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ON FUCUS VESICULOSUS AND SOME ALLIED SPECIES.*

BY JOHN M. MAISCH.

Though Theophrastus already, in his history of plants, mentions several species of marine algæ, the sea wrack does not appear to have been employed medicinally before the first half of the eighteenth century; I find, at least, no mention made of it in the new "London Dispensatory" of 1676. Russel seems to have been instrumental in introducing it into medicine through his essay, "De tabe glandulari," which was published in 1750, and in which he specially recommended Fucus vesiculosus in the form of charcoal and jelly, the former, known afterwards under the name of *Æthiops vegetabilis*, being prepared by heating the plant in a crucible closed with a perforated cover until smoke ceased to be given off, while the latter was made by expressing the mucilaginous liquid, and also by macerating the fucus in an equal weight of sea-water, for two weeks, or until it was converted into a kind of jelly, which was employed both externally and internally. Upon the strength of these observations Fucus versiculosus was admitted into several pharmacopœias, but was afterwards dropped. The beneficial effects in scrofulous swellings and goitre of the vegetable ethiops of the sponge charcoal, which had been introduced by Arnaud de Villeneuve near the close of the thirteenth century, and the discovery of iodine in the ashes of sea-plants, induced Dr. Coindet of Geneva, in 1819, to study the effects of iodine, and led to the introduction of this element into medicine. Subsequently, Duchesne Duparc, and after him Godsfrey, stated (1862) that they had found this fucus to possess valuable properties as a remedy for morbid obesity, an observation

*Read at a meeting of the Philadelphia Coll. Pharm. and published in the Am. Jour. Pharm.

which, by later investigators, does not appear to be confirmed to the full extent mentioned by the first recommenders in this complaint.

Of late, the bladder wrack, it seems, has been employed medicinally, to some extent in the United States, so that a brief description of this and some allied species may be desirable.

The genus Fucus belongs to the suborder Fucoideæ or Melanosporeæ of the natural order Algæ. As originally constituted by Linnæus, it embraced several genera which have been separated by later authors, and among which are the genera Laminaria, Sargassum and Cystoseira, the last-named having the thallus usually inflated into vesicles which often show a moniliform arrangement, while the vesicles of Sargassum are stipitate. Fucus has either a cylindrical (filiform) or flat, usually forking thallus, and the sporocarps, inflated and usually terminating the branches. In their fresh state they have an olive or brownish-green colour, becoming blackish on drying. Several species have portions of the thallus inflated so as to form hollow vesicles.

Fucus vesiculosus, Lin., attains the length of 1 to 3 feet, and has a flat thallus half to one inch wide, with the margin entire and a distinct midrib running the entire length of the thallus ; the vesicles are always in pairs, one being placed on each side of the midrib, spherical or oblong globular in shape, and occasionally attaining the size of a hazelnut.. It grows on rocky sea shores of the Atlantic Ocean, near high-water mark, and in marshes which are occasionally overflowed by the tide. Formerly it was known by the name of *quercus marina*, or sea oak, its common English names being *bladder wrack*, *sea-wrack*, *sea-ware*, *kelpware* and *black tang*. In Scotland and other northern countries it is used in winter for feeding horses, cattle and sheep, and is eaten by deer when other food is scarce.

F. nodosus, Lin., knobbed sea-wrack, grows in similar localities, but at or near low-water mark. It attains a length of 4 to 6 feet, and has a narrower veinless frond, with the branches almost filiform at the base, the vesicles single in the center of the thallus, or frond, ovate in shape and usually quite large.

F. serratus, Lin., has a veined and serrate frond, and is destitute of vesicles.

F. siliquosus, Lin., s. *Cystoseira siliquosa*, Agardh, has a very narrow frond, two to four feet long, with short branches, articulated vesicles and lanceolate flattened sporocarps.

F. natans, Lin., s. *Sargassum bacciferum*, Agardh, the gulf-weed of the Atlantic Ocean, is often found in immense masses floating in the sea. Its frond is terete, with the branches linear and serrate and the vesicles globular and aculeate.

All these and many allied species appear to be very similar in their constituents, of which they contain mucilage, mannit, odorous

oil, bitter principle and a considerable proportion of saline matter, varying from 14 to 20 per cent., calculated for the dry plants. According to Godeschen, James and others, the variation is just as great for the bladder wrack as collected in different localities, and it is not impossible that this may be, at least in part, accounted for by having been collected in different seasons, the plant being assumed to be most active when collected after the sporocarps have formed, about the month of July. E. Marchand found (1865) in the ashes of F. vesiculosus 0·719 per cent. bromine; in F. siliquosus nearly the same amount, and in F. serratus 0·834 iodine and 1·007 bromine, while the ashes of the fucoideæ *Laminaria agitata*, Lamx. contained 5·352 iodine and 0·774 bromine, and *Lam. saccharina*, Lamx. about one-half these amounts (see also "Am. Jour. Phar.," 1854, p. 438).

Bladder wrack has been employed in France in the form of extract, prepared, according to Dannecy, by exhausting the plant with 54 per cent. alcohol; it is stated to represent 15 parts of the fucus ("Proc. Am. Phar. Assoc.," 1863, p. 66); also in the form of syrup, suggested by Potier (Ibid.), by exhausting 150 parts of the powdered plant with 14 per cent. alcohol, evaporating the tincture to 230 parts and dissolving in it 370 parts of sugar; 20 grams (1 tablespoonful) of this syrup represents 0·6 grm. of the extract and 5 grm. of the fucus, which is the average dose. A fluid extract might doubtless be prepared by a process similar to the officinal one for fluid extract of chimaphila; the average dose of such a preparation would be about a teaspoonful. If, however, the virtues depend mainly upon the iodine and bromide present, the dose would have to be increased very considerably.

THE PHARMACEUTICAL PREPARATIONS OF PHYSOSTIGMA.*

BY GEORGE W. KENNEDY.

One of the subjects suggested by the American Pharmaceutical Association was an essay on Calabar Bean, giving the readiest method of obtaining the various pharmaceutical preparations and isolating its active principle.

In response to the above query, the writer reports the following as being as easy and simple a process for the various pharmaceutical preparations of Physostigma venenosum, in my opinion, as can be offered for your acceptance. I experimented with various menstrua of alcoholic strength, and none of them gave the satisfaction as the one I herewith present for your consideration. Most of the pre-

* Proceedings of the American Pharmaceutical Association, 1875.

parations of Calabar bean that have heretofore been manufactured were made of strong alcohol, with very few exceptions. Our deceased co-labourer, Professor William Procter, recommended a menstruum composed of seven fluid ounces of alcohol, and three fluid ounces of water, and one troy ounce of bean, which makes a half-pint of tincture when the preparation is completed.

I do not favour the use of strong alcoholic preparations, so long as a weaker alcohol will answer the same purpose. Physostigma is the active principle of the bean, a certain per cent. of which is soluble in water; and, knowing this to be the case, I therefore recommend a menstruum composed of alcohol and water for the different preparations, and used in the proportions of three (3) parts alcohol and one (1) part water; and, as the seeds are so tenacious, I would also recommend a preliminary maceration of the drug before proceeding with the percolation, otherwise the exhaustion will be imperfect. The following embraces all the preparations of the bean that I am acquainted with, solid extract, fluid extract, tincture, calabarized paper, and calabarized gelatin, besides the alkaloidal principle physostigmia.

Extractum Physostigmatis.

Take of Calabar Bean in moderately fine powder	. . . . .	12	troy ounces.
" " Alcohol (95 per cent.)	. . . . .	9	fluid "
" " Water (distilled)	. . . . .	3	" "
" " Glycerin	. . . . .	1	" "

Mix the alcohol, water, and glycerin together; moisten the powder with five fluid ounces of the mixture, pack in a conical glass percolator, and cover the surface of the powder with a disk of paper; pour on the balance of the mixture, cork the percolator, and cover closely, and set aside in a moderately warm place for four days, after which remove the cork, and proceed with the percolation, with a menstruum composed of three parts alcohol and one part water, until completely exhausted; distil off the alcohol, and evaporate in a porcelain vessel by means of a water-bath to the proper consistence. The object of the glycerin is to keep the extract in a soft condition, which makes it more convenient for manipulation, and especially when it forms one of the component parts of a pill mass.

Extractum Physostigmatis Fluidum.

Take of Calabar Bean in moderately fine powder	. . . . .	16	troy ounces.
" " Alcohol (95 per cent.)	. . . . .	12	fluid "
" " Water (distilled)	. . . . .	4	" "

Moisten the powder with six fluid ounces of the above menstruum, pack in a conical glass percolator, after which cover the sur-

face of the powder with a disk of paper, and pour upon it a sufficient quantity of the menstruum until the liquid begins to drop from the percolator; then close the lower aperture with a cork, and cover closely, and set aside in a moderately warm place for four days, after which the cork should be removed, and more menstruum added until thoroughly exhausted, the first twelve ounces being reserved, and the balance to be evaporated to four fluid ounces, and mixed with the reserved portion, and after standing a few days should be filtered through paper. This preparation is but little used in our locality, and I believe but little used anywhere else, but makes an excellent preparation to prepare calabarized paper or calabarized gelatin.

Tinctura Physostigmatis.

Take of Calabar Bean in moderately fine powder . . . . . 4 troy ounces.
" " Alcohol (95 per cent.) . . . . . 24 fluid "
" " Water (distilled) . . . . . 8 " "

Mix the alcohol and water; moisten the powder with two fluid ounces of the menstruum; pack in a conical glass percolator, and cover the surface of the powder with a disk of paper, and pour six fluid ounces of the above menstruum on it; cork, and cover the percolator closely, and allow it to remain in this condition four days, after which remove the cork, and proceed with the percolation and with the same menstruum until two pints of tincture are obtained, which will be found sufficient to thoroughly exhaust the bean. Some of the formulas which have been published for making this preparation contain a much larger proportion of the bean. My object in making it four troy ounces to the quart of tincture is so that it will conform in the proportion of solid material with most other tinctures.

Calabarized Paper.

This is readily prepared by taking paper deprived of its size—thin letter-paper, not ruled, is the best—and the size got rid of by boiling in water and drying. By dipping the paper three or four times in the fluid extract, of which I have given you a formula, and drying it after each immersion, the paper will be impregnated with a sufficient amount of the extract to perform the necessary service when applied to the eye. This plan of obtaining the effects of Calabar bean is objectionable, by being inconvenient, as it necessitates the removal of the paper subsequently. Calabarized gelatin is a much preferable preparation, and I would recommend the following formula:—

Calabarized Gelatin.

Gelatin	30 grains.
Water (distilled)	2 fluid ounces.
Glycerin	gtt. xx.
Fluid extract Physostigma . .	*mc.*

Make a solution of the gelatin in the water and glycerin, and, while the solution is still warm, filter through paper in a warm funnel; add the fluid extract, and evaporate. When it is evaporated to the proper consistence, spread on a glass plate or marble slab, with edges slightly raised, and with perfectly even surface, and place another glass plate or slab on top, which will keep it even and smooth; when it is hard enough, remove the plates, and divide into one hundred equal squares of about an eighth of an inch square, or as some might perhaps prefer, in circular form. The object here of the glycerin is to prevent its brittleness. The slabs should be slightly greased and warm, so as to prevent the shrinking and sticking of the gelatin. One of these small disks, containing about one grain of the bean, placed in the eye, will be immediately dissolved by the secretions, and the remedial agent absorbed, and the effects of the bean produced.

Physostigmia

I obtained by treating the extract as prepared according to the formula given, with a small quantity of dilute sulphuric acid, and diluting the mixture with water, filtering, and supersaturating with ammonium carbonate. The whole is now shaken with strong ether, and the ethereal solution which contains the alkaloid is separated after standing, which yields on evaporation the physostigmia in an impure condition, being contaminated with a red foreign matter, which obstinately adheres to it, and requires repeated solution in ether and crystallization to remove all the impurities.

NOTES ON THE DRUGS COLLECTED BY THE PRINCE OF WALES IN INDIA.*

BY JOHN R. JACKSON, A.L.S.,

Curator of the Museums, Royal Gardens, Kew.

