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DICTIONARY

OF TERMS
USED IN THE
HIDES,
SKINS,
AND
LEATHER
TRADE



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Foreword

Hides, skins, and leather were probably some of the first products in international trade and, over the centuries, they have continued to be a basic part of that trade. Nevertheless, no publication has been compiled until now to define and cross-reference terms used in the hides and skins business of major trading, producing, and consuming countries.

This Dictionary presents these terms primarily for the use of the English-speaking business community. It is the hope, however, that traders, tanners, and others in this Hemisphere and elsewhere will find the volume useful. To this end, the key words and phrases of the trade are shown in French and Spanish and often in Italian, German, Portuguese, and Hindi as well. Most of the terms are cross-referenced to the English. Foreign words and terms are grouped by language and alphabetized; they appear at the end of each alphabetical section.

The user may find that the same word has different local meanings or that different words have the same meaning. Careful observation of these lexical complexities should, it is hoped, help eliminate misunderstandings resulting from regional differences; help simplify international transactions of the hides, skins, and leather trade; and speed contract negotiations.

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DICTIONARY

of terms used in the

HIDES, SKINS, AND LEATHER TRADE

Compiled by DUGGER HARRIS • Export Trade Services Division

A

Acacia or Wattle. The popular name for several species of shrubby acacias native to Australia and South Africa. Its bark is very rich in catechol tannin content.

Acetic Acid. A weak organic acid with a characteristic pungent odor (CH_3COOH). It is a clear colorless liquid and it is also known as vinegar acid because vinegar is a dilute impure acetic acid.

Acetone. A colorless liquid composed of carbon, hydrogen, and oxygen (CH_3COOH_3). It has a characteristic minty taste and odor, and is soluble in water, alcohol, ether, chloroform, and most volatile oils. Its principal use of interest to the leather industry is in the manufacture of varnishes, lacquers, artificial leather, adhesive mixtures, plastics, rubber cements, and celluloid. It is also used in the extraction of tannins from nut galls.

Acorn Cup. The base of an acorn obtained from Turkish oaks; tannins are obtained from these cups.

Acrobatic Shoe. A shoe with extra-light uppers and plain Indian-tanned buckskin soles, used for mat or acrobatic work. The term is also more broadly applied to similar shoes used for other purposes.

Addis-Ababa Goatskins. Goatskins from Africa whose name is derived from the district in Ethiopia. These skins are fine grained and the takeoff is generally good. The skins are flint dried or dry salted.

Adipose Tissue. (Also known as sebaceous tissue.) The third layer of a hide or skin, the "flesh." In the preparation of the skin for tanning, the adipose tissue is thoroughly removed by the fleshing operation in the beamhouse.

African Goatskins. A general term which includes several types of goatskins from Africa.

Agras. Well-cleaned dry-cured hides of good leather substance, the flesh side of which is yellow in color.

Air-Dried Hides. Hides cured by exposure of the flesh side to mild rays of the sun until they are dry; usually the hides are suspended from a wood frame.

Air Speed Drying. Very rapid air drying in which relatively high temperatures and controlled humidity are used.

Albumen, Egg. The dried whites of eggs. The drying of the egg white is usually done in shallow pans, reducing the water content to about 15%. The product is in the form of chips or granulated powder. Because egg albumen is free of iron or coloring matter, it is used for finishing the better grades of glazed colored leathers. Preservatives such as are used for blood albumin must also be used for egg albumin.

Albumin. Any of a class of proteides forming the most important constituent of serum in blood, milk, egg, vegetables, etc. The albumins of chief interest in connection with leather manufacture are blood albumin and egg albumin.

Albumin, Blood. Also called serum albumin. The dried serum of the blood of cattle. It is obtainable by centrifuging clotted blood. Blood albumin is used in making leather finishes for high luster on glazed leathers.

Alcohol. A series of compounds which form numerous liquids having somewhat common characteristics. All alcohols are distinguished by their possession of the hydroxyl (OH) radical. Denatured alcohol is used in the manufacture of both leather and shoes as a solvent in preparing many kinds of finishes, adhesives, dyes, stains, blackings, etc.

This Handbook was begun while the author was assigned to the Livestock and Meat Products Division.

Aldehyde Leather. Washable leather, which in its natural state is white, prepared usually from sheep or lamb skin splits or degrades and tanned with formaldehyde or other aldehydes. (See Doeskin.)

Algiers Goatskins. Goatskins from Africa which derive their names from the district in which they originate. These skins are important to the French kid leather industry.

Algin. A mucilaginous material obtained from dried seaweed. The weeds are washed thoroughly to remove inorganic matter and are then dissolved in a boiling solution of caustic soda. This forms a thick jellylike alkaline salt and, from this salt, by the addition of acid, the algin is precipitated. Algin is used as a leather-finishing material.

Algoa Bay Goatskins. Goatskins from South Africa. The takeoff is generally good. The better grades are dry salted, but a large proportion is sun-dried stock and bring lower prices.

Allzarine Dyes. A group of dyes derived from anthraquinone. They are usually applied to leather dissolved sodium dichromate, are made more soluble by the addition of borax, and are fixed upon the fiber by means of an acid. Alizarine colors are very color-fast and penetrate deeply into the leather.

Alligator. A general term used for leather made from the skins of all aquatic species, with a boxlike grain with sharp indented outlines separating the section of the grain; similar to the American alligator, which cannot be killed legally, and therefore, is not used by the U.S. industry.

Alligator Grained Leather. Calf, sheep, or cattle hide embossed with an alligator grain effect, as distinguished from the genuine reptilian leather; terms such as "alligator calf" or "alligator sheep" are not permitted by the Federal Trade Commission.

All Weight Hides. Hides classified without regard to weight division.

Alum. The common name for two double salts isomorphous with potash alum $K_2Al_2(SO_4)_6 \cdot 12 H_2O$ and ammonium aluminum sulfate $NH_4Al(SO_4)_2 \cdot 12 H_2O$. The name is often used in reference to any double salt containing aluminum sulfate. $Al_2(SO_4)_3$.

Alum-Dressed Leather. Same as alum-tanned leather.

Alum-Tanned Leather, or Alum Tannage. Leather prepared solely with a mixture of which the essential active ingredient is an aluminum salt, often but not necessarily alum. The usual combination is alum, sodium chloride, egg yolk, and some other substance, generally, flour. The natural color of the leather is white. Chrome-tanning has replaced this method in tanning all but glove leathers.

Aluminum Palmitate. A yellowish-white chemical derived by heating aluminum hydroxide, palmitic acid, and water; the mixture then being filtered and dried ($Al(C_{15}H_{31}O_2)_3$). It is used in the manufacture of leather for waterproofing; also in finishing leather to produce a high gloss.

Aluminum-Potassium Sulfate. Also known as potash alum. White crystals derived by roasting alunite (a natural hydrated basic sulfate of aluminum and potassium),

leaching the melt, and recovering the salt by crystallization $Al_2(SO_4)_3 \cdot K_2SO_4 \cdot 24 H_2O$.

Aluminum Sulfate. Commonly known as alum, pearl alum, and pickle alum. It is made by treating pure kaolin or aluminium hydroxide with sulfuric acid. Aluminum sulfate is a white crystal soluble in water and insoluble in alcohol. It is used as a tanning agent, a mordant, and a clarifying agent for fats and oils.

Aluminum salts have been used for tawing (tanning) leather since the early days of leather making. In modern practice, aluminum sulfate is used chiefly for tanning glove and white lambskin leathers. Alum tanning was one of the first forms of mineral tanning until the introduction of chrome-tanning processes. Aluminum sulfate is used in the process with chrome tanning of white and light-colored leathers; also used with phosphate tannage.

Ammonium Chloride. Also known as sal ammoniac and ammonium muriate. White crystals or a greyish fibrous mass derived from the action of ammonia or ammonium salts on hydrochloric acid, or by neutralizing galvanizer's pickle, or as a byproduct of the ammonia-soda process, or by the action of ammonia on calcium chloride solution (NH_4Cl). It is soluble in water and glycerin. Used by the tanning industry as a powerful delimiting material, in the manufacture of various ammonia compounds used in tanning processes.

Ammonium Hydroxide. Also known as aqua ammonia, aqua ammonia, and ammonium hydrate. Common usage of the word ammonia is usually in reference to ammonium hydroxide. A solution of ammonia gas in water (NH_4OH) used in various ammonium compounds for saponifying fats and oils, in organic synthesis, as a detergent, in fatliquors, dyes, leather finishes, and bleaches.

Ammunition Leather. Vegetable-, chrome-, and combination-tanned leather curried and finished for military leather goods.

Amritsar Goatskins. Goatskins from India which derive their name from the district in which they originate in the dry region of the Punjab and Sind in northwestern India. They have a large spread and are desired for upholstery and carriage work.

Aniline. An oily, poisonous basic liquid, $C_6H_5NH_2$, used to make dyes.

Aniline Dyed. Leather that has been thoroughly dyed by immersion in an aniline dye bath and has not been coated with pigments or other opaque materials.

Aniline Stained. Leather that has been stained by brushing, padding, or spraying with aniline dyes. It receives no coating with pigments or other opaque materials, thus having a transparent finish so that the grain pattern of the leather is seen.

Annatto. A dye of vegetable origin, orange-red in color, obtained from native trees in South America.

Antelope-Finish Suede. Applied to lambskin, goat-skin, or calfskin, sueded or finished to resemble the silky soft texture of genuine antelope leather. It is used

more commonly than genuine antelope leather because it is cheaper and antelope skins are almost nonexistent.

Antelope Leather. A fine soft leather made from an antelope or gazelle skin, velvety in texture and appearance, sueded on the flesh side or brushed on the grain side; so rare, that for all practical purposes, it is virtually nonexistent.

Anti-Blushing Agent. A material added to a lacquer to prevent precipitation during the evaporation of the solvents.

Antique Grain. A surface pattern 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 by embossing, boarding, or other similar means.

Antiseptic. A term which, in common usage, is given a broad definition and which popularly includes not only the specific meaning of antiseptic but also that of disinfectant and of germicide.

Apron Leather. Leather used for workmen's aprons, and also in guards on machinery that keep materials in process from the moving parts. Generally it is made of heavy sheepskins or of cattle hides, vegetable- or chrome-tanned.

Arleolar Tissue. The fibrous and fatty tissues which connect hide or skin loosely to the underlying parts of the animal body.

Arm Staking. A process occasionally employed in small operations to soften skin by hand. Used mainly in countries with large sources of cheap labor and low industrial development.

Army Grain. Embossed grained leather used for military leather goods.

Arsenic Bisulfide. Also known as ruby arsenic, red arsenic sulfide, and red arsenic. It is an orange-red poisonous powder, soluble in acids and alkalies, which is in wide commercial use (As_2S_2). It is insoluble in water.

Arsenicated Hides. Dry hides treated with a solution of sodium arsenite. Arsenication is usually done at the warehouse before export in order to protect the hides from insects. Also called poison-cured hides.

Assorters. Experts in selecting, grading, and sorting hides and skins; known in the raw hide trade of India as "jachandars."

Automobile Leather. See Upholstery Leather.

FRENCH-ENGLISH

Agneau. Lamb.

Agneau-Castor. Beaver lamb.

Agneau avec Laine. Woolen sheep or lambskin.

(Cuir à l') **Aldehyde.** Aldehyde leather.

(Teint) **Aniline.** Aniline dyed.

(Finissage) **Aniline.** Aniline stained.

Antilope. Antelope.

(Grain) **Antique.** Antique grain.

(Cuir) **Argent.** Gold and silver leather, some as "or et argent."

(Cuir pour) **Articles de Voyage et d'Ecoller.** Case leather (hide).

SPANISH-ENGLISH

Abrillantada. A leather finished on the grain side with a bright, smooth, glossy or glasslike surface obtained, according to the type of leather, by glazing, plating, ironing, or polishing (Glacé).

Abrillantado. Glazing.

Acabada con Lana. Sheep or lamb skin tanned and dressed with the wool on.

Acabado. Finish.

Acabado con Apresto Final. Top finished.

Acabado con Pigmento. Pigment finished.

Acabado con Resina. Resin finished.

Acabado Difuminado. Shadow finish.

Acabado por la Flor. Grain leather.

Acabado Semianilina. Semi-aniline finished.

Adobado. Dressed leather.

Adobado al Alumbre. Alum-dressed leather.

Adobado Combinado. Combination tanned using two or more substances such as chrome and vegetable.

Afelpado. Suede and term for leathers that have been finished to look like suede.

Afelpado para Botas. Hunting suede.

Agujeros. Holes made in the process of tanning, skinning, or putrefaction.

Alce. Elk.

Algarobilla. A domestic product of Chile obtained from the algarobilla tree (carob-tree) used for tanning.

Ante. Suede, same as Afelpado.

Ante Desflorado. Degrain.

Ante Doble Cara. Suede shearling. Similar to "piel esquilado afelpado."

ITALIAN-ENGLISH

Agnellino Persiano e Tipo Persiano. Slink lamb.

Agnello. Lamb.

Agnello Castoro. Beaver lamb.

Anfibio. Waterproof leather.

Antelope. Antelope; applied to chamois-dressed skin that is similar to antelope leather.

A Pieno Spessore. Full.

Apprettato. Top finished.

Ayamcorpo. Front, applied only to cattle hides when tanned.

GERMAN-ENGLISH

Abgestobener Narben. Frized leather.

Alaugares Leder. Alum-dressed leather.

Aldehyd - Leder. Aldehyde leather.

Altgegerbt. Sole leather produced as the result of tanning with tree barks over an extended period. Oak bark is generally used but other tree barks may also be employed. (See *Altgerbervache*.)

Altgerbervache. A light-weighting, unbleached, bark-tanned leather, tanned cold in the pit, the period of tanning being at least 9 to 12 months embodying layering for at least 3 months. Oak bark is the basis of this tannage.

Anilingefarbt. Aniline dyed.

Anilinzugerichtet. Aniline stained. In Germany, there is no distinction between dyeing and staining.

Antikleder. Antique grain.

Antilope. Antelope, both leather and brushed suede leather.

Asa - Leder. The common abbreviation in Austria and Germany for leather used in protective articles, usually made of chrome-tanned cattle hide leather and apron leather. (*Arbeiter - Schutz - artikel - ASA.*)

Ausgereckte Flanke. Pinned belly.

Ausgerecrete Hals. Pinned shoulder.

Avern. Term used in Austria for "belly."

HINDI-ENGLISH

(Also other Indian Languages)

Aarhat. Warehouses for hides and skins where dealers bring hides and skins for sale to buyers, chiefly exporters and tanners. These warehouses, or godowns, are the hide markets and are located in all major cities.

Aarhatdar. The proprietor of the *aarhat* who acts as an agent for the sellers. Usually he finances the seller by advancing him the value of a consignment against a railway receipt and he is responsible for the safe keeping of goods until sold. The *aarhatdar* negotiates terms and prices with the buyers; the seller generally does not interfere in the selling of the hides. For this service, the *aarhatdar* charges a commission which the seller pays.

Aarhatdari. The commission that a seller has to pay to an *aarhatdar* when the hides are sold.

B

B.A. Pampas Goatskins. Goatskins from the rural part of Buenos Aires Province, Argentina, from whence they derive their name. They are air dried and the takeoff and trim are generally good.

Baby Calf. Calfskin leather made from small, light-weight skins with a smooth or finely boarded grain surface, free from any artificial surface pattern.

Back Boarding. Boarding leather with the flesh side in, merely to soften it. The finish is more or less glossy and is produced by glazing, ironing, or plating.

Back. The main portion of a raw hide, obtained by first cutting the hide longitudinally along the backbone, then trimming off head and belly, leaving a "bend" and shoulder. (*See also* Bend and Shoulder.) Leather made from the back is called "back" or "back-leather."

Backer. A packinghouse worker who specializes in removing the back, shoulder, and base of tail of a hide from the carcass. Also, a firm which specializes in backing shoe upper leather or fabrics with a coated cloth to increase their plumpness and strength.

Backing. Also called combing. Laminating a piece of fabric to leather or other fabric used for shoe uppers. The purpose of backing is to make the leather or shoe fabric plumper, stronger and firmer.

Bacterial Action. Effect on hides, skins, or leather produced by bacteria.

Bag Hide. Flexible leather generally embossed with a grain pattern, oat grain being the most usual. Made from cattle hide, usually vegetable tanned, split to a suitable thickness; sometimes it is hand or machine boarded, especially in the Netherlands and Spain.

Bag Leather. Any leather used in the manufacture of traveling bags, suitcases, brief cases, straps, and similar leather goods that are known to the trade as bag, case, and strap leather. It does not include the leather used for making ladies' handbags (*see* Handbag Leather).

Bahia Goatskins. Skins from the Bahia area of Brazil. They are small, fine-grained, high-quality hides which are air dried.

Bal. A front-laced shoe of medium height in which the quarters meet and the vamp is stitched over the quarters at the front of the throat. The word is an abbreviation of Balmoral, the English name of the shoe which originated from the name of the Scottish castle where the shoes were supposedly first worn.

Balloon Toe. A trade term for a high, full-rounded shoe toe.

Bank. A pile of hides, which is allowed to stand to permit draining off of the excess moisture remaining after curing.

Barlum Chloride. A compound of barium with chlorine ($\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$). It consists of colorless, poisonous flat crystals soluble in water and alcohol. It is used by the leather industry chiefly in tanning white leathers and as a mordant in dyeing and finishing.

Bark Mill. A machine for grinding raw vegetable tanning materials for leaching, mostly barks.

Bark Tannage. The tanning of leather through the use of barks from many trees such as oak, chestnut, hemlock.

Bark Tanned. Vegetable-tanned leather mainly by means of the tannins contained in barks of trees or other plants.

Barkometer. A special hydrometer used in tanneries to test the strength of tanning liquids by specific gravity.

Barquismeto Goatskins. Goatskins from Venezuela which derive their name from the district in which they originate. The skins which come from the coastal region of the country are soft and fine grained. The takeoff is good but the trim is generally poor. They are dry salted.

Baseball Leather. Leather used for covers of baseballs. The better quality balls have covers of alum-tanned horsehide front leather. Hence the term "horsehide" for the American baseball. Lesser quality baseballs are made from kip and sheepskins.

Basil. Term applied to uncolored, vegetable-tanned or bark-tanned sheep and lambskins. Generally applied to unsplit pelts. In Germany, the term is not only applied to rough-tanned sheep leather, but is also used as a description of origin in the case of woolled sheepskin. In the United Kingdom, this leather is sometimes called "full sheep."

Bastard. A term applied to sheep with hair. No biological verification exists that sheep and goats, the reputed source of "hair sheep," will interbreed. It is more probable that "hair sheep" are the result of domestication and selective breeding. (*See* Cabretta Leather and Hair Sheep.)

Bate. Any material used in bating leather to prepare the dehaired skins for tanning and to remove undesirable plumpness left after the removal of the skins from the lime liquor. A wide variety of artificial bates are now commonly employed, replacing the earlier use of dung and similar natural substances. A bate liquor usually consists of a solution of neutralizing or buffering salts and an enzyme.

Bate Runs. Skins damaged by too violent action with bacterial bates.

Bating or Bateing. Deliming and cleaning grain of leather in preparing hides for tanning. Bating renders the final leather fine and silky on the surface and soft and supple to the touch. The deliming substance is the "bate."

Baume. A scale for determining the density of liquid calibrated in accordance with, or according to, either of two arbitrary hydrometer scales for liquids lighter than water or for liquids heavier than water that indicate specific gravity in degrees.

Beading. Term infrequently used for folding the edge of a shoe upper part. Also, used synonymously with wheeling. The term is also used to describe the application of beads and beaded designs to shoe uppers.

Beam. A rounded slab of wood over which hides and skins are placed for trimming, unhairing, or scudding by hand. Like the draw knife (*see* Beam Knife), which is used in performing some of these operations, the beam is one of the simplest and earliest pieces of tannery equipment.

Beam Knife. A two-handled draw knife, slightly curved to a shape corresponding to that of a beam, and used for several operations in the beamhouse of a tannery. It is one of the oldest known tools for the preparation of hides and skins for tanning.

Beamhouse. The area of a tannery where non-leather-forming substances are removed prior to tanning. The beamhouse operations include washing and soaking, fleshing, liming and dehairing, and bating. The name "beamhouse" was originally applied to the building where skilled artisans fleshed hides and scraped away all hair and epidermis prior to tanning. The skin was spread over a broad oval wooden beam and, hence, the name.

Beaming *See* Scudding.

Beamster. A tannery worker who scuds the grain of unhaird skins over a beam, using a curved draw knife.

Beaver. An apparatus consisting of two long heavy planks put together in the form of an inverted "V" and used in the packinghouse to scrape the salt off the hair side of hides after curing.

Beaver Lamb. Sheep or lamb skin with short fine wool which has been dressed with the wool on, dyed and finished by a process giving a weather-resistant straightness and brightness to the wool. (*See* Shearling.)

Bellows Hide. Curried, flexible, and air-proof leather made from split hide.

Bellows Leather. Leather which is either light- or air-proof for fires, organ, camera bellows, etc.

Belly. The underside of a hide between the fore and the hind legs.

Belly Grain. The tanned outer hair or grain, side split from a belly.

Belly Middle. The middle part of a cattle hide belly.

Belt Leather. Any leather used for making waist belts. The term does not include leather used for power transmission belting and similar purposes, which is known as belting leather.

Belting Butt or Belting Butt Bend. The butt portion of selected cattle hide that has been specially tanned, curried, and dressed to produce strong flexible leather.

Belting Lace. Chrome-tanned back, about 2.5 mm. thick, heavily dressed with material grease, suitable for cutting into strips for the purpose of joining transmission belting.

Belting Leather. Heavy leather tanned from high-grade cattle hides and used in the manufacture of power transmission belting, etc.; similar to sole leather, but tanned by different methods and more flexible than most finished sole leather.

Bend. The portion of a cattle hide remaining after the hide has been cut in half and the shoulder and belly portions have been trimmed off. Also, one-half of the butt. The bend is usually the best part of the hide and is used for

making soles of boots and shoes and machine belting. Bend is only used in referring to tanned leather, croupon for untanned hides.

Bentonite. A colloidal clay having a great affinity for water. It is used by the tanning industry as a filler for leather.

Berberah Goatskins. Goatskins from the Berberah area of Saudi Arabia. These skins are fine grained with a good takeoff. They are either flint dried or dry salted.

Berlin Blue. A blue pigment also known as Prussian blue and Paris blue. It is obtainable by precipitating a ferrous (iron) salt from solution of a ferrocyanide of iron. The resultant white precipitate is washed with water, oxidized with a suitable reagent, washed again with water, and then dried at a low temperature.

Bichromates. Compounds of chromium with other metallic elements such as sodium and potassium, in which two chromium atoms with a valency of six are present, for example, potassium bichromate ($K_2Cr_2O_7$). The bichromates are used in the chrome-tanning process and are among the most important chemicals employed by the tanning industry. The most important bichromates are potassium bichromate (bichromate of potash) and sodium bichromate (bichromate of soda).

Biffling. Removal of salt from hides by slapping them several times on a rack to shake loose salt from the hair, after which they are swept free of salt.

Big Packer Hides. Hides taken off and cured by the largest meat packing firms which are commonly known as the "Big Four."

Blinder. A caseinlike plastic material used in finishing to hold together finely ground pigments tenaciously to the surface of the leather.

Bisulfiting. The treatment of hot solutions of vegetable tanning extracts with sodium bisulfite ($Na(SO_3)_2$) in order to increase their solubility.

Black Pigments. Three principal black pigments are used in making pigment leather finishes: Bone, carbon, and iron oxide.

Blacking. A common term for black paste shoe polishes.

Bleaching. The process of blanching or lightening the color of leather by removing part of the surface tan.

Bleeding. Diffusion of uncombined materials from the interior leather to the outer surface where they may contaminate other materials or mar the appearance of the leather.

Blocking. Cutting a shoe sole or upper part into a shape roughly approximating the desired finished outline. Blocked soles are rounded by machine into the desired shape. Upper parts are generally blocked only when it is desired to complete the cutting on a cutout machine.

Blood. The whole blood of cattle is extensively used in finishing black and dark-colored leathers.

Blood Albumin. The dried serum of the blood of cattle. It has many of the properties of egg albumin and is used extensively in leather finishes.

Bloom. A deposit of ellagic acid frequently appearing on the surface of leather tanned with solutions of chestnut wood or pyrogallol tanning agents.

Blue. Usually, the phrase "in the blue" is applied to hides or skins that have been chrome tanned.

Blushing. A milky opalescence which sometimes develops on leather as a film of lacquer dries. It is due to the deposition of moisture from the air or to precipitation of one or more of the solid constituents of the lacquer or to both of these conditions.

Boa Leather. Leather made from skins of the boa, a snake of the python family, found in Central and South America. The scales of the boa are usually smaller than those of the python, but the markings are similar in pattern. Boa leather is used as a shoe upper and trim leather and for handbags and small leather goods. The boa grain is frequently embossed on other types of leathers, which must not be confused with genuine boa leather.

Boarded Leather. Leather that has been tanned, finished with a firm surface, and then creased or wrinkled by being rolled under a curved cork-covered board. Creases generally run at right angles to each other, giving a pleasing appearance and forming little squares sometimes called "boxes." Variations of the design creased in this manner are Scotch Grain, Box Calf, etc. Leather was originally "boarded" to hide imperfections or a coarse grain but, in recent years, styles have changed and much perfect leather is now boarded. The boarded effect is often imitated by embossing.

Boarding. The process by which boarded leather is made.

Book Leather. A bark-tanned India sheepskin leather retanned in sumac and then embossed. Used for book-bindings and leather specialties of many kinds.

Bogota Goatskins. Goatskins from Colombia. They are fine grained and are used by domestic manufacturers and also exported. The takeoff is good, but the trim is frequently poor.

Boiling Test. A test applied to chrome-tanned leather during the tannage to ascertain whether or not it is fully tanned. Certain types of finished leather, particularly chrome and chrome retanned leather for mechanical purposes, are also tested by this method. No definite standard prevails, but the test in general is practiced quite uniformly as follows:

A piece of leather is placed in boiling water for 1-5 minutes, during which time the water is held at the boiling point. If the leather curls or shrinks, it is considered not fully tanned or neutralized.

Bone Black. A fine black powder also known as animal black. It is made from selected animal bones by calcination, and is used in making pigment leather finishes. (*See also* Drop Black.)

Bookbinding Leather. Leather used for binding books: made of skins, cattlehides, buffings and splits, cowhides, sheepskins, goatskins, calfskins, and, rarely, sealskins.

Borax. A natural sodium borate found on the shores of Tibetan salt lakes and in marshes of shallow lakes in the States of California, Nevada, and Oregon ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$). It is used in the tanning industry in soaking raw stock, fatliquoring, neutralizing, dyeing, and

finishing. When used for soaking dry hides, borax cleanses the dirt from the hair, softens up the grease which has dried on the grain, and forces the water into the body of the hide much quicker than other substances. Borax is also useful in neutralizing any free acid that may remain in vegetal- and chemically tanned skin and permits a fuller striking of the dye.

Boric Acid. Also known as boracic acid. A weak acid composed of boron, hydrogen, and oxygen (H_2BO_3). It is in the form of white crystals or powder, soluble in water and alcohol. Used as an antiseptic agent in tanning, it is an important deliming agent and is also used in leather dressing compounds and as a mordant.

Bottom Leather. A term covering all types of leather used for the bottoming of footwear. Often includes the bend, belly, and shoulder.

Bovine. Animals in the ox or cow family.

Box Calf. Full-chrome-tanned calf leather, black or colored, smooth or boarded. In the United Kingdom, it must be black. When it is other colors, it is Willow Calf.

Box Side. Full-chrome or combination-tanned leather made from cattle hide sides, black or colored, smooth or boarded. In France, the leather may also be synthetic tanned. In the United Kingdom, any tannage may be used, but leather must be black.

Branded Bulls. Hides from bulls or stags which are branded on any part of the hide. The weight selections are the same as for native bulls.

Branded Cows. Cowhides which are branded in one or more places on any part of the hide. The type includes branded cowhides weighing 23 pounds and up and may also include extreme light branded steers.

Branded Hides. Hides with marks of scars caused by branding the live animal with a hot iron. The portion of the hide thus branded is lost and the value of the hide is considerably reduced.

Branded Steers. Three general classifications of branded steers are applied to domestic packer hides: Texas steers in three weights—heavy, light, and extreme; butt-branded steers in two weights—heavy and light; Colorado steers in two weights—heavy and light.

Branding. Marking or printing with a hot iron, freeze process, caustic soda, or punch. Cattle are branded with markings which identify ownership and also damage the hide.

Branning. The treatment of pelt with bran infusion. Branning opens up the pores of the skin besides dissolving the lime in the pelt. (*See also* Bating and Drenching.)

Brazil Wax. Also called carnauba wax. It is an exudation from the leaves of the wax palm, and one of the hardest, most expensive of the commercial waxes.

Brazilian Goatskins. Goatskins from Brazil, including a number of varieties each of which derives its name from the point of its origin.

Break. The "break" of leather is the tiny wrinkles formed on the grain side where it is bent grain inward. Leather buyers frequently flex upper leathers in order to discover the manner in which they will break—with coarse or fine

wrinkles—as an indicator of the manner in which the appearance of the leather will be preserved in a shoe during wear.

Breaking Iron. Blunt iron knife used for breaking hide on the beam.

Bridle Leather. Strong, flexible type of harness-finished strap leather of reasonably uniform thickness with a plain finish and a close shaved flesh. Made from cowhide, vegetable tanned and curried.

Brine. A strong solution of salt and water used, in varying degrees of strength, for preserving raw stock in the preparation of leather.

Brine Curling. *See* Curing.

Brining. Soaking hides, after flaying in a strong solution of common salt before packing in dry salt. (*See* Frigorifico Method of Curing.)

Brogue. Originally a heavy shoe made in Ireland of untanned leather with the hair left on. In modern application, the term is applied to heavy oxfords having a long wing tip and trimmed with pinking perforations and stitching.

Bronze Leather. A variety of leather which is purposely finished with a bronze appearance. Bronze leathers are made by staining with concentrated solution of basic aniline dyes or by coating the leather with a bronze powder or leaf.

Broutards. Kidskins from animals which have been weaned and allowed to graze.

Brown Pigments. Four principal brown pigments are largely used in making leather finishes: Raw Sienna, Burnt Sienna, Raw Umber and Burnt Umber.

Brush Coat. The second coat of varnish applied in finishing patent leather.

Brushing. After rolling, a coat of finish is applied to sole leather, which is then brushed, producing a lustrous finish by means of a machine equipped with a revolving brush. Another form of brushing is removing the leather dust produced by buffing the surface of light leathers by passing the skin between two rotary brushes.

Buck Sides. Cattle hide upper shoe leather, with grain surface buffed to simulate genuine buckskin. Sometimes designated by proprietary trade names, such as Nubuck, Rybuck.

Buckskin. General term applied to leather from deer and elk skins; used for shoes and gloves and, to some extent, in clothing. Only the outer cut of the skin from which the surface grain has been removed may properly be defined as genuine buckskin. Leather finished from the split or undercut of deerskin must be defined as split buckskin. Most buckskin is oil dressed, which produces a soft pliable leather having a buff color and resembling, before finishing, chamois leather.

Buff Hides or Buffs. Country hides weighing from 45 to 60 pounds untrimmed and 43 to 58 pounds trimmed.

Buffalo. Leather made from the hide of domesticated land and water buffalo of the Far East (not the American bison) has a distinctive rough grain.

Buffalo Liming. A method practiced mainly in America

in which hides are first treated with a solution of calcium chloride followed by a solution of caustic soda.

Buffalo Sole Leather. *See* Buffalo.

Buffed Grain. *See* Corrected Grain.

Buffed Leather. Flexible dry leather which has a cream or white surface and is finished with a velvetlike nap. Made from cattle hide from which the whole of the grain has been removed and which has been oil tanned. (*See also* Corrected Grain.)

Buffer Solution. A solution of weak acids and neutralizing salts used to prevent wide changes in pH value. (*See also* pH.)

Buffing. A very light cut (about one-half) of the grain portion of a cattle hide. Usually produced in the manufacture of upholstery leather and used for bookbinding and fancy leather goods. In the United Kingdom, also known as a beeswing. (*See* Machine Buff.)

Bursting Strength. Strength of leather to resist bursting or cracking of the grain under strain.

Buskin. An ancient form of footwear or foot covering having a strong leather sole with cloth uppers and leggings to the knees, fastened with laces; or woman's low-cut house shoe having a small triangle-shaped gore at the front of the instep.

Butcher Hides. Hides which are taken off and cured by butchers.

Butt. That part of the tanned hide left after the bellies and shoulders have been removed.

Butt Branded. A hide that is branded on the butt area back of the break in the flank.

Butt Split. The underlayer split from the butt of a cattle hide.

Byproduct. Hides and skins are byproducts of the meat industry from which leather is manufactured. Hair, gelatin and glue stock, and several other products are byproducts of leather manufacture.

FRENCH-ENGLISH

Bande. Side.

Basane. Basil.

(Cuir) **Blanc.** *See* (Cuir Blanc pour) Lacets, Fr.

Bovin. Bovine.

(Cuir de) **Bovin.** Cattle hide.

(Cuir à) **Bridele.** Bridle Leather.

Buffle. Buffalo.

Buffle Parchemine. *See* Limed Rawhide.

SPANISH-ENGLISH

Badana. *See* Basil or Roan. In El Salvador, it is the soft upper leather derived from hogskin.

Bastardo. Cobretta.

