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FLUID EXTRACTS OF THE NEW PHARMACOPOEIA. PART IV

BY ALONZO ROBBINS.

Read at the Pharmaceutical Meeting, March 20.

EXTRACTUM SENEGAE FLUIDUM.—*Fluid Extract of Senega.*—For this preparation the Pharmacopoeia of 1870 directed a menstruum composed of eight fluidounces of alcohol, three fluidounces of glycerin, and five fluidounces of water, finishing the percolation with diluted alcohol, and adding one fluidounce of glycerin to the dilute percolate before evaporation. The present Pharmacopoeia directs a menstruum composed of two parts of alcohol and one part of water, and adds two per cent. of water of ammonia to the fluid extract. The Philadelphia College of Pharmacy recommended diluted alcohol, with two per cent. of water of ammonia in the first one hundred parts of menstruum; a sample thus prepared in January, 1880, is now entirely without deposit, but there is on the top of the preparation a layer of mucilaginous matter, nearly a quarter of an inch deep in a four-ounce bottle, otherwise the fluid extract is in very good condition. The stronger officinal menstruum is probably the best for this preparation, and the addition of the water of ammonia to the finished fluid extract, instead of putting it into the menstruum, is a decided improvement, although perhaps an insufficient quantity is employed, five per cent. would more surely accomplish the object of its use.

EXTRACTUM SENNAE FLUIDUM.—*Fluid Extract of Senna.*—For this preparation the Pharmacopoeia of 1870 directed a menstruum composed of eight fluidounces of alcohol, four fluidounces of glycerin, and four fluidounces of water, finishing the percolation with diluted alcohol, and adding four fluidounces of glycerin to the dilute percolate before evaporation. The present Pharmacopoeia directs a mixture of three parts of alcohol and four parts of water; this, as mentioned, when considering fluid extract of ergot, is only a very little weaker than diluted alcohol. The Philadelphia College of Pharmacy recommended diluted alcohol as the menstruum; a sample thus prepared in January, 1880, now contains only a very slight precipitate, but there is a considerable deposit of a black substance on the sides of the bottle, otherwise the fluid extract is in good condition; as the menstruum used in the preparation of this sample, was so near the strength of the officinal, it is highly probable that the product of that menstruum would not keep any better. With the object of ascertaining if a weaker alcohol would not answer the purpose, a number of experiments were made with a menstruum composed of one part of alcohol and two parts of water alone, and with various percentages of glycerin; while these menstrooms exhausted the senna readily, the fluid extracts prepared with them precipitated very much, the glycerin not having the slightest effect in preventing this result; glycerin does, however, appear to, cause all the separated matter to collect on the bottom of the bottle, and not adhere to the sides. Therefore it seems probable that diluted alcohol, with five or

ten per cent. of glycerin in the first one hundred parts, would be the best menstruum for this preparation.

EXTRACTUM SERPENTARIAE FLUIDUM.—*Fluid Extract of Serpentaria.*—For this preparation the Pharmacopoeia of 1870 directed alcohol, the present Pharmacopoeia directs three parts of alcohol and one part of water, and the Philadelphia College of Pharmacy recommended the same menstruum; a sample thus prepared in November, 1879, now contains a slight granular precipitate and a very thin coating of similar granules on the sides of the bottle; in all other respects the fluid extract appears to be unchanged.

EXTRACTUM SPIGELIAE FLUIDUM.—*Fluid Extract of Spigelia.*—For this preparation the Pharmacopoeia of 1870 directed a menstruum composed of eight fluidounces of alcohol, four fluidounces of glycerin, and four fluidounces of water, finishing the percolation with diluted alcohol, and adding four fluidounces of glycerin to the dilute percolate before evaporation. The present Pharmacopoeia directs diluted alcohol, and the Philadelphia College of Pharmacy recommended the same menstruum; a sample thus prepared in October, 1879, now contains only a very slight precipitate and has undergone no apparent change whatever.

EXTRACTUM STILLINGIAE FLUIDUM.—*Fluid Extract of Stillingia.*—For this preparation the Pharmacopoeia of 1870 directed a menstruum composed of twelve fluidounces of alcohol, three fluidounces of glycerin, and one fluidounce of water, finishing the percolation with diluted alcohol, and adding one fluidounce of glycerin to the dilute percolate before evaporation. The present Pharmacopoeia directs diluted alcohol, the Philadelphia College of Pharmacy recommended three parts of alcohol and one part of water, as the menstruum ; a sample thus prepared in December, 1879, now contains only a moderate precipitate, and in every other respect is in most excellent condition; another sample made at the same time as the first, with diluted alcohol, has likewise only a moderate precipitate, but there is on the sides of the bottle, above the fluid extract, a considerable coating of yellowish substance; in other respects this sample is in moderately good condition, but the stronger menstruum is evidently the best for this preparation.