It was recently announced in the *Pharmaceutical Journal* that the Kew Museums had become possessed of the collection of vegetable products brought home by H.R.H. the Prince of Wales from India. This collection consists of about 180 specimens of seeds, fruits, barks, gums, etc., besides a fair collection of woods of more or less interest. The best portion of the collections are the produce of Southern India and were arranged and catalogued in Madras, the specimens being classified under distinct heads. The catalogues, however, though well printed, and the names for the most

*From the Pharmaceutical Journal and Transactions.

part accurate, are mere lists, no information being given as to the nature of the plants furnishing each product, or even of its uses.

Amongst spices and condiments several seeds occur that are equally as much used in medicine. The drugs are placed under a distinct head, foremost amongst which is the star anise (*Illicium anisatum*, Lour.). This tree which grows to a height of about twenty feet, is originally a native of South Western China, from whence European commerce is supplied, the well known stellate arrangement of the carpels giving the name star anise to the fruit. Besides the quantity sent to England, France, Germany, and Italy, for flavouring liqueurs or spirits and for the expression of an oil, the fruits form a large article of trade between various Asiatic nations. In India, China, and Japan, they are commonly used for flavouring food, and they are frequently chewed after meals with the double view of imparting a fragrance to the breath and of assisting digestion. They are also commonly used by the native practitioners as a stomachic and carminative. The form or variety which has been described as a distinct species under the name of *I. religiosum* is held sacred by the Japanese, who decorate their tombs with wreaths made from it and burn the bark as incense in their religious rites. It is said to burn slowly and evenly, and on this account is powdered and put into tubes, graduated on the outside, which being burnt during the night mark the time.

Under the name of tree turmeric are specimens of the young wood of *Coscinium fenestratum*, Colebr. This wood is of a bright greenish-yellow colour and has a bitter taste. Upon cutting a piece of the stem across it is seen to be very open in structure, without concentric rings, and the medullary rays very prominent. It is usually known under the name of false calumba, and though not officinal in India it is often used as a tonic; indeed it is reported that after extensive trials made at the Trevandrum Charity Hospital, this wood was recommended as a pure bitter tonic where calumba was not available, and as being "well worthy the attention of practitioners in the east as a cheap and efficient tonic." The form in which it is usually given is as a tincture or infusion. The specimens in the Prince's collection are small, not more than an inch in diameter, the specimens previonsly existing in the Museum being from 2 to 2½ inches across.

In *Toddalia aculeata*, Pers., a prickly, climbing rutaceous plant, we have also a stimulating tonic medicine, which has a place in the Indian Pharmacopœa. The part used is the bark of the root, which is of a yellowish corky nature, with a pungent aromatic taste. In a dry state it becomes of a yellowish brown colour but retains its pungency for a long time. It has been shown by Guibourt and confirmed by Hanbury in the 'Pharmacographia' that the root of this plant, together perhaps with other species of *Toddalia* and also of *Zanthoxylnm*, furnished a drug which at one time had consider-

able reputation in Europe as a remedy in diarrhœa under the name of Lopez root. In India the root bark of *Toddalia acculeata* is administered either in the form of infusion or tincture. The plant is plentiful in jungles and hedge-rows in Malabar, Mysore, Coromandel, and other parts of the Madras Peninsula.

Cassia Absus, L., called the Black Grain, occurs not only in India but in Northern Africa. The seeds are small, black and shining, and are used both in India and in Egypt in ophthalmic cases, being reduced to a fine powder and introduced in minute quantities beneath the eyelid. They have a bitter aromatic taste, and are commonly seen in the Indian bazaars. The seeds also of *Cassia auriculata*, L., are sometimes used in diseases of the eye. The bark, however, of this species is alone represented in the collection just received at Kew; this is in small pieces of a reddish brown colour, and has a somewhat astringent taste. It has been employed in India for gargles instead of oak back. In some parts the bark is bruised, mixed with molasses, and the whole allowed to ferment and a spirituous liquour prepared from it. On account of its astringency it is used by the native tanners for tanning leather, and also for dyeing a buff colour. Neither of these species of *Cassia* are officinal in India, though both are favourably spoken of by Europern practitioners.

Vernonia anthelmintica, Will., a composite plant, common in waste places throughout the East Indies, has small black seeds, which are commonly to be seen in most of the bazaars. They are used, as the specific name indicates, as an anthelmintic. A notice, however, of their uses appeared in the *Pharmaceutical Journal* for December 12, 1875, vol. vi., 3rd series, p. 463.

The specimen belonging to the Prince of Wales's collection is called Purple Fleabane In the natural order Scrophulariaceæ is another non-officinal substance, namely the roots of *Picrorrdiza Kurroa*. Royle, a plant growing in Kumaon and other parts of the Himalaya. These roots which are found in the bazaars in short, irregular pieces about as thick as a quill, somewhat tapering and partly covered with rootlets, are of a dark colour and have a strong bitter taste. It is extensively used by the natives as a tonic.*

In the Graminaceæ, *Bambusa arundinacea* claims the first attention, more, perhaps, on account of the multitudinous uses to which the bamboo is put generally than of any real medicinal properties contained in any part of the plant; nevertheless, it has a reputation amongst the natives for the cure of various diseases. Thus, for instance, the leaves are considered emmenagogue and anthelmintic, the bark as a specific in eruptions and the root as a diluent. It is, however, for the peculiar siliceous concretion called *Tabasheer*, that the bamboo is most valued in native medicine.

*See Pharm. Jour., vol. iv,. 3rd series, p. 1034.

This is found in the hollow stems near the joints or articulations; it is considered by the natives a certain cure for paralysis, flatulence, etc., but from careful researches it would seem that as a medicine it has no power whatever. The plant is not officinal in India. The specimen received at Kew consists of the seeds or grains which are called bamboo rice. Why they are included under the head of drugs we cannot say. The other products under the head are so well known that we merely give their names, *Strychnos Nux vomica* and *S. potatorum* seeds, *Hyoscyamus niger* seeds, *Cubeba officinalis* fruits, and others of a similar nature. There are also the young miniature fruits just found of *Eriodendron anfractuosum*, D C., but we do not know to what use these are put in India. The uses of the gum yielded by the tree, as well as of the cotton which fills the ripe fruit, are of course well known, but these young fruits are new to the museum, and their uses are quite unknown to us.

Amongst gums and resins there are none that call for special remark. They are of the usual character, such as those from *Feronia elephantum*, Corr., *Garcinia pictoria*, Roxb., *Azadirachta indica*, Juss., *Styrax Benzoin*, etc.

COD-LIVER OIL AND FERROUS IODIDE.

The following formula for this preparation has been published in the *Nieuw Tijdschrift voor de Pharmacie in Nederland*, by a commission appointed by the Netherlands Pharmaceutical Society, to examine secret remedies and specialties:

Iodine	1 part.
Pulverized iron	1 "
Pale cod-liver oil	80 parts.

Triturate the pulverized iron in a mortar with the iodine and one-fourth of the oil, and heat the mixture in a water-bath, with constant stirring, until the brown color of the iodine has entirely disappeared and given place to a deep purple color, showing that the ferrous iodide has been formed and dissolved. Then add the remainder of the oil, mix carefully, and after standing decant into dry bottles, which are to be completely filled, closed immediately and kept sheltered from the light.

This oil is of a purple color, and differs in taste but little from the ordinary medicinal cod-liver oil. Exposed to the light it changes after a few days to a red-brown color. Although the taste is but little altered, it is important to prevent this change of color, which always indicates a liberation of iodine. In well stopped bottles the oil remains unaltered, but it is as well not to prepare too much in advance. The taste and color furnish good criteria for its condition. —*Pharm. J. & Trans.*

ANALYSIS OF SIX NOSTRUMS SOLD AS AGUE CURES.*

BY O. L. CHURCHILL, PH. C.

Five of these articles were found to contain one or more of the cinchona alkaloids (chiefly the cheaper alkaloid); the remaining one contained no alkaloid. None contained arsenic, strychnia, or mercury.

The quantitative determination of the alkaloids, from well known difficulties, is presented as only approximate. The following was the general plan of separation, modified in several particulars as found necessary for each mixture. From a weighed portion of the mixture, the alcohol, if any, was evaporated; the residue diluted with acidified water and filtered (more than once if need be); the filtrate precipitated by a slight excess of caustic soda; in most cases, the precipitate dissolved in acidified water, the solution concentrated and dissolved with strong alcohol, the filtrate evaporated and the residue dissolved with water. Care was taken to avoid loss, by well washing the residues of extraneous matter, and not washing the precipitates of alkaloids at all or but slightly. Taking a final precipitate by caustic soda, the alkaloids were then approximately separated from each other by use of ether as a solvent, potassium iodide to precipitate quinidia, potassium sodium tartrate to precipitate cinchonidia, etc.‡

1. "Ayer's Ague-Cure." Each bottle contains six fluidounces of a dark red syrupy liquid, with a very slight white sediment. Taste very bitter and slightly peppery, with a slight taste and odor of wintergreen oil. An alcoholic extract (tincture) of cinchona bark, with additional and amorphous cinchona alkaloids (chinoidin), heavily saccharine and slightly aromatized. It contains a resin which presented the physical properties and gave apparently the physiological effects of podophyllum resin, but it was not so far separated from cinchona constituents as to be positively determined. It has free and combined sulphuric acid and the white sediment is calcium sulphate (from the calcium salts of the bark). In *one fluidounce:*

Amorphous alkaloids (Chinoidin)	3·2 grains.
Cinchonia	3·0 "
Cinchonidia	0·7 "
Quinia	0·8 "
Quinidia	1·0 "
Total	8·7 "

*Contributions from the School of Pharmacy, Univ. of Michigan, in Am. Jour. Pharm.

‡*Fluckiger & Hanbury's Pharmacographia*, 327.

The cost of a bottle will not exceed 35 cents—the price being at wholesale, 65 cents, and at retail $1.

2. "Wilhoft's Antiperiodic Fever and Ague Cure." The bottle contains four fluidounces of a thin, dark-red liquid, with the odor of cinchona bark, a very bitter and acid taste, and acid reaction. It consists essentially of an infusion of cinchona bark made with water containing aromatic sulphuric acid (like those of the U.S.P.), and probably with an addition of quinia sulphate. One fluidounce contains 3·0 grains of quinia and 5·4 grains of free and combined sulphuric acid (1·5 grains free). Cost of a bottle, not over 25 cents; price, per dozen, $1.50 per bottle.

3. "Christie's Ague Mixture." A bottle contains seven fluidounces of a very dark, syrupy liquid one-fourth filled with sediment, and having a very bitter and peppery taste and an odor of common molasses. The sediment was powdered capsicum and a little resinous matter. The solution consists of a tincture of cinchona bark (the alcohol being 30 per cent. by weight), with cinchonia sulphate, and common molasses. Cost, not over 25 cents per bottle; price, at wholesale, 62 cents; at retail, $1.

4. "Peterman's Michigan Ague Cure." Each bottle contains five fluidounces of a red, syrupy liquid, with much resinous sediment, a very bitter taste, and odor of cinchona. Contains an alcoholic extract of the bark, with chinoidin as the chief medical agent, and with a little sulphuric acid and syrup. Cost, complete not over 25 cents per bottle; price, at wholesale, 60 cents; at retail, $1.

5. "Jayne's Ague Mixture." In each bottle, seven and a half fluidounces of a mixture having an odor and taste of rhubarb, dandelion and common molasses. It contains quinia sulphate and traces of other cinchona alkaloids, but not enough to render the mixture very bitter. The alkaloids were, with some difficulty, separated by benzene in presence of alkali; other means having failed. Cost, about 35 cents; price, at wholesale, 60 cents; at retail, $1.

6. "Rhodes' Fever and Ague Cure, an antidote to Malaria." In each bottle, twelve fluidounces of a black turbid liquid having a sweet and astringent taste. On standing, the sediment filled one-third of the bottle. The sediment is charcoal. The solution contains a little tincture of chloride of iron, partly reduced to ferrous salt by sugar, which is present; also a trace of sulphuric acid, (a trifle of ferrous sulphate may have been added). Nothing more. "Bottle to be well shaken," etc.; "one tablespoonful three times a day. "Most people could take three times the amount without any uncomfortable feelings." "Persons who find it to bring on unwished-for actions, should place the contents of two or more bottles in an open dish in their sleeping apartments." Price, retail, $1.

