

let them be gilded" being used in the subscription. To do this neatly the pills should have no trace of powder on them, but should be first coated with a trifle of fresh mucilage by rolling between the mucilage-moistened fingers, each pill being then dropped directly on to a sheet of gold or silver leaf, until a dozen or more are so deposited. The leaf and its pills are then allowed to slide into a globular boxwood shaker, or the leaf may be first placed in the shaker and the pills dropped on it there. A cautious circular movement being given to the shaker the pills are caused to travel around its walls, and when the cover is removed they will be found to have each received an even coating of the metal used. Gold leaf should always be employed for pills of Blue Mass or Asafœtida, as silver is amalgamated with the former and turned black by the latter.

Albumin may be used for coating small numbers of pills, which should be of very firm consistence before the coating is applied. Each pill is rolled between two fingers with a little white of egg, and then revolved in a warm pan. Another method of finishing them is, after coating with albumin, to rotate them in a tray with powdered French chalk until their surfaces become smooth and shiny. This process gives a very nice finish.

The following prescriptions represent the composition of a few unofficial pills in general use. A complete pill formulary is easily obtained, being published annually by the principal manufacturers.

Anaphrodisiac and Sedative.

℞. Camphoræ,.....gr. xxx.
Lupulini,.....gr. xx.
Fiat massa et div. in pil. xx.
Sig.—One thrice daily.

Astringent Pill.

℞. Argenti Nitratis,.....gr. xx.
Pulv. Cretæ (Gallicæ),.....gr. lxxx.
Petrolati, q. s.
Fiat massa et div. in pil. xl.

Hooper's Female Pills.

℞. Pulv. Aloes Purif.,.....gr. xlvij.
Ferri Sulph. Exsic.,.....gr. xxiv.
Extr. Hellebori Nig.,
Pulv. Myrrhæ,
Saponis,.....āā gr. xij.
Pulv. Canellæ Alb.,
Pulv. Zingiberis,.....āā gr. vj.
Aquæ vel Syrupi, q. s.
Fiat massa et div. in pil., quisque pondo
gr. ijss.
Sig.—One to three pills at a dose.

Astringent Pill.

℞. Plumbi Acetatis,.....gr. xvj.
Pulv. Camphoræ,.....gr. xij.
Pulv. Opii,.....gr. ij.
Bismuthi Subcarb.,.....gr. ij.
Extr. Gentianæ, q. s.
Fiat massa et div. in pil. xij.
Sig.—One pill thrice daily.

Pills of Iron.

℞. Ferri Reducti,.....gr. l.
Mannæ,.....gr. xv.
Glucosi, q. s.
Fiat massa et div. in pil. xxv.
Sig.—One pill after each meal.

Emmenagogue Pill (Otto).

℞. Ferri Sulph. Exsic.,.....gr. xlvij.
Pulv. Aloes,.....gr. xij.
Terebinthinæ,.....gr. xxvij.
Ol. Terebinth.,.....℥x.
Fiat massa et div. in pil. xxx.
Sig.—Two pills three times a day.

Cholagogue Pills (Squibb).

℞. Resinæ Podophylli,.....gr. vj.
Extr. Belladon. Fol.,.....gr. ij.
Pulv. Capsici
Pulv. Sacch. Lactis,.....āā gr. xxiv.
Pulv. Acaciæ,.....gr. vj.
Glycerini, Syrupi, āā q. s.
Fiat massa et div. in pil. xxiv.
Sig.—One or two pills as required.

Aperient Pills.

℞. Pulv. Aloes Purif.,.....gr. xxiv.
Pulv. Rhei,.....gr. xlvij.
Hydrarg. Chlor. Mitis,.....gr. iv.
Antim. et Potas. Tart.,.....gr. ij.
Fiat massa et div. in pil. xxiv.
Sig.—One or two pills as needed.

Tonic Pill for Women.

℞. Strychnine Sulph.,
Arseni Trioxidi,.....āā gr. j.
Extr. Belladonnæ Fol.,.....gr. v.
Quininæ Sulph.,.....gr. xxxv.
Massæ Ferri Carb.,.....gr. xc
Fiat massa et div. in pil. xxxv.
Sig.—One pill three times daily.

Anti-Bilious Pills.

℞. Pulv. Scammonii,
Pulv. Aloes Purif.,
Pulv. Gambogiæ,
Hydrarg. Chlor. Mitis,
Potassii Bitart.,.....āā gr. xx.
Extr. Taraxaci, q. s.
Fiat massa et div. in pil. xx.

Potus, A Drink (Unofficial),—is a solution or a mixture intended to be used *ad libitum*, and generally consists of a potassium or sodium salt, or a mineral acid, in dilute solution, sweetened and flavored.

The Imperial Drink. ℞. Potassii Bitartratis, ℥ij; Olei Limonis, ℥v; Aquæ Bulientis, q. s. ad ℥xx. M. Fiat potus. Sig.—Use as a drink.

