PREPARATIONS

AND

COMPOUNDS.

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ACIDS.

Acetum destillatum.

Take of Vinegar (French, by preference) eight parts: distil over with a gentle heat seven parts: dilute the product, if necessary, with distilled water, till the density is 1005.

Acidum aceticum.

Take of Acetate of lead any convenient quantity: heat it gradually in a porcelain basin by means of a bath of oil or fusible metal, (8 tin, 4 lead, 3 bismuth) to 320° F.; and stir till the fused mass concretes again: pulverize this when cold, and heat the powder again to 320°, with frequent stirring, till the particles cease to accrete. Add six ounces of the powder to nine fluidrachms and a half of Pure sulphuric acid

contained in a glass-mattrass : attach a proper tube and refrigeratory ; and distil from a fusible-metal-bath with a heat of 320° to complete dryness. Agitate the distilled liquid with a few grains of red oxide of lead to remove a little sulphurous acid, allow the vessel to rest a few minutes, pour off the clear liquor, and redistil it. The density is commonly from 1063 to 1065, but must not exceed 1068.5

ACIDUM BENZOICUM.

Take of Benzoin any convenient quantity : put it into a glass-mattrass ; and by means of a gradually increasing heat sublime as long as any thing rises : squeeze the sublimate between folds of filtering-paper to remove the oil as much as possible ; and sublime the residuum again.

ACIDUM CITRICUM.

Take of Lemon-juice, four pints ;
Prepared Chalk, four ounces and a half, or a sufficiency ;
Diluted Sulphuric acid, thirty-six fluidounces, or in the same proportion to the chalk required.

Boil the Lemon-juice, allow it to rest, pour off the clear liquor, boil this again, and add the Chalk to it while hot by degrees till there is no more effervescence, and the liquor ceases to taste acid. Collect the

precipitate, and wash it with hot water till the water passes from it colourless. Squeeze the residuum in a powerful press; mix it uniformly with two pints of distilled water; and then add the Sulphuric acid by degrees and with constant stirring. Try whether a small portion of the liquid, when filtered, gives with solution of nitrate of baryta a precipitate almost entirely soluble in nitric acid; and if the precipitate is not nearly all soluble, add a little citrate of lime to the whole liquor till it stand this test. Separate now the clear liquor by subsidence or filtration, washing the insoluble matter with cold water, and adding the washings to the liquor: concentrate with a gentle heat till crystals form on the surface: set the liquor aside to cool and crystallize; and purify the crystals by repeated solution and crystallization till they are colourless.

ACIDUM HYDROCYANICUM.

Take of Ferrocyanide of Potassium, three ounces;
Sulphuric acid, two fluidounces;
Water, sixteen fluidounces.

Dissolve the salt in eleven fluidounces of the water, and put the solution into a mattrass with a little sand: add the acid previously diluted with five fluidounces of the water and allowed to cool: connect the mattrass with a

proper refrigeratory : distil with a gentle heat, by means of a sand-bath or naked gas-flame, till fourteen fluidounces pass over, or till the residuum begins to froth up. Dilute the product with distilled water till it measures sixteen fluidounces.

ACIDUM MURIATICUM PURUM.

Purify Muriate of soda by dissolving it in boiling water, concentrating the solution, skimming off the crystals as they form on the surface, draining from them the adhering solution as much as possible, and subsequently washing them with cold water slightly. Take of this salt, previously well dried, of Pure sulphuric acid, and of water, equal weights. Put the salt into a glass retort, and add the acid previously diluted with a third part of the water and allowed to cool. Fit on a receiver containing the rest of the water. Distil with a gentle heat by means of a sand-bath or naked gas-flame so long as any liquid passes over, preserving the receiver constantly cool by snow or a stream of cold water.

ACIDUM MURIATICUM DILUTUM.

Take of Muriatic Acid, four fluidounces ;
Distilled water, twelve fluidounces.
Mix them together ; the density of this preparation is 1050.

ACIDUM NITRICUM PURUM.

Purify Nitrate of potash, if necessary, by two or more crystallizations till nitrate of silver does not act on its solution in distilled water. Put into a glass retort equal weights of this purified nitrate and of sulphuric acid; and distil into a cool receiver with a moderate heat from a sand-bath or naked gas-flame so long as the fused material continues to give off vapour. The pale-yellow acid thus obtained may be rendered colourless, should this be thought necessary, by heating it gently in a retort.

ACIDUM NITRICUM DILUTUM.

Mix together one fluidounce of Pure Nitric acid (D. 1500), and nine fluidounces of distilled water. If the Commercial Nitric acid of D. 1390 be used, one fluidounce and five fluidrachms and a-half are required.—The density of this diluted acid is 1077.

ACIDUM SULPHURICUM PURUM.

If commercial sulphuric acid contain nitrous acid, heat eight fluidounces of it with between ten and fifteen grains of sugar, at a temperature not quite sufficient to boil the acid, till the dark colour at first produced shall have nearly or altogether disappeared. This process removes nitrous acid. Other impurities may be removed by distillation;

which on the small scale is easily managed by boiling the acid with a few platinum chips in a glass retort by means of a sand-bath or gas-flame,—rejecting the first half ounce.

Acidum sulphuricum dilutum.

Mix together one fluidounce of sulphuric acid and thirteen fluidounces of water. The density of this preparation is about 1090.

Acidum sulphuricum aromaticum.

Take of Sulphuric Acid (commercial,) three fluidounces and a-half;
Rectified spirit, one pint and a-half;
Cinnamon, in moderately fine powder, an ounce and a-half;
Ginger, in moderately fine powder, one ounce;

Add the acid gradually to the spirit, let the mixture digest at a very gentle heat for three days in a closed vessel; mix the powders, moisten them with a little of the acid spirit, let the mass rest for twelve hours, and then put it into a percolator and transmit the rest of the acid spirit. This preparation may also be made by digesting the powders for six days in the acid spirit, and then straining the liquor.

Acidum tartaricum.

Take of Bitartrate of potash, four pounds;

Boiling distilled water, two gallons and a-half;
Prepared chalk, twenty-five ounces and six drachms;
Diluted sulphuric acid, ten pints and seven fluidounces;
Muriatic acid, twenty-six fluidounces and a-half, or a sufficiency.

Boil the bitartrate with two gallons of the water, and add gradually half the chalk, constantly stirring: when the effervescence is over, add a solution obtained by dissolving the rest of the chalk in the muriatic acid diluted with four pints of the water. After the tartrate of lime has subsided, pour off the liquid, and wash the tartrate with distilled water till it is tasteless. Then pour the diluted sulphuric acid on the tartrate, and boil for fifteen minutes. Evaporate with a gentle heat to obtain crystals. Purify these by repeated solution, filtration, and crystallization.

ALCOHOL AND ETHERS.

Alcohol.

Take of Rectified-spirit, one pint.
Lime, eighteen ounces.

Break down the Lime into small fragments: expose the Spirit and lime together to a gentle heat in a glass mattrass till the lime begins to slake: withdraw the heat till the slaking is finished, preserving the upper part of the mattrass cool with damp cloths. Then attach a proper refrigeratory, and with a gradually increasing heat distil off seventeen fluidounces. The density of this alcohol should not exceed 796: If higher, the distillation must have been begun before the slaking of the lime was finished.

Aether sulphuricus.

Take of Rectified-spirit, fifty fluidounces.
Sulphuric acid, ten fluidounces.

Pour twelve fluidounces of the Spirit gently over the Acid contained in an open vessel, and then stir them together briskly and thoroughly. Transfer the mixture immediately into a glass mattrass connected with a refrigeratory, and raise the heat quickly to about 280°. As soon as the etherial fluid begins to distil over, supply fresh Spirit through a tube into the mattrass in a continuous stream, and in such quantity as to equal

that of the fluid which distils over. This is best accomplished by connecting one end of the tube with a graduated vessel containing the spirit,—passing the other end through a cork fitted into the mattrass,—and having a stop-cock on the tube to regulate the discharge. When forty-two ounces have distilled over and the whole spirit has been added, the process may be stopped. Agitate the impure ether with sixteen fluidounces of a saturated solution of muriate of lime, containing about half an ounce of lime recently slaked. When all odour of sulphurous acid has been thus removed, pour off the supernatant liquor, and distil it with a very gentle heat so long as the liquid which passes over has a density not above 735. More ether of the same strength is then to be obtained from the solution of muriate of lime. From the residuum of both distillations a weaker ether may be obtained in small quantity, which must be rectified by distilling it gently again.

SPIRITUS AETHERIS SULPHURICI.

Take of Sulphuric ether, a pint.
Rectified-spirit, two pints.
Mix them. The density of this preparation ought to be 809.

SPIRITUS AETHERIS NITRICI.

Take of Rectified-spirit, two pints and six fluidounces;

Pure nitric acid (D. 1500) seven fluidounces.

Put fifteen fluidounces of the spirit, with a little clean sand, into a two-pint mattrass, fitted with a cork, through which are passed a safety-tube terminating an inch above the spirit, and another tube leading to a refrigeratory. The safety-tube being filled with pure nitric acid, add through it gradually three fluidounces and a-half of the acid. When the ebullition which slowly rises is nearly over, add the rest of the acid gradually, half a fluidounce at a time, waiting till the ebullition caused by each portion is nearly over before adding more, and cooling the refrigeratory with a stream of water, iced in summer. The ether thus distilled over, being received in a bottle, is to be agitated first with a little milk of lime, till it ceases to redden litmus-paper, and then with half its volume of concentrated solution of muriate of lime. The pure hyponitrous ether thus obtained, which should have a density of 899, is then to be mixed with the remainder of the rectified spirit, or exactly four times its volume.

Spirit of nitric ether ought not to be kept long, as it always undergoes decomposition, and becomes at length strongly acid. Its density by this process is 847.

SPIRITUS DILUTIOR. See *Spirits*.

ALKALIS.

Ammoniae aqua, et

Ammoniae aqua fortior.

Take of Muriate of ammonia, thirteen ounces;
Quicklime, thirteen ounces;
Water, seven fluidounces and a half;
Distilled water, twelve fluidounces.

Slake the Lime with the water, cover it up till it cool, triturate it well and quickly with the Muriate of ammonia previously in fine powder, and put the mixture into a glass retort, to which is attached a receiver with a safety-tube. Connect with the receiver a bottle also provided with a safety-tube, and containing four ounces of the Distilled water, but capable of holding twice as much. Connect this bottle with another loosely corked, and containing the remaining eight ounces of distilled water. The communicating tubes must descend to the bottom of the bottles at the further end from the retort; and the receiver and bottles must be kept cool by snow, ice, or a running stream of very cold water. Apply to the retort a gradually-increasing heat till gas ceases to be evolved; remove the retort, cork up the aperture in the receiver where it was connected with the re-

tort, and apply to the receiver a gentle and gradually-increasing heat, to drive over as much of the gas in the liquid contained in it, but as little of the water, as possible. Should the liquid in the last bottle not have the density of 960, reduce it with some of the Stronger Aqua ammoniæ in the first bottle, or raise it with distilled water, so as to form Aqua ammoniæ of the prescribed density.

AMMONIAE CARBONAS.

Take of Sal-ammoniac, one pound ;
Chalk, one pound and a-half.
Reduce them separately to fine powder, mix them thoroughly, and subject the mixture in a retort with a proper receiver to a gradually-increasing heat so long as any vapours sublime.

AMMONIAE CARBONATIS AQUA.

Take of Carbonate of Ammonia, four ounces
Distilled water, one pint.
Dissolve the salt in the water.

AMMONIAE ACETATIS AQUA.

Take of Distilled vinegar, (from French vinegar in preference) twenty-four fluidounces ;
Carbonate of ammonia, one ounce.
Mix them and dissolve the salt. If the solution has any bitterness, add by degrees a

little distilled vinegar till that taste be removed. The density of the distilled vinegar should be 1005, and that of the Aqua acetatis ammoniæ 1011.

POTASSA.

Take any convenient quantity of Aqua potassæ; evaporate it in a clean and covered iron vessel, increasing gradually the heat, till an oily-looking fluid remains, a drop of which, when removed on a rod, becomes hard on cooling. Then pour out the liquid upon a bright iron plate, and as soon as it solidifies, break it quickly and put it into glass bottles secured with glass stoppers.

POTASSAE AQUA.

Take of Carbonate of potash (dry) four ounces;
Lime recently burnt, two ounces;
Water, forty-five fluidounces.

Let the Lime be slaked and converted into milk of lime with seven fluidounces of the water. Dissolve the Carbonate in the remaining thirty-eight fluidounces of water; boil the solution, and add to it the milk of lime in successive portions, about an eighth at a time,—boiling briskly for a few minutes after each addition. Pour the whole into a deep narrow glass-vessel for twenty-four hours; and then withdraw with a syphon the

clear liquid, which should amount to at least thirty-five fluidounces, and ought to have a density of 1072.

POTASSA CUM CALCE.

Take any convenient quantity of Aqua potassæ; evaporate it in a clean covered iron vessel to one-third of its volume; add slaked Lime till the fluid has the consistence of firm pulp: preserve the product in carefully covered vessels.

ALKALOIDS AND THEIR SALTS.

Morphiae acetas.

Take of Muriate of morphia any convenient quantity. Dissolve it in fourteen times its weight of warm water, and when the solution is cool add Aqua ammoniæ gradually and with constant agitation until there is a permanent but faint odour of ammonia in the fluid. Collect the precipitate on a calico filter, wash it moderately with cold water, and dissolve it by means of a slight excess of Pyroligneous acid in twelve parts of warm water for every part of muriate of morphia that was used. Concentrate the solution over the vapour-bath and set it aside to crystallize. Drain and squeeze the crystals, and dry them with a gentle heat. More acetate of morphia may be obtained on concentrating the mother liquor.

Morphiae murias.

Take of Opium, twenty ounces;
Water, eight pints;
Muriate of lime, one ounce, or a slight excess.

Macerate the opium in fragments for twenty-four hours in two pints of the water; and separate the infusion, squeezing well the re-

sidue. Repeat the maceration successively with two pints more of the water till the whole is made use of. Concentrate the whole infusions over the vapour bath to one pint, and add the Muriate of lime dissolved in four fluidounces of water. Set the whole aside to settle ; pour off the liquid ; wash the sediment with a little water, adding the washings to the liquid. Evaporate the liquid sufficiently in the vapour bath for it to solidify on cooling. Subject the cooled mass to very strong pressure in a cloth ; redissolve the cake in a sufficiency of warm distilled water ; add a little fine powder of white marble, and filter ; acidulate the filtered fluid with a very little muriatic acid ; and concentrate a second time in the vapour-bath for crystallization. Subject the crystals again to very strong pressure in a cloth. Repeat the process of solution, clarification by marble and muriatic acid, concentration, and crystallization, until a snow-white mass be obtained.

On the small scale trouble and loss are saved by decolorizing the solution of muriate of morphia by means of a little purified animal charcoal after two crystallizations. But on the large scale it is better to purify the salt by repeated crystallizations alone, and to treat all the expressed fluids, except the first, in the same way with the original solution, of impure muriate of morphia. An ad-

ditional quantity of salt may often be got from the first dark and resinous fluid obtained by expression, on merely allowing it to remain at rest for a few months, when a little muriate of morphia may be deposited in an impure condition.

The opium, which yields the largest quantity of precipitate by carbonate of soda according to the formula in p. 29, yields muriate of morphia not only in greatest proportion, but likewise with the fewest crystallizations.

MORPHIAE MURIATIS SOLUTIO.

Take of Muriate of morphia, one drachm and a half;
Rectified-spirit, five fluidounces;
Distilled water, fifteen fluidounces.

Mix the spirit and water, and dissolve the muriate of morphia in the mixture with the aid of a gentle heat.

QUINAE SULPHAS.

Take of Yellow Bark in coarse powder, one pound;
Carbonate of soda, eight ounces;
Sulphuric acid, half a fluidounce;
Purified Animal Charcoal, two drachms.

