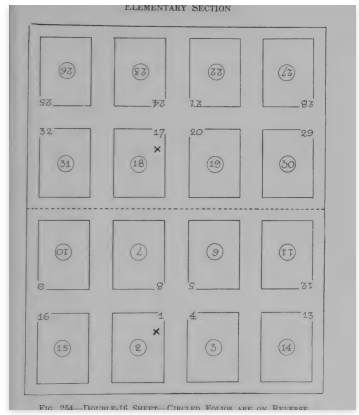


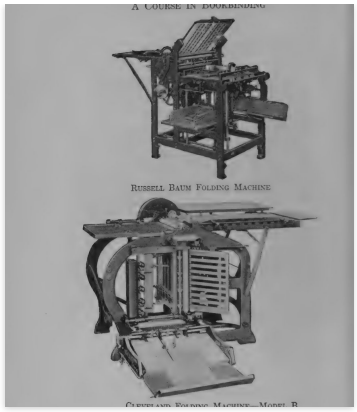
Fig. 254—DOouBLE-16 SHEET—CIRCLED FOLIOS ARE ON REVERSE SIDE OF SHEET. X Marks Low Fouio. For Hanp FOLDING SHEET SHOULD FIRST BE CUT APART AT DOTTED LINE, OBTAINING Two Square SINGLE-16's.
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

FOLDING BOOK See: FOLDED (FOLDING) BOOK, RE

FOLDING ENDURANCE The number of folds which a specimen (usually paper) will withstand before failure, under controlled conditions in a specified instrument. In the usual test, a specimen is subjected repeatedly to double folds through a wide angle while under tension. • Folding endurance is a very important indication of the durability of archival papers. The test is usually conducted in an environmental room. A decline in folding endurance is the most sensitive indicator of aging and deterioration of paper. 17,62 RE

FOLDING IN GANGS A method of folding printed sheets by means of a folding machine that folds a large sheet into several sections in one operation. As the sheet passes through the machine, it is folded, cut into sections, the heads are slit and the sections are then delivered singly or inset. 140 RE

FOLDING MACHINE A machine invented to fold sheets, generally used in newspaper offices. ABB



CLEVELAND FOLDING MACHINE—MODEL B
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

FOLDING MACHINES Machines that fold flat printed sheets into sections. The two main features of modern folding machines are: 1) the knife which dips between two rotating rollers that form a "nip;" and 2) the plate that forms an envelope into which the sheet is propelled, bending or buckling it along a desired line as it makes its exit from the plate. • Three main types of folding machines are in use today: the knife folder, buckle (or plate) folder, and combination folders, which are machines that employ both knife and buckle folding in different stages in the same machine. All three types are designed to take standard sizes of paper and are suitable for different types and classes of work. • In the knife folder, a blunt-edged knife is set parallel with and above the slot formed by the two rollers. The rollers revolve continuously so that when a sheet is placed over them and the knife descends, the paper is caught between the rollers and carried away, a fold being made where the knife made contact. In practice the sheets are fed one at a time to stops, either by hand or by mechanical feeders, and are carried by moving tapes beneath the knife where they are precisely positioned mechanically for folding. The knife having descended, the sheet, now folded once, is carried by rollers and tapes to a second unit of knife and rollers where a second fold is made, then a third fold, etc., the folded sheets (now sections) being delivered to a stacker. If any knife is at right angles to the previous unit a fold at right angles to the previous fold is made; however, if the machine is constructed with the folding units parallel to preceding folds then parallel folds are made. If it is desired to slit the sheet into individual sections during folding, the sheet will travel through rotary slitters when passing from one folding unit to the next, and the individual sections of the sheet will be conveyed to individual folding units. In this manner, a sheet printed with 64 pages can be slit into four parts producing four individual 16-page sections. Machines are normally provided with perforators which perforate the bolts, thus preventing wrinkling and buckling. • Buckle folders work on a different principle. The sheet is fed end first between a pair of continuously revolving rollers and the leading edge is guided between two closely spaced plates, the plane of the plates being at an angle of 45° to the plane of feeding. The plates are fitted with internal adjustable stops, and when the leading edge of the sheet hits these stops further forward motion is prevented. The latter half of the sheet, however, is still being propelled forward by the rollers and, being already bent at an angle of 45°, the sheet buckles at the point of entry to the plates. The buckle is gripped between the lower roller and a third roller in contact with it and the buckle passes between these rollers, thus forming a fold. The portion of the sheet between the plates is immediately withdrawn by this action, leaving the mechanism clear for the next sheet. The sheet continues to be propelled by rollers and the folded edge may be deflected into a second and then third plate, producing additional folds parallel to the first. Buckle folders frequently incorporate knife folding units, the knives being used to make folds at right angles to the parallel buckle fold. As with knife folding machines, perforators and slitters are incorporated for use at various stages of folding. • Buckle folders are generally run at higher speeds than knife folders, but knife folders are used in book work because they are better adapted for handling a greater diversity of papers. The largest knife folders will fold a flat sheet of 128 pages, producing four 32-page sections, each with four folds. Buckle folders, in their most complex form, can produce almost any series of folds, but, in general, they are used more for the folding of advertising matter than for book work. • The first folding machine is believed to have been introduced in about 1850 by a man named Blake. In 1856, Cyrus Chambers, Jr., patented and sold a folding machine to the Lippincott Publishing Company. Although the accuracy of early folders was poor, with hand folding still predominating for better grade work, development of the folding machine after 1862 was rapid, and in 1873 a machine was patented that would fold a 16-page section and one of 8 pages, inset the latter, and paste it in

place. That same year devices to cut and slit paper as it went through the machine were introduced. Automatic feeders were also developed, one being patented in 1855. • Modern folding machines are available in many sizes, capable of folding sheets measuring 4 by 4 inches up to 26 by 60 inches and, in special cases, even up to 50 by 74 inches. 52,101,179,320,339 RE

FOLDING NEEDLE A needle, usually of steel imbedded in a wooden handle, and used by some bookbinders in tight places for such work as mitering covers and turning-in on slipcases. It is also used at times for scoring. RE

FOLDING STICK A long, thin polished piece of wood, bone, plastic, or other material, used when folding paper by hand to crease the sheet without soiling or otherwise damaging it. See also: FOLDER (1). 173 RE

FOLDING STRENGTH See: FOLDING ENDURANCE. RE

FOLDINGS A general term applied to printed sheets which have been folded in various ways to form sections. Foldings from 4 to 128 are given in the table provided below. RE

FOLDOUTS Inserts that are larger than the trim size of the book or other publication and which must be folded before insertion. When they are the same height as the book but wider they may be tipped in, but when they are both higher and wider, or just higher, they must be LIPPED. See also: FULL APRON; THROW OUT. 316,339 RE

FOLIAGED STAFF A finishing stamp cut in the form of a branch entwined with foliage, sometimes intertwined with berries. A foliaged staff is usually used to form a frame. • Foldings • Section Size Symbol Customary Leaves Pages • Number of Folds • Folio fo 1 2 4 • Quarto 4to 2 4 8 • Sixmo 6to varies 6 12 • Octavo 8vo 3 8 16 • Twelvemo 12mo varies 12 24 • Sixteenmo 16mo 4 16 32 • Eighteenmo 18mo varies 18 36 • Twenty-fourmo 24mo varies 24 48 • Thirty-twomo 32mo 5 32 64 • Thirty-sixmo 36mo varies 36 72 • Forty-eightmo 48mo varies 48 96 • Sixty-fourmo 64mo varies 64 128 250 RE

FOLIATE To number the leaves of a book instead of the pages. This results in the rectos and versos having the same number, as 1, 1–2, 2–3, 3–4, 4–5, etc. It is a method of numbering commonly found in blankbooks. 274 RE

FOLIATION 1. The total number of leaves, whether numbered or unnumbered, contained in a book or manuscript. 2. The numbering of the leaves of a book or manuscript. Foliation was relatively rare until the last quarter of the 15th century. It consisted originally of the word Folio, or an abbreviation, followed by a Roman numeral. Arabic figures were used in Italy between 1475 and 1500, and outside Italy after 1500. Eventually the Arabic came to be used alone. The numbering of pages (pagination), as opposed to leaves, began to replace foliation near the end of the 16th century but was not finally established until the 18th century. Reference to a page in a foliated book is generally done by using r and v for recto and verso, e.g., 1r or 1v, or by the use of a and b. e.g., 1a or 1b, the latter being preferred because manuscript v is often mistaken for r. Abbreviated ff. See also: PAGINATION. 140,156 RE

FOLIO **1.** 1. The book size resulting from folding a sheet one time, giving leaves half the size of the sheet. In modern practice double-size paper folded twice, or quad-size paper folded three times would be used, thus producing the requisite folio size but in sections convenient for binding. Abbreviated Fo. or fo. 2. A leaf of parchment or paper numbered only on the recto side. 3. Loosely, the number of a page. 4. An individual leaf of a book.2@DAP The running number of the pages of a work. When there is no running title, the folios are placed in the middle of the head-line, in Arabic figures, sometimes enclosed in brackets, sometimes in parentheses, but more frequently now without either; when there is a running title, the folios are placed at the outside corners of the pages. The prefatory matter has the folios generally set in Roman lower case numerals, and sometimes the folios of an appendix are done in a similar manner. • A sheet of paper folded in two leaves, is also termed folio; as folio post, folio demy, &c.; but when the size of a book is spoken of, it is styled a post folio, demy folio, &c.3@AMP Two pages to a form.4@NBL A sheet folded once, consisting of two leaves, or four pages; the size of the sheet being usually understood as about 19×24 inches, giving a leaf 19×12 inches. Also, the consecutive page numbers of a book, pamphlet, etc. RE 234,252,316

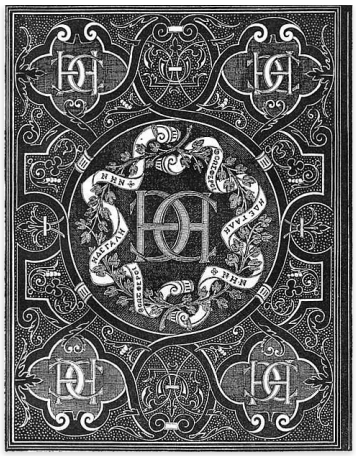
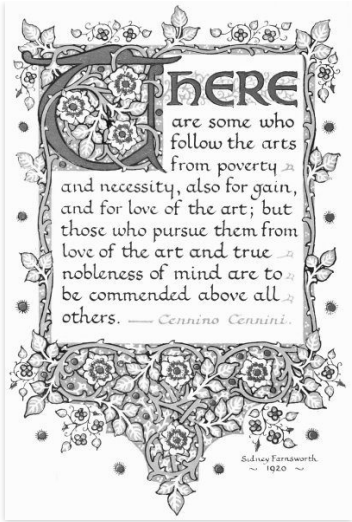


