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CANADIAN PHARMACEUTICAL JOURNAL

VOL. V, No. 3. TORONTO, OCTOBER, 1871. WHOLE No. XLII.

Original and Selected Papers.

WHAT TO STUDY.*

A CHAPTER FOR STUDENTS.

BY THE EDITOR.

We purpose offering a few suggestions as to the course of study which students ought to pursue, and though we are well aware that exterior helps, in the way of lectures and practical instruction, are of great advantage, yet, after all, by diligence and application, the self-taught student may render himself independent of such assistance. Let none feel discouraged because he may not happen to enjoy privileges of this nature. Many of our most eminent men have been self-taught men, and have attained a position amidst circumstances of the most adverse character.

A great deal of the success of the student will depend on the adoption and carrying out of a systematic method of study. A common fault is the attempting of too much at once. The result

* NOTE.—A considerable portion of the above paper appeared in one of the earlier numbers of this JOURNAL, but as inquiries are being constantly received in regard to the subjects of which it treats, it has been thought advisable to re-write and revise it, for the benefit of those who have not an opportunity of referring to the original.

must be judged by the amount learned, and not the extent of the reading. Let no statement pass without thoroughly understanding it. By this means a habit of concentrating the mind will be acquired, which will render each succeeding difficulty of easier accomplishment. Impatience must be curbed, and a steady, plodding step maintained throughout. Let there be no skipping of disagreeable or dry subjects; no turning over of pages to see what is to come next. It is a much better plan to review than to anticipate; and the student will derive great benefit by making a retrospective examination of the previous day's lesson. The attempting of more than one branch of study at once will depend on the time at the disposal of the student. If the evening only can be employed in reading, one subject will be quite sufficient; if a portion of the day is allowed, another branch may be taken up. Chemistry and botany, or any other branches of somewhat diverse character, may be taken, with advantage, together, and in this way the mind will be relieved and refreshed.

If the student has not had the advantage of a classical education, it will be found necessary to devote some time to acquiring a knowledge of Latin. A thorough knowledge, although desirable, is not absolutely indispensable, as the terms employed in prescriptions are limited in number, and physicians seldom wander from the beaten track. Pareira's *Prescription Book*, which contains all the terms and abbreviations used in prescriptions, with rules for their pronunciation, and a large amount of useful information of a similar character, will be found a most desirable aid. If the assistance of a friend, acquainted with the rudiments of the language, can be procured—and this is by no means difficult, even in the most remote districts—the student will be enabled to make much more rapid progress than when unaided. A few evenings with a friend of this kind, supplimented by home study, will familiarize the mind with the greater number of terms used, and the proper pronunciation can be acquired with more confidence and correctness than from written rules.

The study of Chemistry next claims attention. This science is, in fact, the chief corner stone of pharmaceutical knowledge. A druggist without the knowledge of chemistry is like a mariner unacquainted with the art of navigation, who by dint of a multiplicity of directions, and under favorable circumstances, may be able to

keep the required course; but let adverse winds drive him off the beaten track, and his voyage must only end in failure and misfortune. Just so is it with the ignorant druggist; he may indeed manage to bungle through the official directions, but should anything go wrong, or any departure from the usual course be required, his incapacity becomes at once apparent, and mortification and loss result.

The selection of an elementary work on chemistry is a matter of considerable importance. Some are much better adapted for a course of self instruction than others; and it must also be borne in mind, that during the last ten years, the principles of the science have undergone very material changes. Of the nature or merit of these alterations it does not, at present, become us to speak: but suffice it to say that the more modern views are almost universally adopted by chemists in the present day, and that the scientific literature of the times is all based on such views. It will be necessary, then, for the student to select a publication of the most recent date. Those which we would recommend are Roscoe's *Lessons in Elementary Chemistry*, Attfield's *Chemistry*, and Fowne's *Manual of Chemistry*. Editions of all these have been issued during the last three years, and students should see that they get the latest. Any one of the works will be sufficient, although it is often advantageous to compare the statements of different authors on the same subjects.

A course of Practical Chemistry may be taken at the same time with the study of any of the works above mentioned, but that of Dr. Attfield will be found by far the best adapted to the plan. The apparatus required is of the simplest possible description; a few ounces of glass tubing, half-a-dozen test tubes, two or three flasks, with such articles as an ordinary druggist's shop can supply, being all that are necessary to perform the greater part of the experiments. It is a mistaken notion to suppose that costly and complicated apparatus is indispensable; a few simple appliances and a fair stock of ingenuity will go a long way. The most celebrated discoveries of Dr. Black are said to have been made with a stock of apparatus which was usually arranged on a tea-tray, and the total cost of which would not exceed five shillings.

Botany is one of the most essential but most neglected branches of the pharmacist's education. The Council of the College have recognized its importance, and in the examination for Pharmaceutical Chemists, have decided that one fifth of the total number of marks required in passing must have been obtained through proficiency in this science. It is one of the most interesting, and at the same time, most healthful studies with which we have to do. During the

coming winter a thorough knowledge of the elements of botany should be acquired from *Gray's Lessons*—a work recommended by the Council—and in the spring the knowledge gained should be at once turned to account, and applied to the recognition and classification of plants. Nothing is more delightful than a botanizing ramble through the woods; every plant is laden with an interest which cannot be felt by the unskilled, and there is commonly no lack of specimens. At this season it will be well to procure the *Manual of Botany*, by the above author, and by carefully referring each specimen collected to the description there given, by the end of the season a very fair rudimentary acquaintance with the science will have been acquired.

A knowledge of *Materia Medica* may be held to imply a familiarity with the history and properties of all those substances used in medicine which are furnished immediately by nature, or are thrown into commerce by the manufacturer. Of course, the knowledge of chemistry and botany already possessed by the student, furnishes a considerable part of this information, but there yet remains much unexplained by either of these sciences. The qualities of drugs, the means of estimating these qualities, and of distinguishing the genuine from the spurious, the localities from which they are brought, the parts of the plants which yield them, their medicinal properties, &c. These must be sought for in works on the subject, and any of the manuals, as those of Pareira, Royle, or Garrod, will furnish the requisite information. The *U. S. Dispensatory*, of Wood and Bache, may be consulted with advantage in the absence of any of the above works. Specimens of drugs selected from the stock should be examined and compared with the description given, and their qualities estimated thereby.

A good suggestion is made by the writer of a paper similar to the present, and which appeared, many years ago, in the *Pharmaceutical Journal* of England. It is advised that the student make a list of all drugs enumerated in the *Pharmacopœia*, and such others as he may be able to find in the shop, arranging them into the groups "Animal," "Vegetable," and "Mineral," as their origin may indicate, and placing the members of each group in alphabetical succession, according to their Latin names. Let him now collect all the principal facts connected with the properties and history of each drug, and arrange them in tabular form. By this means a great amount of useful information will be gained, which will be impressed upon the memory in a manner otherwise unattainable, without a much greater expenditure of time. The following plan will illustrate our meaning. The requisite space for the tables is readily afforded by paper of foolscap size—the whole width of the sheet being employed; the descriptions may be given, if desired, in greater detail.

A list of this kind will be found very useful for reference, and if for this end alone will repay any trouble bestowed upon it.

