REPORT OF THE COMMITTEE ON UNOFFICIAL STANDARDS.

The following portion of the report of the Committee on Unofficial Standards relates to certain crude drugs and chemicals suggested for inclusion in the next revision of the National Formulary, and by order of the Council is published in the JOURNAL in order to afford opportunity for discussion before the standards proposed are finally adopted.

Manufacturers, importers, analysts, and others interested in any of the proposed standards, are requested to send their criticisms and comments to the chairman of the committee, Geo. M. Beringer, 501 Federal St., Camden, N. J.

APPROVED MONOGRAPHS SUBMITTED AS STANDARDS FOR UNOFFICIAL DRUGS AND CHEMICAL PRODUCTS.

ABSINTHIUM.

WORMWOOD.

Maderwort. Wermuth or Vermuth.

The dried leaves and tops of *Artemisia Absinthium* Linné (Fam. *Compositae*).

Gray-green and finely silky-hairy and glandular throughout; largest leaves reaching 10 or 12 cm. in length and of nearly equal breadth, on long petioles, the blades roundish-triangular in general outline but three times pinnately lobed or divided, the ultimate segments oblong or obovate obtuse, entire or slightly toothed; upper leaves becoming shorter petioled, smaller and narrower, the uppermost being only about 2 cm. long and resembling the ultimate segments of the larger ones; heads racemose-panniculate drooping on short peduncles, greenish-yellow, .3 to 4 mm. broad, round-ovoid, the outer bracts linear-oblanceolate,, obtuse, the inner broader and scarious-margined; receptable hairy; outer flowers sometimes sterile. Strongly and characteristically aromatic and very bitter.

On extraction with ether the air-dried leaves should not yield less than 1 per cent of a disagreeably bitter oil, soluble in alcohol, and of a taste closely resembling that of the drug. The ash content should not exceed 10 per cent.

ACONITI FOLITA.

ACONITE LEAVES.

Monkshood Leaves. Wolfsbane Leaves.

The dried leaves of *Aconitum Napellus* Linné. (Fam. *Ranunculaceae*).

Leaves orbicular-cordate in outline, long-petiolate, palmately divided, usually into three or five segments, the sinuses extending almost or quite to the petiole and each segment subdivided into several linear, acute divisions, the lower lobes longest and somewhat spreading.

Aconite Leaves should be stored in a dry place in a closed can or bottle and should not be used if they fail to respond to the following test.—1 Gm. of the finely pulverized leaf is infused with 30 Cc. of warm distilled water and when cold strained. When the mouth is rinsed with a small portion of this strained liquid it should produce the characteristic tingling and benumbing sensation of aconitine.

When assayed by the method for assaying Aconite official in the U. S. P. VIII it should yield not less than 0.2 per cent of alkaloids.

Upon incineration Aconite Leaves should yield not over 16 per cent of ash.

ADONIS.

ADONIS.

False Hellebore. Pheasant's-eye.

The dried herbage of *Adonis vernalis* Linné (Fam. *Ranunculaceae*). Glabrous, with the exception of the younger portions, which may be slightly grayish-puberulent; stems 1.5 to 5 dm. long, thick, but soft and weak, shining, simple or branched, the branches mostly from near the base and similar to the main stem; naked below, except for some scale-like leaf-vestiges, densely leafy above; leaves 2 to 4 cm. long and two-thirds or more as broad, pinnately divided into several segments, the larger of which are again divided, the ulti-

mate segments being narrowly linear and acute; flowers terminal, yellow but usually drying to a whitish color, 3 to 6 cm. broad; sepals 5, green or grayish-puberulent, rather more than half the lengths of the petals, oblong, obtuse, finely nerved; stamens indefinite; pistils numerous, in fruit forming an ovoid, obtuse, dense head of ovoid akenes, which are tipped with the very small persistent styles. Odor indefinite. Taste bitterish, afterward somewhat acrid

Upon incineration Adonis should yield not more than 12 per cent of a white ash which should be almost entirely soluble in hydrochloric acid.

FOLIA ALTHAEAE.

ALTHAEA LEAVES.

