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Original and Selected Papers.

ON A COMMON SOURCE OF ERROR IN CONVERTING IMPERIAL INTO WINE MEASURE.

BY E. B. SHUTTLEWORTH.

In making any of the official preparations, of which liquids form a part, it either becomes necessary to use Imperial measures, or else to reduce the quantities to the wine or apothecaries standard. The latter expedient is, generally, adopted, inasmuch as wine measures are, in this country, best suited to the purposes of trade, and are possessed by all; while measures of the Imperial gallon, and its divisions, are but seldom seen. This observation holds true particularly in regard to the larger tin measures, which are indispensable in large operations; but even when referring to graduated glass measures of one or two pints capacity, we find the apothecaries system prevailing. Many druggists are in the habit of using these smaller measures without regard to the standard which they represent, considering that an ounce is an ounce, by either system; others recognize a difference, but think it of too trifling a nature to be of practical importance. As far as an ounce, or a few ounces, are concerned, this may be perfectly true, and, perhaps, allowable, but should the quantity reach a pint, or even less, the difference is quite appreciable.

The supposition that the Imperial and wine ounces are alike, or nearly so, has led to the establishment of a rule, which is not only largely used in practice, but may also be found laid down by several authorities. "*To change Imperial gallons, quarts, or pints into wine measure, deduct one fifth; for the reverse operation add one fourth.*" The extreme simplicity of this rule, and the ease with which it can be carried into effect, have secured its almost universal acceptance; but even for the ordinary operations of buying and selling, it is far from being sufficiently exact, and for the compounding of medicines, it is altogether inadmissable, and unworthy of the employment of any claiming the name of pharmacist. There are many in the habit of using this rule, in compounding their medicines, who would, doubtless, resent the assertion that their liquid preparations—their tinctures—were altogether unreliable, and were lacking over 3½ per cent. in strength. Such would be, nevertheless, the fact. This is rendered evident by the following considerations:—

If an imperial minim be weighed, at a temperature of 60° F., and a barometrical pressure of 30 inches, it will be found to represent ·9114 of a grain; the minim, wine, under like conditions, weighs ·9493; the difference between the two minims, is, therefore, about the 379-1000th of a grain. By the time the ounce is reached, this is augmented to a little over 18 grains; the ounce being equal to 455·69 grains, and the ounce, Imp. to 437·5; (the Imperial ounce, and the avoirdupois ounce are of the same value). The most important measure to the pharmacist is the Imperial pint; this is equal to 8750 grains, while a wine pint weighs 7291·1 grains. The difference between 16 oz. wine, and 16 oz. Imp., is about 291 grains or over ⅔ of an ounce. This is not only an appreciable, but a serious difference; and it is plain that if a measure, graduated according to the wine standard, be used instead of an Imperial one, in making any of the stronger preparations, as *liq. strychniæ*, or *liq. morphiæ acetatis*, that these preparations will be proportionately weaker; in the above instances the deficiency would amount to about two and a half grains in the pint.

If, in making large quantities of tinctures, or other preparations, the rule of deducting one-fifth be employed, the difference, in some cases, amounts to over a pound, in the quantity of even a few gallons. Some years ago, the writer constructed tables for converting the amount of solid ingredients prescribed to certain definite Imperial measures, into the corresponding quantities of wine measure; one of these tables is now submitted, showing the amounts required for one pint, Imp., in measures up to ten gallons, wine:—

TABLE FOR CONVERTING THE QUANTITIES ORDERED TO ONE PINT IMPERIAL MEASURE, INTO THOSE REQUIRED FOR VARIOUS MEASURES OF THE WINE OR APOTHECARIES' STANDARD.

Quantity of substance to ONE PINT, Imperial Measure.		Corresponding quantity to ONE PIN , Wine Measure.		Quantity to ONE GALLON, Wine Measure.			Quantity to FIVE GALLONS, Wine Measure.			Quantity to TEN GALLONS, Wine Measure.		
oz.	grains.	oz.	grains.	lbs.	oz.	grains.	lbs.	oz.	grains.	lbs.	oz.	grains.
.....	1	.....	·833	.....	.....	6·6	.....	.....	33·3	.....	.....	66·6
.....	10	.....	8·332	.....	.....	66·6	.....	.....	333·2	.....	1	229·0
.....	30	.....	24·996	.....	.....	199·9	.....	2	124·8	.....	4	249·6
.....	40	.....	33·328	.....	.....	266·6	.....	3	20·6	.....	6	41·2
.....	60	.....	49·992	.....	.....	399·9	.....	4	249·6	.....	9	61·8
.....	75	.....	62·490	.....	1	62·4	.....	5	312·1	.....	11	186·7
.....	100	.....	83·320	.....	1	229·0	.....	7	270·3	.....	15	103·1
.....	150	.....	124·980	.....	2	124·8	.....	11	186·7	1	6	373·4
.....	180	.....	151·976	.....	2	324·8	.....	13	311·5	1	11	185·5
¼	.....	.....	91·137	.....	1	291·5	.....	8	145·5	1	0	291·0
½	.....	.....	182·275	.....	3	145·7	1	0	291·0	2	1	144·5
¾	.....	.....	273·412	.....	4	437·3	1	8	436·4	3	1	435·4
1	.....	.....	364·550	.....	6	291·4	2	1	144·5	4	2	289·0
1½	.....	1	109·325	.....	9	437·1	3	1	435·4	6	3	433·4
2	.....	1	291·600	.....	13	145·3	4	2	289·0	8	5	140·5
2½	.....	2	36·375	1	0	291·0	5	3	142·6	10	6	285·0
3	.....	2	218·650	1	3	436·7	6	3	433·5	12	7	399·5
4	.....	3	145·700	1	10	290·6	8	5	140·5	16	10	281·0
5	.....	4	72·750	2	1	144·5	10	6	285·0	20	13	132·5
8	.....	6	291·400	3	5	143·7	16	10	281·0	33	5	124·0
16	.....	13	145·300	6	10	287·4	33	5	124·5	66	10	249·0

Solution of Citrate of Magnesia.*

BY R. ROTHER.

In the above familiar title we behold the officinal synonym for magnesium citrate. That preparation, therapeutically so much esteemed, but pharmaceutically abhorred, which as viewed from the officinal standpoint, deservedly shares the aversion entertained by the pharmaceutical profession, whilst the opprobrium cast upon it is justly due to its inconstancy of composition and unstable character—results that are entirely attributable to the fallacy of the officinal edict. Normal magnesium citrate ($Mg''_3(C_6H_5O_7)2$, when freshly prepared, is exceedingly soluble in water, but in moderately concentrated solution it rapidly undergoes a molecular change, and unites with seven atoms of water ($Mg''_3(C_6H^5O_7)2$, 7 OH_2). The insoluble combination thus produced is, consequently, thrown out of solution. But, in solutions similar to the officinal, owing to its moderate degree of dilution, this transformation is not instantaneous, but if once begun, rapidly progresses, until a limit is determined by the presence of the solvent; yet, only after the greater portion of the magnesium has been rendered insoluble and inert. The article is then, of course, in an unsaleable condition, and, not unfrequently, a serious loss to the conscientious pharmaceutist, whose integrity led him to misplace his confidence by a too strict adherence to the officinal code, but magnesium citrate, in this condition, is by no means a loss, since application of a gentle heat again restores its solubility. The solution, after being rebottled, posesses an indefinite permanence, altogether similar to the fresh preparation.

A moderate excess of acid is, also, of no avail, unless it be present in sufficient quantity to form the bimetallic salt (Mg'' C_6 H_5 O_7), which, however, is not the intent of the pharmacopœia, for, as in case of the officinal quantity, if the magnesium were reduced, and all the acid retained, an immoderate excess of this then virtually results, which could not fail to be therapeutically objectionable.

Knowing that the officinal formula is entirely unsatisfactory, it is not surprising to notice a rather strong disposition to dissent from it, and in the absence of a reliable guide, there is nothing more natural than that operators should follow their own inclinations in this respect. Hence, we see those who invariably adhere to the pharmacopœia, where such a possibility exists, prepare but a few bottles of it at a time, from day to day, as the demand requires. In this case the preparation is not finished until called for, when the final addition of the potassium carbonate is made. But this resort is very impractical, yet it is the only recourse for those who vow allegiance to the pharmacopœia. Others, out of ignorance, substitute magnesium carbonate for the oxide in the same quantity, and thus obtain a permanent solution of the bimetallic salt, with its excessive quantity of acid. Again, others see fit to reduce both acid and oxide, usually substituting carbonate for the latter, upon economical grounds, although preserving the proportion of magnesium by the change. A solution about half the strength of the officinal keeps much better, in their experience.

Yet, by far, the greater number do not dispense magnesium citrate at all, but, under the pretence, and in bottles labelled magnesium citrate, variable solutions of sodium tartrate, or sodium citrate, either alone, a mixture of the two, or separately, but contaminated with insignificant admixtures of the corresponding magnesium salts, are largely thrown into market, and consumed with as much relish, and as, apparently, happy, effects, as though it were the pure citrate.

Now, since the sodium tartrate and citrate are, therapeutically, similar to the corresponding magnesium salts, and, in themselves, stable preparations, and much cheaper products, there is no reason why they should not, officinally, replace, in whole or part, the pharmaceutically obnoxious magnesium compound. The universal desire is to obtain a permanent preparation that is, therapeutically, identical with the magnesium citrate, and can either replace, or pharmaceutically modify the latter.

We know that a solution about half the strength of the officinal is much more permanent, and that this permanence is rendered indefinite by a sufficient quantity of sodium citrate; and as sodium citrate is, therapeutically, identical with the former, and equally tasteless, there exists no just reason that can prevent an officinal substitution to be made.

For this purpose 40 grains of magnesium oxide, equal to 91 grains of the carbonate, are replaced by an equivalent quantity of either mono, or disodium carbonate, which would be 168 grains of the former, or 286 grains of the latter, and substituting 182 grains (equivalent quantity) of magnesium carbonate for the remaining 80 grains of the oxide. We can construct the following formula, which contains the compound Mg'' Na C_6 H_5 O_7.

Take of

Citric acid, in coarse powder	457½ grs.
Magnesium carbonate	182 "
Monosodium carbonate	168 "
or Disodium carbonate, crystallized	286 "
Monopotassium carbonate	40 "
Essence lemon	a few minims.
Sugar, in coarse powder	1½ oz. Troy.
Water, sufficient.	

Dissolve the citric acid in six or seven fluid ounces of water; to this add, gradually, the magnesium carbonate, first rubbed through a coarse sieve; when the solution is complete add, very gradually, the monosodium carbonate, or if the disodium carbonate is used, and in tolerably large crystals, the whole of this can be added at once, then, after effervescence has ceased, add the essence of lemon and the sugar; agitate until the latter is dissolved, filter and add sufficient water to the filtrate to make it measure 12 fluid ounces; place this in a strong bottle of appropriate size; finally add the potassium carbonate, and cork securely.

In this formula magnesium carbonate is used, since it is of more uniform composition, much cheaper, and more convenient than the oxide For various reasons crystallized disodium carbonate is preferable to the monosodic. It was also found equally convenient to employ sugar and essence lemon directly, rather than the syrup of citric acid. The formula when followed to the letter yields a very permanent preparation. But to attain indefinite permanence, and make surety doubly sure, the magnesium can be reduced one-half, and the sodium doubled.

Chicago, *December* 21, 1869.