Boil the bark for an hour in four pints of water, in which half the carbonate of soda

has been dissolved ; strain and express strongly through linen or calico ; moisten the residuum with water and express again ; and repeat this twice. Boil the residuum for half an hour with four pints of water and half the sulphuric acid ; strain, express strongly, moisten with water, and express again. Boil the residuum with three pints of water and a fourth part of the acid ; strain and squeeze as before. Boil again the residuum with the same quantity of water and acid, strain and squeeze as formerly. Concentrate the whole acid liquids to about a pint ; let the product cool ; filter it ; and dissolve in it the remainder of the Carbonate of soda. Collect the impure quina on a cloth, wash it slightly, and squeeze out the liquor with the hand. Break down the moist precipitate in a pint of distilled water, add one fluidscruple of Sulphuric acid, heat it to 212°, and stir occasionally. Should any precipitate retain its gray colour, and the liquid be neutral, add sulphuric acid drop by drop, stirring constantly, till the gray colour disappears. Should the liquid redden litmus, neutralize it with a little carbonate of soda. Should crystals form on the surface, add boiling distilled water to dissolve them. Filter through paper, preserving the funnel hot ; set the liquid aside to

crystallize; collect, and squeeze the crystals; dissolve them in a pint of distilled water heated to 212°; digest the solution for fifteen minutes with the Animal charcoal; filter, and crystallize as before. Dry the crystals with a heat not exceeding 140°.

The mother liquors of each crystallization will yield a little more salt by concentration and cooling.

STRYCHNIA.

Take of Nux-vomica, one pound;
Quicklime, one ounce and a-half;
Rectified spirit, a sufficiency.

Subject the Nux-vomica for two hours to the vapour of steam, chop or slice it, dry it thoroughly in the vapour-bath, or hot air-press, and immediately grind it in a coffee-mill. Macerate it for twelve hours in two pints of water and boil it; strain through linen or calico, and squeeze the residuum; repeat the maceration and decoction twice with a pint and a half of water. Concentrate the decoctions to the consistence of thin syrup; add the Lime in the form of milk of lime; dry the precipitate in the vapour-bath; pulverize it, and boil it with successive portions of Rectified spirit till the spirit cease to acquire a bitter taste. Distil off the spirit till the residuum be sufficiently concentrated to crys-

tallize on cooling. Purify the crystals by repeated crystallizations.

VERATRIA.

Take any convenient quantity of Cevadilla: pour boiling water over it in a covered vessel, and let it macerate for twenty-four hours; remove the cevadilla, squeeze it, and dry it thoroughly with a gentle heat. Beat it now in a mortar, and separate the seeds from the capsules by brisk agitation in a deep narrow vessel. Grind the seeds in a coffee-mill, and form them into a thick paste with Rectified spirit. Pack this firmly in a percolator, and pass rectified spirit through it till the spirit ceases to be coloured. Concentrate the spirituous solutions by distillation so long as no deposit forms; and pour the residuum while hot into twelve times its volume of cold water. Filter through calico, and wash the residuum on the filter so long as the washings precipitate with ammonia. Unite the filtered liquid with the washings, and add an excess of ammonia. Collect the precipitate on a filter, wash it slightly with cold water, and dry it first by imbibition with filtering-paper, and then in the vapour-bath. A small additional quantity may be got by concentrating the filtered ammoniacal fluid and allowing it to cool.

Veratria thus obtained is not pure, but sufficiently so for medical use. From this coloured substance it may be obtained white, though at considerable loss, by solution in very weak muriatic acid, decolorization with animal charcoal, and re-precipitation with ammonia.

CONSERVES AND ELECTUARIES.

Conserva amygdalarum.

Take of Sweet almonds, eight ounces;
Powder of gum-arabic, one ounce;
White sugar, four ounces.

Blanch the almonds by maceration and peeling; and beat them with the gum and sugar into a uniform pulpy mass.

Electuarium aromaticum.

Take of Aromatic powder, one part;
Syrup of orange peel, two parts.

Mix them and triturate them into a uniform pulp.

Conserva aurantii.

Grate off the outer rind of bitter oranges, and beat it into a pulp, adding gradually thrice its weight of white sugar.

Electuarium catechu.

Take of Catechu, and
Kino, of each four ounces;
Cinnamon, and
Nutmeg, of each one ounce;
Opium, diffused in a little sherry, one drachm and a half;
Syrup of red roses, reduced to the consistence of honey, one pint and a half.

Pulverize the solids; mix the opium and syrup, then the powders, and beat them thoroughly into a uniform mass.

ELECTUARIUM OPII.

Take of Aromatic powder, six ounces;
Senega, in fine powder, three ounces;
Opium diffused in a little sherry, half an ounce;
Syrup of ginger, a pound.

Mix them together, and beat them into an electuary.

ELECTUARIUM PIPERIS.

Take of Black Pepper, and
Liquorice-root in powder, of each a pound;
Fennel, three pounds;
Honey, and
White sugar, of each two pounds;

Triturate the solids together into a very fine powder; add the honey; and beat the whole into a uniform mass.

CONSERVA ROSAE.

Beat the petals of the Rosa gallica to a pulp, gradually adding twice their weight of white sugar.

CONSERVA ROSAE FRUCTUS.

Take any convenient quantity of hips, care-

fully deprived of their carpels; beat them to a fine pulp, adding gradually thrice their weight of white sugar.

ELECTUARIUM SENNAE.

Take of Senna, eight ounces;
Coriander, four ounces;
Liquorice-root, bruised, three ounces;
Figs, a pound;
Pulp of prunes, a pound;
White sugar, two pounds and a half;
Water, three pints and a quarter.

Powder the senna and coriander; sift out ten ounces of the mixture; boil the residue with the figs and liquorice, in the water down to one-half; express and strain the liquor, and evaporate it to twenty-four fluidounces; dissolve in this the sugar, and add the liquid by degrees to the pulp of prunes; mix gradually the powder, and triturate the whole carefully to a uniform pulp.

DECOCTIONS.

Decoctum aloes.

Take of Socotorine or Hepatic Aloes,
Powder of myrrh, and
Saffron, of each one drachm;
Extract of liquorice, half an ounce;
Carbonate of potash, two scruples;
Compound tincture of cardamom, four fluidounces;
Water, sixteen fluidounces.

Mix the aloes, myrrh, saffron, liquorice, and carbonate of potash with the water; boil down to twelve ounces; filter, and add the compound tincture of cardamom.

Decoctum cinchonae.

Take of Crown, Gray, Yellow, or Red cinchona, one ounce, bruised;
Water, twenty-four fluidounces.

Boil for ten minutes, let the decoction cool, then filter it, and evaporate to sixteen fluidounces.

Decoctum dulcamarae.

Take of Dulcamara, chopped down, one ounce;
Water, twenty-four fluidounces.

Mix them, boil, and concentrate by evaporation to sixteen fluidounces.

Decoctum guaiaci.

Take of Guaiac turnings, three ounces;
Raisins, two ounces:
Sassafras, rasped, and
Liquorice-root, bruised, each one ounce;
Water, eight pints.

Boil the guaiac and raisins with the water gently down to five pints, adding the liquorice and sassafras towards the end. Strain the decoction.

Decoctum haematoxyli.

Take of Logwood, in chips, one ounce;
Water, a pint;
Cinnamon, one drachm, in powder.

Boil the logwood in the water down to ten fluidounces, adding the cinnamon towards the end; and then strain.

Decoctum mezerei.

Take of Mezereon, in chips, two drachms;
Liquorice-root, bruised, half an ounce;
Water, two pints.

Mix them and boil down with a gentle heat to a pint and a-half; and then strain.

Decoctum papaveris.

Take of Poppy-heads, sliced, four ounces;
Water, three pints;

Boil for fifteen minutes, and then strain.

DECOCTUM QUERCUS.

Take of Oak-bark, ten drachms;
Water, two pints;
Boil down to one pint, and then strain.

DECOCTUM SARZAE.

Take of Sarza, in chips, five ounces;
Boiling water, four pints.
Digest the root in the water for two hours at a temperature somewhat below ebullition, take out the root, bruise it, replace it, boil down to two pints, and then squeeze out the decoction and strain it.

DECOCTUM SARZAE COMPOSITUM.

Take of Decoction of Sarza, boiling hot, four pints;
Sassafras, in chips, and bruised,
Guaiac turnings, and
Fresh Liquorice-root, of each, ten drachms;
Mezereon, half an ounce;
Boil them together for fifteen minutes, and then strain.

DECOCTUM SCOPARII.

Take of Broom-tops, and
Juniper-tops, of each, half an ounce;
Bitartrate of potash, two drachms and a-half;
Water, a pint and a-half.

Boil them together down to a pint; and then strain.

DECOCTUM TARAXACI.

Take of Taraxacum, herb and root, fresh, seven ounces;
Water, two pints.

Boil together down to one pint; and then strain.

DISTILLED WATERS.

Distilled waters may be prepared from fresh, and generally also from dried, vegetables. In the latter case only half the weight of material should be used. They may also be prepared for the most part by agitating the volatile oils of the plants with water and filtering the solution. But distilled waters obtained in this way have seldom so fine a flavour as those obtained from the plants themselves.

Aqua destillata.

Take any convenient quantity of spring-water; distil it from a proper vessel, rejecting the first twentieth part, and preserving the first half of the remainder.

Aqua Anethi.

Take of Anethum seeds, bruised, eighteen ounces;
Water, two gallons;
Rectified spirit, three fluidounces.
Mix together, and distil off one gallon.

Aqua cassiae.

Take of Cassia-bark bruised, eighteen ounces;
Water, two gallons;
Rectified spirit, three fluidounces.
Mix them together, and distil off one gallon

AQUA CINNAMOMI.

This distilled water is to be prepared with Cinnamon in the same way as Aqua cassiæ.

AQUA FOENICULI.

This distilled water is prepared with Fennel in the same way as Aqua Anethi.

AQUA LAUROCERASI.

Take of fresh leaves of Cherry-laurel, a pound;
Water, two pints and a half;
Compound spirit of Lavender, an ounce.

Chop down the leaves, mix them with the water, distil off one pint, agitate the distilled liquid well, filter it if any milkiness remain after a few seconds of rest, and then add the lavender spirit.

AQUA MENTHÆ PIPERITÆ.

This distilled water is prepared as Aqua menthæ viridis.

AQUA MENTHAE VIRIDIS.

Take of Spearmint four pounds if fresh, two two pounds if dry;
Water, two gallons;
Rectified-spirit, three fluidounces.

Mix them; and distil off one gallon.

AQUA PIMENTAE.

Take of Pimento bruised, one pound;
Water, two gallons;
Rectified-spirit, three fluidounces.
Mix them; and distil off one gallon.

AQUA PULEGII.

This distilled water is prepared like Aqua menthæ viridis.

AQUA ROSAE.

Take of petals of Rosa centifolia, ten pounds;
Water, two gallons;
Rectified-spirit, three fluidounces.
Mix them and distil off one gallon. The petals should be preferred when fresh; but it also answers well to use those which have been preserved by beating them with twice their weight of muriate of soda.

AQUA SAMBUCI.

Take of Elder-flowers, fresh, ten pounds;
Water, two gallons;
Rectified-spirit, three fluidounces.
Mix them; and distil off one gallon.

ENEMAS.

Enema catharticum.

Take of Olive oil, one ounce;
Sulphate of magnesia, half an ounce;
Sugar, one ounce;
Senna, half an ounce;
Boiling water, sixteen fluidounces:
Infuse the senna for an hour in the water; then dissolve the salt and sugar; add the oil, and mix them by agitation.

Enema foetidum.

Add to the cathartic enema two drachms of tincture of assafœtida.

Enema opii vel anodynum.

Take of Starch, half a drachm;
Tincture of opium, half a fluidrachm to one fluidrachm;
Water, two fluidounces:
Boil the starch in the water, and when it is cool enough for use, add the tincture of opium.

Enema terebinthinae.

Take of Oil of Turpentine, one fluidounce;
Yolk of egg, a sufficiency;
Water, nineteen fluidounces;
Rub the oil and yolk carefully together, and then add the water gradually.

Enema tabaci.

Take of Tobacco, 15 grains to half a drachm;
Boiling water, eight fluidounces:
Infuse for half an hour, and then strain.

EXTRACTS.

Extracts are usually prepared by evaporating the expressed juices of plants, or their infusions and decoctions in water, proof-spirit, or rectified spirit, at a temperature not exceeding 212° F. by means of a vapour-bath. Most of them, however, may be obtained of greatly superior quality by the process of evaporation in vacuo. And the extracts of expressed juices cannot, perhaps, be better prepared than by spontaneous evaporation in shallow vessels, exposed to a current of air. Extracts should be evaporated to such a consistence as to form a firm pill-mass when cold.

Extractum aconiti.

Take of the leaves of Monkshood, fresh, any convenient quantity; beat them into a pulp; express the juice; subject the residuum to percolation with rectified spirit, so long as the spirit passes materially coloured; unite the expressed juice and the spirituous infusion; filter; distil off the spirit; and evaporate the residuum in the vapour-bath, taking care to remove the vessel from the heat so soon as the due degree of consistence shall be attained.

Extractum anthemidis.

Take of Chamomile, a pound; boil it with a

gallon of water down to four pints; filter the liquor hot; evaporate in the vapour-bath to the due consistence.

EXTRACTUM BELLADONNAE.

Take of Belladonna fresh, any convenient quantity; bruise it in a marble mortar into a uniform pulp; express the juice; moisten the residuum with water, and express again. Unite the expressed fluids, filter them, and evaporate the filtered liquid in the vapour-bath to the consistence of firm extract, stirring constantly towards the close.

EXTRACTUM CINCHONAE.

Take of any of the varieties of Cinchona, but especially the Yellow or Red cinchona, in fine powder, four ounces;
Proof spirit, twenty-four fluidounces;
Percolate the Cinchona with the spirit; distil off the greater part of the spirit; and evaporate what remains in an open vessel over the vapour-bath to a due consistence.

EXTRACTUM COLCHICI ACETICUM.

Take of the Bulb of Colchicum, a pound;
Pyroligneous acid, three fluidounces;
Beat the colchicum to a pulp, gradually adding the acid; express the liquid, and evaporate it in a porcelain vessel (not glazed with lead) over the vapour-bath to the due consistence.

EXTRACTUM COLOCYNTHIDIS.

Take of Colocynth, a pound;
Water, two gallons.

Boil gently for six hours, replacing the evaporated water occasionally. Strain the liquor while hot; and evaporate it in the vapour-bath to the due consistence.

EXTRACTUM CONII.

Take of Conium any convenient quantity; beat it into a uniform pulp in a marble mortar, express the juice, and filter it. Let this juice be evaporated to the consistence of a very firm extract either in a vacuum with the aid of heat, or spontaneously in shallow vessels exposed to a strong current of air freed of dust by gauze-skreens.

This extract is of good quality only when a very strong odour of conia is disengaged by degrees on its being carefully triturated with Aqua potassæ.

EXTRACTUM DIGITALIS.

This extract is best prepared from the fresh leaves of Digitalis, by any of the processes indicated for extract of conium.

EXTRACTUM ELATERII, seu ELATERIUM.

Take of the fruit of Momordica elaterium before it is quite ripe, any convenient quantity; cut the fruit and express the juice gently through a fine sieve; allow the liquid to

rest till it becomes pretty clear; pour off the supernatant liquor, which may be thrown away; and dry the feculence with a gentle heat.

EXTRACTUM GENTIANAE.

Take of Gentian, any convenient quantity; bruise it to a moderately fine powder; mix it thoroughly with half its weight of distilled water; in twelve hours put it into a proper percolator, and exhaust it by percolation with temperate distilled water; concentrate the liquid, filter before it becomes too thick, and evaporate in the vapour-bath to a due consistence.

EXTRACTUM GLYCIRRHIZAE.

Cut Liquorice-root into small chips, dry it thoroughly with a gentle heat, reduce it to a moderately fine powder, and proceed as for extract of Gentian.

EXTRACTUM HAEMATOXYLI.

Take of Logwood, in fine chips, a pound;
Boiling water, a gallon.

Macerate for twenty-four hours, then boil down to four pints, strain, and concentrate in the vapour-bath to the due consistence.

EXTRACTUM HYOSCYAMI.

This extract is to be prepared from the fresh leaves of Hyoscyamus by any of the processes directed for extract of Conium.

EXTRACTUM *sive* RESINA JALAPAE.

Take any convenient quantity of Jalap, in moderately fine powder; mix it thoroughly with enough of rectified spirit to moisten it well; put it in twelve hours into a percolator, and exhaust the powder with rectified spirit; distil off the greater part of the spirit, and concentrate the residuum over the vapour-bath to a due consistence.

EXTRACTUM KRAMERIAE.

This extract is to be prepared from Krameria-root in the same way with that of Liquorice-root.

EXTRACTUM LUPULI.

This extract is prepared from Hops in the same way with the Extract of Logwood.

EXTRACTUM NUCIS-VOMICAE.