EXTRACTUM STRAMONII FLUIDUM.—*Fluid Extract of Stramonium.*—This is one of the eleven fluid extracts added to the list by the Committee of Revision; it is directed to be made from the powdered stramonium seed with a menstruum composed of three parts of alcohol and one part of water; the product no doubt well represents the drug, but having this preparation, the officinal tincture of stramonium appears to be entirely superfluous, and if the same menstruum had been directed, the solid extract might have been very conveniently obtained from the fluid.

EXTRACTUM TARAXACI FLUIDUM.—*Fluid Extract of Taraxacum.*—For this preparation the Pharmacopoeia of 1870 directed a menstruum composed of eight fluidounces of alcohol, three fluidounces of glycerin, and five fluidounces of water, finishing the percolation with diluted alcohol, and adding one fluidounce of glycerin to the dilute percolate before evaporation. The present Pharmacopoeia directs two parts of alcohol and three parts of water, and the Philadelphia College of Pharmacy recommended the same menstruum, with ten per cent. of glycerin in the first one

hundred parts. A sample thus prepared in January, 1880, now contains only a very slight precipitate, and is in all other respects in most excellent condition; two other samples were recently prepared, one the same as the above, and the other with the officinal menstruum; the first has undergone no change whatever, the second contains a slight flocculent precipitate, but if no further change occurs it will be evident that glycerin serves no useful purpose in this preparation.

EXTRACTUM TRITICI FLUIDUM.—*Fluid Extract of Triticum.*—For this newly-introduced preparation the Pharmacopoeia directs one hundred grammes of finely-cut triticum, to be percolated with boiling water until it is exhausted; the percolate is to be evaporated to eighty cubic centimeters, to which is to be added twenty cubic centimeters of alcohol, and then after being set aside for forty-eight hours, it is to be filtered, and to the filtrate is added enough of a mixture of four parts of water and one part of alcohol to make the fluid extract measure one hundred cubic centimeters. The Philadelphia College of Pharmacy recommended the following process: add to one hundred parts of triticum three hundred parts of boiling water, and digest in a covered vessel for five hours; then strain off the infusion, pack the triticum in a percolator, and add, first the infusion and then boiling water, until the triticum is exhausted; evaporate the percolate to eighty-five parts, and when cool, add fifteen parts of alcohol; a sample thus made in January, 1880, now contains only a moderate precipitate, and appears to have undergone no change whatever. Another sample, containing no alcohol, was prepared at the same time as the first, by adding thirty parts of glycerin to the percolate and evaporating the whole to one hundred parts; this now contains about five times as much precipitated matter as the other sample.

EXTRACTUM UVAE URSI FLUIDUM.—*Fluid Extract of Uva Ursi.*—For this preparation the Pharmacopoeia of 1870 directed a menstruum composed of eight fluidounces of alcohol, three fluidounces of glycerin, and five fluidounces of water, finishing the percolation with diluted alcohol, and adding one fluidounce of glycerin to the dilute percolate before evaporation. The present Pharmacopoeia directs diluted alcohol, with ten per cent. of glycerin in the first one hundred parts; the Philadelphia College of Pharmacy recommended a menstruum composed of one part of alcohol and two parts of water, with twenty per cent. of glycerin in the first one hundred parts; a sample thus prepared in November, 1879, now contains only a moderate precipitate, and is in every other respect in good condition; as this sample has kept so well, the use of the stronger officinal menstruum appears to be unnecessary.

EXTRACTUM VALERIANAE FLUIDUM.—*Fluid Extract of Valerian.*—For this preparation the Pharmacopoeia of 1870 directed stronger alcohol. The present Pharmacopoeia directs a menstruum composed of two parts of alcohol and one part of water, and the Philadelphia College of Pharmacy recommended the same; a sample thus prepared in August, 1879, is now in good condition, containing only a small precipitate and a very slight deposit of separated matter on the sides of the bottle above the fluid extract.

The present officinal menstruum has been thoroughly tried, and the product proved to be, in many respects, superior to the product of that formerly officinal.

EXTRACTUM VERATRI VIRIDIS FLUIDUM.—*Fluid Extract Of Veratrum Viride.*—For this preparation the Pharmacopoeia of 1870 directed stronger alcohol; the present Pharmacopoeia directs alcohol and the Philadelphia College of Pharmacy recommended the same menstruum; a sample thus prepared in December, 1879, now contains only a very slight precipitate, and appears to have undergone no change whatever.

Having this fluid extract, it seems superfluous to have also an officinal tincture of half its strength.

EXTRACTUM VIBURNI FLUIDUM.—*Fluid Extract of Viburnum.*—This newly-introduced fluid extract is one of the eleven added to the list by the Committee of Revision. The Pharmacopoeia directs a menstruum composed of two parts of alcohol and one part of water; a sample prepared in August, 1880, with diluted alcohol, now contains a considerable deposit and a thin coating on the sides of the bottle, but the fluid extract is still of a deep red color, and transparent in thin layers; the stronger officinal menstruum is Do doubt the best for this preparation.