Fig. 154. Decke mit Leerstempeldruck und farbigem Riemenwerk, gebunden für Heinrich II. und Katharina von Medici. Folio. 1557. Paris, Nationalbibliothek. (Gaz. des Beaux-Arts.)
Paul Adam, Der Bucheinband: Seine Technik und seine Geschichte [de], 1890

FOLIO FORM Printed sheets that have been folded and gathered, but not bound. See also: GATHERING (1). 322 RE

FOLLOW *See if it follows*, is a term used as well by the corrector, as by the compositor and pressman. It is used by the corrector and compositor when they examine how the beginning matter of a succeeding page agrees with the ending matter of a precedent page: and how the folios of those pages properly and numerically follow and succeed one another, lest the pages should be transposed. But the pressman only examines that the folio and beginning word of the second page, and signature of the first and third page (when the reiteration is on the press) follow the folio and direction of the first page, and the signature of the third page follows the signature of the first page, orderly according to the volume, lest the form should be laid wrong on the press.—M. • Foot Notes. *See* Bottom Notes. DAP



There are some who follow the arts from poverty and necessity, also for gain, and for love of the art; but those who pursue them from love of the art and true nobleness of mind are to be commended above all others.— Cennino Cennini. Sidney Farnsworth 1920
Sidney Farnsworth, Illumination and Its Development in the Present Day, 1922

FONT also *fount* The complete assortment of all letters and characters in one face and size of type. A type family includes fonts of roman, italic, semi-bold and condensed. See also: TYPE FACE. 12 RE

FONTHILL STYLE A particular style of binding in which the books were sewn on raised cords, and were top edge gilt, had marbled paper sides and endpapers, and were covered in half olive-brown morocco. Finishing consisted of lettering and the date at the tail of the spine. The name derives from Fonthill Abbey in Wiltshire, England, which was built toward the end of the 18th century by William Beckford (1759–1844). 241 RE

FOOT 1. The margin at the bottom of a page of type. 2. The under-surface of type. The plane parallel to the face on which the body of type rests. 12,196 RE

FOOT OF A PAGE The bottom or end of a page. —M. DAP

FOOT OF THE LETTER The break end of the shank of a letter.—M. DAP

FOOT-STICKS Sloping pieces of furniture placed at the bottom of pages, between which and the chase the quoins are driven to fasten the pages. AMP

FOOTAGE 1. The charge made by the manufacturer or supplier of leather. The method of measurement used in calculating the number of square

feet of any particular skin or hide is somewhat complicated, and in practice it is usually found that a skin marked, for example, as four feet, will not give nearly that much area in cut pieces for books; particularly in the case of skins with very ragged edges, e.g., goatskin. The footage charged is usually marked on the flesh side of the skin, and is calculated to the tenth of a foot in the United States, and to a quarter of a foot in England, e.g., 4 = 4 feet, 4/1 = 4 1/4 foot, etc. The measuring is done either by metal pins which record the presence (or absence) of leather by touch, or by a beam of light, which indicates the absence of leather by means of a receptor element. 2. The length or area of a reel of paper expressed in linear or square measure. 335,363 RE

FOOTSTEP, is a board nailed upon a piece of timber seven or eight inches high, and is bevelled away on its upper side, as is also the board on its under side at its hither end, that the board may stand aslope on the floor. It is placed fast on the floor under the carriage of the press.—M. It is made of elm; and gives the pressman great advantage in pulling when he has a heavy form on the press. DAP

FOOTSTICK Footsticks are placed against the foot or bottom of the page: the outer sides of these footsticks are bevelled or sloped from the further to the hither end, which allows the quoins to wedge up the pages within the chase. —M. They, as well as sidesticks, which are precisely the same, and used indiscriminately for each other where the length suits, are made of oak; their width is in proportion to their length; for a form of demy octavo the broad end will be about an inch wide, and the narrow end about half an inch; but where a chase is small in proportion to the size of the pages, they are made narrower to allow of quoin room. Their height is the same as that of the other furniture; the outer angle at each end is bevelled off. A careful compositor, when he is making up furniture from the drawer, will cut off the bruised broad end from the old side and footsticks that will suit as to length, and thus economise the furniture, which for jobs and pamphlets will answer every purpose of new. DAP

FORE EDGE **1.** The edge of a book opposite the spine. Sometimes called "front edge." RE **2.** The fore edge, in making margin, is that edge of a sheet of paper, which, when folded to the proper size of the book, forms its outer edge. • Foreign Bills or Notes. *See* Forgery.3@MAB The front edge of the book.4@BIB The front edge of the leaves. DAP

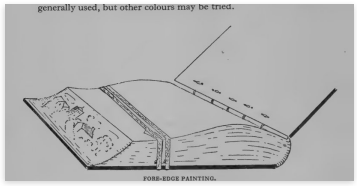
Landscape on the fore edge of "Flora Domestica" (1825). Painted by James Ed-
Ernest Knaufft, Bookbinding: Past and Present; the Revival of Bookbinding, 1917

FORE-EDGE BINDING A style of binding representing a degree between quarter and half-binding, in which a narrow strip of leather or cloth, usually of the same color as that covering the spine, is attached to the outer extremity of each board. The width of the strip generally varies according to the color and decoration, if any, of the material used to cover the sides. 86 RE

FORE-EDGE MARGIN The space between the text and the outer extremity of the leaf of a book. Also called "outside margin. See also: BLED; MARGIN (1). RE

FORE-EDGE PAINTING A scene painted on the fore edge of a book, either with the edge solid so that the resultant painting is visible with the book closed, or, in the more accepted use of the term, with the edge fanned out so that the painting is not visible with the book closed. When the painting is done with the leaves fanned out, the edge is generally also gilded or marbled in the usual manner, so that the closed book shows no trace whatsoever of the painting. A double fore-edge painting is one with two paintings, which can be viewed independently by fanning the leaves first one way and then the other. A triple fore-edge painting has a visible scene in addition, in which case the edge is not gilded or marbled. • The painting of fore edges is very old, going back perhaps as early as the 10th century. These earliest fore-edge paintings consisted of symbolical designs. The art reached England in the 14th century, and among the early fore-edge paintings, such as those executed by Thomas Berthelet for King Henry VIII, consisted of treating the fore edge as a solid panel for a heraldic or other motif in gold and colors. The binder who originated the technique of painting a design on the fanned out leaves is unknown, although Samuel Mearne is thought to have employed one or more artists and binders who did this kind of painting. The first known disappearing painting dates from 1649; the art of fore-edge painting under gold reached its pinnacle in England in the latter half of the 17th century. • The art of painting landscapes on fore edges, rather than floral scrolls and armorial bearings,

was pioneered by William EDWARDS OF HALIFAX, sometime around 1750. He first used monochrome (brown or gray) and later a full range of colors. Portraits were also included, often flanking a landscape. Subjects portrayed included countrysides, buildings, sports, and scenes based on the content of the book being decorated. The types of books commonly treated in this manner were Bibles and prayer books, the classics, travel books, and poetry. • Although the art of fore-edge painting is old, there is clear evidence indicating that the majority of such paintings are the work of the late 19th and 20th centuries, mainly on books dating from the early 19th century. The great number of these paintings was in response to the demand of collectors and, because there was an insufficient number of authentic examples, appropriate books of an earlier time were painted to satisfy this demand. 50,69,140,236 RE



FORE-EDGE PAINTING.
Alex J. Vaughan, Modern Bookbinding: Letterpress and Stationery Branches, 1929

FORE-EDGE TAB See: INDEX TAB. RE

FORE-EDGE TITLE The title of a book written on its fore edge to identify it. This was a common practice in the 16th century when it was customary to shelve books with their fore edges outward. 156 RE

FOREDGE **1.** The front edge of a book.2@BCB (fore edge), the front edge of the leaves. Pronounced "forrege." ABB

FOREL A grade of PARCHMENT made from a split sheepskin and dressed in imitation of VELLUM. • It is not a strong skin and tends to be greasy, which causes difficulties in trying to make it adhere to the boards of a book. Also called "forrel-' and (rarely) "forril." 172,343 RE

FORESTAY An upright support to the fore end of the frame and long ribs on which the carriage runs. It is fastened to the floor, and screwed to the frame. DAP

FORGERY DAP

1 Geo. 4. c. 92. "An Act for the further Prevention of forging and counterfeiting of Bank Notes."

"Whereas the Forgery of Bank Notes hath of late very much increased in this Kingdom; and as well for the Prevention thereof, as to facilitate the Detection of the same, the Governor and Company of the Bank of *England* have, after great Consideration, Labour and Expence, formed a new Plan for printing Bank Notes, in which the Groundwork of each Bank Note will be Black or Coloured, or Black and Coloured Line Work, and the Words "Bank of *England*" will be placed at the Top of each Bank Note, in White Letters upon a Black, Sable, or Dark Ground, such Ground containing White Lines intersecting each other, and the numerical Amount or Sum of each Bank Note in the Body of the Note, will be printed in Black and Red Register Work, and the Back of each Note will distinctly show the whole Contents thereof, except the Number and Date in a reversed Impression: Therefore, for the better Prevention of the Forgery of Bank Notes, and for the Security of the Public; be it enacted by the King's most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the Authority of the same, That from and after the passing of this Act, if any Person or Persons (other than the Officers, Workmen, Servants, and Agents for the Time being of the said Governor and Company, to be authorized and appointed for that Purpose by the said Governor and Company, and for the Use of the said Governor and Company only,) shall engrave, cut, etch, scrape, or by any other Art, Means, or Device make, or shall cause or procure to be engraved, cut, etched, scraped, or by any other Art, Means, or Device made, or shall knowingly aid or assist in the engraving, cutting, etching, scraping, or by any other Art, Means, or Device, making, in or upon any Plate of Copper, Brass, Steel, Iron, Pewter, or of any other Metal or Mixtures of Metal, or upon Wood or other Materials, or any Plate whatsoever, for the Purpose of producing a Print or Impression of all or any Part or Parts of a Bank Note, or of a Blank Bank Note, of the said Governor and Company, of the Description aforesaid, without an Authority in Writing from the said Governor and Company, or shall use any such Plate so engraved, cut, etched, scraped, or by any other Art, Means, or Device made, or shall use any other Instrument or Contrivance for the making or printing any such Bank Note or Blank Bank Note, or Part of a Bank Note of the Description aforesaid; or if any Person or Persons shall, from and after the passing of this Act, without such Authority as aforesaid, knowingly and without lawful Excuse, have in his, her, or their Custody any such Plate or Instrument, or without such Authority as aforesaid, shall knowingly or wilfully utter, publish, dispose of, or put away any such Blank Bank Note, or Part of such Bank Note, of the Description aforesaid, every Person so offending in any of the Cases aforesaid, and being thereof convicted according to Law, shall be adjudged a Felon, and shall be transported for the Term of Fourteen Years.