Take of nux-vomica any convenient quantity; expose it in a proper vessel to steam till it is completely softened; slice it, dry it thoroughly, and immediately grind it in a coffee-mill; exhaust the powder either by percolating it with rectified spirit, or by boiling it with repeated portions of rectified spirit, until the spirit comes off free of bitterness. Distil off the greater part of the spirit; and evaporate what remains in the vapour-bath to a proper consistence.

EXTRACTUM OPII.

Take of Opium, one pound;
Water, five pints;
Cut the opium into small fragments, macerate it for twenty-four hours in a pint of water, break down the fragments with the hand, express the liquid with pretty strong pressure; break down the residuum again in another pint of the water, let it macerate for twenty-four hours, and express the liquid; repeat the maceration and expression in the same way till the water is all used. Filter the successive infusions as they are made, passing them through the same filter; unite and evaporate them in the vapour-bath to the due consistence.

EXTRACTUM PAPAVERIS.

Take of Poppy-heads without the seeds, fifteen ounces;
Boiling water, a gallon;
Macerate for twenty-four hours; boil down to four pints; filter the liquor hot, and evaporate over the vapour-bath to the due consistence.

EXTRACTUM PAREIRÆ.

This extract is to be prepared from Pareira-root in the same way with the extract of Liquorice-root.

EXTRACTUM QUASSIÆ.

This extract is to be prepared from Quassia in the same way with the extract of Liquorice-root.

EXTRACTUM RHEI.

Take of Rhubarb, one pound;
Water, five pints;
Cut the Rhubarb into small fragments, macerate it for twenty-four hours in three pints of the water, filter the liquor through a cloth, and express it with the hands or otherwise moderately; macerate the residuum with the rest of the water for twelve hours at least, filter the liquor with the same cloth as before, and express the residuum strongly. The liquors, filtered again if necessary, are then to be evaporated together to a proper consistence in the vapour-bath. The extract however is obtained of finer quality by evaporation in a vacuum with a gentle heat.

EXTRACTUM *sive* RESINA SCAMMONII.

Take any convenient quantity of Scammony in fine powder; boil it in successive portions of proof-spirit till the spirit ceases to dissolve any thing; filter; distil the liquid till little but water passes over. Then pour away the watery solution from the resin at the bottom; agitate the resin with succes-

sive portions of boiling water till it is well washed; and lastly, dry it at a temperature not exceeding 240°.

EXTRACTUM SARZAE FLUIDUM.

Take of Sarza in chips, one pound;
Boiling water, six pints;
Digest the root for two hours in four pints of the water; take it out, bruise it, replace it, and boil for two hours; filter and squeeze out the liquid; boil the residuum in the remaining two pints of water, and filter and squeeze out this liquor also; evaporate the united liquors to the consistence of thin syrup; add, when the product is cool, as much rectified spirit as will make in all sixteen fluidounces. Filter.

This fluid extract may be aromatized with volatile oils or warm aromatics.

EXTRACTUM STYRACIS.

Take any convenient quantity of Storax, in fine powder; exhaust it by boiling it in successive quantities of rectified spirit; filter the spirituous solutions; distil off the greater part of the spirit; evaporate the remainder over the vapour-bath to the consistence of a thin extract.

EXTRACTUM STRAMONII.

Take of seeds of Stramonium any conve-

nient quantity ; grind them well in a coffee-mill.

Rub the powder into a thick mass with Proof-spirit ; put the pulp into a percolator, and transmit proof-spirit till it passes colourless ; distil off the spirit, and evaporate what remains in the vapour-bath to a proper consistence.

EXTRACTUM TARAXACI.

Take of fresh root of Taraxacum, a pound ;
Boiling water a gallon.

Proceed as for the preparation of extract of Poppy heads.

HONEYS.

MEL BORACIS.

Take of Borax, one drachm ;
Honey, one ounce ;
Mix them.

MEL ROSAE.

Take of the dried petals of Rosa gallica, four ounces ;
Boiling water, two pints and a-half ;
Honey, five pounds ;
Infuse the petals in the water for six hours ; strain and squeeze ; let the impurities subside ; pour off the clear liquor ; mix the honey with it ; and evaporate the whole in the vapour-bath to the consistence of syrup, removing the scum which forms.

INFUSIONS.

Infusum anthemidis.

Take of Chamomile, five drachms;
Boiling water, one pint.
Infuse for twenty minutes in a covered vessel, and then strain.

Infusum aurantii.

Take of Bitter orange-peel, dried, half an ounce;
Lemon-peel, fresh, two drachms;
Cloves, bruised, one drachm;
Boiling water, one pint;
Infuse for fifteen minutes in a covered vessel, and strain through linen or calico.

Infusum bucku.

Take of Bucku, an ounce;
Boiling water, one pint;
Infuse for two hours in a covered vessel, and strain through linen or calico.

Infusum calumbae.

Take of Calumba, in coarse powder, half an ounce;
Cold water, about a pint.
Triturate the Calumba with a little of the water, so as to moisten it thoroughly; put it into a percolator, and transmit cold water

till sixteen fluidounces of infusion be obtained.

INFUSUM CARYOPHYLLI.

Take of bruised Cloves, three drachms;
Boiling water, one pint;
Infuse for two hours in a covered vessel, and strain through linen or calico.

INFUSUM CASCARILLÆ.

Take of Cascarilla, bruised, an ounce and a half;
Boiling water, one pint;
Infuse for two hours, in a covered vessel, and strain through linen or calico.

INFUSUM CATECHU.

Take of Catechu, in powder, six drachms;
Cinnamon, in powder, one drachm;
Syrup, three fluidounces;
Boiling water, seventeen fluidounces;
Infuse the catechu and cinnamon with the water for two hours, strain through linen or calico, and add the syrup.

INFUSUM CHIRETTAE.

Take of Chiretta, four drachms;
Boiling water, one pint;
Infuse for two hours, and strain through linen or calico.

INFUSUM CINCHONÆ.

Take of any species of Cinchona, according to prescription, one ounce in powder;
Boiling water, one pint;
Infuse for four hours in a covered vessel, and then strain through linen or calico.

INFUSUM CUSPARIAE.

Take of Cusparia, bruised, five drachms;
Boiling water, one pint;
Infuse for two hours in a covered vessel, and then strain through linen or calico.

INFUSUM DIGITALIS.

Take of Digitalis, dried, two drachms;
Spirit of Cinnamon, two fluidounces;
Boiling water, eighteen fluidounces;
Infuse the Digitalis in the water, in a covered vessel for four hours; strain through linen or calico; and then add the spirit of cinnamon.

INFUSUM GENTIANAE.

Take of Gentian, sliced, half an ounce;
Bitter orange-peel, dried and bruised, one drachm;
Coriander, bruised, one drachm;
Proof-spirit, four fluidounces;
Cold water, sixteen fluidounces;
Pour the spirit upon the solids; in three

hours add the water; and in twelve hours more strain through linen or calico.

INFUSUM LINI.

Take of Linseed, six drachms;
Liquorice-root, bruised, two drachms;
Boiling-water, one pint;
Digest near the fire in a covered vessel for four hours, and then strain through linen or calico.

INFUSUM PAREIRAE.

Take of Pareira, six drachms;
Boiling water, one pint;
Infuse for two hours in a covered vessel, and then strain through linen or calico.

INFUSUM QUASSIAE.

Take of Quassia, in chips, one drachm;
Boiling water, one pint;
Infuse for two hours in a covered vessel, and then strain through linen or calico.

INFUSUM RHEI.

Take of Rhubarb, bruised into coarse powder, one ounce;
Spirit of cinnamon, two fluidounces;
Boiling water, eighteen fluidounces;
Infuse the rhubarb for twelve hours in the water in a covered vessel; add the spirit, and strain through linen or calico.

INFUSUM ROSAE.

Take of Rosa gallica dried, three drachms;
Diluted Sulphuric acid, one fluidrachm and a half;
Pure Sugar, six drachms;
Boiling water, one pint;

Infuse the rose-petals in the water, in a covered vessel of glass or porcelain, not glazed with lead, for one hour; then add the acid, strain through linen or calico, and dissolve the sugar in the liquor.

INFUSUM SENEGAE.

Take of Senega, ten drachms;
Boiling water, one pint;

Infuse for four hours in a covered vessel, and strain.

INFUSUM SENNAE.

Take of Senna, an ounce and a half;
Ginger, bruised, four scruples;
Boiling water, one pint;

Infuse for an hour in a covered vessel; and then strain through linen or calico.

INFUSUM SENNAE COMPOSITUM.

Take of Senna, one drachm;
Tamarinds, one ounce;
Coriander, bruised, one drachm;
Muscovado, half an ounce;
Boiling water, eight fluidounces;

Infuse for four hours, with occasional stirring in a covered vessel, not glazed with lead, and then strain through linen or calico.

This infusion may be likewise made with twice or thrice the prescribed quantity of senna.

INFUSUM SERPENTARIAE.

Take of Serpentaria, half an ounce;
Boiling water, a pint;
Infuse for four hours in a covered vessel, and then strain through linen or calico.

INFUSUM SIMARUBAE.

Take of Simaruba, bruised, three drachms;
Boiling water, a pint;
Infuse for two hours in a covered vessel; and then strain through linen or calico.

METALS AND THEIR COMPOUNDS.

Alumen exsiccatum.

Take any convenient quantity of alum; fuse it over the fire in a vessel of iron or earthenware; continue the heat till ebullition ceases and vapour is no longer discharged; and then reduce it to powder.

Antimonii oxidum.

Take of Sulphuret of Antimony in fine powder, four ounces;
Muriatic acid (commercial,) one pint;
Water, five pints.

Dissolve the sulphuret in the acid with the aid of a gentle heat; boil for half an hour; filter; pour the fluid into the water; collect the precipitate on a calico filter; wash it well with cold water, then with a weak solution of carbonate of soda, and again with cold water till the water ceases to affect reddened litmus paper. Dry the powder over the vapour bath.

Pulvis antimonialis.

Take of Sulphuret of Antimony, in coarse powder;
Hartshorn shavings, equal weights;

Mix them, put them into a red-hot iron pot,

and stir constantly till they acquire an ash-gray colour and vapours no longer arise. Pulverise the product, put it into a crucible with a perforated cover, and expose this to a gradually-increasing heat till a white heat be produced, which is to be maintained for two hours. Reduce the product when cold to fine powder.

ANTIMONII SULPHURETUM AUREUM.

Take of Sulphuret of Antimony, in fine powder, one ounce;
Solution of Potash, eleven fluid-ounces;
Water, two pints;
Mix the water and solution of potash, add the sulphuret, boil for an hour, filter immediately, and precipitate the liquid, while hot, with an excess of diluted sulphuric acid. Collect the precipitate on a calico filter, wash it thoroughly with water, and dry it with a gentle heat.

ANTIMONII TARTARIZATUM.

Take of Sulphuret of Antimony, in fine powder, four ounces;
Muriatic acid (commercial,) one pint;
Water, five pints;
Dissolve the sulphuret in the acid with the aid of a gentle heat; boil for half an hour;

filter; pour the liquid into the water; collect the precipitate on a calico filter, wash it with cold water till the water ceases to redden litmus-paper; dry the precipitate over the vapour-bath.

Take of this precipitate three ounces;
Bitartrate of potash, four ounces and two drachms;
Water, twenty-seven fluidounces;
Mix the powders, add the water, boil for an hour, filter, and set the liquid aside to crystallize. The mother-liquor when concentrated yields more crystals, but not so free of colour, and therefore requiring a second crystallization.

VINUM ANTIMONIALE.

Take of Tartar-emetic, two scruples;
Sherry, one pint;
Dissolve the salt in the wine.

ARGENTI NITRAS.

Take of Pure Silver, an ounce and a half;
Pure Nitric acid, one fluidounce;
Distilled water, two fluidounces;
Mix the acid and water, add the silver, and dissolve it with the aid of a gentle heat; increase the heat gradually till a dry salt be obtained; fuse the salt in an earthen-ware or porcelain crucible, and pour the fused matter into iron moulds previously heated and

greased slightly with tallow. Preserve the product in glass vessels.

LIQUOR ARSENICALIS.

Take of White Arsenic in powder, and
Carbonate of Potash, of each, four scruples;
Compound Tincture of Lavender, five fluidrachms;
Water, one pint;
Dissolve the oxide and carbonate together in half the water, with the aid of heat; filter, if necessary; add the tincture to the liquid when cold, and then dilute it with water till the whole measure one pint.

BARYTAE MURIAS.

Take of Carbonate of Baryta, in fragments, ten ounces;
Pure Muriatic acid, half a pint;
Distilled water, two pints;
Mix the acid and water; add the carbonate by degrees; apply a gentle heat towards the close of the effervescence; and when the action is over, filter, concentrate, and set aside the solution to crystallize.

or

Take of Sulphate of Baryta, two pounds;
Charcoal in fine powder, four ounces;
Pure Muriatic acid, a sufficiency;
Heat the sulphate to redness, reduce it to

fine powder, mix the charcoal with it thoroughly, heat the mixture in a covered crucible for three hours at a low white heat. Pulverize the product, put it gradually into five pints of boiling water; boil for a few minutes; let it rest for a little over a vapour-bath; pour off the clear liquor, and filter it if necessary, keeping it hot. Pour three pints of boiling water over the residuum, and proceed as before. Unite the two liquids; and while they are still hot, or, if cooled, after heating them again, add pure muriatic acid gradually so long as effervescence is occasioned. In this process the solutions ought to be as little exposed to the air as possible; and in the last step the disengaged gas should be discharged by a proper tube into a chimney or the ash-pit of a furnace. Strain the liquor, concentrate it, and set it aside to crystallize.

SOLUTIO BARYTAE MURIATIS.

Take of Muriate of Baryta, one drachm;
Distilled water, one fluidounce;
Dissolve the salt in the water.

BISMUTHUM ALBUM.

Take of Bismuth, in fine powder, one ounce;
Nitric acid (D.1380) one fluidounce and a-half;
Water, three pints;

Add the metal gradually to the acid, favouring the action with a gentle heat, and adding a very little distilled water so soon as crystals or a white powder may begin to form. When the solution is complete, pour the liquid into the water. Collect the precipitate immediately on a calico filter, wash it quickly with cold water, and dry it in a dark place.

CALX.

Heat white marble broken into small fragments in a covered crucible at a full-red heat for three hours, or till the residuum when slaked and suspended in water no longer effervesces on the addition of muriatic acid.

AQUA CALCIS.

Take any convenient quantity of water ; pour a little of it over about a twentieth of its weight of lime ; when the lime is slaked, add it to the rest of the water in a bottle ; agitate well ; allow the undissolved matter to subside ; pour off the clear liquor when it is wanted, replacing it with more water, and agitating briskly as before.

CALCIS MURIAS.

Take of White marble, in fragments, ten ounces ;
Muriatic acid, (commercial) and
Water, of each one pint ;

Mix the acid and water; add the marble by degrees, and when the effervescence is over, add a little marble in fine powder till the liquid no longer reddens litmus; filter and concentrate to one-half; put the remaining fluid in a cold place to crystallize; preserve the crystals in a well-closed bottle. More crystals will be obtained by concentrating the mother-liquor.

CALCIS MURIATIS SOLUTIO.

Take of Muriate of lime, eight ounces;
Water, twelve fluidounces:
Dissolve the salt in the water.

CRETA PRÆPARATA.

Take any convenient quantity of chalk; triturate it well in a mortar with a little water; then pour it into a large vessel nearly full of water, and agitate briskly; allow it to rest for a short time, and pour the milky water into another vessel, in which the fine suspended chalk is to be left slowly to subside; repeat this process with the coarsely powdered chalk which subsided quickly in the first vessel; collect the fine powder in the second vessel on a filter of linen or calico, and dry it.

CUPRUM AMMONIATUM.

Take of Sulphate of Copper, two ounces;

Carbonate of Ammonia, three ounces;

Triturate them thoroughly together, till effervescence ceases, wrap the product in blotting-paper, and dry it first by folds of blotting-paper, afterwards by exposure to the air for a little; and preserve it in closely-stopped bottles.

CUPRI AMMONIATI SOLUTIO.

Take of Ammoniated Copper, one drachm;
Water, one pint;

Dissolve the salt in the water, and filter.

FERRI CARBONAS SACCHARATUM.

Take of Sulphate of Iron, four ounces;
Carbonate of Soda, five ounces;
Pure Sugar, two ounces;
Water, four pints.

Dissolve the sulphate and carbonate each in two pints of the water; add the solutions and mix them; collect the precipitate on a cloth filter, and immediately wash it with cold water, squeeze out as much of the water as possible, and without delay triturate the pulp which remains with the sugar previously in fine powder. Dry the mixture at a temperature not much above 120°.