EXTRACTUM XANTHOXYLI FLUIDUM.—*Fluid Extract of Xanthoxylum.*—For this newly-introduced preparation the Pharmacopoeia directs alcohol, and the Philadelphia College of Pharmacy recommended two parts of alcohol and one part of water, as the menstruum; a sample thus prepared in December, 1879, remains in good condition, except that a considerable quantity of a crystalline deposit has formed, which may be readily redissolved by placing the bottle for a few minutes in warm water; a change of menstruum is evidently required, but that it need be alcohol, or even that it need be as strong as the one used for this sample, continued experiment only can decide.

EXTRACTUM ZINGIBERIS FLUIDUM.—*Fluid Extract of Ginger.*—For this preparation the Pharmacopoeia of 1870 directed alcohol (s.g .835). The present Pharmacopoeia directs alcohol, and the Philadelphia College of Pharmacy recommended the same menstruum; samples thus prepared in November, 1879, with Jamaica and African ginger, remain at present with only a very slight deposit, and are apparently unchanged.

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Having now noticed the entire list of officinal fluid extracts, a brief review will be given of the ten rejected from the list recommended by the Philadelphia College of Pharmacy; the first of these is,

EXTRACTUM ANTHEMIDIS FLUIDUM.—*Fluid Extract of Chamomile.*—For this preparation a menstruum composed of one part of alcohol and two parts of water was recommended. A sample thus prepared in November, 1879, now contains a considerable precipitate; another sample, prepared at the same time, with one part of alcohol and three parts of water, now contains less than half as much precipitate as the first, in all other respects both samples are in excellent condition.

EXTRACTUM ASARI FLUIDUM.—*Fluid Extract of Wild Ginger.*—Alcohol was recommended as the menstruum for this preparation; a sample thus prepared in January, 1880, is now entirely without precipitate, and is in every respect in most excellent condition; another sample prepared about the same time, with a menstruum of three parts of alcohol and one part of water, now contains a considerable deposit of soft resinous matter, which cannot be again dissolved in the fluid extract by shaking Alcohol is evidently the proper menstruum for this preparation.

The Committee of Revision not only rejected this preparation, but also dismissed asarum from the Pharmacopoeia. This is to be regretted, for although the article may have had only a very limited employment by physicians, it is considerably used in general pharmacy.

EXTRACTUM AURANTII DULCIS CORTICIS FLUIDUM.—*Fluid Extract of Sweet Orange Peel.*—This was recommended to be made from the recently dried, yellow portion of the peel of sweet oranges, using alcohol as the menstruum; a sample thus prepared in January, 1880, now contains a very slight resinous deposit, and the flavor is also slightly deteriorated, but the preparation kept for nearly two years without perceptible change. If the percolation was allowed to proceed slowly, and occasionally stopped altogether for some hours, the orange peel would be exhausted before one hundred parts of percolate would be obtained, thereby avoiding the necessity for evaporation, and its doubtless injurious effect on the permanence of the preparation.

EXTRACTUM ERIGERONTIS CANADENSIS FLUIDUM.—*Fluid Extract of Canada Erigeron.*—As the menstruum for this preparation the Pharmacopoeia of 1870 directed alcohol (s.g. .835); the Philadelphia College of Pharmacy recommended alcohol (s.g. .822), and a sample thus prepared in November, 1879, now contains only a slight, apparently resinous deposit on the bottom and sides of the bottle; but as this preparation was chiefly recommended because it was already officinal, and as whatever medicinal value Canada erigeron may possess, is no doubt fully represented by the volatile oil, which is also officinal, the Committee of Revision acted wisely in dismissing this evidently superfluous preparation.

EXTRACTUM HELIANTHEMI FLUIDUM.—*Fluid Extract of Frostwort.*—For this preparation a menstruum composed of one part of alcohol and two parts of water, was recommended; a sample thus prepared in December, 1879, now contains a rather large precipitate, but is otherwise in good condition; but frostwort having been dismissed from the Pharmacopoeia, no preparations of it were adopted.

EXTRACTUM JUNIPERI FLUIDUM.—*Fluid Extract of Juniper.*—For this preparation the juniper was recommended to be in number eight powder, and diluted alcohol the menstruum to be used; a sample thus prepared in January, 1880, now contains only a moderate precipitate, but there is also a considerable quantity of soft, brown, resinous matter on the sides of the bottle above the fluid extract; in other respects the preparation has not deteriorated, the odor and taste remaining as aromatic, and sweet as when first prepared. The specific gravity of this sample of fluid extract is 1.115, and the weight of dry residue from the juniper was fifty-eight per cent.