Marshmallow Leaves.

The dried leaves of *Althaea officinals* L. (Fam. *Malvaceae*) containing not more than five per cent.of stems or foreign material.

Gray-green or yellowish gray-green and densely and finely tomentose throughout; petioles 1/6 to 1/5 as long as the blades; blades varying from 5 to 15 cm. in length and from 3 to 10 cm. in breadth, ovate or rhomboidal ovate in outline, rounded or occasionally nearly truncate at the base, acute at the summit; margin doubly serrate-dentate, the principal teeth from one to three pairs, the lowest almost large enough to be regarded as lobes, the secondary very irregular, triangulate, acute, broader than long, the sinuses acute; two to four or occasionally six principal veins originating with the midrib in the petiole, prominent underneath, terete; branches of the midrib arising at a wide angle, nearly straight, each terminating in a marginal tooth. Leaf, thin, but appearing thick by its hairy covering. Odor slight and scarcely characteristic. Taste mucilaginous. Upon incineration the ash should not exceed 15 per cent.

AMMONII HYPOPHOSPHIS.

AMMONIUM HYPOPHOSPHITE.

It should contain not less than 97.5 per cent of pure Ammonium Hypophosphite ($NH_4PH_2O_2 = 83.06$). It should be kept in well-stoppered bottles.

Deliquiescent, colorless, hexagonal plates, odorless, having a saline and bitter taste.

Soluble in one part of water at 25° C., and in 14.5 parts of alcohol at 25° C.; very soluble in boiling water or boiling alcohol.

When heated in a test tube, the salt is decomposed, with the evolution of hydrogen phosphide, which is spontaneously inflammable.

The aqueous solution is neutral to litmus paper and when heated with potassium hydrate gives off ammonia vapors.

The aqueous solution, slightly acidulated with sulphuric acid, yields with silver nitrate, T. S. a white precipitate, which rapidly turns brown or black, owing to separation of metallic silver.

The aqueous solution, slightly acidulated with sulphuric acid, yields, on heating with copper sulphate T. S., a reddish-brown precipitate.

It should not respond to the U. S. P. time limit test for heavy metals when 10 Cc. of the solution (1 to 20) is acidulated with 1 Cc. of diluted hydrochloric acid and tested as directed by the U. S. P., the total dilution for arsenic and antimony being 1 in 40, for iron 1 in 300, for other metals 1 in 100. (By total dilution is meant the dilution after addition of the hydrogen sulphide solution).

If 10 Cc. of the aqueous solution (1 in 20) be measured into a beaker containing 3Cc. of nitric acid and the mixture evaporated to dryness on a waterbath, the residue should not respond to the U. S. P. modified Gutzeit test for arsenic.

The aqueous solution (1 in 20) should remain clear five minutes after the addition of about 5 Cc. ammonium oxalate T. S., and a few drops of ammonia water (absence of calcium salts).

Assay.—Introduce into a stoppered weighing bottle about 0.1 Gm. of ammonium hypophosphite, previously dried at a temperature not exceeding 100° C., and weigh accurately. Dissolve it in 100 cc. of diluted sulphuric acid, add 50 cc. of tenth-normal potassium permanganate V. S. and boil 15 minutes Add 5 Cc. of tenth-normal oxalic acid V. S. and heat until the precipitate, which has been produced is dissolved. Then titrate the excess of oxalic acid with tenth-normal potassium permanganate V. S. From the total number of Cc. of tenth-normal potassium permanganate V. S. subtract the number of Cc. of tenth-normal oxalic acid V. S., multiply the remainder by 0.2076 and divide the product by the weight of ammonium hypophosphite taken. The quotient represents the percentage of actual ammonium hypophosphite present. (Each Cc. of tenth-normal potasium perman-

ganate V. S. corresponds to 0.002076 Gm. of ammonium hypophosphite).

METHOD FOR THE DETERMINATION OF AMMONIA.