* From the Pharmacist

Cotton Seed Oil.*

BY C. WIDEMANN, CHEMIST, PARIS, FRANCE.

The quality, color, and density of the oil depend a great deal on the way it has been manufactured, the atmospheric air and heat having a great effect upon it, and also the condition of the seed. At first the crude oil is of a light yellowish green shade, but it soon becomes darker by oxidation of the coloring matter.

Its fluidity is from 28 to 30 times less than that of water. Its density or specific gravity varies a great deal according to its temperature. At 54° Fah. (12·2°Cels.), it is 0·93074; at 58° Fah. it has density of 0·93169. The specific gravity of a portion of the latter, after having been submitted to a current of steam at 212° Fah., and a thorough washing with boiling water, after filtering, increases to 0·9348305 at 52° Fah., care having been taken to have the sample freed from any adhering water by having a portion of the oil heated up to 212° Fah. for several days.

This crude cotton seed oil is soluble freely in ether, benzine, sulphide of carbon, and benzole, but not sensibly in alcohol even by the application of heat; the alcohol, however, takes up from the oil a portion of the substances which imparts to the oil its peculiar color.

The behavior of crude oil with reagents is certainly rather peculiar, but it should be borne in mind that the crude oil contains a large proportion of vegetable impurities which, no doubt, play an important part in regard to the reagents wherewith the oil is brought in contact. With sulphuric acid, concentrated, it causes a beautiful purplish color, which becomes stronger developed by stirring. After standing for twenty-four hours, the mixture is much thickened, and brownish red-colored. Solution of bichromate of potassa in strong sulphuric acid, being mixed with the oil, causes an energetic reaction to take place, sulphurous acid is evolved, and the color becomes deep blood-red. After standing for 24 hours the mixture exhibits a solid blackish mass.

With strong nitric acid, the color at first is dark olive green, but soon changes to light orange red. After 24 hours the oil is found solidified, and exhibits a dark orange red color.

With a solution of caustic potassa of a specific gravity of 1·22, the oil becomes thick, at first of a rather light yellowish color, while the solution of potassa becomes colored. On stirring the mixture with a glass rod those parts of the test tube, where air has more easy access to the mixture of oil and alkaline solution, assumes a tinge of blue-purplish color. After 24 hours the oil becomes solidified. The bottom portion of the test tube, wherein the greater part of the solution of potassa separates, shows that solution deeply orange colored, and the blue purplish color is a shade darker. The same phenomenon is observed with caustic soda.

* From a series of articles in the *Scientific American*.

With strong ammonia a change of color to yellowish green.

Protonitrate of mercury, in aqueous solution, changes the color of the oil to a greenish yellow; after 24 hours the oil becomes solidified and the color dark olive green.

Strong phosphoric acid at first hardly affects the oil, but after 24 hours the oil becomes thicker and of an olive green.

With lime water the oil becomes soon solidified and of a brownish yellow color.

Sulphurous acid gas does not discolor the oil passing through it. Neither have some metallic combinations any decoloring effect on the oil; for instance, neither chloride of zinc, chloride of tin, acetate of lead, nor sulphate of zinc, has any effect in withdrawing from the oil its peculiar color, or if even some change appears to take place, it is not permanent.

In its oxidized state, and no doubt, also, under the influence of vegetable substances met with in the oil, the coloring matter appears to have a tendency to stick to fatty matters.

The crude oil freezes at 2° to 3° Cels., or 26° to 28° Fah., and this property is applied in this country to the manufacture of stearine and winter-pressed oil—which is pure oleine, used for lubricating purposes.

The weight adopted by oil merchants is 7½ lbs. of crude or refined oil to the gallon.

The specific gravity of the refined oil which has a yellowish color and is richer in olein than in stearine, as it has been generally refined by a semi-saponification by the use of alkalies, which operation transforms a large amount of the stearine into stearates, is of 0·92647 at 61° Fah., or 16° Cels.

The crude oil is very similar in every respect to linseed oil in density and color, and can be classed among the drying oils used for painting.

In using it for painting purposes it has answered pretty well, though it appears to become sticky in damp weather. To prepare it for painting it is generally treated like linseed oil, that is boiled with oxidizing agents, as litharge, or black oxide of manganese, but I have obtained better results with another agent, as I shall prove further on.

On the Medicinal use of the Salts of Atropia.

Professor Buignet, the eminent French pharmaceutist, has recently directed attention to the various uses of atropine, or atropia as a general remedy, and not merely in affections of the eye. Two salts of this alkaloid are used in medicine, namely, the the sulphate and the valerianate of atropia. The former is to be found in our Pharmacopœia, but is intended solely for ophthalmic use, atropia and its salts being regarded by British writers on Materia Medica as unfit for internal use in consequence of their highly poisonous action even in very minute doses. The valerianate is formed by mixing a cooled solution of atropia in ether with a cooled solution of valerianic acid, and from this mixure crystals of the required salt soon crystallize. Acting on the long-established axiom in the therapeutics, that a combination of similar remedies almost always produces a greater and more rapid effect than an equivalent dose of either of the single remedies, Dr. Michea, so long ago as 1853, made trial of this salt in "affections of the nervous system," and especially in cases of epilepsy. His account of the action of this salt was so favourable that a commission was appointed to investigate the subject, and their report was that valerianate of atropia is decidedly preferable to many of the so-called antispasmodics, and that it offered the great advantage of replacing two drugs notoriously variable in their action—belladonna and valerian—by a combination of their active principles, which was far more steady and certain in action. The method of administering it is in granules, each of which contains a milligramme, or about one sixty-seventh of a grain of the salt. One granule daily is the proper dose to begin with in an adult, and, in the course of a week, a second granule may be taken daily. This is the maximum dose, any excess inducing dilatation of the pupil and disturbed vision. The author quotes the names of more than twenty physicians who have written to confirm the value of atropia and its salts as therapeutic agents. Taken internally, the salts of atropia have been found serviceable in the treatment of epilepsy, chorea, neuralgia, hysteria, tetanus, intermittent fevers, and those forms of disease of the respiratory organs in which the nervous system is specially involved, as asthma, hooping-cough, and certain forms of nervous bronchitis.

It has been found by Bouchardat and Crosio that cases of severe neuralgia, in which opium, henbane, and sulphuric ether have failed to give relief, have yielded to the local application of an ointment composed of five centigrammes (three-fourths of a grain) of atropia and four grammes (about a drachm) of lard. Pescheux has reported a case of tetanus which he cured by the aid of subcutaneous injection of sulphate of atropia, and Béhier, Richard, and other French physicians have practised the same treatment with success in cases of severe localized pain. One part of sulphate of atropia may be dissolved in 100 of water, and from one to five drops injected. Slight symptoms of belladonna poisoning sometimes exhibit themselves in these cases, but are merely transitory. The smaller dose should be first tried.

As a caution to our opthalmological friends not to let solutions of atropia fall into the hands of their patients, we may mention a case recorded by Béhier, in which an old man *drank* a solution of sulphate of atropia (·013 to 100 grammes of water) which had been prepared for the purpose of dropping into the eye to facilitate an opthalmoscopic examination. The dose swallowed was one-fifth of a grain. The following were the most marked symptoms:—An acrid taste in the throat, slight embarrassment in the management of the tongue, muscular weakness, a difficulty in walking, which soon became an impossibility, and disturbance of vision. Knowing the antagonism of morphia and atropia (described by Graefe in 1852), M. Béhier prescribed ten drops of laudanum every ten minutes. Each dose diminished the intensity of the symptoms. The patient took, on the whole seventy-six drops,—a dose which, if he had not previously taken the atropia, would undoubtly have produced symptoms of poisoning by opium.

The rapidly increasing use of the ophthalmoscope will probably cause a considerable augmentation in the number of cases of poisoning by atropia. Liebreich (in 1863) remarked that the symptoms of poisoning consequent on the instillation of atropia do not so much depend upon the quantity absorbed by the eye itself as upon the quantity which makes its way through the lachrymal passages into the nose, pharynx, and stomach. When these lachrymal passages are completely obliterated, a strong solution may be applied to the eye for any length of time without inducing the slightest general disturbance. He consequently recommends that, in order to prevent as far as possible this mode of escape of the solution into the nose, etc., the patient should incline his head as forward as possible during the period of installation, should blow his nose and gargle frequently, and should press one of his fingers against the inner angle of the eye, so as that the lower lachrymal point should be drawn down. In cases where these rules cannot be attended to (as when a patient is confined to bed), he recommends the application of a small wire apparatus which affectually prevents the escape of the solution. Professor Buignet's excellent memoir concludes with a description of this instrument and of the method of applying it. —*Medical Times and Gazette.*

Hints on Practical Dispensing.*

The most important of the several duties of one intending to enter life as a Pharmacist is, without doubt, Dispensing; and with reason, for it is in the making-up of prescriptions that the amount of scientific knowledge is required which elevates Pharmacy, and which, by rendering absolutely necessary a certain educational cultivation and scientific training—not required in the case of the ordinary seller of goods—places the mind on a higher level, and the man in a more refined position.

We will now consider, in detail, the *modus operandi* of the compounding of a prescription.

Read the prescription throughout.

It is always advisable to go through the prescription carefully, even to the directions. By this means, *first*, a good idea of the formula as a whole is acquired; and, *secondly*, any overdose, or poisonous proportions, or the presence of incompatibles, are noticed,

See that the ingredients are at hand.

This avoids the necessity, when half through the work, of being compelled to stop while a powder, &c., is got ready. The several ingredients ought to be brought forward (or seen to be in their places) before commencing.

Examine the accessories.

The fittings of the dispensing department ought to be of the most perfect description, clean to the last degree; the bottles, scales, measures, &c., in repair, and of the kind adapted to the work on hand.

Set to work quickly.

Despatch is necessary to good dispensing, and in its turn is much aided by neatness and a *thorough* completion of each part or division of the work on hand, before taking up another portion. But waste no time: from the very nature of the business, there are times when there are an unusual number of prescriptions will have to be made up, and despatch, at all times advisable, will then become a necessity.

*From Lescher's Introduction to Elements of Pharmacy.

Weigh and measure carefully.

The careful manipulator is above all things characterized by his method of weighing and measuring. In using a measure, hold it up to the light, so that the two lines marked on either side of the glass, at each graduated quantity, shall be in one line of sight, and the liquid at the same time exactly reaches up to these two marks.

Use the pestle gently yet firmly.

Do not pound and bring down the pestle with force (as regards composition mortars), but rather use it as a lever, and the side of the mortar as its fulcrum, pressing against and working up the material under operation. It is astonishing what an amount of force is thus brought to bear by this apparently simple method of handling the pestle.

Make sparing use of the mortar.

Only use if absolutely necessary; for pills, especially if few in number, a slab (porcelain) is preferable on every account; although, for the more intimate mixture of powders, the mortar, to be followed if necessary by the sieve, is often of service.

Judge the best order in which to mix the ingredients.

The more volatile ingredients should be added last. Ammonia or chloroform would lose a great deal if worked up in a mortar with the other ingredients of a formula. Add the bulky menstruum last, though add (in a mixture) some of the diluents before putting in a powerful acid or alkali. If extracts or powders enter into the composition of a mixture, rub them up first of all into a thin paste with a little of the liquid menstruum,

In pills choose with judgment the best excipient.

From a knowledge of the properties of the ingredients ordered, judge if you require in the excipient,—

(*a*) adhesiveness;
(*b*) firmness;
(*c*) plasticity, combining the above two. Often the articles have these qualities, but simply require them to be developed. For the proper excipients for each class of article, see Part II. of this Section.