Juniper, if fresh and of good quality, is very difficult to percolate if finer than number eight powder, and to prove that so coarse a powder may be exhausted, another sample of the fluid extract was prepared at the same time, using the entire fruit, carefully selecting only such as were unbroken; this sample now contains about the same quantity of precipitate as the other, but instead of the brown matter in the upper part of the bottle, there is a very thin coating of a bright green color; the odor and taste are as well preserved as in the other sample, the specific gravity is 1.066, and the weight of dry residue was sixty-one per cent.

Although juniper may not be a very important remedial agent, it is considerably used by physicians, and so elegant and permanent a preparation as this fluid extract might well have been made officinal.

EXTRACTUM LAPPAE FLUIDUM.—*Fluid Extract of Burdock.*—For this preparation a menstruum composed of one part of alcohol and two parts of water, was recommended; a sample thus prepared in December, 1879, now contains only a slight precipitate, and is otherwise entirely without change. Burdock does not, however, appear to be of sufficient medicinal value or employment to require any officinal preparations thereof.

EXTRACTUM SPIGELIAE, ET SENNAE FLUIDUM.—*Fluid Extract Of Spigelia and Senna.*—For this preparation the following formula was recommended; Spigelia sixty parts, senna thirty parts, anise five parts, and caraway five parts, all to be mixed together, reduced to number forty powder, and percolated with diluted alcohol; a sample thus prepared in January, 1880, now contains only a very moderate precipitate, which formed soon after its preparation, and a thin coating of separated matter on the sides of the bottle above the fluid extract; in every other respect the preparation is in excellent condition, and although no longer officinal, it will, no doubt, continue to maintain with physicians and the public the prominent and popular position heretofore held by it.

EXTRACTUM SUMBUL FLUIDUM.—*Fluid Extract of Sumbul.*—For this preparation a menstruum composed of two parts of alcohol and one part of water, was recommended; a sample thus prepared in January, 1880, now contains only a very slight precipitate, is very dark in color, deep red and perfectly transparent in thin layers; it has kept remarkably well, and no doubt fully represents the drug. Another sample, with alcohol as the menstruum, was prepared at the same time, this is much lighter in color, and soon deposited a white crystalline substance all over the bottom and sides of the bottle; alcohol is evidently not the proper menstruum for this preparation, although the present officinal tincture, containing one part of sumbul in ten, is directed to be made with that menstruum; but as the dose of sumbul in powder is stated to be from ten to twenty grains, this tincture, in addition to being made with an improper menstruum, would contain in an ordinary dose, sufficient alcohol to seriously interfere with the remedial action of the drug; the tincture of the British Pharmacopoeia is made with proof spirit, but still the quantity of alcohol is entirely too large in the full dose of the preparation.

The fluid extract recommended above should have been admitted, as it would have

proved to be, an elegant, pleasant, and efficient addition to that small and very disagreeable class of medicines to which asafetida and valerian belong.

EXTRACTUM THUJAE FLUIDUM.—*Fluid Extract of Arbor Vitae*.—For this preparation alcohol was recommended as the menstruum, and a sample thus prepared in December, 1879, now contains only a moderate precipitate, and does not appear to have undergone any other change whatever; but as arbor vitae, when dry, is said to be no longer efficient, a tincture of the fresh tops would seem to be preferable to the fluid extract.

All of the formulas for fluid extracts requiring the use of alcohol, it seemed advisable to examine commercial specimens as to the actual percentage of absolute alcohol contained therein. Five samples, from as many different manufacturers, were therefore obtained and examined, with the following results, at 15.6° C. (60°F.)

No.	Specific gravity.	Percentage of absolute alcohol.	
		By weight.	By volume.
1	·8185	91·54	94·38
2	·8190	91·36	94·26
3	·8196	91·14	94·10
4	·8207	90·75	93·82
5	·8265	88·56	92·21

The officinal alcohol (s.g. .820), containing ninety-one per cent. by weight and ninety-four per cent. by volume, it will be observed that three of the five specimens contain a slightly larger percentage of absolute alcohol than the officinal; and also that only one of the samples is considerably below the officinal standard, and this one is said to be not the product of a regular manufacturer of alcohol, but the surplus, or rejected goods, which have been made for another special trade demand. If, during the warm season, no greater variations in the strength occur, no appreciable difference in the product made therewith would result.

In conclusion it may be stated that none of the formulas for the fluid extracts require any special or expensive apparatus in carrying them out, and that they all appear to have been so arranged as to induce the pharmacist to make this important class of preparations himself; the danger of injury from heat, in the evaporation of the dilute percolate, and of loss of activity by precipitation in the finished product, have both been over-estimated by writers, on fluid extracts, whose papers have had, perhaps unintentionally, a tendency to deter the pharmacist from trusting himself with their preparation, and led him to rely too much on the reputation and supposed superior facilities of the wholesale manufacturer.

PHARMACEUTICAL PREPARATIONS OF CORN SILK.

BY GEORGE W. KENNEDY, PH.G.