s. 2. "And whereas divers Frauds have been practised by making and publishing Papers with certain Words and Characters so nearly resembling the Notes of the Governor and Company of the Bank of *England*, as to appear, to ignorant and unwary Persons, to be the Notes of the said Governor and Company; and it is necessary for the Security of the Public, that such Practices, as applied to the Notes of the said Governor and Company of the Description aforesaid, should be prevented; be it therefore further enacted, That if any Person or Persons, from and after the passing of this Act, shall engrave, cut, etch, scrape, or by any other Art, Means, or Device make, or shall cause or procure to be engraved, cut, etched, scraped, or by any other Art, Means, or Contrivance made, or shall knowingly aid or assist in the engraving, cutting, etching, scraping, or by any other Art, Means, or Contrivance making, in or upon any Plate of Copper, Brass, Steel, Iron, Pewter, or of any other Metal or Mixture of Metals, or upon Wood, or any other Materials, or upon any Plate whatsoever, any Line Work, as or for the Ground Work of a Promissory Note, or Bill of Exchange, the Impression taken from which Line Work shall be intended to resemble the Ground Work of a Bank Note of the said Governor and Company of the Description aforesaid, or any Device, the Impression taken from which shall contain the Words "Bank of *England*," in White Letters upon a Black, Sable, or Dark Ground, either with or without White or other Lines therein, or shall contain in any Part thereof the numerical Sum or Amount of any Promissory Note or Bill of Exchange in Black and Red Register Work, or shall show the reversed Contents of a Promissory Note or Bill of Exchange, or of any Part of a Promissory Note or Bill of Exchange, or contain any Word or

Words, Figure or Figures, Character or Characters, Pattern or Patterns, which shall be intended to resemble the Whole or any Part of the Matter or Ornaments of any Bank Note of the Description aforesaid, or shall contain any Word, Number, Figure, or Character, in White on a Black, Sable, or Dark Ground, either with or without White or other Lines therein, which shall be intended to resemble the numerical Sum or Amount in the Margin, or any other Part of any Bank Note of the said Governor and Company, without an Authority in Writing for that Purpose from the said Governor and Company, to be produced and proved by the Party accused; or if any Person or Persons shall, from and after the passing of this Act, (without such Authority as aforesaid), use any such Plate, Wood, or other Material so engraved, cut, etched, scraped, or by any other Art, Means, or Contrivance made, or shall use any other Instrument or Contrivance for the making or printing upon any Paper or other Material, any Word or Words, Figure or Figures, Character or Characters, Pattern or Patterns, which shall be intended to resemble the Whole or any Part of the Matter or Ornaments of any such Note of the said Governor and Company, of the Description aforesaid, or any Word, Figure, or Character, in White on a Black, Sable, or Dark Ground, either with or without White or other Lines therein, which shall be apparently intended to resemble the numerical Sum or Amount in the Margin, or any other Part of any Bank Note of the said Governor and Company; or if any Person or Persons shall, from and after the passing of this Act, without such Authority as aforesaid, knowingly have in his, her, or their Custody or Possession, any such Plate or Instrument, or shall knowingly and wilfully utter, publish, or dispose of, or put away any Paper, or other Material containing any such Word or Words, Figure or Figures, Character or Characters, Pattern or Patterns, as aforesaid, or shall knowingly or willingly have in his, her or their Custody or Possession, any Paper or other Material containing any such Word or Words, Figure or Figures, Character or Characters, Pattern or Patterns as aforesaid, (without lawful Excuse, the Proof whereof shall lie upon the Person accused,) every Person so offending in any of the Cases aforesaid, and being convicted thereof according to Law, shall be adjudged a Felon, and shall be transported for the Term of Fourteen Years."

11 Geo. 4. & 1 Will. 4. c. 66. "An Act for reducing into One Act all such Forgeries as shall henceforth be punished with Death, and for otherwise amending the Laws relative to Forgery."

s. 13. "And be it enacted, That if any Person shall, without the Authority of the Governor and Company of the Bank of *England*, to be proved by the Party accused, make or use, or shall without lawful Excuse, to be proved by the Party accused, knowingly have in his Custody or Possession any Frame, Mould, or Instrument for the making of Paper, with the words "Bank of *England*" visible in the Substance of the Paper, or for the making of Paper with curved or waving Bar Lines, or with the Laying Wire Lines thereof in a waving or curved shape, or with any Number, Sum, or Amount, expressed in a Word or Words in Roman Letters, visible in the Substance of the Paper; or if any Person shall, without such Authority, to be proved as aforesaid, manufacture, use, sell, expose to sale, utter or dispose of, or shall, without lawful Excuse, to be proved as aforesaid, knowingly have in his Custody or Possession any Paper whatsoever with the Words "Bank of *England*" visible in the Substance of the Paper, or any Paper with curved or waving Bar Lines, or with the Laying Wire Lines thereof in a waving or curved Shape, or with any Number, Sum, or Amount, expressed in a Word or Words in Roman Letters, appearing visible in the Substance of the Paper; or if any Person, without such Authority, to be proved as aforesaid, shall by any Art or Contrivance, cause the Words "Bank of *England*" to appear visible in the Substance of any Paper, or cause the numerical Sum or Amount of any Bank Note, Bank Bill of Exchange, or Bank Post Bill, Blank Bank Note, Blank Bank Bill of Exchange, or Blank Bank Post Bill, in a Word or Words in Roman Letters, to appear visible in the Substance of the Paper whereon the same shall be written or printed; every such Offender shall be guilty of Felony, and, being convicted thereof, shall be transported beyond the Seas for the Term of Fourteen Years.

s. 14. "Provided always, and be it enacted, That nothing herein contained shall prevent any Person from issuing any Bill of Exchange or Promissory Note having the Amount thereof expressed in Guineas, or in a numerical Figure or Figures denoting the Amount thereof in Pounds Sterling, appearing visible in the Substance of the Paper upon which the same shall be written or printed, nor shall prevent any Person from making, using, or selling any Paper having waving or curved Lines, or any other Devices in the Nature of Watermarks, visible in the Substance of the Paper, not being Bar Lines, or Laying Wire Lines, provided the same are not so contrived as to form the Ground Work or Texture of the Paper, or to resemble the waving or curved Laying Wire Lines, or Bar Lines, or the

Watermarks of the Paper used by the Governor and Company of the Bank of *England*.

s. 15. "And be it enacted, That if any Person shall engrave, or in anywise make upon any Plate whatever, or upon any Wood, Stone, or other Material, any Promissory Note or Bill of Exchange, or Blank Promissory Note, or Blank Bill of Exchange, or Part of a Promissory Note or Bill of Exchange, purporting to be a Bank Note, Bank Bill of Exchange, or Bank Post Bill, or Blank Bank Note, Blank Bank Bill of Exchange, or Blank Bank Post Bill, or Part of a Bank Note, Bank Bill of Exchange, or Bank Post Bill, without the Authority of the Governor and Company of the Bank of *England*, to be proved by the Party accused; or if any Person shall use such Plate, Wood, Stone, or other Material, or any other Instrument or Device, for the making or printing any Bank Note, Bank Bill of Exchange, or Bank Post Bill, or Blank Bank Note, Blank Bank Bill of Exchange, or Blank Bank Post Bill, or Part of a Bank Note, Bank Bill of Exchange, or Bank Post Bill, without such Authority, to be proved as aforesaid; or if any Person shall, without lawful Excuse, the Proof whereof shall lie on the Party accused, knowingly have in his Custody or Possession any such Plate, Wood, Stone, or other Material, or any such Instrument or Device; or if any Person shall, without such Authority to be proved as aforesaid, knowingly offer, utter, dispose of, or put off any Paper upon which any Blank Bank Note, Blank Bank Bill of Exchange, or Blank Bank Post Bill, or Part of a Bank Note, Bank Bill of Exchange, or Bank Post Bill, shall be made or printed; or if any Person shall, without lawful Excuse, to be proved as aforesaid, knowingly have in his Custody or Possession any such Paper; every such Offender shall be guilty of Felony, and, being convicted thereof, shall be transported beyond the Seas for the Term of Fourteen Years.

s. 16. "And be it enacted, That if any Person shall engrave or in anywise make upon any Plate whatever, or upon any Wood, Stone, or other Material, any Word, Number, Figure, Character, or Ornament, the Impression taken from which shall resemble, or apparently be intended to resemble, any Part of a Bank Note, Bank Bill of Exchange, or Bank Post Bill, without the Authority of the Governor and Company of the Bank of *England*, to be proved by the Party accused; or if any Person shall use any such Plate, Wood, Stone, or other Material, or any other Instrument or Device, for the making upon any Paper or other Material the Impression of any Word, Number, Figure, Character, or Ornament which shall resemble, or apparently be intended to resemble, any Part of a Bank Note, Bank Bill of Exchange, or Bank Post Bill, without such Authority, to be proved as aforesaid; or if any Person shall without lawful Excuse, the Proof whereof shall lie on the Party accused, knowingly have in his Custody or Possession any such Plate, Wood, Stone, or other Material, or any such Instrument or Device; or if any Person shall, without such Authority, to be proved as aforesaid, knowingly offer, utter, dispose of, or put off any Paper or other Material upon which there shall be an Impression of any such Matter as aforesaid; or if any Person shall, without lawful Excuse, to be proved as aforesaid, knowingly have in his Custody or Possession any Paper or other Material upon which there shall be an Impression of any such Matter as aforesaid; every such Offender shall be guilty of Felony, and, being convicted thereof, shall be transported beyond the Seas for the Term of Fourteen Years.