Pulveres, Powders,—are usually prepared extemporaneously, but a few compound ones have been made official, the ingredients being directed to be rubbed together until reduced to a fine powder and thoroughly mixed. Special directions are given for the preparation of two, the Compound Effervescing Powder and the Compound Powder of Morphine. There are 9 official powders, named as follows,—

Pulvis Acetanilidi Compositus	Pulvis Glycyrrhizæ Compositus.
Pulvis Aromaticus.	Pulvis Ipecacuanhæ et Opii.
Pulvis Cretæ Compositus.	Pulvis Jalapæ Compositus.
Pulvis Effervescens Compositus.	Pulvis Morphinz Compositus.
	Pulvis Rhei Compositus.

The composition of each of these preparations will be found in the section on *Materia Medica* under the title from which its name is derived, except that of the Compound Effervescing Powder, which is placed under the title *POTASSIUM*. *Pulvis Ipecacuanhæ et Opii* is really a trituration, its ingredients being rubbed together with sugar of milk into a very fine powder.

As prepared extemporaneously Powders are generally compound and may be mixed on a slab with a spatula, but a better method of mixing them is by trituration in a mortar. The latter should always be employed except in the case of substances which may explode if so treated, as Potassium Chlorate with oxidizable substances. (See page 519.) The diluent best employed in powders is Sugar of Milk, on account of its hardness, density and comparative insolubility. A coloring agent, as Carmine in minute quantity, is a useful ingredient, enabling the eye to judge of the degree of mixing and subdivision obtained. Powders containing soluble salts, extracts, volatile oils, camphor, or any other hygroscopic or volatile substances, should be dispensed in waxed paper. For ordinary powders the plain white paper of the drug-stores will answer, but a better paper for small powders is a very thin one having a high surface finish, as the white glazed French demy. Powders are often ordered in Wafers (*Cachets*), to be swallowed without unfolding. The division of powders into the number of Papers (*Chartulæ*) ordered and folding them neatly, require a considerable amount of practice. A small machine is used, over which the ends of the papers are bent, in order to have them of the proper size for the box in which they

are dispensed. If they are to be put into an envelope, less exactness of folding is required, and the mechanical contrivance may be dispensed with.

Substances suitable to administration in the form of powders are those which are insoluble. those which would be chemically incompatible in fluid form, and certain pulverizable extracts. Those which are unsuited to this form are such as have a nauseous taste or odor, substances of which the dose is large, those which are deliquescent, efflorescent or very volatile, and those which liquefy on mixing. A list of deliquescent and efflorescent salts is found on page 555, while the following-named, though dry alone, become moist when triturated together, viz.—

Sodium Sulphate and Potassium Carbonate.
Zinc Sulphate and Lead Acetate.
Camphor and Hydrated Chloral.

Many substances cannot be powdered without the intervention of another body: thus Opium requires a hard substance like sugar of milk or potassium sulphate, Camphor requires a minute quantity of alcohol, Myrrh needs sugar or gum. Substances, as the alkaloids and their salts, which are very active and are used in very small doses, require some inert substance to give them bulk enough for division and handling. Sugar of Milk is the best agent for this purpose. Prescriptions may order the ingredients for a single powder, with directions to dispense a certain number of the same composition; or they may give the quantities for the whole number of powders ordered, with instructions to divide into a certain number. The dispenser should carefully scan the prescription in order to avoid the multiplication of quantities where division is intended. The official powders are named on page 557, and the following formulæ will serve to illustrate those generally prescribed:—

Astringent Powder for Infants.

℞. Plumbi Acetatis,.....gr. ij.
Pulveris Opii,.....gr. ss.
Camphoræ,.....gr. j.
Sacchari Lactis,.....gr. iij.
Trit. et div. in chartulas xij.
Sig.—One powder every 2 or 3 hours in diarrhea of infants. For an adult the above represents one dose.

Gastric Sedative.

℞. Bismuthi Subnitratis,.....ʒj.
Pulveris Rhei,
Pulveris Aromat.,.....āā ʒss
M. et div. in chartulas vj.
Sig.—One powder before each meal

Laxative Powder.

℞. Hydrarg. Chlor. Mitis,.....gr. x.
Sacchari Lactis,.....gr. xx.
M. et fiant pulv. x.
Sig.—One powder twice daily.

Bismuth and Soda.

℞. Bismuthi Subnitratis,
Sodii Bicarb.,.....āā ʒij.
Pulv. Zingiberis,.....gr. xl.
M. et div. in chartulas xij.
Sig.—One after each meal.
Corrective in dyspepsia, acne and eczema.

Antipruritic Powder.

℞. Pulveris Camphoræ,.....ʒj.
Zinci Oxidi,.....ʒiv.
Pulv. Amyli,.....ʒj.
M. et fiat pulvis.
Sig.—Use locally as a dusting powder to relieve itching.

Catarrh Powder.

℞. Bismuthi Subnitratis,.....ʒiij.
Pulv. Acaciæ,.....ʒj.
Pulv. Talci,.....ʒij.
Morphinæ Hydrochlor.,.....gr. j.
M. Sig.—Use by insufflation.

Compressed Tablets are really powders which have been compressed into tablet shape by machinery. A little pressure from the blade of a spatula will restore them to the powder form.