For emulsions, choose specimens with much oil.

As an emulsion requires for its perfection a certain quantity of oily matter, choose Gum Myrrh, &c., with a *fatty* appearance (never powdered); Almonds, new and soft, &c.

Proceed with emulsions in a certain order.

Oil or fat intended to be suspended by means of an alkali in water is best prepared by adding the oil to about its own quantity of water, mixing intimately with the alkali, and putting to it the rest of the diluent. The mucilage, freshly made, that is generally used to suspend Copaiba, should be worked up with a few drops only at a time of the oleo-resin, and diluted with water, before each fresh addition. If there happened to be any other ingredients in the formula, the time for adding them is when the *emulsion proper* is completed.

For powders begin with the least active ingredients, &c.

The advantage of this method of procedure is that the more powerful ingredients are thus well diffused through the whole bulk of the *diluting* powder. In the division of powders, it is always preferable to weigh than simply to divide them; besides ensuring a more perfect division, it checks the presence of all the ingredients, by the discovery in such a case of (say) ten or eleven in place of twelve powders.

In finishing the preparation of a formula, do not leave behind any appreciable quantity.

See that every particle of the ingredients is as far as possible taken up; in other words that the accessories (mortar, measures, &c.) are left clean and well scraped. From the neglect of this the unskillful dispenser will sometimes leave a pill or two in his mortar, or a couple of drops in his minim measure.

Re-peruse the prescription.

Read the prescription again carefully, and check the quantities, &c. This is a capital plan to escape serious error, by detecting and correcting any mistakes or omission that may have arisen during the making-up of the prescription.

Finishing up.

Pay special attention to neatness in writing the directions, and in wrapping up the medicine, We may presume the mixture, &c., is correctly dispensed; there is no longer any question of *that*. We have now only to give all our attention to the presentation of the medicine under the most favorable circumstances to the patient of refined taste, or perhaps ultra-delicate nervous system. The attainment of this end requires rather negative than positive qualities. Draughts, &c., must be directed and put up with the most scrupulous neatness:—no display, no flourishes of the pen, no exhibition of parti coloured sealing-wax; at the same time a thorough attention to details—vials of the the cleanest, paper of the whitest, general finishing-off of the most perfect good taste.

Test for Arsenic and the Preparation of Hydrochloric Acid free from Arsenic.

When arsenious or arsenic acid is dissolved in fuming hydrochloric acid, and there is added thereto a solution of protochloride of tin dissolved in hydrochloric acid, a brown-colored and very bulky precipitate, which rapidly settles down, is formed, which precipitate, after having been collected on a filter and washed, first with hydrochloric acid, next with water, to remove the latter entirely, constitutes, after having been dried over sulphuric acid *in vacuo*, a greyish coloured powder, of metallic aspect; this, on being rubbed in an agate mortar, exhibits metallic lustre, and is volatile on being heated, while oxide of tin, in the shape of a very light powder, is left. On being analyzed, the precipitate was found to consist of from 93·46 to 95·96 per cent. of metallic arsenic, according as to its preparation, arsenious acid, arsenic acid, or arseniate of ammonia and magnesia had been applied. The precipitate could never be obtained quite free from tin. The author further states that when the hydrochloric acid employed has a sp. gr. of 1·115, the arsenious or arsenic acids dissolved therein become, if not entirely, at least for the major part, converted into chloride of arsenic; and the reaction described, therefore, takes place between that chloride and protochloride of tin. When the hydrochloric acid has a sp. gr. of 1·100, the arsenious acid is not converted into chloride of arsenic, but is dissolved as arsonious acid; chloride of tin does not act upon combinations of antimony under the same conditions. The author advises that crude hydrochloric acid, sp. gr. 1·164, should in order to eliminate all arsenic from it, be treated with a strong solution of protochloride of tin in pure HCl, left standing for twenty-four hours, the precipitate removed by filtration, and the acid next placed in a retort, the first one-tenth of the distillate kept separately, and the remainder distilled off to dryness, when that portion will be found absolutely free from arsenic; the first one-tenth might, in some cases, retain 0.02 per cent. of that metal.—*M. Bettendorff, Zeitschr. für Chemie, in Chem. News.*

Reactions of Convolvuline and Jalapine.

Convolvuline is not soluble in ether, and is precipitated by it from its alcohlic solution; is entirely insoluble in benzol; when evaporated to dryness along with nitric acid, convolvuline becomes violet red-colored upon the addition of SO_3. The acid solution of convolvuline is precipitated by alum solution. The alcoholic solution of convolvuline is not precipitated by a solution of nitrate of protoxide of mercury. Nitrate of silver produces, in solution of convolvuline, a pulverulent, non-adhesive precipitate, immediately becoming black-coloured.

Jalapine is perfectly soluble in alcohol and ether; is soluble in benzol, but rather difficultly; but is readily taken up by benzol from its alkaline solutions when these are shaken up with it. Jalapine, treated as described, is not coloured at all. Acid solution of jalapine remains quite clear and undisturbed on being treated by alum solution; alcoholic solution of jalapine is precipitated by nitrate of protoxide of mercury, yielding a bulky, caseous precipitate, insoluble, also, on heat being applied. Nitrate of silver produces a bulky, caseous, whitish-grey, clotted precipitate in solutions of jalapine, and this precipitate is only slowly changed by the action of the light.

Preparation of Chlorate of Baryta.

A mixture is made of commercial sulphate of alumina, of sulphuric acid, water, and chlorate of potassa. The mixture should have the consistency of a thin magma, and be heated on a water bath during half an hour, while it is frequently stirred up. The reaction which takes place is represented by the undermentioned formula:

$$[Al_2(SO_4)_3] + SH_2O_4 + (ClKaO_3)_2 = [Al_2(SO_4)_8 + SKa_2O_4] + (ClHO_3)_2.$$

The product is a solution of hydrated chloric acid, alum, excess of sulphate of alumina, and excess of sulphuric acid. After the mixture has become quite cold, it is mixed with several times its bulk of alcohol, filtered, and washed with alcohol of 50 per cent. The alcoholic filtrate is neutralized with hydrate of baryta, whereby chlorate of baryta, sulphate of baryta, and some alumina are formed. The bulk of the alcohol is removed by evaporation. The aqueous solution of chlorate of baryta is next filtered, and the residue washed with water (distilled, of course). The liquid is next evaporated to crystallization, yielding pure chlorate of baryta. A slight excess of sulphate of alumina and sulphuric acid should be applied, since, otherwise, some chlorate of potassa will remain mixed up with the chlorate of baryta.—*Ann. der Chemie und Pharm., in Chemical News.*

CANADIAN PHARMACEUTICAL SOCIETY.

PRESIDENT, - - - WM. ELLIOT, ESQ.

The regular meetings of the Society take place on the FIRST FRIDAY *evening of each month, at the Mechanics' Institute, when, after the transaction of business, there is a paper read, or discussion engaged in, upon subjects of interest and value to the members.*

The Society admits as members, Chemists and Druggists of good standing, and their assistants and apprentices, if elected by a majority vote, and on payment of the following fees:

Principals - - - - - $1 00 per Annum
Assistants & Apprentices, 2 00 "

The JOURNAL *is furnished* FREE *to all members.*

Parties wishing to join the Society may send their names for proposal to any of the members of the Society. A copy of the Constitution and By-laws of the Society will be furnished on application.

HENRY J. ROSE, *Secretary.*

THE CANADIAN

Pharmaceutical Journal.

E. B. SHUTTLEWORTH, EDITOR.

TORONTO, ONT., FEBRUARY, 1870.

Correspondence and general communications, of a character suited to the objects of this JOURNAL, are invited, and will always be welcome. The writer's name should accompany his communication, but not necessarily for publication.

Subscriptions will not be acknowledged by letter, as our sending the paper may be taken as sufficient evidence of the receipt of the money.

All communications connected with the paper to be addressed, post-paid,

"EDITOR CANADIAN PHARMACEUTICAL JOURNAL, TORONTO."

THE QUEBEC PHARMACY ACT.

We learn with regret that the promoters of the Quebec Pharmacy Act have failed in procuring its passage through the Lower House. We have, as yet, received no official notification of the fact, and have not learned the particulars of the case, any further than that some of the members of the medical profession offered a very determined opposition, and so far succeeded in their efforts, that the druggists declined further action in the matter. The Bill was brought before the house, and a select committee was appointed, but the deliberations of that body—through the pernicious influence of the doctors—only resulted in mutilations which completely destroyed the original intent of the measure.

We are aware that the druggists and doctors of Quebec have long been at loggerheads—how the fued originated, we know not; but, in any case, it is a pity that the medical profession should be so blinded to their own interests, by any petty feeling whatever, as to fail in seeing the very obvious advantages which they, as well as the druggists, would derive from an enactment such as that proposed. We are pleased to think that in Ontario the matter is regarded in its true light, and that the promoters of the Ontario Pharmacy Act, look upon the Medical profession as its strongest supporters.

Insalubrity of Cast Iron Stoves.

Our readers may remember that some years ago, a series of experiments were made in France, at the instigation of General Morin, by MM. Deville and Troost, to determine whether cast iron stoves, when strongly heated, were permeable by the gases of combustion. These distinguished chemists reported that such was the case, and that carbonic oxide was continually absorbed by the inner surface of the stove, and given off by the outer.

The Boston *Medical and Surgical Journal* presents the following review from the *Gazette Hebdomadaire*, in which Fonssagrives describes the effects of breathing air rendered impure by carbonic oxide. "He says a new disease prevailing epidemically, attacking by preference sedentary persons, appearing only in winter, undergoing aggravations which coincided with those of the cold weather, characterized symptomatically by prodromata very analogous to those of certain forms of typhoid fever, subsequently cephalalgia, vertigo, oppression, bloody sputa, smallness of the pulse, persistent disturbances of the nervous and digestive functions—this malady was referred by M. Carret to the prolonged inhalation of carbonic oxide gas disengaged by red hot cast-iron. The opinion of the author of this theory was from the first combated by chemical arguments, and M. Regnault and Chevreul, with an authority full of menace for the theory of M. Carret, came forward to deny that cast-iron could disengage enough carbonic oxide to produce the symptoms detailed by this distinguished physician. But subsequent experiments conducted by a commission of the Institute composed of MM. Payen, Morin, Fremy, and H. Sainte Claire Deville, sustained the ideas of M. Carret. They demonstrated at the same time the disengagement of carbonic oxide gas by red-hot stoves, and also the permeability of cast-iron by this gas. Now carbonic oxide—that *blood-poison* which kills the red globules, or at least renders them unfit for the exchange of the gases on which their revivification depends—has for a long time given proof of its toxic property. Therefore it cannot enter the head of any one that its habitual and daily inhalation during the whole of the cold season of the year, may be a matter of indifference to the health. Hygiene cannot, any more easily than chemistry, underrate the power of slight causes working with prolonged repetition; and she knows wondrously well that the poisonous agents most to be feared are not those which act with dramatic outburst. Besides I cannot, says Fonssagrives, too often reiterate, that every time I see a result which is attested by scientific proofs, borrow additional probability from common report, I feel confirmed in my belief in its reality. I believe in the insalubrity of cast-iron stoves from having myself been indebted to them for more than one headache. Though M. Carret, he says, in his earnestness has enlarged the list of the misdeeds wrought by carbonic oxide; whether also this gas be alone responsible for the bad effects produced by the mode of heating in question, or they be due in part to the elevation of temperature and the drying of the air, as M. Coutier contends; however these things may be, one fact is indisputable—cast-iron stoves have made those who have used them pay dear for their economical advantage. The open fire place, he adds, with great truth, has hygiene on its side, because it not only supplies a means of heating, but is a permanent and efficient ventilating apparatus.