Becerro. Leather made from the hide of an immature bovine animal; calfskins. In Venezuela, the hide weighs

between 2 and 8 kilograms and in Peru, the hide is between 1.2 and 1.6 square meters.

Becerro Tipo Guantería. Vegetable- or chrome-tanned skin of bovine origin, generally calf, with a very soft glovelike feel and a natural grain sometimes accentuated by boarding.

Blando (Cuero). Soft leather in general.

Botas de Deporte (Cuero para). Stout, rugged cattle hide upper leather specially dressed to have a pliability and waterproofness suitable for work, casual, and sports footwear. In America often called Elk.

Bovino. *See* Bovine.

Bridas. (Cuero para) *See* Bridle Leather.

Bruto. (Cuero en) Raw hide.

Bufalo. *See* Buffalo.

(Para) **Bobina.** The phrase "Cuero para Bobina" means the hide of bovine animals. Such hides are generally tanned with vegetal substances and have a soft finish and firm compact structure. These hides often have natural color but are sometimes dyed.

Barriga. Belly and feet of the animal cut off from the whole hide.

Barnizado (Cuero). Varnished hide.

Becerro Nonatu. Skunk.

ITALIAN-ENGLISH

Bazzana. *See* Basil.

Bazzana al Summacco. *See* Roan.

Bufalo. Buffalo. Chrome-tanned sole leather made from bovine hide is also termed "bufalo."

Borse. *See* Coach Hide.

Bovino. *See* Bovine.

Buffeteria. *See* Cloak Hide.

Bulfaro. *See* Russian Leather.

GERMAN-ENGLISH

Backe. *See* Cheek.

Bahn. Range.

Blagenleder. *See* Bellows Hide or Bellows Leather.

Basil. In Germany the term is not only applied to rough tanned sheep leather, but is also used as a description of origin in the case of the woolled sheepskin. (*See* Basil.)

Bastard. *See* Bastard.

Besatzscherling (Pelzbesatz). Trimming shearing.

Biberlamm. *See* Beaver Lamb.

Blankleder. Natural or colored vegetable-tanned hide leather of the lighter weights. It is lightly impregnated and partly waxed. In contrast to harness leather, it is mostly sold by area measurement. There is no English equivalent.

Blobe. Pelt.

Borkefahleder. *See* Russet.

Borkeleder. *See* Crust Leather.

Boxkalb. *See* Box Calf.

Brandsohleder. *See* Insole Leather.

Buffelleder. Buffalo.

PORTUGUESE-ENGLISH

Bezerro. Calf skin (excluding skin of any other animal) submitted to a special treatment other than that indicated for boxcalf.

Bon. *See* Bovine.

HINDI-ENGLISH

(Also Other Indian Languages)

Baasi Camro. Stale hides.

Barsatti Dana. Rain sores on skins.

Beparis. Dealers in hides and skins who collect hides and skins in villages or from slaughterhouses and sell them in larger centers.

Bud Gosht. Bad skin (tail portion).

C

Cabretta Leather. While the origin of the term is doubtful, in the United States it refers specifically to Brazilian sheepskin. It is also applied to the skins of sheep having a hair coat rather than a wool growth. Cabretta skins are largely used for the gloves and shoe leather.

Calcium Chloride. White crystals, granules, lumps, or flakes derived by the action of hydrochloric acid on calcium carbonate and subsequent crystallization, also obtained as a commercial byproduct. (a) CaCl_2 ; (b) $\text{CaCl}_2 \cdot \text{H}_2\text{O}$ (c) $\text{CaCl}_2 \cdot 6\text{H}_2\text{O}$. It is soluble in water and alcohol. It is used by the tanning industry chiefly as a unhairing agent.

Calcium Hydroxide. Also known as calcium hydrate and hydrated lime. A white dry powder obtained by the action of water on calcium oxide ($\text{Ca}(\text{OH})_2$). It is very slightly soluble in water. It is used extensively as an unhairing agent and to a great extent, in some sections, for softening water. (*See also* Lime and Chemicals.)

Calcium Oxide. Commonly known as lime, quicklime, and burnt lime. A white lumpy substance prepared by heating limestone (calcium carbonate) in a kiln. It is soluble in acid; very slightly soluble in water, uniting to form calcium hydroxide. It has a wide range of uses by many branches of industry. Among its uses by leather industry are as an antiseptic, largely for the preservation of fleshings before they are sent to the glue factory; as a depilatory in unhairing hides and skins (*See also* Unhairing); in water purification and treatment of tannery waste disposal.

Calcium Soap. Soap produced by the combination of fatty acids and lime. In the liming of hides and skins, lime acts on the natural grease of these materials and gives a calcium soap which is mostly removed from hides and skins by a process called "scudding."

Calcium Sulphydrate. A compound of calcium and sulfur (CaSH). The product is formed in lime liquors when sulfide of soda is allowed to react with lime solution. It is a powerful depilatory but has an unstable character which lessens its desirability for depilating stock.

Calcium Sulfide. A chemical (CaS) derived by heating pulverized calcium sulfate and charcoal. It is soluble in acids and slightly soluble in water. It is used by the tanning industry chiefly as an unhairing agent.

Calcutta Kills. Goatskins of large size obtained from the goats slaughtered in Calcutta and its neighborhood.

Calcutta Lizard. *See* Lizard Skins.

Calf. The skin of a young or immature bovine animal not exceeding a certain weight: In—

Denmark, 12 kilos, salted weight.

France, about 14 kilos, salted weight.

Germany, 14 kilos, green weight.

Italy, about 14 kilos, salted weight.

Spain, 14 kilos, green weight.

Sweden, 11 kilos, salted weight (Scandinavian trim).

United Kingdom, about 7 kilos green weight (the heavier skin of immature milkfed animals under 14 kilos green weight is often termed "veal").

United States, about 7 kilos, salted weight.

Calf, Dull Finished. A fine, close-grained, flexible, and durable leather with a dull finish.

Calf, Fallen. Skin taken from a calf which has died of natural death.

Calf Leather. Leather made from the skins of young cattle from a few days to a few weeks old. It is soft, fine-grained, and supple and possesses considerable strength in relation to its weight and substance. It is finer grained and lighter weight than cowhide leathers, and is more supple, as well as lighter and finer grained than side, kip, or split leathers which, today, are frequently used in place of calf leather for many purposes. Calf leather may be either chrome or vegetable tanned, the former being the most common.

Calf Split. Split of a calfskin or the flesh layer of a calfskin.

Calf, Waxed. Vegetable-tanned calf leather curried and finished on the flesh side with a wax composition.

California Saddle Leather. Saddle leather tanned with California oak bark. It is used for various leather goods as well as for saddlery. The term cannot be properly used in connection with any leathers tanned by other processes or tanned outside the State of California. (*See also* Saddle Leather.)

Callosity. A hardened or thickened place on the skin, commonly known as a callous.

Campus Hides. Hides produced on farms and ranches in Argentina. They correspond to U.S. country hides.

Canalgre. A variety of vegetable tanstuff grown in America.

Candillilla Wax. A wax of vegetable origin obtained in Mexico from the Jerba plant. It has many of the qualities of carnauba wax, though not so hard and with poorer saporification properties. It is less expensive than carnauba wax and is frequently used as the substitute, and is used for finishing.

Cape. Also Capeskin or Cape Leather. Originally a soft grain gloving or clothing leather made from South African hair sheepskin; now any similar leather made from hair sheepskin but not finished leather made from native vegetable tanned hair sheepskin. Natural grain is preserved in capeskin.

Capetown Goatskins. Goatskins from Africa which derive their name from the district in which they originate.

Captive Bolt. A pistol used as an alternative to the sole ax or knife for stunning, while slaughtering cattle. When fired, a plunger or bolt in the barrel penetrates the brain.

Carbolic Acid. *See* Phenol.

Card Leather, Card Clothing Leather, or Carding Leather. The three terms refer to butt leather, vegetable tanned, lightly curried, and fairly flexible for holding the steel wires which form the periphery of the cylinder on the carding machine used in the woolen industry for opening up raw wool fibers.

Carnauba Wax. A natural wax taken from the carnauba palm, found in considerable quantities in Brazil. One of the most important waxes for leather finishing.

Carplncho. Grain gloving leather with a grain pattern somewhat like that of peccary, made from the skin of a water rodent indigenous to Argentina, Uruguay, and Brazil. One of the leathers commonly designated as Hogskin. (*See also* Glove Leather and Hogskin.)

Carragheen. Extract of Irish Moss.

Carriage Leather. Leather used in upholstering the seats and side of carriages and for making their hoods.

Casa Blanca Goatskins. Goatskins from Morocco, North Africa, which derive their name from the state in which they originate.

Case Leather. Firm dressed leather, stained or otherwise covered, generally having a smooth, more or less glossy surface finish, sometimes embossed with an artificial grain. Made from full grain or buffed cattle hide, vegetable tanned, and suitable for manufacture of suitcases and attache's cases and similar goods.

Cased Skin. Skins which have been drawn off animals without being opened in the belly. Many sheepskins and goatskins appear on the market in this form.

Casein. A nitrogenous substance prepared by precipitation of skim milk, either naturally or chemically. Large quantities of casein are used by the tanning industry in making leather finishes. It is never applied alone, but always mixed with solutions of other materials such as shellac or Irish moss, or with emulsions of wax, etc.

Cask. In the leather trade, the term refers to a packing employed for wetsalted hides and skins in wooden barrels for export. Depending on the size of the individual hides and skins, each cask contains about 125 to 175 pieces, the gross weight of the container averaging between 285 to 410 kg. (847 to 902 lb).

Castor Leather. A soft leather used chiefly for gloves, made from hair sheep or goatskins and suede finished on the grain side.

Castor Oil. A colorless or pale yellowish oil pressed from the seeds of the *Ricinus communis* or castor-oil plant, which is grown extensively in East India, Java, the Mediterranean countries, and the United States. It has little odor but a nauseous taste. It is soluble in alcohol, ether benzene, chloroform, or carbon bisulfide. It has a high density and viscosity. Sulfonated castor oil, also known as Turkey Red oil, is made by treating castor oil with sulfuric acid. Sulfonated castor oil usually contains about 50 percent fatty acid, and is also used to a considerable extent in fat liquors, leather dressings, etc.

Casualty Calf. Still-born calf.

Catechu, Cutch Tree, or Khair. Reddish-brown dyed extract of the heartwood of *Acacia catechu*. The tanning content varies from 57 to 59 percent. Catechu extract is used more as a mordant in dyeing leather than in tanning.

Catgut. Tough cord obtained from the intestines of cattle and sheep and used for strings of musical instruments, tennis rackets, and for stitching in surgery.

Cattle Hide. The skin of a fully grown bovine animal.

Cattle Hide Upper Leathers. All shoe upper leathers made from cattle hides, including kips. Large cattle hides are split down the backbone to make them easier to handle in tanning and the leather made from these sides is known as "side leather" or "side upper leather." Kipskins, which are smaller in size than cattle hides, but larger than calfskins, are tanned whole.

Caustic Potash. *See* Potassium Hydroxide.

Caustic Soda. *See* Sodium Hydroxide.

Cawnpore Goatskins. Goatskins from India which derive their name from the district in which they originate.

Ceara Wax. Name sometimes applied to carnauba wax. (*See also* Carnauba Wax.)

Cellulose. A firm substance making up the walls of plant cells and widely used for many industrial purposes. It is used in making certain lacquers and leather finishes.

Cellulose Extract. Ligno-sulphonic acid obtained as a byproduct in certain processes of paper manufacture and marketed for use in tanning as sulphite cellulose.

Cement. A term broadly applied to a number of adhesives used commonly in shoemaking. Among the adhesive materials commonly called "cements" are pyroxylin or nitrocellulose cement, synthetic resin cement, casein cements, latex, rubber solution cements.

Ceresin. White to yellow refined mineral wax obtained by purification of ozokerite with concentrated sulfuric acid and filtration through animal charcoal. It is used in shoe and leather polishes and for a variety of other purposes.

Chameleon. A lizard which can adjust its color to its surrounding.

Chamois. Originally used for leather of a characteristic type produced from genuine chamois pelts by oil tannage, now made by the same process but from sheepskin or lamb-skin splits, or from sheep or lambskin from which the grain has been removed by frizing and tanned by processes involving the oxidation of fish or marine animal oils in the skin, using either solely such oils (full oil chamois) or firstly formaldehyde and then such oils (combination chamois). Chamois also refers to leather made from the skin of the mountain antelope or chamois, but such leather is rare.

France and the United States restrict the term "Chamois," without any qualification, to the fresh split of sheepskin tanned solely with oils. In Germany, the term "Samischleder" is applied to an oil-tanned suede leather made from sheep, lamb, roedeer, red deer, chamois, goat and kidskins, and cattle hide splits. In Italy and Switzerland, this leather is incorrectly termed "selle di ditto" and "Hirchleder," respectively.

Chamois Goat. Suede-finished, oil-tanned goatskin leather.

Chauri Chauras. Hides and skins from Chauri Chauras (Uttar Pradesh).

Cheek. The portion of cattle hide, or the leather made therefrom, covering one side of the head.

Cheeking. Reducing the thickness of heads of un-haired skin by splitting; this operation is usually performed just before bating the stock.

Chemicals. Chemicals are used extensively in modern leather making: in the preparation of hides and skins for tanning and to treat the raw stock to maintain condition for leather-making operations and produce the most uniform leather. They are used in tanning processes and also aid in producing fine finishes to make leather more attractive and serviceable.

A list of the more than 80 chemicals commonly used in making leather are given below. This list includes both the common names and proper names; the more widely used chemicals are explained individually in alphabetical order.

Acetic acid (vinegar)
 Acetone
 Acids
 Alcohol (ethyl) (methyl)
 Alum (ammonia alum; aluminum-potassium sulfate; aluminum sulfate; potassium-chromium sulfate)
 Aluminum ammonium sulfate
 Aluminum palmitate
 Aluminum-potassium sulfate
 Aluminum sulfate
 Amines
 Ammonia
 Ammonia alum
 Ammonium
 Ammonium bichromate (bichromates)
 Ammonium chloride
 Ammonium hydrate (ammonium hydroxide)
 Ammonium hydroxide
 Ammonium muriate (ammonium chloride)
 Amyl acetate
 Anhydride (sulphur dioxide)
 Antimony potassium tartrate
 Aqua ammonia (ammonium hydroxide)
 Aqua ammonium (ammonium hydroxide)
 Arsenic bisulfide
 Baking soda (sodium bicarbonate)
 Banana oil (amy acetate)
 Barium chloride
 Beta-naphthol
 Bicarbonate of soda (sodium bicarbonate)
 Bichromate of ammonia (bichromates)
 Bichromate of potash (bichromates)
 Bichromate of soda (sodium bicarbonate)
 Blue copperas (copper sulfate)
 Blue vitriol (copper sulfate)
 Boracic acid (boric acid)
 Borax
 Boric acid
 Burnt alum
 Burnt lime (calcium oxide)
 Calcium carbonate
 Calcium chloride
 Calcium hydrate (calcium hydroxide)
 Calcium hydrosulfide (calcium sulhydrate)
 Calcium oxide
 Calcium sulhydrate
 Calcium sulfide
 Carboic acid (Phenol)
 Carbon tetrachloride
 Caustic potash
 Caustic soda (sodium hydroxide)
 Caustic acetate
 Chlorine
 Chrome sulfate (chromic sulfate)
 Chromic acid
 Chromium sulfate (chromic sulfate)
 Copper acetate
 Copperas (ferrous sulfate)
 Copper sulfate
 Corrosive mercury chloride (mercuric chloride)
 Corrosive sublimate (mercuric chloride)
 Cream of tartar (potassium bitartrate)
 Crystallized sulfate of soda (Glauber's salt)
 Denaturants alcohol (alcohol)
 Di-Amines
 Dichromate of potash (bichromates)
 Dichromate of soda (bichromates)
 Dichromates (Bichromates)
 Di-Methylamine
 Eau de Labarraque (sodium hypochlorite)
 Epsom salt (magnesium sulfate)
 Ethyl acetate
 Ethyl alcohol (alcohol)
 Ferrous sulfate
 Flurol (sodium fluoroide)
 Formaldehyde
 Formalin (formaldehyde)
 Formalith (formaldehyde)
 Formic acid
 Formic aldehyde (formaldehyde)
 Formol (formaldehyde)
 Glauber's salt
 Glycerin
 Glycerol (Glycerin)
 Glycyl alcohol (glycerin)
 Grain alcohol (alcohol)
 Green copperas (ferrous sulfate)
 Green vitriol (ferrous sulfate)
 Hydrochloric acid
 Hydroxbenzene (phenol)
 Hypochlorite of soda (sodium hypochlorite)
 Hyposulphite of soda (sodium thiosulfate)
 Iron vitriol (ferrous sulfate)
 Lactic acid
 Lead acetate
 Leucogen (sodium bisulfite)
 Lime
 Lime hydrate (calcium hydroxide)
 Liquid glass (sodium silicate)
 Lithopone
 Lye (sodium hydroxide and potassium hydroxide)
 Magnesium sulfate
 Mercuric chloride
 Mercury bichloride (mercuric chloride)
 Methyl alcohol (alcohol)
 Muriatic acid (hydrochloric acid)
 Naphthalene
 Nitric acid
 Oil of vitriol (sulfuric acid)
 Oxalic acid
 Oxymethylene (formaldehyde)
 Paranitrophenol
 Phenic acid (phenol)
 Phenylic acid (phenol)
 Potash alum (aluminum-potassium sulfate)

Potassium acid tartrate (potassium sulfate)
 Potassium acid tartrate (potassium bitartrate)
 Potassium-ammonium tartrate (antimony potassium tartrate)
 Potassium arsenate
 Potassium bichromate (bichromates)
 Potassium bitartrate
 Potassium chromate (chromates)
 Potassium chromium sulfate
 Potassium dichromate (bichromates)
 Potassium hydrate (potassium hydroxide)
 Potassium hydroxide
 Potassium permanganate
 Potassium titanium oxalate (titanium potassium oxalate)
 Precipitated chalk (calcium carbonate)
 Propenyl alcohol (glycerin)
 Quicklime (calcium oxide)
 Red arsenic (arsenic bisulfide)
 Sal ammoniac (ammonium chloride)
 Salt cake (sodium sulfate)
 Soda ash
 Sodium acetate
 Sodium acid carbonate (sodium bicarbonate)
 Sodium acid sulfite (sodium bisulfite)
 Sodium bicarbonate
 Sodium bichromate (bichromates)
 Sodium bisulfite
 Sodium chromate (chromates)
 Sodium dichromate (biochromates)
 Sodium fluoride
 Sodium hydrate (sodium hydroxide)
 Sodium hydrosulfide
 Sodium hydroxide
 Sodium hypochlorite
 Sodium hyposulfite (sodium thiosulfate)
 Sodium-meta-bisulfite (sodium bisulfite)
 Sodium phosphate tribasic
 Sodium silicate
 Sodium subsulfide (sodium thiosulfate)
 Sodium sulfate (salt cake)
 Sodium sulfate crystals (Glauber's salt)
 Sodium sulfhydrate (sodium hydrosulfide)
 Sodium sulfide
 Sodium sulfite
 Sodium sulfuret (sodium sulfide)
 Sodium thiosulfate
 Soluble glass (sodium silicate)
 Solvent naphtha
 Stannous chloride
 Stearic acid
 Sulfur dioxide
 Sulfuric acid
 Sulfurous acid (sulfur dioxide)
 Sulphuric acid (sulfuric acid)
 Talc
 Tannic acid
 Tar camphor (naphthalene)
 Targar emetic (antimony potassium tartrate)
 Tartarized antimony (antimony potassium tartrate)
 Tin bichloride (stannous chloride)
 Tin crystals (stannous chloride)
 Tin dichloride (stannous chloride)
 Tin protochloride (stannous chloride)
 Tin salt (stannous chloride)

Titanium potassium oxalate
 Trisodium phosphate (sodium phosphate tribasic)
 Vinegar acid (acetic acid)
 Water glass (sodium silicate)
 White caustic (sodium hydroxide)
 White tar (naphthalene)
 Whiting
 Wood alcohol (alcohol)
 Wood naphtha (alcohol)
 Wood spirit (alcohol)

Chestnut Extract. A tanning material made from the wood of the chestnut tree (American and European) and used in tanning heavy leathers, such as sole, belting, and harness. The extract is marketed in both the solid and liquid forms, products of different manufacturers differing in their tan content. In the solid extract (in block or powder form) the tanning content is generally from 56 to 76 percent (non-tan, 5.5 for 9.5 percent) and the liquid extract from 29 to 49 percent according to the concentration (non-tan, 5 to 10 percent). The American chestnut is generally darker in color than the French. The tannin is of the pyrogallol class and is generally used in combination with other tanning materials, such as quebracho, mimosa, myrabolans, and valonia in the preparation of sole leather. It is rapid in its action on hides and gives a firm leather.

Chevreaux. Kidskin from milk-fed animals which have never grazed.

Chevrette. The skin of a young goat which is being or has been recently weaned, or the skin of an immature goat or the leather made therefrom. Light-weight goatskins or heavy kidskin is sometimes termed "chevrette." In France, the leather must be chrome or synthetic tanned. In Germany and the Netherlands, the term is also used for shoe upper leather dressed in imitation and "Chevreaux" (*see* Glacé kid), mainly chrome tanned from hair sheep or woolled sheep with coarse wool. The grain is smooth, glazed, or ironed. In Germany, the term "Heberling" is used. In Sweden, the leather must be chrome tanned. In Spain, the term is also applied to the raw skin.

Chicken Dung Bate. Bate formerly made from the enzymes of chicken dung.

China Goatskins. A general term which includes several types of goatskins from China.

Chowching Goatskins. Goatskins from China which derive their name from the district in which they originate.

Chrome Leather. A bluish-green leather which has been chrome tanned. It does not wet black readily and withstands the action of boiling water. It is stronger than vegetable-tanned leather and is usually dyed and finished.

Chrome Liquor. Solution of basic chrome salt, usually basic chromium sulphate, used in chrome tanning.

Chrome Re-Tan. Leather which has been first chrome tanned throughout its thickness and subsequently further treated or tanned with vegetable or synthetic tanning agents, or resin filling materials; these retanning agents penetrate, but not necessarily completely, into the interior.

In France, this is known as "semi-chrome" or "chrome vegetal."

Chrome Sole Leather. After heavy stock for sole leather has been chrome tanned, it is washed and given a light retanning with vegetable tanning materials in a drum, a rapid process requiring only a few hours. It is then dried.

Chrome Tanned. Leather tanned either solely with chromium salts or with chromium salts together with very small amounts of some other tanning agent used merely to assist the chrome-tanning process, and not in sufficient amount to alter the essentially chrome-tanned character of the leather.

Chrome Tanning Extract. Green crystals of chrome salt, prepared by the reduction of sodium bichromate and sulfuric acid with a reducing agent, which is supplied for tanning pelts by the one-bath chrome-tanning process.

Chrome Washers. Washers made from the chrome leather. The term is specially applied in the Indian leather trade to washers used for marking ginning rollers. When made from chrome tanned buffalo hides, they are called "Full Chrome Washers." When made from chrome splits, they are called "Composite Washers."

Chroming. Treating hides and skins with chrome liquor for tanning. The term is specially used for the process in which the delimed pelt is treated with an acidified solution of potassium or sodium bichromate in the double bath method of chrome tanning. In the case of the one-bath process, the term refers to the treatment of the pelt with the chrome liquor which does the actual tanning.

Circulators (Circulator Round). A series of seven (usually) interconnected tan pits. The leathers or partly tanned butts are suspended in six of these pits. The tan liquor is circulated through all the seven pits, liquor being made up in the spare pit.

Clarification of Extracts. After the extraction of the vegetable-tanning material for manufacturing tanning extracts, the liquor is usually clarified by settling in a tank with or without the addition of clarifying agents.

Cleaner Out. A packinghouse worker who specializes in the removal of the hide from the forelegs and under the sides of the neck.

Clearing Stone. A fine stone used to remove the marks on tools produced by the coarse rub stone.

Clearing the Grain. The process of removing grease from the grain surface of leather. In the case of chrome-tanned leather, this is done by brushing the surface with a weak solution of lactic or acetic acid.

Cloak Hide. Flexible leather printed with a long or oat grain, made from vegetable-tanned split cattle hide of suitable thickness; it is curried to contain sufficient grease to render it suitable for saddlery and military equipment.

Clothing Leathers. Any leather used for leather coats, hats, jackets, trousers, and other garments. Coats are made of sheepskins with or without the wool and heavier coats are made of cattle hides and horse hides as well as sheepskins. Jerkin leather, made of sheepskins wholly or partly vegetable tanned, is also used for some types of clothing. Buckskin is frequently used for riding trousers. The finer

sheepskin garment leathers are tanned with chrome or alum or a combination of the two, and are either suede or grain finished.

Coach Hide. Mat-finished, aniline-dyed, full-grained, boarded, vegetable-tanned leather made from cattle hide. This leather is not used for cars or coaches as the name suggests, but for such leather goods as hand bags and travel goods.

Coal Tar Bates. Name applied to some aromatic acids, such as crude cresotic acid, a mixture of phenol and cresols, and oxynaphthoic acid, which have been found useful as delimiting agents.

Coast Cod Oil. Oil derived from all kinds of fish refuse including small or undersized herring. It is used for making sulphated oil. It is cheaper than cod oil and much cheaper than genuine cod liver oil.

Cobra Leather. Leather made from the skins of the cobra. Although the cobra is a much smaller snake than the python or boa, its skin is very attractively marked.

Cocanada Goatskins. Goatskins from India, which derive their name from the district in which they originate.

Cocanades. Medium-grain goatskins obtainable from the northeast coast of Andhra Pradesh, averaging from 85 to 90 kg. per 100 skins and yielding about 5.5 m² of leather per dozen skins.

Cochineal. Dried bodies of insects *Coccus cacti*, from which carmine, a red dyestuff is obtained. Its main coloring substance is carminic acid and an aluminum salt which is called "carmine." It is used as a food color and water color and a stain for microscopic preparations.

Cockle. Generally regarded as a nutritional disease in wool sheep. It occurs as small rounded nodules scattered throughout the skin, giving rise to brownish markings on the leather.

Cod Oil. (British Oil, Brown Oil, or Tanners' Cod Oil.) This oil is derived from the livers of a variety of fish including shark and cod. The oil is allowed to settle and decanted from the settled fats or stearine. It is widely used for making sulphated oils and for fat liquors and leather dressings.

Cold Sweat. A method of depilation. The skins are kept in a damp sweat pit until the mucous matter connecting the epidermis with dermis decomposes, thereby loosening the hair without injuring the true skin. In the cold sweat process, the temperature is not raised.

Collagen. Protein contained in connective tissue, cartilage, and bones, the chief protein of raw hides and skins.

Collar Back. Harness leather is the form of a back, usually of good selection, curried and having a thickness of from 4 to 5 mm.

Collar Leather. A subdivision of harness leather. Made of very light cattle hides in full thickness, or of cattle hide splits. Used for covering horse collars.

Collector Calfskins. Calfskins which are bought by dealers or collectors from retail butcher shops and wholesale markets. They are bought in a green state and are cured by the collector. They are usually identified according to the point of origin and sale.

Collector Kipskins. Kipskins classified similarly to collector calfskins.

Collodion. A solution of pyroxylin in alcohol which is used in some leather finishes and lacquers.

Colloidal Tanning. The name applied to a process of vegetable tanning in which either a colloidal substance is added to the tan liquor or the hides are previously treated with it. Such substances avert the production of drawn grain or case-hardening even if comparatively strong and stringent. Liquors are used at the first stage of tanning.

Colophony. See Rosin.

Colorado Steers. Large-sized, rangy, side-branded steer hides, originally from Colorado, but now from any section and selected according to characteristics rather than origin. Colorado steers are sorted by weight as follows: Heavy, 58 lb. and above; light, 48 to 58 lb.

Colorados or Texas Hides. Hides branded on the butt or side.

Colored Through. Penetration of total solubles through the entire thickness of a hide or skin as evidenced by coloring.

Coloring. Although coloring is not a finishing operation, it is so closely related to the work of producing modern finished leathers that it is sometimes confused with the operations which are commonly grouped as "finishing."

Coloring by Dipping. Dyeing by immersing the object in a dye bath.

Colt Leather. Leather made from the skins of colts.

Combed Leather. A leather used in connection with combing machines in the textile industry. It is soft, mellow, and tough; tanned from steer hides, heavily stuffed, and usually hand boarded or otherwise softened.

Combination Oil Tannage. A process of tannage in which the skin is first tanned with formaldehyde or other suitable aldehyde and subsequently treated by oil.

Combination Tannage. A process of tanning leather by a combination of tanning agents. This combination may consist of several vegetable-tanning materials, or of vegetable- and mineral-tanning agents.

Combination Tanned. Leather tanned by two or more tanning agents, e.g., chrome, followed by vegetable (Chrome retan); vegetable, followed by chrome (Semi-chrome); formaldehyde, followed by oil (Combination oil).

Combing Leather. Strong, resilient butt leather, free from permanent stretch, made into endless belts and used on machines for combing wool. Chrome tanned (green) or combination tanned (brown).

Combining. See Backing.

Commissarhats. Hides generally coming from slaughterhouses, especially from the cantonment towns of northern India. They show fewer defects than the average "slaughtereds."

Commons. Hides, mostly unframed and not "killeds."

Condenser Rubber. Butt leather, vegetable or chrome tanned, subsequently dressed to give high flexibility with freedom from stretch for use in conjunction with condenser rubbing leather aprons.

Conditioning. A process whereby dried skins are put in a condition suitable for staking. The effect is to restore sufficient moisture to the skins to render them strong enough for staking. Conditioning may be done by cooling, sawdusting, or by damping in pile.

Contract Tanning. Tanning leather from hides and skins furnished by the consumer.

Cordova Goatskins. Goatskins from Spain whose name is derived from the district in which they originate.

Cordovan. Name originated in the city of Cordova, Spain, which was noted for fine leather manufacture during the Arab civilization. Originally, a finegrain, colored Spanish goatskin leather. Now cordovan is generally applied to leather made only from the shell of horse butts and used for shoe uppers. It is known for its nonporosity and long-wearing qualities.

Cordovan Leather. Leather made from the shell of horse butts. The butt yields two cordovan shells which in a full-grown horse make altogether about 6 square feet. It takes its name from the city of Cordova, Spain, where the manufacture of leather was highly developed under the Arabs and continued under the Spanish.

Corium. The second layer of a hide or skin, containing the fiber mass which is the real leather-making part of the skin. The corium, also known as the derma, or true skin, is made up of fibers which are long strands of fine threadlike units, or fibrils (little fibers). The fibers are arranged into little groups, or fiber bundles and these bundles are the architectural units of the skin.

Coro Goatskins. Goatskins from Venezuela which derive their name from the district in which they originate.

Corrected Grain, or Leather. Term used to describe leathers which have been buffed to remove grain blemishes and scars before final finishing. The grain correction improves the appearance of the leather without necessarily detracting from its strength and quality.

Country Hides. Hides taken off by relatively unskilled labor, e.g., by some country butchers or in some small packing plants where they are more likely to be damaged and/or less uniform and therefore command less of a price than big-packer hides.

Cowbag or Codbag. Location of teats on females and the scrotum area on steers.

Cowhide. The hide of any kind of cow.

Cowhide Leather. The raw skin of a female bovine animal. Leather made from unsplit cowhide or its grain split. In some countries (not Spain) the term is also loosely applied to similar leather from the hide of any bovine animal. The term is not to be applied to leather from the flesh split. Frequently, the term is applied for heavy upper leathers used for unlined boots.

Cracking the Grain. Opening or breaking of the grain layer by the double fold or key test.

Crock, Crocking. The rubbing off of coloring, finishing materials or residual buffing dust from leather onto other materials.

Crop. Hair, cut short, the back of the hide, retaining both the shoulder and the head. A "side" of leather with

belly cut off retaining both head and shoulder.

Croupon. Untanned half of cattle hide butt with belly and shoulder cut off; comparable to a butt bend in tanned leather.

Crown Leather. Leather formerly used for laces, picker bands, light belts, and other purposes where great toughness and flexibility were required. It is prepared from limed, drenched, and partially dried skins with a paste of flour, buttermilk, and soft fat.

Crumpled Hides. Hides that have developed wrinkles because of being dried on the ground instead of frames. In hilly tracts, hides are often dried on stones which become very hot in the sun; contact with the heated stones gives sun blisters to the hides.

Crup. In Germany, Italy, and the United Kingdom identical with Cordovan. In Spain, the equivalent of a horse butt.

Crushed Leather. Applies to leather which has the natural grain accentuated during the tanning by plating or other process. Also applied to leather that has been "grained" artificially.

Crust. Skins which are being conditioned by crusting and termed "in crust." (See also Crusting and Tanning.)

Crust Chrome Bend. Identical with dry chrome bend.

Crust Leather. Leather which, after tanning, has not been further processed. In France the term "en croute" is applied to any kind of hide or skin, e.g., "Mouton en croute, veau en croute," and to any part of a hide; e.g., "collect en croute, croute en croute." In the United Kingdom the term "crust" is used in connection chiefly with skins such as sheep, while the term "rough tanned" is similarly employed in connection with cattle hide leather.

Crusting. A tannery operation whereby leather may be conditioned after drying and before sammying. (See Sammying.)

Cudbear. A purplish-red powder employed as a coloring agent, obtained by dissolving Rocella lichen with ammonia.

Cup. A depression or hollow in the hide of the foreleg of cattle at the flexing joint.