s. 17. "And be it enacted, That if any Person shall make or use any Frame, Mould or Instrument for the Manufacture of Paper, with the Name or Firm of any Person or Persons, Body Corporate, or Company carrying on the Business of Bankers (other than and except the Bank of *England*) appearing visible in the Substance of the Paper, without the Authority of such Person or Persons, Body Corporate or Company, the Proof of which Authority shall lie on the Party accused; or if any Person shall, without lawful Excuse, the Proof whereof shall lie on the Party accused, knowingly have in his Custody or Possession any such Frame, Mould, or Instrument; or if any Person shall, without such Authority, to be proved as aforesaid, manufacture, use, sell, expose to Sale, utter, or dispose of, or shall, without lawful Excuse, to be proved as aforesaid, knowingly have in his Custody or Possession any Paper in the Substance of which the Name or Firm of any such Person or Persons, Body Corporate, or Company carrying on the Business of Bankers shall appear visible; or if any Person shall, without such Authority, to be proved as aforesaid, cause the Name or Firm of any such Person or Persons, Body Corporate, or Company carrying on the Business of Bankers to appear visible in the Substance of the Paper upon which the same shall be written or printed; every such Offender shall be guilty of Felony, and, being convicted thereof, shall be liable, at the Discretion of the Court, to be transported beyond the Seas for any Term not exceeding Fourteen Years nor less than Seven Years, or to be imprisoned for any Term not exceeding Three Years nor less than One Year.

s. 18. "And be it enacted, That if any Person shall engrave or in anywise make upon any Plate what-

ever, or upon any Wood, Stone, or other Material, any Bill of Exchange or Promissory Note for the Payment of Money, or any Part of any Bill of Exchange or Promissory Note for the Payment of Money, purporting to be the Bill or Note, or Part of the Bill or Note, of any Person or Persons, Body Corporate, or Company carrying on the Business of Bankers (other than and except the Bank of *England*), without the Authority of such Person or Persons, Body Corporate, or Company, the Proof of which Authority shall lie on the Party accused; or if any Person shall engrave or make upon any Plate whatever, or upon any Wood, Stone, or other Material, any Word or Words, resembling, or apparently intended to resemble, any Subscription subjoined to any Bill of Exchange or Promissory Note for the Payment of Money issued by any such Person or Persons, Body Corporate, or Company carrying on the Business of Bankers, without such Authority, to be proved as aforesaid; or if any Person shall, without such Authority, to be proved as aforesaid, use, or shall, without lawful Excuse, to be proved by the Party accused, knowingly have in his Custody or Possession, any Plate, Wood, Stone, or other Material upon which any such Bill or Note, or Part thereof, or any Word or Words resembling or apparently intended to resemble such Subscription shall be engraved or made; or if any Person shall, without such Authority, to be proved as aforesaid, knowingly offer, utter, dispose of, or put off, or shall, without lawful Excuse, to be proved as aforesaid, knowingly have in his Custody or Possession, any Paper upon which any Part of such Bill or Note, or any Word or Words resembling or apparently intended to resemble any such Subscription, shall be made or printed; every such Offender shall be guilty of Felony, and being convicted thereof, shall be liable, at the Discretion of the Court, to be transported beyond the Seas for any Term not exceeding Fourteen Years nor less than Seven Years, or to be imprisoned for any Term not exceeding Three Years nor less than One Year.

s. 19. "And be it enacted, That if any Person shall engrave or in anywise make upon any Plate whatever, or upon any Wood, Stone, or other Material, any Bill of Exchange, Promissory Note, Undertaking, or Order for Payment of Money, or any Part of any Bill of Exchange, Promissory Note, Undertaking, or Order for Payment of Money, in whatever Language or Languages the same may be expressed, and whether the same shall or shall not be or be intended to be under Seal, purporting to be the Bill, Note, Undertaking, or Order, or Part of the Bill, Note, Undertaking, or Order, of any Foreign Prince or State, or of any Minister or Officer in the Service of any Foreign Prince or State, or of any Body Corporate, or Body of the like Nature, constituted or recognized by any Foreign Prince or State, or of any Person or Company of Persons resident in any Country, not under the Dominion of His Majesty, without the Authority of such Foreign Prince or State, Minister or Officer, Body Corporate, or Body of the like Nature, Person or Company of Persons, the Proof of which Authority shall lie on the Party accused; or if any Person shall, without such Authority, to be proved as aforesaid, use, or shall without lawful Excuse, to be proved by the Party accused, knowingly have in his Custody or Possession, any Plate, Stone, Wood, or other Material upon which any such Foreign Bill, Note, Undertaking, or Order, or any Part thereof, shall be engraved or made; or if any Person shall, without such Authority, to be proved as aforesaid, knowingly utter, dispose of, or put off, or shall, without lawful Excuse, to be proved as aforesaid, knowingly have in his Custody or Possession any Paper upon which any Part of such Foreign Bill, Note, Undertaking, or Order shall be made or printed; every such Offender shall be guilty of Felony, and, being convicted thereof, shall be liable, at the Discretion of the Court, to be transported beyond the Seas for any Term not exceeding Fourteen Years, nor less than Seven Years, or to be imprisoned for any Term not exceeding Three Years nor less than One Year."

FORM **1.** 1. A curved block placed between the endpapers of a book and its covers while the leather is being polished, so as to counteract any warpage which may have occurred due to the dampening of the leather while finishing. 2. Pages of type metal and illustrations, arranged in proper order for the printed sheet and locked in a metal frame called a "chase," ready for printing or for making an electrotype or stereotype.2@DAP The pages when they are imposed and locked up in a chase are called a Form; and this term is applied whether it be one page only or any number that are imposed in one chase.3@AMP The pages when imposed in a chase. RE 12,115

FORM DANCES When the lines have not been well justified, or if any thing at the ends prevents them being tight when locked up, so that when the compositor tries if the form will lift, and finds that quadrats, letters, and spaces, or any of them drop down and will not rise, it is said, *the Form dances*.—M. • This term is more properly applied to a form when, in being lifted from the stone, letters, spaces, or quadrats, will drop

lower down than their proper situation, without entirely disengaging themselves from the form; this frequently happens. DAP

FORM IN THE SINK After a form is laid up, it is frequently left in the sink for a short time to allow the water to drain from it; if another compositor wants to lay up a form before this be removed, he calls out, *Form in the Sink!* that the person to whom it belongs may take it away. • Form Rises. *See* Form Lifts. • Form Springs. *See* Spring of a Form. DAP

FORM LIFTS After a form is locked up, and when, on being raised a little from the stone, neither letters, spaces, nor any thing else drops out, it is said, *the Form lifts*. DAP

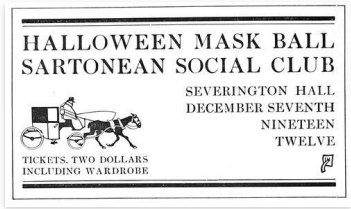
FORMALDEHYDE A very reactive aldehyde (HCHO), that is a colorless, pungent, irritating, combustible gas when pure, but is conveniently handled in the form of aqueous solutions or solid polymers. It is usually prepared by the oxidation of methanol or gaseous hydrocarbons. It has been used to kill, or inhibit, bookworms, and is used in the manufacture of some leathers, in the treatment of certain dyestuffs to render them fast to washing, and for bleaching archival papers. Its tanning properties stem from its ability to render gelatin insoluble in water. See also: ALDEHYDE TANNING; COMBINATION OIL TANNAGE; FORMALIN. RE

FORMALDEHYDE TANNING A process of converting hides and skins into leather by treatment with FORMALDEHYDE. See: ALDEHYDE TANNING. See also: COMBINATION OIL TANNAGE; FORMALIN. 248 RE

FORMALIN A solution of FORMALDEHYDE gas in water. A solution of 40% formalin in water, which may also contain traces of formic acid, methyl alcohol, or a white deposit of paraldehyde, is used in tanning some leathers. See also: ALDEHYDE TANNING. 306 RE

FORMAT 1. The number of times a printed sheet has been folded to form the leaves of a section, e.g., folio (folded once to make two leaves or four pages); quarto (folded twice to make four leaves or eight pages), etc. In a broader sense, format is the general proportions and approximate size of a book or other publication which would result from such folding. See also: FOLDINGS. 2. In a very loose sense, the general appearance and make-up of a book, including proportions, size, quality, and style of paper and binding, typography, illustrations, and so on. See also: DUMMY (1). 12,156,234 RE

FORMATION The distribution of the solid components of a sheet of paper, with special reference to the fibers. It is usually judged by the visual appearance of the sheet when viewed by transmitted light. Formation affects not only look-through appearance but uniformity in several respects, including, finish, subsequent coatings, ink receptivity, and compressibility under printing impression. • The selection of paper pulps and their subsequent refining influence formation to a great extent. Short fibers will form better than long ones, while long fibers, which give strength in terms of folding endurance and tear resistance, when used in preponderance, tend to give a cloudy or bunchy look to the formation of the sheet. Loading or fillers improve formation, permitting closer packing and greater density in the sheet, thus improving both levelness and LOOK-THROUGH. There are limits, however, to the amount of loading than can be used, as it weakens the paper because it is dead weight and contributes no strength on its own. 17,72,143 RE


HALLOWEEN MASK BALL
SARTONEAN SOCIAL CLUB
SEVERINGTON HALL
DECEMBER SEVENTH
NINETEEN
TWELVE
TICKETS, TWO DOLLARS
INCLUDING WARDROBE

EXAMPLE 271 The cab ornament dictated the type formation
Edmund G. Gress, The Art and Practice of Typography, 1917

FORMIC ACID A colorless, volatile, weak organic acid (H_2CO_2). It occurs naturally, e.g., in ants, the fruit of the soaptree, etc., and is also formed as a byproduct in the atmospheric oxidation of turpentine. The principal commercial source is sodium formate, which is prepared by the reaction of carbon monoxide and sodium hydroxide under pressure and heat. Formic acid is used in leather manufacture to control pH, as well as in the acid dyeing of some leathers; in the latter case, causing the dye to fix on the leather. 306 RE

FORMING IRON See: BACK-MOLDING IRON. RE

FORMULÆ, CHEMICAL, are symbols representing the different substances, simple and compound. • For the convenience of those who have occasion to refer to a compound substance containing two atoms of base, (as, for instance, antimonious acid in respect to its carbon,) the weight of two atoms of the base is given after the weight of the single atom. • • • Berzelius's Symbols of all the Elementary Substances. • Degrees of Oxidation are indicated by Dots

placed over the Symbol. • • Table of the principal Groups of the Isomorphous Substances at present observed by Chemists. • Professor Whewell in an Essay on the Employment of Notation in Chemistry, observes, "I have no hesitation in saying, that in mineralogy it is utterly impossible to express clearly, or to reason upon, the chemical constitution of our substances, without the employment of some notation or other. Every one who makes the trial will find that, without a notation, his attempts to compare the composition of different minerals will be confused and fruitless, and that, by employing symbols, his reasonings may easily be made brief, clear, and systematic." • After criticising the foreign notation as being grossly anomalous and defective, he adds the following list, which he hopes he has shown to be mathematically consistent and chemically useful. He has used the atomic composition adopted by Dr. Turner in his Chemistry. • Berzelius represents water (*aqua*) by *Aq*; for the sake of simplicity Whewell says he has used *q*. He also observes, "In the notation of Berzelius, the atoms of oxygen are indicated by dots placed over the symbol of the base. Thus, *[.]fe*, *[…]fe* are the protoxide and peroxide of iron, which he considers as having two and three atoms of oxygen respectively. This notation is compact and simple, but it is not consistent with algebraical rule, so far as the oxygen is concerned; and I conceive that, if this element be explicitly expressed, it ought to be done in the manner I have recommended, *fe* + 2 *o*, *fe* + 3 *o*, &c."—Journals of Royal Institution. • I have omitted Professor Whewell's reasons, which he gives to show the superiority of his notation over those of foreign nations and that of Berzelius, as they are not of practical utility in printing; but I have given his list, which will be useful in printing mineralogical works in cases where the copy may be bad. DAP