In recalling this important subject to our attention, it should be borne in mind that the investigations of Dr. George Derby, in this city, tend to show that the drying of the air has had but little to do with the pernicious effects and disagreeable sensations produced by cast iron stoves or furnaces.

Artificially Colored Wines.

According to Dr. Phipson, (*Jour. of Chem. Society,*) artificial coloring, of any description, may be detected in wine, by the aid of the spectroscope. The wine placed in a test tube must be diluted to the requisite degree of transparency, and then examined. If an absorption band of any kind appears the wine may be suspected. The pure coloring matter of the grape gives no bands, but a general absorption, increasing gradually towards the violet. The substances commonly used to color wines are the flowers of the purple holycaks, *Althea rosea*, *Malva arborea*, *Rose tremiere*—and the fruit of the elderberry—*Sambucus niger* and *S. ebulus*. Brazil wood, logwood, blackberries, beet root juice, &c., are less commonly employed to color true wine, but the two former substances are nearly always used in the making up of spurious wine; their presence would, therefore, serve as a pretty good indication of the character of the article.

Syrupus Ferri Iodidi.

At a late meeting of the Pharmaceutical Society of Britain, two papers were read on this well worn, and we might say, well nigh exhausted subject. The first writer, failing in his endeavours to make a syrup which would remain uncolored, for any length of time, had recourse to citric acid as a preservative, and decolorizer. The acid was used in the proportion of one grain to the ounce; and discolored syrup, to which it had been added, was, after exposure to bright light, perfectly bleached.

The second paper contains the details of a

process, which had been used by the writer, for many years, and with the most satisfactory results. To produce the quantity ordered in the P. B., iron wire, cleaned with sand paper, and cut into ¼ inch lengths, is boiled with the iodine and water (4 oz.) until the iodine color has disappeared; the solution is then filtered into an evaporing basin containing the requisite amount of sugar, in coarse powder. As the filtration proceeds, heat is applied, and when all the solution has passed through, the whole is brought to the boiling point as quickly as possible, and the heat withdrawn; when cool, the required measure is made up with water.

During the discussion which cusued, after the reading of the papers:

"Dr. Redwood remarked that in the discussion of this subject two statements had been made; one to the effect that the syrup, if carefully made according to the instructions of the Pharmacopœia, could not be kept for any length of time without change of colour taking place, which generally commenced on the surface, whilst, on the other hand, it was said by other gentlemen that, preparing the syrup in the same way, they never failed in keeping it for any reasonable time up to five or six months without any change of colour taking place. He had been in the habit of making and keeping this syrup for a great number of years, and his experience was that if properly made and preserved, it could be kept for several years. He had samples of syrup of iodide of iron made without any extraordinary precautions, which had been kept for six years or more, without any change of colour taking place. He had requested the curator to bring down two specimens from the Museum, both of which had certainly been made for above a year, one he believed for three or four years. They had been kept in ordinary white stoppered bottles, without any particular precaution, and as they could see, no discoloration had taken place. Indeed, he never expected it would. At the same time, cases had come under his notice where the syrup had undergone a change in colour, and that very soon; but these were cases in which he had never been able to satisfy himself that the proper care had been exercised, and he believed—though he had no positive proof of the fact—that when the syrup speedily underwent a change of colour, it arose from one of the following causes,—either that inferior sugar was used or an insufficient quantity, or that the syrup, after it was made, had been exposed to an impure atmosphere. Generally speaking, he believed the cause of failure lay in the sugar, for a great deal of refined sugar of commerce was far from being pure. He believed that if syrup were made with the purest refined sugar it would keep perfectly well if it met with no atmospheric contamination afterwards. Any one who had any experience in a laboratory was aware that the atmosphere was impure; sometimes there were ammoniacal vapors floating about, and sometimes the fumes of nitric acid, and if these had access to so delicate a substance as syrup of iodide iron, they could easily understand that decomposition would take place. He was desireous of throwing out these suggestions for verification, for, as he had said, he was not able at present to demonstrate the fact that the discoloration took place in this way, but if it were so, it would account for the discrepancies in the experience of different operators. The impurities he referred to were those which arose from the presence of the remains of the materials used in refining the sugar. Sometimes there were traces of lime, or salts of lime, or albuminous matter; there were great differences in different varieties of sugar in this respect. He should select a sugar that would form a clear and transparent solution, and if it would not, it should be clarified before using for such a purpose. The French were very particular, in making syrups, to well clarify their syrup before using it, although they used refined sugar, not taking it for granted that the sugar was entirely free from foreign matter, as such was rarely the case."

It was formerly thought that the list of poisons attached to the Pharmacy Act of Great Britain, would give rise to much annoyance in trade, if the restrictions attending their sale were carried faithfully into effect. It was also urged that the list embraced many substances over which druggists had, justly, no control, and that if not to be altogether disregarded it would have to be curtailed. The experience of nearly two years has proved these anticipations to be groundless, and that if anything, the schedule was not; full enough. In the *Gazette* of Dec. 21st, we notice that a number of additions have been made, comprising preparations of prussic acid, preparations of cyanide of potassium and of all metallic cyanides, preparations of strychnine, preparations of atropine, preparations of corrosive sublimate, preparations of morphine, red oxide of mercury (commonly known as red precipitate of mercury), ammoniated mercury (commonly known as white precipitate of mercury). Every compound containing any poison within the meaning of the "Pharmacy Act, 1868," when prepared or sold for the destruction of vermin; the tincture and all vesicating liquid preparations of cantharides,—ought to be deemed poisons within the meaning of the "Pharmacy Act, 1868;" and also that each of the following articles, viz:—

Preparations of prussic acid, preparations of cyanide of potassium and of all metallic cyanides, preparations of strychnine, preparations of atropine,—ought to be deemed a poison in the first part of the Schedule A to said "Pharmacy Act, 1868."

Applicants for membership are reminded that their applications must be endorsed by a member of the Society, to whom they are personally known, as *bona fide* druggists, or assistants. This precaution is necessary from the fact that a number of requests have been received, from parties of small, and rather questionable standing, and still more questionable qualifications, who desire to become members, merely to evade the requirements of the coming Act.

It appears that to "minister to a mind diseased" is quite within the scope of medicine. According to Dr. Lisle, (Comptes Rendus) arsenious acid, in even apparently hopeless cases of mental derangement, restores about sixty per cent. to health; of course some attention must be paid to the dose.

The attention of members in arrear is directed to the resolution of the Society, passed at last meeting, by which it was determined that after the present notification, this *Journal* will be discontinued to those whose fees to the Society are six months over due, if such fees are not remitted within the course of one month, from date. We trust our friends will bear this in mind. All monies due to the Society, should be forwarded to

Mr. William Brydon,
Cor. Sec., Pharmaceutical Society.
Box 114, Toronto.

"A Drop too much."

A writer in the *Pall Mall Gazette* thus gives vent to his outraged feelings:

"Before Mr. Calcraft is superannuated, and capital punishment is abolished, it would be almost worth while to hang one or two druggists. The execution of a respectable tradesman, and possibly a vestryman, would, of course, be a painful affair, and cause some sensation, but there can be no doubt it would save many lives in the long run. As a general rule, people incur no great danger when they send a prescription to a chemist to have it "make up," the deadly effect of the draught is neutralized by the adulteration of the drugs with which it is compounded; but occasionally we fall into the hands of a conscientious or careless chemist, and then there is little or no hope for the sufferer. Two inquests are reported in yesterday's papers which tell their own tale, and a very sad one it is in each case. In one, an inquest was held on a child three weeks old. The child was ill and sleepless. The mother obtained a sleeping draught from the chemist and gave it to the child, who was sleepless no more—it fell asleep, never to wake again in a world of misery and muddle. A surgeon stated that the child died from congestion of the brain, accelerated by an overdose of narcotic poison. In the other case, a child ten weeks old was afflicted with a cough. A druggist's assistant sold to the mother some "stuff" in a bottle, desiring her to give the child twelve drops three or four times a day. At the end of the bottle the child was dead. The coroner said that he could not help thinking that poor people had no idea what a drop was, and if we may judge from the powerful effects produced on many of them by a drop of gin, the coroner's observation was probably correct. He added that it was surprising that druggists had no better sense than to give a medicine containing poison to be administered in drops. The jury returned

an open verdict. Perhaps, if one or two druggists were taught by Mr. Calcraft the full meaning of the word "drop," they would be a little more careful in dispensing their drugs, and remember that when we ask for medicine, we do not wish our sufferings to be relieved by death."

BOOKS AND PAMPHLETS.

CANADA HEALTH JOURNAL. Edited by C. T. CAMPBELL, M. D. Vol I., No. 1.

This is the title of a new periodical published at London, Ont. It is devoted to the exposition of the laws of Hygiene, and to the popularizing of the true principles of health. The present number is wholly taken up with original matter, and is very neatly printed. We presume there is ample scope in Canada for a journal of this kind, and wish it every success.

AN INTRODUCTION TO THE ELEMENTS OF PHARMACY: A GUIDE TO THE PRINCIPAL POINTS IN MATERIA MEDICA, BOTANY, CHEMISTRY, PHARMACY, PRESCRIPTIONS, AND PRACTICAL DISPENSING. By F. HARWOOD LESCHER, Pereira Medallist. London: John Churchill & Sons. 1869.

The variety and number of the subjects alluded to in the above title might, at first, lead one to suppose that the work was either exceedingly voluminous or very superficial. Neither of these conclusions would be correct: the pages do not exceed two hundred in number, and, when the plan of the book is taken into consideration, the treatment of the different subjects is quite thorough. As stated in the preface by the author, "the work is intended as a guide to the salient points in the six departments of study, and to act also as an aid to remembrance of the main heads of what may have been the objects of a course of lectures; and, by exciting the interest of the student, to induce him to devote more time and attention to practical experiment and serious study. Its aim may be given in two words—suggestions to the mind; assistance to the memory."