Weigh accurately 2.4 gm.. of the ammonium salt in a glass tube about 3 cm. long and about 1 cm. wide. Place a distilling flask of about 1 liter capacity, containing 300 Cc. water on wire-gauze, and connect it, by means of a glass tube bent at an obtuse angle, with the glass tube of a small condenser. Insert the lower end of this tube in an Erlenmeyer flask of about 700 cc. capacity, containing 50 Cc. tenth-normal sulphuric or hydrochloric acid V. S., so that the tube is below the surface of the liquid. Introduce also a few drops of alizarin red test solution (1%) into the receiver.

Now, put the unstoppered tube, containing the ammonium hypophosphite, into the distilling flask, then add 10 Cc. of 10% sodium hydroxide solution at once, connect with the condenser, and heat the contents of the flask to vigorous boiling and continue the application of the same degree of heat for about one-half hour, or until the distillate fails to color litmus paper blue. During the last fifteen minutes of boiling the lower end of the condenser need not be below the surface of the liquid in the Erlenmeyer flask.

Titrate with tenth-normal potassium hydrate U. S. Multiply the number of cc's of tenth-normal sulphuric acid U. S. consumed by the distillate by the respective factor, and divide this product by the weight of the ammonium salt taken. The quotient represents the percentage of actual ammonium salt.

ANETHOL.

ANETHOL.

$C_{10}H_{12}$=148.10.

The methyl ether of Para-Propenyl phenol (C_3H_5, C_6H_4, O CH_3) constituting the main constituent in oils of anise, star anise and fennel and obtained by fractioning, chilling and crystallizing. It should be kept in well stoppered amber colored bottles protected from light and air.

At ordinary temperatures anethol is a colorless or faintly yellow highly refractive liquid having a sweet taste and the aromatic odor of anise.

At +20 to +21° C. it solidifies to a white glistening crystalline mass which melts at 22° to 23° C.

Specific gravity 0.984 to 0.986 at 25° C.

Boiling point 232° to 234° C.

Its refractive index is 1.56 at 20° C.

It should be optically inactive or show a deviation of not over 0.08° in 100 mm. tube at 25° C. due to slight traces of the oil from which the anethol has been prepared (If from anise oil this deviation will be laevogyrate, if from fennel oil dextrogyrate).

Anethol is almost insoluble in water, readily soluble in ether or chloform, and makes a clear solution with two volumes of alcohol.

If 10 cc. of anethol be shaken with 50 cc. of saturated solution of sodium bisulphite in a graduated cylinder and allowed to stand for six hours it should show no appreciable diminution in its volume nor should a crystalline deposit separate (absence of aldehydes).

RADIX ANGELICAE.

ANGELICA ROOT.

Garden Angelica.

The rhizome and roots of *Angelica Archangelica* Linné. (Fam. *Umbelliferae*).

Rhizomes short and thick, 5 cm. to 10 cm long, frequently crowned with the bases of stem and leaves, sometimes split, the roots are numerous, 10 to 20 cm. in length, 5 to 7 mm. thick at the base and gradually tapering to about 1 mm., frequently twisted or braided together, externally dark grey-brown to reddish or purplish-brown and with conspicuous rather deep furrows, when dry breaking with a smooth fracture.

On cross section the rhizome shows a distinct pith which is absent in the root and both exhibit a spongy bark nearly or quite as wide as the woody zone, in which are radial rows of brownish ducts containing oleoresin. The large diameter of these secretion vessels is characteristic, as they measure about 200 microns. The wood rays are finely porous and narrower than the medullary rays. The bark is rich in starch.

Insect eaten or mildewed roots should be rejected.

Angelica root has a strongly aromatic odor and a sweetish, pungent aromatic, followed by a bitter taste.

Upon incineration Angelica Root should yield not over 8 per cent of ash.

FRUCTUS ANGELICAE.

ANGELICA SEED.

The ripe fruit of *Angelica Archangelica* Linné (Fam. *Umbelliferae*).