POWDER FOR PRODUCING OZONE.*

BY JOHN L. DAVIS.

" In order to produce artificial ozone, Mr. Lender makes use of equal parts of peroxide of manganese, permanganate of potassium and oxalic acid. When this mixture is placed in contact with water, ozone is quickly generated. For a room of medium size, two teaspoonfuls of this powder, placed in a dish and occasionally diluted with water, would be sufficient. The ozone develops itself; it disinfects the surrounding air without producing cough."

The attention of the writer was called to the above article as it appeared in the " Philadelphia Medical and Surgical Journal," under date of May 20th 1876. For the purpose intended, it is certainly one of the best of the published formulas, but on account of the danger attending its manipulation, should be used with extreme caution. A prescription with these proportions was taken to an apothecary, who inadvertantly used a mortar in mixing it, with the result of an immediate explosion ; which would have been attended with disastrous consequences except for the smallness of the quantity employed.

In mixing these ingredients, trituration should not be used at all, but they should be cautiously mixed with a spatula in small quantities ; and even then, if they should have been reduced to a *fine* powder they cannot be mixed without danger, as the mixture is liable to explode at the moment of contact.

Apothecaries who are not deficient in knowledge, are sometimes deficient in caution, and articles published in reliable journals are copied and used without hesitation, and the compounder or dispenser is brought into unlooked-for and unexpected difficulties.

The above article is written solely with a view of placing druggists and physicians on their guard in using or dispensing a dangerous compound.

LOTIONS FOR THE REMOVAL OF FRECKLES.

The editor of *New Remedies* gives, in answer to a correspondent, the following recipes for the removal of freckles.

The spots on the skin called freckles are probably of two kinds: one, occuring in persons of light complexion, from exposure to the sun, is caused by a deposit of pigment or melanin in the rete Malpighii and is of the nature of chloasma (or " moth "), melasma, the areola of the breast in pregnancy, etc. ; while the other variety is more deeply seated, and, like the pigment of the colored races, dark

*From the American Journal of Pharmacy.

moles, etc., is deposited in the corium. The former variety is comparatively transient, and is said to be as successfully treated by spirituous lotions and weak mineral acids, applied several times during the day, as by any other method. At one time and another, however, a large number of cosmetics have been recommended, of which the following represent some of the more recent:

℞ Zinci sulphocarbol ..... 2 parts.
Glycerine .....25 "
Aq. Rosæ .....25 "
Spiritus vini rect.. ..... 5 "

Dissolve and mix. The freckled skin is to be anointed with this twice daily—the ointment being allowed to stay on from one-half to one hour, and then washed off with cold water. Anæmic persons should also take a mild ferruginous tonic. In the sunlight a dark veil should be worn.

Another formula containing the sulphocarbolate of zinc is quoted from the *Bulletin Gen. de Thérap.* as follows:

A solution of corrosive sublimate either pure or mixed with cyanide of mercury is commonly employed for the removal of freckles; but a collodion containing ten per cent. of its weight of sulphocarbolate of zinc has given excellent results without being accompanied by any of the dangers attending the use of the mercurial solution.

The following formula is an excellent one:

℞ Sulphocarbolate of zinc ..... 1 part.
Collodion .....45 parts.
Oil of lemon..... 1 part.
Absolute alcohol ..... 5 parts.

The sulphocarbolate of zinc should be reduced to an extremely fine powder, and should then be thoroughly incorporated with the fluid mixture.

℞ Pulv. sinapis alb..... ʒ iij.
Olei amygdal ..... ʒ ss.
Succi limonum, enough to make a thick paste.

Mix. To be applied as an ointment.

℞ Hydrarg. perchlor ..... gr. v.
Acid hydrochlor ..... gtt. xxx.
Sacch. alb. ..... ʒ i.
Spt. vin. rect. ..... ʒ ij.
Aquæ rosæ ..... ʒ vii.

To be used as a lotion.

It is also stated that powdered nitre, moistened with water, applied to the face night and morning, will soon remove all traces of freckles.

Our grandmother used to have a remedy in buttermilk, with which, in our youthful days, our faces used to be scrubbed on Saturday nights, to clear them of sunburn and freckles for Sunday morning.

ANALYSIS OF SULPHIDE OF ANTIMONY.*

BY WM. C. SHEFFIELD, PH. C.

These samples of "black antimony," or "black sulphur," as it is often called, were obtained at as many different retail drug stores, in four cities in Ohio and Michigan. They were subjected to qualitative and quantitative analyses, and the following *percentages obtained:*

	Antimonious Sulphide.	Arsenious Sulphide.	Carbon, as Charcoal.	Silicious Matter.	Ferrous Sulphide.	Calcium Carbonate.	Magnesium, as Sulphate.	Total determined.
No. 1 - -	31·5	6·6	8·9	17·2	2·5	22·0	7·5	96·2
" 2 - -	0·0	1·2	16·5	73·5	1·5	3·5	1·6	97·8
" 3 - -	0·0	trace.	12·5	67·5	4·4	5·5	3·7	93·6
" 4 - -	0·0	4·2	34·7	7·0	6·2	22·0	22·8	96·9
" 5 - -	0·0	1·2	55·5	37·5	2·3	1·1	0·9	98·5
" 6 - -	0·0	0·0	11·7	79·3	7·5	0·0	0·0	98·5
" 7 - -	0·0	0·0	45·6	9·0	1·1	26·6	13·5	95·8
" 8 - -	0·0	0·0	20·0	77·5	1·1	0·0	0·0	98·6
" 9 - -	0·0	0·0	28·4	33·8	4·6	20·9	10·3	98·0
" 10 - -	0·0	0·0	60·6	14·3	1·6	14·2	6·6	97·3
Average - -	3·1	1·3	29·4	41·6	32·8	11·6	6·7	

No. 11 - - Very nearly pure antimonious sulphide, with a trace of arsenic.

These results may be of interest to some one curious to know whether *any* dispensing pharmacist ever makes all his antimonial preparations as provided by the "Pharmacopœia." Also, they may be of interest to Mr. Bergh, of New York.

ARTIFICIAL TOBACCO.†

The assistance of nature will soon be entirely dispensed with in the manufacture of tobacco, if we can accept the congratulatory statements of the *Scientific American* on this point.

"Tobacco leaves for the manufacture of Havana cigars," says

*Contributions from the School of Pharm. Univ. of Michigan, in Am. Jour. Pharm.

† Chemist and Druggist.

our contemporary, "are now being produced in New York, thanks to the industry of some of her citizens, aided by the progress of chemical science. The material used is a kind of brown wrapping paper, made of straw especially for this purpose. The paper, after coming from the mill, is saturated with the juice pressed from tobacco stems and other offal; then the sheets are rolled through a machine, which gives them the perfect appearance of the tobacco leaf, and the peculiar spots are printed on them as on calico. The paper thus prepared is especially adapted for wrappers around the cigars, and is such an improvement on the natural tobacco leaf (being much stronger, more economical, and easier of manipulation) that the Havana cigar makers desire no other wrapping for cigars, and import it largely from New York; and no Havana steamer leaves here at present without taking out quantities of it. These figure up, according to some authorities, to 5,000 reams in one cargo, and occasionally as much as 30,000 reams of this artificial tobacco leaf have been exported.

"It is stated that this tobacco-flavoured straw paper makes also a filling superior to the genuine leaf; and it is impossible to detect the delicate film of paper interlapped with some broken leaves of real tobacco in the finished cigar, which the paper so very neatly holds in form. Besides this, the paper leaves no residuum other than a pure light grey or nearly white ash, just like that of the best quality of tobacco."

We doubt if Havana has any longer a mission to fulfil on earth if this be so. It might as well withdraw at once from a world which has ceased to need its existence.

VALUATION OF PRECIPITATED SULPHUR, OR MILK OF SULPHUR.*

BY C. W. L. DIETRICH, PH.C.

These samples were obtained at different dispensing pharmacies, six in Grand Rapids and two in Ann Arbor, Michigan. They were all sold as Precipitated Sulphur, *or* Lac Sulphur—the distinction between these terms which the law has enforced in Great Britain not being regarded here.

No. 1 contained 43·6 p.c. of calcium sulphate.
No. 2 " 25·9 " " "
No. 3 was free from calcium sulphate.
No. 4 " " " " "

*Contributions from the School of Pharm. Univ. of Michigan in Am. Journ. Pharm.

No. 5 contained 47·7 p.c. of calcium sulphate.
No. 6 " 47·3 " " "
No. 7 " 46·2 " " "
No. 8 " 23·7 " " "

No arsenic, no free sulphuric acid and no other impurity, save a third of a per cent. of silicate in Nos. 3 and 4, was found in any of the samples.

Evidently six of the eight specimens were manufactured by precipitating the lime solution with sulphuric instead of hydrochloric acid (a process having older than centennial authority†) and, therefore, represent that useful article (having all the virtues of sulphur in a more eligible form, etc.) which our better regulated British cousins in pharmacy are permitted by their rigorous magistrates to sell as milk of sulphur, but not as precipitated sulphur.

CASTILE SOAP AND ITS COUNTERFEITS.

In answer to one of its correspondents, the *American Grocer* gives the following information, which we believe will interest druggists in general.

There are four descriptions of imported known in this market. First and at the head of the list in reputation is the Italian, white castile, known as the "Conti" soap. The jobbing price of this at present ranges from 16 to 16½c. currency. It is claimed that oil only is used instead of fats in its manufacture—either olive oil that is left after the best is bottled, or sometimes cocoa-nut oil. The next brand in reputation, and claimed to be equal in quality and healing properties, is the "White Horse," also a white soap, imported from Marseilles. This at present is selling at 12 to 12½c. gold. These two brands, it is said, are never counterfeited here, and are claimed to be free from all adulteration. Tests made by us have failed to show any adulteration or addition of substances to add to the weight, as is the case in mottled soaps. These white soaps come in boxes of 35 to 37 lbs. gross weight ,and a tare of 4 lbs. is allowed

Next comes the Marseilles and the Leghorn mottled, the former claimed to be the better of the two. The importation of these soaps is rapidly falling off, owing to the competition of the domestic article, which, as a rule, is claimed to be the best and purest. Some of the largest importers inform us that they are gradually dropping this article off their list of importations.

In making the castile soap, olive or cocoanut oil is supposed to be the material used, and this gives it its healing properties. Of

†The London Pharmacopœia of 1720.

late years, however, other and cheaper oils are said to have been substituted, such as linseed and cotton seed; but the fact of the latter being used can be detected, it is claimed by experts, from the darker color of the soap. Within the past five years, in order to meet the competition of buyers, it has become the custom to adulterate both Marseilles and Leghorn mottled soap with terra alba or chalk. Some samples which we have seen tested show thirty-five per cent. of this, added to increase the weight and cheapens the article. There is, of course, some of the genuine article imported; but a buyer had better depend on the reputation of his wholesaler, and even then the wholesaler himself may possibly be imposed upon These soaps come in boxes of 45 to 47 lbs., and a tare of 8 lbs. is allowed. The loss in weight on castile soap is very large according to the length of the time it is carried—the loss in four or five months being as much, in some cases, as 20 per cent. When sold it is reweighed, and by some dealers the actual tare at time of sale is allowed, and by some the original tare, but the price is advanced accordingly, the price having to be made so much higher as to meet the loss in weight. This mottled soap is also largely made here. Boxes are shipped here from Marseilles in the form of shooks and put together here. These boxes, when put on the market, often bear all the marks of imported soap. The soft and wet appearance of the soap mentioned by our correspondent is no guide as to whether it is foreign or domestic, as the former often reaches here in that state, and soap containing a large proportion of water to increase the weight; but it should be made in bars and not look as if cut with a wire.