Cure Dacca. Curing done by dry salting with khari salt in which a thick plaster is put on the hide to increase weight. Also called "Heavy Cure." (See Catechu.)

Cure, Hard. Heavy cured. Dry salted hides thickly plastered with khari salt to increase weight.

Cure, Light. Dry-salted hides without undue plastering. Also called Meherpore Core.

Cure, Meherpore. Curing done by lightly dry-salting with khari salt so that no undue coating of salt is formed on the hide.

Curing. The treatment of raw hides and skins after flaying to retard bacterial action and putrefaction. When thoroughly cured by any one of several common methods, the hides and skins are stored until they are taken by the tanner, whose first operations are to soak the hides and skins for softening and submit them to further preparatory treatment before they can be tanned into leathers. (See also Tanning.)

The most common method of curing hides and skins is *green salting*. In Latin America and Australia, the same curing method is known as *wet salting*. As soon as the hides are removed from the carcasses, they are cleaned as much as possible of dirt, blood, and manure. Bits of flesh are removed by scraping; ragged edges are trimmed, and the ears are removed. The hides are then placed in a cool place for an hour to remove the animal heat, after which they are laid hair down on the floor and sprinkled with fresh, clean salt, using one pound of rock salt per pound of hide. They are then piled into a 'pack' which is allowed to cure for 30 days or more and they are then ready to be "taken up" (taken up from the pack, inspected, bundled, and shipped). At the end of the curing process, 60% of the original salt can be reclaimed from the hide. The water loss of the cured hide is approximately 50% of the original weight of the green hide. It is now cured and ready to be shipped. The final composition of the hide is 12-16% salt; 35-45% water; 40-50% hide substance. This compares favorably to the 65-70% water and 30-35% hide material which made up the original, green hide.

Curried Leather. Leather usually vegetable tanned which has been subjected to the currying process, i.e., a series of dressing and finishing processes applied to leather after tanning in the course of which appropriate amounts of oils and greases are incorporated in the leather to give it increased tensile strength, flexibility, and water-resisting properties. It is the process which places the hide in a condition to resist bacterial decomposition. This is accomplished by the replacement of natural moisture in the hide with concentrated brine. Hide shrinkage, caused by moisture loss and the removal of blood solids from the surface, may vary between 12 and 18 percent.

Cut-Off Vamp. See Vamp.

Cut Stock. Term generally applied to bottom stock for shoes, such as soles, taps, lifts, blocks, and strips cut from sole leather. Also applied to cut-to-pattern leather.

Cut Throat. See Kosher Hide.

Cutch. The tanning extract derived from mangrove bark, principally manufactured in Borneo and the Philippines. It is a solid extract containing 55% tannin and is one of the most important vegetable tanning materials used by tanners in the United States. Although cutch is seldom used alone as a tanning material, in spite of its high tannin content, it is frequently used with quebracho and other tanning materials to increase the stability, plumpness, and yield of these materials.

FRENCH-ENGLISH

Cabretta. See Cabretta Leather.

Carpincho. See Carpincho.

Chamols. See Chamois.

(Cuir) **Chamoise.** See Buff Hides.

Chamoisolsage. See Oil Tanning.

(Cuir à) **Chapeau.** See Hat Leather.

Chevre chagriné. *See* Hard Grain Goat.
Chevre glacé. Glacé Goat.
Chevreau. *See* Chevreau.
Chevreau argent. *See* Gold and Silver Leather.
Chevreau ganterla. *See* Gloving Kid.
Chevreau glacé. *See* Glacé Kid.
Chevreau or. *See* Gold and Silver Leather.
Chevreau velours. *See* Suede Finish.
Chevrette. *See* Chevrette.
(Tannage) **Chrome.** *See* Chrome Tanned.
(Tannage pour) **Chrome.** *See* Full Chrome.
Chrome Végetal. *See* Chrome Re-tan.
(Cuir) **Ciré.** *See* Wax Finish.
Collett. *See* Shoulder.
Collett a l'eau. *See* Pinned Shoulder.
Collet sclé. *See* Shoulder Grain.
(Dosset a) **Collier.** *See* Collar Back.
(Tannage) **Combine.** *See* Combination Tanned.

SPANISH-ENGLISH

Cabra abrlantada. *See* Glacé Goat.
Cabra chagfn. *See* Hard Grain Goat.
Cabra de Nigeria. *See* Nigerian Goatskins.
Cabrlola. *See* Chevrette.
Cabrta. Leather of goats and sheep used for fine footwear and for hand bags.
Cabritillo al cromo. *See* Glacé Kid. In Spain the term is never used to describe gloving leather, instead the term "cabrito glacé" is used.
Cabrito. *See* Kid.
Cabrito afelpado. *See* Suede Finish.
Cabrito dorado. *See* Gold and Silver Leather.
Cabrito "Glacé". Term used for Glacé Kid when it is used as glove leather.
Cabrito para guanterfa. *See* Gloving Kid.
Cabrito plateado. *See* Gold and Silver Leather.
Cachete. *See* Cheek.
Capa de flor. *See* Grain Layer.
Cardado. The hide of lamb tanned without cutting the wool.
Carilla. *See* Cheek. In Spanish "cachete" is used more often than "carilla."
Carnaza. A term used in South America (Colombia) to denote a split. (*See* Split.)
Carnazudo. A term used to describe hides which have been poorly defleshed and have flesh left attached on the hide.
Carpincho. *See* Carpincho.
Carrillo. *See* Cheek. In Spanish "cachete" is used more often than "carillo."
Casco Seco. *See* Slats.
Cegajo. *See* Chevrette.
Centra de falda. *See* Belly Middle.
Cerdo (Piel de). *See* Pigskins.
Cerdo salvaje (Piel de). *See* Hogskin.

Chagrln. *See* Basil.
(Cuero de) Chanco. Pig leather in Ecuador.
Charol. *See* Patent Leather.
(Cueros) **Charolados.** In Central and South America, patent leather with special designs.
Cicatriz (Pl. Cicatrices). The imprint of a scar or gash which remains on the hide after the animal has been slaughtered.
Cilindros de hilatura (plel o cuero para). *See* Roller Leather.
Cinturones (plel o cuero para). *See* Belt Leather.
Cogote. The part of the hide which covers the neck.
Contadores de gas (plel para). *See* Gas Meter Leather.
Cordero rasado acabado. *See* Fur Finished Shearling.
Cordoban. *See* Cordovan.
Correa tiratocos (cuero para). *See* Picking Band Leather.
Correas (cuero semicurtido para). *See* Rawhide.
Correjel. *See* Cloak Hide.
Correjel de crupdn. *See* Rein Back.
(Cuero en) **Costra.** *See* Crust Leather.
Crispado (plel o cuero). *See* Levant.
Cromo recurtido. *See* Chrome Re-tan.
Crudo. Small portion of leather which has not been completely tanned. This is generally seen in the head or the haunch.
Curdo (Cuero). *See* Limed Rawhide.
Crupdn. *See* Croupon.
Crupdn para correas. *See* Belting Butt.
Crupdn para tiratocos. *See* Stirrup Butt.
Cruzado. *See* Bastard.
Cruzado del cabo. *See* Cape.
Cuello. *See* Shoulder.
Cuello cilindrado. *See* Pinned Shoulder.
Cuello dividido. *See* Shoulder Grain.
Cuello para viras. *See* Welting Leather.
Cuero. *See* Hide.
Culata. *See* Culee. Fr.
Curticlon. *See* Tanning.
Curticlon al aceite. *See* Oil Tanning.
Curticlon combinado aldehido aceite. *See* Combination Oil Tannage.
(Piel or Cuero) **Curtido.** *See* Leather.
Curtido a la grasa. *See* Fat Tanned.
Curtido a la silice. *See* Silica Tanned.
Curtido al aldehido. *See* Aldehyde Leather.
Curtido al alumbre. *See* Alum-Tanned Leather.
Curtido al azufre. *See* Sulphur Tanned.
Curtido al cromo. *See* Chrome Tanned.
Curtido al formal. *See* Formaldehyde Tanned.
Curtido al vegetal. *See* Vegetable Tannage.
Curtido al zumaque. *See* Sumac Tanned.
Curtido combinado. *See* Combination Tanned.
Curtido con cortezas. *See* Bark Tanned.
Curtido con cortezas de Encina. *See* Oak Tanned Leather.

Curtido mineral. *See* Mineral Tannage.
Curtido mixto. *See* Combination Tanned. In Spanish-speaking countries "Curtido Mixto" and "Curtido Combinado" are used interchangeably.
Curtido semicromo. *See* Semi-Chrome Leather.
Curtido Sintético. *See* Synthetic Tanned.
Curtientes. General term for any substance used in the tanning process.

ITALIAN-ENGLISH

Capo. *See* Cape.
Capra glacé. *See* Glacé Goat.
Capra granita a mand. *See* Hand Grained.
Capra seamosella all'ollo. *See* Chamois Goat.
Capretta. *See* Chevette.
Capretto. *See* Kid.
Capretto dorato. *See* Gold and Silver Kid.
Capretto glacé. *See* Glacé Kid.
Capretto lucido. *See* Glacé Kid.
Capretto per guanti. *See* Gloving Kid.
Capretto scamosciato. *See* Suede Finish.
Carpincho. *See* Carpincho.
Chevette. *See* Chevette.
Concia. *See* Tanning.
Concia all' allume. *See* Alum-Tanned Leather.
Concia all' olio. *See* Oil Tanning.
Concia combinate. *See* Combination Tanned.
Concia mista. *See* Concia Combinata.
Conciato al cromo. *See* Chrome Tanned.
Conciato alla formaldeide. *See* Formaldehyde Tanned.
Conciato alla scorza. *See* Oak Tanned Leather.
Conciato alla scorza di quercia. *See* Conciato alla Scorza.
Conciato alla silice. *See* Silica Tanned.
Conciato allo zolfo. *See* Sulphur Tanned.
Conciato al minerale. *See* Mineral Tanned.
Conciato al summacco. *See* Sumac Tanned.
Conciato al vegetale. *See* Vegetable Tannage.
Conciato con sintetici. *See* Synthetic Tanned.
Conciato interamente all' olio. *See* Full Oil.
Conciato tutto chromo. *See* Full Chrome (Tanned).
Cordovano. *See* Cordovan.
Cromo riconciato. *See* Chrome Re-tan.
Crosta. *See* Split.
Crosta di groppone. *See* Butt Split.
Crote scamosciate. *See* Suede Finish.
Culatta. In Italy and Austria (karpfen) the hind part of a bovine hide, comprising of the butt, the belly, the middle and the hind shanks. In the case of a horse hide, identical to horse butt.
Cuolo. *See* Leather.
Cuolo bianco. *See* White Hide Leather.
Cuolo bianco per lacclvoll. *See* White Lace Leather.
Cuolo Corona. *See* Helvetia Leather.

Cuolo di Russia o Bulgaro. *See* Russian Leather.
Cuolo grasso. *See* Curried Leather.
Cuolo Impregnato. *See* Dipped Dressed.
Cuoli ingrassato. *See* Impregnated Leather.
Cuolo maschereccio e Corona. *See* Cuoio Corona.
Cuolo maschereccio per Lacclvoll. *See* Cuoio Corona.
Cuolo non lavorato dopo la concia. *See* Undressed Leather.
Cuolo per cacclatacchetti. *See* Picking Band Leather.
Cuolo per carte. *See* Card Leather.
Cuolo per cilindri. *See* Roller Leather.
Cuolo per cinture. *See* Belt Leather.
Cuolo per finimenti. *See* Harness Leather.
Cuolo per fondo di calzature. *See* Bottom Leather.

In Italy, the following different types of bottom leather are distinguished:

Outsole leather.	Crust chrome bend.
Oak bark tanned.	Levelled bend.
Chrome re-tan.	Flexible split.
Flexible bend.	Mid-sole leather.
Impregnated bend.	Insole leather.
Manufacturing bend.	Welting belly.
Repair bend.	Welting shoulder.

Cuolo per guarnizioni. *See* Hydraulic Leather.
Cuolo per manicotti. *See* Combing Leather.
Cuolo per raccordo di tubi. *See* Hose Leather.
Cuolo per redini. *See* Bridle Leather.
Cuolo per sacchi di carderia. *See* Condenser Rubber.
Cuolo per sottopiedi. *See* Insole.
Cuolo per sottosuola. *See* Mid-Sole Leather.
Cuolo per usi tecnici. *See* Engine Leather.
Cuolo per valigeria. *See* Bag Hide.
Cuolo per cinghie di trasmissione. *See* Rawhide.
Cuolo rifinito ingrassato. *See* Pure Dressed Leather.
Cuolo sflorato. *See* Face and Cheek.

PORTUGUESE-ENGLISH

Cabecas. *See* Front.
(Pele de) **Cabrilo.** *See* Kid.
Camurca. *See* Chamois. In Brazil, Camuaga is chamois leather from calf, goat, or sheep skins only.
Camurcao. *See* Chamois.
Carapateado (com carrapatos). Ticky or with ticks. Ticks are a major problem with hides from Brazil.
Carnal. The side of a hide or skin with flesh on it.
(Pele de) **Carnelro.** *See* Sheepskin.
(Couro de) **Cavalo.** *See* Horsehide Leather.
(Pele de) **Cordelro.** *See* Lambskin.
Couro. *See* Leather.
Culatra. *See* Culatta. It. In Brazil, the culatra also includes the foreshank and the shoulder.
Curado. *See* Curing.
Curtimento. *See* Tanning.

D

Dacca. One of the four main types of raw dry-salted hides formerly exported from Calcutta, India. It is a fine-grained cowhide.

Dalssies. *See* Deshis.

Damping or Dampening. The process of wetting leather uniformly before the finishing process can be carried out. Two methods of damping are employed. The first consists in dipping the stock in warm water for a short time and then laying it in a pile overnight covered with a tarpaulin. The second requires placing the leather in a pile with damp sawdust. By either of these methods, the stock becomes uniformly damp, without containing an excess of moisture in any part.

Dar Es Salaam. An important center in East Africa which gives its name to goatskins from Tanzania. The goatskins are fine-grained flint-dried skins, weighing about 55 kg. per 100 and yielding 4.5 to 5 square meters of leather. The takeoff and trim are fairly good but skins are frequently damaged by scratches and insect bites. Usually sold in bales of 100 kg. weight.

Darbhingas. The best kind of cowhides from western Bihar of India. They are air-dried, of good texture, well shaped, clean as regards flesh and grain, and sometimes procurable in the framed condition.

Dash Leather. Term used to describe a patent leather finish on a cowhide split.

Daub. Varnish made from linseed oil, Prussian blue, and lampblack which is used in ground coats in the manufacture of patent leather. The daub coat is generally the first coat applied.

Deacon. North American term for the skin of a newborn calf.

Deccan Goatskins. Goatskins from India which derive their name from the district in which they originate.

Deccans. *See* Hyderabads.

Deep Buff. North American term for the first split of a hide under the top grain, hand buff or machine buff. Deep buff is normally used for upholstery and should leave no traces of grain. Tables show two methods of splitting hides:

Hair side		Hair side
Buffing		
Machine buff	Top grain or hand buff	
Deep buff	Deep buff	
Split	Split	
Slab	Slab	
Flesh side		Flesh side

Deerskin. A leather finished with grain surface intact; not removed as in the case of buckskin.

Defective Unit. A unit that fails to conform to one or more of the visual, dimensional, or tactile requirements.

Degrained Leather. Genuine suedes finished on the flesh side of the skins. The grain is wholly or partially

removed after tanning, by splitting or abrasion. (*See* Flesher.)

Degras, Moellon. Uncombined fish oil pressed out of sheepskin splits in the manufacture of chamois leather. As oiled skins are exposed to air oxidation in this process, the uncombined oil pressed out is also oxidized and thereby gets the valuable property of easy emulsification. Because of this property, degreas is much used in leather manufacture for fat-liquoring and currying; so much so that it is now also artificially manufactured by oxidizing cod or fish oil by blowing steam and air into it. The type of cod oil used in chamoising on the continent of Europe remains more or less liquid in the oil-tanned chamois leather and, therefore, can be easily pressed out. This, when compounded, forms the moellon degreas of commerce.

Degreasing. Removal of the excess grease from pigskins, sheepskins, etc., by drumming stock in a liquor containing kerosene and salt, gasoline, or similar substances, before tanning. Patent leather is frequently degreased by drumming the dry leather in naphtha after tanning and before applying the finishing coats. The residual grease recovered through degreasing operations is often refined and used as a tanning oil.

Degree of Tannage. Number of parts of fixed tan per 100 parts of hide substance.

Delhi-Agras. A variety of goatskins which come from the Ganges and Jumma Rivers in India. These skins, which are also called North-Westerns, are medium grained, wet salted, and dry salted.

Deliming. A tannery operation in which lime remaining in hides or skins after the unhairing operation is removed by washing or by treatment of the limed hide or skin with deliming chemicals. (*See also* Unhairing.) Some of the excess lime is removed at this stage by washing the stock in cold water for about 40 minutes. In some cases it is also neutralized by an acid wash. The hides and skins are then in condition for bating (*See* Bating), which is a separate and highly important operation.

Depliation. The process of loosening the hair on hides and skins to permit its removal without damage to the stock.

Deplating Action. Any action which tends to loosen the hair and epidermis.

Dermatitis. A disease of the derma or true skin occasionally accompanied by intense irritation. It can be caused by contact with chrome liquors, formaldehyde, or mineral oils.

Dermis. (Derma) The true skin or that part from which leather is produced. Also called 'Corium.'

Deshis. Cowhides from the central and western parts of the Province of Bengal in India. These hides are cured by dry salting and are somewhat smaller than the Daccas. The pelt is not so plump and substantial, and is not so thickly plastered as the Daccas. Also known as Meherpore Cured.

Detanning. Extracting vegetable-tanning materials by means of borax or soda to prepare skins for retanning with

another agent, such as chrome. Also, the process of removing tan from scrap leather to make glue.

Detergent. Any chemical, compound, or other substance which serves to cleanse skin, such as soaps.

Dew Claws. Claws which are rudimentary vestiges of fingers on the leg of an animal.

Dextrin. A gummy substance obtained by a process of hydrolyzing starch in the presence of a small amount of acid. Different starches yield dextrins of characteristic properties. Common dextrin is made of cornstarch. Dextrin is used by the tanning industry in leather finishes and sometimes as a filler for certain kinds of leather.

Dhawa or Dhaura. Tanning material obtained from the twigs and leaves of the Combretaceae tree. Average tanning content of the leaves is about 35% while a mixture consisting of young leaves and twigs mostly broken, called dhawa (sumac) has a tan content of 30.5%. The leaves have a good bleaching action, almost approaching that of Italian sumac.

Dipped Dressed. A term used in currying to describe leather which has been impregnated by immersion in hot grease.

Divi-Divi. Tanning material obtained from the dried pods of the divi-divi tree (*Caesalpinia coriaria*). The tan content of the pods varies from 28 to 41%. It is usually employed in combination with other tanstuffs, chiefly as a substitute for gambir and valonia. The leather produced is of light yellowish tint. The world's supply of divi-divi comes chiefly from Colombia, Venezuela, Jamaica and, to a small extent, India.

Doeskin. In the glove trade, a very supple leather, usually white or cream but sometimes dyed, with a fine suede finish, from lamb or sheep flesh split and tanned by formaldehyde, oil, or formaldehyde-alum processes. In the Netherlands this leather may also be made from calf split.

Dongola. Heavy combination-tanned goat, sheep, or kangaroo skin which originated in Dongola, a province in northeast Africa. The term is not commonly used in modern practice.

Dope Split. A split leather which is tanned and finished with daub coats and then embossed.

Doped. See Pigment Finish.

Drawn Grain. A condition in which the grain of leather is shrunken, shriveled, or wrinkled.

Drawn Grained. A grain showing an irregular pattern of creases or narrow grooves, produced by tanning the skin so that the main thickness has contracted relative to the grain layer, which is then fixed in a puckered or "drawn together" condition. Identical to shrunken grain.

Drench Pit. The pit in which wheat bran is allowed to ferment and in which the hides are subsequently handled for delimiting.

Drenching (or Bating). The process of employing ammonium salts to a hide in order to reduce the pH and to provide a favorable medium for the action of pancreatic proteases. The enzymes added digest the extraneous proteins, which are capable of supporting putrefaction and do not contribute to the final leather product. The products of this enzyme action are then removed by thorough

washing. Simply, the process of delimiting with fermented wheat bran. (See Bating and Branning.)

Dressed Completely. Hides that have undergone brine curing, either agitated or still. Hides start the process containing 65-70% water and 30-35% hide but end the process at 10-15% salt, 40-50% water, and 35-50% hide substance by weight.

Dressed Leather. Leather which has been processed (other than by oiling and rolling in the case of sole leather) beyond the simply tanned or crust state and which may or may not be ready for use. In Germany "zugerichtetes leder" is in every case ready for use.

Dressing. A general term for the series of processes employed to convert certain rough-tanned hides and/or crust leather into dressed leather. These special finishes render the leather more flexible or waterproof or impart some special quality found in the same leather finished by usual methods.

Dressing Hide. Unsplit rough-tanned cattle hide, vegetable tanned in a manner giving good tensile strength and a mellow feel. Suitable for use as harnesses and straps. Mainly produced in the United Kingdom and Spain.

Dried Completely Hides or Skins. A hide stored on pallets under a roof for 24 hours. Such hides will not lose more than 3 percent of its weight at the time of storage by evaporation of water.

Drop Black. A Bone Black that has been washed and ground. It is also made in the form of drops by mixing the pigment with glue and molding it.

Drum. A revolving cylindrical container for hides and skins, usually equipped inside with pegs for lifting the stock.

Drum-Head Leather. Parchment or raw hide from sheepskins or calfskins for musical drums. Drum skins are unsplit, limed and dried without applying any tannins, shaved or buffed smooth.

Drum Dyeing. The most commonly employed method of applying dyestuffs to leathers. In drum dyeing, the leather stock is placed in a drum, neutralized and then washed with warm water, to remove soluble salts. Then, the coloring matter is added to the drum, which is constantly revolving. The dyeing procedure is generally done at 140° F. and lasts from 1 to 3 hours.

Drumming. See Trimming.

Drumskin. Parchment or rawhide skin used as drumheads. These skins are stretched over either end of a drum, usually made from sheepskin and slunks.

Dry Chrome Bend. Flexible chrome-tanned sole leather bend which has not been impregnated with wax, grease, or similar agent; mostly used for sports shoes.

Dry Dip. A strong solution of vegetable-tan extracts in which dry sole leather is dipped preparatory to second bleaching and second oil wheeling to increase the firmness and solidity of the finished leather and to add weight.

Dry Loft. A loft in a tannery where dried leather is kept for crusting, and stored awaiting selection of subsequent treatment.

Dry Milling. Tumbling pressed leather in a revolving drum to open it up and remove creases.

Dry Pickling. A technique in parts of India and some other countries. Skins which have been pickled in the ordinary manner are dried out before shipping to save the trouble and expense of shipping them in casks of brine.

Dry Salted Hides. Hides which have been salted in the same manner as green salted hides, i.e., by covering them with salt on the flesh side and piling them up for curing (*see* Curing) but which are later spread out and allowed to dry in the shade or sun. It is used as a curing method in place of flint drying (*see* Drying) because the hides do not contract during the drying and are much more readily softened in the soaks prior to tanning.

Dry Salting. A modified form of dry curing. Salt is rubbed on the flesh sides of the hides and skins while they are green. Then the stock is dried in the way described under drying.

Dry Tunnel. A tunnel in which damp leather is placed for drying in a current of air, often under conditions of controlled temperature and relative humidity.

Drying. One of the simplest forms of curing hides and skins; is now chiefly used for goatskins coming from sections where other forms of cure would be difficult. (It is used chiefly where salt is not available.) The skins are dried spread out in the sunshine or in the shade with good ventilation, and are called flint dried when completely cured because of their hardness.

Dubbin (Dubbing). Mixture of cod or fish oil and tallow in suitable proportions for currying leather. More cod oil is used in the winter and slightly more tallow is used in the summer. (*See* Curried Leather.)

Dubbing. The process of rubbing in the dubbin.

Dusting. Spreading ground raw-vegetable-tanning materials over and between hides entering the layer vats to add to the tanning strength of the liquors; a common method before the days of concentrated tanning extracts.

Dye. A dye (or dyestuff) is most commonly an organic compound used to impart color to a substance. It may be used for the coloring of animal, vegetable, or synthetic fibers and similar products (such as wool, leather, fur, or cotton). Dyes may be soluble in water or may be made so by a simple chemical reaction. Insoluble coloring matters are called "pigments." Dyes may be classified in accordance with their chemical constitution (Nitro, Azo-Triphenylmethanes, etc.).

FRENCH-ENGLISH

Daim. *See* Buckskin.

Depouille. *See* Offal.

Dessous (Culr). *See* Bottom Leather.

Devant. *See* Doeskin.

Dosset. *See* Back.

Dosset (Cote ou Demi). *See* Half Back.

Double Tannage (Culr). In France, the name is applied to a coat or hide that, before the actual tanning process, has

undergone a process that has conferred upon it special properties.

Doublure Naturelle (Peau à). Russet-colored vegetable-tanned lining leather made from sheep, goat, calf-skin, etc.

SPANISH-ENGLISH

Defectuosa. *See* Defective Unit.

Delantero. *See* Front.

Delgada (Suela). Thin sole leather; sole with a thickness of 3.5 to 4.5 mm.

Descarne. Flesh split. Descarne is used mainly in Argentina as an equivalent.

Desechos. Rejects.

Desencalado. Unlimed.

Desfaldado (Cuero). *See* Back.

Desflorado (Piel or Cuero). *See* Buffed Leather.

Desflorado a Cuchillo (Piel o Cuero). *See* Frazed Leather.

Desflorado a Mano. *See* Hand Buffed and Buffed Leather.

Desflorado con Maquina de Dividir. *See* Machine Buff.

Desudadores de Sombrero (Cuero para). *See* Hat Leather.

Dividido (Piel or Cuero). *See* Grain Split and Split Hide.

Dobleche. Creases; faults which are the result of bad packing of the dry skin which damages the grain.

Dongola. *See* Glacé Kid. In Spanish-speaking countries, this does not apply to gloving leather. (*See* Cabritilla al Cromo.)

Doset. *See* Desfaldado.

Doset para Arneses. *See* Bellows Leather.

Doset para Guarnicionerfa. *See* Collar Back.

Dulce (Cuero seco). Sweet hide. A fresh hide exposed to air in the shade, without any preparation for preserving it.

ITALIAN-ENGLISH

Dalno. *See* Buckskin.

Dorsale. *See* Back.

Dorsale per Collari. *See* Collar Back.

Dorsale per Redini. Rein Back.

GERMAN-ENGLISH

Danisch. *See* Suede.

Doppel-Croupon. *See* Butt.

Doppelhecht. *See* Back.

PORTUGUESE-ENGLISH

Descarne or Descarnado. *See* Fleshing.

HINDI-ENGLISH

(Also other Indian Languages)

Damar Ka Dag. Tar marks on a hide or skin.

Dhed, Dhedh. An alternative name for chomar in certain parts of India.

Dhore. An alternative for chomar in Madhya Pradesh.

Dole. A small bucket made of partially tanned hides, used for drawing water from wells.

E

E.I. An abbreviation of "East India." A descriptive term applied to crust, vegetable-tanned cowhide (kip), buffalo hide, and calf, sheep, and goatskin, originating in the Indian subcontinent and tanned in India, mainly in the south, and especially around Madras. Most of these hides are mainly exported to England where they are usually dressed for russet lining, box-side leather, bag leather, and a variety of other purposes.

Ear Butts. The base of the animal ear where it is attached to the head.

Earthy on the Flesh Side. Hides and skins plastered with earth matter on the flesh side.

East India Goatskins. A general classification including several types of goatskins from East India.

East India Kips. Skins from fully grown buffaloes, kips because of their size.

East London Goatskins. Goatskins from South Africa which derive their name from the district in which they originate. The takeoff is generally good.

Edge. The full edge of the shoe sole running around the forepart of the sole from shank to shank. A loose-fibered soft sole will not hold its edge shape well, while a tight-fibered, well-tanned sole will withstand much rough treatment. The life of the original sharp sole edge is enhanced by proper finishing treatment regardless of the quality of the sole itself.

Egg Albumen. The dried whites of the chicken eggs. It is absolutely free of coloring matter or iron and is used extensively for finishing leathers.

Egg Yolk. Commercial egg yolk is made from whole, deshelled chicken eggs and includes both white and the yolk of the egg, to which some preservative, usually salt, has been added. It is used in the tanning industry for fat liquoring and, where the presence of salt in the fat liquor is undesirable, salt-free egg yolk containing a very small amount of a more powerful preservative is used. A third material is known as thick egg yolk—ordinary egg yolk which has been aged. A fourth is concentrated egg yolk, which is a blend of pure egg yolk and pure oils designed to be a perfect fat liquor in itself. Tanners of colored chrome upper leathers have found that the addition of egg yolk to the fat liquor results in a tighter leather of clearer color and a finer break. Loose flanks result from the complete penetration of the leather by the fat. When the grain receives too much fat it loses its brilliancy of color and the fibers become loose. The addition of egg yolk causes the fat to be taken up preferentially from the flesh side, leaving the grain clear and tight. (*See also* Fat Liquoring and Tanning.)

Egyptian Goatskins. Goatskins from Africa which derive their name from the district in which they originate.

Elastic Gusset. A triangular flexible piece of material inserted in a garment to enlarge or strengthen it, such as the side pieces for extension in purses and bellows.

Elasticized Materials. Elastic goring, used for many years in panels, inserts, etc., and upper leather and fabrics,

backed with "elasticized" fabric, are the two distinct classifications of "elasticized materials."

The backing fabric is woven on special looms of elastic rubber strands and cotton yarn. The elastic strands provide the desired resiliency in the fabric and the special looms ensure an even, smooth weave and an even stretch and "return" to the finished fabric. Unless this backing material has been properly woven the shoe upper material of which it is a part will not produce satisfactory results.

Although both leather and fabric are combined with elasticized backing fabric, the former presents a more difficult problem for the maker of the material and the shoe manufacturer, because of lack of uniformity of stretch in the leather.

Light- to medium-weight skins must be selected for "elasticizing" so that the natural stretch of the leather may be secured in the greatest degree. This is the principal reason why crushed kid and calf are widely used for "elasticizing," as these have a greater stretch than leathers with common smooth finishes.

The method of bonding the backing material to either leather or fabric is essentially the same, except that a lighter weight backing cloth and a thinner bonding material are more usually employed for leather because it has a three-way stretch: (a) from right foreleg to left hindleg of the skin (b) diagonal across the skin in the opposite direction, and (c) from flank to flank directly across the skin.

This three-way stretch permits the shoe cutter to take his cuts from any of three directions for firm uppers, instead of restricting him to two as in cutting regular materials. He will take his cuts so that the most uniform stretch will be obtained, but he must not "tip" his patterns so that the upper part has too much or too little stretch.

Special attention in the fitting room is also required for elasticized materials, and in the lasting room great care must be used by the pullers because the elasticized uppers will "give" more than those of other materials and too much pull will drag them out of shape, making proper fitting impossible.

Elastin. The yellow connective tissues of the skin which furnish structural support for the blood vessels and thermostat mechanism. Elastin is obtained when elastic tissue is boiled in water. It is a protein of skin.

Elbow Flaying. Flaying using the elbow instead of the knife. Generally used in rural areas of the less developed countries.

Electrified Lambskins (Shearlings). Term applied to dyed and processed sheepskin shearlings finished to resemble furskins.

Electro-Coated Abrasive. Abrasive coated paper or cloth in which the abrasives are deposited in electrical fields created by voltages up to 100,000 volts. By this process, it is possible to direct the actions of the tiny sharp-pointed individual mineral particles. They are electrically compelled to stand up, push apart from neighboring particles,

and deposit themselves uniformly upright. The result is a fast-cutting and uniform abrasive paper of cloth which is used for numerous shoe and leather making operations.

Elk. A purely trade name which does not refer to the skin of an elk, or leather tanned from such skins. Such leather is known commercially as buckskin. The leather used and known as elk is a cattle hide shoe leather of a special tannage and finish. It is known as "elk leather," "elk sides," "smoked elk," and similar designations. It is chiefly used for work and sport shoes, and similar types of footwear because of its rugged appearance, wearing characteristics, and general suitability for such purposes.

Ellagitannin. A class of hydrolyzable tannins related to the gallotannins (from plant galls). They produce bloom on leather and occur in myrobalans, valonia, divi-divi, and a number of other well-known tanning materials.

Embas. A riding and hunting boot with a tongue of fur which originated in the 5th or 6th century B.C. The leg of the boot was turned down in a manner similar to that of the modern cuff-top boot.

Embossed Leather. Leather embossed or printed with a raised pattern either imitating or resembling the grain pattern of some animal, or being quite unrelated to a natural grain pattern.

Embossing. Producing a raised pattern by pressure upon the grain side of leather. The pattern may be on a plate or roller according to the type of embossing machine. The engraved embossing plate is mounted on a steam-heated chest in the machine.

Embossing Plates. Engraved metal plates used for embossing leather and other materials.

Emulsifying. Combining two liquids which are not mutually soluble, such as oil and water, into a homogeneous mixture.

Enameled Hide. Vegetable-tanned hide leather with a flexible, waterproof, multilayered coating on the grain, built up in a manner somewhat similar to that used for patent leather and given a pattern by embossing. In Italy this leather is generally chrome tanned.