From 4 to 8 mm. broad and 1 to 2 mm. thick, oval, the base faintly notched, the sum-

mit bearing 5 minute calyx-teeth and the remains of the style; of a pale yellowish-brown color; consisting of two mericarps joined by their broad faces, or separate mericarps each nearly flat upon one surface, which bears a central longitudinal groove and has sharp, slightly upturned margins, convex upon the other surface, which is traversed longitudinally upon the back by 3 strong ribs, separated from one another by narrow grooves and from the margin by much broader grooves; pericarp soft, rather tough and corky, showing 6 large oil-tubes on cross section, and enclosing a single seed. Odor characteristic and agreeable; taste aromatic, pungent and sweetish.

Upon incineration Angelica Seed should yield not more than 8 per cent of ash.

SEMEN ARECAE.

ARECA.

The ripe seed of *Areca catechu* Linné (Fam. *Palmae*), yielding when assayed by the process given below not less than 0.5 per cent of Areca alkaloids.

From 20 to 25 mm. long, conical, grayish-brown with numerous spiral, reddish, depressed veins running chiefly from the hilum; hard; heavy; odorless, or faintly aromatic when broken; taste astringent, bitter and slightly acrid. A transverse section exhibits a marbled appearance, dark brown lines alternating with white portions, the former being folds of the seed coat, and the latter the endosperm.

Upon ignition Areca should yield not over 2 per cent of ash.

ASSAY OF ARECA.

Areca, in No. 60 powder, *fifteen grammes*	15 Gm.
Chloroform, *one hundred and fifty cubic centimeters*	150 Cc.
Ether, *thirty-five cubic centimeters*.	35 Cc.
Ammonia Water, *ten cubic centimeters*	10 Cc.
Distilled Water, *fifteen cubic centimeters*	15 Cc.
Fiftieth-Normal Hydrochloric Acid, Haematoxylin Test Solution, each	*a sufficient quantity.*

Place the Areca in a 250 Cc. Erlenmeyer flask and add 150 Cc. of a mixture composed of 1 volume of chloroform and 4 volumes of ether, the mixture having been cooled to 20° C before measuring. Stopper the flask securely, and let it stand ten minutes. Add 10 Cc. of ammonia water and shake the flask vigorously every 10 minutes for two hours. Add 15 Cc. of water, agitate, and place the flask in water at 20° C. for 15 minutes. Pour 100 Cc. of the clear liquid, representing 10 Gm. of Areca, through a dry filter into a graduated cylinder, transfer the solution to a 250 Cc. Ehrlenmeyer flask, wash the filter and graduated cylinder with the 10 cc. of the chloroform-ether mixture, adding the washings to the measured solution, evaporate or distil off the solvent and dissolve the residue in 5 Cc. of absolute alcohol. Add 30 Cc. of ether, 10 Cc. of water and 5 drops of haematoxylin test solution to the solution, and titrate with fiftieth-normal hydrochloric acid V. S. until the water solution is of a reddish-brown color. Add 30 Cc. of water and continue the titration until the aqueous layer becomes of a citron-yellow color or until further addition of acid fails to clarify the liquid. Each Cc. of fiftieth-normal hydrochloric acid V. S. consumed is assumed as equivalent to 0.0031 Gm. of the mixed alkaloids of Areca.

RADIX ARNICAE.

ARNICA ROOT.

Arnica Rhizome. Mountain Tobacco. Leopard's Bane.

The dried rhizome and roots of *Arnica montana* Linné (Fam. *Compositae*).

From 4 to 10 cm. long and 3 to 5 mm. thick; of oblique growth, usually curved at the upper end, cylindraceous, annulate with leafy scars, usually bearing some remains of leaf and stem bases, and with numerous rather coarse roots on the inferior surface; externally dark reddish-brown, internally whitish; rather tough, the transverse section displaying a thick bark, short yellow wood wedges and a large spongy pith, the inner bark containing a circle of rather large resin cells. Odor characteristic. Taste pungent and bitter, afterward somewhat acrid.

Upon incineration Arnica Root should yield not over 12 per cent of ash.

ASCLEPIAS.

PLEURISY ROOT.

Butterfly Weed. Orange or Yellow Milk Weed. White Root.

The dried root of *Asclepias tuberosa* Linné (Fam. *Asclepiadaceae*).