Read at the Pharmaceutical Meeting, April 17

During the past year several physicians of Schuylkill county have been using different preparations of the stigmata of *Zea Mays* for catarrh of the bladder and similar diseases with very good results. The preparations should be made from the fresh article, as the dried seems to be worthless, at least that is the experience of those who have had the subject under investigation; cases under treatment, which were not benefited by the powder or other preparations made from the dried article, yielded to a tincture prepared from the fresh, or green stigmata. It would be advisable to gather the drug before it begins to change in color, or select only that portion having a green or greenish-yellow color. The writer manufactured a quantity of the tincture last September, which has all been prescribed and used by our physicians, and I am now compelled to purchase the fluid extract to supply the demands. One of our medical practitioners, who is very particular, has great confidence in the curative properties of corn silk; his choice of all the preparations is the syrup which I have made and would recommend to be made from the fluid extract. This is an expeditious mode of making the syrup, and one which is entirely satisfactory, the syrup containing only a very small percentage of alcohol. The diseases for which corn silk is recommended are of such a nature—generally of an inflammatory character—that the patient should not use alcohol in any form, because it produces irritation, and irritants should be left out of the preparations as much as possible.

Should the drug prove to be as valuable a remedy as some medical men consider it to be, there is no doubt but its use would become general. Either the fluid extract or the syrup, or both, would be the best preparations to recommend for introduction, although the tincture gave fair satisfaction; yet I do not believe it to be the most suitable preparation.

It should be remembered that the fresh drug contains a large amount of moisture; it contains certainly not less than fifty per cent., and likely considerably more. I would suggest that not less than double the quantity of the drug be used; for example, if a hundred parts of syrup or tincture was to represent twelve parts of the dried material, then twenty-four parts of the fresh or green corn silk should be used. I would recommend the following formulas:

Tincture of Corn Silk.

Take of corn silk, green, twenty-four parts,	24
Diluted alcohol, sufficient to make one hundred parts,	100

Cut the silk into small pieces, either with a large pair of scissors or a tobacco cutter; after which, place in a mortar and beat into a pulp with a small quantity of the diluted alcohol. Prepare a cylindrical glass percolator, by closing the lower orifice with a cork; transfer the silk pulp to the percolator, and add sufficient of the menstruum to form a layer over the pulp; cover the percolator closely and allow to macerate for forty-eight hours; then loosen the cork enough to permit percolation to proceed at the rate of forty drops per minute; add enough diluted alcohol and continue the percolation until

one hundred parts are obtained. The tincture possesses the characteristic odor of corn silk, is of a yellow straw color, and of a pleasant, sweetish taste. Dose for an adult, one or two fluidrachms (gm. 4-8).

Fluid Extract of Corn Silk.

Corn silk, green, two hundred grammes,	200
Glycerin, twenty grammes,	20
Diluted alcohol, a sufficient quantity to make one hundred cubic centimeters,	100

Cut the silk into small pieces. Mix the glycerin with eighty grammes of diluted alcohol. Place the cut corn silk into a mortar, and beat into a pulp with a portion of the menstruum; after which, pack in a cylindrical glass percolator; add sufficient of the mixture to cover the pulpy mass, and when the liquid commences to drop from the percolator close the lower orifice; cover the percolator tightly, and allow to macerate for forty-eight hours; then permit percolation to go on slowly, about forty drops per minute; add the remainder of the glycerin mixture, and then diluted alcohol until the drug is exhausted, reserving the first seventy cubic centimeters of the percolate; evaporate the remainder to thirty cubic centimeters, and mix with the reserved portion, making in all one hundred cubic centimeters. The odor and taste is similar to that of the tincture, but much stronger, and a shade or two darker. Dose for an adult from half to one fluidrachm (gin. 2-4).

Syrup of Corn Silk.

Fluid extract of corn silk, 12 parts,	12
Syrup, eighty-eight parts,	88
To make one hundred parts,	100

Dose from one to two fluidrachms (gm. 4—8).

Pottsville, Pa., April, 1883.

GLEANINGS IN MATERIA MEDICA.

By THE EDITOR.

An adulteration of Senega Root, with about 15 per cent. of the root of *Ionidium Ipecacuanha* has been noticed in France by Charbonnier. The latter root, which is one of the so-called false ipecacuanhas of Brazil, is greyish-white, in pieces about 5 to 6 centimeters long, and of the thickness of a goose quill; it is irregularly undulate, branched below, and above has small remnants of the ligneous stems; it is strongly wrinkled longitudinally, and irregularly fissured transversely; the bark is thin and adheres firmly to the thick medullium, which is of a yellowish color.—*Jour. Phar. Chim.*, 1883, Jan., p. 40.