FORRIL See: FOREL. RE

FORTIFIED SIZE A rosin acid chemically modified for use in lieu of, or together with, rosin size in improving the water resistance of paper. Most fortified sizes are reaction products of rosin with maleic anhydride. RE

FORTY-EIGHTMO **1.** A section consisting of 48 leaves (96 pages). In bookwork, using right angle folds, it is formed by folding a full sheet five times to form 32 leaves, and a half sheet four times to form 16 leaves, and insetting the latter. Its symbol is 48mo, or 48°. Also called "quadrigesimo-octavo." See also: BOOK SIZES.2@DAP A sheet of paper folded into forty-eight leaves, or ninety-six pages. RE

FORTYMO A sheet of paper folded into forty leaves, or eighty pages. DAP

FORWARDING **1.** The processes or steps involved in binding a book. It has been variously defined as: 1) all of the binding processes following gathering, including covering; 2) the processes following sewing and up to covering; and 3) the processes following sewing and including covering. In edition binding, the term SHEETWORK is usually used in lieu of forwarding.2@MAB Is that branch that takes the books after they are sewed and advances them until they are put in leather ready for the finisher. One who works at this branch is termed a forwarder.3@BIB Comprises all the operations between preparing and finishing, including the forming and trimming of the books, and the covering of the boards.4@ABB The branch that takes the books after they are sewed, and advances them until they are put into leather ready for the finisher. The one who works at this branch is called a forwarder.5@BCB comprises all the operations between sewing and finishing, excepting headbanding.6@NBL All processes through which a book passes after sewing, other than those of ornamentation by means of tools or rolls. Also that department which takes books after they are sewed and advances them until they are put in leather ready for the finisher. One who works at this branch is termed a forwarder. RE 83,123

FORWARDING MACHINE The name some times given a ROUNDING AND BACKING MACHINE. RE

FORWARDING PRESS See: FINISHING PRESS. RE

FOSSIL RESINS See: RESIN. RE

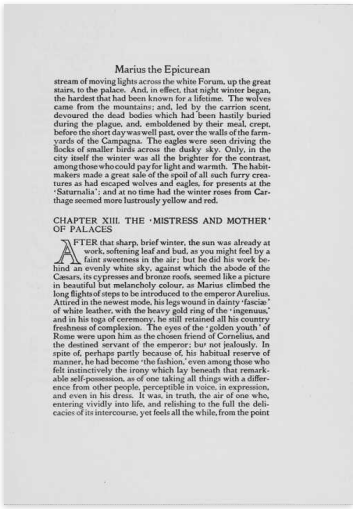
FOUL PROOF **1.** When a proof has many faults marked in it.—M. Pressmen are also in the habit of calling the first proof a *Foul Proof*; and frequently they pull it so as to justify the epithet.2@AMP A proof with many faults marked in it. DAP

FOUL STONE After imposing or correcting, if a compositor leave any thing upon the imposing stone, except the mallet, shooting stick, and planer, it is termed a foul stone; which in many houses subjects him to a fine. DAP

FOUNDATION-PLATE A plate of iron or brass upon which side-stamps are affixed. MAB

FOUNT A complete assortment of type, of the same nick, body, and face, put up by type-

founders in accordance with an ascertained ratio. AMP



Marius the Epicurean

stream of moving lights across the white Forum, up the great stairs, to the palace. And, in effect, that night winter began, the hardest that had been known for a lifetime. The wolves came from the mountains; and, led by the carrion scent, devoured the dead bodies which had been hastily buried during the plague, and, emboldened by their meal, crept, before the short day was well past, over the walls of the farm-yards of the Campagna. The eagles were seen driving the flocks of smaller birds across the dusky sky. Only, in the city itself the winter was all the brighter for the contrast, among those who could pay for light and warmth. The habit-makers made a great sale of the spoil of all such furry creatures as had escaped wolves and eagles, for presents at the 'Saturnalia'; and at no time had the winter roses from Carthage seemed more lustrously yellow and red.

CHAPTER XIII. THE 'MISTRESS AND MOTHER' OF PALACES

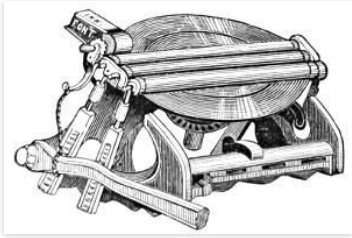
AFTER that sharp, brief winter, the sun was already at work, softening leaf and bud, as you might feel by a faint sweetness in the air; but he did his work behind an evenly white sky, against which the abode of the Cæsars, its cypresses and bronze roofs, seemed like a picture in beautiful but melancholy colour, as Marius climbed the long flights of steps to be introduced to the emperor Aurelius. Attired in the newest mode, his legs wound in dainty 'fasciæ' of white leather, with the heavy gold ring of the 'ingenuus,' and in his toga of ceremony, he still retained all his country freshness of complexion. The eyes of the 'golden youth' of Rome were upon him as the chosen friend of Cornelius, and the destined servant of the emperor; but not jealously. In spite of, perhaps partly because of, his habitual reserve of manner, he had become 'the fashion,' even among those who felt instinctively the irony which lay beneath that remarkable self-possession, as of one taking all things with a difference from other people, perceptible in voice, in expression, and even in his dress. It was, in truth, the air of one who, entering vividly into life, and relishing to the full the delicacies of its intercourse, yet feels all the while, from the point

RICCARDI PRESS: PAGE FROM WALTER PATER'S "MARIUS THE EPICUREAN," PRINTED IN 11 POINT FOUNT DESIGNED BY HERBERT P. HORNE
Charles Holme (ed.), The Art of the Book, 1914

FOUNT CASES Cases of larger proportions than those used to compose from, which are kept to contain the surplus sorts of a fount until they are required for use. In these cases they are more accessible than when put into coffins and baskets according to the old plan, and are not so likely to be mislaid. • DAP

FOUNT, is the whole number of letters that are cast of the same body and face at one time.—M. Moxon says this word is properly Fund. DAP

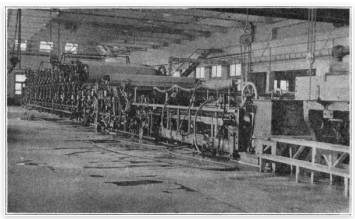
FOUNTAIN Reservoir for ink, attached to printing-presses. AMP



PATENT INK FOUNTAIN.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

FOURDRINIER MACHINE A papermaking machine invented by the Frenchman, Nicolas Louis Robert in 1798, developed in England by Brian Donkin for Henry and Sealy Fourdrinier, but not placed into operation until 1804. • The Fourdrinier machine and the CYLINDER MACHINE comprise the machines normally employed in the manufacture of all grades of paper and board. The Fourdrinier machine may be considered in four sections: wet end, press section, drier section, and calender section. (The supercalender is not a part of the papermaking machine, and, in fact, not all Fourdriniers have a calender section.) In the wet end, the pulp or stock, at a consistency or concentration of 0.2 to 1.0%, depending upon the grade and weight of the paper being manufactured, flows from a headbox through a slice onto a moving endless belt of wire cloth, the FOURDRINIER WIRE. • The wire runs over a breast roll, which is under or adjacent to the headbox, over a series of tubes or table rolls (or, more recently, drainage blades) which maintain the working surface of the wire in a plane and aid in water removal. The tubes or rolls create a vacuum on the downstream side of the NIP. • Similarly, the drainage blades create a vacuum on the downstream side where the wire leaves the blade surface, but also perform the function of a doctor blade on the upstream side. The wire then passes over a series of suction boxes, over the bottom couch roll (or suction couch roll), which drives the wire, and then down and back over various guide rolls and a stretch roll to the breast roll. • The press section usually consists of two or more presses, whose function is to remove still more water from the web mechanically and to equalize the surface characteristics of the felt and wire sides. The wet web of paper is transferred from the wire to the felt at the couch roll, and is carried through the presses on the felts, the texture and character of which vary according to the grade of paper being made. • The drier section consists of two or more tiers of driers, which are steam-heated cylinders. The web is held firmly against them by means of fabric drier felts. As the web passes from one drier to another, first the felt side and then the wire side are pressed against the heated surface of the drier. The web enters the drier train having a water content of approximately 65%, the bulk of which is evaporated in this section. Moisture removal may be further assisted by hot air blowing onto the sheets and in between the driers to effect removal of water vapor. Within the drier section and at a point at least half way along the drying curve, there is sometimes a breaker stack for use in imparting finish, as well as to facilitate drying. The stack generally consists of a pair of chilled iron and/or rubber-surfaced rolls. There may also be a size press located within the drier section, at a point where the moisture content of the paper has been reduced to approximately 5%. • The calen-

dar section consists of from one to three calender stacks with a reel device for winding the paper onto a reel as it leaves the machine. The calender finishes the paper, i.e., smooths it and imparts the desired finish, thickness, or gloss. Water, starch, wax emulsions, etc., may also be used to obtain additional finishes. The reel winds the finished paper, which may or may not undergo further processing. • The wire, press section, drier section or sections, the calender stacks, and the reel are so driven that proper tension is maintained in the web of paper despite its elongation or shrinkage during passage through the machine. The overall speed of Fourdrinier machines is determined by the grade and weight of the paper being manufactured. 17,60,62,72,80,98,140 RE



FOURDRINIER MACHINE, S. D. WARREN & CO. View showing the "Fourdrinier" part of a modern book paper-machine.
William Bond Wheelwright, From Paper-mill to Pressroom, 1920