Enamelling. The name applied to the process of repeatedly coating the grain side of leather with boiled linseed oil or cellulose varnish with intermediate drying by which shining uphoistery leather is made. The process is similar to japanning with the difference that the latter name is restricted to coating the flesh of the hides with the varnish. Enamelling is followed by graining or embossing, while "japanning," which produces patent leather, is kept plain.

Engle Leather. Leather derived from cattle hide, vegetable tanned, curried, and rolled hard.

English Welt. A mock welt shoe. (See Mock Welt.)

Enzyme Bates. Artificial bates which owe their activity to enzyme. Mostly the enzymes present in the pancreatic juice, namely trypsin and steapsin, are so utilized. They dissolve and remove some constituents of the hide.

Enzymes. A soluble, colloidal organic catalyst produced by a living organism. Trypsin, the most important

enzyme in leather manufacturing, comes chiefly from cattle pancreas and certain molds. Trypsin is the chief ingredient of Tryptic bates which are enzyme bating materials and of the enzyme dehairing process. Pureing and bating bacteria of natural bates act only through the enzymes which they form and contain.

Epidermis. The nonsensitive and nonvascular (containing no blood vessels) layer over the dermis. It is formed by dried and smooth cells mainly and by a transition layer which contains some soft cells. These layers are removed in the processes of liming or hair scraping (depilating).

Epsom Salt (magnesium sulfate). Clear, colorless, efflorescent crystals used in large quantities by the tanning industry. Epsom salt is used as a filling agent for sole and other heavy leathers, in the sour dip used in finishing sole leather, and in connection with some tanning materials to produce a light color. It produces a firm and solid condition in the leather.

Espadrillia. Plaited shoes of ancient origin, woven of hems, and still worn by the Basques. It is a type of shoe well suited for wear in the mountains, and like the moccasin, it yields to every movement of the foot.

Essential Oils. A group of volatile oils with characteristic odors. They have no greasiness and are unsaponifiable (with the exception of those containing organic ethers). They often have considerable antiseptic power and are used somewhat in making leather finishes. The most important, insofar as the tanning industry is concerned, is birch oil, which is used to give Russia calf its characteristic odor. Other essential oils are used when it is desired to impart a distinguishing odor to leather, such as sandalwood, benzoin, musk, and others.

European Goatskins. A general term which includes a number of types of goatskins from Europe.

European Sizes. The scale of measurements for European shoe sizes. It varies from that generally used in the United States. As the European scale is very rarely employed in the United States, it is not included in this work.

Extract. In the leather industry it denotes tanning extract. Extracts may be solid or liquid.

Extract, Sulphited. Extracts which have been treated with sulphites and bisulphites with or without any organic acid, so as to make them more soluble and of a better color.

Extracting. Drumming wrung sole leather from the layer vats with a concentrated vegetable-tan extract to incorporate into it as much vegetable tanning material as it will hold.

Extracting Drum. A large drum in which sole leather is placed after being taken from the tanning liquors, and in which it is treated with concentrated vegetable tanning extract.

Extremes. Country hides weighing from 23 to 45 pounds.

Eyelet Straps. Leather straps or flaps to cover the eyelets.

FRENCH-ENGLISH

(Cuir à l') **Eau**. Pinned Belly, Pinned Shoulder. In France, no distinction is made between these two types of leather

(Tanne à l') **Ecorce**. *See* Bark Tanned.

(Cuir) **Effleure**. *See* Frized Leather.

Effleurure. *See* Buffing.

(Croupon) **Egallé**. *See* Levelled Bend.

Elan. *See* Elk. In French-speaking areas "elan" refers to real elkskin only.

(Cuir à) **Empelgne**. *See* Elk. "Cuir à empeigne" refers only to cattle hide leather dressed to be pliable and water-proof and suitable for sports, work or casual footwear.

En Croute. *See* Crust Leather. Not to be confused with "croute" (Split).

(Cuir à) **Equipment**. *See* Cloak Hide.

(Croupon à) **Etrivleres**. *See* Stirrup Butt.

(Cuir) **Exotique**. In France and Germany, bottom leather produced from overseas cattle hides of animals living in the wild state.

Epaule. *See* Shoulder.

SPANISH-ENGLISH

(Cuero para) **Empelne Color Natural**. *See* Russet Calf.

(Cuero) **Encerado**. *See* Wax Finish.

(Cuero) or Piel) **Engrasado**. *See* Curried Leather.

(Cuero) **Engrasado para Botas**. *See* Memel.

(Cuero o Piel) **Engrasado por Inmersión**. *See* Dipped Dressed.

(Cuero) **Entero**. *See* Full.

(Cuero para) **Entresuelas**. *See* Insole Leather.

Espejo. *See* Shell.

Epidermis. *See* Epidermis. The epidermis is often called "cuticula."

ITALIAN-ENGLISH

Erbaroll or Erbarolo. Calfskins of all weights from calves which have been grass-fed. *See* Kip or Calf.

Esclusivamente. *See* Strap Butt.

GERMAN-ENGLISH

Echt Safflan. *See* Hard Grain Goat.

Echt-Samisch. *See* Full Oil. Generally "samischagerbung" is used instead of *echt-samisch*.

Egallierter Croupon. *See* Levelled Bend.

Eichenloh-Gegerbtes Leder. *See* Oak-Tanned Leather.

Eingebranntes Leder. *See* Dipped Dressed.

Elchleder or Elkleder. *See* Elk.

Emalleleder. *See* Enameled Hide.

Endzurichtung. *See* Finished.

F

Face. A portion of a cattle hide covering the head between the two cheeks, or leather made from these sections of hide. In the Netherlands, no differentiation is made between "Face" and "Cheek."

Facing Leather, or Facing Stocks. Light-weight leather generally used for facing seams and binding the edges of shoe uppers.

Factory Leather. Sole leather which is commonly used by shoe manufacturers. It is not quite so heavy, firm, and dense as that generally used by shoe repairmen, which is classified as finders' leather. (*See also Finders' Leather and Sole Leathers.*)

Fair Stitching. A row of stitches around the outsole margin of and visible on top of a shoe sole.

Fake. A soft or liquid wax used to obtain a high gloss on shoe bottoms.

Faking. Putting a high gloss on a shoe bottom with the use of soft or liquid waxes.

Fallen Hides. Hides taken from cattle which have died naturally as distinguished from those which have been slaughtered. There is a large proportion of fallen hides among Indian hides.

Fallen Stock. Stock which has been depleted from a swollen condition by bating or treatment with brine.

Faller Box. Box in which faller stock works.

Faller Stock. Hammering or pounding machine used for making chamois leather.

Falling. To deplete or remove the swelling of limed pelts by bating. (*See Bating.*)

Falling Solution. Saturated solution of sodium chloride, common table salt, used in pickling hides and skins for export in the pickled condition. It is called falling solution because the stock previously treated in pickling with a solution of salt and sulfuric acid falls or loses its swelling when treated with saturated brine. The process of removing the swelling of the pelts is known as "Depletion."

Falls. *See Gall Nuts.*

Fancy Leather. Term used to describe leathers made from many types of raw material and used for pocket books, handbags, card cases, and leather-covered specialties, as distinguished from shoe-upper leather, harness leather, sole leather, glove leather, etc. The largest proportion of this class of leather is embossed, decorated, or printed by stamping designs thereon by means of etched, engraved, or electrotyped plates or rollers. These designs may be an imitation of the natural or conventionalized grain of skins of different animals as well as of an artificial nature. (*See Forel, Grain Forel, Parchment.*)

Fancy Stitching. Ornamental stitching on a shoe upper, as distinguished from the various functional stitching operations of fitting the upper.

Fancy Trimming. Cutting the leather to give an artistic pattern.

Farina. Usually starch made from potato, used for various purposes in leather manufacture.

Farina Liquor. One-bath chrome liquor produced from bichromate and sulfuric acid reduced with farina. The liquor produces a plump leather.

Fast to Rubbing. Unchanged by rubbing either wet or dry.

Fat Ankles. Trade jargon for types of "comfort" shoes made with uppers especially fitted for large ankles. Sometimes applied to all heavier types of "comfort" shoes and similar footwear.

Fat Glands. Sebaceous glands situated on either side of a hair and connected to the follicle by a duct at its upper part. They contain oily matter or sebum consisting of lecithin, cholesterol, and in some cases high aliphatic alcohols.

Fat Tanned. Hide or skin which has been converted into leather by treatments involving the incorporation of soft animal fats which undergo chemical changes in contact with the fiber, leading to fixation of fatty matter. (*See Helvetia Leather.*)

Fat Wrinkles. Wrinkles due to fatty growths found on many immature cowhides and calfskins.

Fat Liquor. An emulsion of oils and greases with soap or sulfonated oils in which hides and skins are worked after tanning to lubricate the fibers, add flexibility to the leather, and increase its strength. A wide variety of oils, greases, and emulsifying agents are used for the purpose, and fat-liquoring processes vary according to the practices of individual tanners, but the purpose is the same in each case—to lubricate the fibers and improve the leather. (*See Tanning.*)

Fat Liquoring. *See Tanning.*

Fatty Acids. Any one of a series of saturated acids which occur in the natural fats and are fatlike. Of chief interest in the tanning industry are oleic, salmestic, and stearic acid.

Faults. Defects in hides, such as cuts and marks, due to branding, goading, vulture pecking, pox and tick, warble holes, and hair slips.

Fell. A hide, skin, or pelt.

Fellbeater. A packinghouse worker who removes the hide from a carcass over the areas from the tail to the hind legs.

Fellmonger. Person engaged in separating wool from sheepskin.

Fellmongering. To loosen wool on sheepskin and lambskin.

Ferrous Sulfate. Also known as iron vitriol, green copperas, and green vitriol. A hydrous compound of iron, sulfur and oxygen ($\text{Fe SO}_4 7\text{H}_2\text{O}$). It is a green crystalline salt, soluble in water and insoluble in alcohol. It is used by the leather industry in mordanting and finishing operations.

Fiber. A slender, threadlike structure. The corium of a hide or skin is made up of long protein fibers which consist of fine threadlike units or filaments called fibrils. *Fibroblasts* are special cells which spin these fibrils and are

responsible for the growth of hide fibers by repeated additions of fibrils. The hide and skin fibers are arranged into little groups of fiber bundles, which are interwoven in such manner that the greatest tensile strength results, yet the entire mass is supple and pliable. The fibers which are contained in manufactured products used for various shoe materials such as fiberboard and leatherboard are usually leather or plant fibers.

Fiberboard. A term loosely applied to cover a wide range of composition materials used extensively in making modern shoes. The term is properly used only when it describes a material made of fiber substances, such as hemp, flax, leather, or similar materials, together with other materials such as paper and a binder.

Fiber, Gelatinous. Fibers which have degraded into a horny state due to overheating.

Filler. Any substance which is capable of entering into the voids that exist between the fibers of leather and remain there. A substance which only adheres to the flesh and grain of a hide or skin is more properly termed a "weighting agent." Among the more important filling and weighting agents in use by the tanning industry are: extracts of vegetable tanning, paper mill waste effluent, barium chloride, barium sulfate, glucose, flour, and gum.

Filling. Introduction of conditioning substances into the leather to give weight and body.

Filter Candle. Filter apparatus usually cylindrical in shape and open at one end, made of unglazed porcelain. It sucks in the solution through its pores when the open end is attached to a water jet or a suction pump; used also in tannin analysis.

Finder. A person who deals in findings and finders' leather.

Finders' Leather. Very heavy, firm, dense vegetable-tanned sole leather used by shoe repairers.

Findings. The small parts of a shoe and numerous materials, other than leather, used in making shoes. Findings encompass materials such as nails, eyelets, and laces. Findings are generally sold to shoe repairmen by men known as finders.

Finish. The final process or processes in the manufacture of dressed leather which improve appearance, feel, durability, waterproofness, etc.

Finish, Dull, or Mat. A finish which leaves the grain of the leather full and free from glaze.

Finishing. The act of making completely tanned leather more attractive, serviceable, and durable. The finishing processes are generally those done at fat liquoring and drying. Finishing operations include bleaching, buffing, snuffing, glazing, rolling, smooth plating, brushing, embossing, and boarding. Finishing materials include shellac, algin, waxes, albumin, pigments, and dyes. (See Tanning, also specific operation or material in above-mentioned categories.)

Finishing (Leather). Making completely tanned leather more attractive, more serviceable, and of greater commercial value by various operations and finishing processes.

Finishing Materials. Leather-finishing materials are compounded by the tanner with solvents, driers, disinfectants, etc., or are received in compounds prepared by leather finish manufacturers. The formulas employed vary considerably and are far more numerous than the basic finishing materials.

Finishing Room. One of the major departments of a shoe factory or tanning plant. In the finishing room of a shoe factory the bottom of the outsole of a shoe is finished, lasts are pulled out of the shoe, sock linings or heel pads are inserted, the bottoms are branded, and various inspection or operations are performed, varying greatly with the type and grade of shoe being made.

Fire Dried. Hides cured by being stretched or tied on a frame and dried over a fire. This method is used in the damper climates of India.

Fiset Wood, Young Fustic. The wood of a southern European tree of the *Rhus Cotinuss* family. The wood contains the yellow coloring principle "fisetin" $C_{15}H_{10}O_6$. The dyestuff occurs in quebracho wood to a small extent.

Fish Skins. Skins or outer covering of fish. Skins of the shark are growing in commercial importance. They are used in making fancy leather goods.

Fish-Tanned Skins. Tannage effected with fish oil.

Fitting. In shoemaking, the fitting together of the various parts of a shoe upper and lining, assembling the outside of the upper with the lining, and completing the whole upper. These operations are done in the stitching room.

Fixed Tannin. Tannin which is chemically fixed by protein. It is represented by the difference between 100 percent and the sum of the percentage of moisture, oils and fats, water soluble matter, hide substance, and insoluble ash in the final tanned product.

Fixing Agent. Chemical or mechanical agent that holds the mordants, dyes, pigments, or free vegetable tannins on the leather fibers.

Flacclid. The soft, fallen, flabby condition produced in pelts by the puring and bating process; depleted condition with entire absence of plumpness or rubberiness.

Flank. Side of an animal between the ribs and the hip.

Flank Skins. Skins running thin along the belly and producing a flat open grain in the leather.

Flaxseed Mucilage. A mucilaginous material produced by extracting ripe flaxseed with boiling water and straining.

Flaying. The special term used to describe the skinning operation performed by skilled workmen as a part of procedure for bovine hides and skins. Flaying is also called trimming.

Fleece. Woolly covering of a sheep or similar animal.

Flesh Hides. Defective hides in which a lot of flesh has been left with a view of increasing weight.

Flesh Side. Side of the hide where the flesh as opposed to the hairy or grain side.

Flesh Split. The inner or under layer of a hide or skin, separated from it by the splitting machine or leather made from that part of the hide. (See Split.)

Flesher. Term used to describe a suede-finished flesh-

side or undercut flesh split of a lamb or sheepskin split, before tanning. (See Chamois.)

Fleshing. Removal of any adipose tissue on the flesh side of the skins usually done after they have been limed. A special knife is used for hard fleshing but the process is mostly carried out by means of a fleshing machine.

Fleshing Beam. Convex sloping platform used as a rest for the hides and skins during the operation of fleshing. It is usually made of stone or wood and is inclined at an angle of about 45° with the floor.

Fleshing Knife. A flat curved piece of steel with knife edges 9 to 11.5 cm. (3.5 to 4.5 inches) apart, used for hand fleshing of hides.

Fleshing Machine. A machine comprised of a roller with sharp spiral blades used for fleshing hides and skins.

Fleshings. Bits of flesh removed from the hide by cutting or scraping in the fleshing operation. Those removed from the raw hides are called "raw fleshing" and those removed from the limed hides are known as "limed fleshing." Both kinds are used for glue manufacture and are generally called "glue stock."

Flexible Bend. Sole leather bend so tanned and finished as to be pliable and supple; sometimes buffed on the grain and flesh side.

Flexible Split. Pliable, supple bottom leather made from the flesh split of a cattlehide. In France, this leather is also made from the split of a horse hide.

Flint Drying. See Air-Dried Hides.

Flints. Air-dried hides.

Floater. A handler pit in which no solid tanning material is used in laying the hides in the liquor.

Fluorol. See Sodium Fluoride.

Flying Grain. A very thin grain split from a sheepskin.

Foalskin. Skin of a colt or filly.

Folding. Also called pressing. Turning over the edge of a shoe part to form a finished edge. The operation is performed by hand or machine. The edge is first skived (See also Skiving) and a thin coat of quick-drying cement is applied to the bevel. Corners and sharp curves are nicked to permit the continuation of the fold without bulkiness. Hand folding is done by skilled operators who fold over the edge and beat it with a hammer to insure complete adhesion and to flatten the edge. Machine folding is done by two types of machines. The first is made with a template matching the shape of the part to be folded; the edge is folded and pressed together by the action of the template. The second type of machine folds and presses the edge in a continuous operation as it is fed through rolls by a skilled operator.

Follicle. The pocket or indentation of the skin surface in which the hair grows.

Follicular Mange. A hide defect which results when mange mites make their entrance through the hair follicle through the skin. The disease is hard to detect unless it is an advanced state. It usually is not identified by hide inspection, but may be observed in the tannery when the leather is split into layers.

Football Leather. Leather for covering footballs. Traditionally of pigskin, but generally today made of

embossed or printed cattlehide leather and sometimes of sheepskin.

Fore End. A strip of leather of convenient width cut from the fore end of a bend. (See Range.)

Forel. A grade of parchment made from sheep flesh and having special properties of surface, color, and so forth, rendering it suitable for bookbinding and other luxury uses. (See Grain Forel.)

Formaldehyde. A colorless gas, CH₂O, with a sharp odor, formed by the partial combustion of methanol and in other ways. It is a preservative and disinfectant, and preparations of it, mostly aqueous solutions, are sold under various trademarks, as Formalin, Formol.

Formaldehyde Tanned. Hides and skins converted into leather by treatment with Formaldehyde (formalin). (See Aldehyde Leather, Combination Tanned, Doeskin, Formaldehyde.) The aqueous solution of CH₂O is clear, colorless, and poisonous.

Formalin. A 40-percent solution of formaldehyde, a tanning agent, often used as a hardening agent for casein in leather finishes.

Formalite. See Formaldehyde.

Formic Acid. An organic liquid acid which is a compound of hydrogen, carbon, and oxygen (HCOOH). It is colorless, has a pungent odor, and is dangerously caustic and corrosive. Formic acid is used in formates, dyeing and finishing of textiles and leather, and in tanning.

Formic Aldehyde. See Formaldehyde.

Formol. See Formaldehyde.

Foxing. The back part of a shoe upper from shank to heel.

Foxskins. Skins of foxes valued for their fur.

Frame Drying. A process of drying hides whereby they are stretched on a frame in the sun. The strength is more lengthwise than breadthwise. Hides are dried this way in the less technologically advanced and the drier regions of the world.

French Antelope Lambskins. Tanned in France. French, Spanish, Algerian, and Balkan skins with a lustrous suede finish; in the United States French Antelope Finish is applied to suede leathers made from South American and New Zealand pickled lambskins.

French Cording. Finishing the top edge of a shoe upper with a narrow fabric binding. A common type of bound edge is made by folding and stitching in place a narrow strip of fabric over the top edge of the upper after the lining has been stitched in. The full face of the binding (about half the full width) is visible on the outside and inside of the upper edge.

French cording is a more difficult form of binding and produces a very attractive edge. The binding is faced on the outside of the upper, before the lining has been stitched in, and is stitched close to the top edge. It is then folded over the upper edge and cemented to the underside of the upper, after which the outside and lining are top stitched together; the lining is trimmed and the edge is finished with a fine cord of fabric.

French Kid or French Finish. Leather tanned from kidskin by an alum or vegetable process. In the glove trade,

it is usually called "Real Kid." As the name implies, the original "French Kid" was made in France and since it was a distinctive finish, the term was later applied to the same kind of leather made in other countries.

French Morocco. Misleading name for leather similar in appearance to Morocco but made from sheepskins. Use of this term should be discouraged.

Fresh Hides. Undressed, uncured hides taken directly from an animal's carcass.

Frigorifico Method of Curing. The curing process developed by Argentine meat packers. The animals are bathed thoroughly before slaughter, and after flaying, they are again washed very thoroughly in water. The hair side is scraped under a spray and the flesh side is brushed and surplus flesh is cut away. The hides are then soaked for 48 hours in a brine pickle, drained, and then salted down in much the same manner as the green salted method. (See Curing.)

In areas where agitated brine curing is used, the hides are allowed to stay in the brine solution for 24 hours and then drained. Agitated brine curing is predominately used for unfleshed hides, and pit or still brine curing is generally employed for curing fleshed hides.

Fringed Tongue. See Tongue.

Frized Leather or Frizing. (See Mocha.)

Frog Leather. Leather made from the skins of a species of giant frog found in Brazil. It has a distinctive grain and pattern, resembling the skins of domestic frogs. It is used as a women's shoe upper leather, trim, etc., in limited quantities. If stimulated by embossing and printing on other leathers, such simulations should be described as frog grained leather.

Front. The forepart of a raw cattle or horse hide. When applied to a cattle hide, it consists of the shoulders and fore-shanks. When applied to a horse hide, it consists of approximately two-thirds of the hide forepart. Also, leather made from this section of hide. In Italy, the term is applied only to cattle hides when tanned. In Spain and the United Kingdom the term is used only in referring to horse hides.

Front Gore. See Goring.

Fudging. Wheeling the edge of a shoe sole in imitation of Goodyear welt stitching.

Full. Indicates leather made from the unsplit, or full thickness of, hide or skin, e.g., full sheep. These terms are used extensively in the United Kingdom and Europe. (See Basil, Roan, Skiver, Split Hide.)

Full Chrome (Tanned). The adjective "full" is sometimes added to "chrome tanned" to emphasize that the leather has not been tanned by the semi-chrome or combination chrome processes.

Full Grain: Full Top Grain. First cut taken from the hair side of the hide from which nothing except the hair and associated epidermis has been removed and which is of sufficient weight to make it suitable for upholstery purposes. Scars, scratches, or other imperfections may be lightly buffed or corrected, but the total area so affected shall not exceed 5 percent of the total surface of the hide.

Generally, this leather has undergone no buffing, snuffing, or splitting.

Full Oil (Tanned). The adjective "full" is sometimes added to the term "oil tanned" to emphasize that the leather has not been tanned by the combination oil process.

Fur. Skins of wild animals, covered with short fine hair, which are tanned or dressed for garments.

Fur Finished Shearling. Tanned and dressed sheepskin, bearing short or medium length wool, which has been treated by a process to straighten and brighten the wool. (See Shearling.)

Fur Tanning. Process of tanning or dressing furs, different from the process of tanning other varieties of leather in that liming and deliming are omitted.

Furniture Leather. See Upholstery Leather.

Fustic. A yellow dye obtained from the wood of the *Chlorophora tinctoria*, a tree of tropical America known also as Cuba wood and yellow Brazil wood. The dyestuff is extracted by leaching and is sold to the tanner as a fluid or solid extract. This dye is usually used with chromium, tin, or aluminum mordants. Fustic is the same type of mordant as logwood.

FRENCH-ENGLISH

Finissage. See Finish.

Flanc. See Belly.

Flanc à l'Eau. See Pinned Belly.

Flanc Scié. See Belly Grain.

Fleur. See Grain.

(Pleine) **Fleur.** See Full Grain.

Fleur Corrigée. See Corrected Grain.

Fleur Refendue. See Grain Split.

Fleur (Couche) Superficielle. See Grain Layer.

Fleurs. See Skiver. Generally, "scié" is used instead of fleurs.

(Cuir) **Flexible.** In France, Germany, and Spain, bottom leather which is very soft and supple and is suited for sewing. In Germany, it is called flexibelvache; in Spain, it is called cuero flexible.

(Croupon) **Flexible.** See Flexible Bend.

(Croute) **Flexible.** See Flexible Split.

(Tannage au) **Formaldéhyde.** See Formaldehyde Tanned.

(Cuir pour) **Fouet de Chasse.** See Picking Band Leather.

Fronton. See Face.

SPANISH-ENGLISH

(Medio Crupón para) **Fabricación de Calzado.** See Manufacturing Bend.

Falda. See Belly.

Falda Cilíndrica. See Pinned Belly.

Falda Dividida. *See* Belly Grain.
Falda para Viras. *See* Welting Leather.
Fierros. Branding irons.
Flexible. A word meaning "flexible" used in terms such as "cuero flexible" and "medio crupin flexible."
Flor. *See* Buffing.
Flor Aserrada. *See* Buffing.
Flor Corregida. *See* Corrected Grain.
Flor Crispada. *See* Shrunken Grain Leather.
(Cuero de) Flor Intacta. Leather which maintains the original grain layer.
(Cuero de) Flor Lastimada. Damaged grain; any defect in the grain caused by a disease of the skin or by parasites.
(Cuero de) Flor Lisa. Leather on which the grain has been wrinkled or engraved.
Flor de las Indias. *See* Skiver.
Flor de Piel Cabría. *See* Goat Skiver.
Flor de Piel Lanar. *See* Skiver.
(Cuero de) Flor Raspada. Leather whose grain layer has been strongly scraped.
Flor Subida. (Rugosa or Aspera). *See* Pebbled Grain.
(Piel de) Foca. *See* Pin Seal.
Fondos de Calzado. *See* Bottom Leather. In Spain and most Spanish-speaking countries the following types are considered bottom leather: cuero para viras; cuero para suelas; cuero para entresuelas; falda para viras; cuero flexible; cuero para medias suelas; palmilla plantillas; serrajes.
Forro Carnaza. A high-quality thin cowhide of El Salvador used for linings of shoes.
Forro Color Natural. *See* Russet.
(Cuero or Piel) Fresco. Skin recently removed from the slaughtered animal which has no preparation or preservation applied. Washing is not considered a preparation.
Frigorífico. *See* Frigorífico Method of Curing. A brine cure process using frigorífico method is a "frigorífico."
(Cuero para) Fuelles. *See* Bellows Leather.
Fuenteados. That defect which is caused in the skinning and in some operations of tanning, when some portions of the hide on the side of flesh are separated in several parts and in an irregular form, leaving only the grain.

ITALIAN-ENGLISH

Fianco. *See* Belly.
Fianco Cilindrato. *See* Pinned Belly.
Fianco Fiore. *See* Belly Grain.
Fianco per Guardolo. *See* Welting Leather.
Finito all' Anilina. *See* Aniline Stained.
Finto Castoro. *See* Beaver Lamb.
Fiore. *See* Grain.
Fiore Corretto. *See* Corrected Grain.
Fiore di Capra. *See* Goat Skiver.
Fiore di Meticcio Delle Indie. *See* Skiver.

Fiore di Pelle Ovina. *See* Skiver.
Fiore Intero. *See* Full Grain.
Fiore Pergamentino. *See* Grain Forel.
Fiore Raggrinzito. *See* Drawn Grain.
Fiore Spaccato. *See* Grain Split.
Fodere Naturall. *See* Russet.
Frassame. *See* Offal.
Frontale. *See* Face.

GERMAN-ENGLISH

Fabrkatonsvache. In Germany, bottom leather produced by modern tanning methods, not necessarily vegetable, and used in the manufacture of new footwear.
Fabrikatonsvache-Croupon. *See* Manufacturing Bend.
Fahlfutterleder. *See* Russet.
Fell. *See* Skin.
Fensterleder. *See* Wash Leather. Generally, "waschleder" is used instead of "fensterleder."
Fettgerbung. *See* Fat Tanned.
Fétzrichtung. *See* Curried Leather.
Flanke. *See* Belly.
Flankenmittelstück. *See* Belly Middle.
Fleischspalt. *See* Flesh Split.
Fleurs. *See* Skiver. Generally, skiver is used instead of fleurs.
Flexibelpoupon. *See* Flexible Bend.
Flexibelspalt. *See* Flexible Split.
Flexibelvache. *See* (Cuir) Flexible, Fr.
Follenleder. In France and Germany, leather covered with a sheet of a film of plastic or other artificial material which gives it the appearance of patent leather. The French term, "cuir plaque" or "croute plaque" must be accompanied by the word indicating the nature of the material used, e.g., vinyl, polyester, etc.
Formaldehygerbung. Formaldehyde tanned.

PORTUGUESE-ENGLISH

(Couro) **Fresco.** Green, untanned hide.

HINDI-ENGLISH

(Also Other Indian Languages)

Firmas. Frame-dried hides. *See* Frame Drying.
Firtas. Hides which have been rejected and excluded from leather making. Rejections generally have too many visible signs of poor handling either while the animal is alive or after it has been slaughtered.
Formas. Frame-dried hides.

G

Gadfly. A fly (tropical biting fly), which pierces the skin of cattle and horses and sucks blood, which may lead to sores.

Gall Fly. An insect causing gall.

Gall Nuts, Falls, Oak Falls. They are the best known of the vegetable galls (abnormal accumulation of plant tissue caused through external parasitic influence) used for tanning, especially those which have been known in the trade as Mecca, Aleppo, or Turkish galls. They are considered to be derived from those trees of the Fagaceae family which grow in Asia Minor and eastern Mediterranean countries. The best gall is obtained before the insect escapes. The tannin content of the Turkish galls may vary between 36 and 58 percent. The aqueous extract is said to contain free gallic acid in addition to the tannin, and an easily soluble form of ellagic acid. The tannin is not homogenous and is stated to be built up as poly-galloyl-ellagic acid.

Gambal. The spreading piece used for suspending carcasses from hooks for flaying. Also called "gambrel" or "spreader."

Gambier. Extract from the leaves and twigs of a climbing shrub of the Rubiceae family which grows in Malaysia. The extract is used in tanning. It is put on the market in the form of small cubes and in blocks containing both "catechin" and "cutch." The former is called cube gambier and the latter block gambier. Gambier is valued in tanning as a mild or mellow tanning material.

Ganjams. Variety of cowhides, generally of poor quality and selection, obtainable from southern India.

Gas Lime. Slaked lime employed for removing carbon dioxide, carbon disulphide, and hydrogen sulphide from a gas.

Gas Meter Leather. Leather used for the diaphragms of gas meters, capable of being rendered air-tight by impregnation with oils.

Gasket Leather. See Harness Leather.

Gater. An instrument to pulverize by rubbing.

Gear Leather. See Harness Leather.

Gelatin. An organic colloidal substance made from animal bones, skins or hide fragments. Used in leather finishes to produce a tough film on the leather. Glue is an impure form of gelatin. (See also Glue.)

Gem Duck. A heavy duck fabric which is cemented with a latex adhesive to leather insoles, used in making most welt construction footwear.

Genuine. The word is used commercially in connection with many types of upper leather to designate the class of leather generally accepted by the trade as the standard for the type. It does not always signify the derivation of the leather from the skins of the animals named, although it may be so used. An example of the use of "genuine" to signify an acceptable trade definition may be found in the term "genuine Chamois." Chamois leather is not now made from the skin of the mountain goat bearing the same name, but from oil-tanned sheepskin. Leather described as

"genuine chamois" must be made from such sheepskin and by the specified tanning process.

Germicide. An agent which destroys germs or microorganisms.

Germantown Black. See Lampblack.

Gill Box Leather. A leather used in connection with textile machinery, similar to comber leather. (See Comber Leather.)

Glacé. On the Continent of Europe, especially in connection with gloving leathers, a brush dyed leather normally prepared by tanning with a mixture of alum, salt, flour, and egg yolk. In Spain and the United Kingdom a leather finished on the grain side with a bright, smooth, glossy or glasslike surface obtained, according to the type of leather, by glazing, ironing, or polishing. (See Glacé Goat, Glacé Kid, Gloving Kid.)

Glacé Goat. Leather made from goatskin finished as glacé kid with a smooth, glossy grain surface but semi-chrome or vegetable tanned. In Italy, this leather may be chrome tanned, synthetic tanned, or alum tanned.

Glacé Kid. Upper leather made from kid or goatskin by a full chrome tanning process and given a smooth, bright, glossy finish. When the term is applied to gloving leather, it is a synonym of gloving kid. (See Chevette.)

Glass Paper. Powdered glass glued on paper for abrasive purposes.

Glass Slicker. Glass plate with smoothed and rounded ends, set in a wooden holder for setting out and polishing leather by hand.

Glassing. Producing a bright finish on the grain by means of a glass slicker.

Glassing Jack. Glazing machine.

Glauber's Salt. The hydrated grade of sodium sulfate ($\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$) named for its discoverer, Johann Rudolf Glauber, a Bavarian alchemist of the 17th century. Glauber's salt is produced in large transparent crystals or as small needles similar to Epsom salt. It is used in some tanning operations, chiefly in certain unhairing methods, as a tannin fixative; in some processes of tanning white leathers, to raise the pH value of acid solutions (make them more basic).

Glazed Finish. High gloss given to leather after tanning by a roller of agate, glass, or steel under heavy pressure.

Glazed Kid. See Glacé Kid.

Glazing. The process of giving a glazed finish; producing a bright, glassy polish on finished light leathers by means of friction.

Glazing Glass. A roller made of glass used in the glazing machine.

Glazing Machine. A machine, fitted with glazing glass, used for polishing and glazing leather.

Grazing Roller. A solid cylindrical piece of glass, agate, or steel used in a glazing machine for polishing leather.

Glove. A cover for the hand having a separate sheath for each finger and thumb. Made in innumerable designs and

of a wide variety of materials, of which leather is one of the most popular.

Glove and Garment Leathers. Any type of leather used in the making of gloves or garments. Trade terminology often defines all leathers into loose classifications of show, upholstery, glove, garment, bag, harness leathers, etc. These broad classifications include many kinds of leather used for the same purpose and many kinds of leather may also be used for more than one purpose. Hence, the reader must bear in mind that glove and garment leathers are not types of leather, but a group of leathers suited to these purposes.