The arrangement of the work is altogether tabular, the six primary branches of study—Materia Medica, Botany, Chemistry, Pharmacy, Prescriptions, and Practical Dispensing—*forming the bases of classification.* Thus, under the head Materia Medica, we have the divisions—(1) Characteristics of the Pharmacopœia materia medica; (2) Articles of materia medica, non-officinal; (3) Animal materia medica; (4) Medicinal plants; (5) Groupings of the geographical sources of the Pharmacopœia materia medica; (6) Adulterations. In order that the reader may have an idea of the style of classification, we give an extract from the last division of the section Materia Medica—"Adulterations":—

Article of Materia Medica.	*Adulteration or Substitution.*	*Characters.*	
SCAMMONY.		*Genuine.*	*Spurious.*
Gum Resin.		In irregular-sized lumps.	In cakes, flat or round, regular (often). (*a b*)
	(*a*) Chalk.	Light, friable; pulverulent.	Heavy; hard; difficult to break up. (*a b*)
	(*b*) Starch.	Not affected by acid.	Effervesces with mineral acid. (*a*)
	(*c*) Gum, dextrine.		Occasionally soft, moist, spongiform, or even mouldy. (*b*)
	(*d*) Guaiacum resin.	Not affected by iodine.	Decoction turned blue with iodine. (*b*)
	(*e*) Jalap, resin.	*Fracture*—Bright, translucent. *Colour*—Ext. greyish black. Int. greenish black, with lustre.	*Fracture*—Dull *Colour*—Light grey or whitish, speckled. (*a b*)
	(*f*) Sand, earthy matters.	Forms emulsion with water.	Not liable to rub up with water
		Unaffected by nitrous gas.	Cold alc. or ether decoction is turned blue by nitrous gas. (*d*)
		Soluble in ether.	Insoluble in ether. (*e*)
		Little or no *ash.*	Remains after incineration. (*f*)

A similar systematic classification is adopted throughout the remaining portions of the book; thus BOTANY is divided into the parts (I.) Structural botany; (II.) Classification; (III.) Physiology. CHEMISTRY into (I.) Physics and laws of chemistry; (II.) Simple analysis; (III.) Adulterations of principal plants and their detection, and tests for their purity; (IV.) Poisons; (V.) the inorganic chemicals. The section PHARMACY includes (I.) Preparations of the Pharmacopœia; (II.) Organic chemicals; (III.) Preparations of active ingredients. PRESCRIPTIONS comprises (I.) The Latin language; (II.) The form of prescriptions, with examples; (III.) Prescriptions, unusual or erroneous; (IV.) Posology. In the section PRACTICAL DISPENSING, we have (I.) Hints on practical dispensing; (II.) Aids to dispensing; (III.) Strength of solutions; (IV.) Changes in mixtures, with examples of changes in mixtures of prescriptions.

To those minds in which order is a prevailing feature, Mr. Lescher's book will prove an invaluable aid. It bears the same relation to the subjects on which it treats that a map does to a treatise on geography; the whole can be seen at a glance, and a clear and comprehensive view of the various relations of the subject under consideration gained at once. We must remember, however, that with no other aid but a map of the world, the progress of a student in geography would be as slow as it would be superficial; and equally arduous and impossible would be the task of obtaining a knowledge of pharmacy by means of Lescher's "Elements" alone. To fulfil such a requirement was not the aim of the author, but rather to help those whose studies are somewhat advanced, by presenting the main points of the various divisions of study in a clear and systematic form, such as the memory can with ease retain.

By reducing into order and system the heterogeneous mass of facts comprised in the study of pharmacy, Mr. Lescher has performed a difficult and tiresome task; but in thus placing stepping stones in the road to knowledge, the burden of many a perplexed traveller will be lightened, and his path made easier. We have the greatest pleasure in recommending the work to our students in Canada; and those of older and more matured knowledge, but whose memories, from a multiplicity of cares, have grown untractable and treacherous, will find find it of no small value behind the counter.

ANNUAL REPORT OF THE PROGRESS OF PHARMACY. Read before the American Pharmaceutical Association at its Seventeenth Annual meeting, held at Chicago, September, 1869, by FREDERICK HOFFMANN, Ph. D.

This report is reprinted from the proceedings of the American Pharmaceutical Association, and is quite lengthy, comprising 163 pages. It contains short abstracts of all the most important papers, connected with pharmaceutical science, which have been published during the year; and also a sketch of the general progress of pharmacy and the collateral sciences. We look upon this annual as one of the most valuable of its kind; and in collecting such a store of useful information, and presenting it in such a clear and concise manner, Dr. Hoffmann has well and ably performed an arduous task.

THE BRITISH JOURNAL PHOTOGRAPHIC ALMANAC. Edited by J. T. TAYLOR.

We have received this little book from Mr. Ewing, of Toronto. The title "almanac" is

in this case, as well as others, calculated to mislead, although, in these days, it is a word of much latitude. In the present case we have certainly a calendar, which occupies as many pages as there are months in the year, but the main portion of the book is devoted to photographic subjects. Thus, we have an excellent treatise, by the editor, "On Photographic Optics and Lenses," occupying over fifty pages, and a number of other papers of a thoroughly practical nature, by the most eminent English photographers. Professionals as well as amateurs will find this little annual of the greatest value.

ON INDIA RUBBER, ITS HISTORY, COMMERCE, AND SUPPLY. BY JAMES COLLINS, Esq., Fellow of the Botanical Society of Edinburgh, Corresponding member of the Natural History Society of Caracas, Curator of the Museum of the Pharmaceutical Society of Great Britain.

This pamphlet, which comes to us from the author, contains the substance of a paper which was read before a meeting of the Society of Arts, December 15th, 1869. The subject is treated in a most exhaustive manner, as might be expected from the great facilities possessed by Mr. Collins for obtaining information of this nature. We purpose giving an abstract of the paper in a future number. We would also acknowledge, with thanks, the receipt of another paper by Mr. Collins, "On Vernacular Names."

THE GAVEL. Toronto.

We have received the second number of this periodical. It is published in the interests of the Masonic fraternity, and is edited by Bro. Robert Ramsay, of Orillia. Considerable space is devoted to the elucidation of questions in connection with Masonic jurisprudence, and from the standing of the editor, this feature will doubtless, in itself, form a strong recommendation to the journal. Items of news in regard to the various lodges are fully reported, and we have, besides, a large amount of general information of interest to the Craft.

THE CANADIAN BUILDER AND MECHANICS' MAGAZINE.

This paper, which has just entered upon its second volume, is published in London, Ontario, and has much improved in appearance. It has also been considerably enlarged, and the departments which relate to the various trades, are much more full than formerly. The architectural department is well illustrated, and ably edited.

THE WOMAN'S JOURNAL.

We have before us the first number of this paper. It is published weekly in Boston and Chicago, and is devoted to "the interests of Woman, to her educational, industrial, legal and political equality, and especially to her rights of suffrage." We don't believe in Woman's Rights, but, nevertheless, unhesitatingly acknowledge this journal to be an ably edited, well conducted, and remarkably nicely printed paper. We cannot, however, help thinking, from the masculine and dictatorial tone of some of the articles, that it is, perhaps, just as well for the babes and sucklings that their mothers (Heaven save the mark!) have found another sphere for their castigatory powers.

STEIGER'S LITERARISCHER MONATSBERICHT.

This is a very useful monthly catalogue, in the German language, of all the new scientific publications, published on the continent. It can be obtained, gratis, of the publisher; E. Steiger, Frankfort street, New York.

PUBLIC LEDGER ALMANAC. G. W. CHILDS, Philadelphia.

VICKS' ILLUSTRATED FLORAL GUIDE. Rochester, N.Y.

CANADIAN PHARMACEUTICAL SOCIETY.

The regular monthly meeting of the Society was held, in the usual place, on Friday evening, 4th inst., with the President in the chair.

After reading and adoption of minutes of last meeting, the following members were elected:—

PRINCIPALS.

Robert T. Deans.....Colborne.
Jno. Dawes.....Brooklyn.
Jno. Higginbotham.....Bowmanville.
G. M. Everest.....Arkona.

ASSISTANTS.

Geo. McKendrick.....Kincardine
S. W. Trott.....Collingwood.
Geo. F. Sproule.....Brantford.

Mr. Samuel Wesley Howard, who was proposed at the December meeting, as assistant, should have been entered as principal.

With regard to applications for membership the chairman said, it would be well to notify applicants of the resolution of the society, requiring all proposals to be endorsed by a member of the society.

The chairman asked if any notice had been sent to Mr. Brown, of the resolution passed at the last meeting. It was found that only a copy of the *Journal* had been sent, and the Cor. Secretary was instructed to forward the resolution in writing.

The question arose of what action should be taken regarding members in arrears for subscription, when it was decided, after discussion, that those who were six months in arrears should be notified of the fact in the *Journal*, and that paper discontinued.

Mr. Shuttleworth acknowledged the receipt from Messrs. Evans, Mercer & Co., of Montreal, of a copy of Lescher's *Introduction to the Elements of Pharmacy*, which had been kindly tendered as a donation to the Library of the Society: a resolution embodying the thanks of the Society was passed.

A communication having been received by the Secretary, regarding the books on Chemistry, which it would be advisable to study. Mr. Shuttleworth said that in the last number of the JOURNAL he had drawn attention to a number of the best authors, but thought that in view of the position the Society would, he hoped, soon occupy, it was time to indicate the course of examination it was intended to establish, so that students might avail themselves of the proper books. After a discussion of the merits of a number of authors, it was decided by the meeting to place the matter in the hands of a Committee consisting of Messrs, R. W. Elliott, Shuttleworth, and Rose; to report at the next meeting of the Society.

In reply to a question by Mr. R. W. Elliott, Mr. Shuttleworth said, that the Chemistry class had been organized at his house, with an attendance of nine, who all seemed really diligent students.

Meeting adjourned.

J. ROSE, Secretary.

Communications.

A PLEA FOR MRS. WINSLOW.

To the Editor of the Canadian Pharmaceutical Journal:

SIR,—Noticing in the JOURNAL of last month some strictures on the compound prepared by the ancient nurse, Mrs. Winslow, permit me to say that, about ten days since, my little girl, aged four years, found a bottle from which a teaspoonful had been taken, and swallowed the whole at one draught. When discovered she was washing out the bottle for any remains of sweetness and flavor. She complained, toward evening, of sickness at the stomach, but was otherwise unaffected. Had the bottle contained two grains of morphia, as stated by the California *Medical Gazette*, the results would have been serious. Upon another occasion, half a bottle was taken by an older child, without any inconvenience whatever. I have tried to introduce the use of simple carminative mixtures at home, but without success; and I have heard ladies declare that they would not attempt to bring up a large family without the aid of "Mrs. Winslow," if the price were one hundred dollars per bottle. The instances here given certainly justify a certain amount of confidence in its harmless character.

Yours respectfully,

PATER FAMILIAS.

Miscellaneous, &c.

Preparation of Manganate of Lime.

According to M. Delannier, the manganate of lime, CaO, MnO_3, can be prepared by heating to redness, under frequent stirring, any convenient oxide of manganese with an equal quantity (equivalent) of lime, provided the two oxides be intimately mixed, and as much surface as possible be exposed to the action of the air. The compound is insoluble in water, and is more easily produced than the corresponding salts of soda or potassa, for the reason that the manganese of these latter are slighly fusible, and thus present less surface for oxidation.

This process has the advantage of furnishing, at a lower price, oxygen for all technical purposes and for laboratory use. By pouring upon the manganate of lime sulphuric acid to remove the lime as sulphate, two equivalents of oxygen are liberated. The manganate of lime could be economically manufactured by employing the waste products of many industries. If the heat be continued, under stirring, so as to expose as much as possible to the air, the per-manganate of lime is formed, which is nearly black, and is more fusible than the manganate, 2 CaO, $MnO^3 \times O = CaO$, $Mn^2O^7 \times CaO$. By treating the fused permanganate of lime with pure sulphuric acid, a green solution of permanganic acid forms, which can be distilled at 60° to 70° C., and the permanganic acid thus obtained in a pure state.—*Jour. App. Chem.*

Solubility of Sugar in Alcohol.

Alcohol, at the higher strengths, has a very limited solvent power for sugar; but its power for dissolving the sugar increases in a greater ratio than in its reduction in strength. For example, at a temperature of 60° Fahr., 100 grains of alcohol by measure of the respective strengths of 62·6, 55·7, and 49·6 over proof dissolve 0·52, 1·34, and 2·94 grains of crystallized sugar respectively. It will thus be seen that, from 62.6 to 55·7 over proof, a reduction in strength of 6·9°, the solvent power of the alcohol is increased by only 0·82 of a grain, or 0·12 of a grain for each degree of reduction in strength, while from 55·7 to 49·6 over proof, a reduction in strength of 6·1°, the solvent alcohol is increased 1·60 grains, or 0·26 of a grain for each degree of reduction, being more than double the ratio of the increase from 62·6 to 55·7 over proof.—*Jas. Bell, in Chem. News.*

Preparation of Glycerine Soap.