Irregularly broken or transversely or longitudinally sliced pieces of an irregularly or

interruptedly fusiform root from 10 to 20 cm. long and about 1 to 3 cm. thick; externally varying from orange when fresh, to dull yellowish-gray when old, and more or less annulate and finely longitudinally wrinkled; longitudinally sliced surfaces yellowish-white concave, the upcurved edges rather sharp; fracture short; rough-granular yellowish or grayish-white, starchy, the outer layer of the thin bark yellow or orange, the wood wedges yellow. Nearly odorless and of a disagreeable, bitterish and somewhat acrid taste. Upon incineration Asclepias should yield not more than 9 per cent of ash.

BOLDO.

BOLDO LEAVES.

The leaves of *Peumis Boldus* Mol. (Fam. *Monimiaceae*).

From 1.5 to 2.5 cm. long by 1 to 1.75 cm. broad, the petiole 1 to 3 mm. long, stout and rigid; broadly ovate or oval, the base varying from rounded to very slightly indented, the summit rounded or slightly notched, the margin entire and sharply revolute; thick, coriaceous, rigid and brittle, from pale-green to brownish-green, pappillose roughened on both surfaces, the principal veins coarsely reticulate, impressed above, sharply prominent underneath; odor peculiar, when crushed very strong, disagreeable and somewhat like that of oil of chenopodium; taste bitter, warm and pungent, peculiar, somewhat camphoraceous and slightly terebinthinate.

Under the microscope a transverse section shows a well marked hypoderm from which develop papilla-like excrescences, each crowned with a group of radiating one-celled thick-walled hairs. Those on the lower surface being somewhat smaller. Stomata numerous on the lower surface. The mesophyl contains numerous oil secretion cells.

Upon incineration Boldo should yield not over 10 per cent of ash.

BROMAURIC ACID.

Bromauric Acid $Au\ Br_3H\ Br + 5\ H_2O$ = 607.97 representing 71.8 per cent of its weight of the true gold tribromide $Au\ Br_3$ = 436.96. It should be kept in glass stoppered amber colored vials.

Bromauric acid is used in commerce to take the place of Gold Tribromide, because it is very stable and more easily obtained.

Dark red-brown, flat needle shaped crystals or irregular coarse granular masses, odorless, having a metallic and acid taste. Permanent in the air when quite pure, but deliquescent when chloride is present.

It melts, when pure, at 27° C.

Very soluble in water and in alcohol.

If the metallic gold obtained by igniting 0.1 gm. of bromauric acid be heated with 5 c. c. nitric acid, and the acid solution diluted and filtered, no weighable residue should remain after evaporation and ignition.

The aqueous solution has a strongly acid reaction and yields with silver nitrate T. S. a yellowish white precipitate, insoluble in nitric acid, slightly soluble in ammonia water.

If 0.2 Gm. of Bromauric Acid be dissolved in 10 Cc. of water, 16 Cc. oft tenth-normal ver nitrate V. S. and 12 Cc. of ammonium carbonate T. S. added, the mixture digested 10 minutes on a waterbath, then cooled and filtered, the filtrate, on supersaturating with nitric acid, should not become more than slightly opalescent (limit of chloride).

When exposed to a red heat, it is decomposed, and should leave a residue of metallic gold equal to 32.43 per cent.

CACAO PREPARATA.

COCOA—CACAO.

A powder prepared from the roasted, cured kernels of the ripe seeds of *Theobroma Cacao* Linné, or of other species of *Theobroma* (Fam. *Sterculiaceae*) deprived of a portion of their fat.

A brownish powder having a chocolate-like odor and taste, free from sweetness.

When extracted with cold water, cocoa should yield not less than 14 per cent nor more than 22 per cent of soluble matter.

When extracted with ether, cocoa should yield not less than 18 per cent of fat, and the fatty residue should not have a spicy odor or taste.

The residue, after extraction with ether, when examined under the microscope should not show more than traces of cacao shells, and should show no foreign starch granules or other foreign substances.

Upon incineration Cocoa should yield not less than 3.5 per cent nor more than 8 per cent of ash, which should not have a distinctly reddish color.

CACTUS GRANDIFLORUS.