ARE ANILINE COLORS POISONOUS?*

The question whether aniline compounds, free from arsenic, are poisonous or not, is an important one, and has of late been frequently discussed, with varying conclusions. Mr. Bergeron and Mr. J. Clouet take up the topic in the *Répertoire de Pharmacie*, and prove pretty clearly by their experiments that aniline salts are not in themselves poisonous, provided they contain no free aniline and no foreign impurities or toxic substances combined.

The experiments related were made with pure fuchsin or chlorhydrate of rosaniline, previously analyzed and proved to be free from arsenic and all metallic impurities.

From trials made on men—namely, on one of the experimenters and on another person—they come to the conclusion that as much as one gram of fuchsin can be taken without accident in one day, and 3.20 grams within eight consecutive days.

*Druggists' Circular.

Other experiments were made on animals, with the sole object of ascertaining whether fuchsin mixed in large doses with their food is liable to produce toxic effects. It was not intended to study the physiological action of the aniline salt. The result of the observation was, that as much as twenty grams, about five drachms, of fuchsin can be administered in one dose to a dog without causing any serious sickness. The writers reach the following conclusions:

1. Fuchsin (chlorhydrate of rosaniline), free from all foreign matters, well purified and containing no trace of arsenic, is quite harmless, even in large doses.

2. The above conditions being fulfilled, fuchsin can be used for coloring alimentary substances as freely as cochineal, cudbear or indigo.

3. So far as public health is concerned, it is not the use of the pure material which ought to be prohibited, but all clandestine manufactures, for which the makers use impure fuchsin liable to be contaminated with arsenic acid.

4. An unexpected result of the administration of fuchsin was the complete disappearance of albumen from the urine of a person who had long been suffering from that complaint. The fact is only cited as a therapeutical indication which deserves further investigation.

THE DECAY OF FRUITS.*

At a recent meeting of the *Gesellschaft naturforschenden Freunde zu Berlin*, Dr. Brefeld reported the results of his investigations on the decay of fruits. He says it is a universally recognized fact that a rotten apple will infect a sound one with which it may be in contact. We cannot conceive infection in the absence of an active agent producing it, and calling forth and determining the form of this phenomenon. These investigations embraced the examination of rotten fruits of various kinds from the most widely diverse localities, and at different seasons of the year. The tissue was invariably found to be exhausted and withered, the cells had lost their turgidity, the contents were contracted, and the cell-sap dispersed in the inter-cellular spaces. With certain exceptions, alluded to below, Brefeld found the entire mass of cells permeated in all directions by the easily seen spawn of fungi, but the threads were merely interlaced among the cells, never piercing the cells themselves. The fungi present belong to very common moulds of two distinct kinds; one with broad, dense tubes without partitions, the other with narrower, frequently septate tubes, both being very much branched. The former consisted mainly of *Mucor stolonifer*,

* Gardener's Chronicle.

more rarely of *M. racemosus*, and the latter of *Botrytis cincrea* and *Penicillium glaucum*. There seems to be no doubt that these parasites are nourished by the cell-sap which has escaped into the intercellular spaces; but the most important question for elucidation was whether these fungi are the cause of decay, or simply accompanying conditions. To determine this point, several series of experiments were undertaken with the pure fungus and perfectly sound fruit. Spores were thickly sprinkled over sound fruit, and, to make the experiment more conclusive, the spores were conveyed to the fruit in water, and the fruit afterwards placed under a bell-glass in a moist atmosphere. As might have been expected, the fruit remained sound, the spores failing to germinate altogether, or germinating only very sparingly In consequence of the absence of a nourishing fluid, the spores possessed no power to attack the tissues of the fruit.

A second series of experiments was instituted, in which the spores were dipped in a nourishing solution of fruit pulp, in which they could germinate and form a mycelium, and this was laid on sound fruit with a pencil. Soon some of the fruit began to show here and there, in the least protected places, symptoms of decay, spreading with varying degrees of rapidity over the whole fruit. Nothing was easier to observe than that the penetrating fungus was actually the cause of the decay. Another set of experiments more fully proved this to be the case. Some sound apples were artificially wounded, and infected with the spores, which grew and spread in the same manner. Other sound, bruised, but not infected apples showed no symptoms of decay. From a large number of experiments it was found that the more unripe the fruit, and the denser its tissue, the less power the fungus had of taking possession of it; but with the increase of saccharine matter, and the decrease of acids, the fruit becomes more susceptible. Unripe fruit artificially infected with fungus did not decay, as the fungus did not find a suitable host. Concerning the relative rate of growth of the fungi named above, it was found that *Mucor stolonifer* was by far the most rapid. Pears infected with this fungus become thoroughly decomposed in a few days, and, strange to say, no outward trace of it is usually discernible before the whole interior is destroyed. Now arises the question, Do fungi always cause the decay of fruit? This is easily answered in the negative, for many pears, and in a still more striking manner the medlar, exhibit a kind of spontaneous decay, equally as rapid in its course as is the case where moulds are present. This kind of decay is what we find in a "sleepy" pear and a blet medlar, in which, according to Brefeld, there is no fungus present. Otherwise the decomposition of the tissue proceeds in exactly the same manner in both cases. The foregoing extracts fully confirm practical experience, and suggest the means for preventing the spread of these insidious organisms—the moulds—in the fruit room.

NASAL BOUGIES.*

A Vienna chemist, Mr. F. A. Grohs, had attempted for many years to replace the fat in suppositories, etc., by some substance which would not melt so quickly between the fingers, and which could be moulded and introduced with greater facility. He was for a long time unsuccessful, but at length he found, in the *gelatin* extracted from the bones of calves, a substance suitable to his purpose. This substance is flexible and elastic, and yet not too soft; it can be mixed with various medicinal agents and run into moulds. Suppositories of this material have for many years been used by Professors Braun and Sigmund with great success in cases of uterine catarrh and gonorrhœa. The gelatin may be medicated with astringents, as alum, tannin, rhatany, and salts of lead, bismuth, zinc, and iron; with anodynes, as morphia, belladonna, and even chloral hydrate. Mercury and iodine can also be applied in this way, but permanganate of potash is inadmissible, as it destroys the gelatin. The suppositories made with this substance are elastic, like india-rubber; they do not melt easily between the fingers, and they are much cheaper than those made with cacao butter.

It is only quite recently, however, that bougies of this material have been employed in cases of nasal disease. Their use was first introduced at the laryngoscopic clinic, and it has been attended with great success. The bougies used resemble those already employed in urethral diseases; they are something over three inches in length, from one-eighth to one-fourth of an inch in diameter, and are pointed at one end, so as to be more easily introduced. The drugs most commonly applied in this way are the astringents, as alum, sulphate of copper, rhatany, and carbolic acid. Hitherto the treatment of nasal disease has been confined to injections of tepid water and solutions of different drugs, and applications of caustics to the nasal mucous membrane by means of a *porte-caustique*, the latter of which methods causes intense pain when the mucous membrane is swollen and the meatus is narrow. Further, cauterization cannot be employed sufficiently often. The introduction of the nasal bougie, on the contrary, is not at all painful; the elastic body adapts itself to every irregularity in the nasal cavity, passes very easily through the narrowest parts of the meatus, and dilates them by a gentle pressure.

These bougies have been used in case of coryza and ozæna, and, with great success, in cases of extensive swelling of the nasal mucous membrane and of the turbinated bones. If there is total obstruction of the meatus, and air cannot be drawn through the nostril, the introduction of the first bougie often effects a marvellous improvement. In cases of ozæna, sulphate of copper and carbolic acid

*Medical Examiner in New Remedies.

are the most useful agents; but where there is most extensive swelling and relaxation of the mucous membrane, the tincture of rhatany is to be recommended. Sulphate of zinc is not much used, for, according to Stork's experiments, solutions of this drug, even when they are only *injected* into the nose, destroy the power of smell.

There is no difficulty in introducing the bougie. It is advisable to give it a rotatory as well as an onward motion during introduction. Even in the most obstructed meatus it is possible to introduce the bougie completely, and in any direction. Afterwards the nostril is plugged with lint, to prevent the liquefied gelatin from escaping by any other orifice than the posterior nares. When there is much secretion present, the bougie may liquefy in three-quarters of an hour; but it usually takes three hours. It causes no unpleasant sensation while in the nose, and it is useful not only in applying medicaments to the mucous membrane, but in keeping the meatus dilated. Several who have tried the bougies speak very favorably of them, and a collection of the gelatin suppositories recently sent to the Berlin Surgical Conference was much praised.

How to Effectually Clean Brass Scales.*

BY THE JUNIOR.

I do not know of anything that has been of more annoyance than keeping the scales, &c., in shining order. However, I think I have at least hit upon a method which yields excellent results, and which, I believe, will prove satisfactory. The articles will retain their lustre unimpaired for a long time, particularly when excluded from flies and dust. In the first place, if the brass is very much tarnished, use a little oxalic acid solution; if spots are imbedded, rub them out with a little powdered pumice stone, then wash off with water, and dry (the acid and pumice are to be only used when necessary.) Then have a paste prepared of powdered rotten stone and sweet oil, and with a smooth cork rub it thoroughly over the surface of the brass, till it assumes a greenish-black color, after which rub off every particle of oil with an old rag.

Have some lampblack in a suitable box, and if for the scale pans, put on a little of the lampblack; if for the weights, &c., dip a smooth cork into it, and rub it over till of a satisfactory polish (the more the better.) The result will be all that can be desired, and will repay the extra labor expended upon it.

*Druggists' Circular.

Editorial.

LEGIBLE HAND-WRITING IN PRESCRIPTIONS.

There are few purposes to which the art of writing is applied which demand more care than the chirography of prescriptions. In legal documents, where there are only at stake the interests of property, the greatest legibility is insisted on; but, in prescriptions, which often involve the issues of life, one may reasonably wonder whether bad hand-writing and gross carelessness form the rule or the exception. There are, of course, many practitioners whose prescriptions are models of that neatness and care which should characterize every act of one who is duly impressed with the responsibilities of his position, but, too often, we find the prescription a jumble of bad Latin and worse English, in hieroglyphic characters, written with the stump of a lead-pencil on a scrap of crumpled and dirty paper.

It is to chirography of this kind that the London *Lancet* applies the term "homicidal hand-writing" when referring to a case which is just now exciting considerable interest in England. A gentleman, suffering from cough, obtained from a physician a prescription in which "Benzole rect." was one of the ingredients. The medicine was dispensed by a druggist designated by the doctor, but, sometime afterwards, when a fresh supply was required, the prescription was taken to another druggist, who supposed that "benzole *nit.*" was indicated and supplied the medicine accordingly. When the patient had taken a quantity equal to about 23 minims of nitrobenzol, he felt so ill that he left his place of business for home, but soon fell senseless on the street, and was conveyed, apparently dead, to Guy's hospital, but under suitable treatment he ultimately recovered.

The prescription was shown to many medical men and druggists, and all agreed that nitro-benzole had been prescribed, and it was not until the druggist was found who first dispensed the medicine that the truth was discovered.

We are glad that the English medical journals have taken this matter in hand and are urgently calling for reform. As one of our contemporaries remarks, "It is probable, in the experience of a

majority of pharmacists, that almost perfectly illegible presciptions are frequently presented from *otherwise* thoroughly competent physicians. In such cases it is the duty of the pharmacist to decline to dispense them, and not let his pride in his expertness at deciphering probably get him into difficulty. Medical colleges should pay more attention to this branch of education." We thoroughly agree with this last suggestion and would recommend it to our medical authorities in Canada. Mistakes of this kind do not always originate in carelessness, but are really the result of deficient education, as every druggist who keeps a prescription file is well aware. Not a great time since we received a letter from a medical man who had been practising for several years in this province, and who had so far distinguished himself, while at college, as to obtain a gold medal. The epistle commenced thus, "dere Sir, i have been requested" etc. This simple, and by no means solitary instance, shows the necessity of a little more attention being paid to the matriculation examination, and we venture to say that reform in this particular would obviate a large proportion of the mistakes which are generally laid at the door of the unfortunate druggist.

THE DIFFERENCE BETWEEN IMPERIAL AND WINE MEASURES.