Take 100 parts of oleine of commerce, pour it either in a glass flask (when only a small quantity of soap is intended to be made), or in a cauldron for large quantities, add 314 parts of glycerine, of 1·12 specific gravity, heat to 50°, and then add 56 parts of an aqueous solution of caustic potassa (sp. gr. 1·34), and stir the mixture well. The soap is readily and rapidly formed; but the liquid has to be kept at rest for twenty-four hours, and then exhibits a mass of the consistency of honey, in which state it remains. Filtration may be required, but is troublesome and slow.—*Revue Hebd. de Chimie, in Chemical News.*

Strychnine, an Antidote to Chloral.

Liebreich has recently added a very interesting fact to our knowledge of chloral. He takes three rabbits of equal size, and into one (A) he injects two grammes of chloral. Into another (B) he injects 0 0015 grammes of strychnia. (The injections are made under the skin of the back.) The chloral is injected in four portions, and the strychnia at once. Two grammes of chloral for a rabbit of 1 05 kilos. are equal to 100 grammes for a grown up man of 75 kilos. (a dose absolutely mortal). The rabbit (A) collapses very soon. Touching the cornea seems to cause contraction of the lids, and (A) dies after perhaps half an hour. The dose of strychnia administered to (B) is also absolutely mortal. After eight minutes the strongest tetanus ensues, and generally after twelve minutes the rabbit dies, and half an hour afterwards it already becomes stiff.

Now the new fact is this. The rabbit (C) which has received the dose of strychnia after that of chloral very soon revives, never shows a distinct attack of tetanus; one hour and a half after the beginning of the experiment gets upon its legs, and soon after will feed as though nothing had happened.

I have witnessed the experiment up to the stage when A was dead, B dead and stiff with rigor mortis, and C rallying and trying to sit up.

So we have the extraordinary fact of the action of chloral and strychnia interfering with one another and strychnia proving an antidote in the case of chloral poisoning The reverse does not happen, because the action of the strychnia is too rapid compared to that of chloral. The animal poisoned with strychnia dies of tetanus before the chloral is fairly brought into action.

Liebreich was led to the experiments by the result of a strong dose of chloral administered to a patient with idiopathic tetanus. The jaws, which had not been opened for a week, relaxed, and the patient could take some food. Eventually, however, he died."—*Medical Times, London.*

Taste of Medicines.

Some drugs and various salts have their taste covered or improved by the bitter infusions, which are by no means disagreeable to some palates, e. g. the bromide and iodide of potash. The sulphite of iron has its taste best covered by infusum aurantii compos. and acid sulph. dilut., with which it is generally proper to combine it.

The tinctura ferri perchloridi is offensively rough and astringent in taste, and may be rendered an agreeable and almost elegant dose, by the addition of one or one and one-half dracham of sherry wine and an equal quantity of syrup.

The taste of nitrate of potash when dissolved in water, is tolerably covered by syrup of orange peel.

The mineral acids may be well administered by means of a graduated glass measure to which a bent glass tube is attached.—*N. Y. Medical Gazette.*

Amygdalin and Emulsin.

These two substances are found together in the bitter almond; and both of them are concerned in the formation of hydrocyanic acid. The emulsin acts catalytically upon the amygdalin and thus gives rise to the formation of the acid.

M. Bernard, the eminent French physiologist, has recorded some interesting observations on the action of these substances when separately introduced into the stomach of an animal. The amygdalain introduced by itself is digested and absorbed without causing symptoms of poisoning; and the emulsin, taken alone, produces no injurious effects. But if, after the absorption of the amygdal from the stomach, the emulsin is immediately injected into a vein, death ensues, because the emulsin thus introduced into the circulation, is brought into relation with the amygdalin, acts upon it catalytically, and gives rise to the formation of hydrocyanic acid.

If, however, the emulsin is introduced into the stomach and the amygdalin is injected into the blood-vessels, no poisoning ensues, for the reason, as is supposed, either that the emulsin is not absorbed, or else that its properties are destroyed.

When amygdalin and emulsin are injected at the same moment into the same vein, or even into veins in different parts of the circulation, their meeting in the blood is immediately followed by the characteristic decomposition of the former under the influence of the latter, hydrocyanic acid is formed, and the animal dies.

Removing Stains Caused by Photographic Chemicals from the Hands.

M. Fortin.—Referring to the use of cyanide of potassium, and of iodide of potassium, and iodine for this purpose, the author says the first endangers health, and even imperils life; the second is very expensive. The author recommends, instead, to wash the hands with a concentrated solution of either sulphate or chloride of zinc, to which some acid is added at the same time. The deepest and blackest stains should be touched with metallic zinc, whereby the reduction of the oxide of silver or that of the gallate of iron is promoted, and all metallic stains adhering to, or penetrated in the skin removed. Since most of the salts of zinc are colourless, and soluble in water, the hands become soon quite clean. They should then be washed, first with pure water, and next with soap and water.—*Les Mondes.*

Detection of Wheaten Starch among Arrow-root, and of Wheaten Flour among Starch.

Prof. Boettger.—Take 1 grm. of the material to be tested, put it in a porcelain dish, and add 180 c.c. of distilled water; apply heat, and boil the mixture briskly while stirring continuously and briskly with a glass rod. Any starch which is quite free from gluten—for instance, pure potato starch, or pure arrow-root—will not exhibit, when treated in this way, any foam on the surface of the liquid as soon as the stirring is discontinued; but when the starch happens to contain the slightest trace of gluten, in other words, flour, there will appear on the boiling liquid, during the stirring up, a strong foam, which is so strong that it often resembles the foam on soap-suds.—*Annes Jahr. für Pharm.*

Medicinal Action of Papaverine.

Papaverine, one of the alkaloids of opium, which was stated by M. C. Bernard to possess no narcotic property, has been studied physiologically by MM. Liederdorf and Bresslauer.

Their experiments were made on the insane. They find that papaverine exercises upon man a decided soporific action, and, at the same time, diminishes muscular activity. It reduces the frequency of the pulse in all cases, and its calming action is not preceded by a period of excitement. It never causes nausea, vertigo, headache, or constipation, but, on the contrary, tends to reduce these symtoms. It generally acts slowly, about four to seven hours after adminstration. It may be given subcutaneously in the form of hydrochlorate. Dr. Stark fully confirms these observations; he administers it in doses of 1 to 2 grains by hypodermic injection, and considers it to be constant and simple in its action.—*Pharm. Jour.*

Note upon Apomorphia and Chlorocodide.

Last May I read before the Clinical Society a short account of the therapeutical properties of apomorphia, a new base which had been discovered, the previous month, by Dr. Matthieson. In No. 112 of the "Proceedings of the Royal Society," there appeared two papers by Dr. Matthieson and Mr. Wright upon the chemistry of apomorphia. In this place I wish to add a few therapeutical facts, gained by subsequent experience.

Every trial has confirmed the statement that apomorphia is a most powerful emetic and contrastimulant. To the best of my knowledge, apomorphia has never been administered as an emetic dose (namely, 1-10 grain subcutaneously or ½ by the mouth) without producing speedy vomiting. On one occasion the vomiting occurred eighty seconds after the injection. But there is a drawback to the value of apomorphia used as an emetic, and that is the contrastimulant effect produced at the same time. Not that the latter effect always occurs, far from it; but sometimes it does occur to a an extent such as to cause anxiety on the part of the person who has made the injection; the patient seems as if his muscular power were gone; the vascular system, however, does not appear to be depressed to an equal extent. The strength of the patient has nothing to do with the occurrence or not of the sedative effect; the strongest men sometimes suffer greatly, and the weakest sometimes escape. It is, perhaps, not surprising that an emetic of the activity of apomorphia should be depressing, and the more so since it is clearly an emetic which does not act by causing direct gastric irritation (sub-inflammation), but which acts as blows upon the head, foul sights or smells, or mere imaginations act. In some cases the production of a state of depression is even to be desired; emetics have often been used to that end.

As a contrastimulant, apomorphia does not possess any special advantage, except that the alimentary canal is not inflamed, as is the event when antimony and veratria are given. But my experiments in this direction are very few, and this chiefly on account of the costliness of the drug. Owing to difficulties in the preparation of apmorphia, the produce does not weigh more than a tenth part of the morphia employed in the manufacture. The present price of morphia being five-and-twenty shillings on ounce, the value of apomorphia comes to be something beside which aurum potabile fades into insignificance. This does not matter when single tenths of a grain are used to produce vomiting: the expense arises when larger doses are frequently given by the mouth. Let us hope that the chemists will soon surmount these difficulties.

Apomorphia can be procured from codeia. An intermediate compound, chlorocodide, is formed.

Experments show that the properties of chlorocodide and of codeia are identical, salivation and dilatation of the pupils being the symptoms most easily produced; larger doses causing extreme restlessness, and very large doses proving fatal after a state of mixed paralysis and spasm both tonic and clonic; consciousness being unaffected. The only property of chlorocodide that holds out any promise of being useful in medicine is the extreme bitterness of the base, almost equal to the bitterness of strychnia, while the dose of chlorocodide which is required to produce tetanus in the human being must be enormous (if we may argue from the cat) compared with the dose of strychnia required. A quarter of a grain of chlorocodide taken by the mouth causes an uncommon sense of tonicity in the abdomen. Quina, which is so often given as a stomachic, is a much less intense bitter than chlorocodide, and tends to produce fulness and aching of the head which chlorocodide does not.—*Dr. S. J. Gee in Bartholomew's Hospital, Reports.*

Therapeutic Uses of Thymic Acid.

Writing in the *Union Pharmaceutique*, M. le Dr. Paquet states that this acid, which is allied to carbolic acid, is a remedy of immense value to the surgeon. He describes its effects on healthy and morbid tissues, and draws the following definitive conclusions as to its uses. —(1) Thymic acid deserves to hold a high place among the antiseptic preparations used in treating wounds. (2) In its concentrated form it is an excellent substitute for nitric acid and nitrate of silver. It is especially superior to phenic acid, because it has not got its extremely disagreeable odour. (3) In aqueous solution (1 in 1000), to which a few grammes (a gramme is equal to 15·4 grains) of alcohol have been added, it is extremely useful in furthering the cicitrization of wounds. It is especially serviceable in those cases in which tincture of iodyne is generally employed.—*Practitioner.*

Action of Veratrin.

A very careful investigation of the therapeutic properties of veratrin has recently been made by M. Pégaitaz, who has published his results in the *Deutsches Archiv. fur Klinik Mecidin* for last month. He describes its effects both when taken internally and when subcutaneously injected; and finds them almost precisely the same, being as follows:—In the calier stage, excitation; subsequently, depression. Then follow in succession, salivation, nausea, sensation of choking, vomiting, and usually diarrhœa. The voluntary movements become unsteady, the want af power displaying itself first in the posterior, and subsequently in the anterior limbs; accompanying this there appeared to be a certain degree of stiffness. There were coincidently exaltation of the reflex sensibility and diminution of the sensibility. The temperature, the number of the respiratory acts and of the beats of the heart, were all transiently diminished. Convulsions and tetanus finally set in; but careful examination failed to discover any indications of inflammatory mischief. Experiments made with a view of testing its applicability as a remedy which might be used hypodermically, seem to have been unsatisfactory; showing that whilst it acts in this was similarly to its operation when given by the mouth, yet the injection produced very great pain.—*Lancet.*

Substitute for Chlorodyne.