Numerous types of leather are used for making gloves and garments, though generally these are tanned and finished differently from shoe upper leathers and leathers used for other purposes.

Among the types of leather used for garments are cattle hide, kipskins, calfskins, sheep and lamb leathers, goat and kid leathers, horsehide leathers, and deerskin.

These same leathers are also used for gloves, with the addition of pigskin, napa leather, mocha leather, peccary leather, and carpincho leather.

All of these leathers will be found more fully described under their individual subject headings.

The use of leather for garments is older than for any other purpose, antedating probably by a long time the origin of leather footwear. Primitive man went barefoot, but the dwellers of Central Europe during the Stone Age, living in a climate of Siberian cold, trapped animals or killed them with primitive stone weapons, ate their flesh, and tanned their skins for clothing as protection from the endless cold.

Twenty thousand years before Christ, the skins of the Siberian rhinoceros, the reindeer, lemming, bear, and other animals of the period were tanned by primitive methods and fashioned into clothing. The skins were sewed together in styles that were purely functional and worn until they probably became encrusted with dirt and heavy with grease and human sweat, when they were replaced by the simple process of organizing another hunting expedition and family tailoring project. Today, leathers used for garments are far different; styles include the finest of evening dress, sport clothes, and even leather underwear. (Promotion of the latter just recently commenced.)

Glove Leather. Term covering two distinct classes: 1. The leather used for dress gloves, including those for street, riding, sports wear. Tanned predominately from sheepskins and lambskins and to a lesser degree from skins of deer, pig, goat, and kid; 2. The leather used for utilitarian work gloves, made of a variety of hides and skins, especially horsehides, cattlehide splits, calfskins, sheepskins, and pigskins.

Glove Splits. Split leathers used for work gloves. (See Split Leather.)

Gloving Kid. A soft grain gloving leather, of continental origin, capable of being considerably stretched without springing back. Made from kid skin and tawed with a mixture of alum, salt, flour, and egg yolk. Sometimes retanned with chrome salts. Sometimes called Glacé Kid.

In Spain, gloving kid is usually tanned with chrome salts. (See Glacé Kid.)

Glue. An impure form of gelatin which is made in the same manner as gelatin except that the raw stock is not as carefully selected or cleaned. Glue is used to some extent in leather finishes. (See also Gelatin.)

Glue Stock. The trimmings and fleshings taken from hides and skins before they are tanned are used for glue stock. Those from calfskins are used to make gelatin and those from heavy hides are used for glue. Very badly putrefied hides are also classed as glued stock or glue. (See also Gelatin and Glue.)

Glycerin. Also known as **glycerol**, **glycyl alcohol**, and **propenyl alcohol**. A clear sirupy, sweet liquid ($C_3H_5(OH)_3$). It is soluble in water and alcohol and insoluble in ether. It is used for many industrial purposes, among which are leather finishing and bleaching.

Goad Marks. Punctures on the butt of the hide caused by the use of a goad on the living animal. The damage is usually serious.

Goat Skiver. The tanned grain split of a goatskin.

Goatskin. The skin of a mature goat or leather made therefrom.

Gold Kid. See Gold and Silver Leather.

Gold and Silver Leather. Leather with a coating of gold, aluminum, other metal or alloy, in the form of leaf or foil, natural or, in the case of gold leather, tinted with solvent soluble dyes. Mainly produced from goat or kidskins or sheepskins.

Goldbeater's Skin. A material used by goldbeaters in hammering pieces of gold or alloy, in the form of leaf or foil. Presently goat or kidskins or sheepskins are used. Formally it was prepared from the outside membrane of large intestines of neat cattle (cattle of the oxen type).

Goran. Ashrub or small tree of the Rhizophoraceae family found on the east coast of India, Ceylon, and various parts of Malaysia. The bark (tannin content, 20 to 37 percent) and the leaves (tannin content, 9 to 15 percent) are important tanstuffs. The bark imparts a red color to the leather which can be avoided to a large extent by blending it with the barks of other shrubs or by decolorizing and bleaching.

Gore Panel. See Goring.

Goring. A woven fabric with rubber threads, so made that it forms an elastic material. It is used in footwear as an insert in numerous ways.

Goskinn. Veals. Swedish calfskins between a salted weight of 3.5 and 11 kilos from calves which have been fed on milk only.

Gothar or Bhander Kather. A wild tree of the Rhamnaceae family, the fruits and bark of which yield a vegetable tan material. The bark contains about 7 percent and the fruit 23 percent tannin. It produces a good leather but results in much mucilage.

Gouch. Flaying defect of hides caused by the removal of the substance of the hide, creating a depression or pit on the flesh side.

Gouge. A chisel with a hollow blade used for cutting grooves or holes.

Grain. Indicates the outer or hairside of hide or skin in cases where it is split into two or more thicknesses, or to unsplit skins which are finished on the grain side.

Grain Box. Square grain; grain characteristics produced when calf and side leather are boarded from neck to neck and from belly to belly.

Grain Forel. In Italy, Spain and the United Kingdom, a grade of parchment made from unsplit sheepskin and having special properties of surface, color, etc., rendering it suitable for bookbinding and fancy purposes. (See Forel, Parchment.)

Grain Lac. See Shellac.

Grain Layer. The top layer of the corium including the hair follicles. The individual fibers of this layer are finer than those in the rest of the corium.

Grain Leather. Leather which has the grain layer substantially intact and is finished on the grain side.

Grain Memel. Grain characteristics produced when calf and suede leathers are boarded diagonally.

Grain Pattern. See Grain.

Grain Quality. Quality of the grain, its smoothness and fineness and freedom from flaw, such as scratches, wrinkles, growth marks. This is one of the most important considerations in appraising the value of leather.

Grain Roller. Machine used to smooth the grain so as to bring out a full luster and a smooth feel.

Grain Side. See Grain Layer.

Grain Scratches. Damages caused on the grain by thorns, barbed wire, etc.

Grain Split. The outer (wool or hair) side layer of a hide or skin that has been split into two or more layers. (See Grain.)

Grained Leather. Any leather on which the original natural grain has been highlighted by a finishing process.

Graining. Working up the grain pattern by pushing or pulling a fold in the skin by means of a cork board which "grips or bites" that part of the skin with which it is in contact. The skins are also broken up and softened by the process. (See Boarding.)

Rainy Leather. Leather with too coarse a grain. Also, leather showing marbled grain.

Gramler. Type of surface crystalizer in which the sodium chloride, common table salt, crystals are raked to one end by a reciprocating mechanism, allowed to drain on an inclined table and get discharged.

Glasser. Calf or kipskin taken from animals that are poorly fed and possess coarser grain.

Grassers. Calfskins or kips which have a coarser grain due to poor animal feeding:

Grasskinn Grassers. Swedish calfskins up to 11 kilos, from calves which have eaten grass as the primary feed.

Green Copperas. See Ferrous Sulfate.

Green Fleshing. Fleshing in the raw state.

Green Hides. Hides which have not been salted, dried, or otherwise cured for preservation.

Green Hides and Skins. Freshly flayed hides and skins.

Green Pigments. The green pigments used by the leather industry consisting of pure green chrome oxides and chromium hydroxide. No other green pigments are

obtainable. There are three shades of pure green chrome oxide. These are prepared from bichromates by processes which produce light, medium, and dark shades. Chromium hydroxide is also obtained as a byproduct in the manufacture of saccharine and from this source, chrome green is also obtained.

Green Salting. See Curing.

Green Stiffness. An intensely swollen condition of hides and skins caused by very alkaline lime liquor. Hides and skins get very plumped and stiff and become almost transparent with a slight greenish hue.

Green Vitriol. See Ferrous Sulfate.

Green Weight. Weight of raw hides and skins, prior to any treatment.

Ground Drying. Sun drying of hides and skins for which they are stretched on the ground, flesh side uppermost, and either weighted down with stone or pegged to the ground through holes around the edges.

Ground Hair. Young hair which is growing and is, therefore, still small and thin, also called short hair. This does not become loose in liming as quickly as old hair does because its root is more firmly embedded in the skin and is not easily removed by the action of depilants.

Grub. Also called warble fly. The cause of extensive and widespread damaging of hides and skins. Two species of the grub fly infest animal hides, one of which lays several eggs in a row, while the other lays them singly. The eggs are laid on the animal's hair. A single fly is capable, during its life cycle, of hatching 200 to 500 eggs. The eggs are hatched in less than a week and the larvae travel down the hair and enter the animal's skin. Within a day or two, a small scab forms to close the opening through which they entered. In time, they burrow about in the skin and finally may escape through pores. If the animal is slaughtered before their escape or soon after, the hide will show "open grubs," sometimes very large. If escape has preceded slaughter long enough for the grub hole to heal, the hide will be scarred with "healed grubs."

Grub Allowance. An allowance for grub damage to hides, which is based on the average damage in 20 hides. The selected hides are spread on the floor and the purchaser's agent, using a spade, finds as many grubs as possible. When all the grubs have been found, to a limit of five, another hide is examined, and so on. If the first sampling is not satisfactory to either buyer or seller, another 20 hides are examined, and the allowance is based upon the 40 hides.

Grubby Hides. Hides full of warbles.

Grubs. Larvae of the warble or bot flies which damage the hides by puncturing holes along either side of the spinal line.

Gum Arabic. Also known as acacia. Yellowish-white to light-amber lumps obtained as a dried gummy exudation from the *Acacia senegal* and other species of the Leguminosae group. The plants are native to Africa, Arabia, Egypt, and India. The gum is soluble in water. It is used by the shoe and leather industry as an adhesive and in fat-liquoring emulsions and leather finishes.

Gum Lac. See Shellac.

Gum Tragacanth. Similar to gum arabic and obtained in similar form, though not from the same sources. It swells in water and is soluble in alkaline solutions and in aqueous hydrogen peroxide solutions. It is used in large quantities in the making of leather finishes.

Gum Tragasol. A gum obtained from the seeds of the locust bean. It is favored for some types of leather finishes because of its filling and binding power.

Gun Metal. Term used to describe a dull finish of the shade of gun metal on leather. Brighter than a mat finish. It is generally tanned in chrome or mixture tannin.

Gusset. A small tapering piece of leather inserted in some gloves and infrequently in some forms of footwear, to provide additional width or strength in the completed product.

Gypsum Stains. Marks caused by contact with calcium sulphate.

Gypsum Seam. *See* Seam.

Gypsum Vamp. *See* Vamp.

FRENCH-ENGLISH

Glacé. *See* Glacé.

Glacé au Plonger. In Spain and France, a drum-dyed grain leather softer than clothing nappa and without a pigmented finish.

(Cuir) **Grainé** *See* Embossed Leather. Generally cuir imprimé is used instead of cuir grainé.

(Cuir) **Gras.** *See* Impregnated Leather.

SPANISH-ENGLISH

Gamuza. *See* Chamois. For Colombia and Argentina, *see* Suede.

Gamuza de Cabra. *See* Chamois Goat.

Gamuza de Ciervo. *See* Buckskin.

Gamuza de Cuero Vacuno. *See* Buff Leather.

(Piel or Cuero) **Grabado.** *See* Embossed Leather.

(Piel or Cuero) **Graneado.** *See* Boarded Leather.

Graneado a Mano. *See* Boarded Leather; literal translation is hand boarded.

Guantería Lavable. *See* Wash Leather.

(Cuero para) **Guarniclones de Carda.** *See* Card Leather.

Guarnimentera. *See* Harness Leather.

Gamuzon. In El Salvador a calfskin used for shoe

manufacture. In other Spanish-speaking countries, *see* the Spanish Gamuza.

(Cuero para) **Guarniclones.** *See* Harness Leather. "Guarnimentera" is used more frequently than "cuero para guarniciones."

ITALIAN-ENGLISH

Grana Bicolore. *See* Antique Grain.

Grana Tonda. *See* Pebbled Grain.

Groppone. *See* Butt.

Groppone Equino. *See* Horse Butt.

Groppone per Cinghie Di Trasmissione. *See* Belting Butt.

Groppone per Staffili. *See* Stirrup Leather.

Groppone Scamosciato. *See* Suede Finish.

Groppone Smplicemente Conciato per Cinghie di Trasmissione. *See* Strap Butt.

Guanti. (Capretto per Guanti) *See* Gloving Kid.

Guardolo. (Fianço per Guardolo, Spalla per Guardolo, Striscia per Guardola.) *See* Welting Belly.

Guarnizione. *See* Vegetable Tanning.

Guarnizioni. (Cuolo per Guarnizioni) *See* Hydraulic Leather.

GERMAN-ENGLISH

Ganaleder. *See* Sole Leather.

Garnituren. *See* Offal.

Gasmessebeleder. *See* Gas Meter Leather.

Gedeckt. *See* Pigment Finished.

Gekrispelters Leder. *See* Boarded Leather.

Gerben. *See* Tanning.

Geschlirleder. *See* Harness Leather.

Geschliffenes Narbenleder. *See* Buffed Leather.

Glacé. *See* Glacé.

Glanzstoben. *See* Glazing.

Gold-Und Silberleder, Goldzickelleder. *See* Gold and Silver Leather.

HINDI-ENGLISH

(Also Other Indian Languages)

Goshap. *See* Lizard Skins.

H

Haematin, Hematein, Haematein. The color-giving principle of logwood is haematoxylin which, on oxidation produces haematein, the real coloring matter with which iron or titanium mordants produce bluish black; with copper mordants, a greenish-blue-colored leather. Haematin is also a name given to logwood extract by some manufacturers. Henol Hemoline is another name given to logwood by other manufacturers. (*See also* Logwood.)

Haematoxylin. Colorless crystalline compound occurring in logwood, and easily oxidizable to the dye hematein.

Hair. A slender threadlike outgrowth of an animal, made of dead cells which are completely cemented together. They grow out of tubes of epidermis sunk into the dermis, the hair follicles. Hair is composed of a cuticle on the outside, usually a medulla in the center and a cortex between the two. The color of the hair often determines its value. For example, black cow hair is less valuable than white cow hair. Hair taken from skins and hides in depilation is used extensively in the stuffing of furniture, making carpets, plastering, and various other industrial and commercial uses.

Hair Defects. Faults pertaining to hair.

Hair Line. The line that marks the variation of the growth of hair on the front and butt of a horse hide. This line crosses the hide about three-fourths of the way back from the head.

Hair Papillae. A projection from the dermis into the hair bulb through which nourishment is supplied to the growing hair.

Hair Pulp. The pulp to which the hair is reduced by strong solutions of sodium sulphide or alkali.

Hair Root. The portion of the hair which remains in the skin.

Hair Sheep. Type of sheep bearing hair instead of wool. The leather has a finer and firmer grain than that of a woolled sheep. *See* Bastard.

Hair Side. The side of the hide or skin on which the hair grows; the grain side.

Hair Slip. Slipping or loosening of the hair in hides or skins due to putrefaction. If the slip is not very bad, passable leather can be made but if advanced too far, the hide is useless to the tanner and can only be made into glue. Badly slipped hides are, therefore, often called "glue" or "glue stock."

Haitian Goatskins. Goatskins from the West Indies whose name is derived from Haiti, their place of origin. Haitian goatskins are fine grained and the takeoff runs from fair to poor. They are generally airdried.

Half Back. Part of a raw half cattle hide (or side) that remains after the removal of the belly. It corresponds in area to the croupon with half shoulder with or without the cheek. This same part of the raw hide without the cheek is called the back in North America. The term also applied to leather made from this section of hide.

Half Front. Half of the front part of the horse hide.

Half Hair and Up. The term denotes hides with hair of average or more than average length and thickness, and is a trade specification for the winter hides. Hides that are taken off and cured in the drier months are sounder than those cured during the rainier seasons. In many tropical countries, the dry season corresponds to the winter when the hair of the cattle is usually long thick and shiny.

Half Round. An old trade term describing a rounded-toe shoe, the shape and size of which corresponds to the half-circumference of a half-dollar.

Half Tanned Hides. Lightly vegetable-tanned hides manufactured and exported extensively from the Madras and Bombay sections of India. They are also called East India tanned kips and they consist mostly of cowhides and to some extent light buff hides. The term "half tanned" is in fact a misnomer.

Hand Boarded. *See* Boarded Leather.

Hand Buffed. *See* Buffed Leather.

Hand Buffs. Designation for the upholstery leather split which is the same as the top grain except that the surface has been slightly shaved.

Hand Crushed Leather. *See* Crushed Leather.

Hand Fleshings. Removal of flesh by a special type of hand knife from hides and skins. For this, the hide is spread over a beam with the flesh side up.

Hand Glazing. Glazing with a glass slicker by hand. The leather is spread over a table, grain side up, and is rubbed with the slicker to get a shine on the leather. *See* Glazing.

Hand Grained. Grain which has been raised or worked up by hand.

Hand Scudding. *See* Scudding.

Hand Seasoning. Hand application of seasoning solution with a soft bristly brush or plush pen on leather spread on a table, grain side up.

Hand Shaving. Scraping the flesh side of leather with a hand shaving knife to make the substance uniform and of desired thickness. (*See* Shaving.)

Hand Staking. Mechanical softening of leather by drawing it against a hand staker with considerable pressure so as to stretch and open up the fibers.

Hand Stock. Name for dry-salted goatskins in the American market.

Hand Stuffing. Incorporation, in the currying process, of grease into some varieties of vegetable-tanned leather by the application of suitable grease mixture, known as dubbin, with a hand brush to well set semimoist (tanned) leather.

Handbag Leather. Any leather used in making ladies' handbags. The most commonly used leathers for handbags are calf, patent, kid, goat, and sheep. Embossed grains and quilted leathers are frequently used, although grain and suede finishes are more common. Other light leathers are also used for handbags, including many fancy leathers.

Hankow Goatskins. Goatskins from southern China.

These skins are fine grained and short haired. They are relatively well taken off and free from defects.

Handler. One of the three liquors currently used in modern sole leather tannage. The three are: suspender liquors, handler liquors, and layers. The handlers are those which follow the suspender liquors. They are stronger than the suspender liquors. The hides are laid flat in the handler liquors. On alternate days, the hides are hauled from the pit and the liquor is strengthened. These liquors derive their name from this frequent handling.

Handler Vat. The vat in a tan yard containing the handler liquor.

Handling. Hauling the hides from and laying them down into the liquor of the handler pits.

Hard Grain Goat. Goatskin leather with a characteristic pinhead grain pattern, produced by hand boarding, after glazing, in a wet condition in at least four directions; vegetable tanned. In Germany, also combination tanned and especially sumac tanned.

Hard Toe Shoe. A shoe with an extra-hard box toe to protect the wearer.

Harness Leather. Harness leather is finished by stuffing it with oils and greases, blacking it, and then waterproofing it by dipping it into molten paraffin wax. After cooling, the excess wax is removed from the grain side and the leather is polished.

Hart. The stag or male deer.

Hartshorn Salt. Salt made from chippings or shavings of horns of harts, formerly the main source of ammonia.

Hasteners. Special preparations which are blended with other tanning materials to quicken the process of tanning. Also called Accelerations.

Hat Leather. Leather, usually sheepskin or calfskin, used for sweat bands in hats. Also called "hatband leather." In the United Kingdom, a type of hydraulic leather.

Head. That part of the hide which is cut off at the flare into the shoulder.

Head Splitting. Same as Cheeking.

Head Vat. The tanning vat in a series that contains the strongest tan liquor; usually the vat from which the stock is taken from a series after vegetable tanning.

Header. A packinghouse worker who specializes in the removal of the hide only from the head and face of the carcass.

Heat Test. A test applied to certain light-finished leathers and shearing skins, such as alum-, formaldehyde-, and oil-tanned skins. The test is made by placing a piece of the leather in water, applying heat, and noting the temperature at which the sample will curl or shrink.

Heated Hides. Hides in which putrefaction has set in. So-called because heat is generated during putrefaction and also because a rise in temperature hastens putrefaction. This is noticed from hair slips.

Heavy Leather. The term is self-explanatory. In commercial practice, it generally applies to leather tanned from heavy hides such as sole, belting, harness, and saddlery.

Heavy Native Cows. See Native Cows.

Heavy Native Steers. See Native Steers.

Heavy Texas Steers. See Texas Steers.

Heberlings. Goatskins from immature animals. The term is used in central, eastern, and southeastern Europe to describe the skins which are known elsewhere as chevrettes. See also Chevrettes.

Hedging. A transaction entered into for the purpose of minimizing a price risk or facilitating the customary or normal conduct of business.

Heel. The hind part of the human foot and the hind part for any covering of the foot; specifically in the shoe industry it refers to a solid part projecting downward from the hind part of the sole of a boot, shoe, or slipper. Heels are made of rubber, wood, leatherboard, and leather. Leather heels are made of built-up layers of sole leather, impregnated with an adhesive (usually a strong water-resisting glue) and molded under pressure into a solid piece.

Heel Base. The broad part of the heel which fits into the heel seat on the bottom of the shoe. See Heel Seat.

Heel Breast. The forward face of the heel.

Heel Burnishing. The operation whereby the previously inked and waxed built-up heel is polished to a hard finish.

Heel Cover. A covering of leather, celluloid, sheet plastic, or other material applied over wood heels.

Heel Pad. A pad of leather, imitation leather, felt, or other material covering the insole at the point where the heel of the foot rests.

Heel Seat. The top of the sole to which the heel is attached. The sole is out away around the heel line at this point, and is beveled to form a rounded top which fits into the concave cup of the heel base. Unless the heel base fits snugly to the heel seat, an insecure attachment is almost certain.

Heft. A tannery term denoting weight or thickness of leather.

Helper. A female bovine under 3 years of age, that has not produced a calf.

Helvetia Lace Leather. The same as Helvetia Leather.

Helvetia Leather. In Italy, Spain and the United Kingdom, a very tough, flexible, greasy, flat-tanned hide leather of yellow color, prepared with the aid of a mixture whose chief components are soft grease and flour, sometimes applied after a light alum pre-tannage.

Hemateln. See Haematin.

Hemlock. A large evergreen tree found in the eastern highlands of North America from North Carolina to Nova Scotia. Used as a source of tannin.

Hemlock Leather. For many years hemlock extract was used for tanning sole leather, producing a reddish-colored leather; in recent years, other vegetable tanning agents have almost entirely replaced hemlock.

Hen Dung Bate. Enzyme for bating, formerly obtained from fermented infusion of hen dung.

Hessian Boot. A heavy military boot with a tassel. Very popular in the early nineteenth century.

Hide. The outer covering of a mature, fully grown animal of the larger kind, e.g., cattle and horses, camels, elephants, and whales. In France the term is applied to adult bovine animals only. In Germany, it applies to cattle,

horses, pigs, reptiles, fish, and birds. In Italy, the outer covering of any animal is termed "pelle grezza" or "pelle in pelo." Hide also refers to leathers made from this outer covering which have not been split, or from the grain split; when used this way the name of the animal or the type of leather may be added, e.g., cow hide or ox hide, bag hide or case hide. In Germany, the word "Haut" is not applied to tanned material. In Italy, leather obtained from the hides described above as outer covering is generally termed "croio;" when the leather is stiff or not very flexible the term "pelle" is used. In Spain, "cuero" is generally used to describe larger hides and "piel" the smaller ones. "Cuero" also describes tanned hides.

Hide Beetle. A species of beetle, the larva and adults of which damage the hides, skins, and leather. The technical name is *Dermestes maculatus*.

Hide Buffing. See Buffing.

Hide Damages. Damages caused to the hide of an animal before, during, or after slaughter which affect the quality and value of the hide. Most common: Branding, follicular mange, grub, scabies, ticks, warts, ringworm, salt stains, and barbed wire marks.

Hide Dropper. A packinghouse worker who specializes in the removal of the hide from the carcass. A dropper removes only from the neck and shoulders.

Hide Pack. A built-up pile of salted hides which is built up in such manner as to most efficiently effect a curing process.

Hide Powder. Powder obtained by shredding specially treated and purified collagen.

Hide Powder Method. Official method of the International Society of Leather Trades Chemists for analysis of vegetable tannin in which tannin is absorbed by the hide powder.

Hide Split. See Split.

Hide Spreader. A workman who assists in the building up of a hide pack in the curing of hides in a packing plant.

Hindlegger. A packinghouse worker who specializes in the removal of hide only from the hind legs of the carcass.

Hindshank. The portion of the hide which covers the hind leg.

Hippiness. Defect noticed in the hides of cows which have had many calves; also defect in hides and skins caused by excrescences of animals. This prevents leather from lying flat and smooth; in extreme cases, its removal leaves holes, breaks the pattern, and reduces the cutting value.

Hobnail. A heavy nail with a large head which is driven into the soles of some work and sport shoes. The protruding head resists wear and excessive abrasion.

Hodeidah Goatskins. Goatskins from the Hodeidah section in western Yemen.

Hogskin. The skin of swine; grain gloving leather made from the skins of the peccary and carpincho. The leather is sometimes buffed on the grain and is then known as "Buffed Hogskin." (See Carpincho and Peccary.)

Hoof. The horny protecting substance which grows on the feet of certain animals like horses, cows, etc.

Hoof Oil. Pale yellow liquid obtained from shin bones

and hooves of cattle, used in leather manufacture as a lubricating and waterproofing agent. Much used as fatliquoring glazed soap after emulsification with soap or after sulphation. Often called neatsfoot oil and bubulum oil.

Horn. A hard projection on the head of certain animals usually bent or curved.

Horn Layer. The topmost layer of the epidermis consisting of dried epithelial cells.

Horse. A portable wooden vehicle on which leather and skins are piled for draining or for transporting from one department to another.

Horse Butt. The rear of a horse hide obtained by cutting from flank to flank at right angles to the backbone. A horse butt represents about one-third of the whole hide. Also, leather made from that part of the horse hide.

Horse Hide Leather. Leather made from the hide of horses and colts. There is no distinction made generally between horse and colt leather, except in the case of patent leathers. The term patent colt is frequently a misnomer, however, as the skins of mature horses are also used for so-called patent colt leather. Horse hide leathers have a wide variety of uses, principally because the nature of the various parts of a horse hide are quite different. Cordovan, glazed horse hide leather, and patent leather are made from horse hides for shoe uppers. Cordovan is made from the shell, a prime portion of the horse butt. The fronts and shanks of horse hides are used for other types of shoe upper leather, baseball covers, clothing leathers, for glove leathers, baseball gloves, razor straps, some luggage leathers, and puttees. Half of horse hide leather may be finished to simulate glazed kid leathers, although they do not have as fine a grain nor as light weight. Tanning methods used to make horse hide leathers vary with the type of leather being made.

Horse Leather. Flexible strong leather made from cattle hide shaved level and so dressed with soft grease as to make it virtually waterproof.

Horsing Up. Piling up on the wooden stand known as "horse."

Hose Leather. Flexible strong leather made from cattle hide, shaved level and so dressed with soft grease as to make it virtually waterproof.

Hot Air Stuffing Mill. A drum equipped with an air system for heating its contents to any desired temperature; used in stuffing with molten greases.

Hot Pits. A set of interconnected circular pits, usually six in number in which very strong tan extract liquors are used at 40° C to 43° C (104° F to 110° F). The leather is suspended in these liquors for a maximum period of one week during which it absorbs the strong extract liquor. Even crude quebracho extract liquor can be employed because of the temperature. Hot pits are used to increase the amount of tannin fixed by the leather to make good the loss sustained in the scouring process and also to fill the butts. The last pit contains only tanning extract liquor and is provided with a closed steam coil for maintaining the temperature at 40°C. By controlling the strength, temperature, and pH value of liquors in this pit, these conditions for liquors in other pits are also automatically controlled.

Hot Stuffing. Incorporating grease in the molten condition into leather at a comparatively high temperature.

Humane Killer. A lethal weapon used for killing animals. *See* Captive Bolt.

Hump. Baggy portion of the hide of humped cattle such as Brahman. The leather cannot be made to lie quite flat unless cut into halves or sides.

Hunting Calf. Suede upper leather with suede finish on the flesh side, made from a larger calfskin or from a veal. Somewhat coarser than suede calf. Also called reversed calf.

Hunting Suede. Suede upper leather, finished on the flesh side, made from calfskin, heavy goat or cattle hide. *See* Hunting Calf.

Hyaline Layer. An exceedingly thin film constituting the extreme surface layer of the pelt; if it is damaged, the leather will not take the gloss or polish. Also called the glassy layer.

Hyderabad. Large-size spready variety of goatskins, obtainable from southern India in the Andhra Pradesh section.

Hydrated Lime. *See* Calcium Hydroxide.

Hydraulic Leather. A collective term sometimes used for the cattle hide leathers, vegetable-, chrome-, or combination-tanned, with special stuffing provided. Used in pump valves, piston packing, etc. Occasionally called "packing leather" in North America.

Hydor Extractor. Centrifuge machine for removing surplus water from wet leather also called a "whizzer."

Hydrochloric Acid. An aqueous solution of hydrogen chloride (HCl). The concentrated solution is known as muriatic acid. It is clear, colorless, or slightly yellow, pungent, and poisonous. Hydrochloric acid is frequently used as a substitute for more expensive acids such as lactic and acetic acids, in drenching. It is also used in the Two-bath process of chrome tanning and in coloring leathers.

Hyperkeratosis. A disease of the hide caused by contact or ingestion of chlorinated naphthalenes used in paints and lubricants in tractors which the animals come in contact with on farms. Hyperkeratosis, in the advanced stage, can be identified on the hide by the wrinkled condition of the hide and scaling off of the hair and the epidermis in the wrinkled areas.

Hypernic. A natural dyestuff extracted from a tree known as red Brazil wood. It is extracted and used in practically the same manner employed in the preparation and use of logwood.

Hypo Bath. Second or the reducing bath of the double-bath chrome tanning process which contains a solution of sodium thiosulfate or hypo ($\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$); also the solution of hypo used for the deposition of sulfur in leather in the sulfur-tanning process for making a variety of picking band leather.

Hypochlorite of Soda. *See* Sodium Hypochlorite.

Hyposulphite of Soda. *See* Sodium Thiosulfate.

FRENCH-ENGLISH

(Cuir à) **Harnachement.** *See* Harness Leather.

(Cuir en) **Hulle.** *See* Russet.

(Tanne à l') **Hulle.** *See* Fat Tanned.

Hunting. *See* Hunting Suede.

SPANISH-ENGLISH

Harina. (de cuero) Leather dust.

(Cuero) **Helvetia.** *See* Helvetia Leather.

(Cuero) **Helvetia para Tiretas.** *See* Helvetia Lace Leather.

Hoja Afelpada Engrasada. *See* Reversed Split.

(Cuero en) **Hojas.** *See* Side or Side Upper Leather.

Hule. Imitation leather finish.

Hunting. The hide of a bovine animal finished on the fleshy side with a velvety or plush finish.

GERMAN-ENGLISH

Haarschaf. *See* Hair Sheep.

Hals. *See* Shoulder.

Halfte. *See* Side.

Halsnarbenspalt. *See* Shoulder Grain.

Handabgestoben. *See* Buffed Leather.

Handpantoffel. *See* Boarded Leather.

Handschuhzickel. *See* Gloving Kid.

Haut. *See* Hide.

Heberling. *See* Chevrette (Eng.).

Hecht. *See* Half Back.

Hunting. *See* Hunting Suede.

Huntingcalf. *See* Hunting Calf.

Hutschweibleder. *See* Hot Leather.

I

Iceland Moss. Long fibrous lichen. It produces a mucilage on boiling with water, which is used in finishing light leathers made from goat and sheepskins to yield a pliable film on the leather which does not crack on boarding or creasing. It is also sometimes incorporated into casein pigment finishes. Occasionally called Irish Moss.

Imitation French Cording. *See* French Cording.

Imitation Leather. Leatherlike substance much used for upholstering furniture and motor vehicles which is very similar to genuine leather in appearance and some properties.

Imitation Moccasin. Any variation of moccasin shoe construction.

Imitation Welt Shoe. Any shoe construction designed to simulate the appearance of a welt shoe but without its essential construction characteristics.

Imported Suede. Trade term sometimes used to describe degraigned leather. *See* Degraigned Leather.

Impregnated Bend. Sole leather bend which has been immersed in wax, hard grease, or similar agent in order to make it more waterproof; may be either chrome or vegetable tanned.

Impregnated Leather. Leather, which by means of the addition of materials such as grease, paraffin, wax and/or impregnating resin, has been improved in regard to its physical properties without thereby losing its typical leather characteristics.

Independent Packer Hides. Hides which are taken off and cured by large meat packing plants, but not by those known commonly as the "Big Four." (Armour & Company, Cudahy Packing Company, Swift & Company, Wilson & Company.)

India Rubber. Caoutchouc, coagulated latex of various rubber trees and shrubs. Used for various purposes in shoe making.

India Tanned. Hides and skins tanned in India. This leather is considered a semitanned raw material and is generally retanned by American Tanners before finishing.

Inking. *See* Staining.

Inlay. A piece of leather or other material corresponding to an overlay, except the edges are overlapped by adjoining shoe parts whereas an overlay edge overlaps the adjoining edges.

Innersole. *See* Insole.

Innes Acid Figures. When solutions of strong mineral acids are diluted 10 times, their pH value is increased by 1.0, whereas weak acids on similar dilution give a figure of only 0.5. Innes has deduced that if a water soluble extract of a leather is diluted tenfold and the resultant increase in its pH value is 0.5 or less, then only a weak acid is present in the water solubles, but if the increase in pH value of tenfold dilution is greater than 0.5, then some strong acid is present.

Inseam. The hidden seam of a welt shoe holding together the welt, upper lining, and insole.