FERRI IODIDI SYRUPUS.

Take of Iodine (dry) 200 grains;

Fine Iron-wire recently cleaned, 100 grains ;
White-sugar in powder, four ounces and a-half ;
Distilled water, six fluidounces.

Boil the iodine, iron, and water together in a glass mattrass, at first gently to avoid the expulsion of iodine-vapour, afterwards briskly, until about two fluidounces of liquid remain. Filter this quickly, while hot, into a mattrass containing the sugar ; dissolve the sugar with a gentle heat ; and add distilled water, if necessary, to make up six fluidounces.—Twelve minims contain one grain of iodide of iron.

FERRI IODIDUM.

Take any convenient quantity of Iodine, Iron-wire and Distilled water in the proportions for making Solution of Iodide of Iron. Proceed as directed for that process ; but before filtering the solution concentrate it to one-sixth of its volume, without removing the excess of iron-wire. Put the filtered liquor quickly in an evaporating basin, along with twelve times its weight of quicklime around the basin, in some convenient apparatus in which it may be shut up accurately in a small space not communicating with the general atmosphere. Heat the whole apparatus in a hot air-press, or otherwise, until the

water be entirely evaporated; and preserve the dry iodide in small well-closed bottles.

FERRI MURIATIS TINCTURA.

Take of Red Oxide of Iron, six ounces;
Muriatic acid, (commercial) one pint;
Rectified Spirit, three pints;
Add the oxide to the acid in a glass vessel; digest with a gentle heat, and occasional agitation, for a day, or till most of the oxide be dissolved; then add the spirit, and filter.

FERRI OXIDUM NIGRUM.

Take of Sulphate of Iron, six ounces;
Sulphuric Acid, (commercial) two fluidrachms and two fluidscruples;
Pure Nitric Acid, four fluidrachms and a-half;
Stronger Aqua Ammoniæ, four fluidounces and a-half;
Boiling water, three pints.
Dissolve half the sulphate in half the boiling water and add the sulphuric acid; boil; add the nitric acid by degrees, boiling the liquid after each addition briskly for a few minutes. Dissolve the rest of the sulphate in the rest of the boiling water; mix thoroughly the two solutions; and immediately add the ammonia in a full stream, stirring the mixture at the same time briskly Collect

the black powder on a calico-filter; wash it with water till the water is scarcely precipitated by solution of nitrate of baryta; and dry it at a temperature not exceeding 180°.

FERRI OXIDUM RUBRUM.

Take of Sulphate of Iron, four ounces;
Carbonate of Soda, five ounces;
Boiling water, half a pint;
Cold water, three pints and a-half;
Dissolve the sulphate in the boiling water, add the cold water, and then the carbonate of soda previously dissolved in about thrice its weight of water. Collect the precipitate on a calico-filter; wash it with water till the water is but little affected with solution of nitrate of baryta; and dry it in the hot air-press or over the vapour-bath.

FERRI SULPHAS.

If the Sulphate of iron of commerce be not in transparent green crystals, without efflorescence, dissolve it in its own weight of boiling water acidulated with a little sulphuric acid; filter; and set the solution aside to crystallize. Preserve the crystals in well-closed bottles.

FERRI SULPHAS EXSICCATUM.

Expose any convenient quantity of Sulphate of iron to a moderate heat in a porcelain or

earthen-ware vessel not glazed with lead, till it is converted into a dry grayish-white mass, which is to be reduced to powder.

FERRI SULPHURETUM.

The best sulphuret of Iron is made by heating an iron rod to a full-white heat in a forge, and rubbing it with a roll of sulphur over a deep vessel filled with water to receive the fused globules of sulphuret which form. An inferior sort, good enough however for pharmaceutic purposes, is obtained by heating one part of sublimed sulphur and three of iron-filings in a crucible in a common fire till the mixture begins to glow, and then removing the crucible and covering it, until the action, which at first increases considerably, shall come to an end.

FERRUGO.

Take of Sulphate of Iron, four ounces;
Sulphuric Acid (commercial) three fluidrachms and a-half;
Nitric Acid (D. 1380), nine fluidrachms;
Stronger Aqua Ammoniæ three fluidounces and a-half.
Water, two pints;
Dissolve the Sulphate in the water, add the Sulphuric acid, and boil the solution; add then the Nitric acid in small portions, boil-

ing the liquid for a minute or two after each addition, until it acquires a yellowish-brown colour and yields a precipitate of the same colour with ammonia. Filter; allow the liquid to cool; and add in a full stream the Aqua Ammoniæ, stirring the mixture briskly. Collect the precipitate on a calico filter; wash it with water till the washings cease to precipitate with nitrate of baryta; squeeze out the water as much as possible; and dry the precipitate at a temperature not exceeding 180°.

When this preparation is kept as an antidote for poisoning with arsenic, it is preferable to preserve it in the moist state, after being simply squeezed.

FERRUM TARTARIZATUM.

Take of Sulphate of Iron, five ounces;
Bitartrate of potash, five ounces and one drachm;
Carbonate of Ammonia in fine powder, a sufficiency.

Prepare the Rust of iron from the sulphate as directed under Ferrugo, and without drying it. Mix the pulpy mass with four pints of water; add the Bitartrate; boil till the rust of iron is dissolved; let the solution cool; pour off the clear liquid, and add to this the Carbonate of ammonia so long as it occasions effervescence. Concentrate the

liquid over the vapour bath to the consistence of a thick extract, or till the residuum becomes on cooling a firm solid; which must be preserved in well closed vessels.

HYDRARGYRI BINIODIDUM.

Take of Mercury, two ounces;
Iodine, two ounces and a-half;
Concentrated Solution of Muriate of Soda, a gallon;

Triturate the Mercury and Iodine together, adding occasionally a little rectified spirit till a uniform red powder be obtained. Reduce the product to fine powder, and dissolve it in the solution of muriate of soda with the aid of brisk ebullition. Filter, if necessary, through calico, keeping the funnel hot; wash and dry the crystals which form on cooling.

CALOMELAS.

Take of Mercury, eight ounces;
Sulphuric acid (commercial), two fluidounces and three fluidrachms;
Pure Nitric acid, half a fluidounce;
Muriate of Soda, three ounces;

Mix the acids, add four ounces of the mercury, and dissolve it with the aid of a moderate heat. Raise the heat so as to obtain a dry salt. Triturate this with the Muriate of soda and the rest of the Mercury till the globules entirely disappear. Heat the mix-

ture by means of a sandbath in a proper subliming apparatus. Reduce the sublimate to fine powder; wash the powder with boiling distilled water until the water ceases to precipitate with solution of Iodide of potassium; and then dry it.

CINNABARIS.

Take of Mercury, two pounds;
Sulphur, five ounces;
Melt the sulphur, add the mercury, and continue the heat till the mixture begins to swell up. Then remove the vessel, and cover it closely to prevent the mixture taking fire. When the material is cold, reduce it to powder, and sublime it.

HYDRARGYRUM CUM CRETA.

Take of Mercury, three ounces;
Prepared Chalk, five ounces;
Triturate them together till the globules entirely disappear.

HYDRARGYRI OXIDUM RUBRUM.

Take of Mercury, eight ounces;
Diluted Nitric acid (D. 1280), five fluid ounces;
Dissolve half of the mercury in the acid with the aid of a moderate heat; and continue the heat till a dry salt is formed. Triturate the rest of the mercury with the

salt till a fine uniform powder be obtained; heat the powder in a porcelain vessel and constantly stir it, till acid fumes cease to be discharged.

HYDRARGYRI PRECIPITATUM ALBUM.

Take of Corrosive Sublimate, six ounces;
Distilled water, six pints;
Aqua Ammoniæ, eight fluidounces;
Dissolve the Corrosive sublimate with the aid of heat in the Distilled water; and when the solution is cold add the Aqua Ammoniæ; stir the whole well; collect the powder on a calico filter, and wash it thoroughly with cold water.

SUBLIMATUS CORROSIVUS.

Take of Mercury, four ounces;
Sulphuric acid (commercial), two fluidounces and three fluidrachms;
Pure Nitric Acid, half a fluidounce;
Muriate of Soda, three ounces.
Mix the acids; add the mercury; dissolve it with the aid of a moderate heat; and then raise the heat so as to obtain a dry salt. Triturate this thoroughly with the muriate of soda; and sublime in a proper apparatus.

MAGNESIA.

Take any convenient quantity of Carbonate of Magnesia, expose it in a crucible to a full

red heat for two hours, or till the powder, when suspended in water, presents no effervescence on the addition of muriatic acid. Preserve the product in well-closed bottles.

MAGNESIAE CARBONAS.

Take of Sulphate of Magnesia, four pounds;
Carbonate of Soda, four pounds and eight ounces;
Water, four gallons.

Dissolve the salts separately, each in two gallons of the water; mix the solutions, boil the mixture, and stir briskly for fifteen or twenty minutes. Collect the precipitate on a filter of calico or linen, wash it thoroughly with boiling water, and then dry it.

PLUMBI ACETAS.

Take of Pyroligneous acid (D. 1034), two pints;
Distilled water, one pint:
Litharge, fourteen ounces.

Mix the acid and water, add the litharge, dissolve it with the aid of a gentle heat, filter, concentrate the solution sufficiently for crystallization on cooling.

PLUMBI DIACETATIS SOLUTIO.

Take of Acetate of lead, six ounces and six drachms:
Litharge in fine powder, four ounces;
Water, a pint and a half.

Boil the salt and litharge with the water for half an hour, stirring occasionally. When the solution is cold add water, if necessary, to make up a pint and a half; and then filter. Preserve the solution in well-closed bottles.

PLUMBI IODIDUM.

Take of Iodide of Potassium and
Nitrate of Lead of each an ounce;
Water, a pint and a half;

Dissolve the salts separately, each in one-half of the water; add the solutions; collect the precipitate on a filter of linen or calico, and wash it with water. Boil the powder in three gallons of water acidulated with three fluidounces of pyroligneous acid. Let any undissolved matter subside, maintaining the temperature near the boiling point; and pour off the clear liquor, from which the iodide of lead will crystallize on cooling.

PLUMBI NITRAS.

Take of Litharge, four ounces and a half;
Diluted Nitric acid, a pint;

Dissolve the litharge to saturation with the aid of a gentle heat. Filter and set the liquid aside to crystallize. Concentrate the residual liquid to obtain more crystals.

POTASSÆ ACETAS.

Take of Pyroligneous acid, a pint and a-half;

Carbonate of potash (dry) seven ounces, or a sufficiency;

Add the carbonate gradually to the acid till complete neutralization is accomplished. Evaporate the solution over the vapour-bath till it is so concentrated as to form a concrete mass when cold. Allow it to cool and crystallize in a solid cake; which must be broken up and immediately put into well-closed bottles.

POTASSÆ AQUA EFFERVESCENS.

Take of Bicarbonate of potash, one drachm;
Distilled water, one pint;

Dissolve the salt in the water, and transmit through the solution carbonic acid gas under strong pressure.

POTASSAE BICARBONAS.

Take of Carbonate of Potash, six ounces;
Carbonate of Ammonia, three ounces and a half;

Triturate the Carbonate of Ammonia to a very fine powder; mix with it the carbonate of potash; triturate them thoroughly together, adding by degrees a very little water, till a smooth and uniform pulp be formed. Dry this gradually at a temperature not exceeding 140°, triturating occasionally towards the close; and continue the desiccation till a fine powder be obtained, entirely free of ammoniacal odour.

POTASSAE BISULPHAS.

Take of the residuum in the preparation of
Pure nitric acid, two pounds;
Sulphuric acid (commercial), seven fluidounces and one fluidrachm;
Boiling water, six pints;
Dissolve the salt in the water, add the acid, concentrate the solution, and set it aside to cool and form crystals.

POTASSAE CARBONAS PURUM.

Pure Carbonate of potash may be most readily obtained by heating crystallized Bicarbonate of potash to redness in a crucible, but more cheaply by dissolving Bitartrate of potash in thirty parts of boiling water, separating and washing the crystals which form on cooling, heating these in a loosely-covered crucible to redness so long as fumes are discharged, breaking down the mass, and roasting it in an open crucible for two hours, with occasional stirring, lixiviating the product with distilled water, filtering the solution thus obtained, evaporating the solution to dryness, granulating the salt towards the close by brisk agitation, and heating the granular salt nearly to redness. The product of either process must be kept in well-closed vessels.

POTASSAE SULPHAS.

Take of the residuum of the preparation of

Pure nitric acid, two pounds;
Boiling water, two gallons;
White marble in powder, a sufficiency;

Dissolve the salt in the water; add the marble gradually till effervescence ceases, and the solution is completely neutralized; filter the liquid, and evaporate it till a pellicle forms on its surface; then set it aside to cool and form crystals.

POTASSAE SULPHAS CUM SULPHURE.

Take of Nitrate of Potash, and
Sulphur, equal parts;

Mix them thoroughly; throw the mixture in small successive portions into a red-hot crucible; and when the deflagration is over, and the salt has cooled, reduce it to powder, and preserve it in well-closed bottles.

POTASSAE TARTRAS.

Take of Bitartrate of Potash, three pounds;
Carbonate of Potash, sixteen ounces, or a sufficiency;
Boiling water, six pints;

Dissolve the carbonate in the water, add the bitartrate till the liquor is neutralized, boil and filter. Concentrate the liquor till a pellicle form on its surface, and then set it aside to cool and crystallize. The residual liquor will yield more crystals by farther concentration and cooling.

POTASSAE ET SODAE TARTRAS.

Take of Bitartrate of Potash, sixteen ounces;
Carbonate of soda, twelve ounces;
Boiling water, four pints;

Proceed for this preparation exactly as for the tartrate of potash.

POTASSII IODIDUM.

Take of Iodine (dry), five ounces;
Fine iron-wire, three ounces;
Water, four pints;
Carbonate of Potash (dry), two ounces and six drachms.

With the water, iodine and iron-wire prepare the solution of iodide of iron as directed in p. 103. Add immediately, while it is hot, the carbonate of potash previously dissolved in a few ounces of water, stir carefully, filter the product, and wash the powder on the filter with a little water. Concentrate the liquor at a temperature short of ebullition, till a dry salt be obtained, which is to be purified from a little red oxide of iron and other impurities, by dissolving it in less than its own weight of boiling water, or still better by boiling it in twice its weight of rectified spirit, filtering the solution, and setting it aside to crystallize. More crystals will be obtained by concentrating and cooling the residual liquor.

POTASSII SULPHURETUM.

Take of Sulphur, one ounce;
Carbonate of potash, four ounces;
Triturate them well together, and heat them in a covered crucible till they form a uniform fused mass: which, when cold, is to be broken into fragments, and kept in well-closed vessels.

SODAE AQUA EFFERVESCENS.

Take of Bicarbonate of Soda, one drachm;
Water, one pint;
Dissolve the Bicarbonate in the water and saturate it with carbonic acid under strong pressure. Preserve the liquid in well-closed vessels.

SODAE BICARBONAS.

Fill with fragments of marble a glass jar, open at the bottom and tubulated at the top; close the bottom in such way as to keep in the marble without preventing the free passage of a fluid; connect the tubulature closely by a bent tube and corks with an empty bottle, and this in like manner with another bottle filled with one part of Carbonate of soda and two parts of Dried carbonate of soda well triturated together; and let the tube be long enough to reach the bottom of the bottle. Before closing the last cork closely, immerse the jar to the top in diluted

muriatic acid contained in any convenient vessel; when the whole apparatus is thus filled with carbonic acid gas, secure the last cork tightly; and let the action go on till next morning, or till gas is no longer absorbed by the salt. Remove the damp salt which is formed, and dry it, either in the air without heat, or at a temperature not above 120°.

SODAE CARBONAS SICCATUM.

Heat any convenient quantity of Carbonate of Soda in a shallow vessel till it is dry, then urge it with a red heat in a crucible, and reduce it to powder when cold.

SODAE MURIAS PURUM.

Take any convenient quantity of Muriate of Soda; dissolve it in boiling water; filter the solution: and boil it down over the fire, skimming off the crystals which form; wash the crystals quickly with cold water and dry them.

SODAE PHOSPHAS.

Take of Bones burnt to whiteness, ten pounds;
Sulphuric acid, two pints, and four fluidounces:
Carbonate of Soda, a sufficiency;
Pulverize the bones and mix them with the acid; add gradually six pints of water; digest for three days, replacing the water which

evaporates; add six pints of boiling water, and strain through strong linen: pass more boiling water through the mass on the filter till it comes away nearly tasteless. Let the impurities subside in the united liquors, pour off the clear fluid, and concentrate to six pints. Let the impurities again settle; and to the clear liquor, which is to be poured off and heated to ebullition, add carbonate of soda, previously dissolved in boiling water, until the acid is completely neutralized. Set the solution aside to cool and crystallize. More crystals will be obtained by successively evaporating, adding a little carbonate of soda till the liquid exerts a feeble alkaline reaction on litmus-paper, and then allowing it to cool. Preserve the crystals in well-closed vessels.