Resinæ, Resins.—Pharmaceutical resins are solid preparations obtained by precipitating the resinous principles of plants from their alcoholic solution by the agency of water. They differ from alcoholic extracts in containing only those principles which are soluble in alcohol and insoluble in water, while the extracts contain all principles which are soluble in alcohol. Including Resina itself, which is the residue left after distilling off the volatile oil from Turpentine, there are 4 official Resins, three of which correspond to the above description. They are named:—

Resina.
Resina Jalapæ.
True Resins are defined on page 9.

Resina Podophylli.
Resina Scammonii.

Spiritus, Spirits,—are alcoholic solutions of volatile substances, which may be solids, liquids or gases. They are officially prepared either by simple solution, by solution with maceration, by gaseous solution, by chemical reaction, or by distillation. The menstruum is Alcohol in nearly all instances, 4 having Water in addition, and 2 being alcoholic liquors of a specified alcoholic strength (Whisky, Brandy). The official spirits are 20 in number, as follows,—

Spiritus Ætheris (32½).	Spiritus Cinnamomi (10).
Spiritus Ætheris Compositus (32½).	Spiritus Frumenti (37-47½).
Spiritus Ætheris Nitrosi (4).	Spiritus Gaultheriæ, (5).
Spiritus Ammonia (10).	Spiritus Glycerylis Nitratis (1).
Spiritus Ammonia Aromaticus (9).	Spiritus Juniperi (5).
Spiritus Amygdalæ Amaræ (1).	Spiritus Juniperi Compositus (64½).
Spiritus Anisi (10).	Spiritus Lavandulæ (5).
Spiritus Aurantii Compositus (20).	Spiritus Menthæ Piperitæ (10).
Spiritus Camphoræ (10).	Spiritus Menthæ Viridis (10).
Spiritus Chloroformi (6).	Spiritus Vini Gallici (39-47).

The figures placed after Spiritus Frumenti, Spiritus Juniperi Comp., and Spiritus Vini Gallici, represent the percentage of absolute Alcohol by weight in each; those placed after the others indicate the quantity of the principal ingredient in grammes to each 100 cubic centimeters of the preparation.

Succi, Juices,—are expressed from fresh medicinal plants, and preserved by the addition of alcohol 1 part to 3 of the juice. Limonis Succus (lemon-juice) is official in the U. S. Pharmacopœia, and contains no alcohol; the following-named are official in the British Pharmacopœia:—

Succus Belladonnæ.	Succus Hyoscyami.	Succus Scoparii.
Succus Conii.	Succus Limonis.	Succus Taraxaci.

Suppositoria, Suppositories,—are solid bodies containing medicinal substances, and intended for introduction into the vagina, rectum or urethra. The Pharmacopœia prescribes a general formula for their preparation, according to which the medicinal portion may be incorporated with Oil of Theobroma, Glycerinated Gelatin, or Sodium Stearate.

In the U. S. Pharmacopœia the only official suppositories are those of Glycerin, in which Stearic Acid is used to give the requisite consistence. In the British Pharmacopœia the following 7 suppositories are official:—

Suppositoria Acidi Carbolicæ, Phenol Suppositories.—Phenol, 12 grains; White Bees-wax, 24 grains; Oil of Theobroma, q. s. for 12 suppositories, each containing 1 grain of Phenol.

Suppositoria Acidi Tannici, Tannic Acid Suppositories.—Tannic Acid, 36 grains; Oil of Theobroma, q. s., for 12 suppositories each containing 3 grains of Tannic Acid.

Suppositoria Belladonnæ, Belladonna Suppositories.—Alcoholic Extract of Belladonna, 18 grains; Oil of Theobroma, q. s. for 12 suppositories, each containing 1½ grains of the extract or approximately $\frac{1}{80}$ grain of the alkaloids of belladonna root.

Suppositoria Glycerini, Glycerin Suppositories.—Gelatin, cut small, $\frac{1}{2}$; Glycerin, by weight, 2½; Distilled Water, a sufficiency to make as many suppositories as desired, according to size, each containing 70 per cent. by weight of Glycerin.

Suppositoria Iodoformi, Iodoform Suppositories.—Iodoform, 36 grains; Oil of Theobroma, q. s. for 12 suppositories, each containing 3 grains of Iodoform.

Suppositoria Morphinæ, Morphine Suppositories.—Morphine Hydrochloride, 3 grains; Oil of Theobroma, q. s. for 12 suppositories, each containing $\frac{1}{4}$ grain of the Morphine salt.

Suppositoria Plumbi Composita, Compound Lead Suppositories.—Acetate of Lead, 36 grains; Opium, in powder, 12 grains; Oil of Theobroma, q. s. for 12 suppositories, each containing 3 grains of Lead Acetate and 1 grain of Opium.