We have received several intimations that a few explanatory remarks regarding the imperial and wine systems of measurement would be acceptable to some of our readers. There appears to be a difficulty in understanding the statement made in the Weights and Measures Act that "twelve wine gallons shall be equal to ten Imperial or standard gallons;" but a little calculation, with reliable data, shows this to be correct enough for ordinary purposes. Thus, if we take the capacity of an Imperial gallon to be 277.274 cubic inches, and that of the wine gallon 231 cubic inches, we find if we add to the latter number one-fifth of itself, or 46.2, we obtain the figure 277.2 or within .074 of the required number. By performing the reverse operation, and deducting one-sixth, or 46.212, from 277.274 we get 231.062 or 62-thousandths of a cubic inch over the proper quantity. We may proceed on other data, and take the weight of an imperial gallon of water, measured at 60°F., to be

70,000 grains. If we deduct one-sixth, or 11,666, from this, we get 58,334 or as nearly as may be the weight of a wine gallon of water. Regarding the weight of a wine gallon there are some discrepancies amongst authorities. It is variously stated from 58,317.798 to 58,328.886 grains, according as the value of the wine ounce is estimated.

It will thus be seen that the relation of the capacity of the two gallons is as 6 to 5, or 12 to 10, as stated in the Act; and that the rule for converting wine gallons into Imperial by deducting one-sixth, or Imperial into wine by adding one-fifth, is practically correct.

If we try the truth of this rule by taking as data for our calculations the number of fluid ounces in each of the gallons we at once realize the difficulty of which our correspondents have spoken. The Imperial gallon contains 8 pints of 20 ounces each, or 160 ounces; the wine gallon eight pints of 16 ounces each, or 128 fluid ounces. If we take one-sixth from 160 we get 133.3—very much over the mark; or if to 128 we add one-fifth of that number we are nearly seven ounces under the mark.

These discrepancies arise from our taking the fluid ounces of both systems as being identical, when in reality they are not so. In the first calculations we took as our standards of reference the cubic inch and the grain. There is, of course, but one kind of cubic inch, and we know of no grain save that of the Troy system. There is, therefore, no liability to confusion of terms; but this is not so with regard to the fluid ounce, for we have two varieties differing so much in value that their interchange, for purposes of calculation, is quite inadmissable. The volume of an Imperial fluid ounce is identical with that of an ounce, avoirdupois, of water, weighed at the temperature of 60°, and at the average barometrical pressure, and is therefore equal to 437.5 grains. The weight of a fluid ounce, wine measure, is not so easily determined, or rather, authorities are not exactly agreed as to what it should be. The differences are not, however, very material, and only affect the second decimal figure. We may, therefore, assume the weight to be 455.6 grains, and the difference between the two ounces to be 18.1 grains, or about one-third of a fluid drachm. It is not only necessary to bear this fact in mind when making calculations, but in actual measurement also, and if very valuable or very powerful liquids are to be measured by the fluid ounce it becomes a matter of importance whether we employ

measures of English or American make. The latter are, of course, graduated according to the wine system and should not be imported into this country.

The difference between the two fluid ounces becomes quite important as we ascend the scale. By the time an Imperial pint is reached we find that if we use an American graduated measure to estimate that quantity we shall have nearly seven-eighths of an ounce in excess. Twenty wine ounces are equal to twenty ounces, 6 drachms and 37 minims, Imperial.

As the fluid ounces of the two systems are each divided into 480 minims it is evident that the minims cannot be of the same value. That of the Imperial standard weighs 0.91 of a grain; that of the wine measure 0.9493. Fluid drachms differ in the same proportion.

We are aware that to most of our readers these explanations may appear superfluous and unnecessary, but there are undoubtedly some persons who are still wanting in a thorough knowledge of the subject. We hope the majority will pardon this apparent waste of space.

DOCTOR AND DRUGGIST.

Our respected contemporary, the *Canada Lancet*, attempts a reply to an editorial which appeared in our August number, and under the caption "The Pharmaceutical Journal's Attack on the Medical Profession," treats the more bellicose of its readers to a somewhat garbled rendering of our views, and a rather inflammatory statement of its own opinions in regard to the keeping of drug stores by doctors. It is not our intention to carry on a paper warfare or engage in editorial fisticuffs with our contemporary. "We deprecate entirely the rousing of any antagonism between two professions so closely allied and yet so decidedly distinct as those of medicine and pharmacy." We are, however, obliged to correct our neighbor when he allows his feelings to lead him into error, or when with undue haste he makes a faulty diagnosis.

Some years ago, when the proposed amendments to the Pharmacy Act were first discussed by a committee of the Legislature, the medical profession determined to offer opposition, and a member of that fraternity, holding a high official position, was deputed

as its representative. This functionary appeared before the committee, and ere the bill had been read, at once opened fire by delivering a most vehement oration, which, though amusing, was at first utterly incomprehensible. However, it soon became apparent that the fiery disciple of Esculapius had entirely mistaken his ground, and that he was quite ignorant of the provisions of the original Act, and of the changes sought in the amendments. On being made acquainted with the true state of the case, he frankly owned his error, and also expressed himself strongly in favour of the measure. The editor of the *Lancet* has put himself in precisely the same position as did this Quixotic demolisher of windmills, and rushed blindfold to battle with an enemy of his own creation.

The *Lancet* thinks that instead of making capital out of the recent poisoning case referred to in our editorial, and of thus casting reflections on storekeeping doctors, "it would have been a legitimate commentary, both in the interest of the druggist profession and for the protection of the public, to have dwelt on the danger of employing unqualified assistants in dispensing medicine. The *Journal* might have insisted that the Pharmacy Act should be respected, by requiring assistants and dispensers to be certified under the Act." This is all very well, but unfortunately the present Pharmacy Act does not require that assistants shall be qualified, nor that they be certified at all. This is precisely what is contemplated by the amendments, and should these be carried next session, the recurrence of a poisoning case like that which took place in Dr. Richardson's shop would be decidedly less likely.

We think that the *Lancet* should set its readers right in this matter, and also inform them that the druggists do not contemplate any interference with the right of physicians to dispense their own medicines in whatever way they please; nor can anything in the present Act or the proposed amendments, be taken to indicate such interference, either directly or indirectly. It is only when a doctor keeps a *drug store* that the College of Pharmacy wants any say in the matter, and then all that is desired is that the doctor be entered without examination, on the register. This would place the doctor on the same footing as a druggist, and both would be alike subject to the same restrictions—that neither could take into partnership an unqualified person, nor employ an unqualified assistant to put up prescriptions. We see nothing unfair in this, and we are sure that when the subject is rightly understood, neither the *Lancet*, its readers, nor the public generally can think otherwise.

Editorial Summary.

OIL OF ORRIS.—Even at the present time very little is known regarding the odorous principle of orris. Some years ago the subject was brought up at a meeting of the Pharmaceutical Society of Great Britain, when some doubts were expressed whether the so-called oil of orris of commerce could be really obtained in that form from the root. It was, however, affirmed by Mr. Umney and others, that by repeated distillations of the root, with water, an oily substance was found floating on the watery distillate, and that this furnished the oil of orris of commerce. The product never exceeded one part from one thousand, and was of course very expensive. It was described as being of the consistence of a firm ointment, and possessing the characteristic odor of the root. Professor Fluckiger has been making some researches on this substance, and gives the results in the June number of the *Archiv der Pharmacie* of which an abstract appears in the *Pharm. Jour. & Trans.*, Aug. 12. It is stated that the living root of the orris has not any fragrance, but that the odorous principle is developed during drying, and may probably be included in the, as yet, uninvestigated class of so-called ferment oils. Vogel was the first chemist who occupied himself with this product, but the details given by him are quite unimportant. In 1835 Dumas gave to the French academy a paper in which he stated the composition of this substance to be C_8H_8O., and suggested its relationship to oil of roses. Professor Fluckiger finds that by repeated re-crystallizations of the oil, in alcohol, that there is finally attained crystalline scales, devoid of odor and having an acid reaction; and that the fragrant principle remains in the mother liquor. Examination of the crystals demonstrated the fact that they consisted of myristic acid, the composition and melting point being proved identical. The true odorous principle was not further examined, probably as the quantity at disposal was exceeding small. It is estimated that the amount present in the dried root cannot exceed one part in 10,000. The author sought to ascertain whether free myristic acid was already present in the root, but was unable to demonstrate the fact. The question arises, how the myristic acid, which can only with difficulty be distilled without decomposition, passes over with the oil. The explanation is to be sought in the phenomenon of diffusion, as in the case of oil of roses, which is accompanied by a stearoptene of similar character.

THE ACTIVE PRINCIPLE OF CAPSICUM.—In a former number (August, p. 31) we gave the results of experiments on capsicum, from which the author, Mr. J. C. Thresh, was at that time inclined

to conclude that the so-called capsicine did not exist. From a late paper in the *Pharm. Jour. & Trans.* we learn that the experiments have been continued, and that a crystalline substance has been obtained, possessing, in a marked degree, the characteristics of the fruit. It is described as being powerfully pungent, a most minute portion causing violent fits of sneezing. It dissolves slightly in boiling water, any excess floating on the surface as a colorless oil. It is readily soluble in proof spirit, and the solution, when not too dilute, gives white precipitates with barium and calcium chlorides. It can be volatilized without decomposition, the sublimate being in the form of fatty globules. It was obtained by dissolving capsicol in almond oil and agitating with proof spirit. The alcoholic solution was separated, evaporated, and the residue dissolved in dilute solution of potash, from which the crystals were, in time, deposited. The *capsaicin* was also obtained by dialysis. A few ounces of strong tincture were were placed in a parchment dialyser and floated in proof spirit. The spirit rapidly acquired a pungent taste, and, upon evaporation, deposited crystals identical with those obtained by the method before described. Mr. Thresh is now preparing a larger quantity of this substance so as to admit of its elementary analysis, which Professor Fluckiger has promised to undertake, so that the results can be presented at the ensuing meeting of the Pharmaceutical Conference.

ADULTERATION OF ANISEED.—The adulteration of anise by the admixture of mineral matter or clay is alluded to in a continental journal, (*Pharm. Jeschaftsb in New Remedies*). We have lately noticed in this country a specimen so contaminated, but in this case the mineral strongly resembles disintegrated granite. The adulteration by clay is thus described: "In the neighberhood of Wischau and Rausnitz, in Moravia, a grayish clay occurs, which is pushed up by the earthworms to the surface of the soil in small, roundish kernels, which have a most deceptive similarity to aniseed. There being a considerable crop of anise raised in that region, the seed dealers have made use of the clay kernel to adulterate aniseed up to 20 per cent. People who collect this clay, called "anise earth," or "anise clay," receive about one gulden per hundred-weight. To ascertain whether aniseed has been mixed with this substance, a pinch of the seed, held between the fingers, is allowed to fall from a height of about a foot, upon a sheet of white paper, when it will be very easy to pick out the admixture, and even to ascertain its probable percentage. This substance is also exported abroad, no doubt for similar purposes.

PREPARATION OF PURE GRAPE SUGAR.—According to Schwartz (*Zeitsch. f. anal. Chem. in New Remedies*), the best method for preparing pure grape sugar is the following: 50 measures of alcohol, 80 per cent. s.g. 0·864 are mixed with three measures of hydrochloric acid, and finely powdered white sugar is added until no more is dissolved. The deposition of grape sugar in wart-like crystals soon commences, and the liquid should be quickly decanted from any undissolved cane sugar and set aside. The crystals are washed with alcohol until the washings are no longer acid; they may then be dried upon filtering paper. Recrystallization in boiling absolute alcohol will furnish the product in a very pure form. The acid liquor, from which the crystals are first deposited, may be used repeatedly, fresh quantities of sugar being added.