Inseaming. The shoemaking operation of stitching the upper to the welt and insole in a welt shoe.

Insert. A piece of leather or other material inserted between two parts of a shoe upper for trimming purposes.

Insole. A sole of leather or other material which is cut to conform exactly to the size and shape of the bottom of the last. In some shoe constructions the insole surface forms the inside of the bottom of the shoe; in others, it is covered with a sock lining of thin leather or other material which conceals stitching, nails, etc., used in attaching the sole to the upper.

Insole Leather. Cattle hide leather, including flexible splits, vegetable or combination tanned, in sides, bends, shoulders, and bellies suitable for the inner soles of footwear.

Instep. The front part of the arch of a foot over the metatarsal bones from the back of the toes up to the ankle. Also, the corresponding part of a shoe last.

In the Pickle. Describes skins from which the hair or wool has been removed and which are preserved in a condition ready for tanning, usually in a set state, with brine, acid, and sometimes alum.

In the Rough, Crust, Pearl, Blue, White. Approximately equivalent terms used to describe leather which has been tanned, but not finished. In the rough or rough tanned and in the crust are most commonly applied to vegetable-tanned cattle hide leathers.

Interfibrillary Substance (Cementing Substance). A well-defined mass of substance uniformly distributed throughout the dermis of hides and skins composed of gluco-proteins or mucins containing some glucose or sugar in the molecules. It is insoluble in water but is only very slightly soluble in dilute solutions of neutral salts; it is digested by alcohol, trypsin, and pepsin; and readily dissolved in weak solutions of alkali, such as lime liquor. The bating process helps to make the final leather soft by the removal of this substance from the pelt.

Irish Moss. A seaweed found along all the rocky shores of northern Europe and some parts of the New England coast. It contains a large percentage of mucilaginous matter which is widely used for leather finishing. *See* Iceland Moss.

Iron. Term used for measuring thickness of sole leather: 1 iron equals 1/48 of an inch.

Iron Black. Finely divided black antimony prepared by reducing an antimony salt, such as antimony chloride ($SbCl_3$), with zinc (Zn). Used as a black pigment.

Iron Oxide Pigment (Black). A reddish-black powder also known as black rouge. It is obtained from the mineral magnetite, natural black iron oxide, and also by the action of steam, carbon dioxide, or air on iron. It is used in making black pigment leather finishes.

Iron Stains. Stains caused by iron compounds by their

reaction with vegetable tannins or vegetable-tanned leather.

Iron Tannage. Tannage effected by basic iron salts much in the same way as basic chrome salts. The process is rarely used due to the cheapness and availability of more satisfactory tanning material.

Iron Vitriol. *See* Ferrous Sulphate.

Ironing. Process of hot pressing the finished and calendered leather with a laundry iron to give the leather a smooth appearance. Ironing may be done by a hand iron or by an electrically heated ironing machine.

Isinglass. Pure fish gelatin, used as a glue in some leather finishes.

Iso-Electric Point. When referred to protein like collagen, it means the pH value at which protein has no electric charge and has the least swelling. Usually, it is 4.7 for limed collagen.

Ivory Black. *See* Bone Black.

FRENCH-ENGLISH

(Cuir) **Imperméable.** *See* Waterproof Leather.

(Cuir) **Impregné.** *See* Impregnated Leather. Often the terms "Cuir Amelle Impregne" and "Cuir Gras" are used.

(Cuir) **Imprimé.** *See* Embossed Leather.

(Cuir) **Industriel.** *See* Engine Leather.

(Cuir à Semelle) **Intercalaire.** *See* Mid-Sole Leather.

SPANISH-ENGLISH

(Medio Crupon) **Igualado.** *See* Levelled Bend.

Imitación Cuero Antiguo. *See* Antique Grain.

(Cuero) **Impermeabilizado.** *See* Waterproof Leather.

(Cuero) **Impermeable.** *See* Waterproof Leather.

Impregnada. A word meaning impregnated; used in terms such as "Cuero Impregnado" (Impregnated Leather) and "Medio Crupon Impregnado" (Impregnated Bend).

(Piel de las) **Indias Orientales.** *See* East India or E.I.

(Cuero) **Industrial.** *See* Engine Leather.

ITALIAN-ENGLISH

Incrociato. *See* Persian. In Italy the term refers only to finished leather made from hair sheep. The skin itself is called Meticcio delle Indie.

Interamente. *See* Straight. Often "esculsivamerte" is used instead of "interamente."

GERMAN-ENGLISH

Impragniertes Leder. *See* Impregnated Leather.

Impragniertes Unterleder-Croupon. *See* Impregnated Bend.

J

Jack. Name given to glazing machines, stoning machines, or light rolling machines (i.e. glazing jack, stoning jack, rolling jack). The pedestal, a support used for lasting shoes, is called lasting jack in the shoe industry. The three-legged iron equipment with the end of the legs having the shape of the foot, used by cobblers in shoe repair, is also called a jack.

Jack Boot. Originally a very heavy, clumsy boot with broad square toes and a wide cuff top worn by officers and gentlemen in Europe from 1650 to 1775. The term is now used to describe a heavy leather fishing boot.

Jackey Boot. A high open boot for children with a cuff or collar of contrasting material.

Jacking. Setting and flattening.

Jacquard. A shoe fabric which is woven on a special loom designed by Joseph M. Jacquard. The fabric is woven in patterns.

Japan. A linseed oil varnish used for finishing patent leather.

Japan Wax. A waxlike substance found in the berries of the lac tree in Japan, China, and Indo-China. Chemically, Japan wax is a fat and is particularly adapted for use in water-containing shoe creams, etc. It is not to be confused with Japan method of finishing patent leather. Also called sumac wax.

Japanese Gall. *See* Gall Nuts.

Japanned Leather. Same as patent leather. In Germany, the term *japanleder* is a special type of leather used for orthopaedic purposes (belting and bandages).

Japanning. Applying a linseed oil varnish made of boiled linseed oil, Prussian blue, and lampblack to the flesh side of leather in successive layers. After the preparation is applied, the leather is dried in a warm stove or chamber in the sun and an artificially glossy surface, commonly called patent leather is produced. Japanning is generally done on the flesh side as opposed to enamelling, which is done on the grain or hair side.

Java Goatskins. A general term which includes several types of goatskins from Java. The chief classifications of goatskins shipped from Java are Batavias, Samarangs, and Sourboyas. The first two varieties are much alike. They are closely trimmed and fleshed. Sourboyas are sold with the heads and are not so well fleshed. Otherwise, the takeoff of all classes of Java skins is good. They are all small light fine-grained skins.

Java Lizard. Lizard skins coming from Java. They are very durable and popular for women's shoe uppers and trims, handbags, ornamental leather goods, etc.

Jerkin(s) Leather. Term used to describe clothing leathers, generally in the British trade. (*See* Clothing Leathers.)

Jodhpur. A short riding boot with a top coming just above the ankle. It is held in place by a strap around the back of the ankle. Worn with or without leggings.

Jullet. A loose-fitting house slipper for women, with a high front and back.

Jullundurs. Class of big broad and spready but rather shanky and open-textured raw air-dried cowhides from the Punjab section of the northwestern Indian subcontinent (West Punjab in Pakistan, East Punjab in India). The heavier grades were formerly exported from Karachi, Pakistan, and the lighter ones from Calcutta, India, where they were classified as Agras. The hides are generally coarser than those from East India.

FRENCH-ENGLISH

(Cuir pour) **Joints Hydrauliques et Emboutis.** *See* Hydraulic Leather.

Joue. *See* Cheek.

GERMAN-ENGLISH

Japanleder. *See* Japanned Leather.

Juchtenleder. *See* Russian Leather.

HINDI-ENGLISH

(Also other Indian Languages)

Jachandars. *See* Assorters. They are experts in selection and sorting of hides and skins, who are employed by the purchasing firm in India and work in the Aarhat. (*See* Aarhat, Hindi)

K

Kahua Bark. Bark from the Kahua tree, a central Indian tree of the Combretaceae family. It contains 20 to 24 percent tannin. The leather produced by it is of a reddish tint, but the color may be improved if dhawa or sumac leaves, which have the property of bleaching the red color, are added.

Kangaroo Leather. Leather tanned from the skins of any of more than 100 species of Australian kangaroos. Kangaroo leather is soft and somewhat resembles kidskin leather. It has a particularly tight woven skin structure and is one of the strongest leathers known of comparable weight and thickness. It has a firm grain which does not readily scuff, chip, or crack in service and is in steady demand for several types of footwear.

Kanpurs. Goatskins, obtainable from the Uttar Pradesh region of northern India. They are spready with a regular grain and an open texture, but the grain is not so fine as in Bengal skins, the hair is coarse and long, and the skins themselves are often badly stabbed with thorns. The skins are in demand for Moroccos in upholstery work and a dozen skins produce about 7.4 m (8.8 sq. yd.) or more of leather. The best of these hides are wet salted to the United States.

Karakul. South African sheepskin with definite characteristics, on which there is more hair than wool. They are packed on the following lines:

Hair Length

LK—Long, 25 mm (1 inch or longer).

SK—Short, Under 25 mm.

DLK—Damaged but long, 25 mm and over.

DSK—Damaged but short, Under 25 mm.

Karunda. Leaves of trees in the Apocynaceae family containing 9 to 15 percent tannin. Constitutes a promising tanning material, particularly in combination with other tanstuffs. Infusion of these leaves has a great swelling action on leather.

Kattas (Kattais). Light buffalo hides and buffalo calfskins from India weighing between 5.5 and 11.5 kg. (12 and 25 pounds) in the wet-salted condition. The lighter ones weighing below 5.5 kg. are known as kattais.

Keratins. The basic substance in all horny structures, such as the epidermis, nails, hair, horns, claws. It is resistant to enzymes, acids, and alkalies.

Kid. Leather made from the skin of a young goat. It is generally full-chrome tanned with the only exceptions being gold and silver kid which are semi-chrome tanned. It is soft and especially suited for women's and children's shoes, gloves, handbags, and similar purposes where a light leather is desirable. (See Glacé Kid, Suede Kid.) As gloving leather, see Glacé, Gloving Leather.

Killing. Preparing wool or furskins for dyeing. Killing is often done with sodium carbonate (soda ash NaCO_3), ammonia (NH_3) or ammonia and hydrogen peroxide (H_2O_2).

Kino. A general term used to designate gums of various

trees containing kinotannic and other tannins which are mainly employed in tanning and also in pharmaceutical preparations as astringent. It contains a high percentage of tannin but imparts a red stain.

Kip or Kipskin. Light rawhide from a grass-fed, immature bovine animal, of European or American origin, between the size of a calf and a matured animal. These hides weigh from 16 to 25 pounds in the green-salted condition. The term includes skins from calves which have grown larger than the size usually slaughtered for veal, and from certain breeds of undersized cattle which may have reached maturity.

In Germany the term refers to hide of the Asiatic Zebu; in Spain these hides are between 15 and 19 kg. (33 to 41.4 lb.) green weight.

"Kip" also means pretanned hide from a small mature bovine animal (other than buffalo) of Southeast Asian or possibly East African origin, vegetable tanned. When tanned in the Indian subcontinent, it is known as "East India tanned kip" or briefly "E.I. kip."

Finally, "kip" is used to designate a pack of 30 finished chamois skins.

Kiss Spot. A light spot on vegetable-tanned leather caused by contact with another hide, preventing free access of the tan liquor to it.

Kosher Hide. Hide of an animal which has been slaughtered according to Jewish religious custom by having its throat cut crosswise, resulting in a different pattern of the hide. This hide is sometimes referred to as a "cut-throat" or "stuckthroat."

Knee Staker. Metal blade set upright on a wooden support which may be a rigid upright portion of the stand or an upright stake. The skins for staking are worked over the blade using both hands and knee to give the necessary pressure on the skin. Staking pulls apart the fibers of the skins which should remain quite soft on drying. See Staking.

Knocker. The butcher who stuns the animal by a crushing blow on the head before the slaughter.

Knurl. To decorate the bottom or edge of a shoe sole by wheeling.

Kustias. Goatskins from the Benegal area of north-eastern India. They are cured both by wet salting and dry-salting. They produce fine grain on glacé kid and are very popular for glacé kid manufacture. Yield 3.7 to 4.3 m (4.4 to 5.2 sq. yd.) of leather per dozen and weigh 45 to 52 kg. (99 to 114 lb.) per 100 skins.

GERMAN-ENGLISH

Kalbfell. See Calf.

Kalbleder. See Calf Leather; also Mastkalbleder (Ger.).

Kalbvellours. See Suede and Embossed Calf.

Karpfen. See Culatta (IT.). The term "karpfen" is used in Austria.

Kernspalt. *See* Butt Split.
Kernstreifen. *See* Range. Generally “bahn” is used instead of “kernstreifen.”
Kernstück. *See* Croupon.
Kips. *See* Kip.
Kombinationsgerbung. *See* Combination Tanned.
Kombinierte Trangerbung. *See* Combination Oil Tannage.

Korduanleder (Cordovan). *See* Cordovan.
Korrigleter Narben. *See* Corrected Grain.
Kratze. *See* Horse Butt.
Kratzenleder. *See* Clothing Leather.
Krispeln. *See* Boarded Leather. Generally “gekrispelt Leder” is used instead of “krispeln.”
Kuhleder. *See* Cowhide.
Kunstharz Finish. *See* Resin Finished.

L

Lac. Technically, a resinous exudation from a species of scale insect infesting certain tropical trees in southeastern Asia, the East Indies, and India. It hardens upon exposure to the air and forms a protective incrustation around the female eggs, and young of the insect. When the incrustation and the insects are removed the whole mass is crushed and the red coloring matter present in the bodies of the insects is removed with water and alkali. Shellac is made from resinous substance of this exudation after it has been melted and reduced to a thin crust. Shellac is used extensively in the finishing of leather. *See* Shellac.

Lac Dye. *See* Shellac.

Lace Holes. The holes along the fore edge of a shoe upper through which shoe laces are inserted.

Lace Leather. A form of rawhide leather (from cattle hides) for lacing together sections of power transmissions belts; sometimes prepared with an alum and oil, chrome or combination tannage.

Lacquer. A leather varnish or coating made from various materials such as resin, cellulose, collodion, shellac, and nitrocellulose combined with a suitable plasticizer. *See* Lac, Shellac.

Lactic Acid. An organic acid composed of carbon, hydrogen, and oxygen ($\text{CH}_3\text{CHOHCOOH}$). It is a thick liquid which is generally yellow or colorless. It is soluble in water, alcohol, and ether. The commercial acid is formed by fermenting starch, corn, potatoes, milk, and grape sugar solution. The acid is neutralized by calcium carbonate. It is used in the leather industry as a deliming agent, in bating and drenching, and for the precipitation of tanning agents.

Lakes. A name commonly given to aniline pigments. Lakes are often thought to be pure precipitated dyestuffs; that is, the result of a mixture of acid and basic dye with the addition of tannin. This, however, is not the case, for lakes contain considerable inorganic matter and require skill in preparation.

A formula for making lakes includes barium sulfate, aluminum sulfate, soda ash, dye, and barium chloride. These are dissolved in water and mixed. The precipitate is then settled and the clear liquid decanted. The precipitate is washed away. The residue is then dried and ground, and this constitutes the lake. Although the dyestuff forms only a small part of the total formula, the color of the lake is due entirely to the dye used.

Although more expensive than earth pigments, the lakes possess certain properties which are not found in the earth pigments, among which is the property of better covering power with an "aniline" effect.

Lambskin. The outer cover of a young bovine animal with the fleece still on, or leather made therefrom. Lamb leather is used principally for clothing and gloving purposes. Reversed lamb is a high-grade gloving leather made of skin or unweaned lambskins.

Lampblack. Carbon in finely divided condition prepared by the incomplete combustion of tar, colophony,

vegetable oils, and the pitch or heavy oils of tar. It is used in the leather industry for blackening certain classes of greasy or waxed leather and also in preparation of "japan" used in the making of patent, japanned or enamelled leather. Also used in making casein-based pigment finishes of black color. Also called Germantown black.

Larch Bark. A tanning material available and used in Scotland.

Lanolin. A mixture of purified wool fat (about 22 percent) and water, sometimes also containing a special perfume with characteristic odor. Pure lanolin is sometimes known as anhydrous or neutral wool grease. A soap and neutral wool grease emulsion is marketed for use in fat-liquoring russet lining kip sides.

Larrigan. A knee-high moccasin boot, or boot made with a moccasin sole, and used by lumbermen.

Larrigan Leather. Name for oil-tanned light hides, used largely for moccasins. Generally used in North America.

Last. A wooden form, shaped in the outline of a foot, over which a shoe is fashioned.

Last Pulling. Removing the lasts from shoes. Generally, the shoe is pulled from the last by working it off from the back. The introduction of divided hinged lasts greatly reduced the work of last pulling and also the danger of weakening or damaging the shoes during this operation.

Last Remodelling. In general, any changing of the measurements and contours of a last to meet specific needs. More specifically, the complete restyling of a shoe last.

Last Slip. A preparation of material used between the lining of a shoe and the shoe last to permit easy removal of the last.

Lasting. The operation of placing the shoe leather around the last so as to give the shoe the correct shape. Therefore, in modern practice, very high grade shoes are lasted so that the uppers are stretched almost to the breaking point as they are shaped to the last, removing every possible element of stretch from the upper materials. They are then allowed to stand on the lasts for 10 days to 2 weeks, a process which "sets" the shoe into its desired shape.

Lasting Allowance. An extra measurement allowed at the bottom outline of shoe patterns so that extra material will be allowed for lasting under the shoe.

Lasting Room. One of the major departments of a shoe factory in which the shoe upper is drawn tightly over the last and attached to the insole.

Latigo Leather. Cattle hide leather tanned with a combination of alum and bambier and used for cinches, ties, saddle strings, and other saddlery work.

Latin American Goatskins. A general term which is loosely applied to numerous types of goatskins originating in Latin and South America. The hides in this category fall into several groupings.

Lattice Drum. Drum used for washing raw hides and skins or for washing leather after it has been neutralized, in

which the staves in the periphery are deliberately left apart to enable liquors to run in and out of the drum without hides and skins.

Lauryl Sulphate. Lauryl alcohol, sulphated with excess of concentrated sulphuric acid or with chlorosulphonic acid, used in fat-liquoring and also as an addition to fat liquors for clothing and glove leathers.

Layer Vat. Vat of relatively strong vegetable-tan liquor into which sole leather hides are thrown after preliminary tanning in rocker vats.

Layers. Series of vegetable-tan liquors used in the final stages of the repair band tannage of sole leather or in tanning with oak bark.

Laying Away. Putting the completely penetrated and tanned butts singly in pits in the final stage of sole leather tanning. A layer of ground tanning material (oak bark, Mimosa bark, etc.) is sprinkled between butts, until the pit is full. The pit is then run up with strong tan liquor usually prepared from extracts.

Laying Away in Grease. Allowing to age in the greased condition.

Laying-By. Covering a hide pack with salt in curing and letting it stand so that the strong brine formed will seep through the entire pack.

Leach Casting Machine. A mechanical device set in a leaching vat to facilitate the removal of the ground vegetable-tan material after extraction of its tannin by hot water.

Leach House. The department of a tannery where raw vegetable-tan materials are extracted with hot water and where vegetable-tanning extracts are dissolved in water to make strong stock liquors for the tan yards.

Leach Pit or Tank. A wooden tank or pit in which tannins from vegetable material are extracted. It has a false bottom and is equipped with a leach casting machine. The ground raw material is distributed evenly over the false bottom of the tank by the leach casting machine, and when the spent bark is to be removed, the machine sweeps it up and permits it to be removed while still hot, thus facilitating its drying.

Leaching. Extracting the tannin from chipped or ground raw vegetable-tanning materials such as wood or bark. The raw material is extracted with hot water and steam until practically all the tanning content has been extracted. If a liquid extract is desired, a lesser amount of heat is employed than when a solid extract is sought. For solid extracts, the tanning liquor extracted from the raw material is run into settling tanks, then pumped into evaporators, which convert it to solid form.

Lead Acetate. Also known as sugar of lead. White, brown, or grey poisonous crystals formed by the action of acetic acid on litharge or thin lead plates. It is soluble in water and slightly soluble in alcohol. It is used as a mordant and in the manufacture of chrome pigments.

Leather. The hide or skin of an animal which has been treated chemically so as to make it a nonputrescible substance impervious to and insoluble in water. The chemical

treatment which the hides and skins undergo is called tanning. *See* Tanning.

Leather Charcoal. Charcoal made from leather wastes.

Leather Gauge. A graduated instrument for measuring thickness of leather.

Leather Powder. Leather which has been shredded into fine particles.

Leather Substance. The sum of hide substance and fixed tan. In general, it is taken as the difference between 100 and the sum of the percentages of moisture, oil and fat, water solubles, and ash of insolubles in leather.

Leatherboard. A material made from fibers, vegetable fibers, etc., knit together in the manufacturing process. It is used extensively for making builtup heels.

Lecithin. A phosphorus-containing substance found especially in the brain and nerve tissue, in the yolk of eggs and in cereal grains. It is a yellowish white waxy mass, soluble in alcohol, chloroform and ether; insoluble in water.

Legger. A packinghouse workman who specializes in skinning the legs of the carcass and removing the shin bones with hoofs attached.

Levant. Leather with a characteristic drawn-grain pattern, produced originally by an astrigent tannage, but now produced by hand or machine boarding on vegetable or semi-chrome tanned goat and sheepskin or vegetable-tanned sealskin. When the pattern is produced by embossing, it is called "Levant Grain."

Levelled Bend. Sole leather bend which has been split or shaved to give an even substance over the area of the finished bend. It is more flexible than a manufacturing bend.

Light Butt Branded Steers. *See* Butt Branded.

Light Colorado Steers. *See* Colorado Steers.

Light Leather. The term is self-explanatory. In commercial practice, it is generally applied to leather tanned from skins, or to splits taken from heavy cattlehides.

Light Native Cows. Cowhides free of brands, and, in the big packer market, sold in weights of 53 pounds and under. This is a basic selection of upper leather hides and is the basic selection for trading in hide futures on the New York Commodity Exchange.

Light Native Steers. *See* Native Steers.

Light Texas Steers. *See* Texas Steers.

Lime. Both quicklime and hydrated or slaked lime are used extensively by the tanning industry, chiefly as an unhairing agent and water softener. Quicklime (calcium oxide) is obtained by heating limestone in a kiln, also creating carbon dioxide. It is in the form of white lumps which must be protected from moisture in the atmosphere before use.

Lime hydrate (calcium hydrate) is preslaked by blowing steam into a stream of powdered quicklime. During this operation, all gritty and sandy substances are removed by means of blowers and screens. The advantage in using hydrated lime instead of quicklime is that hydrated lime is already slaked (containing water) and ready for use by the tanner.

Lime Blast. Discolored spots on limed skins caused by calcium carbonate deposits, leading to grain roughening.

Lime Burnt. Heat damage of pelts due to contact with unslaked particles of lime.

Lime Fleshing. Fleshing hides and skins after the liming operation.

Lime Liquor. Saturated solution of lime having excess of undissolved lime which forms a milky liquor on stirring, used in unhairing hides and skins prior to tanning.

Lime Liquor, Mellow. Lime liquor which has a mellow or mild caustic action and consequently produces less swelling and plumpness. A mellow lime liquor may be a little used liquor which has time to set or it may be obtained by mellowing fresh lime liquor with ammonium salts.

Lime Mixer. A machine for mixing quicklime with water to slake it and for agitating the solution during the slaking process.

Lime Paint. Depilatory solution mixed with slaked lime or china clay to form a thin paint which is applied to the flesh side of sheep, goat, or calfskin.

Lime Paste. Mixture of slaked lime and water of thick consistency.

Lime Pit. Rectangular brick or concrete pits in which hides and skins are treated with lime liquor; varies in capacity from 354 to 1,444 gallons.

Lime Process. The process in which hides and skins are treated with lime liquors.

Lime Reel. A revolving reel used to move hides from one vat to another during tanning.

Lime Soap. Soap formed by the action of lime on oils and fats of hides and skins.

Lime Splitting. Splitting of stout limed pelts, done on the band knife splitting machine.

Lime Stains. Stains caused on pelts by lime liquors.

Limed Rawhide. A translucent or opaque material made from cattle hide by drying the limed hide, after removal of the hair and flesh, without applying any tanning process. In Germany, this type of leather is made from buffalo hides and is known as transparentleder. *See Buffalo.*

Liming. Soaking hides and skins in milk of lime for a few days to loosen or remove hair, and to plump and swell the hide. *See Unhairing.*

Lining Leather. Any leather used for making shoe linings (although other products, such as handbags, pocketbooks, cases, may be lined with leather, the material is not commercially classified as lining leather when used for these purposes). The leathers chiefly used for linings are sheep, lamb, kid, goat, calf, kip, and splits. *See Lining Shearling and Lining Split.*

Lining Making. Stitching together the various parts of a shoe lining, after which it is inserted into the outside "shell" of the upper. The outside and lining are then closed together by top stitching, and the upper is completed ready for lasting.

Lining Shearling. Dispersion in water of a solution of

nitrocellulose or other film forming substances dissolved in organic solvents.

Lining Split. Split leather used for shoe linings. *See Split Leather.*

Linings. A generic term covering all of the various lining parts used in the inside of a shoe.

Linseed Oil. A golden-yellow, amber, or brown oil obtained by pressing flaxseeds by either a hot or cold pressed process. It is sold as raw linseed oil and boiled linseed oil. It is extensively used in the manufacture of japan for patent leathers, lacquer finished, etc. *See Japan.*

Liquor Chute. Channel through which liquor is made to flow from pit to pit.

Lithopone. A white powder consisting of barium sulfate, zinc sulfide, and zinc oxide. It is used by the leather industry chiefly as a pigment in filling white leathers.

Lithographic Leather. Leather made from the butts of very spready cattle hides, used for covering the ink rolls of lithographic presses.

Littleway. A lockstitch process invented by A.E. Little, which combines lightness of construction, flexibility, and comfort.

Lizard Skins. Skins of a class of reptiles. They are specialty skins used in-making pocketbooks and shoes. In the class of lizard leathers, iguana leather is the most popular because the iguana is a large reptile and each skin produces a suitable amount of leather.

Loading. The process otherwise known as "filling" or "stuffing." Loading is adding materials such as glucose and magnesium chloride, which are leather conditioners erroneously referred to as adulterants, but which are really necessary for conditioning leather to modern shoe machinery. "Loading" is also called "weighting."

Lockstitch. A double-thread stitch. Used in sewing together shoes.

Logwood, Campeche Wood. The heartwood of *Haematoxylin Campechianum*, constitutes the logwood of commerce which contains haematoxylin, the coloring principle of logwood. It was originally obtained from the Bay of Campeche in Mexico but is distributed in Central America and Africa. The species *H. campechianum* is cultivated in India. The dye extracted from the wood is used for the production of black color on leather and fabrics, with the help of iron, chromium and titanium mordants. *See Haematin.*

Loose Grained. A grain surface which is not tight and compact.

Lucknow Goatskins. Goatskins from the Lucknow district of north-central India. They are cured partly by green salting and partly by dry salting. Like Canpurs, they are coarse grained and yield about 4.8 square meters (5.76 square yards) per dozen skins.

Luggage Leather. *See Bag Leather.*

Lye. A strong alkaline liquor rich in potassium carbonate leached from wood ashes and used especially in soap making and washing. *See Sodium Hydroxide or Potassium Hydroxide.*

FRENCH-ENGLISH

(Cuir Blanc pour) **Lacets**. See White Hide Leather.

(Dosset `a) **Lanlères**. See Belting Lace.

(Cuir à) **Lanlères Parcheminées**. See Rawhide.

(Cuir) **Lavable**. See Wash Leather.

(Cuir) **Liège**. See Boarded Leather.

(Cuir) **Liège à la Main**. See Boarded Leather. The literal translation is hand boarded.

Lissage. See Glazing.

(Croupon) **Lissé**. See Sole Leather Bend. Generally "croupon à semelle" is used instead of "croupon lissé."

SPANISH-ENGLISH

(Cuero) **Lavable**. See Wash Leather.

(Cordero) **Lechal (Vacuno)**. See Deacon.

Lado. See Side or Side Upper. "Lado" and "hoja" are used interchangeably.

Lado Carne. The flesh side of a hide.

Lado Flor. The grain layer side of a hide; the side with the hair.

Liso o Lisa. General term used to describe a hide, green salted or tanned which has not been modified by wrinkling, stamping, or embossing. Generally used in the term "Cuero liso."

Lomo. Part of the hide left after the removal of the belly. Used mainly in Peru.

Lote. In Venezuela, shipment or a portion of a shipment made up by a material of a single type, grade, class, etc.,

submitted to inspection and testing, which is accepted or rejected as a whole (in toto). More generally, just a lot or shipment.

(Cuero) **Lustrado**. Leather dyed or painted to have a shiny or polished appearance. The operation is usually performed by mechanical means.

ITALIAN-ENGLISH

Laccluoll "Rawhide". See Rawhide.

Laccluoll per Cinghie di Transmissione. See Belting Lace.

Lista di Groppone. See Range.

Lucidatura. See Glazing.

GERMAN-ENGLISH

Lackleder. See Patent Leather.

Lamm (-Fell) (-Leder). See Lamb.

Lammfellfutter. See Lining Shearling.

Laufleder fur Kammstuhle or Ringspinnmaschinen. See Combing Leather.

Leder. See Leather.

Levantleder. See Levant.

Levantiertes Leder. See Boarded Leather. Generally, "gerkrispeltes" is used instead of "levantiertes leder."

Lohgegerbt. See Bark Tanned.

Lohterze. See Bottom Leather. Generally "unterleder" is used instead of "lohterze."

M

Macedonian Goatskins. Goatskins from Balkan districts in Yugoslavia, Bulgaria, and Greece, which derive their name from that of the ancient country of Macedonia which was at one time located in this area.

Machine Buff. A North American term for the grain split of a hide from which a very thin buffing has been removed from the grain by a splitting machine; normally used for upholstery. *See* Buffed Leather.

Maclurin. Maclurin (moringatannic acid) $C_{13}H_{10}O_6$, H_2O and morin $C_{13}H_{10}O_6$ (flavone) are two natural mordant dyestuffs of a yellowish hue occurring in fustic. Morin is prepared by precipitation from an extract of old fustic. *See* Fustic.

Madras Goatskins. Goatskins from India which derive their name from Madras district on the southeast coast. Madras skins are medium coarse grained and, while some of the skins are green salted, most of them are dry cured. The takeoff and trim of Indian goatskins are generally good.

Magnesium Sulfate. Commonly known as Epsom salt. A salt ($MgSO_4$) derived: (a) by the action of sulfuric acid on magnesium oxide, hydroxide, or carbonate, or (b) by mining operations in British Columbia. It is a crystal, soluble in glycerol and slightly soluble in water. This salt is used by the tanning industry in several sole and heavy leather operations. It is used principally for the purpose of adding weight and substance to the leather.

Making Room. One of the departments of a shoe factory, in which cutsole edges are finished, heels attached and finished, and a number of related operations completing the construction of a shoe are performed.

Malpighian Layer. Layer of epithelial cells in the epidermis next to the grain surface of the derma.

Mange. A parasite causing skin disease occurring in animals. *See* Follicular Mange.

Mangrove. The term "mangrove" is used in a wide sense for any of the trees that may constitute the vegetation on the tidal mud flats of the Tropics and part of the Subtropics. While mangrove swamps or forests vary from one part of the world to another, they all have trees of the mangrove family, Rhizophoraceae, present. A notable feature of the mangrove trees is the richness of the bark in tannin. The tannin content of mangrove varies a great deal not only between different species but within the same species.

Mangrove Cutch or Kutch. A misnomer used for the tanning extract prepared from the mangrove bark. *See* Mangrove Extract.

Mangrove Extract. The liquid extract from mangrove bark. Mangrove extract is regarded as the cheapest form of tannin available to the tanner. The average tan content of mangrove extracts (solid) is about 65% with 17% non-tans. The tannin is of the catechol class. It is very soluble and has weight-giving property when used with heavy leather. However, it produces undesirable color which is very difficult to bleach, and the leather is inclined to be harsh and thick grained when mangrove is used alone.

Mangrove Liquor. Liquid extract, reddish brown in color, extremely astringent and yielding a thin, harsh leather. It is catechol tan, rich in neutral salts but deficient in acid.

Manufacturers' Leather. Same as factory leather. *See* Factory Leather and Sole Leather.

Manufacturing Bend. Sole leather bend produced primarily for the manufacture of new footwear. It is usually lighter in substance and more flexible than a bend used for the repair of footwear.

Maracaibo Goatskin. Goatskins from the Maracaibo region of northwestern Venezuela. These skins are soft and fine grained with a good takeoff but often a poor trim. They are nearly all green salted.

Marakesh Goatskin. Goatskins from the region around Marakesh in Morocco. They are generally used for making medium-grade leather.

Marbled Leather. Variety of fancy leather made usually from sheepskins on which a mottled or marbled effect has been produced by dyeing it in different shades of color at different places. The pattern is mosaic.

Marbling. The process of producing the marbled effect on leather.

Mat Finish. A smooth, dull finish applied to chrome-tanned leather for shoe uppers, hand bags, belts, etc.

Matadero Hides. Hides from Argentina corresponding to city butcher or smaller packer hides of the United States.

Matanza Goatskins. Goatskins from Mexico which derive their name from the Spanish word for slaughter; Matanza goatskins are produced in Mexican slaughterhouses. This is one of the few types of goatskins which does not derive its name from the geographical section in which the skins originate. These goatskins are medium grained and have a good trim. However, a large portion of Mexican skins are damaged by slaughter cuts and scratches.