In extemporaneous pharmacy Suppositories are usually prepared with Oil of Theobroma (Cacao-butter) as a vehicle, but for those intended for the uterus or urethra a mixture of Gelatin and Glycerin is considered the best vehicle, being firmer and more plastic than cacao-butter, and more easily handled. Hollow cones of cacao-butter, or some composition resembling it, are kept in the shops, and will be used by the average druggist in filling prescriptions for rectal suppositories unless prohibited, as they save him considerable labor; the active drug being simply placed in the centre of the cone, which is then sealed by a plug fitting into its base. These contrivances are not so efficient as the regular suppository, in which the medicinal agent is thoroughly incorporated with the excipient, for the former smear the rectum with a quantity of melted grease before the active ingredient is permitted to come into contact with its walls. The agents used in suppositories are chiefly extracts and alkaloids, some few powders and a few metallic salts are occasionally employed. Those for the adult rectum should contain about 15 grains of the excipient, for the vagina a drachm of cacao-butter is the average quantity. Those for the uterus and urethra are made of cylindrical instead of conical form, and about the diameter of a no. 9 catheter.

The methods of compounding suppositories are two—that by the use of moulds (the official method), and that by hand, which is as follows: The medicament is mixed with finely shaved Cacao-butter by the aid of a spatula, on a board or tile lightly dusted with lycopodium or starch. After a smooth and uniform mixture is thus obtained, the mass may be rolled into cylindrical form, cut into the required sizes and with the spatula given the required shape. When dispensed, they should be placed in a powder-box between layers of cotton.

Bougies or *Pencils*, as urethral and uterine suppositories are often termed,

may be prepared by melting together White Gelatin 3, Glycerin 1, and Distilled Water 1 part by weight, then adding the medicament and drawing the mass into a glass tube previously oiled inside. When cold the bougie may be pushed out and cut into suitable lengths.

Suppositories and Bougies may be prescribed in the manner illustrated by the following formulæ:—

Anodyne Suppository.

℞. Extr. Opii, gr. vj.
Extr. Belladonnæ Fol., gr. ss.
Extr. Hyoscyami, gr. ij.
Olei Theobromæ, q. s.
M. Fiat suppositoria vj.
Sig.—One into the rectum morning and night.

Anthelmintic.

℞. Santonini, gr. xij.
Olei Theobromæ, ℥j.
M. Fiat suppositoria vj.
Sig.—One into the rectum as directed.

Quinine Suppository.

℞. Quininæ Sulphatis, gr. v.
Olei Theobromæ, gr. x.
Fiat suppositorium unum, mitte tales sex.

Wade's Bougies.

℞. Iodoformi, ℥j.
Bismuthi Subnitrat., āā ℥j.
Chlorali Hydrati, gr. viij.
Morphinæ Sulphat., gr. iij.
Ol. Rosæ, ℥x.
Gelatini et Glycerini, q. s.
M. Fiat bougia xij.
Sig.—One into urethra thrice daily.

Bougie for Gleet.

℞. Zinci Sulphatis, gr. vj.
Phenolis, ℥iij.
Pulv. Hydrastis, gr. xij.
Extr. Belladonnæ Fol., gr. xij.
Gelatini et Glycerini, q. s.
M. Fiat bougia xij.
Sig.—One into the urethra night and morning.

Syrupi, Syrups.—are concentrated solutions of Sugar in water or in aqueous liquids. They sometimes contain acetic acid, and occasionally alcohol; and are termed *simple*, *medicated* or *flavored*, according as they are simple solutions of sugar in water alone, or contain soluble medicinal substances or flavoring ingredients. The sugar used should be very dry, and its official description corresponds with the granulated sugar of commerce. The permanence of these preparations depends chiefly on their possessing the proper relative proportions of sugar and water. They are prepared either by solution with heat, by agitation without heat, by adding a medicated liquid to simple syrup, by digestion or maceration, or by cold percolation. They are best preserved by being poured while hot into pint bottles, which should be corked securely while full, and the tops dipped into melted sealing-wax. Fermented syrups are useless for dispensing purposes. The number of official syrups is 29, as follows,—

Syrupus.
Syrupus Acaciæ.
Syrupus Acidi Citrici.
Syrupus Acidi Hydriodici.
Syrupus Amygdalæ.
Syrupus Aurantii.
Syrupus Aurantii Florum.
Syrupus Calcii Laectophosphatis.
Syrupus Calcis.
Syrupus Ferri Iodidi.
Syrupus Ferri, Quininæ et Strychninæ Phosphatum.
Syrupus Hypophosphitum.
Syrupus Hypophosphitum Compositus.
Syrupus Ipecacuanhæ.

Syrupus Krameriæ.
Syrupus Lactucarii.
Syrupus Picis Liquidæ.
Syrupus Pruni Virginianæ.
Syrupus Rhei.
Syrupus Rhei Aromaticus.
Syrupus Rosæ.
Syrupus Rubi.
Syrupus Sarsaparillæ Compositus.
Syrupus Scillæ.
Syrupus Scillæ Compositus.
Syrupus Senegæ.
Syrupus Sennæ.
Syrupus Tolutanus.
Syrupus Zingiberis.