SODAE SULPHAS.

Take of the Salt which remains after preparing pure muriatic acid, two pounds;
Boiling-water, three pints:
White marble, in powder, a sufficiency;

Dissolve the salt in the water, add the marble so long as effervescence takes place, boil the liquid, and when neutral filter it; wash the insoluble matter with boiling-water, adding the water to the original liquid; concentrate till a pellicle begins to form, and then let the liquid cool and crystallize.

STANNI PULVIS.

Melt tin in an iron vessel; pour it into an earthen-ware mortar heated a little above the melting point of the metal; triturate briskly as the metal cools, ceasing as soon as a considerable proportion is pulverized; sift the product, and repeat the process with what remains in the sieve.

ZINCI OXIDUM.

Take of Sulphate of Zinc, twelve ounces;
Carbonate of Ammonia, six ounces;
Dissolve each in two pints of water; mix the solutions; collect the precipitate on a filter of linen or calico; wash it thoroughly; squeeze and dry it, and expose it for two hours to a red heat.

ZINCI SULPHAS.

This salt may be prepared either by dissolving fragments of zinc in diluted sulphuric acid till a neutral liquid be obtained, filtering the solution, and concentrating sufficiently for it to crystallize on cooling,—or by repeatedly dissolving and crystallizing the impure sulphate of zinc of commerce, until the product when dissolved in water does not yield a black precipitate with tincture of galls, and corresponds with the characters laid down for sulphate of zinc in the List of the Materia Medica.

MIXTURES AND EMULSIONS.

Mistura acaciae.

Take of Mucilage, three fluidounces;
Sweet Almonds, one ounce and two drachms;
Pure Sugar, five drachms;
Water, two pints;

Steep the almonds in hot water and peel them; beat them to a smooth pulp in an earthen-ware or marble mortar, first with the sugar, and then with the mucilage; add the water gradually, stirring constantly; then strain through linen or calico.

Mistura amygdalarum.

Take of the Conserve of Almonds, two ounces;
Water, two pints;

Add the water gradually to the confection, triturating constantly; and then strain through linen or calico.

Or

Take of Sweet Almonds, one ounce and two drachms;
Pure sugar, five drachms;
Mucilage, half a fluidounce;
Water, two pints;

Steep the almonds in hot water and peel them; and proceed as for the Mistura acaciæ.

MISTURA ALTHÆÆ.

Take of Althæa-root, dried, four ounces;
Raisins, freed of the seeds, two ounces;
Boiling-water, five pints;

Boil down to three pints; strain through linen or calico, and when the sediment has subsided, pour off the clear liquor for use.

MISTURA CAMPHORAE.

Take of Camphor, one scruple;
Sweet Almonds, and
Pure Sugar, of each half an ounce;
Water, one pint.

Steep the almonds in hot water and peel them; rub the camphor and sugar well together in a mortar; add the almonds; beat the whole into a smooth pulp; add the water gradually, with constant stirring, and then strain.

MISTURA CAMPHORAE CUM MAGNESIA.

Take of Camphor, ten grains;
Carbonate of Magnesia, twenty-five grains;
Water, six fluidounces.

Triturate the camphor and carbonate of magnesia together, adding the water gradually.

MISTURA CREASOTI.

Take of Creasote, and
Acetic acid, of each sixteen minims;
Compound Spirit of Juniper, and
Syrup, of each one fluidounce;
Water, fourteen fluidounces;

Mix the creasote with the acid, then gradually the water, and lastly the syrup and spirit.

MISTURA CRETAE.

Take of Prepared Chalk, ten drachms;
Pure Sugar, five drachms;
Mucilage, three fluidounces;
Spirit of Cinnamon, two ounces;
Water, two pints.

Triturate the chalk, sugar, and mucilage together; and then add gradually the water and spirit of cinnamon.

MISTURA FERRI COMPOSITA.

Take of Myrrh, bruised, two drachms;
Carbonate of Potash, one drachm;
Rose-water, eighteen fluidounces;
Sulphate of Iron in coarse powder, two scruples and a-half;
Spirit of Nutmeg, one fluidounce;
Pure Sugar, two drachms.

Triturate the myrrh with the spirit of nutmeg and carbonate of potash, add the rose-water and sugar, with constant trituration,

and then the sulphate of iron. Preserve the mixture in well-closed bottles.

MISTURA GUAIACI.

Take of Guaiac, three drachms;
Sugar, half an ounce;
Mucilage, half a fluidounce;
Cinnamon-water, nineteen fluidounces and a half.

Triturate the guaiac with the sugar, then with the mucilage, and then add gradually the cinnamon water, with constant trituration.

MISTURA HORDEI.

Take of Pearl-Barley,
Figs, sliced,
Raisins, freed of the seeds, of each two ounces and a half.
Liquorice-root, sliced and bruised, five drachms;
Water, five pints and a-half;

Clean the Barley, if necessary, by washing it with cold water; boil it with four pints and a half of the water down to two pints; add the figs, raisins, and liquorice-root, with the remaining pint of water; and again boil down to two pints; then strain.

MISTURA SCAMMONII.

Take of Resin of Scammony, seven grains;

Unskimmed Milk, three fluid-ounces;

Triturate the resin with a little of the milk, and gradually with the rest of it till a uniform emulsion is formed.

MUCILAGO.

Take of Gum-arabic, nine ounces;
Water (cold), one pint.

Mix them, allow the gum to dissolve without applying heat, but with occasional stirring; then strain through linen or calico.

MUCILAGO AMYLI.

Take of Starch, half an ounce;
Water, one pint.

Triturate the starch with a little of the water; add the rest of the water gradually; then boil for a few minutes.

MUCILAGO TRAGACANTHAE.

Take of Tragacanth, two drachms;
Boiling-water, nine fluidounces;

Macerate for four-and-twenty hours, then triturate to dissolve the gum, and express through linen or calico.

OINTMENTS, LINIMENTS, AND CERATES.

CERATUM CALAMINAE.

Take of Calamine, prepared in the same manner as Prepared Chalk, one part;
Simple Cerate, five parts;
Mix them well together.

CERATUM SABINAE.

Take of fresh Savin, two parts;
Bees'-wax, one part;
Axunge, four parts;
Melt the wax and axunge together, add the savin, and boil them together, till the leaves are friable; then strain.

CERATUM SIMPLEX.

Take of Olive-oil, six parts;
White-wax, three parts;
Spermaceti, one part;
Heat the oil gently, add the wax and spermaceti, stir the whole briskly when it is fluid, and continue the agitation as it cools.

LINIMENTUM AMMONIAE.

Take of Olive-oil, two fluidounces;
Aqua ammoniæ (D. 960), one fluidounce;
Mix and agitate them well together.

LINIMENTUM AMMONIAE COMPOSITUM.

Take of Stronger Aqua Ammoniæ (D. 880), five fluidounces;
Tincture of Camphor, two fluidounces;
Spirit of Rosemary, one fluidounce;
Mix them well together. This liniment may be also made weaker for some purposes with three fluidounces of tincture of camphor and two of Spirit of rosemary.

LINIMENTUM CALCIS.

Take of Linseed-oil, and
Lime-water, of each equal measures;
Mix and agitate them well together.

LINIMENTUM CAMPHORAE.

Take of Olive-oil, four fluidounces;
Camphor, one ounce.
Rub them together in a mortar till the camphor is dissolved.

LINIMENTUM OPII.

Take of Castile Soap, six ounces;
Opium, an ounce and a-half;
Camphor, three ounces;
Oil of Rosemary, six fluidrachms;
Rectified spirit, two pints.
Macerate the soap and opium in the spirit for three days; filter, add the oil and camphor, and agitate briskly.

LINIMENTUM SAPONIS.

Take of Castile Soap, five ounces;
Camphor, two ounces and a-half;
Volatile oil of Rosemary, six fluidrachms.
Rectified Spirit, two pints;

Digest the soap in the spirit for three days; add the camphor and oil, and agitate briskly.

LINIMENTUM SIMPLEX.

Take of Olive oil, four parts;
White-wax, one part.

Dissolve the wax in the oil with a gentle heat; and agitate well as the fused mass cools and concretes.

LINIMENTUM TEREBINTHINATUM.

Take of Resinous ointment, four ounces;
Oil of Turpentine, five fluidounces:
Camphor, half an ounce.

Melt the ointment, and gradually mix with it the camphor and oil, till a uniform liniment be obtained.

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UNGUENTUM AERUGINIS.

Take of Resinous ointment, fifteen ounces;
Verdigris, in fine powder, one ounce:

Melt the ointment, sprinkle into it the powder of verdigris, and stir the mixture briskly as it cools and concretes.

UNGUENTUM ANTIMONIALE.

Take of Axunge, four ounces;
Tartar-emetic, in very fine powder, one ounce.
Triturate them carefully together into a smooth and uniform mass.

UNGUENTUM CANTHARIDIS.

Take of Resinous ointment, seven ounces;
Cantharides, in very fine powder, one ounce.
Melt the ointment; sprinkle into it the cantharides powder; and stir the mixture briskly as it concretes on cooling.

UNGUENTUM INFUSI CANTHARIDIS.

Take of Cantharides in moderately fine powder,
Resin, and
Bees'-wax, of each one ounce;
Venice Turpentine, and
Axunge, of each two ounces;
Boiling water, five fluidounces.
Infuse the Cantharides in the water for one night, squeeze strongly, and filter the expressed liquid. Add the axunge, and boil till the water is dispersed. Then add the wax and resin: and when these have become liquid, remove the vessel from the fire, add the Turpentine, and mix the whole thoroughly.

UNGUENTUM CITRINUM.

Take of Pure Nitric acid, eight fluidounces and six fluidrachms;
Mercury, four ounces;
Axunge, fifteen ounces;
Olive-oil, thirty-two fluidounces.

Dissolve the mercury in the acid with the aid of a gentle heat. Melt the axunge in the oil with the aid of a moderate heat in a vessel capable of holding six times the quantity; and while the mixture is hot, add the solution of mercury, also hot, and mix them thoroughly. If the mixture do not froth up, increase the heat a little till this take place. Keep this ointment in earthen-ware vessels, or in glass-vessels secluded from the light.

UNGUENTUM COCCULI.

Take any convenient quantity of Cocculus Indicus, separate and preserve the kernels, beat them well in a mortar, first alone and then with a little axunge; and then add axunge till it amounts altogether to five times the weight of the kernels.

UNGUENTUM CREASOTI.

Take of Axunge, three ounces;
Creasote, one drachm.

Melt the Axunge, add the Creasote, stir

them briskly, and continue to do so as the mixture concretes on cooling.

UNGUENTUM GALLAE ET OPII.

Take of Galls in fine powder, two drachms ;
Opium in powder, one drachm ;
Axunge, one ounce.
Triturate them together into a uniform mass.

UNGUENTUM HYDRARGYRI.

Take of Mercury, two pounds ;
Axunge, twenty-three ounces ;
Suet, one ounce.
Triturate the mercury with the suet and a little of the axunge till globules are no longer visible ; then add the rest of the axunge, and mix the whole thoroughly. This ointment is not well prepared so long as metallic globules may be seen in it with a magnifier of four powers.

The mercurial ointment with the proportions here directed may be diluted at pleasure with twice or thrice its weight of axunge.

UNGUENTUM IODINEI.

Take of Iodine, one drachm ;
Iodide of potassium, two drachms ;
Axunge, four ounces.
Triturate the Iodine and Iodide together,

and then add gradually the axunge, continuing the trituration till a uniform ointment be obtained.

UNGUENTUM OXIDI HYDRARGYRI.

Take of Red oxide of mercury, one ounce ;
Axunge, eight ounces.
Triturate them into a uniform mass.

UNGUENTUM PICIS LIQUIDAE.

Take of Tar, five ounces :
Bees'-wax, two ounces.
Melt the wax with a gentle heat, add the tar, and stir the mixture briskly while it concretes on cooling.

UNGUENTUM PLUMBI ACETATIS.

Take of Simple ointment, twenty ounces ;
Acetate of lead, in fine powder, one ounce.
Mix them thoroughly.

UNGUENTUM PLUMBI CARBONATIS.

Take of Simple ointment, five ounces ;
Carbonate of Lead, one ounce ;
Mix them thoroughly.

UNGUENTUM PRECIPITATI ALBI.

Take of White Precipitate, two drachms ;
Axunge, three ounces ;
Melt the axunge, add the white precipitate,

and stir the mixture briskly while it concretes on cooling.

UNGUENTUM RESINOSUM.

Take of Resin, five ounces;
Axunge, eight ounces;
Bees'-wax, two ounces;
Melt them together with a gentle heat, and then stir the mixture briskly while it cools and concretes.

UNGUENTUM SIMPLEX.

Take of Olive-oil, five fluidounces and a half;
White wax, two ounces;
Melt the wax in the oil, and stir the mixture briskly while it concretes on cooling.

UNGUENTUM SULPHURIS.

Take of Axunge, four ounces;
Sublimed Sulphur, one ounce;
Mix them thoroughly together.

UNGUENTUM ZINCI.

Take of Simple Liniment six ounces;
Oxide of Zinc, one ounce.
Mix them thoroughly together.

OXIDIFIABLE NON-METALLIC ELEMENTS.

Carbo animalis purificatus.

Take of Ivory-black, one pound;
Muriatic Acid, (commercial), and
Water, of each twelve fluidounces;
Mix the acid and water; add gradually the ivory-black, stirring occasionally. Digest with a gentle heat for two days, agitating from time to time. Then boil; dilute with two pints of water; collect the undissolved charcoal on a filter of linen or calico, and wash it with water till what passes through scarcely precipitates with solution of carbonate of soda. Heat the charcoal first moderately, and then to redness in a closely-covered crucible.

Chlorinei aqua.

Take of Muriate of Soda, sixty grains;
Sulphuric Acid (commercial), two fluidrachms;
Red Oxide of Lead, three hundred and fifty grains;
Water, eight fluidounces;
Triturate the muriate of soda and oxide together; put them into the water contained in a bottle with a glass-stopper; add the acid; agitate occasionally till the red oxide

becomes almost all white. Allow the insoluble matter to subside before using the liquid.

IODINEUM.

Iodine, as obtained in commerce, being almost always adulterated with variable proportions of water, and being consequently unfit for making pharmaceutic preparations of fixed and uniform strength, it must be dried by being placed in a shallow basin of earthen-ware in a small confined space of air with ten or twelve times its weight of fresh-burnt lime, till it scarcely adheres to the inside of a dry bottle.

IODINEI LIQUOR COMPOSITUS.

Take of Iodine, two drachms;
Iodide of potassium, an ounce;
Distilled water, sixteen fluidounces;
Dissolve the iodide and iodine in the water with gentle heat and agitation.

SULPHUR SUBLIMATUM.

Sublime sulphur in a proper vessel; wash the powder thus obtained with boiling water in successive portions till the water ceases to have an acid taste; then dry the sulphur with a gentle heat.

PILLS.

Pilulae aloes.

Take of Socotorine Aloes, and
Castile Soap, equal parts;
Conserve of Red Roses, a sufficiency;
Beat them into a proper pill mass. This pill may be also correctly made with the finer qualities of East-Indian aloes, as the Socotorine variety is very scarce; and many, not without reason, prefer the stronger Barbados aloes.

Pilulae aloes et assafoetidae.

Take of Aloes (Socotorine or East-Indian);
Assafœtida, and
Castile Soap, equal parts;
Beat them with Conserve of Red roses into a proper pill mass.

Pilulae aloes et ferri.

Take of Sulphate of iron, three parts;
Barbados aloes, two parts;
Aromatic powder, six parts;
Conserve of Red roses, eight parts;
Pulverize the aloes and sulphate of iron separately; mix the whole ingredients; and beat them into a proper mass; which is to be divided into five-grain pills.

PILULAE ALOES ET MYRRHAE.

Take of Aloes (Socotorine or East-Indian) four parts;
Myrrh, two parts;
Saffron, one part;
Beat them into a proper mass with a sufficient quantity of Conserve of Red roses.

PILULAE ASSAFOETIDAE.

Take of Assafœtida,
Galbanum, and
Myrrh, three parts of each;
Conserve of Red Roses, four parts or a sufficiency;
Mix them, and beat them into a proper pill mass.