Delphinium Consolida, Lin.—E. Masing obtained from 5 kilos of the dried flowering herb about 1 gram of alkaloid, for which he proposes the name calcatripine, derived from flores calcatripae, under which name the flowers were formerly officinal. The

1 *Hybanthus Ipecacuanha* - so-called White Ipecac - MM

alcohol dissolved in one thousand parts of acidulated water, gave precipitates with the various group reagents for alkaloids; tannin yielded a faint turbidity after 24 hours; mercuric chloride, ammonium molybdate, and potassium bichromate had no effect. Sulphuric acid, sp. gr., 1.84 gave a red brown color, changing to violet brown, and after 24 hours to grey-brown. Fröhde's reagent colored olive green, becoming gradually deeper, then fading to grey-yellow. Sugar and sulphuric acid gave a red-brown color, slowly changing to greenish blue. Sulphuric acid followed by nitric acid or a nitrate, causes the red-brown color to change to orange-red, then orange-yellow, and finally golden yellow. The alkaloid, which was not quite pure, is soluble in alcohol, ether and chloroform, and appears to be easily decomposed by chemical agents.—*Phar. Zedschr. Russ.*, 1883, W. 3.

Jequirity.—The seeds which have been recently introduced under this name as a remedy in ophthalmic complaints, are derived from *Abrus precatorius*, a leguminous plant, indigenous to Africa and Southern Asia, and naturalized in tropical America. The hard seeds have a bright red integument with a black spot surrounding the raphe. They are used in Oriental countries for ornaments and similar to beads; in Brazil they have been highly valued for several centuries in the treatment of certain diseases of the eyes, an infusion being made of 32 powdered seeds (about 3 gm.), which are macerated for 24 hours with 500 gm. cold water, after which 500 gm. of hot water is added, and, when cooled, the liquid is filtered.

The results obtained by L. de Wecker, show that this infusion produces conjunctivitis purulenta or cruposa as rapidly as inoculation, and that with due care, the desired inflammation may be well regulated. The experiments have not been concluded yet, and the active principle of the seeds is still unknown; an alkaloid prepared by Rigand & Dusart, did not give similar good results, whether used by instillation or subcutaneously.—*Phar. Centralhalle*, 1883, p. 145. *Klin. Mon. F. Augenheilkunde*.

Pongamia glabra.—Nat. Ord. Leguminosae is a tree extensively diffused throughout Southern India, Malacca and the Indian Archipelago, and also found in Southern China and North Australia. It has smooth, imparipinnate leaves, composed of 5 or 7 egg-shaped or broadly elliptical leaflets, and loose axillary racemes of flowers. In India all oil called pongamia or kurung oil is expressed from the seeds and is described in most works on Hindu materia medica as being a favorite remedy amongst the natives for various skin diseases. The oil is of a deep yellow color, inclining to reddish-brown, and is fluid at temperatures above 60°F., but below that it becomes solid. Surgeon-Major Dymock, of Bombay, has recently called attention to the use of pongamia oil in pityriasis versicolor. Several cases occurring on the neck, face and shoulders were cured in less than a fortnight by rubbing in the oil twice a day. He concludes that it is likely to be of service in other skin diseases which, like pityriasis, are attended by the growth of a fungus. Dr. Dymock considers this oil much more effective than acetic acid, while it has the advantage over iodine and Goa powder of not discoloring the part (often the face) to which it is applied. Dr. Thin has recently stated that sulphur ointment is an admirable remedy for ringworm, but pongamia oil might be used in cases where the disease is of a recurrent character.—Wm. Elborne, in *Phar. Jour. and Trans.*, 1883, Feb. 24th, p. 688.

Constituents of Kino.—A. Kremel has examined Malabar kino, Butea gum, Eucalyptus kino, and kino from *Coccoloba uvifera*, and found them all free from kinoin discovered by Etti, (see *Amer. Jour. Phar.*, 1872, p. 600); instead of a body acquiring like kinoin, a red color with ferric chloride, protocatechuic acid was obtained, alone or mixed with gallic acid.

The presence of pyrocatechin in kino has been observed by Eichstedt, Flückiger, and others (see *Amer. Jour. Phar.*, 1872, p. 210). Preusse ascertained that pyrocatechin is extracted by ether from an alkaline solution, while for the extraction of protocatechuic acid, the solution requires to be acidulated. Following this process, Kremel proved the absence of pyrocatechin from the above named varieties of kino; the ether residue was amorphous, insoluble in hot water and the alcoholic solution without action on ferric chloride. But from the acidulated solution of Malabar and eucalyptus kino, ether took up a crystallizable body, of acid reaction which in aqueous solution, like pyrocatechin was colored green by ferric chloride; sodium bicarbonate added to this caused a violet color; the crystals were, therefore, protocatechuic acid.

Butea gum and coccoloba kino treated in the same manner yielded crystals of neutral reaction, becoming green by ferric chloride, but on the further addition of sodium bicarbonate, ferric hydrate was precipitated. The nature of these crystals could not be determined for want of material.

The different kinds of eucalyptus kino examined, yielded from ether, besides protocatechuic acid, also a body the aqueous solution of which acquired after the addition of sodium carbonate, gradually an emerald green color, which on the addition of hydrochloric acid turned red and finally became decolorized; these reactions prove the presence of gallic acid.