Tabellæ, Tablets (Unofficial),—are largely manufactured by several reliable firms, and consist of various medicinal powders pressed into tablet shape by machinery. They are convenient preparations for the physician's use; quite a variety can be carried in a pocket-case, and as slight pressure is sufficient to reduce them to powder they can be dispensed with facility and accuracy of dosage. The terms *Tabloid* and *Soloid* are proprietary designations of compressed tablets manufactured in England. The following list includes the most important of these preparations, the figures representing the number of grains in a tablet in each case:—

Acid, Arsenous, $\frac{1}{80}$, $\frac{1}{40}$, $\frac{1}{20}$, $\frac{1}{10}$.
 — Benzoic, 5.
 — Gallic, 5.
 — Salicylic, $2\frac{1}{2}$, 5.
 — Salicylic, $2\frac{1}{2}$, and Morphine, $\frac{1}{12}$.
 — Tannic, 2, 5.
 Aconitina, $\frac{1}{30}$.
 Aloes, 2. Aloes et Ferri (U. S. P.).
 Aloes, 2, et Myrrh, 1.
 Aloes, $\frac{3}{4}$, et Rhei, $1\frac{1}{2}$, et Gentian, $\frac{3}{4}$.
 Aloin, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$.
 Ammonium Bromide, 5, 10.
 Ammonium Chloride, 3, 5, 10.
 Antiseptic, Hydr. Chlor. Corros., $7\frac{1}{2}$.
 Atropine, $\frac{1}{80}$.
 Bismuth Subcarb., 5.
 — Subnitrate, 5, 10.
 Borax, 5.
 Caffeine Citrate, 1.
 Calcium Sulphide, $\frac{1}{10}$, $\frac{1}{4}$, $\frac{1}{2}$, 1.
 Calomel, $\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 3, 5.
 Calomel, 2, Opium, 1.
 Camphor Monobromated, 2, 3, 5.
 Carbo Animalis, 10.
 Cathartic, Compound (U. S. P.).
 — Vegetable (U. S. P.).
 Cerium Oxalate, 2.
 Chloramine Pastilles (Spencer).
 Cinchona Alkaloids (mixed).
 Cinchonine Sulphate, 2, 3, 4, 5.
 Cinchonidine Sulphate, 2, 3, 4, 5.
 Cocaine Hydrochloride, $\frac{1}{8}$.
 Codeine, $\frac{1}{4}$.
 Digitalin, $\frac{1}{80}$.
 Extract of Cannabis Indica, $\frac{1}{4}$.
 Extract of Ignatia Amara, $\frac{1}{4}$, $\frac{1}{2}$.
 Extract of Nux Vomica, $\frac{1}{4}$, $\frac{1}{2}$.
 Fehling's Test for grape-sugar in urine.
 Ferrum (Quevenne's), 1, 2.
 — Arsenate, $\frac{1}{8}$, $\frac{1}{4}$.
 — Proto-carbonate, 3, 5.
 — Lactate, 1.

Tincturæ, Tinctures,—are alcoholic solutions of medicinal substances, and with one official exception, Tincture of Iodine, are made from non-volatile bodies. They are prepared by percolation, maceration, solution or dilution; the menstrua employed being chiefly Alcohol, Diluted Alcohol, and Alcohol and Water in various proportions. Two ammoniated tinctures are made with

Ferrum Pyrophosphate, 2.
 — and Quinine Citrate, 2, 3, 5.
 Hydrargyrum, 1, 3, 5.
 — Chloridum Corros., $\frac{1}{80}$, $\frac{1}{40}$, $\frac{1}{20}$, $\frac{1}{10}$.
 — Iodidum Rub., $\frac{1}{32}$, $\frac{1}{16}$.
 — Iodidum Flavum, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$.
 — Oxidum Flavum, $\frac{1}{200}$.
 Ipecac. et Opii, 2, 3, 5.
 Morphine Sulphate, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{2}$.
 Opium, Deodorized, 1.
 Opium, $\frac{1}{2}$, and Lead Acetate, $1\frac{1}{2}$.
 Pepsin, Saccharated, 2, 5.
 Podophyllin, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, 2.
 Potassium Bromide, 5, 10.
 — Chlorate, 5.
 — and Borax, $\text{aa } 2\frac{1}{2}$.
 — Iodide, 5.
 — Nitrate, 5.
 — Permanganate, $\frac{1}{2}$, 1, 2.
 Quinine Bisulphate, $\frac{1}{2}$, 1, 2, 3, 4, 5.
 — Salicylate, 2.
 Quinine Sulphate, $\frac{1}{2}$, 1, 2, 3, 4, 5.
 Quinquinine, 2, 3.
 Rhubarb, 3.
 Rhubarb, 2, and Magnesia, 2.
 Salicin, $2\frac{1}{2}$, 5.
 Santonin, 1.
 Santonin, 1, and Calomel, 1.
 Sodium Bicarbonate, 5.
 — Salicylate, 3, 5.
 Strychnine, $\frac{1}{100}$, $\frac{1}{50}$, up to $\frac{1}{20}$.
 Zinc Phosphide, $\frac{1}{12}$ up to $\frac{1}{2}$.