SUBSTANCES OF ANIMAL ORIGIN.

Name.	Source.	Part used.	Locality.	Physical characters.	Medicinal properties.	Active principle.	Active principle, how obtained.	Preparations.
Castoreum.	Castor fiber.	The prepucial follicles and secretions.	Northern parts of Russia and North America.	Pear-shaped sacs, containing a brown, odorous, and sometimes viscid substance.	Stimulant, Antispasmodic.	Castorin (?)	By treatment with boiling Alcohol, and subsequent crystallization.	Tinct. Castorei.

SUBSTANCES OF VEGETABLE ORIGIN.

Name.	Source.	Natural order.	Part used.	Locality.	Physical characters.	Medicinal Properties.	Active principle.	Active principle, how obtained.	Preparations.
Jalapa.	Exogonium purga.	Convulvaceae.	The tubers.	Mexico.	Roundish tubers or circular slices; brown externally; greyish internally; odour, sweetish, and nauseous.	Cathartic.	Jalapa Resina.	By treatment with alcohol and precipitation by Resina Jalapa water.	Ext. Jalapae, Pulv. Jalapae, co. Pulv. Scammonae, co. Resina Jalapae; Tinct. Jalapae.

SUBSTANCES OF MINERAL ORIGIN

Name.	Source.	Locality.	Physical Characters.	Symbol, or Formula & combining weight.	Medicinal Properties	Preparations.
Hydrargyrum.	Native Sulphide, or Cinnabar.	Spain, North America, Hungary & China.	Fluid at ordinary temperatures, solid at 40° F., boils at 662° F., sp. gr. 13.54.	Hg=200	Inert, except in combination.	Hydrarg. c. Creta, Emp. Ammoni: Hydrarg. Emp. Hydrarg. Lin: Hydrarg. Pili: Hydrarg. etc.

The study of Practical Pharmacy, relates to the preparation, dispensing and sale of medicines, and the various manipulations included in the every day life of the shop. Habits of cleanliness, neatness and despatch, must be cultivated, and the slightest tendency to slovenliness guarded against. It has been said that there is a right and a wrong way of doing everything, and this holds good in regard to the slightest details in pharmacy—the laying down of dirty spatula, the proper direction of a pestle, the holding of a graduate—have each their appropriate methods of performance. Parrish's *Pharmacy*, which is, truly, an invaluable book to the young chemist, will afford all the necessary information. Much benefit may also be derived from a perusal of the *Practical Pharmacy* of Mohr and Redwood. In regard to the details of the preparation of the greater number of officinal compounds, and the rationale of the various processes involved, Wittstein's *Pharmaceutical Chemistry*, will be found a most valuable companion, not only to the student, but the accomplished pharmacist.

That branch of medicine termed Posology treats of the correct apportioning of doses, and with this the student must be thoroughly familiar. It is not only necessary for the druggist to know how to put up prescriptions, he should also be able to detect anything unusual in the quantity of the ingredients which the patient may be ordered to take, in such case it becomes his duty to apprise the physician of the error, and have it explained, or rectified. The dose of each officinal medicine should be committed to memory from the *Pharmacopœia*.

A familiarity with the nature and properties of poisons will have been acquired from a study of Dr. Attfield's *Chemistry*, and some of the other works we have recommended; and the student should always hold himself in readiness to supply an efficient antidote, with precision and promptness, to any of the ordinary poisonous substances, in case he is called upon so to do.

We append a list of the books to which we have alluded as being best suited to the requirements of pharmaceutical students; and we may say, that we shall be most happy to procure any of the works for those who are unable to get them through their bookseller; or to render our friends any other assistance in our power.

CHEMISTRY.

ROSCOE'S *Lessons in Elementary Chemistry*, 1869.

ATTFIELD'S *Chemistry, General, Medical and Pharmaceutical*, 1869.

FOWNES' *Manual of Chemistry*, Tenth edition.

BOTANY.

GRAY'S *Lessons in Botany*.

GRAY'S *Manual of Botany*.

MATERIA MEDICA.

PAREIRA'S *Manual of Materia Medica*. By Farre, Bentley, and Warrington.

GARROD'S *Essentials of Materia Medica*.

ROYLE'S *Manual of Materia Medica*. Fifth edition.

PHARMACY, ETC.

PARRISH'S *Practical Pharmacy*, 1867.

MOHR AND REDWOOD'S *Practical Pharmacy*.

WITTSTEIN'S *Practical Pharmaceutical Chemistry*.

British Pharmacopœia, 1867.

PAREIRA'S *Prescription Book*. Tenth edition.

ON LINSEED AND LINSEED MEAL.*

BY THOMAS GREENISH, F.C.S.

Although the linseed meal poultice is by no means a modern invention, yet the first mention of it (*Cataplasma Lini*) occurs in the "Ph. Lond." of 1836, where it is directed to be made with bruised linseed (*Sem. Lini Contriti*), and the same also in the "Ph. Lond." of 1851; but in the "British Phar." of 1867, the terms used are "Lini Farina," rendered "Linseed Meal," and the explanation which accompanies it is this, "The cake of linseed from which the oil has been pressed reduced to powder." In some establishments to this day, a crushed linseed is kept for sale to the public. It has, however, been found that this seed is too rich in oil to be kept long in such a condition, as the oil it contains, when so exposed to the atmosphere, rapidly oxidizes, and acquires a degree of rancidity which is very injurious when the poultice made from it is applied to open wounds.

In consequence of this defect it has been the custom of the trade to use a much less oily article, which is simply the meal produced by grinding the dry linseed cake of commerce. The directions respecting this article of the *Materia Medica*, found in the last edition of the "Brit. Phar." of 1867, attempt to solve this difficulty by ordering the powdered linseed cake to be mixed with olive oil, in the proportion of two fluid ounces to the pound, when sent out for use, which is necessarily a very inconvenient practice. In addition to the inconvenience caused by this oxidation of the oil, another has arisen by reason of the impurity or adulteration of the linseed cake from which the *Lini Farina* is produced; and it is the object of this

*Read before the British Pharmaceutical Conference and published in the *Chemist and Druggist*.

paper to point out how these difficulties may be avoided and a true Lini Farina be prepared, which, while it keeps well in pharmacy, will also meet the requirements of the Pharmacopœia, and act efficiently when sold to the public.

It being one of the objects of this Conference to direct attention to adulterations, it becomes the duty of its members to point them out, and if possible to prevent them, this remark applies with force in the present case, as the Lini Farina enters into the composition of no less than five preparations of the present Pharmacopœia.

The result of any investigation on this subject must necessarily be imperfect without a reference to the history of the linseed, as imported into this country. Russia is the great linseed-producing country of Europe, and previous to the Crimean war our supplies were almost entirely drawn from St. Petersburg, Archangel, and other ports of the north; also from Odessa, Taganrog, and other ports on the coast of the Black Sea, in the South. But during the Russian war these ports were blockaded, and the difficulty then experienced in obtaining the required supplies led to considerable importations from India, and such an impetus was then given to the growth of linseed, that the quantity now imported from the East is larger than that received from Russia, which has never fully recovered her trade.