Mr. Edward M'Inall, a pharmaceutist of Philadelphia, recommends the following as a substitute for the chlorodyne of J. Collis Brown.

Sulphate of morphia, gr. lxiv.
Alcohol (ninety-five per cent.), f. oz. ij.
Purified chloroform, f. oz. vj.
Sulphuric acid, q. s.
Extract of cannabis indica (Allen's), dr. ss.
Eleo-resin of capsicum, gtts. xij.
Hydrocyanic acid (Scheele's), gtts. xcvj.

Shake together the sulphate of morphia, alcohol, and chloroform, then add the sulphuric acid, shake well until it becomes clear, then add the oleo-resin of capsicum, extract of cannabis, and hydrocyanic acid.

This forms a clear dark green liquid, possessing the acrid taste of capsicum, and the odour of chloroform. A drachm contains about a grain of the sulphate of morphia, and the dose is given at from fifteen to thirty drops (minims).—*New York Journal of Medicine.—Braithwaite's Retrospect.*

Apomorphia.

This base is procurable from codeia, which it resembles in chemical constitution. It is one of the most certain emetics known, one-tenth of a grain subcutaneously, or ½ grain by the mouth, being the dose required. The disadvantages of it is that it is a depressant in some cases, the patient seeming as if his muscular power were gone; the vascular system, however, does not appear to be depressed to an equal extent.—*Braithwaite's Rotrospect.*

Coffee.

Brazil is the greatest producer of coffee. That known in the trade as Rio is a Brazilian product. Of the 713,000,000 pounds produced by the world per annum, Brazil furnishes 400,000,000, or more than half of the whole; Java 140,000,000, Ceylon 40,000,000, St. Domingo 40,000,000, Cuba and Porto Rico 25,000,000, Venezuela 25,000,000, Sumatra 25,000,000, all others, including the Mocha, 18,000,000. The United States is the greatest consumer. We use in the United States nearly one-third of all the coffee consumed in the world, using nearly seven times as much as Great Britain, with a population not very far from the same. Germany comes next.

The Atomistic Method of Administering Drugs.

This mode, which is part of the homœopathic practice, is being energetically advocated in the Royal Academy of Belgium, by M. le Dr. Burggraeve. His arguments are not very persuasive, nor are the facts adduced numerous; but such as they are, our readers will find them in the *Bulletin de l'Académie Royale de Médecine de Belgique.—Practitioner.*

A Cure for Earache.

Tincture of digitalis has been recommended for this purpose. One or two drops are placed in the ear, the passage being then closed with a piece of cotton.

Notes and Queries.

New Subscriber.—BORAX.—You are wrong in supposing the principal source of this salt to be *tincal;* the greater proportion is, at present, prepared artificially. As long as the supplies of commerce were dependent on native borax, the price was quite high, being three or four shillings, sterling, per pound for refined About the year 1815, Payen and Curtier succeeded in producing an artificial salt, in large crystals, by saturating boracic acid with carbonate of soda, and this is the method pursued at the present time. At first, a considerable prejudice existed against the article, from the fact that the edges of the crystals were sharp and unbroken, while the old Dutch borax, to which people had been accustomed, was considerably broken, and otherwise bore the evidence of long transport. This difficulty was overcome by shaking or rolling the artificial borax in casks, by which a generally used-up and travelled appearance was given to it. The artificial product is purer than that prepared from native borax, and, for most purposes, is preferable. The boracic acid for this manufacture is obtained from the waters of the lagoons of Tuscany. The acid region extends over the surface of thirty miles of this volcanic and rugged country. The lakes are situated on gradually rising ground, and are continually sending out dense volumes of vapor and gases, which are projected, in heated columns, from fissures in the rocks beneath. The rustics of the district formerly regarded this part of the country as the location of one of the principal entrances, or exits, of the infernal regions. By the passage of the vapors, called *suffioni*, the water of the little lakes becomes charged with boracic acid, and by appropriate means, is conveyed from one lagoon to another until saturated as far as possible; it is then run into vessels in order to deposit, and is ultimately evaporated to the crystalizing point in large, shallow, leaden pans, which are heated by the vapor of some *suffioni*, which is conducted there for the purpose. The whole operation is conducted, therefore, with but trifling expense.

The ordinary variety of borax contains ten equivalents of water of crystalization, (about 47 per cent). This can be got rid of by fusion at a red heat, and in this state it is most useful as a flux.

S. J.—BLACK INK.—The following form is recommended as yielding a tolerable cheap and very black ink. Its durability has been satisfactorily determined—at least, as far as twenty-five years time has demonstrated: -

Soft water	4 gals.
Bruised galls	3 lbs.

Let stand a day, and add:

Copperas	1¼ lb.
Gum Arabic	1½ lb.
Ol. Caryoph	5 drops.

Macerate for two weeks; stirring once a day.

Pharmacist.—WATER TIGHT TROUGHS.—A trough which will answer your purpose, and may also be used, in some cases, as a crystallizing tank, may be made thus.—A strong wooden box of the requisite size must be provided; it should be tongued and grooved together, all the joints being previously covered with a coating of stiff white lead, instead of glue; if necessary it may be fastened with screws. Give it now a perfect coat, both inside and out, with Brunswick black, diluted with an equal volume of turpentine; after allowing this to dry, give it two or three additional coats of the undiluted Brunswick black. A tank of this kind will last for years, and any leak may be quickly stopped by a fresh coat of paint. *To prevent bursting by frost,* a peice of india rubber tube, about an inch bore, corked at one end, may be put into the tub—the corked end down, and the open end above the surface of the water. In case of frost the sides of the tube will be pressed together, and thus the tub will be relieved from pressure.

James R.—GRANULATION OF METALS.—Zinc, lead, tin and bismuth, are best granulated by pouring into water from a depth of five or six feet. Finer granulation may be effected by allowing the stream to pass through an ordinary corn broom. In order to procure the metal in bell-shaped peices, and not in drops, it will be necessary to avoid a heat much above the melting point. Considerable depth of water will be required, or else the feathered metal will form into masses.

To make GRAIN TIN, the metal must be melted and poured into a tight wooden box, which must be vigorously shaken until the granulation is effected.

G. McIntyre, D. H. B. Welland and others,—The prices of the works of which you inquire will be found in the list which is appended:—

Roscoe's Elementary Chemistry	$1 25
Attfield's Chemistry	4 50
Fownes' Chemistry	4 50
Wittstein's Pharmaceutical Chemistry	1 50
Parrish's Pharmacy	4 50
Royle's Materia Medica	2 70
Garrod's Materia Medica	3 60
Pareira's Materia Medica (condensed edition)	6 30
Lindley's Descriptive Botany	0 30
Pareira's Prescription Book	1 25

G. McI.—Madder Compound.—To give you *the* form for this article is more than we can do, as nearly every dyer, and manufacturer, have special proportions of the ingredients which they think best; a difficulty, therefore, lies in selection; a very good form is :—

Hydrochloric acid	3 parts by measure.
Nitric acid	1 do. do.
Water	1 do. do.

Add feathered tin, in very small portions at a time, until about two ounces to the pound of the mixture, are dissolved. The temperamust be kept down, or a per salt of tin will be formed, which is not the intention.

The *Chemists' and Druggists' Almanac* will be forwarded, in a few days, to those who have ordered them, we are sorry that any delay should have occured. We are not, however, to blame.

Changes.

The business carried on by — McCallum, St. Mary's, has been purchased by A. Stoddart.

J. McLean has fitted up a new store at St. Mary's.

A. H. Joseph is about commencing busi- in Toronto.

H. H. Morton, St. Thomas, assigned.

Trade Report.

The past month's transactions have been unmarked by anything special, or noteworthy. Sales have been numerous, but small, while payments have been rather better than for some time past.

In our price list we have few changes to note; the only ones of any importance being in Cantharides, Quinine and Mace. These articles have been tending upwards for a considerable time. Cantharides we hardly think will go any further. Quinine we think from information received as far back as the spring of 1869, is likely to be still higher, as it has only been the fact of large stocks on hand, which has kept it down so long. Mace has probably reached its highest point, as, for the next few months, the demand is likely to be less.

Spts. Turpentine and Seal Oils are both higher.

WHOLESALE PRICES CURRENT.—FEB., 1870.

Drugs, Medicines, &c.	$ c.	$ c.
Acid, Acetic, fort	0 12 @	0 15
" Benzoic, pure	0 28	0 35
" Citric	0 83	0 90
" Muriatic	0 05	0 07
" Nitric	0 11½	0 15
" Oxalic do	0 26	0 32
" Sulphuric	0 04½	0 07
" Tartaric, pulv.	0 36	0 45
Ammon., carb. casks	0 17	0 19
" " jars	0 18	0 20
" Liquor, 880	0 18	0 25
" Muriate	0 12½	0 15
" Nitrate	0 45	0 60
Æther, Acetic	0 45	0 50
" Nitrous	0 22½	0 25
" Sulphuric	0 48	0 55
Antim. Crude, pulv.	0 10	0 12
" Tart. "	0 50	0 60
Alcohol, 95%	1 85	2 00
Arrowroot, Jamaica	0 21	0 22
" Bermuda	0 45	0 65
Alum	0 02½	0 03½
Balsam, Canada	0 32	0 35
" Copaiba	0 75	0 80
" Peru	4 50	4 80
" Tolu	1 20	1 40
Bark, Bayberry, pulv.	0 20	0 25
" Canella, "	0 17	0 20
" Peruvian, yel. pulv	0 42	0 45
" " red "	1 50	1 60
" Slippery Elm, g. b.	0 18	0 20
" " flour, pkt's	0 28	0 32
" Sassafras	0 15	0 18
Berries, Cubebs, ground	0 30	0 40
" Juniper	0 06	0 10
Beans, Tonquin	0 60	1 10
" Vanilla	9 40	9 60
Bismuth, Alb.	5 60	6 40
" Carb.	5 60	6 40
Camphor, Crude	0 43	0 48
" Refined	0 55	0 65
Cantharides	1 40	1 50
" Powdered	1 45	1 55
Charcoal, Animal	0 04	0 06
" Wood, pow'd.	0 12	0 15
Chiretta	0 55	0 65
Chloroform	1 25	1 50
Cochineal, S. G.	0 90	1 15
" Black	1 30	1 75
Colocynth, Pulv.	0 50	0 80
Collodion	0 55	0 60
Elaterium oz.	4 50	5 00
Ergot	0 75	0 90
Extract, Belladonna	2 00	2 20
" Colocynth, Co.	1 25	1 75
" Gentian	0 50	0 60
" Hemlock, Ang.	1 12	1 25
" Henbane, "	2 90	3 00
" Jalap	5 00	5 50
" Mandrake	1 75	2 00
" Nux Vomic. oz.	0 60	0 70
" Opium "	Variable.	
" Rhubarb	7 50	—
" Sarsap. Hon. Co	1 00	1 20
" " Jam. Co	3 25	3.70
" Taraxicum, Ang	0 70	0 80
Flowers, Arnica	0 26	0 35
" Chamomile	0 36	0 45
Gum, Aloes, Barb. extra	1 00	1 10
" " " good	0 50	0 55
" " Cape	0 15	0 20
" " pow'd	0 25	0 30
" " Socot	0 60	0 75
" " " pulv.	0 90	1 00
" Arabic, white	0 60	0 65
" " " pow'd	0 57	0 65
" " sorts	0 34	0 37
" " " pow'd	0 50	0 60
" " com. Gedda	0 13	0 16
" Assafœtida	0 35	0 40
" British or Dextrine	0 13	0 15
" Benzoin	0 48	0 55
" Catechu	0 15	0 20
" " pow'd	0 25	0 30
" Euphorb, pulv.	0 32	0 40
" Gamboge	1 40	1 60
" Guaiacum	0 32	0 50
" Myrrh	0 48	0 60
" Sang Dracon	0 60	0 70
" Scammony, pow'd	5 60	—
" " Virg. "	14 50	—
" Shellac, Orange	29	0 32