CACTUS GRANDIFLORUS. CEREUS GRANDIFLORUS.

Synonyms: Night-blooming Cereus; Queen of a Single Night; Large Flowered Cactus; Sweet Scented Cactus; Vanilla Cactus.

The fresh, succulent stems of the *wild*

growing Cactus grandiflorus Linné (*Cereus grandiflorus* Miller), Fam. *Cactaceae*, a green climber indigenous to the West Indies and Mexico. Cactus grandiflorus as collected from the growing plant is usually preserved in alcohol and in this form the medicinal article commonly enters the trade. The amount of added alcohol should be stated on the label. Cactus cultivated in houses should not be used medicinally.

Stems in pieces of varying length, about 1.5 to 2 cm. in diameter cylindrical, but with 5 to 7 angles, along which at intervals of abouut 2 cm. there are small tufts of 6 to 8 spines about 2mm. long, and at irregular intervals of about 5 to 15 cm. there is a branched root.

The transverse section presents a central woody ring about 3mm. in diameter. The remainder of the stem presents a spongy parenchyma with numerous large crystals or "sphaeraphides" therein.

The fresh stems are very succulent, and lose upon drying about 95 per cent of their weight.

When bruised Cactus Grandiflorus has a strong, herby odor, an insipid, acidulous taste and is mucilaginous to the touch.

The sliced stems color alcohol green.

The fresh juice has an acid reaction.

CALCII DIOXIDUM.

CALCIUM DIOXIDE.

(Calcium Peroxide)

A partly hydrated form of calcium dioxide (CaO_2), containing not less than 60 per cent of pure calcium dioxide when estimated by the method given below.

A grayish-white or yellowish-white powder, slightly soluble in water and readily soluble in diluted acids, except sulphuric, with the formation of hydrogen dioxide.

A solution of 0.1 Gm. of calcium dioxide in 5Cc. of diluted hydrochloric acid, to which 0.1 Gm. of ammonium chloride has been added and then rendered slightly alkaline with ammonia water, yields a dense white precipitate with amonium oxalate T. S. (presence of *calcium*).

QUANTATATIVE ESTIMATION OF CALCIUM DIOXIDE.

Agitate about 0.2 Gm. of calcium dioxide with 25 Cc. of water and dissolve the substance by the addition of 25 Cc. of diluted hydrochloric acid (1 in 5). Then add gradually from a burette, tenth-normal potassium permanganate V. S. until a permanent color remains after agitation. Multiply the number of Cc. of tenth-normal potassium permanganate V. S. consumed, by 0.003578, and divide this product by the weight of calcium peroxide taken; the result multiplied by 100 represents the percentage of pure calcium peroxide present.

CALCII LACTAS.

CALCIUM LACTATAE.

$Ca\ (C_3H_5O_3)_2\ 5\ H_2O = 236.19.$

It should contain not less than 98 per cent of pure calcium lactate.

White granular masses or a white crystalline powder, odorless, with a slight chalky taste.

Soluble in 10 parts of cold water when freshly prepared. Freely soluble in alcohol. The solubility is lessened with age.

When heated to 100° C. the salt loses all its water of crystallization; on ignition at a red heat it decomposes and a residue of calcium oxide remains.

An aqueous solution of the salt is neutral to litmus paper.

The aqueous solution of the salt (1 in 20) yields with ammonium oxalate T. S. a white precipitate, insoluble in acetic acid but soluble in hydrochloric acid.

On adding potassium permanganate to a mixture of calcium lactate and sulphuric acid and gently heating, the odor of aldehyde will become perceptible.

If one gramme of calcium lactate be added to 20 c. c. of water a clear, colorless solution should result. (Absence of insoluble impurities).

The aqueous solution (1 in 20) slightly acidulated with hydrochloric acid should not repond to the U. S. P. time limit test for heavy metals.

The aqueous solution (1 in 20) should not be rendered more than faintly turbid by barium chloride T. S. (limit of Sulphate) and not more than faintly turbid by the addition of silver nitrate T. S. (limit of chloride).