Even before the war, linseed had always more or less of foreign seeds mixed with it, and was shipped in a very impure condition; but it was during the scarcity caused by the war that it became so very much adulterated, and the principal seat of that adulteration was Odessa.

At that time there existed in this country no institution for checking the growing evil, but this check was ultimately provided by the formation of the "Linseed Association" of London,

There must necessarily be found mixed with every kind of linseed a certain amount of wild seeds gathered during the operation of harvesting. This would be especially the case with "flax dodder," which is a parasitical plant, but as all or nearly all the accidental seeds are smaller than the linseed, proper screening should remove them.

Careless harvesting and positive adulteration had, however, reached such a pitch in 1864, that importers and crushers in that year founded an association called the "Linseed Association," and agreed in future to buy and sell on the association terms, which were that four per cent. only of admixture should be allowed, and that beyond that proportion should be more or less a loss to the merchant. These terms were soon understood and confirmed by the shippers, and there is consequently, at the present time no difficulty in procuring linseed almost pure; neither is there any difficulty in procuring linseed with a large admixture of weed seeds, for at the present time Riga and St. Petersburg seed, and probably others, may be pur-

chased without reference to the association terms; and when it is understood that there are sometimes from twelve to fifteen or twenty different foreign seeds mixed with the linseed, and that the whole adulteration may amount to thirty per cent., it will be seen how wide a margin there is left for unscrupulous crushers of linseed.

It will also be observed that there exists much difference in size between the Russian and the Sicilian, or East Indian linseed. The linseed grown in a tropical climate does not produce so fine a quality of oil, but it yields a larger amount of farina, and makes the most nutritious cake; and of the different samples of East Indian linseed before you, that from Bombay has the preference. The small seed grown in a cold climate, however, yields the linseed oil most esteemed by painters and varnish makers for its excellent drying qualities.

It is in the East Indian linseed, the best for its farina, that the wild rape, wild mustard, etc., are found, usually, not alone, but mixed with grass seeds; but it is to these pungent seeds of the natural order *Cruciferae* that our objections apply, the volatile oil being developed on the addition of hot water necessary to form a poultice.

It would be well for those who reside in agricultural districts and may be called upon to examine linseed cake, to make themselves especially acquainted with the microscopical characters of linseed, and for that purpose I cannot do better than refer them to some interesting remarks on the subject in the *Pharmaceutical Journal* of February 18th, 1871, page 663, by our President, Mr. Stoddart.

The wild charlock, or corn mustard, is usually met with in English linseed, which is not used by crushers, and I will here just mention a case to show how the agricultural mind is sometimes imposed upon. Charlock seed, of little or no value is mixed with turnip seed, which it much resembles, and is then sold as genuine turnip seed; but previous to its being mixed, it is subjected to a temperature sufficient to destroy its germinating property. When the mixed seed is sown, the turnip, consequently, only comes up, and the fraud is not discovered, for "dead men tell no tales."

The ordinary linseed meal of commerce, as I have previously stated, is usually made by grinding and sifting a very dry linseed cake; this is generally an imported cake, as English-made cake always contains water, whilst the foreign cake must have been thoroughly dried to have stood the voyage without becoming mouldy or heated. Fresh English linseed cake ordinarily contains 10 per cent. of water, and such a cake, if ground into meal, would not keep well. The foreign cake is chiefly imported from New York and Marseilles. In the United States linseed is pressed for its oil, as it is here; the consumption of linseed oil in that country being greater than the home supply, it is supplemented by purchases of oil made in England. But the cake is not used for fattening cattle to the same extent as it is here, consequently they are able to send cake to

the English market; they are thus buyers of oil and sellers' of cake.

This imported and impure cake is the material from which the ordinary linseed meal of the shops is prepared, and though largely and extensively used, does not fulfil the requirements of British pharmacy. Its price, one-half that of the pure farina or crushed linseed, is a sufficient indication of its character and quality; sometimes the farina of crushed linseed is mixed with the cheap meal so as to reduce its price, and the mixture is thus sold with a semblance of purity.

The conclusion at which I have arrived is, that most of the linseed meal of commerce does not come up to the required standard of the Pharmacopœia. On the other hand, a great deal of that which is commercially pure, is not elegant, containing either too much oil or a large quantity of husk, and sometimes both, and that which is the produce of foreign cake can never be relied on, inasmuch as it contains irritating matter which has in many instances on record resulted in considerable mischief.

To produce good Lini Farina, the linseed—preference being given to that from Bombay or Sicily—should after being passed through the rolls, have a portion of its oil expressed without heat, then be ground, and afterwards have the husk sifted out, the resulting farina when mixed with hot water will then assume a gelatinous consistence, and be quite free from any volatile pungency, such as that of mustard, and if kept in a cask lined with tin, will remain good for several months. This in my opinion, is the Lini Farina best adapted for a linseed meal poultice, a therapeutic agent seldom properly made, generally despised, but for which there has not yet been introduced an efficient substitute, and I trust that some crusher who may have his attention drawn to the contents of this paper, will make it his business to prepare a Lini Farina for pharmacists in conformity with these suggestions.

SOLUBLE HYPOPHOSPHITE OF IRON.

BY ROB. F. FAIRTHORNE.

I find that when hypophosphite of iron is added to a concentrated solution of citrate of ammonia it readily dissolves after being heated, forming a green solution. This, upon evaporation, leaves an olive colored salt in scales. I make it by the following formula :

℞	Ferri hypophosphitis,	ʒvj
	Acidi Citrici,	ʒiv ʒij
	Liq. Ammon. fort. q. s. ad sat.	

Pulverize the citric acid and saturate by addition of the ammonia. Mix the hypophosphite of iron with this in a flask, and add ammonia until the mixture, which is of a yellow color, becomes dark olive, or until it is neutral to test paper. Pour into a capsule and evaporate until it assumes a syrupy consistence, stirring to assist desiccation. Then set aside in a dry place until it solidifies. When quite hard break into small pieces and put into a bottle. As thus prepared, it has a pleasant, slightly acid taste. It is very soluble in water, and will be found an eligible preparation for dispensing in the form of syrup, elixir, or pill.

The above quantities produce one ounce and a half of the soluble hypophosphite of iron, and the preparation therefore contains 50 per cent. of the common hypophosphite.

ENGLISH CHLOROFORM IN GERMANY.*

BY DR. F. VERSMANN.

Many professors of German laboratories and proprietors of chemical works have adopted the valuable plan of communicating to the journals from time to time, observations and points of practical experiences made in the course of their investigations; and it would be well if this plan was imitated here, as much labor and trouble may often be saved by this liberal exchange of practical information.

This arrangement, like everything good, is, however, not quite unalloyed, for it sometimes happens that statements are published which are of little use, or which, on examination, are found to be incorrect. The last is the case with a communication in a current number of Buchner's "Repertorium der Pharmacie," and as this special incorrectness bears on an English article, it may not be out of place to rectify it. Mr. E. Schering, in his practical communication, asserts that abroad English chloroform, *sp. gr.* 1.485, is, for anæsthetic purposes, preferred to the German (the Prussian Pharmacopœia prescribes a specific gravity of 1.500) because of its greater stability.