Hypodermic Tablets.

Morphine Sulphate, $\frac{1}{12}$ to $\frac{1}{8}$.
 Morph. Sulph. and Atropine Sulph.
 Atropine Sulphate, $\frac{1}{200}$ — $\frac{1}{50}$.
 Strychnine Sulphate, $\frac{1}{100}$.
 Apomorphine Hydrochloride, $\frac{1}{20}$ — $\frac{1}{10}$.
 Pilocarpine Hydrochloride, $\frac{1}{20}$ — $\frac{1}{10}$.
 (And several others.)

Aromatic Spirit of Ammonia, in one Acetic Acid is an ingredient of the menstruum, and several have Glycerin. The official tinctures are now practically in two classes as to strength, 10 per cent. for the more powerful ones, and 20 per cent. for the others, with a few exceptions. They number 63, and are named in the following list, the figures placed after each giving the number of grammes of the drug in each 100 cubic centimeters of the tincture:—

Tinctura Aconiti (10).
 Tinctura Aloës (10).
 Tinctura Aloës et Myrrhæ (10).
 Tinctura Arnicæ (20).
 Tinctura Asafetidæ (20).
 Tinctura Aurantii Amari (20).
 Tinctura Aurantii Dulcis (50).
 Tinctura Belladonnæ Foliorum (10).
 Tinctura Benzoini (20).
 Tinctura Benzoini Composita (10).
 Tinctura Calendulæ (20).
 Tinctura Calumbæ (20).
 Tinctura Cannabis Indicæ (10).
 Tinctura Cantharidis (10).
 Tinctura Capsici (10).
 Tinctura Cardamomi (10).
 Tinctura Cardamomi Composita (2½).
 Tinctura Cimicifugæ (20).
 Tinctura Cinchonæ (20).
 Tinctura Cinchonæ Composita (10).
 Tinctura Cinnamomi (20).
 Tinctura Colchici Seminis (10).
 Tinctura Digitalis (10).
 Tinctura Ferri Chloridi (137).
 Tinctura Gallæ (20).
 Tinctura Gambir Composita (50).
 Tinctura Gelsemii (10).
 Tinctura Gentianæ Composita (10).
 Tinctura Guaiaci (20).
 Tinctura Guaiaci Ammoniata (20).
 Tinctura Hydrastis (20).
 Tinctura Hyoscyami (10).
 Tinctura Iodi (7).
 Tinctura Ipecacuanhæ et Opii (10).
 Tinctura Kino (5).
 Tinctura Krameriæ (20).
 Tinctura Lactucarii (50).
 Tinctura Lavandulæ Composita (0.8).
 Tinctura Limonis Corticis (50).
 Tinctura Lobeliæ (10).
 Tinctura Moschi (5).
 Tinctura Myrrhæ (20).
 Tinctura Nucis Vomicae (2).
 Tinctura Opii (10).
 Tinctura Opii Camphorata (0.4).
 Tinctura Opii Deodorati (10).
 Tinctura Physostigmatis (10).
 Tinctura Pyrethri (20).
 Tinctura Quassia (20).
 Tinctura Quillajæ (20).
 Tinctura Rhei (20).
 Tinctura Rhei Aromatica (20).
 Tinctura Sanguinariæ (10).
 Tinctura Scillæ (10).
 Tinctura Serpentariæ (20).
 Tinctura Stramonii (10).
 Tinctura Strophanthi (10).
 Tinctura Tolutana (20).
 Tinctura Valerianæ (20).
 Tinctura Valerianæ Ammoniata (20).
 Tinctura Vanillæ (10).
 Tinctura Veratri (10).
 Tinctura Zingiberis (20).

For **Tinctures of Fresh Herbs** (*Tincturæ Herbarum Recentium*), the Pharmacopœia prescribes a general formula, according to which, when not otherwise directed, they are to be prepared by macerating 50 grammes of the fresh herb, bruised or crushed, in 100 cubic centimeters of alcohol, for 14 days, then expressing the liquid and filtering.

Triturationes, Triturations,—form a class of powders having for their diluent Sugar of Milk, and possessing a definite relation between the active ingredient and the diluent. The Pharmacopœia prescribes a general formula for these preparations, according to which 10 grammes of the substance and 90 of Sugar of Milk are to be well mixed by a spatula, the latter being added in successive quantities, and both triturated in a mortar until the substance is intimately mixed with the diluent and finely comminuted. There is but one official trituration (*Trituratio Elaterini*), though the *Pulvis Ipecacuanhæ et Opii* practically belongs to this class. Sugar of Milk is employed as the diluent because of its hardness and its comparative insolubility. The first of these qualities secures the fine comminution of the active ingredient, whereby the action of the medicine is increased and better distributed. Its insolubility makes