MIXTURE OF CHLORAL HYDRATE AND CAMPHOR.—From the results of experiments, Mr. E. C. Saunders (*Pharm. Jour. & Trans.*), is of opinion that the apparent union of camphor and chloral is not of a chemical nature, but purely mechanical. When the mixture is subjected to heat and fractional distillation, a minute portion of a greenish oil is formed, which passes over with part of the chloral, at about 300° F. At 400° F., the distillate consists almost altogether of camphor. Taking into account the fact that camphor is of the nature of an essential oil it is argued that this body is the solvent, and this supposition is, to some extent, borne out by experiment. The following notes of the solubility of the mixture may be useful: "It is miscible in all proportions with alcohol sp. gr. 0·838; bisulphide of carbon; ether, and olive oil. It is soluble in eleven parts of alcohol, sp. gr. 0·937. It is insoluble in water. It forms a clear mixture with one and a half parts of chloroform, but is rendered turbid by the addition of three parts of chloroform. Camphor forms a permanent liquid with three times its weight of chloral hydrate, but the experiments made were upon the ordinary mixture of equal parts.

COMPOSITION OF THE ALOIN OF BARBADOES ALOES.—Dr. Ernst Schmidt, of Halle (*Arch v. der Pharm.* in *Pharm. Jour. and Trans.*) has been engaged in a series of experiments on aloin, which have given results identical, in most cases, with those obtained by Dr. Tilden, of England. Several different processes for the preparation of aloin were tried, but none were found so satisfactory so that of Tilden. According to this method, the aloes, in small pieces, is dissolved in nine or ten times its weight of boiling water acidulated with sulphuric acid. After cooling and standing, the clear liquor is

decanted from the resin, and then evaporated. The solution deposits a mass of yellow crystals which can be purified by washing, pressure, and recrystallization from hot spirit. This furnishes yellow needles, which are pretty soluble in water and in alcohol, but dissolve sparingly in ether. The crystals contain water of crystallization varying from 5 to 15 per cent.: the anhydrous substance, which may be prepared by exposing the crystals to a temperature of 100° C., have the composition $C_{16}H_{18}O_7$ = the formula given previously by Tilden.

Composition of Popular Face Lotions.—*Hagan's Magnolia Balm* and *Laird's Bloom of Youth* have been examined by Mr. G. J. Mitsch, who gives the results in an essay (*Am. Jour. Pharm.*) One bottle of the balm contained 3½ fluid ounces of liquid, and 262 grains of insoluble matter. The liquid portion contained two drachms of glycerin, was coloured by about half a grain of carmine, and perfumed with lavender and bergamot. The powder consisted of carbonate of zinc. A bottle holding 2½ ounces of Laird's preparation contained about 31 grains of oxychloride of bismuth; 130 grains of carbonate of zinc; 50 grains of carbonate of lime, and half a drachm of glycerin. The colouring matter was carmine, of which about one-quarter of a grain was present. The perfume was that of a mixture of lemon and bergamot. We are not told definitely of what the liquid portion consisted, but it is probable that water formed the basis, with perhaps a slight admixture of alcohol.

Syrup of Coffee.—According to Mr. R. H. Bernhardt (*Druggists' Circular*), this compound is best made by percolating two troy ounces of coffee in moderately fine powder, with distilled water, until sixteen fluid ounces have passed. This solution is then made to percolate through twenty-eight troy ounces of sugar, until a clear syrup is obtained. No heat is employed in any part of the process. The proportion of coffee may be increased if desired. The principal use of this preparation is that of disguising the taste of bitter or nauseous medicines.

Impurities in Hypophosphite of Soda.—M. Patrouillard (*Jour. de Pharm. et de Chimie*) reports having found a notable proportion of sulphate of soda in commercial hypophosphite. This may be detected by chloride of barium, which gives a white precipitate. The quantity may also be estimated by dissolving the salt in

alcohol of 90 per cent. (One part requires for solution fifteen parts of this strength). Sulphate of soda will be found as a residue, but it must be remarked that any phosphate present will also remain undissolved. The latter contamination may be detected by the nitrate of silver test.

ANTIDOTE TO RHUS POISONING.—An American exchange says that the inflammatory action caused by *Rhus toxicodendron* may be at once subdued by painting with tincture of gelsemium the affected part.

Proceedings of Colleges and Societies.

DRUGGISTS' ASSISTANTS' ASSOCIATION OF ONTARIO.

A meeting of the above association was held in the Mechanics' Institute, on Wednesday, September 6th. The principal business was the appointing of officers, which resulted in the election of the following gentlemen, who will hold office during the ensuing year:

Honorary President—E. B. SHUTTLEWORTH.
President—W. C. COUSENS. *Vice President*—W. H. ROWLAND.
Secretary—B. H. G. VICARS. *Treasurer*—F. H. HOLGATE.
Committee—MESSRS. BLUNDELL, DE LA PORTE, STEPHENS, DUNSPAUGH, AND SHEPPARD.
Auditors—MESSRS. DANIEL AND PICKERING.

The first regular meeting of the Association was held on Wednesday, September 20th. Mr. Shuttleworth in the chair.

The minutes of the previous meeting were read and approved, and several new members were elected. The Secretary said that the accession of new members was very encouraging, and that there was every prospect of the prosperity of the Society. Assistants and apprentices from the country were making numerous inquiries, and many were sending in their applications. After ordinary routine business had been disposed of, the paper for the evening was announced.

Mr. Cousens said that he had chosen for his subject "The Preparation of Tinctures," not only because it was important, but because most of the members present were familiar with the operations he was about to describe, and could, therefore, enter more fully and heartily into the discussion to which the reading of the paper would doubtless give rise. He then alluded to the modes of

maceration, digestion, and percolation, enlarging considerably on the latter process, and comparing the methods as described in the British and United States Pharmacopœias. He was of the opinion that the preliminary marceration, ordered by the former authority, was quite unnecessary, and that by the employment of a percolator of proper proportions, and powder of the requisite degree of fineness, the process could be conducted successfully from the time the packing was finished, and that in this way the most reliable product could be obtained in the shortest time.

Mr. Shuttleworth reviewed the chief points of the paper, and though quite agreeing with the writer, that under certain conditions, the thorough exhaustion of drugs could be effected most readily and completely by percolation, yet, in unskilled hands, there was a great liability to failure. Taking this into account, the framers of the Pharmacopœia had acted wisely in combining maceration and percolation in one operation. For substances of a hard texture, as nux vomica, or pareira brava, a previous maceration was always desirable. For the percolation of resinous or gummy substances, he considered the addition of sand a useless complication, and, indeed, to drugs of this nature the process of percolation was wholly inapplicable and unnecessary, as they could be much more readily dissolved by simple maceration, or, better still, by Burton's method.

Messrs. Blundell, Rowland, Holgate and Vicars also gave their ideas on the subject, and, during the discussion, much valuable information was elicted.

Mr. Blundell called attention to the fact that chloral hydrate was a solvent for gutta percha. He had noticed that the gutta percha tissue capping of a jar containing chloral had partially dissolved and dropped amongst the crystals beneath, thereby causing discoloration. The chloral had been received from a Montreal house, and it is possible that the vendors were not aware of the solvent action exercised by this substance. This effect was in some respects analagous to that of chloral on camphor, and it had lately been demonstrated, in England, that the vapor of chloral was quite sufficient to effect solution, and that actual contact of the two bodies was not necessary.

Mr. Blundell consented to read a paper at the next meeting, October 5th.

Mr. Vicars gave a reading, which was well received, after which a vote of thanks was tendered to Mr. Cousens for the first paper presented to the Association, when the meeting adjourned.

BRITISH PHARMACEUTICAL CONFERENCE.

We take from the *Pharmaceutical Journal and Transactions* the following account of this meeting, which was held on Tuesday, Sept. 5th, in the Hall of the Royal Hotel, Glasgow :—

It may appear to be but a repetition of what has been said in former years to announce that the latest meeting of the British Pharmaceutical Conference, held at Glasgow during the past week, has been at least as successful as that of any former year. But this is not a mere formal statement. Glasgow pharmacists may even boast of having been able to secure for this year's scientific meetings larger and more evenly sustained audiences than have supported the readers of papers on any previous occasion, whilst it is no wonder that with the beauties of the Clyde,—to say nothing of other inducements,—they were able to tempt a large company to take part in the excursion. But to the serious business first.

It will be seen that the Executive Committee was again able to present a favourable report, showing an income during the year in excess, by about £240, of the expenditure, including the cost of the year-book and the grants in aid of research. With respect to this latter branch of the operations of the Conference, we are informed that the Executive Committee has made the following fresh grants :—£5, extended, if necessary, to £10, to Mr. J. C. Thresh, F.C.S., for the purchase of materials in connection with an extended research on the active principle of capsicum fruit; £10 to Dr. Armstrong, F.R.S., for the purchase of strychnine, etc., with which to conduct a research on the oxidation products and bromo-derivatives of that alkaloid; £20 to Dr. Tilden, F.C.S., for the purchase of essential oils; and £50 to Dr. C. R. A. Wright, F.C.S., Mr. J. Williams, F.C.S., and Mr. T. B. Groves, F.C.S., to defray expenses in connection with extended researches on the aconitines.

The President's address amply justifies the cordiality with which it was received. In it Professor Redwood sets forth in an extremely clear and definite manner his views respecting the position that can be taken justifiably by pharmacists in respect to giving advice as to the use of the drugs they handle daily, and this portion of the address forms a valuable contribution to the literature of a subject which has been too frequently discussed under a cloud of self-interest. Good service in another direction is done by the interesting illustration of our comparative ignorance respecting much of the history of the materia medica, and there can be no doubt that the suggestion as to the application of some of the scientific energy and the funds of the Conference for the testing and comparing of results already obtained by various investigators, if effectively carried out, would at least clear the ground of some of the confusions and contradictions with which it is now covered. During the read-

ing of the address the large room of the Royal Hotel was filled with an evidently much interested audience, nor was the President less successful when in inviting discussion upon the several papers he showed in a few lucid and suggestive sentences the bearing which each had on pharmacy.

Twenty-eight papers were read. In the first, Mr. B. S. Proctor described the strength of four samples of liquid extract of pareira as varying between one and six. This result he attributed to the vagueness of the words "coarse powder," used for indicating the degree of comminution, although it might well be due to the crude materials not having had an identical origin. During the discussion the President expressed an opinion in favour of a clearer definition of the degree of fineness of powders in the next edition of the British Pharmacopœia. The next note was by Mr. Stoddart, on the action of hydrochloric acid on the colouring matter of *Crocus sativus* in the presence of sugar. Five papers on opium followed. Mr. Dott, induced by variations he had met with in the morphia strength of opium preparations, expressed himself strongly in favour of the use of definite chemical principles instead of crude drugs; Messrs. Proctor and Cleaver gave some valuable information respecting the assay of opium; Dr. Wright described his continued research on the opium alkaloids; and Mr. Brown announced the presence of free acetic acid in opium. Next the use of gum tragacanth and glycerine for a pill excipient was advocated by Mr. Welborn; afterwards Mr. Haffenden described his method of making phosphorus pills. Jaborandi this year furnished but one paper, that in which Mr. Gerrard described the action of various solvents upon "some salts of pilocarpine;" these he appeared to look upon as compounds of the alkaloid to which Mr. Kingsett recently attributed a definite formula, but Mr. Kingsett hardly acquiesced in the assumption. The next paper, by Dr. Wright, showed that with respect to the aconite alkaloids also there still exists considerable haziness. In the last paper read on Tuesday, Mr. Thresh gave some further information respecting the active principle of capsicum fruit and described some painful physiological experiments he had performed upon—himself.