On preparing kinic red by Etti's process from eucalyptus kino, extracting the product with ether, fusing it with caustic potassa, dissolving in water, acidulating and extracting with ether, Kremel obtained considerable amount of protocatechuic and gallic acid.—*Phar. Post*, 1883, No. 11.

Mullein Leaves in Pulmonary Consumption.—The leaves of *Verbascum Thapsus* are popularly used in Ireland, in consumption, and the plant in addition to growing wild, is cultivated in gardens, occasionally on a rather extensive scale. The mullein is administered by boiling an ounce of the dried leaves or a corresponding quantity of the fresh ones, in a pint of milk for ten minutes, and giving the strained liquid warm, with or without a little sugar. From his observations, Dr. F. J. B. Quinlan regards mullein as having a distinct weight-increasing power in early cases of pulmonary consumption. The hot decoction causes a comfortable sensation, and when patients take it they experience a physiological want for it. It eases phthisical cough, some patients scarcely requiring cough medicines at all. Its power of checking phthisical looseness is very marked, and it also gives great relief to the dyspnea; but for phthisical night sweats it is utterly useless. In advanced cases it does not prevent loss of weight.

The decoction in milk is liked by the patient; in watery infusion it is disagreeable, and the expressed juice preserved by glycerin still more so.—*Brit. Med. Jour.*

Assay of Nux Vomica.—W. R. Dunstan and F. W. Short, have found the following process a satisfactory one: One part of nux vomica is made into a paste with a solution of two parts of crystallized sodium carbonate, the mixture dried over a water-bath and powdered; the powder equal to five grams of nux vomica is packed in a suitable extraction apparatus and exhausted by 40 cc. of chloroform containing 25 per cent. of alcohol. This is usually accomplished in one or two hours. The solution thus obtained is well agitated with 25 cc. of a 10 per cent. solution of sulphuric acid. The separation of the chloroform is much aided by gently warming the mixture on a water-bath. After repeated agitation the chloroform is separated by means of a funnel and again shaken with 15 cc. of dilute sulphuric acid. The mixed acid solutions from which all the chloroform has separated, should be filtered if necessary, then made alkaline with ammonia and shaken with 25 cc. of chloroform in a separating funnel; the clear chloroform solution is evaporated over a water-bath to a constant weight and then weighed. The amount of mixed alkaloids thus -obtained from five samples was 2.92, 3.57, 3.32, 3.38, and 2.56 per cent.—*Phar. Jour. and Trans.*, 1883, Feb. 17, pp. 665, 666.

Colchicine has been obtained well crystallized by Dr. S. Zeisel. In a communication to the Austrian Academy of Sciences the author states that the crystals were obtained from a chloroform solution; the solvent adhering persistently to them, it is not impossible that the crystals may be a compound with chloroform, though their aqueous solution possesses all the characteristic properties of colchicine.

In preparing colchicine from colchicine, the author obtained a new base, apocolchicine, which has both basic and acid characters. It may be obtained in larger quantities, besides methyl chloride, on beating colchicine with hydrochloric acid; and on increasing and continuing the heat, another substance is obtained having acid properties.—*Phar. Post.*, 1883, W. 10.