Matrix. A mold built on the bed of an embossing press to sharpen the design of the pattern produced on leather by the embossing plate.

Max White. Titanium dioxide (TiO_2) ground in a mixture of casein, sulphated castor oil, and paraffin oil for use in the fat-liquoring and finishing of white leathers.

McKay. A shoe construction whereby the upper is tacked, stapled, or cement lasted and the sole is attached with a chainstitch seam.

Measuring (Leather). The number of square feet in a skin of light leather is determined by measuring the area of the leather on any one of several types of measuring machines. The leather is measured at the tannery, and each skin is marked with the square footage it contains (in units of square feet and quarters). Many shoe manufacturers also have measuring machines and check tanners' measurements against their own, as inaccuracies may be found in the original measurements because of shrinkage of the skin, etc. There are also a few experts who are licensed as leather measurers and who are called in to verify measurements and adjust disputes.

Most leather measuring machines in modern use are similar in their action. They consist of a series of notched wheels which rest upon the skin of leather as they pass over it. Each wheel is connected with a recording device, and each records only when it is passing over leather—thus holes in the leather are not measured, and accurate measurements of the stock are taken despite the uneven pattern of the skin.

Another type of measuring machine, now infrequently used, consists of a series of pins, which rest upon the skin and record the leather area.

Meating. Removal of particles of meat from the flesh side of a hide or skin. (*See also* Flaying.)

Mecca. *See* Shellac.

Mechanical Leathers. A generic term for types of leather used in connection with machinery and textile equipment. Such specialty leathers are explained more definitely under the specific designations or uses, such as Belting Leather.

Medallion. Term used to describe the perforated pattern punched in the center of the type of many styles of shoes.

Medium Buffs. Formerly referred to as "special machine buffs." *See* Upholstery Leather.

Medium Lime. Lime liquor through which one pack of hides has passed.

Meherpores. Green salted hides having a light cure as opposed to Daccas which are thickly plastered with salt. Also known as "dishes."

Memel. In Spain and the United Kingdom, black or brown curried leather heavily embossed, frequently used for a heavy boot upper. *See* Grain Memel.

Mercuric Chloride. Also known as corrosive sublimate, mercury bichloride, and corrosive mercury chloride. A combination of mercury and chlorine (HgCl_2). It is a very poisonous white crystal or powder, soluble in water, alcohol, ether, pyridine, and acetic acid ester. It is a very powerful antiseptic and is used in the leather industry chiefly in antiseptic solutions.

Mercury Bichloride. *See* Mercuric Chloride.

Metallized Leather. Leather given a luster finish similar to that of pearlized leather but obtained by the addition of metallic powders or foils to the skin. Aluminum powder is the usual additive, and various colors can be obtained by incorporation of dyestuffs. Metallized finishes are sometimes described as "polychromatic."

Metan Goatskins. Goatskins from the Metan area of northwestern Argentina. They tend to be medium grained and air dried. The takeoff and trim are generally good.

Methylamine (and Dimethylamine). Used as sharpening agents in lime liquors for use on hair sheepskins for gloving and clothing leathers to obtain silky grain.

Meter Leather. Leather used for measuring bags in gas meters; a speciality leather prepared from selected sheepskins and calfskins with special tannage to produce airtightness.

Mid-Sole Leather. Bottom leather produced from bends or more usually shoulders or bellies of cattle hides and used in footwear construction between the inner and

outer sole. The use of middle soles is mainly confined to heavy footwear.

Milling. A tanning operation whereby a number of pieces of light leather are placed in a large dry drum following pressing and tumbled for several minutes after pressing, to open the skins and remove the sharp creases left therein after the pressing operation.

Mimoso. A plant used for its rich catechol tannin content.

Mineral Tannage. Leather produced by using chromium salts, alum, and other agents as distinguished from vegetable tannage.

Mirbane Oil. Nitrobenzene having a characteristic odor and preservation property, much used for preserving organic preparations which are likely to go bad on storing, such as leather and shoe finish.

Mixed Tannage. Tannage effected by a mixture of tan materials. Instead of using an individual tanstuff in bark tanning more than one material is sometimes used in a mixture, a practice which has been found to yield very satisfactory results.

Mocha. Gloving leather with a fine silky suede finish on the grain side, made from the skin of hair sheep, originally the Arabian blackhead, but also from other types of hair sheep. The usual method of removing the grain is by frizzing in the limed state. Generally, alum or formaldehyde tanned. *See* Bastard.

Mocha Goatskins. A general classification of goatskins shipped through Mocha, a port in southwestern Saudi Arabia. They are generally fine grained with good takeoff. Also, generally flint dried or green salted.

Moellon. The residual oil obtained by pressing chamois skins after tanning. Artificial moellon is manufactured by direct oxidation of fish oils, by blowing air through the oil, or by adding an oxidizing agent such as nitric acid. In common commercial practice, genuine moellon is known as chamois moellon to distinguish it from artificial moellon. *See* Degras Moellon.

Mold. A microscopic growth or discoloration produced on leather (and other organic substances), especially when damp. Mold on leather is frequently confused by the layman with bloom and spew, which are also discolorations but which are caused by entirely different conditions and have entirely different effects on leather quality.

Mombasa Goatskins. Goatskins from Kenya and Uganda which are shipped out through Mombasa, in southeastern Kenya. The skins are fine grained and generally flint dried. The takeoff and trim are fairly good.

Monk. A closed shoe similar to an oxford but held to the foot by means of a strap across the instep.

Mountain Wax, Lignite Wax. A hard wax obtained by extraction from American and German lignites. It is used as a substitute for carnauba wax and beeswax.

Monton. A sheepskin shearing tanned and finished for fur purposes.

Moon Knife. Circular blunt-edged knife with a wooden handle in the center used for softening the leather.

Mordant. Substances used for fixing (rendering insoluble) dyes on fibers. They are two kinds: Metallic mordants, for example, aluminum salts; and tannin mordants.

Mordant Dyestuffs. Dyestuff that can be fixed on fibers only with the aid of a mordant.

Morin. See Fustic and Maclurin.

Morocco. Vegetable-tanned goatskin leather with characteristic grain pattern developed naturally or by hand boarding or graining only. The commonest or most characteristic grain is hard grain. By long usage, especially in the fancy goods trade, denotes goatskin of any vegetable tannage that has been hand boarded in the wet condition, but in the strict sense, it should be limited to goatskin tanned exclusively with sumac. Leather made from vegetable-tanned goatskin with a grain resembling that of genuine Morocco; hand boarding, for example, by embossing, should be termed "Morocco grained goat" or "assisted Morocco."

Mucins. The viscid secretion of the mucous membrane, proteins, known as glucoproteins which occur in the interfibrillary or cementing substance of hides and skins.

Muzafferpores. Goatskins from Bihar region of north-eastern India. They have fine grain, white or patchy white silky hair and close texture; they are good for producing glacé kid.

SPANISH-ENGLISH

Mamador. Finished hides with a surface of 8.5 to 12.9 square feet or 0.8 to 1.2 square meters. Often called "sucklings." Generally, weighing 3-1/2 to 8 kilograms, they are hides of nursing calves.

Manchas. Stains brought about by a bad salting or negligence in the tanning process.

(Cuero para) **Mangueras.** See Hose Leather.

(Cuero para) **Mangultos de Huso.** See Combing Leather.

(Cuero para) **Mangultos Rotofrotadores.** See Condenser Rubber.

Margariteado. A term used in Colombia synonymous to "graneado a mapo." (See Graneada a Mano, Sp.)

Marroquin. See Morocco.

(Cuero para Suelas) **Medlanas.** or (Cuero para), **Media Suela.** See Mid-Sole Leather.

Medlo Crupón. See Croupon or Bend. In Spanish-speaking countries, the two are often used interchangeably.

Medlo "Dosei". See Half Back.

Mejilla. A term used in South America, particularly Argentina, to describe the cheek of a cattle hide.

Membrana Hialina or Vitra. Hyaline or vitreous membrane. The very thin membrane which separates the epidermis from the dermis.

Merlillo Nonato. See Slunk.

(Cuero) **Metalizado.** See Metallized Leather.

Metls. In Spain, sheep or lambskins generally semi-chrome tanned, pigment finish on the grain side, and having undergone just sufficient glazing to give a more or less glossy surface. The leather has a more rigid texture than gloving or clothing leather and is suitable for ladies' shoes and similar purposes.

Metls de las Indias. See Persian.

Moca. See Mocha.

(Cuero) **Moldeado(s).** Leather items made from hydraulic leather.

GERMAN-ENGLISH

Mastkalbleder. Calf leather made from animals which have been weaned. The boundary between this and "Kallbeder" is about 18 square feet.

N

Nap Finish. A process in which the natural grain layer of the leather is removed and the outer surface of the leather is then given a napped finish. *See* Suede Finish.

Napa Leather. Sheep or lambskin glove leather which is chrome alum or combination-tanned from domestic, New Zealand, or South American sheepskins.

Native Bulls. Bull or stag hides which are free of brands, regardless of weight, but frequently sorted as heavy stock from 75 to 85 pounds and up. Any packer hide with a staggy neck, regardless of weight, is regarded as a bullhide. Country hides weighing below 59 pounds in this classification are usually regarded as buffs or extremes, according to weight.

Native Cows. Unbranded cowhides from any section. These are sorted for weight as follows: heavy, 53 pounds up; light, under 53 pounds.

Native Steers. Steer hides which are free of brands. These are sorted for weight as follows: heavy, 58 pounds and up; light, 48 to 58 pounds; extreme light, 23 to 48 pounds.

Natives. An unbranded hide.

Neat's-foot Oil. A yellowish oil prepared by boiling the bones and joints of cattle (and sometimes of horses and sheep) and skimming off and clarifying the oil thus obtained. It is used extensively by the tanning industry for currying, stuffing, dressing, and finishing leathers.

Oak Falls. *See* Gall Nuts.

Oak-Tanned Leather. Leather tanned from the bark of the oak tree, although the term is often applied to leather tanned with oak extract in combination with other types of tanning materials.

Offal. Parts of hides and skins not normally used for making the finest grades of leather. The word used in this sense does not mean waste because, in the heavy leather field, it refers to heads, shoulders, and bellies to differentiate them from the more valuable bends. These parts are finished into serviceable leather for shoe uppers, gloves, and other items.

Oil Tanning. A process of tanning involving the incorporation of marine animal oils into prepared skins. These oils are subsequently induced to undergo oxidation and other chemical changes in contact with the skin fibers, leading to chemical combination of oil derivatives with the skin.

Oil Wheeling. The object of oil wheeling is to incorporate materials into the leather that will increase the ultimate yield and improve the properties of the finished leather. Any variations in the operations following

Neutralizer. An alkaline agent used in neutralizing chrome-tanned leather after tanning and before fat-liquoring.

Nigerian Goatskins. Goatskins from Africa which derive their name from the country in which they originate.

Novelty Leather. Any of a variety of leathers, frequently vegetable tanned, used for billfolds and small leather goods.

Nubuck. A chrome-tanned leather usually calf or suede which is buffed on the grain side to give a nap surface. White nubuck is very popular.

Nut, Gall. *See* Gall Nuts.

SPANISH-ENGLISH

(Cuero) **Nacardo.** *See* Pearlized Leather.

Napa. *See* Napa.

(Cuero) **Natural.** *See* Russet Calf.

Nonato. Hide of an unborn calf with an area below 0.8 meter with a weight up to 3½ kilograms (7.7 pounds.)

Nubuc or Nubuck. *See* Nubuck.

Novillito. Hide of a very young bull in the rough state weighing 19 to 23 kilograms (41.8 to 50.6 pounds.)

Novillo. Hide of a young bull in the rough state weighing 23 to 32 kilograms (50.6 to 70.4 pounds.)

O

bleaching greatly influence the characteristics of the finished leather. Various compounds of oils, filling materials, etc., are used in oil wheeling sole leather which is done in a large drum. This operation is followed by drying the leather.

Oiling Off. Coating the grain surface of wet leather with oil before drying.

Oils. A wide range of substances having rather indefinite popular classifications. Almost any oil could be employed in leather making; those generally used being selected on a basis of their individual characteristics, availability, cost, etc. Oils are frequently used in compounds with other oils, etc.

One Bath Process. A method of chrome tanning in which hides or skins are tanned directly with chrome liquor. *See also* Chrome Tanned and Tanning.

Ooze Leather. Term applied to vegetable tanned suede leather.

Ounce. Term indicating weight or substance of certain kinds of leather, such as upholstery, bag, and case leather. In theory, it is based on the assumption that one square foot

of leather will weigh a certain number of ounces. Hence, one square foot of leather, which would weigh 3 ounces theoretically would be a 3-ounce leather. However, in practice, this rule varies because of specific gravity of diverse tanning materials used, and for that reason, a splitter's gauge has been adopted to control the thickness of leather when sold by the square foot. Thus, an ounce is equivalent to 1/64 (.1056) inch in thickness.

Outsole. A leather from vegetable-tanned cattle hide, often quite thick, used primarily for the outer soles of shoes.

Oaxaca Goatskins. Goatskins from Mexico which derive their name from the section in which they originate.

SPANISH-ENGLISH

(Cuero) Ortopédico. In France, Germany, and Spain, leather which has been vegetable cured in such a manner that it maintains an intermediate layer which is only partially cured. It is principally used in the production of orthopaedic articles.

Oscarlas. Raw cowhide without hair of different colors used for men's footwear.

Oscarlas Medianas. Lightweight raw cowhide without hair of different colors used for men's footwear.

(Cuero) Ovino. Goatskin.

Ovino Con Pelo. See Hair sheep or Bastard.

P

pH. A measure of the relative acidity and alkalinity of a solution; solutions having a pH value of 7.0 are neutral; that is, the acidity and alkalinity are balanced.

Packer Hides. Hides which are taken off and cured by meat packing plants in the United States or Canada. These are generally grouped by the trade according to the nature of the plant such as big packer hides, which are those produced by the largest packing concerns (Armour & Company, Cudahy Packing Company, Swift & Company, and Wilson & Company) called the "Big Four" group; and small packer hides which are produced in the smaller plants. Because of the high degree of specialization of operations prevailing in modern meat packing plants, there is a great degree of uniformity in the takeoff and cure of hides produced in these plants, and hence they command the highest market prices.

Packer Kipskins. Kipskins which are taken off and cured by meat packing plants in the United States and Canada, usually by the so-called Big Four plants. *See also* Packer Hides and Kips.

Paddle. A paddle wheel used to agitate hides and skins during bating, tanning, and coloring operations.

Paddle Dyeing. A method of applying dyestuffs to very light leathers. The dyeing process is much the same as that employed in drum dyeing, except that the skins are kept in motion by the action of the paddle.

Paddle Vat. A vat equipped with a paddle wheel.

Pancake. An imitation heavy leather made of thin leather scraps cemented together under heavy pressure and often used as a shoe heel material.

Parasite. As defined by trade terminology: any insect which attaches itself to the body of an animal and obtains its nourishment and shelter from the hide substances.

Parchment. Tanned sheepskins. Vellum is practically the same as parchment except it is made from calfskins. In addition to its use as parchment for diplomas and records, it is also used for banjos and drumheads, lampshades, etc.

Patent Leather. A popular term which has passed into trade usage as a name for the finish produced by covering the surface of leather with successive coats of daub and varnish. The name is often loosely applied to any leather with a varnish finish, but the best usage of the trade restricts it principally to shoe leather, leaving the terms "enameled" and "japanned" to describe fancy and upholstery leathers produced by the name or similar processes. In the shoe trade, the bulk of patent leather used is made from cattle hides or kips although horse hide, goatskins, kidskins and calfskins are sometimes used.

Pattern (Shoe). The form by which various parts of the shoe upper are cut.

Pattern Hide. The outline of a hide of skin as trimmed and furnished to the tanning industry.

Pattern Leather. The outline shape of a tanned skin of leather.

Paytas Goatskins. Light, fine-grained goatskins from Peru.

Pebbled Grain. An embossed leather grain finish which resembles a pebbled surface and which may cover a wide range from very fine grained Morocco grain to the heavy pebbled surface of Scotch grain leathers.

Peccary Leather. A fine-grained leather made from the skins of wild peccary boars which are found principally in Central and South American countries. Peccary leather is generally chrome tanned and shaved to a light weight. It is washable and very durable and is extensively used for fine dress and sport gloves.

Pelt. A hide or skin, usually when raw, with the hair or wool left on. Most frequently used to designate the skins of fur bearing animals.

Penetrant. A substance that aids or speeds the penetration of a fluid.

Pepper Box. The pattern produced on the grain surface of leathers from grubby hides of the grub holes, which often resembles buckshot marks.

Pepsin. Enzyme which acts upon proteins.

Pernambuco Goatskins. Goatskins from Brazil which derive their name from the district in which they originate.

Persian. A crust vegetable-tanned leather made from the hair-type sheepskin originating in the Indian sub-continent and tanned in India, mainly on the south and especially around Madras. Alternatively called E.I. sheepskin. Finished leather made from the same.

Persians. Crust leathers made from India-tanned hair (as opposed to wool growth) sheepskin also called E.I. tanned sheepskins. Term should be confined to India-tanned sheepskins although it formerly included goatskins. Leather from "bastard skins" (*See* Bastard) is sometimes designated as Persian.

Peruvian Goatskins. Goatskins from Peru, which include several varieties deriving their names from the district in which they originate.

Phenol. Also known as carbolic acid, phenic acid, phenylic acid, phenyl hydrate, and hydroxybenzene. An organic compound derived from such aromatic hydrocarbons as benzoic acid (C_6H_5OH).

Phosphate Tannage. A pretannage used in connection with vegetable tanning. When raw hide is placed in the acid solution, the salt, sodium metaphosphate ($NaPO_3$) used for this tannage penetrates the stock rapidly and combines with hide protein, forming leather.

Phosphorated Oils. Oils which are treated with phosphorous pentoxide (P_2O_5). They are used in fat liquoring and oil tanning.

Picker Leather. Various types used in textile mills. May be very soft, mellow, and tough heavily stuffed steer hides like comber and grill box apron leather. Picker straps are sometimes made from glycerine-tanned rawhide, which is a strong and pliable leather.

Picking Band Leather. Butt or Shoulder Leather, combination tanned (oil/vegetable) or chrome tanned, curried to produce leather with high tensile, tear, and flexural strength for use on textile looms.

Pickle. A solution, usually of acid and salt, in which unhaird hides and skins are treated to preserve them or to prepare them for tanning.

Pickled Stock. Hides or skins which have been treated with a pickling solution.

Pickling. Covers any method of shipping stock wet with brine. It is used chiefly for sheep, lamb, and goatskins, which are frequently placed in brine in casks and shipped in this way. This method is used before the tanning operation begins. The salt solution contains 1-2 percent sulfuric acid.

Pigment Finish. Denotes leather, the surface of which is coated with a material containing pigment or other opaque material.

Pigments. Inert coloring materials used extensively by leather manufacturers for finishing white and colored leathers.

Pigskin Leather. Leather tanned from the skins of pigs and used for numerous purposes. It is tough and durable and withstands abrasion. It has outstanding characteristics which make it especially desirable for some purposes, and less desirable than other leathers for some others. It has compact fibers and a pattern consisting of tiny creases and bristly holes.

Pigskins. The raw skin of the domestic pig; slaughterhouse practice in the United States calls for leaving the skin of the hog on the carcass. Hence, most pigskins available from the U. S. market are strips taken from the lard area of the back. In Germany, Italy, and Spain the definition also covers the skin of the wild pig.

Pin Seal. Leather tanned from high-grade sealskin in which the original fine grain of the skin is retained. The pin seal grain is also imitated in embossed leathers, but these should be described as "pin grain leather" to differentiate them from genuine pin seal.

Pinned Shoulder (Pinned Belly). Set out and rolled leather made from a vegetable-tanned cattle hide shoulder or belly.

Pipey Grain. An extremely loose grain on finished leather characterized by blister like formations on the surface produced by slightly folding.

Plastics. In modern usage, a broad group of synthetic materials derived from organic matter, like casein in milk, cellulose in cotton and wood, coal and coal tar, etc.

Plunging. Stirring up the liquors used in tanning.

Pneumatic Leather. Usually made of sheepskin skivers for pneumatic machinery and equipment.

Pocketbook Leather. Any leather used for pocket-books, purses, wallets, etc., usually made from calfskins, goatskins, sheepskins, sealskins, steer and cow hides and reptile skins.

Polson Cured Hides. See Arsenicated Hides.

Porta Plata Goatskins. Goatskins from the Dominican Republic whose name is derived from the district in which they originate.

Potassium Arsenate. A colorless crystal (KH_2AsO_4), soluble in water. Among its industrial uses is the preservation of hides and skins.

Potassium Hydroxide. Also known as caustic potash,

potassium hydrate, and lye. A caustic derived by electrolysis of concentrated potassium chloride solution or by boiling potassium carbonate with milk of lime (KOH).

Potassium Permanganate. A compound of potassium, manganese, and oxygen ($KMnO_4$). It is used in leather manufacture chiefly as a bleach, as an antiseptic in leather finishing and in the making of chamois leather.

Premium Leather. Leather which has been made from specially selected raw stock or which has undergone special processing or grading which justifies a higher price than is obtained for ordinary leathers of the same type and grade.

Preservation. The packinghouse procedure which in the United States conventionally calls for cooling the hide until respiration of the tissues diminishes, then spreading salt over the flesh side and building a pack of skins in much the same manner as shingles are placed on a roof. Fine salt is needed for the more delicate calfskins, while with kip weights and mature hides a coarser rock salt is used. This process is called green salting. Thirty days is the accepted time required to saturate the hide tissues with salt after which they are individually shaken out and spread flesh side up for inspection and grading. Each hide is then folded in a prescribed way into a bundle, then weighed and stacked for shipment.

The process of salt curing is dynamic; that is, not simply a process of saturating, for there is a net decrease in weight of approximately 15-20%, due primarily to water loss.

The process of brine curing has evolved from the method used by large packers in South America wherein fresh hides are washed and then submerged in vats of saturated brine. Salt is added to maintain saturation, and the hides are periodically poled by hand from top to bottom. After overnight soaking, the hides are drained and packed in much the same manner as in green salting. Hides so produced are of high quality and are known as "Frigoriticos."

The brine curing process has been modified in this country by the provision of an oval tank equipped with paddle wheels to keep the hides moving and by keeping the brine at saturation by pumping it through a bed of rock salt. For curing operations of small to intermediate size, a further modification of brine curing process has been introduced. The hides are placed in a tannery drum or a concrete mixer type processor and tumbled with cold water to remove manure and other debris. Then salt is added, first in sufficient amount to give approximately 80 percent of saturation, then in amounts to give 100 percent saturation. The flexing action of the hides in the drum and processor greatly accelerate diffusion and results in a very rapid and uniform cure.

The method of preserving hog and pig skins depends on their ultimate use. Since the method of handling permits their use for edible gelatin, the strips from fatbacks are promptly fleshed, frozen into blocks, and shipped to the gelatin plants. Skins to be used for leather are cured in much the same manner as are calfskins.

Preservative. An agent used to prevent decay, decomposition, putrefaction, etc. The chief preservative used in the making of leather is common salt, which is important at

several stages of the process of converting hides into leather. It is used in abundance to preserve hides before they are started through the leather making processes, and it is later used in numerous solutions in the tannery.

Pressing (Leather). A tannery operation employed to reduce the water content of light leathers before they are split or shaved. The wet leather is folded and placed in a hydraulic press reducing the water in the leather by over 50 percent.

Pretannage. A common trade term usually referring to a light tanning which is followed by a complete tanning process.

Printing and Pulling. The packinghouse process used in treating sheepskins of loosening the wool attached to the skin without damage to the fiber. This is usually accomplished by painting the flesh side with a paste containing sodium sulfide and lime. The principal effect of such reagents is the depolymerizing action brought about by the splitting of disulfide linkages which are numerous in the serrations of the skin. The alkaline pH generated by other reagents such as methylamine also has destructive effects upon disulfide bonds.

After painted skins have hung overnight at temperatures greater than 16° C (60° F), they are placed flesh down, sorted, and graded. Since the quality of the wool varies with the location from which it is taken, it is customary to pull the wool by hand. Skin-to-skin variation is too great to permit efficient pulling by machines.

Proteases. Enzymes which act upon proteins.

Protected Leather. Leather in which special chemicals have been added to make it resistant to atmospheric pollutants and less likely to deteriorate through such exposure. The treatment is often applied to vegetable-tanned upholstery and bookbinding leathers.

Proteins. Also called proteids. Complex substances present in all living cells, both animal and plant. They all contain nitrogen, carbon, hydrogen, and oxygen, and frequently some sulfur. With the exception of small quantities of inorganic matter and pigment, the chemical constituents of hides and skins are proteins. Leather is formed by the action of vegetable tanning or mineral salts on the hide protein.

Proxylin Finish. A finish having a plastic as a base.

Pure Dressed Leather. Curried leather without adulterants to give extra weight. Leather that has been dressed by hand with dubbin.

Pureing. See Bating.

Python Leather. Leather made from the skins of the python, a large nonvenomous snake. The back of the python is marked with a distinctive pattern and covered by medium-sized scales.

FRENCH-ENGLISH

Cuir Plague. In France and Germany leather covered with a sheet or a film of plastic or other artificial material which gives it the appearance of patent leather. The French

term "cuir plague" or "croute plague" must be accompanied by the work indicating the nature of the material used, e.g., vinyl, polyester, etc.

(Cuir **Parchemine**). Lined Rawhide.

SPANISH-ENGLISH

(Cuero en) **Pasta.** See Crust Leather.

(Piel en) **Pasta.** See Crust Leather.

Paston. See Chevrette. The word "Cabriola" is generally used instead of Paston.

Pecarl. See Peccary Leather.

Peludo. See Hair Sheep or Bastard. Generally, the word Cruzado is used instead of Peludo.

Pelusa. See Crock.

Pelusa de Ante. See Crock. Generally "pelusa" is used by itself.

Pergamino. See Parchment. In Spain, there is no difference between parchment and vellum.

Pergamino de Piel Ovina. See Grain Forel.

Pergamino de Serraje Ovino. See Forel.

Pergamino para Tambores. See Drumskin.

Piel. See Skin.

Piel de Rusia. See Russian Leather.

Piel Dorada o Plateada. See Gold and Silver Leather.

Piel Esquilada Afelpada. See English: Suede and Shearling.

Piel Ovina. See Sheepskin.

Piel Ovina Esquilada Acabada. See Shearling.

Piel Ovina Esquilada para Forro. See Lining Shearling.

Piel Ovina Rasada para Guarnicionerfa. See Trimming Shearling.

Pigmentado. See Pigment Finish. Generally the term "acabado con pigmentos" is used instead of just "pigmentado."

Plantilla de Curtición Vegetal Mixta. A type of bottom leather which in France is called "cuir de tannage moyen" and in Germany is called "schnittervache." It is produced by a combination of drum and pit tannage (mixed tannage) of average duration. It is used principally in shoe repair but may be used for the first new soling attached to heavy footwear.

Plantilla para Clavado. A bottom leather which in Germany is known as "negelvache." It is a fine bottom leather used in Spain and Germany. Because of its strong structure, it holds nails well.

Plantilla para Cosido. A bottom leather known in Germany as "nanvache" and in France as "cuir à couture." Because of its flexibility, this type of bottom leather is used in France, Germany, and Spain for sewing.

(Cuero para) **Plantillas.** A bottom leather known in Germany as "vacheleder." It is a type of bottom leather which is more pliable and flexible than sole leather. In Germany, the classification is divided into zahanvache and

wildvache according to the type of raw material used. In Spain, "plantilla para clavado" and "cuero flexible" fall in the category.

Plena Flor. See Full Grain.

(Piel or Cuero) **Precurtido.** See Pretannage.

(Piel or Cuero) **Protegido.** See Protected Leather.

Puro. See Straight.

(Curtido) **Puro Aceite.** See Full Oil.

(Curtido) **Puro Cromo.** See Full Chrome (Tanned).

Pescuezo. Neck, the part of the hide which covers the shoulders and neck of the animal.

(Cuero) **Piquelado.** In Peru, hide without hair, epidermis tissue, or flesh which has been acidified at a pH below 4.5 and that is not swollen.

(Cuero) **Pintado.** Leather whose surface has been finished by painting materials.

Poprido. The start of putrefaction in the hide, which loosens the hair and damages the grain.

Pellizcadas. Marks which are noticed on the hide and which are usually made during the work of the different machines.

Polvo de Cuero. Powder made from leather.

(Cuero) **Porcino.** See Pigskins.

(Piel con) **Pelo.** The hide which is tanned without taking the hair off.

Pesados. Pieces of hide from 7 kilograms, 15.4 pounds up, which come from bull and stags.

Pila. A pile of salted hides that belong to one owner.

Portrillo. Salted horse hides with hair that weighs up to 7 kilograms, 15.4 pounds. May be dry horse hides weighing up to 2 kilograms, 4.4 pounds.

Portancas. Salted horse hides that weigh 7 to 12 kilograms, 15.4 to 26.4 pounds. May be dry horse hides weighing 2 to 4.5 kilograms, 4.4 to 9.9 pounds.

Potros. Salted horse hides that weigh 12 kilograms, 26.4 pounds and up. Might also be dry horse hides weighing more than 4.5 kilograms, 9.9 pounds.

ITALIAN-ENGLISH

Pelle Grezza or Pelle In Pelo. The outer covering of any animal, the skin; refers to raw, untanned not dressed, unbleached skin or hide. (See the Hide and *Cuoio*.)

Pelle di Porco. Pigskin.

Pelle di Daino. Buckskin; incorrectly used to refer to chamois.

Q

Quilted Leather. Any leather which is stitched to a thick backing fabric, the stitching usually being done all over in patchwork, symmetrical, or ornamental designs. Commonly used for upholstery and ladies' handbags.

SPANISH-ENGLISH

Quebradiza. Brittleness; the crumbling or cracking of the grain.

R

Rattlesnake Leather. Leather made from the skins of the American diamond-backed rattlesnake. The scales and pattern of diamond-backed rattlesnake resemble somewhat those of the python and boa. Rattlesnake leather is made from the skins of domestic snakes which are raised primarily for the meat of the snake which is canned and sold as a delicacy.

Range, Butt or Bend. In respect to sole leather, a butt or bend range is a strip of sole leather of convenient width cut from a butt or bend at right angles to the backbone. In respect to other hide leathers, a butt range is a strip of hide leather of convenient width cut from the fore end of a butt, usually after but sometimes before tannage.

Raw Stock. The hides and skins used for making leather, as referred to in a completely untanned state.

Rawhide. The usual American name (which has spread to other English-speaking countries) for cattle hide that has been dehaired and limed, often stuffed with oil or grease, and sometimes undergone other preparatory processes; usually has not been tanned. Some rawhide is tanned with the hair left on. Used principally for mechanical purposes, such as belt facings and pins, loom pickers, gaskets, pindons, gears, also for trunk binding and luggage.

Refleshing. A tannery operation which follows liming and unhairing of hides or skins. (*See also* Unhairing). The action of the lime used in unhairing swells the hides of skins to a considerable degree and the flesh side is roughened because of the swelling of small particles of tissue which were not removed in the fleshing operation. (*See also* Fleshing). These small particles are removed by refleshing the stock in the same manner it was first fleshed.

Rein Back. Harness or bridle leather in the form of a back, usually of good selection, curried and having a close-shaved fleash.

Reindeer Leather. *See:* Buckskin.

Reptile Leather. Leather made from real reptile skins.

Resin. A natural or synthetic material used extensively for a number of industrial purposes including varnishes, lacquers, enamels, and finishes used by the leather industry.

Resin Finish. Leather with a special kind of pigment finish, the binder being a polymer or co-polymer; usually a thermoplastic synthetic resin.

Retan. To tan again. Various leathers are frequently tanned by one process and then retanned by another to produce, by the use of two processes, leathers having qualities and characteristics not obtainable by one tanning method.

Retanned Leather. Any leather which has been first tanned by one process and then retanned by another to produce, by the use of the two processes, leather having qualities and characteristics not obtainable by a single tanning method.

Reversed Calf. Term applied to calf leather of heavier weights, finished on flesh side, containing oils to make more water resistant than suede, used for shoes where a

nappy leather is required. The flesh side is lightly buffed to remove surplus fiber, but it is not finished with a fine suede nap. Originally called "French Calf" in England, the term "Hunting Calf" is also used in that country. The term "Service Leathers" is used but is generally applied to splits and side leather.

Reversed Split. Split leather which is finished the same as reversed calf and side leather.

Rind Box. In the strict sense, a term for chrome-tanned full-grain side leather, smooth or boarded. In a wider sense, also used for full grain or buffed, smooth or boarded side leather, usually chrome or combination tanned.

Ringworm. A contagious skin disease affecting animals, corresponding to athlete's foot in man. It is caused by a fungus or moldlike organism and causes hide defects which measurably lower the value of the hide and the quality of the leather made from it.

Rio Hache Goatskins. Goatskins from Venezuela which derive their name from the district in which they originate.

River Plate Goatskins. A general term for numerous types of goatskins from the River Plate area of South America, principally from Argentina.

Roan. A term used to describe sheepskins which are not split.

Rocker Vat. The vat used for the preliminary tanning of heavy leather. It is equipped with a rocking device to keep the stock in motion during tanning to secure uniform tannage and prevent kiss spots.

Roller Leather. Denotes leather from certain classes of sheep, lamb, and calfskins, especially vegetable tanned. Used commercially for cots or covers of the upper rolls of cottonspinning machines.