FOURDRINIER WIRE An endless belt of woven wire used on the wet end of the FOURDRINIER MACHINE, and on which the web of paper is initially formed. The warp wire is generally of phosphor bronze and the shute (weft) wire of brass. In recent years, other metals and nonmetallic materials have been used. The number of warp wires per inch and the number of shute wires determine the mesh of the wire, the warp count varying from 8 to 225, the most common being 55, 60, 70, and 75. 17,62,67 RE

FOXING also *foxmarks* Stains, specks, spots and blotches in paper. The cause or causes of foxing, which usually occurs in machine-made paper of the late 18th and the 19th centuries, are not completely understood, but in all likelihood, it is fungoid in nature. Fungi, however, are not necessarily visible on foxed areas, nor does prolific growth necessarily imply excessive discoloration, and vice versa. This has been attributed partly to the fact that action may have been initiated before the examination of the paper, and partly, but less convincingly, to the so-called, action at a distance, which enables an agent to exert its effect at some distance from the object acted upon. • Two significant differences between foxed and clean areas of a paper are the higher proportion of acid and iron in the former, although there does not seem to be any clear and definitive relationship between iron and foxing. Insofar as the acid is involved, it is not clear whether this is produced chemically or as a byproduct of the life function of the organisms present. Iron is attributed to impurities present in the paper, and this conclusion seems to be based largely on the fact that it is seldom found in papers produced before the introduction of papermaking equipment made of iron, e.g., the beater, and improvements in techniques, including bleaching and other forms of chemical treatment. But what role iron has in accelerating foxing, or causing a change from the invisible to visible state, has yet to be demonstrated. • The other factor which controls foxing is relative humidity (R.H.), since these fungi will not develop if the R.H. falls below 75%. The fact that foxing generally starts from the edge of the leaf and spreads inward would seem to indicate that something in the atmosphere is relevant, although air borne organisms may be adequate as an explanation for this effect. In addition, it must still be explained how the center of the leaf is affected most in occasional instances. Perhaps the most logical explanation is that infection by air borne organisms (or by organisms that are natural to the paper) may occur if the conditions, and especially the R.H., are favorable, and that growth, resulting in the generation of fox marks, then occurs. The acid subsequently renders any iron in the paper soluble and therefore visible, with its color being intensified by the presence of organic matter. • The effects of foxing may be reduced to a reasonable extent by use of a reducing agent, such as sodium borohydride ($NaBH_4$) in a 0.5% solution by weight of the paper. This chemical has the advantage of not having to be washed out of the paper (and even depositing a small alkaline reserve—sodium tetraborate ($Na_2B_4O_7$)—in the paper). Foxing may be counteracted to an even greater extent by the use of a 0.1% (by weight of the paper) solution of an oxidizing agent such as calcium hypochlorite (Ca(ClO)2); however, this chemical is very difficult to wash out after treatment. Unaffected papers may be successfully protected from foxing by maintaining the R.H. of the storage area below 50%. See also: DENDRITIC GROWTHS. 43,102,143,218 RE

FRACTIONS A fraction is part of a unit, and is written with two figures, one above the other, with a line between them: thus, ¼, ⅝, ⅜. The

upper figure is called the numerator, and the lower figure the denominator. The denominator shows how many parts the unit is divided into; and the numerator, how many of those parts the fraction represents. A proper fraction is when the numerator is less than the denominator. An improper fraction is when the numerator is equal to, or greater than the denominator. • A compound fraction is the fraction of a fraction, and is known by the word, of, between the parts; as, ½ of ⅔ of $^{7}/_{9}$ of $^{8}/_{17}$. A mixed number is composed of a whole number and fraction; as, $8^{3}/_{7}$, 17½. A mixed fraction is when the numerator or denominator has a fractional part; thus, 7⅔/4, 4/7⅔; or, when both of them have fractional parts; as 5⅓/7⅕. • The fractions cast in one piece to a fount are ⅛, ¼, ⅜, ½, ⅝, ¾, ⅞. • Fractions are also cast in two pieces, from Brevier to English; when wanted larger, they may be formed of figures of small proportionate size, with a rule between the numerator and denominator. • This rule in separate fractions is now generally cast on the piece containing the denominator, above the figure, thus, 1 2 3 4 5 6 7 8 9 0; but in improper fractions, where the numerator contains more figures than the denominator, as 3848 21 , this rule will not cover the whole of the numerator, therefore it would be necessary, to be able to compose fractions in a perfect manner, to have the rule also cast under the numerator, according to the old plan, so as to meet both cases, otherwise either the proper fraction or the improper fraction must be deficient 21 3848 . DAP

FRAGMENTS After the body of a work, and the index are composed, the title, preface, contents, &c. are proceeded with. If there be any pages beyond the concluding sheet, they are now imposed together to save presswork, and also warehouse work; and these pages are called *Fragments*. DAP

From the fragments of Charles the Bald's Bible. From British Museum, Harl. 7551.
M. Digby Wyatt, The History, Theory, and Practice of Illuminating, 1860

FRAME **1.** 1. Ornamentation of a binding consisting of a simple hollow rectangle placed some distance from the edges of the cover of a book. It is to be distinguished from a BORDER (1). 2. Complete borders which are not, however, compartments, and which comprise enclosures made up of separate cuts or ornaments which show no evidence of having been carved or engraved for use together as a border, and also those made up of separate cast-type ornaments, commonly used in book decoration.2@DAP Made of deal wood, on which the cases are placed to be composed from. • By the annexed engraving it will be perceived, that the upper and lower cases are placed upon the frame, not in a horizontal, but sloping position, as two inclined planes, the upper case being at a greater angle than the lower, which brings the more distant boxes nearer to the compositor and thus expedites the work: this arrangement occupies less room, and allows a greater number of frames to stand in a given length. • The cases rest on a rail at each end, and in the middle there are generally two rails, six or seven inches apart, for the inside end of each case to rest on. There is frequently a piece of board nailed to the bottom of these rails, which thus forms a depository for page cords, copy that is not in use, and other small matters: this is called a *Well*. • Frames are always placed with one end next the window, so that the compositor when at work may stand with his left hand to the light; thus he enjoys the full benefit

of the light in picking up the letters with his right hand. They are usually made to contain two cases in length, which are generally a pair of Roman and a pair of Italic cases, so that the compositor has not to go out of his frame when he wants to compose a few words in Italic. • There is a rather strong nail driven into each end rail and each middle rail for the bottom of the upper cases to rest upon, leaving sufficient room for the lower cases to be lifted out when necessary. • The dimensions of a frame are—height of back, 4 feet 6 inches; height of front, 3 feet 6 inches; width, 1 foot 10 inches; length, 4 feet 10 inches. • In a composing room, where there was plenty of room, I have seen the frames made to contain three cases in length; this is a convenience, as it allows the compositor to have up an additional pair of cases for his notes. RE 12,69

Frame to hold cases
William Savage, A Dictionary of the Art of Printing, 1841

FRANKLIN GUARD See: PHILADELPHIA PATENT-BACK GUARD. RE

FREE ENDPAPER See: FLY LEAF. See also: ENDPAPERS. RE

FREE WATER-SOLUBLE MATTER (IN LEATHER) Soluble matter that can be removed from finely ground leather with very little washing. The free water solubles include gallic acid, quinol, catechol, etc. See also: COMBINED TANNIN IN LEATHER; COMBINED WATER-SOLUBLE MATTER (IN LEATHER). 363 RE

FREEZING POINT The temperature at which the liquid and solid states of a substance are in equilibrium at atmospheric pressure. All adhesives used in archival work are affected by the freezing point, i.e., of water (32 F. or 0° C.). See also: GLASS TRANSITION TEMPERATURE. RE

FRENCH CAPE LEVANT A type of MOROCCO prepared from the skin of a large Cape (South African) goat. It has a LEVANT grain, which is larger than the small pin-head grain of the usual morocco. 140 RE

FRENCH CHALK Soft, finely powdered magnesium silicate ($MgH_2(SiO_3)_4$), which is dusted between the leaves of a book prior to gilding the edges so as to prevent the leaves from sticking during the gilding process, and also to remove grease stains from paper. 154 RE

FRENCH COLOR The third (or body) color dropped on the marbling size following the dropping of the VEIN COLORS. 217 RE

FRENCH CORNER A method of reinforcing the corners of a book cover with leather or cloth, which is subsequently covered on the outside of the board but can just be seen at the corner on the inside of the board. 81 RE

FRENCH CURL MARBLE A marble pattern that has been used for endpapers, particularly in France, since about 1660. The pattern is made on a marbling size of GUM TRAGACANTH, and the colors are dropped on in the same manner as with the NONPAREIL MARBLE. • The curls are made with the use of a wooden frame constructed in the form of a small harrow, each parallel bar being set with as many tapering wooden pegs as there are curls required on the sheet to be marbled. The difficulty in executing this pattern is to "catch" the curls before they lose their shape. • Many fine armorial bindings have the large red and blue pattern as linings. Padeloup and Derome both used this pattern for endpapers in books they bound for the French nobility. The French curl pattern remained popular, and continued to be used in Europe and England until about 1870. While it was highly valued for endpapers, it was rarely, if ever, used for cover papers on 17th and 18th century books. 97,217 RE

Fig. 95.—French Curl Marble.
W. J. E. Crane, Bookbinding for Amateurs, 1885

FRENCH FILLET A FILLET (1) having three unevenly spaced bands on its circumference. RE

FRENCH FINISH Books sewn on raised bands and completely undecorated except for gilt lettering. See also: FRENCH KID. 274 RE

FRENCH FOLD A sheet of paper printed on one side only and folded over from left and right to form a "section" with uncut bolts. The inside of the fold is blank. 140,355 RE

FRENCH GOLD An alloyed GOLD LEAF, on the light or lemon-colored side. 126 RE

Fig. 126. —French gold tooled binding "Dentelle à l'oiseau," by Derôme le Jeune.
Cyril Davenport, The Book: Its History and Development, 1907

FRENCH GUARD **1.** A term sometimes applied to the inner margin of an insert, turned over and folded around a section.2@NBL Made by turning over half an inch or more of the back edge of a printed sheet or illustration and then folding it around the next signature. RE 25

FRENCH JOINT **1.** See illustration A free-swinging joint produced by setting the board a slight distance (approximately 1/8 to 1/4 inch, depending on the size of the book) away from the backing shoulder. This type of joint allows thicker covering material to be used, while still allowing the covers to open easily. The French joint is one of the more notable characteristics of library binding. Also called "open joint." See also: CLOSED JOINT RE **2.** A joint in which the board is not brought close up to the back, thus giving more play in opening. NBL 94,335