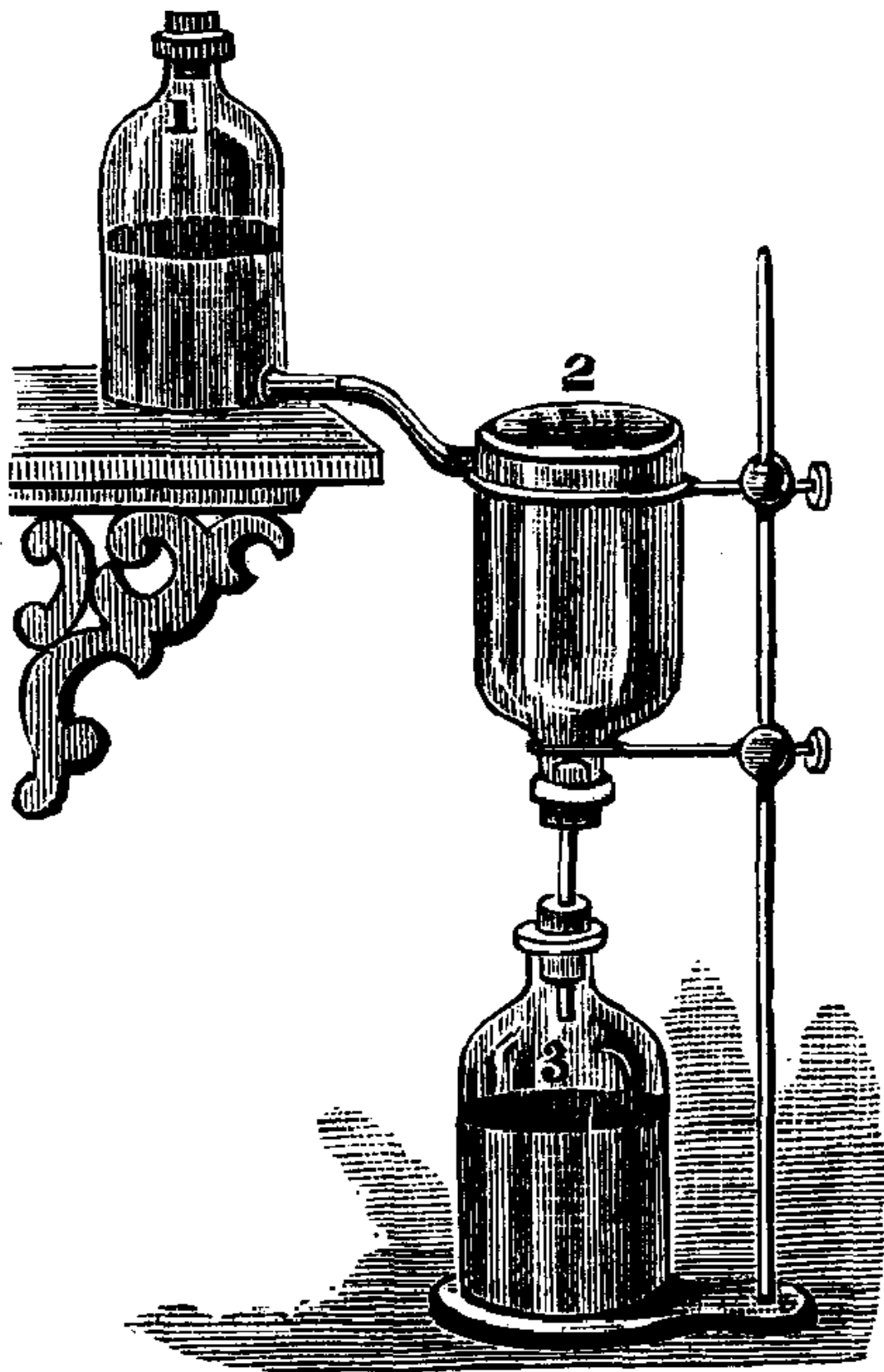
Formic and Acetic Acid in Plants.—From a series of experiments made with thirty-five plants belonging to different groups, Emil Bergmann concludes that these two acids are constantly present in the protoplasm of the different parts of plants, those containing chlorophyll, as well as those which are free from it; that most likely propionic, butyric and other volatile fatty acids are likewise widely distributed in the vegetable kingdom; and that these acids are formed as products of decomposition from certain constituents of the vegetable protoplasm in growing plants.—*Chem. Centralblatt*, 1883, W. 1.2.

SIMPLE APPARATUS FOR MAKING ETHEREAL TINCTURES, ETC., BY PERCOLATION.

By JOHN CALVERT.

Vessels 1 and 2 are ordinary quart douche bottles; No. 3 is a common quart flask; Nos. 2 and 3 are fitted with corks, through which one piece of glass tube is passed.

No. 1 is the reservoir; No. 2 is the percolator; No. 3 is the receiver.



The lower orifice of No. 1 is connected with No. 2 by means of a short piece of vulcanized rubber tubing.

The receiver is marked to indicate a pint.

To make a pint of ethereal tincture of cantharides, or blistering liquid, sixteen troy ounces of powdered cantharides are put into the percolator; a plug of tow is inserted in the neck, followed by the cork carrying the glass tube. The bottle is inverted and its contents packed as closely as possible, by gently slapping the sides of the vessel with the hand. The side orifice near the bottom of the percolator is then connected with the reservoir by means of the rubber tube. The reservoir stands on a shelf; the percolator is supported by the rings of a retort stand. The cork of the receiver is first slipped on to the glass tube of the percolator, and then brought down into the neck of the receiver. This cork should have a small escape-hole in it. The apparatus is now ready.

The ethereal mixture, consisting of a pint of rectified ether and three ounces of acetic ether, is poured into the reservoir, and the cork inserted. The flow is determined by raising the cork of the reservoir from time to time. When the ethereal liquid has completely permeated the powder, the supply of ether is stopped. The drug should be allowed to macerate for a few hours, after which the percolation may proceed, drop by drop. A pinch-cock on the rubber tube will regulate the flow. As soon as the reservoir is emptied, half a pint of alcohol is poured in, and, when again empty, water is employed to finish the displacement.

If a steady stream of the menstruum is desired, a small piece of glass tube is passed through the cork of No. 1, and connected, by means of rubber hose, with a similar piece through the cork of No. 3. Equilibrium is thus maintained.

The exhausted powder may be removed from the percolator by means of a stream of water, which is injected through the smaller orifice by the aid of a hose attached to the faucet of the water supply. —*Proc. Cal. Phar. Soc.*, 1883, p. 40.