PILULAE CAMBOGIAE.

Take of Gamboge,
East-Indian or Barbados aloes, and
Aromatic powder, of each, one part;
Castile Soap, two parts;
Pulverize the gamboge and aloes separately, mix all the powders, add the soap, and then a sufficiency of syrup; beat the whole into a proper pill mass.

PILULAE CALOMELANOS COMPOSITAE.

Take of Calomel, and
Golden sulphuret of antimony, of each one part;

Guaiac, in fine powder, and
Treacle, of each two parts;

Mix the solids in fine powder, then the treacle, and beat the whole into a proper pill mass; to be divided into six-grain pills.

PILULAE CALOMELANOS ET OPII.

Take of Calomel, three parts;
Opium, one part;
Conserve of Red roses, a sufficiency;

Beat them into a proper mass, which is to be divided into pills, each containing two grains of calomel.

PILULAE COLOCYNTHIDIS.

Take of Socotorine or East-Indian aloes, and
Scammony, of each eight parts;
Colocynth, four parts;
Sulphate of potash, and
Oil of Cloves, of each one part;
Rectified spirit, a sufficiency;

Pulverize the aloes, scammony, and sulphate of potash together; mix with them the colocynth previously reduced to fine powder; add the oil of cloves; and with the aid of a small quantity of rectified spirit beat the whole into a proper pill mass; which is to be divided into five-grain pills.

PILULAE COLOCYNTHIDIS ET HYOSCYAMI.

Take of the Colocynth-pill mass, two parts;

Extract of Hyoscyamus, one part;
Beat them well together, adding a few drops of rectified spirit, if necessary; and divide the mass into five-grain pills.

PILULAE CUPRI AMMONIATI.

Take of Ammoniated Copper in fine powder, one part;
Bread-crumb, six parts;
Solution of Carbonate of Ammonia, a sufficiency;
Beat them into a proper mass; and divide it into pills, containing each half a grain of ammoniated copper.

PILULAE DIGITALIS ET SCILLAE.

Take of Digitalis, and
Squill, of each one part;
Aromatic Electuary, two parts;
Beat them into a proper mass with conserve of Red roses; and divide the mass into four-grain pills.

PILULAE FERRI CARBONATIS.

Take of the Saccharine Carbonate of Iron, four parts;
Conserve of Red roses, one part;
Beat them into a proper mass, to be divided into five-grain pills.

PILULAE FERRI SULPHATIS.

Take of dried Sulphate of Iron, two parts;

Extract of Taraxacum, five parts;
Conserve of Red roses, two parts;
Liquorice-root powder, three parts;
Beat them together into a proper mass, which is to be divided into five-grain pills.

PILULAE HYDRARGYRI.

Take of Mercury, two parts:
Liquorice-root, in powder, one part;
Conserve of Red roses, three parts;
Beat the mercury and conserve into a uniform mass till globules of mercury can no longer be detected, then add the liquorice-root, and beat the whole again into a proper mass, which is to be divided into five-grain pills.

PILULAE IPECACUANHAE ET OPII.

Take of the Powder of Ipecacuan and Opium, three parts.
Conserve of Red roses, one part;
Beat them into a proper mass, which is to be divided into four-grain pills.

PILULAE OPII *sive* THEBAICAE.

Take of Opium, one part:
Sulphate of Potass, three parts;
Conserve of Red roses, one part;
Beat them into a proper mass, which is to be divided into five-grain pills;
It is to be observed that this pill contains

twice as much opium as the Opiate pill of the last Latin edition of this Pharmacopœia.

PILULAE PLUMBI OPIATAE.

Take of Acetate of lead, six parts;
Opium, one part;
Conserve of Red roses, about one part;
Beat them into a proper mass, which is to be divided into four-grain pills.—This pill may be made also with twice the quantity of opium.

PILULAE RHEI.

Take of Rhubarb, in fine powder, nine parts;
Acetate of potash, one part:
Conserve of Red roses, five parts;
Beat them into a proper mass, and divide it into five-grain pills.

PILULAE RHEI COMPOSITAE.

Take of Rhubarb, in fine powder, twelve parts;
Aloes, in fine powder, nine parts;
Myrrh, and
Castile soap, of each six parts;
Oil of Peppermint, one part;
Conserve of Red roses, five parts;
Mix them, and beat them into a proper mass, and divide it into five-grain pills.—This pill may be also made without oil of peppermint, when so preferred.

PILULAE RHEI ET FERRI.

Take of Dried Sulphate of Iron, four parts ;
Extract of Rhubarb, ten parts ;
Conserve of Red Roses, five parts.
Beat them into a proper pill mass, and divide it into five-grain pills.

PILULAE SCILLAE.

Take of Squill, in fine powder, five parts ;
Ammoniac,
Ginger, in fine powder, and
Spanish Soap, of each, four parts ;
Conserve of Red roses, two parts ;
Mix the powders, add the other articles, beat them into a uniform mass, and divide it into five-grain pills.

PILULAE STYRACIS.

Take of Opium, and
Saffron, of each one part ;
Extract of Storax, two parts ;
Beat them into a uniform mass, which is to be divided into four-grain pills.

PLASTERS.

EMPLASTRUM AMMONIACI.

Take of Ammoniac, five ounces;
Distilled vinegar, nine fluidounces;
Dissolve the ammoniac in the vinegar, and then evaporate to a proper consistence over the vapour-bath, frequently stirring the liquid.

EMPLASTRUM AMMONIACI ET HYDRARGYRI.

Take of Ammoniac, one pound;
Mercury, three ounces;
Olive-oil, one fluidrachm;
Sulphur, eight grains;
Heat the oil, add the sulphur by degrees, stir them till they unite, add the mercury, and triturate till the globules disappear, then add also the ammoniac previously liquefied, and mix the whole carefully.

EMPLASTRUM ASSAFOETIDAE.

Take of Litharge plaster, and
Assafœtida, of each, two ounces;
Galbanum, and
Bees'-wax, of each, one ounce;
Liquefy the gum-resins together and strain them, then add the plaster and wax also in the fluid state, and mix them all thoroughly.

EMPLASTRUM BELLADONNAE.

Take of Resin plaster, three ounces;
Extract of Belladonna, an ounce and a-half;
Liquefy the plaster with a gentle heat, add the extract, and agitate briskly.

EMPLASTRUM CANTHARIDIS.

Take of Cantharides, in very fine powder,
Resin,
Bees'-wax, and
Suet, of each two ounces;
Liquefy the fats, remove from the heat, sprinkle in the cantharides, and stir briskly as the mixture concretes on cooling.

EMPLASTRUM CANTHARIDIS COMPOSITUM.

Take of Venice Turpentine, four ounces and a-half;
Burgundy-Pitch, and
Cantharides, of each three ounces;
Bees'-wax, one ounce;
Verdigris, half an ounce;
White-mustard seed, and
Black Pepper, of each two drachms;
Liquefy the wax and Burgundy-pitch, add the turpentine, and while the mixture is hot sprinkle into it the remaining articles previously in fine powder, and mixed together. Stir the whole briskly as it concretes in cooling.

EMPLASTRUM FERRI.

Take of Litharge plaster, three ounces;
Resin, six drachms;
Olive-oil, three fluidrachms and a half;
Bees'-wax, three drachms;
Red oxide of iron, one ounce;
Triturate the oxide of iron with the oil, and add the mixture to the other articles previously liquefied by gentle heat. Mix the whole thoroughly.

EMPLASTRUM GUMMOSUM.

Take of Litharge plaster, four ounces;
Ammoniac,
Galbanum, and
Bees'-wax, of each half an ounce;
Melt the gum-resins together and strain them; melt also together the plaster and wax; add the former to the latter mixture, and mix the whole thoroughly.

EMPLASTRUM HYDRARGYRI.

Take of Mercury three ounces;
Olive-oil, nine fluidrachms;
Resin, one ounce;
Litharge plaster, six ounces;
Liquefy together the oil and resin, let them cool, add the mercury, and triturate till its globules disappear; then add to the mixture the plaster previously liquefied; and mix the whole thoroughly.

EMPLASTRUM LITHARGYRI.

Take of Litharge, in fine powder, five ounces;
Olive oil, twelve fluidounces;
Water, three fluidounces.

Mix them; boil and stir constantly till the oil and litharge unite, replacing the water if it evaporate too far.

EMPLASTRUM OPII.

Take of Powder of Opium, half an ounce;
Burgundy pitch, three ounces;
Litharge plaster, twelve ounces;

Liquefy the plaster and pitch, add the opium by degrees, and mix them thoroughly.

EMPLASTRUM PICIS.

Take of Burgundy pitch, one pound and a half;
Resin, and
Bees'-wax, of each two ounces;
Oil of mace, half an ounce;
Olive oil, one fluidounce;
Water, one fluidounce.

Liquefy the pitch, resin and wax with a gentle heat; add the other articles; mix them well together; and boil till the mixture acquires the proper consistence.

EMPLASTRUM RESINOSUM.

Take of Litharge plaster, five ounces;
Resin, one ounce;

Melt them together with a moderate heat, and stir the mixture well till it concretes on cooling.

EMPLASTRUM SAPONIS.

Take of Litharge plaster, four ounces;
Gum plaster, two ounces;
Castile soap, in shavings, one ounce;
Melt the plasters together with a moderate heat, add the soap, and boil for a little.

EMPLASTRUM SIMPLEX.

Take of Bees'-wax, three ounces;
Suet, and
Resin, of each two ounces;
Melt them together with a moderate heat, and stir the mixture briskly till it concretes on cooling.

POWDERS.

PULVIS ALUMINIS COMPOSITUS.

Take of Alum, four ounces;
Kino, one ounce;
Mix them and reduce them to fine powder.

PULVIS AROMATICUS.

Take of Cinnamon,
Cardamom seeds, and
Ginger, of each equal parts;
Mix them, and reduce to a very fine powder, which is to be kept in well closed glass vessels.

PULVIS CRETAE COMPOSITUS.

Take of Prepared chalk, four ounces;
Cinnamon, in fine powder, one drachm and a half;
Nutmeg, in fine powder, a drachm;
Triturate them well together.

PULVIS CRETAE OPIATUS.

Take of Compound chalk powder, six ounces;
Powder of Opium, four scruples;
Triturate them together thoroughly.

PULVERES EFFERVESCENTES.

Take of Tartaric acid, one ounce;
Bicarbonate of Soda, one ounce and 54 grains;

Or

Bicarbonate of Potass, one ounce and 160 grains;

Reduce the acid and either bicarbonate separately to fine powder, and divide each into sixteen powders; preserve the acid and alkaline powders in separate papers of different colours.

PULVIS IPECACUANHAE COMPOSITUS.

Take of Ipecacuan, in powder and

Powder of Opium, of each, one ounce;

Sulphate of Potass, eight ounces;

Triturate them together thoroughly.

PULVIS JALAPAE COMPOSITUS.

Take of Jalap, in powder, one ounce;

Bitartrate of Potash, two ounces;

Triturate them to a very fine powder.

PULVIS RHEI COMPOSITUS.

Take of Magnesia, one pound;

Ginger in fine powder, two ounces;

Rhubarb in fine powder, 4 ounces;

Mix them thoroughly, and preserve the powder in well-closed bottles.

PULVIS SALINUS COMPOSITUS.

Take of Pure Muriate of Soda, and

Sulphate of Magnesia, four ounces;

Sulphate of Potash, three ounces;
Dry the salts separately with a gentle heat, and pulverize each, then triturate them well together, and preserve the mixture in well-closed vessels.

PULVIS SCAMMONII COMPOSITUS.

Take of Scammony, and
Bitartrate of Potash, of each, equal parts.
Triturate them together to a very fine powder.

PULVIS TRAGACANTHAE COMPOSITUS.

Take of Tragacanth, bruised,
Gum-arabic, bruised, and
Starch, of each one ounce and a half;
Pure sugar, three ounces;
Reduce the starch and sugar together to powder, then add the tragacanth and gum-arabic, and pulverize the mixture thoroughly.

SPIRITS.

Spiritus ammoniae.

Take of Rectified spirit, two pints;
Fresh-burnt Lime, twelve ounces;
Muriate of ammonia, in very fine powder, eight ounces;
Water, six fluidounces and a half;

Let the lime be slaked with the water in an iron or earthen-ware vessel, and cover the vessel till the powder be cold; mix the lime and muriate of ammonia quickly and thoroughly in a mortar, and transfer the mixture at once into a glass retort; adapt to the retort a tube which passes nearly to the bottom of a bottle containing the rectified spirit; heat the retort in a sand-bath gradually, so long as any thing passes over, preserving the bottle cool. The bottle should be large enough to contain one-half more than the spirit used.

Spiritus ammoniae aromaticus.

Take of Spirit of ammonia, eight fluidounces;
Volatile oil of Lemon-peel, one fluidrachm;
Volatile oil of Rosemary, one fluidrachm and a half;

Dissolve the oils in the spirit by agitation.

SPIRITUS AMMONIAE FOETIDUS.

Take of Spirit of ammonia, ten fluidounces and a half;
Assafœtida, half an ounce;
Break the assafœtida into small fragments, digest it in the spirit for twelve hours, and distil over ten fluidounces and a half by means of a vapour-bath heat.

SPIRITUS CARUI.

Take of Caraway, bruised, half a pound;
Proof-spirit, seven pints;
Macerate for two days in a covered vessel; add a pint and a half of water; and distil off seven pints.

SIRITUS CASSIAE.

Take of Cassia in coarse powder, one pound.
Proceed as for the Spirit of Caraway.

SPIRITUS CINNAMOMI.

Take of Cinnamon, in coarse powder, one pound. Proceed as for the spirit of Caraway.

SPIRITUS JUNIPERI COMPOSITUS.

Take of Juniper berries, bruised, a pound;
Fennel bruised, and
Caraway bruised, of each, an ounce and a half;
Proof-spirit, seven pints;
Water, two pints;

Macerate the fruits in the spirit for two days, add the water, and distil off seven pints.

SPIRITUS LAVANDULAE.

Take of Lavender, fresh, two pounds and a-half;
Rectified spirit, a gallon;
Mix them, and with the heat of a vapour-bath distil over seven pints.

SPIRITUS LAVANDULAE COMPOSITUS.

Take of Spirit of Lavender two pints;
Spirit of Rosemary, twelve fluid-ounces;
Cinnamon in coarse powder, one ounce;
Cloves bruised, two drachms;
Nutmeg bruised, half an ounce;
Red Sandal-wood, in shavings, three drachms.
Let the whole macerate for seven days and then strain the liquor through calico.

SPIRITUS MENTHAE.

Take of Peppermint, fresh, one pound and a-half. Proceed as for Spirit of Caraway.

SPIRITUS MYRISTICAE.

Take of Bruised Nutmeg, two ounces and a-half;

Proof-spirit, one gallon;
Water one pint;
Mix them together, and distil over one gallon.

SPIRITUS PIMENTAE.

Take of Pimento bruised, half a pound. Proceed as for the Spirit of Caraway.

SPIRITUS ROSMARINI.

Take of Rosemary, two pounds and a-half. Proceed as for the Spirit of Lavender.

SPIRITUS TENUIOR.

Take of Rectified-spirit, two pints;
Distilled water, one pint;
Mix them. The density of the product should be 912.

SYRUPS.

Syrupus aceti.

Take of Vinegar, French in preference, eleven fluidounces;
Pure sugar, fourteen ounces.
Boil them together.

Syrupus althæae.

Take of Althæa-root, fresh and sliced, eight ounces.
Boiling water, four pints;
Pure sugar, two pounds and a-half;
Boil the althæa-root with the water down to two pints; strain and express strongly through calico; let the impurities subside; and dissolve the sugar in the clear liquor with the aid of heat.

Syrupus aurantii.

Take of fresh Bitter Orange-Peel, two ounces and a-half;
Boiling water, one pint;
Pure sugar, three pounds;
Infuse the peel in the water for twelve hours in a covered vessel, pour off the liquor, and filter it if necessary; add the sugar to the liquor and dissolve it with the aid of heat.

Syrupus croci.

Take of Saffron, ten drachms;

Boiling water, one pint;
Sugar, three pounds.

Proceed as for the Syrup of orange-peel.

SYRUPUS IPECACUANHAE.