The second day's proceedings opened with Mr. Kingsett's fourth report on the oxidation of essential oils, a research which the author indicates will probably eventuate in the manufacture commercially of a valuable antiseptic. Mr. Muir made a preliminary report on oil of sage. A preliminary report was also made on the chemistry of ivy, by Mr. Davies. Dr. Tilden summarized the results obtained from the administration of the varieties of aloin to patients in the Bristol Hospital, an account of which has already been published in this journal. Mr. Andrews suggested a formula for a Glycerinum Cinchonæ. Mr. Gerrard recommended the substitution of Canada balsam for the resin and suet in the B P. can-

tharides plaster, which he considers to be insufficiently adhesive and flexible. Mr. Brown proposed a citrate of iron and quinine, to be preserved by addition of chloroform. Such an addition, however, was generally disapproved of, and it was stated that a strong solution could be kept without it. Mr. Howie, whose recent valuable paper on the compound syrup of phosphates will be fresh in the memories of our readers, now submitted to the Conference the importance of deciding what should be considered the standard strength of this preparation. Mr. Greenish described the constituents met with in various filtering papers, and exhibited a specimen of Japanese filtering paper, prepared from the liber tissue of the paper mulberry (*Broussonetia papyrifera*). Three papers had for their subject salicylic acid. In consequence of the impurities met with in commercial salicylic acid, and the difficulty experienced in purifying, by recrystallization, salicylate of soda prepared from it, Mr. Williams's attention has been turned to the sulphosalicylate of soda. This salt gives with perchloride of iron the purple colour characteristic of salicylic acid, from which Mr. Williams infers that the salicyl radicle remains in it unchanged. Mr. Hunter has confirmed by fresh experiments the antiseptic properties of salicylic acid. Some experiments made by Mr. Benger to ascertain the condition in which salicylic acid is excreted by patients seemed to indicate that it then was no longer in an active or uncombined state. Mr. Siebold sent two papers, one on the preparation of a pure sulphur præcipitatum by only partial precipitation; the other, on the strength of tincture of nux vomica. Mr. Groves exhibited a specimen of so-called Pekoe "Flower," concerning the origin of which Mr. Greenish contributed some information. This was the last of the papers.

The Conference then proceeded to the election of officers. Professor Redwood was re-elected President, and it was decided to accept an invitation to meet next year at Plymouth. Enthusiastic votes of thanks to the local committee and to the President closed the proceedings.

Varieties.

TELEGRAPHY BY MEANS OF TUNING FORKS.—P. la Cour (Denmark) has invented a new telegraph apparatus (June, 1874), which bids fair to play an important role at no distant future. It is based on the fact that when a tuning-fork, by its vibrations, closes and opens an electrical circuit, another tuning-fork, connected with it by the wire—provided it have the same pitch —will be made to vibrate. Any number of differently pitched tuning-forks

may be connected with others by the same single-wire *and only the corresponping ones* (the isochronous) *can be made to vibrate.* The practicability of the above method of telegraphing was demonstrated on the wire between Copenhagen and Fredericia (390 kilometers, about 250 miles). (The description of the instrument, the advantages accruing from its use and the detailed experiments will be found in "Ann. de Chim. et de Phys.," 1875, p 284)—*Arch. for Ph.*, 1875, p. 466 *Amer. Jour. Pharm.*

A LINK BETWEEN VANILLA AND ASSAFŒTIDA.—Another instance of the meeting of extremes has been furnished in course of the extremely interesting investigations upon vanillin undertaken by Herr Tiemann. It has been found that by the action of acetic anhydride upon the sodium salt of vanillin a coumarin-like body is produced, which has been named vanillin-coumarin. This body when boiled with caustic potash is converted into an acid identical with the ferulic acid obtained from assafœtida. Herr Tiemann considers that these results show that ferulic acid, which has the composition $C_{10}H_{10}O_4$, must be considered as hydroxylized methoxylized cinnamic acid, or methyl-caffeic acid, and that most probably it is the acid corresponding to coniferyl-alcohol.—*Pharm. Journal.*

JAPAN INK.—Take of Aleppo galls one-half-pound; logwood chips and copperas, each one-quarter of a pound; gum arabic, three ounces; sugar, one ounce; sulphate of copper, one-half ounce; sugar-candy, one-half ounce. Put the galls and logwood in six quarts of water. Boil slowly until the water is reduced in volume one-half. Strain through cotton-flannel, and add the other ingredients. Keeping the solution warm, stir until the ingredients added are dissolved. It should then be placed in a deep glass vessel and allowed to settle. The ink may be removed from the settlings by pouring off carefully, or using a syphon. The gloss of the ink may be increased or diminished by increasing or diminishing the amount of gum used in the recipe. If carbolic acid be added until its odor is just perceptible, it will prevent moulding. Oil of clove added will also effect the same result, and it gives the ink a less offensive odor.—*Amer. Artizan.*

VANILLA AS A WASTE PRODUCT IN THE MANUFACTURE OF PAPER.—In the preparation of wood pulp for paper, fine wood is treated to a solution of caustic soda under high pressure in iron boilers. After the operation the solution contains the soda salts of resinic acid, humic acid, and carbonic acid, and some other resinous bodies. In this solution the soda salt of vanilla must also be present, if it has not been destroyed by the high pressure and temperature. The presence of this body is indicated by the intense vanilla odor which always appears on treating the above liquor with acids and allowing it to stand a few days.—*Scientific American.*

MILK FOR BABES.—The *Boston Journal of Chemistry* translates some important remarks from the *Berichte der Deutschen Chemischen zu Berlin*:—"According to P. Ebell, when benzoylnaphtylamide is treated with nitric acid, two isomeric mononitrobenzoylnophtylamides are formed. By the action of hydrogen upon these bodies different products are obtained. One yields monoamidobenzonaphtylamide, the other anhydrobenzodiamidonaphtalene. F. Meinecke finds that when bromine is allowed to act on benzaanilide, monobrombenzanilide is produced, and that the latter, when treated with fuming nitric acids yields monobrommonitrobenzanilide and also bromdinitrobenzanilide."—*Chemist and Druggist.*

SUBERINE.—Lycopodium powder and powder of old wood have been successfu ly replaced by *suberine*, a powder of vegetable origin, which takes its name from the tree that produces it (*Quercus suber*). Suberine is essentially a French product, for the Quercus suber grows abundantly in Southern France and in Algeria; it is one-fourth less expensive than lycopodium It is only useful in the toilet of young children and corpulent persons, but it is useful also in absorbing the products of blister secretions, in ulcers, in extensive excoriations, etc., etc. Suberine owes to its balsamic properties and the tannin, which it contains in large proportions, the qualities which render its action superior to that of lycopodium, powered rice, starch, etc. —From *Revue Thérapeutique*, 1876.—*The Clinic.*

HOW TO MAKE LEECHES BITE.—The *Medical Press* quotes the following from *Le Progres Medical*. We scarcely see how a glass half filled with cold water and leeches can be conveniently applied in all cases, but there may be something in the notion—"In order to make leeches 'take' immediately we should put them into a glass half filled with cold water. We should next carefully bathe with warm water the part to which we wish to apply the leeches, and then quickly apply the glass to the skin. By this means the leeches will attach themselves to the skin with surprising rapidity, the patient merely feeling one single bite. When all the leeches have taken, the glass should be removed in such a manner as not to wet the patient. To accomplish this it will be sufficient to receive the water at the most depending part into a sponge. If we wish to apply the leeches to only a very limited surface, all we need do is to place on the glass previously to its application a sheet of strong paper with a hole cut in it of the required size.—*Chemist & Druggist.*

MINERAL COTTON.—This substance is employed for enveloping pipes, resorvoirs, &c. of water or steam, to prevent cooling, has for some time been prepared in metal-works by passing a current of steam over fused dross. It is white or greyish, and the filaments are strewn with little glass globules perceptible to the touch, and falling down when shaken. The length of thread sometimes reaches nearly two inches, but most of them are much shorter. When the substance is squeezed, a crashing is heard, owing to the breaking of the threads, or perhaps only their rubbing. It is not hygrometric, but capable of retaing much water. Mineral cotton is a very bad conductor of heat. When placed on the skin, it produces a sensation of heat. In order that pipes, &c., may be effectually prevented from cooling, they must be covered with a layer of mineral cotton 3 inches deep; thus a surface of a square metre (nearly 14 square feet) requires 4 kilogrammes (nearly 9 lbs.) of the substance. No warmth is left on touching a steam pipe thus covered.—*New Remedies.*

PEANUTS *v.* OLIVES.—Marseilles annually derives large quantities of peanuts from Pondicherry, which shipments have been largely augmenting. In 1874 thirty thousand bags were imported, and in 1875 one hundred and eighty thousand bags. As peanuts are almost unknown as an edible in France, we infer that pressure is brought to bear upon them for the extraction of their oil, which turns up afterwards in our salads and Castile soaps. —*Chemist & Druggist.*

REMEDY FOR DANDRUFF.—A French physician recommends to apply a solution of chloral hydrate containing 5 per cent. of the latter, by rubbing from half to one ounce into the scalp by means of a sponge, and re-

peating it every morning. A slight burning sensation and reddening of the scalp occurs, disappearing after two minutes. If the hair had fallen off in consequence of the dandruff, it will be renewed in about a month.—*Apoth. Ztg., No. 25, Am. Jour. Pharm.*

CARBONADO.—For some time a black, shining mineral has been found in Brazil, which has been found to consist of pure carbon. It is as hard as the diamond, and being much cheaper than even the smallest diamonds, it finds useful application for cutting diamonds. It enters into commerce under the name of carbonado, and is frequently found in the districts of Bahia, in pieces weighing over 1,000 carats.

A NEW MUCILAGE.—The *Journal de Pharmacie* states that if to a strong solution of gum arabic, measuring 8½ fluid ounces, a solution of 30 grains of sulphate of aluminium dissolved in two-thirds of an ounce of water be added, a very strong mucilage is formed, capable of fastening wood together, or of mending porcelain or glass.

ALEIC ACID AS A SOLVENT AND TEST FOR GUM COPAL.—A very small quantity of oleic acid dropped upon a sample of gum copal, and but gently warmed, will dissolve that gum completely. It is also an excellent reagent for distinguishing true amber from its imitation in copal.

A GOOD BROWN OAK STAIN is produced by preparing the wood with a solution of 1 oz. catechu, boiled in 1½ pints of water. When dry, brush over a solution of bichromate of potash 1 oz. to 1½ pints of water.

A NEW KIND OF SPONTANEOUS COMBUSTION.—"Pharm. Centralh.," 1875, No. 25, reports a case of spontaneous combustion arising in a box of chipped logwood, which probably had been packed in a moist state.

Registrar's Notices.

RENEWALS CONTINUED.

Boyle, R. W., Toronto.
Bray, W. T., Chatham.
Davey, N. W., Morrisburg.
Egar, W. G., Mill Point.
Hoag, A. N., Thamesville.
Hutton, James, Forest.
Jordan, Wm., Wingham.
Mackendrick, G. M., Kincardine.
Meade, H., Trenton.
Mitchell, G. A., Port Hope.
McCallum, C., London.
McCollum, W. A., Tilsonburg.
Perrin, S., Lindsay.
Petrie, A. B., Guelph.
Rounds, C. D., Drumbo.
Sproule, G. F., Brantford.
Taylor, R. N., Hamilton.
Thurtell, R. N., Teeswater.
Urquhart, John, Oakville.
Whitehead, R. W., Trenton.
Wilson, John, Simcoe.

NEW REGISTRATIONS.

Leslie, James F., Mill Point.
Rutherford Sam'l G., Mill Bank.