According to Mr. Schering, the presumption was natural that the English product had been obtained from chloral, and this idea was actually verified by Mr. Hager's investigation, who found it to be chloral chloroform, with an addition of .75 to .80 per cent. of alcohol; but not a word is said as to the manner in which this result had been arrived at. Mr. Schering refers his readers to his price list of last year, in which he quotes chloral chloroform, and

* From the *Pharmaceutical Journal and Transactions*.

he informs them that he now keeps an article of sp. gr. 1485, identical with English, or, according to his own words, adulterated with alcohol.

Mr. Hager actually distinguishes the two preparations; he says, the chloral chloroform becomes slightly colored on addition of strong sulphuric acid, whereas the pure, obtained from the hypochlorite of lime and alcohol, remains colorless.

Another difference is said to be, that ordinary chloroform, on being allowed to evaporate on a watch glass, gives off, with the last few drops, a distinct foreign smell, indicating the presence of other chlorine compounds, which may be the cause of the ready decomposition of the chloroform when exposed to the light, and this is not the case with the product obtained in the new manner.

The manufacture of chloral in quantities, and at a reasonable price, is of so recent a date that it is scarcely necessary to recall the fact that seldom, if ever, the supply of any chemical compound responded so readily to the demand, as with the chloral. The price of chloral hydrate was, at the commencement of last year 112s. a pound; before the year was out it had gone down to 12s., and it is now sold at 5s., and even less.

Surely at this time when the hydrate commanded such high prices, and the manufacture was in its infancy, no English manufacturer would have dreamt of converting chloral into chloroform, and with the present low prices, and the high duty on alcohol, he is all but excluded from the market; it is well known that very nearly all chloral hydrate is imported from Germany, and I believe I am correct in stating that only two English firms do manufacture it in quantities.

Mr. Schering's whole argument necessarily falls to the ground, and for the best of reasons, the manufacture as assumed by him would never pay. It would perhaps have been wiser if he had prided himself upon the purity of his product instead of boasting of selling an adulterated article. His tests are of course worthless, because even less than 1 per cent. of alcohol will be sufficient to produce slight coloration with sulphuric acid, but it is scarcely necessary to treat the matter as a chemical question.

AN INCIDENT IN THE LIFE OF BARON LIEBIG.

Professor Joy communicates to the *Scientific American* the following interesting particulars regarding the early life of the illustrious chemist:

"It was our good fortune, a few summers ago, to spend a week with Baron Liebig, at a quiet inn on the banks of Lake Geneva, in Switzerland, and to be his constant companion in his rambles through

the vineyards and lovely walks of that enchanting spot; and one day, the conversation turning upon some of the incidents of his early life, I asked him to relate to me how he happened to devote his attention to chemistry, and to what circumstance he owed the kind interest bestowed upon him by Gay-Lussac.

The genial old man sat down on a bench in a protected nook, and related to me the following incidents: He was the son of very poor parents, who could ill afford to keep him at school, and he had a narrow escape of being put at a trade; but, while yet a lad, having heard that the Minister of Instruction, in Darmstadt, had it in his power to aid meritorious children by a government stipend, he went to the palace, and after several failures, finally succeeded in obtaining an interview with this grand personage, and in securing sufficient assistance to enable him to go to the Gymnasium. The Director of the Gymnasium was in the habit of visiting the school on stated occasions, and of asking each boy what he purposed making of himself, and of receiving the usual answers: "a musician," "a doctor," "a lawyer," etc., and when he came to Liebig, the reply was always ready, "I mean to be a chemist, Sir;" to which the Director uniformly answered, "you stupid boy, there is no such profession as chemist." But Liebig persevered, and while at the University, was so fortunate as to make a very important discovery of some new cyanogen compounds, and with specimens of these preparations in his pockets, aided by some friends, he set out for Paris. He was then about twenty years of age. In Paris he sought out one of the members of the Institute, and showed him his specimens, and the Professor offered to exhibit them to the Institute, and to present the subject for discussion; but it was a long time before he fulfilled his promise, and poor Liebig went regularly to the Monday meetings of the Academy, hoping to hear his name mentioned, but always went away disappointed. One day, however, the subject was duly presented, and attracted great attention; and after the adjournment several members remained to talk to the boy, for he was still a boy, and to enquire into his history. Among them was a kind man, in the prime of life, who asked him to dine with him on the following Thursday, to meet some of the chemists of Paris. The man who thus proposed to befriend the unknown chemist must have given his name and address, but Liebig was so embarrassed and flustered by the occasion that he forgot it entirely, and although he asked the janitor and several persons who were left in the room, he could obtain no clue, and so Thursday went and came, leaving Liebig in a state of desperation. A few days afterwards, meeting casually the member of the Institute who had presented his paper, the latter exclaimed at once, "Why did you not come to the dinner that Baron Von Humboldt gave for you on Thursday? He invited Argo, Gay-Lussac, Thénard, and several of the first chemists of the city, in order to interest them in you, and you did not come." Liebig did

not wait to hear more, but rushed off to the residence of Von Humboldt, to apologize and to explain the occasion of his absence.

Von Humboldt took the matter good naturedly, and at once accompanied his young *protégé* to Gay-Lussac, who, to oblige his friend, took him as a pupil into his laboratory, and from this moment Liebig's career was secured.

The kind interest of Von Humboldt started him on the path which he has since pursued to the highest distinction; and when, a few years later, the famous book, "Agricultural Chemistry," was published, we find it dedicated to his great patron and friend, Alexander Von Humboldt. Liebig has not forgotten his obligations to the French, and we can understand with what eloquence of language and sincerity of emotion he uttered the following words at a recent meeting of the Royal Bavarian Academy of Sciences, in reference to the future relations of Germany and France :

"The Academy seizes this moment to declare openly that there exists no national hatred between the German and Latin races. The peculiar character of the Germans, their knowledge of languages, their acquaintance with foreign people, the past and present state of their civilization, all tend to make them just toward other peoples, even at the risk of often becoming unjust toward their own; and thus it is that we recognize how much we owe to the great philosophers, mathematicians, and naturalists of France, who have been in so many departments our masters and our models. I went forty-eight years ago to Paris to study chemistry; a fortuitous circumstance drew upon me the attention of Alexander Von Humboldt, and a single word of recommendation from him caused M. Gay-Lussac, one of the greatest chemists and physicists of his time, to make to me, a young man of twenty, the proposal to continue and finish, with his co-operation, an analysis which I had commenced; he introduced me as a pupil into his laboratory; my career was fixed after this. Never shall I forget the kindness with which Arago and Thenard received the German student; and how many compatriots, physicians and others, could I name, who, like myself, gratefully remember the efficacious assistance afforded to them by French men of science, in finishing their studies! An ardent sympathy for all that is noble and grand, as well as a disinterested hospitality, forms some of the most noble traits of the French character."

VARNISHES.*

BY CHARLES W. VINCENT.

The main uses to which varnishes are applied are to protect the material over which it is spread from atmospheric influences, accidental rough usage, &c.; to bring out and display more fully the varying texture of different woods; and, finally, to give a fine gloss or appearance of polish to the surfaces to which it is applied. As commonly constituted, an oil varnish (and with these alone I propose to deal) consists of some hard gum dissolved in linseed oil. This is the substance of the varnish, the two being re-dissolved in turpentine to afford the means of spreading them out in thin layers. As far as regards the ultimate value of the varnish, the turpentine is merely so much waste material. It may, if it be of inferior quality, injure the varnish with which it is mixed, but however good it may be, it can do nothing to benefit or improve a varnish which itself is in reality nothing but the mixture of various proportions of some one or more hard gums in linseed oil.