it the best diluent for powders or triturations administered from a spoon or glass with fluid, as is so often done, for unlike cane sugar it is not readily dissolved and does not leave the active substance behind on the surface of the utensil. Triturations are excellent forms for the administration of powerful alkaloids, which may thus be divided with great accuracy into the minute quantities required. Mercury and its salts are especially adapted to this method of preparation, being more uniformly divided and hence more active than when administered in any other form. Triturations of mercury with sugar were commonly used in England a hundred years ago, and triturations of many substances were employed by the Arabian physicians of the 13th century; but the subsequent adoption of these preparations by the homeopaths produced such a prejudice against them in the ranks of the regular profession, that until recently any one using them stood in danger of being stigmatized as a homeopath. Their recognition by the U. S. Pharmacopœia under their proper title does away with any such implication, though it is much to be regretted that the editors of the last two revisions of the British Pharmacopœia should have shown their fear of a name by continuing the title *Pulvis Elaterini Compositus* to designate a preparation which in every respect is a trituration. The preparations of Pepsin daily prescribed by physicians all over the country are really sugar-of-milk triturations of that ferment, and not pure pepsin as many suppose. Professor H. G. Piffard, in his treatise on the *Materia Medica and Therapeutics of the Skin*, after detailing the results of several microscopical examinations of pills and triturations, uses the following language:—

"It is to be expected, therefore, that the protoiodide trituration will prove, *ceteris paribus*, more active than the pill, and such we have found it. . . . Since we have used the triturations, however, in preference to the ordinary pills, patients more rarely complain of disagreeable sensations. We have been enabled to materially reduce the size of the dose in order to obtain the desired effect. In other words, a larger proportion of the drug is utilized for *specific* purposes, while but a small amount remains to give rise to *local irritation*. I have nothing to add to this, except that I continue to use triturations of Mercury and other substances with increasing satisfaction. Beside those mentioned I employ Calomel, Cyanide of Mercury, Black Oxide of Mercury and Corrosive Sublimate in this form."

The following examples will illustrate the mode in which Triturations may be prescribed:—

℞. Hydrarg. Oxidi Flavi, gr. ss.
Sacchari Lactis, gr. l.
Trit. et div. in chartulas xxiv.
Sig.—One powder twice daily.

℞. Hydrarg. Chlor. Mitis, gr. x.
Sacchari Lactis, q. s.
Trit. et div. in chartulas x.
Sig.—One powder daily.

℞. Morphinae Sulph., gr. j.
Sacchari Lactis, gr. xvj.
Trit. et div. in chartulas viij.
Sig.—One powder every six hours.

℞. Arseni Trioxidi, gr. ss.
Sacch. Lactis, gr. xl.
Trit. et div. in chartulas xx.
Sig.—One powder thrice daily.

Trochisci, Troches, also called *Pastilles* and *Lozenges*,—are small flattened cakes of medicinal substances, prepared from a mass made with a basis of Sugar, some having Mucilage of Tragacanth, others Orange-flower Water, Syrup of Tolu, etc., as excipients. They are especially useful when the active

ingredients are intended to come into contact with the mucous surface of the throat. There are 9 official Troches, named as follows:—

Trochisci Acidi Tannici.	Trochisci Glycyrrhizæ et Opii.
Trochisci Ammonii Chloridi.	Trochisci Krameria.
Trochisci Cubebæ.	Trochisci Potassii Chloratis.
Trochisci Gambir.	Trochisci Santonini.
Trochisci Sodii Bicarbonatis.	

Troches are not readily compounded at the dispensing counter, but may be obtained in all first-class shops, being prepared in great variety by the manufacturers. Besides the official Troches, those named in the following list are generally for sale:—

Alum, gr. ij.	Ginger and Sodium Bicarbonate.
Alum, gr. 1½, Catechu, gr. ij.	Guaiac, gr. ij.
Ammonium Chloride, gr. ij, and Cubeb, gr. j.	Kino, gr. ij.
Ammon. Chlor., gr. ij, Licorice, gr. viij.	Lettuce, gr. j.
Benzoic Acid, gr. ½.	Logwood, gr. ij.
Borax, gr. iij.	Magnesia, gr. iij.
Bismuth, gr. ij, and Charcoal, gr. v.	Pellitory, gr. j.
Bronchial,—Oleores. Cubebæ, gr. ½, Tolu, gr. ½, Ol. Sassafras, gr. 1/10, and Extr. of Licorice, gr. vij.	Pepsin, gr. iij, Charcoal, gr. iij, Magnesia, gr. ij, and Ginger, gr. j.
Brown Mixture.	Potassium Bitartrate, gr. iij.
	Potassium Citrate, gr. iij.
	Santonin, gr. ½, and Calomel, gr. ½.