Take of Ipecacuan in coarse powder, four ounces;
Rectified-spirit, one pint;
Proof-spirit, and
Water, of each fourteen fluidounces;
Syrup, seven pints;

Digest the ipecacuan in fifteen fluidounces of the rectified spirit at a gentle heat for twenty-four hours; strain, squeeze the residuum and filter. Repeat this process with the residuum and proof-spirit; and again with the water. Unite the fluids, and distil off the spirit till the residuum amount to twelve ounces; add to the residuum five fluidounces of the rectified spirit, and then the syrup.

SYRUPUS LIMONUM.

Take of Lemon-juice freed of impurities by subsidence and filtration, a pint;
Sugar, two pounds and a half;

Dissolve the sugar in the lemon-juice with the aid of a gentle heat, and after twenty-four hours' rest remove the scum, and pour the clear liquor from the dregs.

SYRUPUS PAPAVERIS.

Take of Poppy-heads without the seeds, one pound and a-half;
Boiling water, fifteen pints;
Pure sugar, three pounds;

Slice the Poppy heads, infuse them in the water for twelve hours, boil down to five pints, strain and express strongly through calico, boil again down to two pints and a-half; then add the sugar and dissolve it with the aid of heat.

SYRUPUS RHAMNI.

Take of fresh juice of Buckthorn berries, four pints;
Ginger sliced, and
Pimento bruised, of each six drachms;
Pure sugar, four pounds;

Let the juice rest for three days; pour off the clear liquor and filter it. Digest the ginger and pimento in a pint of the filtered liquor at a gentle heat for four hours, and filter. Boil down the rest of the juice to one pint and a-half; mix the two liquors, add the sugar, and dissolve it with the aid of heat.

SYRUPUS RHOEADOS.

Take of Corn-poppy petals, one pound;
Boiling water, one pint;
Pure sugar, two pounds and a-half;

Heat the water over a vapour-bath, add the petals by degrees, stirring occasionally; remove the vessel from the bath, infuse for twelve hours; strain and express the liquor; add to it the sugar, and dissolve this with the aid of heat.

SYRUPUS ROSAE CENTIFOLIAE.

Take of fresh Damask-rose petals, one pound;
Boiling water, three pints;
Pure sugar, three pounds;

Infuse the petals in the water for twelve hours, strain the liquor, and dissolve the sugar in it with the aid of heat.

SYRUPUS ROSAE GALLICAE.

Take of Dried Red rose-petals, two ounces;
Boiling water, one pint;
Pure sugar, twenty ounces;

Proceed as for the syrup of damask-rose.

SYRUPUS SARZAE.

Take of Sarza, in chips, fifteen ounces;
Boiling water, one gallon;
Pure sugar, fifteen ounces;

Infuse the sarsaparilla in the water for twenty-four hours; boil down to four pints, and strain the liquor while hot; add the sugar, and evaporate to the consistence of syrup.

SYRUPUS SCILLAE.

Take of Vinegar of squill, three pints;
Pure sugar in powder, seven pounds;
Dissolve the sugar in the vinegar of squills with the aid of a gentle heat and agitation.

SYRUPUS SENNAE.

Take of Senna, four ounces;
Boiling water, one pint and four fluidounces;
Treacle, forty-eight ounces;
Infuse the senna in the water for twelve hours; strain and express strongly through calico, so as to obtain a pint and two fluidounces at least of liquid. Concentrate the treacle in the vapour-bath as far as possible, or till a little taken out upon a rod becomes nearly concrete on cooling; and while the treacle is still hot, add the infusion, stirring carefully, and removing the vessel from the vapour-bath as soon as the mixture is complete.

If Alexandrian Senna be used for this preparation, it must be carefully freed of Cynanchum leaves by picking it.

SYRUPUS SIMPLEX.

Take of Pure sugar, ten pounds;
Boiling water, three pints;
Dissolve the sugar in the water with the aid of a gentle heat.

SYRUPUS TOLUTANUS.

Take of Simple syrup, two pounds;
Tincture of Tolu, an ounce;
When the syrup has been recently prepared and has not altogether cooled, add the tincture of Tolu by degrees, agitating briskly.

SYRUPUS VIOLAE.

Take of Fresh Violets, one pound;
Boiling water, two pints and a half;
Pure sugar, seven pounds and a half;
Infuse the flowers for twenty-four hours in the water, in a covered glass or earthen-ware vessel; strain without squeezing, and dissolve the sugar in the filtered liquor.

SYRUPUS ZINGIBERIS.

Take of Ginger, two ounces and a half;
Boiling water, one pint;
Pure sugar, two pounds and a half;
Bruise the ginger, infuse it for four hours in the water, and to the strained liquor add the sugar and dissolve it with the aid of heat.

TINCTURES.

TINCTURES are usually made by reducing the solid ingredients to small fragments, coarse powder, or fine powder, macerating them for seven days or upwards in proof-spirit or rectified spirit, straining the solution through linen or calico, and finally expressing the residuum strongly to obtain what fluid is still retained in the mass. A much superior method, however, has been lately introduced, which answers well for most tinctures, namely, the method of displacement by percolation. According to this process, the solid materials, usually in coarse or moderately fine powder, are moistened with a sufficiency of the solvent to form a thick pulp; in twelve hours, or frequently without any delay, the mass is put into a cylinder of glass, porcelain, or tinned iron, open at both ends, but obstructed at the lower end by a piece of calico or linen, tied tightly over it as a filter; and the pulp being packed by pressure, varying as to degree with various articles, the remainder of the solvent is poured into the upper part of the cylinder, and allowed gradually to percolate. In order to obtain the portion of the fluid which is kept in the residuum, an additional quantity of the solvent is poured into the cylinder until the

tincture which has passed through equals in amount the spirit originally prescribed; and the spirit employed for this purpose is then recovered for the most part by pouring over the residuum as much water as there is of spirit retained in it, which may be easily known by an obvious calculation in each case. The method by percolation, where applicable, will be found much more convenient and expeditious, than the mode hitherto commonly followed, and it exhausts the solid materials in general much more completely. As considerable practice, however, is required for managing the details in different cases, more especially in regard to the degree of minuteness of division of the solids, and the degree of firmness with which they are to be packed in the cylinder, we have thought it right to direct that the method by maceration may be followed as an alternative. But the method by percolation is now preferred by all who have made sufficient trial of it to apply it correctly.

TINCTURA ALOES.

Take of Aloes (Socotorine or Indian), in coarse powder, one ounce;
Extract of Liquorice, three ounces;
Rectified-spirit, twelve fluidounces;
Water, one pint and eight fluidounces;
Mix them and digest for seven days, with occasional agitation; filter the clear liquor,

separated from the sediment. This tincture cannot without difficulty and delay be prepared by percolation.

TINCTURA ALOES ET MYRRHAE.

Take of Aloes (Socotorine or Indian), in coarse powder four ounces;
Saffron two ounces;
Tincture of Myrrh, two pints;
Digest for seven days; and filter the clear superincumbent liquor. This tincture cannot be well prepared by percolation.

TINCTURA ASSAFOETIDAE.

Take of Assafœtida, in small fragments, five ounces;
Rectified spirit, two pints;
Digest for seven days, and filter the clear liquor. This tincture cannot be made by percolation without much delay.

TINCTURA AURANTII.

Take of Bitter Orange-peel, dried, three ounces and a-half;
Proof-spirit, two pints;
Digest for seven days, strain and express strongly, and filter the liquor. This tincture may be prepared by percolation, by cutting the peel into small fragments, macerating it in a little of the spirit for twelve hours, and beating the mass into a coarse pulp before putting it into the percolator.

TINCTURA BENZOINI COMPOSITA.

Take of Benzoin, in coarse powder, four ounces;
Peru-balsam, two ounces and a half;
East-Indian Aloes, half an ounce;
Rectified spirit, two pints.

Digest for seven days, pour off the clear liquor, and filter it.

TINCTURA BUCKU.

Take of Bucku, five ounces;
Proof-spirit, two pints;

Digest for seven days, pour off the clear liquor, and filter it. This tincture may be conveniently and quickly made also by the process of percolation.

TINCTURA CALUMBAE.

Take of Calumba, in small fragments (if by percolation, in moderately fine powder), three ounces;
Proof-spirit, two pints;

Digest for seven days, pour off the clear liquor, express the residuum strongly, and filter the liquors. This tincture is much more conveniently prepared by the process of percolation, allowing the powder to be soaked with a little of the spirit for six hours before putting it into the percolator.

TINCTURA CAMPHORAE.

Take of Camphor, in small fragments, two ounces and a half;
Rectified Spirit, two pints;
Dissolve the camphor in the spirit.

TINCTURA CANTHARIDIS.

Take of Cantharides, half an ounce;
Proof-spirit, two pints;
Digest for seven days, strain, and express strongly the residuum; filter the liquor. This tincture may be obtained more conveniently and expeditiously by percolation, provided the cantharides be reduced to coarse powder, and left with a little of the spirit in the state of pulp for twelve hours before the process of percolation is commenced.

TINCTURA CAPSICI.

Take of Capsicum bruised, (or if percolation be followed, in moderately fine powder,) ten drachms;
Proof-spirit, two pints;
Digest for seven days, strain, squeeze the residuum, and filter the liquors. This tincture is best prepared by percolation, which may be commenced so soon as the capsicum is made into a pulp with a little of the spirit.

TINCTURA CARDAMOMI.

Take of the seeds of Cardamoms, bruised, four ounces and a-half;
Proof-spirit, two pints;
Digest for seven days, strain, squeeze the residuum, and filter the liquors. This tincture may be better prepared by the process of percolation, in the same way with the tincture of capsicum, the seeds being first ground in a coffee-mill.

TINCTURA CARDAMOMI COMPOSITA.

Take of Cardamom-seeds, bruised, and Caraway, bruised, of each two drachms and-a half;
Cochineal, bruised, one drachm;
Cinnamon, bruised, five drachms;
Raisins, five ounces;
Proof-spirit, two pints;
Digest for seven days, strain, express strongly the residuum, and filter the liquors. This tincture may be also prepared by the method of percolation, if the solid materials be first beat together, moistened with a little spirit, and left thus for twelve hours before being put into the percolator.

TINCTURA CASCARILLAE.

Take of Cascarilla, in moderately fine powder, five ounces;
Proof-spirit, two pints;
Proceed by percolation or digestion, as afterwards directed for Tincture of Cinchona.

TINCTURA CASSIAE.

Take of Cassia, in moderately fine powder, three ounces and a half.
Proof-spirit, two pints;
Digest for seven days, strain, express the residuum strongly, and filter. This tincture is more conveniently made by the process of percolation, the cassia being allowed to macerate in a little of the spirit for twelve hours before being put into the percolator.

TINCTURA CASTOREI.

Take of Castor, bruised, two ounces and a-half;
Rectified spirit, two pints;
This tincture may be prepared either by digestion or percolation, like the tincture of cassia.

TINCTURA CASTOREI AMMONIATA.

Take of Castor, bruised, two ounces and a-half;
Assafœtida in small fragments, ten drachms;
Spirit of Ammonia, two pints;
Digest for seven days in a well-closed vessel; strain and express strongly the residuum; and filter the liquor. This tincture cannot be so conveniently prepared by the method of percolation.

TINCTURA CATECHU.

Take of Catechu, in moderately fine powder, three ounces and a half;
Cinnamon, in fine powder, two ounces and a half;
Proof-spirit, two pints;

Digest for seven days; strain and express strongly the residuum; filter the liquors. This tincture may be also prepared by the process of percolation, the mixed powders being put into the percolator without being previously moistened with the spirit.

TINCTURA CINCHONAE.

Take of Yellow-Bark, in fine powder (or of any other species of Cinchona, according to prescription,) eight ounces.
Proof-spirit, two pints;

Percolate the bark with the spirit, the bark being previously moistened with a very little spirit, left thus for ten or twelve hours, and then firmly packed in the cylinder. This tincture may also be prepared, though much less expeditiously, and with much greater loss, by the usual process of digestion, the bark being in that case reduced to coarse powder only.

TINCTURA CINCHONAE COMPOSITA.

Take of Yellow-Bark in coarse powder, (fine

if percolation be followed) four ounces;
Bitter Orange-Peel, bruised, three ounces;
Serpentaria, in moderately fine powder, six drachms;
Saffron, chopped, two drachms;
Cochineal, bruised, one drachm;
Proof-spirit, two pints;

Digest for seven days; strain and express strongly; filter the liquors. This tincture may also be conveniently prepared by the method of percolation in the same way as the compound tincture of cardamom.

TINCTURA CINNAMOMI.

Take of Cinnamon, in moderately fine powder, three ounces and a-half;
Proof-spirit, two pints;

Proceed by percolation or digestion as directed for tincture of cassia.

TINCTURA CINNAMOMI COMPOSITA.

Take of Cinnamon in coarse powder (fine, if percolation be followed), and
Cardamom Seeds, bruised, of each an ounce;
Long Pepper, ground finely, three drachms;
Proof-spirit, two pints;

This tincture is best prepared by the method of percolation as directed for the compound

tincture of cardamom. But it may also be made in the ordinary way by digestion for seven days, straining and expressing the liquor, and then filtering it.

TINCTURA COLCHICI.

Take of Colchicum seeds, ground finely in a coffee-mill, five ounces;
Proof-spirit, two pints.

This tincture is to be prepared like the tincture of cinchona; and percolation is much more convenient and speedy than digestion.

TINCTURA CONII.

Take of fresh leaves of Conium, twelve ounces;
Tincture of Cardamom, half a pint;
Rectified spirit, one pint and a half.

Bruise the hemlock leaves, express the juice strongly; bruise the residuum, pack it firmly in a percolator; transmit first the tincture of cardamom, and then the rectified spirit, allowing the spirituous liquors to mix with the expressed juice as they pass through; add gently water enough to the percolator for pushing through the spirit remaining in the residuum. Filter the liquor after agitation.

TINCTURA CROCI.

Take of Saffron, chopped fine, two ounces;
Proof-spirit, two pints;

This tincture is to be prepared like tincture of cinchona, either by percolation or by digestion, the former method being the more convenient and expeditious.

TINCTURA CUSPARIAE.

Take of Cusparia, in moderately fine powder, four ounces and a-half;
Proof-spirit, two pints;

This tincture is to be made like the tincture of cinchona, and most expeditiously by the process of percolation.

TINCTURA DIGITALIS.

Take of Digitalis, in moderately fine powder, four ounces;
Proof-spirit, two pints;

This tincture is best prepared by the process of percolation, as directed for the tincture of capsicum. If forty fluidounces of spirit be passed through, the density is 944, and the solid contents of a fluidounce amount to twenty-four grains. It may also be made by digestion.

TINCTURA GALLARUM.

Take of Galls, in fine powder, five ounces;
Proof-spirit, two pints;

This tincture may be prepared either by digestion or percolation as directed for tincture of capsicum.

TINCTURA GENTIANAE COMPOSITA.

Take of Gentian sliced and bruised, two ounces and a-half.
Dried Bitter-orange peel bruised, ten drachms.
Canella, in moderately fine powder, six drachms;
Cochineal bruised, half a drachm;
Proof-spirit, two pints;

Digest for seven days; strain and express strongly: and then filter the liquor. This tincture may be more conveniently prepared by percolation, as directed for the compound tincture of cardamom.

TINCTURA GUAIACI.

Take of Guaiac, in coarse powder, seven ounces;
Rectified spirit, two pints;

Digest for seven days, and then filter the liquor.

TINCTURA GUAIACI AMMONIATA.

Take of Guaiac, in coarse powder, seven ounces;
Spirit of ammonia, two pints;

Digest for seven days in a well-closed vessel, and then filter the liquor.

TINCTURA HYOSCYAMI.

Take of Hyoscyamus, dried and in mode-

rately fine powder, five ounces;
Proof-spirit, two pints;

This tincture is best prepared by the process of percolation as directed for tincture of capsicum; but it may also be obtained, though with greater loss, by the process of digestion.

TINCTURA IODINEI.

Take of Iodine, two ounces and a-half.
Rectified spirit, two pints.

Dissolve the iodine in the spirit with the aid of a gentle heat and agitation; keep the tincture in well-closed bottles.

TINCTURA JALAPAE.

Take of Jalap, in moderately fine powder, seven ounces;
Proof-spirit, two pints;

This tincture may be prepared either by digestion or percolation, as directed for tincture of cinchona.

TINCTURA KINO.

Take of Kino, in moderately fine powder, three ounces and a-half.
Rectified spirit, two pints;

Digest for seven days, and then filter. This tincture cannot be conveniently prepared by the process of percolation.

TINCTURA LACTUCARII.

Take of Lactucarium, in fine powder, four ounces;
Proof-spirit, two pints:
This tincture is best prepared by percolation as directed for tincture of myrrh; but may also be prepared by digestion with coarse powder of Lactucarium.