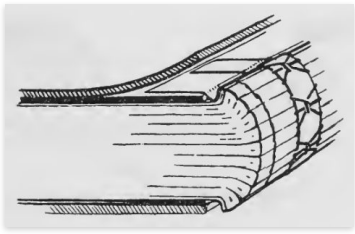


Fig. 10.—Showing Method of Attaching Tape Slips to a Split Board, leaving a " French Joint."
Royal Society of Arts, Report of the Committee on Leather for Bookbinding, 1905

FRENCH KID also *French finish* A kidskin produced by either tawing or a vegetable tannage. As the name implies, it was produced originally in France and, because of its distinctive finish, the term was later applied to the same kind of leather produced elsewhere. 325 RE

FRENCH MOROCCO also *French levant morocco* **1.** A leather similar in appearance to MOROCCO but produced from sheepskin. The term is both inaccurate and misleading.2@NBL An inferior quality of levant morocco, having usually a smaller and less prominent grain. RE 264

FRENCH PARING KNIFE See: PARING KNIFE. RE

French Paring Knife.
Joseph W. Zaehnsdorf, The Art of Bookbinding: A Practical Treatise, 1890

FRENCH RULES Pieces of Brass, letter high, of different lengths and thicknesses, on which are filed various dashes, swelling in the middle. They are used to separate parts of a discourse; or are placed after certain lines of capitals in titles and jobs, &c. They are also called *Swell Rules*. • French Words and Phrases. *See* Phrases. DAP

FRENCH SEWING A method of sewing a book adapted by French bookbinders in the 16th century, which is essentially the same as the sewing employed in COPTIC BINDINGS. • Unlike the traditional Western method of sewing on raised cords (See: FLEXIBLE SEWING), each section was sewn through the fold and attached to the next section by a loop similar to a KETTLE STITCH. • Cords were not employed. The first and last sections were then laced tightly to the boards. In modern usage, French sewing is the same technique as done by a sewing machine, without the attachment of the boards. Modern French sewing is the principal method employed in edition binding. See also: MACHINE SEWING. 69,89,154 RE

FRENCH SHELL MARBLE A marble pattern developed in the latter part of the 18th century. and particularly identified with France. The pattern is formed by adding oil to the color, which then instead of spreading evenly, forms in drops with an outer circle or "shell" of a lighter shade. Brown and orange as the vein colors and a French (body) color of blue seem to have been the most frequently used colors. Shell papers are commonly found as endpapers of calf- and half-bindings of the early 19th century. Later, when the art of marbling deteriorated, the shell pattern was executed on very thin paper of poor quality and used for cheap trade bindings. The pattern was a popular for marbling the edges of books. 217,236 RE

French standing press A variation of the regular STANDING PRESS, the major difference being that the platen is lowered by turning a weighted wheel, which, when spun, exerts additional press by a kind of hammering action against two lugs. Except for the wheel a mechanism, it is made of wood, a while it does not tighten to the sa degree as the iron standing press. il considerably lighter and does not quire the substantial floor required the heavier iron press. 83,236 RE

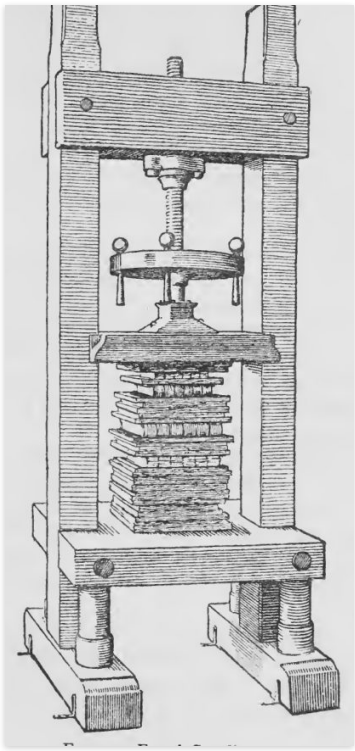


Fig. 22.—French Standing Press.
Douglas Cockerell, Bookbinding and the Care of Books (1911 text-book edition), 1911

French varnish A pale-colored mixture of shellac and oil. See: VARNISH. RE

fret A continuous border pattern mad up of interlaced bands and produce by a fillet. Such patterns can be use for the decoration of either the leaves or covers of a book, or both. 335 RE

friar **1.** When some parts of a ball or roller do not take the ink, so that it does not adhere to the surface, the parts of the form that come in contact with them will be deficient of ink, and the paper when printed will, in those places, be either white or of a pale colour: these white or pale patches are called *Friars*, as the black patches, from too great a quantity of ink on particular places, are called *Monks*.2@AMP A light patch in a printed sheet, caused by defective rolling. DAP

fringed foliage ornament A bookbinding finishing tool in more-or-less the shape of a lozenge, and cut with a typic foliage design, the principal characteristic of which is a narrow fringe around the edge. 250 RE

frisket **1.** A thin iron frame, covered with paper, and connected temporarily with the tympan, by means of joints attached to it and the headband of the tympan, having iron pins to slip into them. The parts that are to be printed are cut out of the paper covering; it turns down upon the paper to be printed, which is laid upon the tympan, keeps it flat to its place, preserves the margin clean, and raises it from the form after it is printed. *See* Frisket Button. • Each press in a printing office should have five or six friskets attached to it, of at least three sizes—Demy, as the standard size of paper; a size smaller; and a size sufficient for the largest form the press will print, for it is very inconvenient, and a loss of time, when the pressmen have to cover a frisket and cut it out for every form they lay on: and more particularly when regular work is in the house, and the same frisket will answer for many succeeding forms. It is adviseable, where it is practicable, to have the frisket joints at all the presses of one pattern, so that every frisket may be available at any of the presses. • A pressman should never pull an impression from a form, without being certain that the frisket is large enough, and that it does not rest on the edges of the types, which would be destructive to them.2@AMP An iron frame fastened by a hinge to the upper part of the tympan, to hold the sheet of paper fast as it goes in and comes from the press. DAP

frisket button A button screwed on the offside of the tympan near the bottom, to turn over the frisket and keep it close to the tympan in turning down. • • This button is only used when superior work is printing: it prevents the sheet from touching the form partially, and also from slipping, by confining it flat to the tympan, and thus tends to make better work, and prevent waste; but it cannot be used where despatch is required. DAP

frisket joints Two joints of the simplest construction, by which the frisket is attached to the tympan by means of two pins, made with a head to each, so that they can easily be taken out with the fingers; they are inserted between the joints, and thus the heads face each other. • It is cus-

tomary to place these joints on the flat part of the headband of the tympan, which, when a large form is on the press, and the rim of the chase is broad, rest upon, and prevent the form receiving the effect of the pull. I have known great inconvenience arise from this cause, in very superior work, where the chase filled the press, and could not be moved to get rid of this grievance. The joints should be taken off, and fixed to the extreme edge of the headband, by which means they will extend beyond the chase, and the evil be completely remedied. Where the frisket is fixed on centres this inconvenience does not exist. DAP

FRISKET PINS Two iron pins that pass through the frisket joints and connect it with the tympan. They are made to slip in and out of the joints easily with the fingers, and are put in from the inside of the joints, so that the heads are opposite to each other. It is a common practice with pressmen, when they have occasion to take off the frisket, to lay the pins on the form. This ought never to be done; for I have known an impression pulled under these circumstances, at a good wooden press, without the frisket, and where the pins were forgot. The consequence was, the destruction of types, and the bedding in of the pins into the platen:—there was loss of types—loss of time in replacing them—the platen to be taken off and planed, with the expense of doing it, in addition to which it was reduced in thickness full a quarter of an inch, and the further loss of time while it was doing and hanging again, and justifying the head. They may always be safely laid within the chase between the quoins, where they can do no harm, and cannot roll off. DAP

FRISKET STAY A slight piece of wood, generally fastened to the ceiling of the press room, and hanging down to the fore end of each press, for the frisket to rest against when it is turned up. DAP

FRIZZING See notes on the electronic edition • 1. The process of removing t fat cell layer prevalent in the corium of sheepskin. subsequent to splitting t skin and fleshing. When sheepskins a to be oil tanned, it is essential that t skins have clean, open surfaces, free from excess fat or grease. This allows the tanning oil to penetrate mo freely. 2. Skins limed for a prolonged period during which the entire supporting structure of ELASTIN in the grain layer is destroyed. 3. The process in leather manufacture of removing the grain layer of a skin by scraping, either with a knife or by machine. 61,291,306 RE

FRONT A term applied to horsehides principally to distinguish the forepart of the hide from the butt or hind portion which contains the SHELL from which CORDOVAN LEATHER is produced. A whole "front" represents about two-thirds of the area of the hide. 97 RE

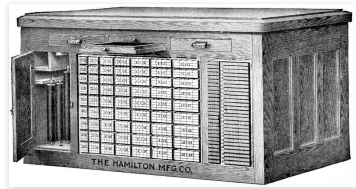


Fig. 18.—FRONT VIEW.
Samuel Jesse Vaughn, Printing and Bookbinding for Schools, 1922

FRONT COVER See: UPER COVER. RE

Fic. 223—-FINISHED BOOK WITH MAGAZINE FRONT COVER MOUNTED AS ONLAY
E. W. Palmer, A Course in Bookbinding for Vocational Training, 1927

FRONT EDGE See: FORE EDGE. RE

FROSTED A whitish condition or appearance of lettering or ornamentation in gold which can be caused by the leaf being pressed into the covering material with a tool that is too hot. 335 RE

FROTHER See: DEVIL. RE

FROTHING The process of foaming glair so as to mix it thoroughly. The glair is not used in a frothed condition, but is allowed to subside, after which the clear glair is poured off. RE

FROZE OUT In winter when the paper is froze, and the letter froze, so as the workmen cannot work, they say, *they are froze out*.—M. In consequence of greater care in warming printing offices in winter than in the time of Moxon, the workmen are not now "froze out;" for there would be no excuse admitted for the non-execution of parliamentary work, newspapers, reviews, magazines, and other periodical works. DAP

FRY, EDMUND A celebrated type founder, whose foundery was rich in Oriental and other types for foreign languages, the forms of the characters of which varied from the Roman character. Dr. Fry sold the whole of his foundery to Messrs.