For the convenience of better understanding the *rationale* of the mode of procedure, it will be well if we commence our observations at the end instead of the beginning of the process.

Turpentine being applied for the purpose of thinning down the body of the varnish, and that body being, when cold, almost solid, has to be added whilst the mixture of gum and oil is still hot. The heat causing an increased evaporation, and consequently a loss of turpentine, the temperature is allowed to get as low as can be, consistently with a perfect and complete admixture of the spirit with the matter being secured. This is, to some extent, contrary to old-fashioned notions, but the varnishes resulting from mixing in the turpentine at a high temperature and at a low one being identical, the loss of so much evaporated material is not now taken as an essential part of the process. We have also one risk less of fire, since the whole varnish is now removed far from any fire, and out into open air when practicable, before the turpentine is added. The quantity of turpentine required under these circumstances is much less than that stated in the various published recipes for varnish making. Enough is commonly added to bring the whole mixture to a consistency a little stiffer than linseed oil. The loss by evaporation, whilst clearing and ageing in tanks, previous to its being sent out, gives it the amount of body which you are accustomed to see it have. The next thing to consider is the body of the varnish. Time would not permit me to give a complete description of the various gums which are or may be used; I can do no better than refer you to Mr. Neil's paper for information on this part of the subject. There is one gum,

* Read before the London Society of Arts, and published in the Chemical News.

however, which has come very largely into use since his time, and that is the "kauri," New Zealand gum. It is rather dull in appearance, but it is tolerably hard, and melts at so low a temperature that the dust and chips made by cleaning the outside of large pieces can be utilized by a skilful man, without the gum being colored by the carbonization of the woody matter in it. The varnish made from the better qualities of kauri have a very good gloss. When dry, they are pale in color; dry quickly, and they are not so liable to crack when exposed to the sun as better varnishes. After a few months' exposure to wet, however, the whole of the gloss disappears, and though the protecting surface remains, it becomes, through its abrasion, a harbor for the dust and dirt, and is thus rendered far from ornamental to the place of its attachment.

The temperature at which the mixture of gum and oil intended to be used melts is now recognized as forming the basis for the temperature to which the oil is to be heated previous to the introduction of the melted gum, the whole running, when the two are fairly incorporated, being also kept much under the degree of heat which was formerly considered necessary. In fact, it is in this respect that the present mode of varnish-making chiefly differs from the modes formerly employed, the greatest care being now taken to keep the temperature throughout the process as low as is consistent with perfect admixture of the several ingredients.

The next point to which I shall direct your attention is the apparatus used for the modern process of varnish-making. In the first place, iron vessels generally take the place of copper ones for all common varnishes, the bottom of the gum pots alone remaining copper, as heretofore. The lower temperature employed is found not to affect the metal, and the introduction of impurities from that source is no longer feared.

In the next place, instead of heavy copper stirrers, light thin plates at the end of the rods are used to cut the gum, &c., the greater velocity with which they can be manipulated securing more perfect mixing than of old.

In the third place, a tramway is laid down from the furnace in which the mixed gum and oil is heated, which usually runs from the shed into the open air. If, therefore, from any accident the mixture takes fire, it can be at once removed to a place of safety, where it can be put out at more leisure.

The boiling pot, which holds about 100 gallons, has a closely-fitting conical cover, which, if it can be put on, at once extinguishes the flame if it be not too far ahead. The last improvement has only recently been introduced, and is not yet generally adopted. Two galvanized iron shafts are erected side by side; one corresponds with the gum pot, the other with the boiling pot; the upper end of these shafts alike communicates with the main furnace shaft. The lower ends are fitted with caps, which are so balanced with counter-

poises that they can be slid up or down their respective columns. To these cap heads are attached at right angles, which can be brought over, and which fit closely on to the gum pot and boiling pot respectively, and, when in that position, have free communication with the chimney shaft. The front of each hood is cut away and fitted with a diaphragm, slit into such a manner that the contents of the pots can be stirred, and is removable when it is desired to see into them.

The advantages of this arrangement are obvious without further description; in place of the workmen being annoyed by the dense and pungent vapors which escape from the heated gum and oil, the whole are removed, and nothing whatever comes into the air of the shed except at a time when the pot of the gum is being tilted into the boiling pot, or when the whole has to be removed into the air. The reduction of smell, as regards the neighborhood, is so great, that in the comparatively rare intervals when a disagreeable vapor does come off, the air of the yard mixes with it sufficiently to neutralize the effect exterior to the works. This latest improvement is due to Mr. Bewicke, of Hackney Wick, who, in consequence of a disastrous fire at his works having been caused in a great measure by the men being so suffocated with the fumes from the boiling pot that they were unable, when it took fire, to extinguish it in time, has been impelled to seek for such more perfect appliances as would bring the whole system more under control than had previously been the case. I think you will agree that the plan deserves to succeed, and, from the experience it has already had, I believe it will do so. Old varnish makers, standing at the furnaces when they are in full operation, seem at first almost at a loss to know what stage of the process they are at, from the want of their accustomed choking miasma.

ON THE USE OF THEINE AS A THERAPEUTIC AGENT.*

BY LEWIS THOMPSON, M.R.C.S.

I would wish, through your columns, to direct the attention of the medical profession to the use of a valuable agent which has hitherto escaped notice, although its powers are most unquestionable, and its cost price very trivial. The article to which I allude is theine, a substance existing in tea and coffee, and, as I believe, in many other vegetable products. As a medicine, theine is powerfully tonic and stimulant, and appears to possess the tonic virtues of the disulphate of quinia united to the stimulating power of wine, but with this difference, that the stimulus from theine is not followed by any depression, as in the cases of wine and alcohol.

*From the Medical Times and Gazette.