On gently warming Calcium lactate with a little sulphuric acid no odor of rancid fat should be noticeable. (absence of butyric and other fatty acids).

If from 10 c. c. of the aqueous solution (1 in 20) the calcium be completely precipitated by ammonium oxalate T. S. the filtrate should, on evaporation and ignition, leave not

more than 0.0025 gramme residue (limit of magnesium).

(To be continued.)

COMMITTEE ON NATIONAL FORMULARY.

The following is the third installment of some of the new formulas that have been suggested for inclusion in the forthcoming edition of the National Formulary. The Committee is desirous of having them thoroughly tried by pharmacists in different sections of the country so as to avoid as much as possible unfavorable comment after the final publication of the book. Comments and criticisms based on practical experiences will be welcome. All communications should be addressed to the Chairman of the Committee,

PROF. C. LEWIS DIEHL,
932 Cherokee Road,
Louisville, Ky.,

who will submit the comments to the Sub-Committee having the matter in charge.

MISTURA FERRI SALICYLATA.

Salicylated Mixture of Iron. Cohen's Salicylated Iron Mixture.

Sodium Salicylate	125	Gm.
Tincture of Ferric Chloride.	125	Cc.
Ammonium Carbonate	6.5	Gm.
Citric Acid	14	Gm.
Oil of Betula	4	Cc.
Glycerin	175	Cc.
Distilled Water, a sufficient quantity to make	1000	Cc.

Dissolve the Citric Acid in 200 Cc. Distilled Water, add the Ammonium Carbonate and then dissolve the Sodium Salicylate in this solution, add the Tincture of Ferric Chloride, Glycerin and the Oil of Betula, mix and then add sufficient Distilled Water to make 1000 Cc. and filter.

GARGARISMA GUAIACI COMPOSITA.

Compound Gargle of Guaiac. Cohen's Guaiac Gargle.

Ammoniated Tincture of Guaiac	100	Cc.
Compound Tincture of Cinchona	100	Cc.
Clarified Honey	200	Cc.
Potassium Chlorate	40	Gm.
Oil of Peppermint	2	Cc.
Distilled Water, a sufficient quantity to make	1000	Cc.

Place the Clarified Honey in a bottle graduated to 1000 Cc., then gradually add the mixture of the Oil of Peppermint and the Tincture, shaking after each addition. Then add in divided portions with continuous shaking the solution of the Potassium Chlorate in 500 Cc. of Warm Distilled Water, then add sufficient Distilled Water to make the mixture measure 1000 Cc.

NEBULA AROMATICA.

Cohen's Aromatic Oil Spray. Aromatol.

Phenol	.2 Gm.
Menthol	.2 Gm.
Thymol	.1 Gm.
Camphor	.3 Gm.
Benzoic Acid	.3 Gm.
Eucalyptol	.2 Cc.
Oil of Cinnamon	.2 Cc.
Oil of Cloves	.2 Cc.
Oil of Betula	.5 Cc.
Liquid Petrolatum, a sufficient quantity to make	100 Cc.

Dissolve the aromatics in the Liquid Petrolatum and filter.

NEBULA EUCALYPTOLIS.

Eucalyptol Spray.

Eucalyptol	5 Cc.
Liquid Petrolatum	95 Cc.

Mix them.

NEBULA MENTHOLIS.

Menthol Spray.

Menthol	2 Gm.
Liquid Petrolatum, a sufficient quantity to make	100 Cc.

Dissolve the Menthol in the Liquid Petrolatum by agitation in a stoppered bottle.

NEBULA MENTHOLIS COMPOSITA.

Compound Menthol Spray.

Menthol	1.	Gm.
Camphor	1.	Gm.
Oil of Betula	.5	Cc.
Eucalyptol	.2	Cc.
Oil of Cinnamon	.2	Cc.
Liquid Petrolatum, a sufficient quantity to make	100	Cc.

Agitate the ingredients in a stoppered bottle until solution is obtained, then filter, if necessary.

NEBULA THYMOLIS.

Thymol	1 Gm.
Liquid Petrolatum, a sufficient quantity to make	100 Cc.

Mix them.