Rolling. A tanning operation whereby the grain surface of leather is compressed and smoothed under the pressure of a metal roller to generally improve its appearance.

Rolling Jack. A machine for rolling the grain side of leather with a heavy metal roller operating under considerable pressure.

Romeo. A man's slipper with a high back and front and low cut sides.

Rooin. The hard resin, amber colored to almost black, left after distilling off the volatile oil of turpentine. It is used in varnishes and soaps and in driers for oils.

Rumper. A packinghouse workman who specializes in cutting the hide away from the base of the tail and rump of the carcass.

Run Pelts. Sheepskins dewooled by sweating, whose grain surfaces have been pitted or liquefied in spots by wormlike organisms.

Russet. A term of varied meaning in the leather trade, since it connotes both color and tannage.

Russet Calf. The natural color of unfinished calf leather resulting from tannage by vegetable extracts.

Russet Sheepskin. A leather used for shoe linings. It is

tanned in cold-leached hemlock bark with color resulting from the hemlock.

Russet Upholstery. A leather tanned but not finished. Russet is a red-yellow color.

Russian Leather. Originally a calfskin shoe leather of Russian origin, vegetable tanned and dressed with birch oil. In the United States, it now denotes a fancy stock made of calfskin or light cattle hide.

SPANISH-ENGLISH

Rasillas. *See* Lining Shearling. Generally the term "piel ovina esquilada per forro" is used.

Raspado. Scrapes, marks, or traces which originate in the hides when the living animal is dragged or after it is slaughtered.

Rebordes. *See* Offal.

Rechazos. Hides which have visible defects and, therefore, cannot be classified as Frigorificos. The defects fall within the following categories: scabbed hides; damages in the outer side of the hide; brand marks that have produced blisters or more than two fire-branding marks well healed; skinning defects.

Recurtido. *See* Retanned Leather.

Remesa. Shipment; a shipment is the rawhides or articles of hide which have been presented together for one inspection under a single contract, order, or detailed specifications.

(Cuero para) **Rodillos.** *See* Roller Leather. In Spain, the term "cuero para cilindros de hilatura" is more commonly used.

(Cuero de) **Rusia.** *See* Russian Leather.

Saddening Agent. The addition of a substance during dyeing to produce a duller shade.

Saddle Finish. Any leather that is colored and finished to resemble genuine saddle leather.

Saddle Leather. As used in the manufacture of harness and saddlery, this leather is a vegetable tanned cattle hide. Generally, it is tan in color, is produced in various thicknesses and used also outside the saddlery trade for leather goods of various types.

Saladero Hides. Hides from Argentina corresponding to the small packer hides produced in the United States.

Salometer. An instrument for measuring the weight of a salt solution per unit volume and thus giving a measure of its salt content; used in strengthening pickle liquors with salt. Saturation equals 100° salometer.

Salt. Common salt. Normal commercial sodium chloride (NaCl) containing about 4 percent of moisture and 100 parts per million of iron (Fe) and not less than 56 percent of chloride (estimated as chloride) to which may be added not more than 2 percent of sodium fluoride or 2 percent of sodium silico-fluoride.

Salt Stain. A stain or discoloration on the grain surface of hides and skins, caused by improper curing of the stock and affecting the quality of the stock and the appearance of leather made from it.

Salt Thrower. A packinghouse workman who specializes in spreading rock salt over the hides during the building of a hide pack for curing.

Sammyling. "Wetting down" process in tanning, either with water or by burying in sawdust to permit stretching.

Santiago Goatskins. Goatskins from Chile whose name is derived from the district in which they originate.

Santo Domingo Goatskins. Goatskins from the Dominican Republic which derive their name from the district in which they originate.

Satin Finish. A soft dull or mat finish when applied to leather, as distinguished from a glazed or enameled finish.

Scabies. A variety of mange caused by a parasitic mite. The mite digs down and cuts channels which are observed only when the hair is removed from the hide by the tanner. The extent of the damage becomes more apparent when the hide is cut into cross-section.

Scored Hides. Hides damaged during flaying by cuts that do not completely penetrate the hide.

Scoured Leather. Heavy leather which has been scoured with a stone and brush to stretch it and remove bloom and loose tan, or scoured on a scouring machine for the same purpose. Scouring is usually done only on leathers which are to be curried, and even for such leathers it is not commonly performed in modern leather making.

Scotch Grain. A pebbled pattern embossed usually on cattle hide or calf leather, made to resemble the heavy leather with a coarse grain which originated in Scotland.

Scrap Leather. Waste leather produced by trimming stock in tanneries and shoe factories.

Scratched Hides. Hides which have been damaged by scratches during the life of the animal. These are caused by contact with barbed wire fences, nails, horns, thorns, and other sharp objects. Such hides are often deeply scratched resulting in infection of the animal. They always lower the quality of the hide or skin and of the leather made.

Scud. Remnant of epithelial tissues, hair pigments, etc., left in the grain layer of hides and skins after unhairing.

Scudding. A tannery operation whereby the epidermis remaining after dehairing on the grain side of hides and skins as well as their pores is removed.

Sealskin Leather. Leather tanned from genuine sealskins, used for luggage, brief cases, and other leather goods.

Seasoning. Treatment of leather with preparations to give new wear resistance to surface and improve appearance.

Sebaceous Glands. The oil glands associated with the hair or wool fibers of animal skins.

Semi-Chrome Leather. A combination-tanned leather made by stripping most of the original tannage from the leather and completing the tannage with a basic chrome liquor.

Setting Out. A tannery operation employed to reduce the water content of light leathers before they are split or shaved.

Shagreen. The rough, flinty outside skin or "armor" of certain sharks.

Shagrin. A leather tanned from the hide of an ass or mule and having a peculiar pebbled grain. The shagrin grain was originally produced by Persian tanners who stamped the hard seeds of the wild orach into the hide, spread on the ground. The seeds were afterward knocked off and the hide scraped and finished on the indented side. The leather was noted for its hardness and strength.

Shank. That portion of the hide which formed the leg of an animal.

Sharkskin. A leather made from the skins of certain species of sharks.

Sharpening Agent. A material added to a lime liquor to accelerate the loosening of the hair of hides and skins immersed in it.

Shaved Weight. The weight of a pack of skins after shaving, in which condition they retain about 50 percent water content.

Shaving. A tannery operation whereby light skins may be evened in thickness, smoothed, and cleaned of loose fibers on the flesh side.

Shearling. Leather made from sheepskins which have been sheared shortly before slaughter; the short remaining wool being left on the skin when tanned.

Sheepskin. The outer covering on an ovine animal. An unsplit sheepskin leather. Since the major value of sheepskins is represented by the wool, most of the skins are dewooled at the wool pulleries, then preserved or pickled

with dilute sulfuric acid and salt. Imported skins may be pickled, salted, or dry, and some still have their wool. The major classifications of sheepskins or pelts are based on the length of the wool.

Shell. The close-fibered butt or a horse hide used in making cordovan leather.

Shellac. A resin manufactured from crude lac which, in several forms, is used in leather finishes.

Shoe Leather. This term is self-explanatory and includes a large variety of leathers: (1) Sole leather made from cattle hides is used to a lesser extent for heels, insoles, toe caps, counters; (2) upper leather, made principally from calfskins, goatskins, cattle hides, and horse hides is used for shoe uppers; (3) miscellaneous shoe leathers, including wetting, lining, stock, tongue stock, facing stock, etc.

Shoulder. That part of the hide that is bounded by the face and cheeks on the top, the butt on the bottom, and the two bellies on the side. The butt on most cattle hides ends about 50 inches from the tail.

Shoulder Grain. The tanned outer layer split from a shoulder.

Shrunken Grain Leather. Kidskin or light-weight calfskin leather which is made by swelling the skins by means of weak acids prior to chrome tanning.

Side. Half of a whole hide, cut longitudinally along the midline with offal (head, belly, shoulder) attached.

Side or Side-Upper Leather. A kind of shoe leather consisting of the grain or hair side of cattle hides finished in a variety of grains or colors. Originated from the practice of slitting a hide along the backbone into two halves or sides.

Silica Tanned. White and full leathers tanned with silica compounds; usually with low tensile and tear strength.

Skin. A general term for the outer covering of an animal. The raw skin of a mature fully grown animal of the smaller kinds, e.g., sheep, goat, pigs, reptiles, birds, and fish; or of the immature animals of the larger species, e.g., calves and colts. The skin of a fur-bearing animal, dressed and finished with the hair on. In most countries, pigs, reptiles, birds, and fish are included under "Skins" but in Germany they are included under "Hides." A small hide which, in the case of cattle, weighs under 30 pounds after curing. Some factors used in classifying skins are weight of the hide, sex and maturity of the animal, existence and location of brands, method of preserving or curing, and size and location of slaughtering agency.

Skirting Leather. A specialized vegetable-tanned cattle hide leather used for skirts or hanging portions of saddles that come between the legs or a rider and the horse.

Skirts. The outer portions of hides and skins, including the shank, belly, neck, etc.

Skiver. The tanned outer or grain split of a sheep or lambskin. Sometimes applied to goatskin. In Germany and Spain, the term is also used for the grain split or a raw sheep pelt.

Skiving. Cutting a beveled scarf on leather, fabrics, etc., or shaving a thin layer from such materials. The word is used mostly in connection with shoemaking, as operations in the tanning industry or similar nature are called shaving, splitting, etc.

Slats. Sheep or lambskins which have been dried after dewooling and liming, rather than pickled.

Slipper. Cowhide, usually chrome tanned, used for slipper uppers.

Slunk. The skin of an unborn or prematurely born calf. Slunks are divided into groups; those with hair and those without hair.

Small Packer Hides. Hides which are taken off and cured by small meat packing organizations.

Smooth Calf. Smooth calf leather has a very fine finish through which the natural grain is visible and, while most of it glistens with semibright appearance, some is finished duller and imparts only a mellow gloss.

Smooth Plating. Semibright finish given to leather by ironing with large flat steamheated steel plates. The fibers of the leather are compacted and its surface smoothed by the procedure. Matt finished leathers are first oiled and ironplated or ironed by hand. Smooth plating is performed on practically all light leathers.

Snakeskin. Term used to describe leather made from any one of a number of species of snakes.

Snuffed. Leather which has had the outer surface of the grain removed by various methods of buffing. Also known as corrected leather.

Snuffed Finish. See Corrected Grain and Buffed Leather.

Snuffing. Lightly buffing portions of the grain side of the leather to remove grain defects.

Soaking. The first operation performed in the making of leather.

Sodium Fluoride or Fluorol. Clear lusterless crystals or white powder derived by adding sodium carbonate to hydrofluoric acid (Na F); used by the tanning industry chiefly as an antiseptic.

Sodium Hydroxide. Also known as caustic soda. Formed by the electrolysis of sodium chloride or by treating a solution of soda ash with a solution of lime (Na OH).

Sodium Hypochlorite. Also known as hypochlorite of soda. A salt used in solution known as eau de la barrique (Na OCl) used as a water purifier and as a bleaching agent.

Sodium Thiosulfate. Also known as sodium hyposulfite, hyposulphite of soda, sodium subsulfite, and hypo. (The latter term is commonly used by the tanning industry (see Hypo Bath). It is a white crystal derived from waste sulfide liquors (Na₂S₂O₂ · 5H₂O), and is soluble in water and oil of turpentine, insoluble in alcohol. It is used in chrome-tanning process to reduce the sodium dichromate to the condition of a tanning agent and as a neutralizing agent for acids. (See also Chrome Tanned and Tanning.)

Sole Leathers and Other Heavy Leathers. The finishing of sole and other heavy leathers, like that of light leathers, may include a number of operations and treatments which are not strictly classified as finishing but which do, nevertheless, serve to complete the processes of leather making. For this reason the finishing of the heavy leathers in this description includes all of the processes of preparing the leather for marketing after it has been fully tanned and

after such operations as cropping, extracting, and tempering in the manufacture of sole leather.

Sour Dip. An acid solution containing Epsom salt and fermenting corn sugar into which dry sole leather is dipped to improve its color and texture before drying again.

Southern India Goatskins. A general classification including several types of goatskins from southern India.

Spanish Goatskins. A general term which includes several types of goatskins from Spain.

Spanish Grain. Finish produced by embossing a modified natural grain on fancy or upholstery leather. Formerly produced by drawing or striking a hide or skin in a strong tan liquor to shrink the grain, forming a particular pattern on the surface, because of unequal shrinking of different portions.

Special Machine Buffs. Designation for the cut of a hide from which a light cut has been removed from the grain in upholstery leather.

Specific Heat. The number of calories of heat required to raise the temperature of one gram of material by 1° C.

Spent Tan. Ground tan bark from which the tannic acid has been extracted.

Spew. A portion of the oily constituent of leather that comes to the grain surface as white crystallized fatty acid or waxes, or as a gummy spew in the form of dark oxidized fatty acids.

Split. If a hide or skin is split over its whole area into several layers, this process is termed "splitting." The layers thus obtained are termed: Grain split (outer split); flesh split (inner split); in heavy hides there can also be a middle split. Leather made from the flesh split or middle split.

Split Buckskin. Leather finished from the split or undercut of deerskins to resemble genuine buckskin.

Split Hide. The outer (hair or grain) layer of a hide from which the under or flesh side has been split to give it a reasonably uniform thickness. In France and Germany, mainly from cow or bull hides. Originally vegetable or combination tanned, now also chrome tanned. The leather is dressed according to the purpose required (for cars, trunks, furniture, bags, etc.).

Split Leather. Any leather made from portions of hides or skins which have been split into two or more thicknesses other than the grain or hair side.

Splitting. 1. Cutting a hide or skin horizontally into several layers, each of which may be finished into a different type or grain of leather. 2. Dividing a hide or heavy leather into sides, bends, bellies, etc. 3. Reducing the thickness of cut soles to a uniform gauge by splitting a layer off by means of a machine equipped with feed rolls and a splitting knife.

Splitting Horse. A wooden frame for supporting a hide while cutting it into two sides.

Splitting Machine. A machine equipped with a gripping cylinder and bank knife for splitting hides or skins or leather horizontally into splits or for leveling the thickness of leather.

Sponging. After being immersed in the sour dip and dried, the leather is dipped very quickly in a solution of

Epsom salt and oxalic acid and then washed on the grain side with an emulsion of kerosene, oils, and waxes preparatory to rolling.

Sporting Goods Leather. A broad classification including any leather manufactured for various sporting goods and equipment.

Spread Native Steers. Native steerhides measuring 6 feet, 6 inches in width, back of the brisket for straight head hides and 6 feet, 8 inches when of kosher slaughter.

Stag Hides. Hides from male cattle which have been castrated after maturity. There is no distinction covering stag hides in market practices; they are accepted as steer or bull hides, whichever they most nearly resemble.

Staining. The application of stain or ink to any shoe part. Customarily, the coloring materials used for staining raw edges of shoe uppers are called stains, and the application, staining.

Staking. Flexing leather to soften it by separating fibers sticking together.

Staling. Term sometimes applied to the process of sweating. *See* Sweating.

Standard Tannage. The term used by the trade to describe leather that has been tanned by standard methods and without special processing or care that might command premium prices for the leather.

Steer Hide. Leather made from the hides of steers, usually a heavy leather for soles, belting, etc., although the term is sometimes used to cover any cattle hide leather especially in the fancy leather goods trade.

Steerhide Leather. Leather made from the hides of steers, usually heavy leather.

Stirrup Butt. Strong flexible leather usually shaved 4 to 5½ mm thick, made from oxhide rounded into butts approximately 5 feet long.

Stirrup Leather. Leather made from light native steer hides used for the straps suspending the stirrups of a saddle.

Stock. The hides or skins used by the leather manufacturers. The term "raw stock" is commonly applied to the hides and skins before tanning operations are begun; and the term "stock" is commonly used in referring to the hides and skins while they are being tanned and before they have been converted into leather.

Stoving. Drying enamelled leather to obtain a hard finish.

Straight. When prefixed to the name of a tanning process or coloring process indicates that only the process specified has been employed in the manufacture of the leather. Thus, Straight Chrome indicates tannage solely by the use of chromium salts and Straight Dyed indicates coloring solely by immersion in a dye bath without subsequent application of pigment finishes. *See* Combination Tannage, Aniline Dyed, and Full Chrome.

Stripping. A process of removing most of the original tannage from semi-chrome tanned leather so that the finished leather will not be hard and unevenly tanned.

Stuffed Leather. Leather which has had wax or grease worked into the fibers. *See* Wax Finish.

Stuffing. The process of stuffing wet leather with hot greases or waxes to produce certain types of finished leather.

Stuffing Drums. Large drums in which leather is treated with hot greases.

Sudoriferous Glands. Sweat glands located just below the hair bulbs of a hide or skin.

Suede and Embossed Calf. Calf suede is by far the most important suede leather in shoes. It is soft, yet strong, and has a rich, fine, even nap.

Suede Finish. A finish produced by running the surface of leather on a carborundum or energy wheel to separate the fibers in order to give the leather a nap. The grain side of the leather may be suede finished, but the process is most often applied to the flesh surface. The term "suede" is usually applied to chrome- or alum-tanned leather, while "ooze" is applied to vegetable-tanned suede. The term "suede" when used alone refers to leather only. The term denotes a finish, not a type of leather.

Suede Leather. See Suede Finish.

Suede Splits. Leather made from the flesh splits of hide or skin and finished with a velvetlike nap.

Sulfonated Oils. Oils that have been subject to the action of sulfuric acid. Among the oils that can be readily sulfonated are castor, cod, corn, neat's-foot, olive, and a few other saponifiable oils. Sulfonated oils in fat liquors assure a deeper penetration of fat liquors into leather.

Sulfur Tanned. Leather produced by incorporating sulfur and sulfur compounds into hides and skins by treatment with acid and sodium thiosulfate.

Sumac Tanned. Vegetable tanned, with the use of tannin contained in the leaves of the sumac tree.

Suspension Dried. Hides or skins dried by being laced to a wood or metal frame freely suspended within its perimeter flesh side up.

Sweating. The oldest known method of unhairing skins before tanning.

Sweep Tare. A weight allowance made in taking up hides. Ten hides are selected at random, weighted, swept thoroughly both on the flesh and hair sides, and weighed is then taken for the whole pack. If this tare is not satisfactory to either buyer or seller, another lot of 10 hides is taken, and the tare allowance is established on the average loss for the 20 hides.

Syntans. A term covering a group of synthetic tanning materials, generally used in combination with vegetable, mineral, or formaldehyde tannage. These materials are also often used for specialized purposes such as bleaching, filling, or as mordants.

Synthesis. The building up of a compound by the union of simpler compounds, or of its elements. Materials created by synthesis are those which have been created chemically by a union of the compounds of some natural material which it is intended to replace.

Synthetic Tanned. Tanned with synthetic organic agents.

Synthetic Tanning Materials. Artificial tanning materials which are produced by two distinct methods. One is to synthesize the most simple tannins, such as the tannic acid contained in gall nuts; the other is to build up substances similar in character to the tannins, from hydroxy-benzoic acids.

SPANISH-ENGLISH

Saja, Sajaduras. Scarification; cuts like single steps on the side of the flesh.

(Cuero) **Seco Dulce.** Literally sweet dry hide. It is the name given to fresh hides exposed to air in the shade, without any preparation for preserving it.

(Cuero) **Seco Salado.** See Curing, Green Salting.

Serraje. See Flesh Split or Split.

Serraje Afelpado. See Suede Splits.

Serraje Blando. In France and Germany bottom leather made from the flesh split of a cattle hide. The German equivalent is "Spaltscolleder" and the French is "croute a semelle."

Serraje de Crupon. See Butt Split.

Serraje de Cuero. See Split. Generally the word "serraje" is used by itself.

Serraje Flexible. See Flexible Split.

Serraje para Fuelles. See Bellows Hide.

(Cuero) **Sillero.** See Dressing Hide.

Simplemente Curtido. See Undressed Leather.

Suecia. See Doeskin. In Spain, suede leather made from deerskin is generally referred to as "antilope para empeine.."

Suela. Sole or sole leather. Sole leather is generally vegetable tanned and slightly flexible, pressed to make it more resistant to use.

Suela Cromo. Sole leather which has been tanned in chromium or a chromium mixture.

Suela de Curticion Antigua. In Germany and Spain sole leather produced by bark tannage over an extended period. Oak bark is most generally used, but other tree barks (e.g., pine bark in Austria and Switzerland) may be used.

GERMAN-ENGLISH

Samischleder. Chamois leather; wash leather. See Chamois.

T

Table Run or Tannery Run. Terms used to describe leather which has not been sorted or graded before sold.

Tacking. The stretching of wet skins in tanning process and nailing them on large wooden or metal frames to dry.

Tail Root. The base of the animal's tail where it is attached to the body.

Takeoff. Removal of the hide or skin of an animal (flaying). Takeoff enters into commercial transactions involving hides and skins, as to season of takeoff, point of takeoff, etc.

Taking Up Hides. Removing hides from the hide pack, sweeping therefrom the excess salt, inspecting, weighing, and classifying them.

Tan Yard. A section of the tannery in which are located the wooden vats in which leathers are vegetable tanned.

Tannate. A compound of some salt with tannin, such a titanium tannate, a yellowish intermediate, on which all shades of tan, brown, green, blue, and maroon can be obtained in coloring leathers.

Tannery Procedure. A sequence of operations intended to convert cured hides to leather. Included, for example, are beamhouse procedure, tanning, and finishing.

Tannic Acid. The active principle of the tannin contained in many vegetable materials ($C_{14}H_{10}O_9$). It is the principle which has the power of converting hide substances into leather.

Tannin. An astringent substance found in the various parts of plants—leaves, bark, wood, roots, etc. These substances form one of the most important groups of tanning materials used for the making of leather, and they are also used in the manufacture of other widely dissimilar products.

Tanning. The processing of perishable rawhides and skins, by the use of tanning materials, into the permanent and durable form of leather.

Tawed Leather. Leather which has been alum tanned.

Tawing. An old term for the process of tanning leather with alum by various methods. It was formerly used to distinguish between alum tanning and vegetable tanning, but in modern practice the term tanning includes practically all methods of converting hides and skins into leather and the methods used are indicated by a qualifying term: i.e., vegetable tanning, chrome tanning, alum tanning, etc.

Tear-Offs. Small pieces of leather (less than half a skin), which are torn from a skin during the staking or other tanning operations.

Texas Hide. *See* Colorados or Texas Hides.

Texas Steers. Small patterned, plump weight hides, originally from the Southwest, but now including hides from any section which resemble in plumpness the Texas hides.

Ticks. A blood-sucking parasite that lives on animals and causes three-fold damage: a damage to the skin,

resulting in damaged grain of the leather made therefrom; weakening of the animal; and carrying of contagious diseases.

Togging. A tannery operation whereby skins of light leather are stretched smoothly over perforated metal frames, attached thereto by means of toggles (metal clamps), which fasten to the leather and to which are attached hooks that can be inserted into holes along the edge of the perforated frame.

Top Coat. The final coat of finishing material applied to leather.

Top Grain. The first cut taken from the hair side of a split hide from which nothing whatsoever; except the hair and associated epidermis; has been removed.

Top Grain Thickness. The top grain is the grain side (hair side) of cattle hide reduced to a specified thickness, designated by an "ounce" standard (*see also* Ounce), from 2 to 10 ounces, according to a standard leather gauge. Split leather must be designated as "split" leather as it is not included in the above classification.

Tossing. *See* Biffing.

Traveling Bag, Suitcase, and Strap Leather. A general term for leather used in traveling bags and suitcases. It does not include the light leathers employed for women's handbags. The staple material for bag and case leather at present is leather made from the hides of animals of the bovine species, but other skins, including heavy sealskins and goatskins, are also used for this purpose.

Trimming (Hides). Removing the portions of a hide or skin which are not suitable for making into leather, and using these portions for glue, gelatin, etc.

Trimming (Leather). Raw stock from some sources is received at the tannery in an untrimmed condition and the waste parts which are removed in hide trimming must be taken off by the tanner, who converts them to the same uses as does the packer.

Trimming and Liming. After the wool has been pulled, the skins are trimmed to remove the head, shanks, and udders. Since not all of the wool is removed by the pullers, the remainder is dissolved by drumming (i.e., agitated by tumbling in a rotating drum), then soaking in a solution of alkaline sulfide. Finally, the sulfide solution is washed away by drumming with fresh, running water.

Trimming Shearling. Tanned and dressed sheep or lambskin with short—to medium-length wool suitable for trimming purposes.

True Skin. *See* Corium.

Turkey Red Oil. *See* Castor Oil.

Turkish Galls. *See* Gall Nuts.

Turkish Leather. Obsolete term formerly applied to genuine Morocco leather. *See* Morocco.

Turkish Oak. *See* Valonia.

Twaddell. A scale for determining the density of a liquid.

SPANISH-ENGLISH

Tafillete. *See* Glacé Kid. In Spain, "tafilete" does not include gloving leather; generally, "cabritilla al cromo" is used instead.

(Cuero para) **Talabarteria.** *See* Cloak Hide.

Tancalf. In Spain, a variety of box calf between 2.4 and 2.6 mm. thick, curried, usually boarded in two directions on the grain side—head to tail, belly to belly. Normally produced in the form of sides, but occasionally in butts or backs. Suitable for the manufacture of military footwear.

Tane. In Spain, a drum-dyed grain leather softer than clothing nappa and without a pigment finish. In France, the corresponding term is (glacé au plonger.)"

Tapa. *See* Side. Generally the word "lado" is used instead of "tapa."

(Cuero) **Tenido.** *See* Vegetable Tannage. Tenido is used in South America as well as "curtido al vegetal."

Tenido Anilina. *See* Aniline Dyed.

Tenido Anilina a Mano. *See* Aniline Stained.

Tenera Afelpada. *See* Suede and Embossed Calf.

Tenera Engrasada Afelpada. *See* Reversed Calf.

Tenera Afelpada para Botas. *See* Hunting Calf.

Tenera al Cromo. *See* Baby Calf and Box Calf.

Ternerito. A calf hide in the rough state with a weight of 3 to 8 kilograms (6.6 to 17.6 pounds). The calf is generally in its first year.

Tenero. Calf hides in the rough state, weighing 8 to 12 kilograms, 17.6 to 26.4 pounds. In Argentina, hides in this category weigh between 7 and 11½ kilograms exclusive. (15.4 to 25.3 pounds). In Peru, this hide must be between 1.6 and 2 square meters (17.1 and 21.4 square feet). The calf is generally between 1 and 2 years old.

Tenero Entero. A finished calf with a surface of up to 15 square feet (1.4 square meters). In Peru, material in this classification must have surface area between 12.1 and 21.4 square feet (1.2 and 2 square meters).

Ternilla. *See* Shell. In Spanish-speaking countries, the term "espejo" is often used in place of "ternilla."

U

Ultraviolet Rays. Light rays outside the visible spectrum at its violet end.

Undressed Leather. Leather, after tanning, that has not been further processed and may be wet or dry. In Western Europe it is named as Simple Tanned Leather.

Unhairing. A tannery operation whereby the hair is removed from hides and skins with the aid of depilating agents and the use of equipment designed for this work.

Union Tannage. The use of a combination of vegetable extracts to tan sole leather.

Upholstery Leather. A general term for leathers used for furniture, airplanes, buses, and automobiles. The staple raw material consists of spready cattlehides, split at least once and in many cases two or three times. The top or grain cuts go into the higher grades and the splits into the cheaper.

Upper. A shoe leather used for the upper portions. Predominantly from cattle hide and calfskins, although a great variety of skins are used. Usually combination tanned.

V

Valonia. A vegetable-tanning material obtained from the acorn of the Turkish oak. This tree grows in Asia Minor, and as the material is shipped from Smyrna, it is frequently known as "Smyrna valonia."

Vamp. The part of a boot or shoe above the sole and welt, and in front of the ankle seam and upper.

Vat. A large container, usually rectangular in shape, in which hides and skins are treated during numerous operations involving the use of liquors, such as soaking, liming, bating, pickling, tanning, dyeing.

Veal Calf. Leather made from large calfskins, usually measuring and weighing nearly as much as kips.

Veals. The name occasionally given to large calfskins, almost as large as a kip.

Vegetable Tannage. A generic term to cover the process of making leather by the use of tannins obtained from barks, woods, or other parts of plants and trees as distinguished from "mineral tannages."

Vegetable Tanning Materials. A group of materials derived from various vegetable sources and containing an active principle known as tannin which combines with the protein in hides and skins to form leather.

Vinegar Acid. *See* Acetic Acid.

SPANISH-ENGLISH

(Cuero de) **Vaca.** Untanned hide of a female bovine animal weighing 19 to 27 kilograms (41.8 to 59.4 pounds).

(Cuero de) **Vaca Box.** Cowhide finished the same way that box calf is finished. *See* Box Calf.

(Cuero de) **Vaca Sport.** *See* Sporting Good Leather.

Vacuno. Dry-salted cattle hide weighing 7 kilograms and up except from bulls and stags (15.4 pounds and up).

(Cuero) **Vacuno Charolado.** *See* Enamelled Hide.

(Cuero para) **Vallias.** *See* Bag Hide.

Vaqueta. Peruvian name for leather up to 2 millimeters (.07 inch) in thickness, used for luggage. In El Salvador, up to 3 millimeters (.11 inch) in thickness. Generally, the name "vaquetilla para maleteria" is used. *See* Case Leather.

Vaquetilla para Maleteria. *See* Case Leather.

Vaquillone. Untanned hide weighing 10 to 19 kilograms (22 to 41.8 pounds). In Argentina, the weight is 11.5 to 18 kilograms (25.3 to 39.6 pounds).

(Cuero de) **Vaquillona Chica.** In Peru, the hide of a small heifer with a surface area between 2 and 2.5 square meters (21.4 and 26.7 square feet).

(Cuero de) **Vaquillona Grande.** In Peru, the hide of a large heifer with a surface area between 2.5 and 3 square meters (26.7 and 32.1 square feet).

(Cuero de) **Vaquita.** In Peru, the hide of a young bovine animal with a surface area between 3 and 3.5 square meters (32.1 and 37.4 square feet).

Velveta. *See* Velvet Leather.

(Cuero) **Verde.** Literally green hide. *See* Hide.

(Cuero) **Verde Salado.** Literally green-salted hide. *See* Curing, Green Salting.

W - X - Y - Z

Wallaby Leather. Leather tanned from the skins of the wallaby, small and medium-sized species of Australian kangaroos, many of which are no larger than a hare. The leather is the same as kangaroo leather, except that the skins are smaller and sometimes finer grained. (*See also* Kangaroo Leather.)

Walrus. The name often given to three different categories of products: The hide of a walrus, walrus grain on other hides, walrus leather as known in the traveling goods industry. The true walrus hide is of such thickness that it is generally used for buffing wheels (a wheel covered with buff leather and used in polishing metal products). In order to be used for bag leather, it must be split. After tanning and splitting, it is difficult to distinguish from sealskins and the names are often used interchangeably. "Walrus Grain" is sometimes imitated on cattle hides, sheepskins, and goatskins as well as on splits from hides of various animals. In such cases, the proper descriptions are "Walrus Grained Cowhide" or "Walrus Grain on Goatskins," etc.

The term "Walrus Leather" when used in the traveling goods industry is generally regarded by the trade as being a species of genuine sealskin leather on which a simulation of walrus grain has been embossed.

Walrus Leather. Leather tanned from the skin of a walrus hide, and used for buffing wheels and similar purposes.

Warts. A contagious skin disease which produces large masses of wart tissue which not only disfigures the hide but affects the leathermaking quality of it so that the scars are very apparent even after tanning.

Wash Leather. In Germany and the United Kingdom, an alternative term for Chamois. Leather used principally for window- and automobile-cleaning purposes.

Washing. A tannery operation whereby hides and skins are washed in clear water, after having been soaked (*see also* Soaking) to remove curing agents, dirt, blood, and manure.

Washing and Wringing. The process by which fresh pelts are placed directly in cold water vats and carefully agitated to avoid grain damage. Salted skins are soaked for a long period to remove the salt, and dried skins must be thoroughly softened before agitation is begun.

Waterproof Leather. A term formerly applied to leathers heavily stuffed with oils, greases, and waxes, used

primarily in work shoes and boot. The term currently also includes leathers which have been treated in tanning with any of several chemical compounds which minimize the absorption of external water without interfering with the leather's ability to "breathe."

Wax Finish. A method of finishing heavier weights of upper leather on the flesh side by working wax into the substance.

Weighing (Hides). *See* Weighmaster.

Weighmaster. One who is licensed to weigh all classes of cargo entering a U.S. port. His weights are, therefore, considered certified city weights.

Wetling Leather. A term used to describe a curried leather made tough and soft. Leather wetling is used in making welt shoes as the uniting material between the shoe upper sole, and insole.

West Indies Goatskins. A general term which includes several types of goatskins from the West Indies.

Wetting Agent. A chemical or solution that will reduce the surface tension and allow easier penetration of the water or wet solutions into the material.

White Hide, or White Lace, Leather. Alum- and salt-tanned cattle hides for the manufacture of laces for industrial uses.

Wool. The soft and curly hair obtained from sheep.

Wool Pulling. Removal of the wool from sheepskins. This is done by painting the skins with a depilating solution and then placing them over a beam and working the wool off the skins.

Woolskins. Sheepskins tanned with the wool on.

Wringer. A machine equipped with felt-covered cylindrical rollers through which leathers are passed to remove excess water.

Wringing. A tannery operation employed to reduce the water content of light leathers before they are split or shaved.

Yield (Leather). The amount of leather, in pounds or square feet, obtained from 100 pounds of raw stock weighed at the time of purchase.