Theine seems to act chiefly on the great sympathetic or ganglionic system of nerves, and but slightly on the brain. I have used it in doses of from one to five grains, with very marked advantage in the low stage of typhoid fevers, confluent smallpox, and that form of mortification of the toes which is so singularly fatal to old people. But in addition to this, different medical friends of mine have found it useful in hemicrania, neuralgia, and what has been called relapsing fever; and in the case of an overdose of opium, it appeared to relieve the narcotic symptoms speedily. With regard to the cost of this medicine, I have discovered that in the ordinary process of roasting coffee the whole of the theine is driven off before the torrifaction of the coffee is completed, and this theine may be cheaply collected by making the axis of the coffee-roaster tubular. If, instead of a solid axis, we employ at one end of the roaster a tube passing away to the distance of about three feet, the theine is condensed in this tube by the refrigerating power of the atmosphere, and may afterwards be easily dissolved out by a little water, and purified in the manner about to be indicated. As the result of much experience, I have obtained, on an average, seventy-five grains of theine from the roasting of one pound of raw coffee; and when we reflect that in Great Britain alone there are more than 13,000 tons of coffee roasted annually, we see that about 140 tons of theine are wasted and lost every year by sheer ignorance. It may, perhaps, be thought that the saving of the theine will damage the flavor of the coffee, but from experience I know that it has no such effect; and in point of fact, it is an advantage to the flavor of the coffee to make both the axes of the roaster tubular, and to cause a gentle current of air to pass through the apparatus during the roasting of the coffee, so as to expel the empyreumatic products as they are formed. I will now relate the fact upon which the purification of theine depends; and when this is once clearly understood, the manufacture of theine from either tea or coffee becomes an extremely simple matter. Theine is absolutely insoluble in a concentrated solution of the carbonate of potash, and thus we may precipitate it from its admixture with sugar, mucilage, and vegetable extract. If, then, by means of the subacetate of lead, we have removed from a vegetable infusion the tannin, malic acid, &c., we have only to evaporate the filtered solution to a small bulk, and add to its own weight of dry carbonate of potash, and the whole of the theine becomes at once insoluble; so that, having collected this insoluble product, and boiled it in rectified spirit of wine, we have a solution of pure theine, which, after distilling off the spirit, furnishes crystals fit for immediate use. In conclusion, I will merely mention a distinctive test for theine, sufficiently delicate to detect the one-thousandth of a grain of that substance. Dissolve the theine in a small quantity of water, and pass through this a stream of euchlorine, then allow the fluid to evaporate at a steam heat; a blood-colored substance will remain, which, on the application of a few drops of

cold water, forms a beautiful scarlet solution like red ink. It is, I apprehend, almost unnecessary for me to say that euchlorine gas is formed by the action of hydrochloric acid upon the chlorate of potash.

I ought, perhaps, to add that theine, collected as a waste product from coffee, and purified by myself, has cost me less than threepence per ounce troy.

WHITE LEAD—ZINC WHITE.

BY M. GASTON TISSANDIER.

Commercial white-lead is frequently adulterated with sulphate of baryta, carbonate of baryta, and carbonate of lime. The presence of sulphate of baryta may be tolerated when its proportions does not exceed 5 per cent.

The mode of analysis is as follows: Weigh 1 grm. of white-lead, and calcine it in a small porcelain capsule; treat the residue, while hot, with pure nitric acid diluted with water—this dissolves the oxide of lead, while the sulphate of baryta remains insoluble.

Now filter, and precipitate the filtered liquid with sulphuretted hydrogen; formation of sulphide of lead will then ensue, and this must be dried at 100° C. and weighed. The liquid, separated from the sulphide of lead, is treated with ammonia and sulph-hydrate of ammonia, which will betray the presence of oxide of zinc, which sometimes occurs in white-lead by precipitating it as sulphide of zinc. Filter this latter, and evaporate the filtered liquid to dryness, previously adding chlorhydric acid: take up the residue with water and chlorhydric acid, and add ammonia and oxalate of ammonia, which will precipitate the lime as insoluble oxalate of lime.

The sulphide of lead is converted, by calcination, into carbonate; the sulphide of zinc is dissolved in chlorhydric acid after calcination, and precipitated as carbonate of zinc by the addition of carbonate of soda. The carbonate of zinc is collected on a filter, washed with boiling water, dried, calcined, and weighed; the calcination transforms it into oxide of zinc, which is thus extracted directly from the specimen of color under examination.

To ascertain whether the white substance which was insoluble in the acid liquid used in the first experiment be really sulphate of baryta, proceed as follows:—Mix it thoroughly with dry, pure finely-powdered carbonate of soda; heat it to redness in a platinum crucible, until the fluid mass no longer effervesces; let it cool, and boil it with warm water, which dissolves the sulphate soda formed, without acting upon the carbonate of baryta which is formed during the reaction. The aqueous solution should be precipitated by chloride of barium, which determines the formation of insoluble sulphate

of baryta: the insoluble substance remaining on the filter is treated with pure chlorhydric acid diluted with water, and should yield a precipitate of sulphate of baryta on the addition of a drop of sulphuric acid.

Occasionally, but rarely, kaolin and clay are met with in white-lead.

The white-lead to be tested is not invariably met with in powder; the specimen may be mixed with oil and turpentine; sometimes its adulteration is not suspected till after its application to walls or wainscoting. In the first case, in calcining the well-mixed paint, take no notice of any oil that may be burnt. In the second, scrape the paint off the wall, and treat it in the same way; care must be taken not to scrape the stone also; it is better to pay attention to the sulphate of baryta only, neglecting any carbonate of lime which may result from calcareous wall.

Composition of Adulterated White-Lead:

Substances estimated.	I.	II.
Carbonate of lead	85·25	44·33
Oxide of zinc.....	—	5·30
Sulphate of baryta	10·12	40·25
Carbonate of lime.....	4·63	10·12
Clay.....	—	—
	100·00	100·00

Specimen No. II. is by no means the most adulterated with which we have met. Some months ago, a so-called white-lead was analyzed by us which contained no trace of lead; it consisted of carbonate of lime and sulphate of baryta, the oil and turpentine being replaced by soap-suds.

Zinc-white is subject to the same adulterations as white-lead, and the analytical process for oxide of zinc is the same as for white-lead.

ON THE SOLUBILITY OF BISULPHIDE OF CARBON IN ALCOHOL.*

BY C. TUCHSCHMIDT AND O. FOLLENIUS

The solubility of bisulphide of carbon in alcohol varies considerably with the temperature. The authors found that a solution saturated at 15° C., when cooled to—12°, separates about one-half; cooled to—10°, about one-third, and when cooled to +10°, about one-fifth of the bisulphide; while at ordinary temperature above 15° C., the variation is slight. On adding bisulphide of carbon from

* From the *Berichte d. d. Chem. Gesellsch.* Berlin, 1871, No. 11, 583—585, in *Amer. Jour. Pharm.*

a burette to alcohol, a strong milkiness is produced when one drop beyond the point of saturation is added. The authors used 10 c. c. alcohol of the percentage (by weight) indicated, and found it to dissolve the following quantities of bisulphide at 17° C. :

98	5 per ct. saturated by	18.20 c.c.	91.37 per ct. saturated by	5.00 c.c.
98.15	"	"	13.20 "	84.12 "
96.95	"	"	10.00 "	76.02 "
93.54	"	"	7.00 "	48.40 "
				45.90 "
				3.00 "
				2.00 "
				0.20 "
				0. "

Absolute alcohol dissolves the bisulphide in all proportions.

The authors give a formula for calculating the strength of alcohol from the solubility of bisulphide of carbon in it.

Editorial.

WORK FOR THE WINTER.

Now that the season of long evenings is so near at hand, it is high time for the laying out of plans, and the commencement of a system of study for the approaching winter. There is much work to be done, both for young and old—for the qualified as well as those seeking instruction. The organization under which we druggists are incorporated is not yet in a condition to offer much help to those in pursuit of knowledge, although it requires certain qualifications of those who seek its membership. There is no doubt that before long this state of things will have improved, but, in the meantime, it will remain with individual members of the College to supply the deficiency by affording every assistance to those who may require it.