DRUGS, MEDICINES, &c.	$ c.		$ c.
Acid, Acetic, fort	0 13	@	0 14
Benzoic, pure	0 22		0 27
Citric	0 90		1 00
Muriatic	0 03½		0 05
Nitric	0 10		0 13
Oxalic	0 15		0 17
Sulphuric	0 03		0 05
Tartaric, pulv	0 47		0 50
Ammon, carb. casks	0 18		0 20
" jars	0 18		0 20
Liquor, 880	0 20		0 22
Muriate	0 14		0 15
Nitrate	0 45		0 60
Æther, Acetic	0 45		0 50
Nitrous	0 40		0 42
Sulphuric	0 45		0 50
Antim. Crude, pulv	0 15		0 17
Tart "	0 50		0 55
Alcohol, 95 per ct. Cash	2 13		0 00
Arrowroot, Jamaica	0 18		0 22
Bermuda	0 50		0 65
Alum	0 02½		0 03½
Balsam, Canada	0 33		0 38
Copaiba	0 80		0 90
Peru	2 90		3 20
Tolu	3 20		3 40
Bark, Bayberry, pulv	0 18		0 20
Canella	0 17		0 20
Peruvian, yel. pulv	0 35		0 50
" red "	1 60		1 70
Slippery Elm, g. b	0 18		0 20
" flour, packets	0 28		0 32
Sassafras	0 15		0 18
Berries, Cubebs, ground	0 20		0 25
Juniper	0 06		0 10
Beans, Tonquin	1 00		1 20
Vanilla	18 00		24 00
Bismuth, Alb	2 25		2 50
Carb.	2 40		2 65
Camphor, Crude	0 33		0 35
Refined	0 35		0 40
Cantharides	1 80		1 90
Powdered	1 90		2 00
Charcoal, Animal	0 04		0 06
Wood, powdered	0 10		0 15
Chiretta	0 23		0 30
Chloroform	0 90		1 55
Cochineal, S. G	0 60		0 70
Black	65		0 70
Colocynth, pulv	0 60		0 65
Collodion	0 70		0 80
Elaterium	3 20		4 00
Ergot oz	1 50		1 75
Extract Belladonna	1 65		1 80
Colocynth, Co	1 25		1 75
Gentian	0 50		0 60
Hemlock, Ang	0 00		0 95
Henbane, "	2 50		2 60
Jalap	5 00		5 50
Mandrake	1 75		2 00
Nux Vomic oz	0 40		0 50
Opium oz	1 40		
Rhubarb	5 00		5 50
Sarsap. Hon. Co	1 00		1 20
" Jam. Co	3 50		4 00
Taraxacum, Ang	0 70		0 80
Flowers, Arnica	0 17		0 25
Chamomile	0 28		0 32
Gum, Aloes, Barb. extra	0 70		0 80
" " good	0 40		0 50
" Cape	0 16		0 20
" powdered	0 20		0 30
" Socot	0 50		1 35
" pulv	1 00		0 00
Arabic, White	0 38		0 60
" powdered	0 60		0 75
" sorts	0 19		0 24
" powdered	0 42		0 50
" com. Gedda	0 13		0 16
Assafœtida	0 12		0 20
British or Dextrine	0 13		0 15
Benzoin	0 35		0 75
Catechu	0 12		0 15
" powdered	0 25		0 30
Euphorb, pulv	0 40		0 45
Gamboge	1 00		1 20
Guaiacum	0 35		1 00
Myrrh	0 50		0 80

DRUGS, MEDICINES, &c.—*Contd.*	$ c.		$ c.
Sang Dracon	0 60		
Scammony, powdered	5 50		6 00
" Virg. "	14 50		—
Shellac, Orange	0 50		0 60
Gum, Shellac, liver	0 33		0 40
Storax	0 40		0 45
Tragacanth, flake	1 10		1 75
" common	0 53		0 65
Galls	0 22		0 30
Gelatine, Cox's 6d	1 15		1 20
Glycerine, common	0 18		0 23
Vienna	0 25		0 28
Prices	0 60		0 75
Honey, Canada, best	0 16		0 17
Lower Canada	0 12		0 13
Iron, Carb. Precip	0 16		0 20
" Sacchar	0 40		0 55
Citrate Ammon	1 10		1 20
" & Quinine, oz	0 40		0 85
" & Strychine	0 17		0 20
Sulphate, pure	0 08		0 10
Iodine, good	3 20		3 50
Resublimed	3 90		4 20
Jalapin	1 25		1 50
Kreosote	2 40		2 50
Leaves, Buchu	0 22		0 32
Foxglove	0 25		0 30
Henbane	0 35		0 40
Senna, Alex	0 27		0 60
" E. I	0 14		0 20
" Tinnevilly	0 20		0 30
Uva Ursi	0 15		0 17
Lime, Carbolate brl	5 50		—
Chloride	0 05		0 06
Sulphate	0 08		0 12½
Lead, Acetate	0 13		0 14
Leptandrin oz.	0 60		—
Liq. Bismuth	0 50		0 60
Lye, Concentrated	1 30		1 50
Liquorice, Solazzi	0 50		0 55
Cassano	0 23		0 40
Other brands	0 14		0 25
Liquorice, Refined	0 35		0 45
Magnesia, Carb. 1 oz.	0 20		0 25
" 4 oz.	0 19		0 20
Calcined	0 60		0 65
Citrate gran.	0 60		0 75
Mercury	0 80		0 85
Bichlor	0 90		1 00
Chloride	1 00		1 10
C. Chalk	0 50		0 55
Nit. Oxyd	1 15		1 25
Morphia Acet	3 15		3 25
Mur.	3 15		3 25
Sulph	3 30		3 50
Musk, pure grain oz	25 20		.....
Canton	10 60		1 20
Oil, Almonds, sweet	0 55		0 60
" bitter	14 00		15 00
Aniseed	3 25		3 50
Bergamot, super	5 50		6 00
Caraway	3 20		3 50
Cassia	2 00		2 25
Castor, E. I	0 10½		0 12
Crystal	0 22		0 25
Italian	0 24		0 26
Citronella	1 00		1 10
Cloves, Ang	3 75		3 80
Cod Liver, Imp. Gal	1 80		1 90
Croton	1 40		1 50
Juniper Wood	0 80		1 00
Berries	2 75		3 00
Lavand, Ang. oz.	0 00		1 00
Exotic	1 25		1 50
Lemon, super	3 90		4 00
ord	0 00		0 00
Orange	3 00		3 25
Origanum	0 65		0 75
Peppermint Ang	15 00		16 00
" Amer	4 00		5 00
Rose, Virgin	8 50		8 75
" good	6 60		6 75
Sassafras	0 75		0 90
Wintergreen	3 60		5 75
Wormwood, pure	5 00		6 00
Ointment, blue	0 95		1 00
Opium, Turkey	7 20		7 50
pulv	9 50		9 75

DRUGS, MEDICINES, &c.—*Cont'd*	$ c.	$ c
Orange Peel, opt.	0 35	0 36
" good	0 15	0 20
Pill, Blue, Mass	0 95	1 00
Potash, Bi-chrom	0 16	0 18
Bi-tart	0 30	0 32
Carbonate	0 13	0 15
Chlorate	0 30	0 35
Nitrate	8 00	9 00
Potassium, Bromide	75	0 80
Cyanide	0 55	0 60
Iodide	2 75	2 90
Sulphuret	0 25	0 35
Pepsin, Boudault's oz	1 40	—
Houghton's doz.	8 00	9 00
Morson's oz.	0 85	1 10
Phosphorus	1 10	1 20
Podophyllin	0 50	0 60
Quinine, Pelletier's	—	2 45
Howard's	2 60	—
" 100 oz. case	2 55	—
" 25 oz. tin	2 55	—
Root, Colombo	0 13	0 20
Curcuma, grd	0 12½	0 17
Dandelion	0 17	0 20
Elecampane	0 16	0 17
Gentian	0 08	0 10
" pulv	0 15	0 20
Hellebore, pulv	0 00	0 00
Ipecac, "	1 50	1 60
Jalap, Vera Cruz	90	1 15
" Tampico	0 70	1 00
Liquorice, select	0 12	0 13
" powdered	0 15	0 20
Mandrake "	0 20	0 25
Orris, "	0 20	0 25
Rhubarb, Turkey	2 10	2 25
" E. I	1 00	1 10
" " pulv	1 10	1 20
" " 2nd	0 60	0 70
" French	0 75	—
Sarsap., Hond	0 60	0 65
" Jam	0 95	1 00
Squills	0 10	0 15½
Senega	0 80	9 90
Spigelia	30 0	0 32
Sal., Epsom	2 00	2 50
Rochelle	0 30	0 32
Soda	0 01½	0 02
Seed, Anise	0 13	0 16
Canary	0 10	0 12
Cardamon	2 00	2 10
Fenugreek, g'd	0 08	0 09
Hemp	0 06½	—
Mustard, white	0 16	0 17
Saffron, American	0 50	0 60
Spanish	10 00	11 00
Santonine	15 00	15 50
Sago	0 08	0 09
Silver, Nitrate Cash	14 50	16 00
Soap, Castile, mottled	0 11	0 14
Soda, Ash	0 03½	0 05
Bicarb. Newcastle	4 00	4 25
" Howard's	0 14	0 16
Caustic	0 03¾	0 04
Spirits Ammon., arom	0 35	0 35
Strychnine, Crystals	2 00	2 20
Sulphur. Precip	0 12	0 13
Sublimed	0 03½	0 05
Roll	0 03	0 04½
Vinegar, Wine, pure	0 55	0 60
Verdigris	0 35	0 40
Wax, White, pure	0 70	0 80
Zinc. Chloride oz	0 10	0 15
Sulphate, pure	0 10	0 15
" common	0 06	0 10
DYESTUFFS.		
Annatto	0 35 @	0 60
Aniline, Magenta, cryst	2 00	2 60
" liquid	2 00	—
Argols, ground	0 15	0 25
Blue Vitrol, pure	0 07½	0 09
Camwood	0 07	0 08
Copperas, Green	0 01½	0 02
Cudbear	0 16	0 25
Fustic, Cuban	0 03	0 04
Indigo, Bengal	2 40	2 50
Madras	0 75	0 80
Extract	0 26	0 30

DYESTUFFS—*Continued.*		
Japonica	0 07	0 08
Lacdye, powdered	0 33	0 38
Logwood	0 02½	0 03
Logwood, Camp	0 02¾	0 03
Extract	0 12	0 13
" 1 lb. bxs	0 15	—
" ½ lb. "	0 16	—
Madder, best Dutch	0 09	0 10
2nd quality	0 08	0 09
Quercitron	0 03	0 05
Sumac	0 06	0 08
Tin, Muriate	0 10½	0 12½
Redwood	0 05	0 06
SPICES.		
Allspice	0 11½@	0 12
Cassia	0 26	0 28
Cloves	0 50	0 55
Cayenne	0 17	0 20
Ginger, E. I	0 14	0 15
Jam	0 25	0 30
Mace	1 10	1 10
Mustard, com	0 20	0 25
Nutmegs	1 00	1 05
Pepper, Black	0 16	0 17
White	0 26	0 28
PAINTS, DRY.		
Black, Lamp, com	0 09 @	0 10
" refined	0 25	0 30
Blue, Celestial	0 08	0 12
Prussian	0 65	0 75
Brown, Vandyke	0 10	0 12½
Chalk, White	0 01	0 01½
Green, Brunswick	0 07	0 10
Chrome	0 16	0 25
Paris	0 26	0 28
Magnesia	0 20	0 25
Litharge	0 07	0 09
Pink, Rose	0 12½	0 15
Red Lead	0 07½	0 08
Venetian	0 02½	0 03½
Sienna, B. & G	0 07	0 08
Umber	0 07	0 10
Vermillion, English	0 90	1 00
American	0 25	0 35
Whiting	0 85	1 00
White Lead, dry, gen	0 08½	0 09
" " No. 1	0 07	0 08
" " No. 2	0 05	0 07
Yellow Chrome	0 09	0 15
" Ochre	0 02½	0 03½
Zinc White, Star	0 09	0 11
COLORS, IN OIL.		
Blue Paint	0 12 @	0 15
Fire Proof Paint	0 06	0 08
Green, Paris	0 30	0 37½
Red, Venetian	0 07	0 10
Patent Dryers, 1 lb tins	0 10	0 12
Putty	0 03¾	0 04½
Yellow Ochre	0 08	0 12
White Lead, gen. 25 lb. tins	2 35	—
" No. 1	2 10	—
" No. 2	1 85	—
" No. 3	1 60	—
" com	1 30	—
White Zinc, Snow	2 75	3 25
NAVAL STORES.		
Black Pitch	3 00 @	3 25
Rosin, Strained	3 50	3 50
Clear, pale	4 50	5 00
Spirits Turpentine Imp. Gall.	0 53	0 55
Tar Wood	5 50	6 00
OILS.		
Cod Imp. Gal.	0 84 @	0 86
Lard, extra "	1 25	1 27
No. 1 "	1 14	1 16
No. 2 "	1 02	1 05
Linseed, Raw per 7½ lbs.	0 55	0 58
Boiled "	0 59	0 62
Olive, Common Imy. Gall.	1 20	1 22
Salad "	2 01	2 10
" Pints, cases	4 00	4 20
" Quarts	3 25	4 50
Seal Oil, Paleim. Gall.	0 84	3 86
Straw "	0 70	0 80
Sesame Salad "	1 56	1 60
Sperm, genuine "	2 55	2 75
Whale refined	2 55	2 75