TINCTURA LOBELIAE.

Take of Lobelia, dried and in moderately fine powder, five ounces;
Proof-spirit, two pints;
This tincture is best prepared by the process of percolation as directed for tincture of capsicum; but it may also be made in the usual way by digestion.

TINCTURA LOBELIAE AETHEREA.

Take of dry Lobelia, in moderately fine powder, five ounces;
Spirit of Sulphuric Ether, two pints;
This tincture is best prepared by percolation, as directed for tincture of capsicum; but it may be also obtained by digestion in a well-closed vessel for seven days.

TINCTURA LUPULI.

Take any convenient quantity of hops, recently dried; separate by friction and sifting the yellowish-brown powder attached to their scales. Then take of this powder five

ounces, and of rectified spirit, two pints ; and prepare the tincture by percolation or digestion as directed for tincture of capsicum.

TINCTURA MYRRHAE.

Take of Myrrh in moderately fine powder, three ounces and a-half.
Rectified spirit, two pints ;

Pack the myrrh very gently without any spirit in a percolator ; then pour on the spirit ; and when thirty-three fluidounces have passed through, agitate well to dissolve the oleo-resinous matter which first passes and which lies at the bottom. This tincture is much less conveniently obtained by the process of digestion for seven days.

TINCTURA OPII.

Take of Opium sliced, three ounces ;
Rectified spirit, one pint and seven fluidounces ;
Water, thirteen fluidounces and a half ;

Digest the opium in the water at a temperature near 212° for two hours ; break down the opium with the hand ; strain and express the infusion ; macerate the residuum in the rectified spirit for about twenty hours, and then strain and express very strongly. Mix the watery and spirituous infusions, and filter.

This tincture is not easily obtained by the process of percolation; but when the opium is of fine quality, it may be prepared thus: Slice the opium finely; mix the spirit and water; let the opium macerate in fourteen fluidounces of the mixture for twelve hours, and then break it down thoroughly with the hand; pour the whole pulpy mass and fluid into a percolator, and let the fluid part pass through, add the rest of the spirit without packing the opium in the cylinder, and continue the process of percolation till two pints are obtained.

TINCTURA OPII AMMONIATA.

Take of Benzoic acid, and
Saffron, chopped, six drachms of each;
Opium sliced, half an ounce;
Oil of Anise, a drachm;
Spirit of Ammonia, two pints;
Digest for seven days, and then filter.

TINCTURA OPII CAMPHORATA.

Take of Camphor, two scruples and a half;
Opium sliced, and
Benzoic acid, four scruples;
Oil of Anise, one fluidrachm;
Proof-spirit, two pints;
Digest for seven days, and then filter.

TINCTURA QUASSIAE.

Take of Quassia, in chips, ten drachms;
Proof-spirit, two pints;
Digest for seven days, and then filter.

TINCTURA QUASSIAE COMPOSITA.

Take of Cardamom-seeds bruised, and
Cochineal, bruised, of each half an ounce;
Cinnamon in moderately fine powder, and
Quassia, in chips, of each six drachms;
Raisins, seven ounces;
Proof-spirit, two pints;
Digest for seven days, strain the liquor, express strongly the residuum, and filter This tincture may also be obtained by percolation as directed for Compound tincture of Cardamom, provided the quassia be rasped or in powder.

TINCTURA RHEI.

Take of Rhubarb, in moderately fine powder, three ounces and a half;
Cardamom Seeds bruised, half an ounce;
Proof-spirit, two pints;
Mix the rhubarb and cardamom seeds, and proceed by the process of percolation as directed for tincture of cinchona. This tincture may be also prepared by digestion.

TINCTURA RHEI ET ALOES.

Take of Rhubarb, in moderately fine powder, an ounce and a half;
Socotorine or East-Indian Aloes, in moderately fine powder, six drachms;
Cardamom Seeds bruised, five drachms;
Proof-spirit, two pints.

Mix the powders, and proceed as for the tincture of cinchona.

TINCTURA RHEI ET GENTIANAE.

Take of Rhubarb, in moderately fine powder, two ounces;
Gentian, finely cut or in coarse powder, half an ounce;
Proof-spirit, two pints.

Mix the powders, and proceed as directed for tincture of cinchona.

TINCTURA SCILLAE.

Take of Squill, in coarse powder, five ounces;
Proof-spirit, two pints.

Prepare this tincture by percolation, as directed for tincture of cinchona, but without packing the pulp firmly in the percolator. It may likewise be obtained by digestion from the sliced bulb.

TINCTURAE SENNA COMPOSITA.

Take of Sugar, two ounces and a half;

Coriander bruised, one ounce;
Jalap in moderately fine powder, six drachms;
Senna, four ounces;
Caraway bruised, and
Cardamom Seeds bruised, of each five drachms;
Raisins bruised, four ounces;
Proof-spirit, two pints;

Digest for seven days, strain the liquor, express strongly the residuum, and filter the liquids. This tincture may be more conveniently and expeditiously prepared by percolation, as directed for the compound tincture of cardamom.

If Alexandrian Senna be used for this preparation it must be freed of Cynanchum leaves by picking.

TINCTURA SERPENTARIAE.

Take of Serpentaria in moderately fine powder, three ounces and a half;
Cochineal bruised, one drachm;
Proof-spirit, two pints;

Proceed by percolation or digestion as for the tincture of cinchona.

TINCTURA TOLUTANA.

Take of Tolu Balsam, in coarse powder, three ounces and a half;
Rectified-spirit, two pints;

Digest the balsam in the spirit with a gentle heat till it is dissolved.

TINCTURA VALERIANAE.

Take of Valerian bruised, five ounces;
Proof-spirit, two pints;
Proceed by percolation or digestion as for tincture of cinchona.

TINCTURA VALERIANAE AMMONIATA.

Take of Valerian bruised, five ounces;
Spirit of Ammonia, two pints.
Proceed by percolation, or by digestion in a well-closed vessel, as directed for tincture of cinchona.

TINCTURA ZINGIBERIS.

Take of Ginger, in coarse powder, two ounces and a-half;
Rectified-spirit, two pints;
Proceed by percolation or digestion, as directed for tincture of cinchona.

TROCHES.

TROCHISCI ACACIAE.

Take of Gum-arabic, four ounces;
Starch, one ounce;
Pure sugar, one pound;
Mix and pulverize them, and make them into a proper mass with rose-water for forming lozenges.

TROCHISCI ACIDI TARTARICI.

Take of Tartaric acid, two drachms;
Pure Sugar, eight ounces;
Volatile oil of Lemons, ten minims.
Pulverize the sugar and acid, add the oil, mix them thoroughly, and with Mucilage beat them into a proper mass for making lozenges.

TROCHISCI CRETAE.

Take of Prepared Chalk, four ounces;
Gum-arabic, one ounce;
Nutmeg, one drachm;
Pure sugar, six ounces;
Reduce them to powder, and beat them with a little water into a proper mass for making lozenges.

TROCHISCI GLYCIRRHIZAE.

Take of Extract of Liquorice, and

Gum-arabic, of each six ounces;
Pure Sugar, one pound;
Dissolve them in a sufficiency of boiling water; and then concentrate the solution over the vapour-bath to a proper consistence for making lozenges.

TROCHISCI LACTUCARII.

To be prepared with Lactucarium in the same proportion and in the same manner as the Opium Lozenge.

TROCHISCI MAGNESIAE.

Take of Carbonate of Magnesia, six ounces;
Pure Sugar, three ounces;
Nutmeg, one scruple;
Pulverize them, and with mucilage of Tragacanth beat them into a proper mass for making lozenges.

TROCHISCI MORPHIAE.

Take of Muriate of Morphia, one scruple;
Tincture of Tolu, half an ounce;
Pure Sugar, twenty-five ounces;
Dissolve the muriate of morphia in a little hot water; mix it and the Tincture of Tolu with the sugar; and with a sufficiency of Mucilage form a proper mass for making lozenges; each of which should weigh about fifteen grains.

TROCHISCI MORPHIAE ET IPECACUANHAE.

Take of Muriate of Morphia, one scruple;
Ipecacuan, in fine powder, one drachm;
Tincture of Tolu, half a fluidounce;
Pure Sugar, twenty five ounces;
Dissolve the muriate in a little hot-water; mix it with the tincture and the ipecacuan and sugar; and with a sufficiency of Mucilage beat the whole into a proper mass, which is to be divided into fifteen-grain lozenges.

TROCHISCI OPII.

Take of Opium, two drachms;
Tincture of Tolu, half an ounce;
Pure Sugar, in fine powder, six ounces;
Powder of Gum-Arabic, and
Extract of Liquorice, of each five ounces;
Reduce the opium to a fluid extract by formula, p. 84; mix it intimately with the liquorice previously reduced to the consistence of treacle; add the tincture; sprinkle the gum and sugar into the mixture, and beat it into a proper mass, which is to be divided into lozenges of ten grains.

TROCHISCI SODAE BICARBONATIS.

Take of Bicarbonate of Soda, one ounce;
Pure sugar, three ounces;
Gum-Arabic, half an ounce;
Pulverize them,and with mucilage beat them into a proper mass for making lozenges.

VOLATILE OILS.

VOLATILE oils are obtained chiefly from the flowers, leaves, fruits, barks, and roots of plants, by distilling them with water, in which they have been allowed to macerate for some time. In order to obtain these oils profitably and of good quality, a great variety of conditions must be attended to, differing in regard to each, and such as it would be out of place to enumerate here in detail. Certain general principles, however, may be mentioned.

Flowers, leaves, and fruits generally yield the finest oils, and in greatest quantity, when they are used fresh. Many, however, answer equally well, if they have been preserved by beating them into a pulp with about twice their weight of muriate of soda, and keeping the mixture in well-closed vessels.

Substances yielding volatile oils must be distilled with water, the proper proportion of which varies for each article, and for the several qualities of each. In all instances the quantity must be such as to prevent any of the material from being empyreumatized before the whole oil is carried over. In operations where the material is of pulpy consistence, other contrivances must be resorted to for the same purpose. These chiefly consist of particular modes

of applying heat so as to maintain a regulated temperature not much above 212°. On the small scale heat may be thus conveniently applied by means of a bath of a strong solution of muriate of lime, or by means of an oil-bath, kept at a stationary temperature with the aid of a thermometer. On the large scale heat is often applied by means of steam under regulated pressure. In other operations it is found sufficient to hang the material within the still in a cage or bag of fine net-work; and sometimes the material is not mingled with the water at all, but is subjected to a current of steam passing through it.

The best mode of collecting the oil is by means of the refrigeratory described in the Preface; from which the water and oil drop together into a tall narrow vessel provided with a lateral tube or lip near the top, and another tube rising from the bottom to about a quarter of an inch below the level of the former. It is evident that with a receiver of this construction the water will escape by the lower tube; while the volatile oil, as it accumulates, will be discharged by the upper one, except in the very few instances where the oil is heavier than water.

By attending to the general principles now explained, Volatile oils may be readily obtained of excellent quality from the flowers of

ANTHEMIS NOBILIS,
LAVANDULA VERA, and

Ruta graveolens;
From the fruit of
Anethum graveolens, bruised,
Carum carui, bruised,
Eugenia pimento, bruised,
Fœniculum officinale, bruised,
Juniperus communis, bruised,
Piper cubeba, ground, and
Pimpinella anisum, ground;
From the undeveloped dried flowers of
Caryophyllus aromaticus;
From the tops of
Juniperus sabina, and
Rosmarinus officinalis;
From the entire herb of
Mentha piperita,
Mentha pulegium,
Mentha viridis, and
Origanum majorana;
And also from the bruised root of
Sassafras officinale.

Oleum terebinthinæ purificatum.
Take of oil of Turpentine, one pint;
Water, four pints;
Distil as long as oil comes over with the water.

Oleum copaibæ.
Take of Copaiva, one ounce;
Water, one pint and a-half;

Distil, preserving the water; when most of the water has passed over, heat it, return it into the still, and resume the distillation; repeat this process so long as a sensible quantity of oil passes over with the water.

VINEGARS.

Acidum aceticum camphoratum.

Take of Camphor, half an ounce;
Acetic acid, six fluidounces and a half;
Pulverize the camphor with the aid of a little rectified spirit, and dissolve it in the acid.

Acetum cantharidis.

Take of Cantharides, in powder, three ounces;
Acetic acid, five fluidounces;
Pyroligneous acid, fifteen fluidounces;
Euphorbium, in coarse powder, half an ounce;
Mix the acids, add the powders, macerate for seven days, strain and express strongly, and filter the liquors.

Acetum colchici.

Take of Colchicum-bulb, fresh and sliced, one ounce;
Distilled vinegar, sixteen fluidounces;
Proof-spirit, one fluidounce;
Macerate the Colchicum in the vinegar for three days in a covered glass vessel; strain

and express strongly; filter the liquors, and add the spirit.

ACETUM OPII.

Take of Opium, four ounces;
Distilled Vinegar, sixteen fluidounces;

Cut the Opium into small fragments, triturate it into a pulp with a little of the vinegar, add the rest of the vinegar, macerate in a closed vessel for seven days, and agitate occasionally. Then strain and express strongly, and filter the liquor.

ACETUM SCILLAE.

Take of dried Squill, in small fragments, five ounces;
Distilled Vinegar, two pints;
Proof-spirit, three fluidounces;

Macerate the Squill in the vinegar for seven days in a covered glass vessel, strain and express the liquor, add the spirit, and filter the whole.

WINES.

Vinum aloes.

Take of Socotorine, or East Indian Aloes, an ounce and a half;
Cardamom-seeds, ground,
Ginger, in coarse powder, of each a drachm and a half;
Sherry, two pints;
Digest for seven days, and strain through linen or calico.

Vinum colchici.

Take of Colchicum-bulb, dried and sliced, eight ounces;
Sherry, two pints;
Digest for seven days, strain, express strongly the residuum, and filter the liquors.

Vinum gentianae.

Take of Gentian, in coarse powder, half an ounce;
Yellow-bark, in coarse powder, one ounce;
Bitter-orange peel, dried and sliced, two drachms;
Canella, in coarse powder, one drachm;
Proof-spirit, four fluidounces and a-half;

Sherry, one pint and sixteen fluid-ounces;

Digest the root and barks for twenty-four hours in the spirit; add the wine, and digest for seven days more; strain and express the residuum strongly, and filter the liquors.

VINUM IPECACUANHAE.

Take of Ipecacuan, in moderately fine powder, two ounces and a half;
Sherry, two pints;

Digest for seven days, and then filter.

VINUM OPII.

Take of Opium, three ounces;
Cinnamon, in moderately fine powder, and
Cloves, bruised, of each, two drachms and a-half;
Sherry, two pints;

Digest for seven days, and then filter.

VINUM RHEI.

Take of Rhubarb, in coarse powder, five ounces;
Canella, in coarse powder, two drachms;
Proof-spirit, five fluidounces;
Sherry, one pint, and fifteen fluid-ounces.

Digest for seven days, strain, express strongly the residuum, and filter the liquors.

VINUM TABACI.

Take of Tobacco, three ounces and a-half,
Sherry, two pints;
Digest for seven days, strain, express strongly the residuum, and filter the liquors.

TESTS.

Ammoniae oxalas.

Take of Oxalic Acid, four ounces;
Carbonate of Ammonia, eight ounces;
Distilled Water, four pints;
Dissolve the carbonate in the water, add gradually the acid, boil and concentrate sufficiently for crystals to form on cooling.

Barytae nitras.

This salt is to be prepared like the muriate of baryta, p. 98, substituting pure nitric acid for the muriatic acid.

Solutio argenti nitratis.

Take of Nitrate of Silver, forty grains;
Distilled Water, sixteen hundred grains;
Dissolve the salt in the water, and keep the solution in well-closed bottles.

Solutio argenti ammoniati.

Take of Nitrate of Silver, forty-four grains;
Distilled Water, one fluidounce;
Aqua Ammoniæ, a sufficiency;
Dissolve the salt in the water, and add the aqua ammoniæ gradually, and towards the end cautiously, till the precipitate at first

thrown down is very nearly, but not entirely, redissolved.

SOLUTIO BARYTAE NITRATIS.

Take of Nitrate of Baryta, forty grains;
Distilled Water, eight hundred grains;
Dissolve the salt in the water; and keep the solution in well-closed bottles.

SOLUTIO SODAE PHOSPHATIS.

Take of Phosphate of Soda (free of efflorescence), one hundred and seventy-five grains;
Distilled Water, eight fluidounces;
Dissolve the salt in the water, and keep the solution in well-closed bottles.