Some two seasons ago we recommended a system of pharmaceutical education which had been pursued to considerable advantage in England, and which, in the larger towns in Canada, might be turned to equally good account. It consists in the formation of classes in the various branches of study, each to be under the control of a senior pharmacist, who should devote one or two evenings a week to reading and explaining some text book adapted to the purpose. No great expenditure of time would be required, as in the

case of preparing lectures ; one hour at each reading would be quite sufficient, and one evening a week, so devoted, would accomplish a great deal. The readings might be held at the house of the teacher, or some of his pupils, and no expense whatever need be incurred. The subjects taken up might be Chemistry, Botany, and Materia Medica. For the first of these, either Roscoe's or Attfield's work might be employed ; for botany, Gray's *Lessons* ; and for materia medica, the U. S. Dispensatory—a book possessed by all. We hope some of our druggists may be induced to give this plan a trial, and, if persevered in, we have little doubt that at the next examination, which takes place in February, the pupils will be able to render a good account of themselves.

We have another suggestion to make. As matters stand at present, the main interest of the College is necessarily centered in this city. Some of our country druggists have expressed themselves a little dissatisfied with this, stating that city members had an advantage over those who resided in other places, inasmuch as the latter are debarred the privilege of attending monthly meetings, and of deriving any benefit from such papers as may be read thereat. Whether these advantages are real or imaginary, as far as concerns the meetings which have been held, heretofore, in Toronto, we do not care to decide ; we think, however, that in any case, there is nothing to hinder the druggists of other cities and towns from holding monthly meetings, and believe that no better plan could be pursued, for the general interests of the College, as well as the individual benefit of its members. In the cities and larger towns, branch societies might be formed, which, at the most trifling expense, could secure the use of a room for meetings, and this would be almost the only outlay necessary. Nearly all the printing might be managed without expense by taking advantage of the *JOURNAL*, and we may say, that we should be pleased to grant the necessary space for the insertion of reports of proceedings. An appropriate name, such as the "Ottawa Branch of the Ontario College of Pharmacy," or the "London Chemists' Association," might be adopted, but it would be advisable that the same general title should be adhered to, prefixed in each case by the name of the place where the Society might be located.

We leave the suggestion with our readers, and hope by the issue of next *JOURNAL* to have learned the general opinion on the

subject, so that something definite may be done before the winter sets in.

ELECTION OF THE COUNCIL.

The election which takes place on Wednesday, October 4th, promises to be one of considerable interest. As this is the first time that the druggists of Ontario have had the opportunity of choosing those with whom the power of government shall rest, and as the period during which the coming Council hold office is a somewhat long one—extending over two years—it is but right that the matter should command the best attention of all concerned.

The manner of election is indicated by the by-laws adopted by the Provisional Council, and those entitled to vote are determined by the Pharmacy Act to be "all persons who are, at the time of the passing of this Act, engaged as chemists and druggists, on their own account, or in partnership with any other person in the Province of Ontario."

The nominations which have been made are somewhat numerous, embracing the names of some thirty-three gentlemen. Of these, only thirteen can be elected, so that there is plenty of scope for a good selection. It would be obviously improper for us to say any thing in regard to the candidates, or their claims to election; we merely give the following list of names, and hope that there will be no delay in sending in the voting papers, so that all may be in the Registrar's hands by the noon of Wednesday, October 4th.

- Bickle, J. W.....Hamilton.
- Bickle, T..... do.
- Bray, W.....Bothwell.
- Bray, W. T.....Dingle.
- Brendon, F.....Brantford.
- Brent, C.....Port Hope.
- Dunspough, W. H.....Toronto.
- Elliot, W..... do.
- Elliot, R. W..... do.
- Geary, T. J.....Strathroy.
- Grant, J. R.....Dingle.
- Gregory, E.....Lindsay.
- Hawkes, Jas.....Brockville.
- Hodgetts, G.....Toronto.
- Holden, J. C.....Belleville.
- Jordan, F.....Goderich.

Kempt, C. W.....	Peterboro.
Love, N. C.....	Toronto.
Lyman, Benj.....	do.
Matchett, T.....	Omemeë.
Mills, Jas., Jr.....	St. Catharines.
Miller, H.....	Toronto.
Paffard, H.....	Niagara.
Parker, E. H.....	Kingston.
Parker, S. J.....	Owen Sound.
Roberts, J.....	Ottawa.
Rose, H. J.....	Toronto.
Rutherford, G.....	Hamilton.
Rich, C. G.....	St. Thomas.
Saunders, W.....	London.
Shuttleworth, E. B.....	Toronto.
Stork, C.....	Brampton.
Waugh, G. J.....	Stratford.

What has become of our monthly meetings? Since the winding up of the old Society we have not so much as heard an allusion to the subject, though this city has been honored by having the permission of the Council—expressed in special enactment—“to hold monthly meetings, on the first Friday of the month, at 8 o'clock, p.m., for the purpose of discussing scientific matters connected with the objects of the College. Notice of holding such meetings to be posted at the stores of H. Miller, Lyman, Brothers & Co., Elliot & Co., and H. J. Rose, all of Toronto. Notice shall also be given in the JOURNAL, and members may invite friends to their meetings.”

Who is to take the initiative; who give the requisite notices? We hope to hear before our next issue, so that we may be able to announce the first meeting under the new organization. A good plan would be to appoint a committee to see to the matter and to secure the reading of a paper on each evening of meeting. If this is left to volunteers, we have had sufficient experience to know that nothing whatever will be done. “What is everybody’s business is nobody’s business,” says the old adage, so let us have a special committee who will *guarantee* the evening’s entertainment.

The letter published in another column explains itself, and brings up a question which has been debated by members in Toronto

In accordance with By-law, the Registrar is instructed to send the names of all those who are nominated to each druggist entitled to vote, and he thought that it seemed incompatible with his duties as returning officer to be one of the candidates. Application was made to some of the members of the Council, in Toronto, however, as well as to the solicitor Mr. Scott, for permission to drop his own name from the list. It was found to be impossible, in the present wording of the By-law. The only alternative, should the Registrar's name be amongst the successful thirteen, will be for the Registrar to send in his resignation, in which case the twelve members of the Council will have the power to fill up the vacancy.

We should think that there are a good many voting papers to be sent in yet, and that thirteen names should be selected without the Registrar's, as there can be no doubt of his having a voice in the Council meetings, as long as he retains his present position.

While on the election topic, there is an omission in not having nominations accepted by the parties themselves before being placed before the voters.

We hope all who are entitled to vote will use their privilege, and remember Wednesday October 4th is the last day for receiving papers. There being no scrutineers appointed by the Council, the President has requested Messrs. Brydon and R. A. Wood, to act in that capacity.

Under the heading, "Correspondence," will be found a communication on the per-centage system, which we have received from one of our city druggists. We cannot say that we hold with some of the views advanced by the writer, but think he is in the main correct, although rather harsh in his manner of expression. We shall be glad to open our columns for a free discussion of the subject, and invite further communications.

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Editorial Summary.