Unguenta, Ointments,—are soft, fatty mixtures of medicinal agents with a basis of lard, petrolatum, or fixed oils with a solid fat such as wax or spermaceti. They are intended for application to the skin by inunction, and have a melting point which is below the ordinary temperature of the human body. Of the 24 official Ointments 11 is prepared by chemical reaction (*Unguentum Hydrargyri Nitratis*), 9 by fusion and 14 by incorporation of the ingredients with each other, they being mixed together by trituration or through the agency of a spatula and a porcelain slab. *Unguentum* itself is prepared by fusing together 80 of Benzoinated Lard and 20 of White Wax, and is the basis of 2 other ointments; while 9 have Benzoinated Lard, and 3 have Lard as their basis. The official Ointments are—

Unguentum.	Ung. Hydrargyri Oxidi Flavi (10).
Unguentum Acidi Borici (10).	Ung. Hydrargyri Oxidi Rubri (10).
Unguentum Acidi Tannici (20).	Unguentum Iodi (4).
Unguentum Aquæ Rosæ.	Unguentum Iodoformi (10).
Unguentum Belladonnae (10).	Unguentum Phenolis (3).
Unguentum Chrysarobini (6).	Unguentum Picis Liquidæ (50).
Unguentum Diachylon.	Ung. Potassii Iodidi (10).
Unguentum Gallæ (20).	Unguentum Stramonii (10).
Unguentum Hydrargyri (50).	Unguentum Sulphuris (15).
Unguentum Hydrargyri Dilutum (33½).	Unguentum Veratrinæ (4).
Ung. Hydrargyri Ammoniatæ (10).	Unguentum Zinci Oxidi (20).
Ung. Hydrargyri Nitratis (7).	Unguentum Zinci Stearatis (50).

The figures in parentheses show the percentage of the extract or other active ingredient in the ointment. The composition of each may be found in the section on *Materia Medica* under the title from which the preparation is named, except *Unguentum*, which will be found under the title *ADEPS*, and *Unguentum Diachylon* under *PLUMBUM*.

Ointments and Cerates are frequently ordered on extemporaneous formulæ, though the numerous official preparations of these classes would seem to give the physician a sufficiently wide field for selection. The basis is usually either the official Ceratum or Unguentum, but Petrolatum, Lard, and Lead Plaster with a fixed oil, may be employed. Lard is probably the best basis for all ointments, as it softens the skin better than any other similar substance. Its disadvantage is that it soon becomes rancid, so that preparations made with it must be quickly used. *Cerates* only differ from ointments in their firmer consistence, melting at temperatures above 104° F., while the latter melt below the ordinary temperature of the body.

The process of compounding an ointment or a cerate is sufficiently simple, being generally a mere matter of triturating the ingredients together in a mortar, or their incorporation on a slab by means of a spatula. Rarely will melting be required in the compounding of extemporaneous ointments. When extracts, powders or gritty substances are ordered, the ingredients should be first pulverized into a fine powder, then triturated with a small quantity of the basis into a smooth, impalpable paste, the remainder of the basis being added gradually, until the whole is thoroughly incorporated. A warm mortar may be required for hard extracts. Soluble salts should be triturated with a little water before adding the excipient. Camphor needs a little alcohol to enable it to be pulverized. Iodine should be rubbed to a fine powder, then a little alcohol added and finally the excipient by degrees. Sulphur Iodide requires persevering work with a small portion of olive oil. Borax should be triturated with glycerin and Red Mercuric Oxide with distilled water. A bone or horn spatula should be used for all ointments, as steel or iron blades will injure many substances, particularly alkaloids, free acids, tannin, iodine and several of the mercurial salts. Volatile substances are added last and quickly worked in, so that their evaporation may be as slight as possible.

Ointments are dispensed usually in amber-colored glass pots with wooden or metallic covers, or in porcelain jars called *Gallipots*. In hospital and dispensary practice the common chip pill-box is used, but soon becomes dirty and disagreeable to handle.

Unguentum Iodoformi Compositum.

R. Iodoformi,..... ʒj.
Ol. Anisi,..... ℥xx.
Ol. Rosæ,
Ol. Ylang-ylang,..... āā ℥v.
Ung. Aquæ Rosæ,..... ʒj.
M. Fiat unguentum.
Sig.—Ointment.

Unguentum Anti-pruriticum

R. Camphoræ,
Chlorali Hydrati,..... āā ʒj.
Tere una ad liquorem, dein
adde cum tritu—
Unguenti Aquæ Rosæ,..... ʒj.
M. Fiat unguentum.
Sig.—Ointment for itching.

Vina, Wines,—when medicated are practically the same as tinctures. The menstruum directed to be used is the official white wine (Vinum Album), which should contain from 7 to 12 per cent. by weight of absolute alcohol. It is however reinforced by the addition of alcohol to the amount of 5 to 17½ per

cent. in all the medicated wines. In the two Ferric wines the alcoholic reinforcement is in the shape of the tincture of sweet orange peel. The Wine of Coca is made with red wine. The official Wines are 10 in number, 2 of which are not medicated and stand first in the following list; 7 are prepared by solution or admixture, and 1 by maceration during seven days. They are—

Vinum Album (7-12).	Vinum Ergotæ (20).
Vinum Rubrum (7-12).	Vinum Ferri (4).
Vinum Antimonii (0.4).	Vinum Ferri Amarum (5).
Vinum Cocæ (6½).	Vinum Ipecacuanhæ (10).
Vinum Colchici Seminis (10).	Vinum Opii (10).

The figures placed after the first two show the percentage of absolute alcohol by weight required in each; those placed after the others indicate the quantity of the principal ingredient in grammes to each 100 cubic centimeters of the preparation.