Drugs, Medicines, &c. *Continued.*	$ c.	$ c.
Gum, Shellac, liver	0 21 @	0 28
" Storax	0 65	0 75
" Tragacanth, flake.	1 05	1 40
" " common	0 34	0 00
Galls,	0 32	0 37
Gelatine, Cox's, 6d.	1 10	1 20
Glycerine, com.	0 25	0 30
" Vienna	0 35	0 40
" Price's	0 65	0 75
Honey, Canada, best	0 16	0 20
" Lower Canada	0 12½	0 13
Iron, Carb. Precip.	0 20	0 25
" " Sacchar.	0 40	0 45
" Citrate Ammon.	0 90	1 00
" " & Quinine oz.	0 43	0 48
" " & Strychnine"	0 17	0 25
" Sulphate, pure	0 08	0 10
Iodine, good	4 50	5 00
" Resublimed	5 60	6 00
Jalapin oz.	1 50	2 00
Kreosote	1 60	2 50
Leaves, Buchu	0 30	0 50
" Foxglove	0 25	0 30
" Henbane	0 35	0 40
" Senna, Alex.	0 30	0 60
" " E. I.	0 12½	0 20
" " Tinnevilly	0 20	0 30
" Uva Ursi	0 15	0 20
Lime, Carbolate brl.	5 50	—
" Chloride	0 04½	0 06
" Sulphate,	0 08	0 12½
Lint, Taylor's best	1 12½	1 25
Lead, Acetate	0 14	0 17
Leptandrin oz.	0 60	—
Liq. Bismuthi	0 50	0 75
" Opii, Battley's	7 60	9 00
Lye, Concentrated	1 50	2 00
Liquorice, Solazzi	0 37	0 45
" Cassano	0 23	0 40
" Other brands	0 14	0 25
Liquorice, Refined	0 35 @	0 45
" " Hessin's doz	2 00	
Magnesia, Carb 1 oz.	0 20	0 25
" " 4 "	0 17	0 20
" Calcined	0 65	0 75
" Citrate, gran.	0 40	0 50
Mercury	0 65	0 75
" Bichlor	0 70	0 80
" Biniodid oz.	0 25	0 35
" Chloride	0 90	1 00
" C. Chalk	0 45	0 60
" Nit. Oxyd	0 90	1 00
Morphia, Acet. } about	—	—
" Mur. } about	6 00	—
" Sulph. } about	—	—
Musk, Pure grain oz.	21 00	—
" Canton	1 00	1 20
Oil, Almonds, sweet	0 48	0 55
" " bitter	14 00	15 00
" Annisced	4 00	4 50
" Bergamot, super.	6 60	7 00
" Carraway	4 00	4 20
" Cassia	3 00	3 20
" Castor, E. I.	0 16	0 20
" " Crystal	0 22	0 25
" " Italian	0 26	0 28
" Citronella	1 60	1 75
" Cloves, Ang.	1 00	1 10
" Cod Liver	1 40	1 50
" Croton	2 50	3 00
" Geranium, pure, oz.	2 00	2 20
" Juniper Wood	0 90	1 00
" " Berries	6 00	7 00
" Larand, Ang.	17 60	19 20
" " Exot.	1 40	1 60
" Lemon, super.	3 30	3 60
" " ord.	2 70	2 80
" Orange	3 00	3 20
" Origanum	0 65	0 75
" Peppermint, Ang.	15 00	17 00
" " Amer.	4 60	5 00
" Rose, virgin	7 75	8 60
" " good	4 40	5 50
" Sassafras	1 10	1 25
" Wintergreen	4 90	5 50
" Wormwood, pure	5 80	50
Ointment, blue	0 65	0 70
Opium, Turkey, about	10 50	—
" " pulv.	12 50	—
Orange Peel, opt.	0 65	0 75
" " good	0 12½	0 20
Pill, Blue, Mass	0 70	0 75

Drugs, Medicines, &c. *Continued.*	$ c.	$ c.
Potash, Bi-chrom	0 15 @	0 20
" Bi-tart.	0 25	0 28
" Carbonate	0 16	0 20
" Chlorate	0 40	0 45
" Nitrate	8 50	9 00
Potassium, Bromide	1 80	2 00
" Cyanide	0 70	0 75
" Iodide	3 80	4 50
" Sulphuret	0 25	0 35
Pepsin, Boudault's oz.	1 25	1 50
" Houghton's, doz	8 00	9 00
" Morson's oz.	0 82	1 10
Phosphorus	0 75	0 85
Podophyllin	0 50	0 60
Quinine, Pelletier's	1 75	—
" Howard's	1 80	1 85
" " 100 oz. case	1 77½	—
" " 25 oz. tin	1 72½	—
Root, Colomba	0 14	0 20
" Curcuma, grd.	0 12½	0 17
" Dandelion,	0 25	0 35
" Elecampane	0 14	0 17
" Gentian	0 08	0 12½
" " pulv.	0 15	0 20
" Hellebore, pulv.	0 18	0 25
" Ipecaac	2 40	2 60
" Jalap, Vera Cruz	1 55	2 —
" " Tampico	0 90	1 —
" Liquorice, select.	0 13	0 17
" " pow'd	0 12½	0 16
" Mandrake, "	0 20	0 25
" Orris "	0 20	0 25
" Rhubarb, Turky	4 40	5 50
" " E. I., China	1 25	1 75
" " pulv.	1 40	1 75
" " " 2nd	1 30	1 50
" " French	0 75	—
" Sarsap., Hond.	0 45	0 50
" " Jam.	0 75	0 80
" Squills	0 10	0 15½
" Senega	0 40	0 50
" Spigelia	0 35	0 40
Sal., Epsom	3 00	4 00
" Rochelle	0 28	0 35
" Soda	0 02	0 03
Seed, Anise	0 16	0 30
" Canary	0 05½	0 07
" Cardamon	3 00	4 00
" Fenugreek, gr'd.	0 10	0 15
" Hemp	0 06	0 07
" Mustard, white	0 14	0 16
Saffron, Amer.	2 00	—
" Spanish	14 00	16 00
Santonine	10 50	12 00
Sago	0 07½	0 09
Silver, Nitrate, cash	14 90	16 50
Soap, Castile, mottled	0 11½	0 14
Soda Ash	0 03	0 04
" Bicarb. Newcastle	4 00	5 00
" " Howard's	0 14	0 16
" Caustic	0 04	0 05
Spirits Ammon., arom.	0 25	0 35
Strychnine, Crystals	2 30	2 75
Sulphur, Precip.	0 10	0 12½
" Sublimed	0 4	0 05
" Roll	0 03	0 04½
Tamarinds	0 15	0 20
Tapioca	0 20	0 23
Veratria oz.	0 25	0 30
Vinegar, Wine, pure	0 55	0 60
Verdigris,	0 35	0 40
" Pow'd	0 45	0 50
Wax, White, pure	0 92	0 95
Zinc, Chloride oz.	0 20	0 25
" Sulphate, pure	0 10	0 15
" " com.	0 06	0 10

Dyestuffs	$ c.	$ c.
Annatto	0 40 @	0 60
Analine, Magenta, cryst	5 60	—
" " liquid	2 00	—
Argols, ground	0 15	0 25
Blue Vitriol, pure	0 08	0 10
Camwood, pure	0 06½	0 09
Copperas, green	0 01½	0 02½
Cudbear	0 16	0 25
Fustic, Cuban	0 03	0 04
Indigo, Bengal	2 40	2 50
" Madras	1 15	1 20
" Extract	0 28	0 35
Japonica	0 05½	0 06½
Lacdye, pow'd.	0 35	0 40
Logwood	0 02½	0 03

Dyestuffs—*Continued*	$ c.	$ c.
Logwood, Camp.	0 02½ @	03½
" Extract	0 12½	0 14
" " 1lb bxs	0 14	—
" " ½lb "	0 15	—
Madder, best Dutch	0 16	0 18
" 2nd quality	0 14	0 15
Quercitron	0 03	0 05
Sumac	0 06½	0 08
Tin, Muriate	0 10½	0 12½
Redwood	0 05	0 06

Spices.		
Allspice	0 08½ @	0 10
Cassia	0 50	0 55
Cloves	0 15	0 16
Cayenne	0 18	0 25
Ginger, E. I.	0 12	0 14
" Jam.	0 28	0 30
Mace	1 35	1 40
Mustard, com.	0 20	0 25
" D. S.	0 40	0 45
Nutmegs	0 70	0 80
Pepper, Black	0 11½	0 12½
" White	0 20	0 22

Paints, Dry.		
Black, Lamp, com.	0 07 @	0 08
" " 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
" Red	0 05½	0 10
Green, Brunswick	0 07	0 10
" Chrome	0 20	0 25
" Paris	0 30	0 35
" Magnesia	0 20	0 25
Litharge	0 08	0 09
Pink, Rose	0 12½	0 15
Red Lead	0 06½	0 08
" Venetian	0 02½	0 03½
Sienna, B. & G.	0 10	0 15
Umber, "	0 07	0 10
Vermillion, English	0 90	1 00
" American	0 25	0 35
Whiting	0 85	1 25
White Lead, dry, gen.	0 07½	0 09
" " " No. 1	0 06½	0 08
" " " No. 2	0 05½	0 07
Yellow Chrome	0 12½	0 35
" Ochre	0 02½	0 03½
Zinc White, Star	0 10	0 12

Colors, in Oil.		
Blue Paint	0 12 @	0 15
Fire Proof Paint	0 06	0 08
Green, Paris	0 32	0 37½
Red, Venetian	0 07	0 10
Patent Dryers, 1lb tins	0 14½	0 16
Putty	0 03½	0 04½
Yellow Ochre	0 08	0 12
White Lead, gen. 25lb tins	2 35	—
" " No. 1 "	2 10	—
" " No. 2 "	1 90	—
" " No. 3 "	1 65	—
" " Com. "	1 30	—
White Zinc, Snow	2 75	3 25

Naval Stores.		
Black Pitch	4 50 @	5 50
Rosin, Strained	3 75	4 50
" Clear, pale	5 75	10 00
Spirits Turpentine	0 55	0 60
Tar Wood	4 00	5 00

Oils.		
Cod	0 65 @	0 .
Lard, extra	1 25	—
" No. 1	1 12½	—
" No. 2	1 00	—
Linseed, Raw	0 75	0 80
" Boiled	0 80	0 85
Olive, Common	1 25	—
" Salad	1 80	2 30
" " Pints, cases	4 20	4 40
" " Quarts	3 60	3 00
Seal Oil, Pale	0 85	0 90
" " Straw	0 77½	0 80
Sesame Salad	1 30	1 35
Sperm, genuine	2 40	—
Whale, refined	0 85	1 00