Thorowgood and Besley, and which is now incorporated with their previously extensive variety of types. DAP

FUDGE **1.** To execute work without the proper materials, and where the workman is obliged to substitute one article for another, and by contrivance make his work passable: when such cases occur, they show the skill and ingenuity of the compositor or pressman, in making his production look well.2@AMP To contrive without proper materials. DAP

FUGITIVE COLORS Pigments and dyes that fade, especially those that lose color relatively quickly when exposed to natural light. Although still commonly used, the term is misleading because it implies that FADING represents the flight of color, rather than a chemical change. 233,316 RE

FULL A term sometimes applied to leather made from the unsplit, or full thickness, of a hide or skin, e.g., full calf. RE

FULL APRON A leaf the size of the leaves of a book to which a foldout, which must display the entire image beyond the closed book, is attached. 339 RE

FULL BINDING A book which is covered entirely with any one material. In a strict sense, the term is applied only to leather bindings. Cf: HALF BINDING; QUARTER BINDING; THREE-QUARTER BINDING (1). 12 RE

FULL CALF T.E.G A term sometimes applied to a full calfskin binding with only the TOP EDGE GILT. RE

FULL CASE A case full of letters, wanting no sorts. DAP

FULL CHROME also *full chrome tanned* Any leather tanned by the CHROME TANNING process. The adjective "full" is added to emphasize the fact that the leather has not been tanned by the semi-chrome or combination chrome process. 306 RE

FULL CLOTH 1. A book bound in a one-piece cloth cover. The term is not applied to library or edition bindings, i.e., case bindings. 2. A term sometimes applied to a book bound in cloth, as opposed to a binding with a cloth spine and paper sides. RE

FULL FACED LETTER Types, in which the capitals, and the ascending letters of the lower case, fill the whole square of the shank, so that the descending letters project beyond the bottom of the shank. A full faced letter is considerably larger in proportion than a letter of the regular face upon the same body: they are convenient in jobs, as they produce the effect of larger types, and take up less space. DAP

FULL FORM, or Page. A form or page with few or no breaks or white lines.—M. In a full form there are no short pages, nor blank pages. DAP

FULL GILT 1. A book having all three edges gilt, described as a.e.g., for all edges gilt. See also: GILT EDGES. 2. A book, usually leather bound, which is heavily tooled in gold on the spine, and with center and corner tools on the covers. RE

FULL GRAIN A leather having the original grain surface exposed by removal of the epidermis, and with none of the grain surface removed by BUFFING (1), SNUFFING, or SPLITTING (1). See also: CORRECTED GRAIN. 325 RE

FULL LAW BINDING also *full law sheep* An obsolete style of binding, applied mainly to law books, and distinguished from other types of law binding in that the books were covered entirely in sheepskin, with lace-in boards and raised bands, and the traditional labels on the spine. See also: LAW CALF. 274 RE

FULL LEATHER A book covered entirely in leather, whether one piece or several pieces, as with inlays, onlays, etc. See also: FULL BINDING; HALF LEATHER; QUARTER LEATHER; THREE-QUARTER LEATHER. RE

Specimen decorative backs for half or full leather bindings. Edition work or single volumes.
Trow's Printing and Bookbinding Co., Bib-li-op-e-gis-tic: Pertaining to the Art of Binding Books, 1889

FULL OIL TANNING Any leather tanned by one of the oil processes. The adjective "full" is added to emphasize the fact that the leather has not been tanned by a COMBINATION OIL TANNAGE. 61 RE

FULL PAGE A page containing its full complement of lines. DAP

Domine,ne in furore
tuo arguas me: neq;
in ira tua corripias
me.
Miserere mei domi-
ne, quoniã infirmus
sum:sana me domine, quoniam con-
turbata sunt ossa mea.
Et anima mea turbata est valde: sed
tu domine vsquequo?
Conuertere domine,& eripe animam
meam: saluum me fac propter miseri-
cordiam tuam.
Quoniam non est in morte, qui me-
mor sit tui:in inferno autẽ, quis con-
fitebitur tibi?
Laborauí in gemitu meo,lauabo per
singulas noctes lectũ meum, lachry-
mis meis stratum meum rigabo.
Turbatus ẽst à furore oculus meus.

Fig. 48.—Full page of the Heures of Simon de Colines, by Tory.
Henri Bouchot, The Printed Book: Its History, Illustration and Adornment, 1887

FULL PRESS **1.** When two men work at the press, it is called a *Full Press*.—M.2@AMP When two men work at the press with hand rollers. DAP

FULL SHEEP A sheepskin of full natural substance. It may be colored, embossed, or left in the natural tanned state, as is the case with BASIL, 274 RE

FULL WEIGHT also *full thickness* A term sometimes applied to an unsplit skin, of natural thickness, but shaved down when necessary on the flesh side to a uniform thickness. RE

FULL-BOUND **1.** When the sides of a volume are entirely covered with leather, it is said to be full-bound.2@ABB When the sides and back of a volume are covered with leather it is said to be full-bound.3@NBL When the sides and back of a book are entirely covered with one piece of the same material it is said to be full-bound. MAB

FULL-BOUND ENDS AND BANDS also *full-bound ends and hubs* A form of the blankbook, generally full bound in sheepskin and flesher, with overbands. In this style, the leather covering does not extend beyond the head and tail of the boards but is turned in on the fore edges. See also: BANDING. 339 RE

FULLER'S EARTH See: ATTAPULGITE CLAY. RE

FUMIGATION The process of exposing archival materials to the vapor of a volatile substance, or with poisonous chemicals, such as thymol, methyl bromide (CH_3Br), chloropicrin (CCl_3NO_2), carbon tetrachloride (CCl_4), ethylene dichloride ($C_2H_4Cl_2$), or hydrogen cyanide (HCN), within a closed (and airtight) container, in order to destroy mold and/or insects. Room temperature is usually sufficient to vaporize the substances used in fumigation; however, in cases of severe or stubborn molds. heat in the range of 40 to 50° C. will increase the concentration of the vapor and increase its effectiveness. Where no special equipment, e.g., air-tight chambers, is available and the infestation is on a relatively small scale, fumigation ma be carried out by means of carbon disulfide (CS2) in an air-tight box. These methods, while more or less effective, do not confer lasting protection; therefore it may be necessary (assuming it is possible) to fumigate the areas in which the archival materials are stored. See also: FUNGI. 143,198,233 RE

FUNGI A division or other major group of the lower plants which is often included in Thallophyta coordinate to Algae, that includes a varied assemblage of saprophytic and parasitic plants which lack chlorophyll, and which comprise the classes Phycomycetes, Ascomycetes, Basidiomycetes, and Fungi Imperfecti, and usually, in addition, the Myxomycetes and Schozomycetes. • A large number of the spores of fungi is always present in the atmosphere, and while paper is not a particularly suitable medium to support the growth of molds and fungi, under favorable conditions, such as relatively high temperature and high relative humidity. paper will support the growth of these micro-organisms, some of which have a similar action on paper to that of dry rot fungus on wood. Conditions of storage which permit the prevalence of fungi may require the use of a FUNGICIDE to inhibit and/or destroy them. 198 RE

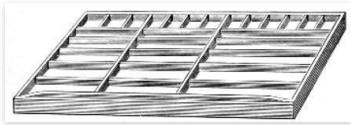
FUNGICIDE A substance possessing the power of killing or preventing the growth of FUNGI. No single fungicide possesses all the desired properties of protection, as some of them are mutually exclusive, but it is possible to find one that possesses a range of properties suitable for use in virtually any specific case. Unfortunately, many fungicides are highly chlorinated substances and therefore cannot be washed out if lasting protection is to be conferred. Considerable care must be exercised, therefore, when they are used in or near paper. • While stable enough for most normal uses, the typical fungicide may not be sufficiently stable when it is to re main in paper for decades, even centuries, as paper almost always contain impurities, e.g., iron, which may accelerate the normal slow breakdown of a fungicide. In the usual case, the product of this breakdown

is hydrochloric acid (HCl), minute amounts of which are capable of destroying any normal paper; therefore, before using any chlorinated organic fungicide, it must be determined whether or not it is (reasonably) stable in the presence of traces of iron, copper, manganese, etc., and, at the same time sufficiently effective to be of practical value when used in low concentrations, e.g., 0.1% of the weight of the paper. See also: COPPER NAPHTHENATE; FOXING; MERCAPTOBENZTHIAZOLE (M.B.T.); MERCURIC CHLORIDE; PENTA-CHLOROPHENOL (P.C.P.) ; SALICYLANILIDE. 198 RE

FURNACE OPEN or *Wind Furnace*. See § 18. ¶ 2. MOX

FURNISH • The various combinations of materials in the stock suspension used in the manufacture of paper and board. They include the fibrous materials (pulp), i.e., the rag, chemical wood, mechanical wood, esparto, cotton fiber, linen, or other pulps, sizing materials, i.e., rosin, alum-rosin sizes, etc., various additives, e.g., wet strength agents. fillers of various types, e.g., retention aids, or loading materials, and dyes. 17,58,72 RE

FURNITURE **1.** The term furniture includes all those pieces of wood that are used in branching out pages, or jobs; in making margin for the folding of books; and in locking up forms when they are imposed: it is generally classed as reglet, furniture, side sticks, foot sticks, and quoins. The height of it is five eighths of an inch, and ought to be the same as that of quadrats; but the letter founders and the joiners vary them both. • What is usually called furniture is in lengths of a yard each, and commences with narrow, which is equal to a narrow quotation; broad, which is equal to a broad quotation; double narrow; broad and narrow; double broad; broad and double narrow; and narrow and double broad. These are used for gutters, heads, and backs; to branch out large jobs; to fill up with when a chase is too large, and to put round a job when imposing, to keep the letter from the iron of the chase. The bottom and two sides are flat, and the top has a groove planed in it lengthways, the arc of a circle; this groove is said to be designed for carrying the water off when the form is washed, but I cannot see the utility of the groove for this purpose; its more obvious use is to lower that part, so that the balls or rollers shall not touch it in inking the form, which prevents the frisket tearing from its pressure upon the inky furniture and from being continually lifted up.2@AMP Strips of wood or metal placed around and between pages to make the proper margin. DAP



QUOTATION FURNITURE CASE.
Thomas MacKellar, The American Printer: A Manual of Typography, 1866

FUSTIC A natural yellow dye extracted from the yellow Brazil wood (Morus tinctoria), and at one time used in the manufacture of yellow marbling color, and also for dyeing leather. RE

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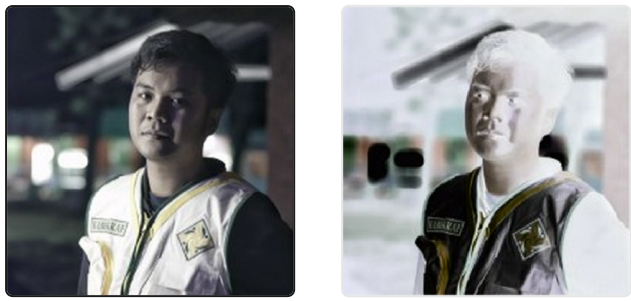

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