ARSENIC IN SULPHURIC ACID FROM PYRITES.—H. A. Smith, (*Chemical News*) finds that 100 tons of Norwegian Pyrites contain, before burning, one and-a-half tons of arsenic, and half a ton after roasting. One hundred tons of this pyrites yield about one hundred and forty tons of sulphuric acid, which will contain the greater part of the arsenic. Supposing such acid to be used for the manufacture of hydrochloric acid, the latter would contain nearly one per cent of arsenic. This contamination is often carried through other products, even through the third and fourth stages of manufacture. The sulphate of soda in Le Blanc's process was found to contain four hundredths of one per cent. of arsenic, but none was found in the soda ash. Druggists should make a note of this impurity, and test all the acid used in medicine, or else employ none but that known as chemically pure.

APPOINTMENTS IN THE VICTORIA MEDICAL COLLEGE.—We are informed that Mr. Geo. Baptie, M.A., Toronto University, and Prince of Wales' Prizeman, of Knox College, has been appointed to fill the chair of Chemistry in the above school; also, that Mr. Edward B. Shuttleworth, manager of the Toronto Chemical Works, and editor of the *Pharmaceutical Journal*, will take the chair of Practical Pharmacy.—*Globe*.

CHEMICAL MANUFACTURES AND PREPARATIONS AT THE PROVINCIAL EXHIBITION.—In this department there was a much fuller display than at any former show. Messrs. Lyman Brothers & Co., of Toronto, exhibit, in this class, a very extensive and varied assortment of articles in this line. From their Chemical Works, in Toronto, they have specimens of white lead and colors, chemical and pharmaceutical preparations, which they claim cannot be excelled. Their nitrate of silver is said to be equal to the best in the market; they also exhibit fine samples of linseed oil. Of perfumery, they have a magnificent display, comprising a large number of the most popular brands. With their other articles they show several boxes of their "Concentrated Alkali" or "Saponifier," and a number of bottles of "Quinine Wine," for which, as a tonic, a great deal is claimed.—*Globe*.

LYCOPERDON AS A STYPTIC.—C. Brewster, L.D.S., (*Canada Journal of Dental Science*), calls attention to that well known fungus, the "puff ball," as a styptic in hemorrhage during dental or other operations. Regarding the growth of the lycoperdon he says:

"This wonderful member of the Fungi family attains its full growth in a single night,—a considerable undertaking for nature even

in this country, where it attains only the size of an ordinary apple; but when we take the *Lycoperdon Gigantum* of the British Isles, which in those twelve hours arrives at a maturity of two or three or four feet in circumference, all other instances of the rapid growth of nature dwindle into insignificance. Its substance is made up of innumerable microscopic cells, almost beyond calculation. Some savans have placed the number contained in one of the largest sizes, at the incalculable figure of 47,000,000,000, and nature manufactures them all in one night.

"Thirteen years ago I commenced using the lycoperdon in my practice, and in all cases it was attended with great success; so that in course of years I gradually abandoned all other material, officinal and non-officinal, and to-day I regard it, without any exception, the best known remedy wherever it can be applied locally. Its mode of application is very easy, being simply to take a piece of the fungus large enough to fill the cavity left by the extraction of the tooth, and pressing it firmly in, hold it there for a minute. If there is blood still flowing, place another piece on the top of the first, and again hold it firmly there. If this does not yet arrest the hæmorrhage, remove all that you have put in the cavity and repeat the operation. Two or three applications will cure the worst case. For any other description of wound, a piece large enough to cover its surface, held firmly on, or, if circumstances will admit of it, bandaged on. For cases where it is necessary to arrest the flow of blood from a leech bite, a small piece of this material pressed firmly on the spot for a moment will completely arrest the flow.

"I have never tried it, but I think in cases of bleeding at the nose, if the nostrils were cleared as much as possible of the blood, and a good-sized piece of lycoperdon was held beneath them, tightly squeezed between the fingers, the patients being directed to inhale with all their force the fumes that arise from this fungus on pressure, would have the same effect on the lining membrane as if brought into actual contact with it. The smoke arising from the combustion of lycoperdon is a powerful anæsthetic."

STYPTIC WOOL.—The *Lancet* contains the following particulars in regard to the preparation and properties of a styptic used by Dr. Ehrle, of Isny, and highly recommended for the purpose indicated: The finest carded cotton wool is boiled for half an hour in a solution containing four per cent of soda, and then thoroughly washed in cold spring water. The wool is thus effectually purified, and is now capable of imbibing fluids uniformly. It is then to be dipped two or three times in fluid chloride of iron diluted with one-third of water, expressed and dried in a draught of air, but not in the sun or with high heat; finally it is carded out. Thus prepared, it is of a beautiful yellow color, and feels like ordinary dry cotton wool. As it is highly hygroscopic, it must be kept dry, and when required to be

transported must be packed in caoutchouc or bladder. Charpie may be prepared in a similar manner, but on account of its coarse texture is not so effective as cotton wool, presenting a less surface for coagulation. When the wool is placed on a bleeding wound, it induces moderate contraction of the tissue, coagulation of the blood that has escaped, and subsequently coagulation of the blood that is contained within the injured vessels, and thus arrests the hæmorrhage. The coagulating power of the chloride of iron is clearly exalted by the extension of its surface that is in this way affected. The application of the prepared wool is not particularly painful, whilst, by sucking up the superfluous discharge and preventing its decomposition, it seems to operate favorably on the progress of the wound. The unpleasant secondary results that have led many practical surgeons to discard the use of the pechloride of iron do not occur with the wool when it is properly made and applied. In cases of wounds where the bleeding proceeds from large and deep seated vessels, it may be used as a compress, a bandage being applied over it, or the wound may be plugged with it. It may also be employed with advantage in cases of profuse suppuration, to imbibe the discharge and purify the surface.

ALASKA ICEBERGS.—A correspondent of the *Druggists' Circular* furnishes the following recipe for making these pretty ornaments for the shop window :

A salt-mouthed bottle, of say five ounces capacity, is to be filled with a solution with 1 part of nitrate of lead in 3 parts dist. water. The vessel must be put in a place where there is no necessity to remove it. Then throw in pieces of sublimed sal ammoniac of the size of common peas, until the bottom of the bottle is covered over, which it will be within a very short time, with a white crust, and in general resembling the glaciers of the Alps. I have to say, however, that I repeated this nice little experiment under, what seemed to me, the same circumstances, but I had not always the same satisfactory result, which fact I cannot explain.

ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

From our own Correspondent.

St. Louis, Mo., the place selected for the annual gathering of the above association, is a city of over 300,000 inhabitants, and is located on the western bank of the Mississippi river. The railway terminus for eastern trains is on the opposite or eastern bank of a small

town called East St. Louis. On arrival there the traveller enters one of the omnibuses belonging to the St. Louis Transfer Co., drawn by four horses, which takes him down the levee or sloping paved bank of the river, when the vehicle, with its living freight, is driven on the deck of a ferry boat, which, in a few minutes, lands on the opposite side. From the river, St. Louis looks anything but attractive; a large number of manufacturing establishments are located along the banks, and the dense smoke, arising from their using soft coal, at times almost darkens the air and the "smuts" settle everywhere, blackening the houses, boats, and everything else capable of damage, and charging the atmosphere to such an extent as to interfere sadly with a good view of the city.

On reaching the western shore, the 'bus is driven up the levee and along the narrow streets, lined with dingy blackened houses, wonderfully varied in height and architecture, which form the lower part of the city. A short drive up a moderate ascent discloses wider streets and a much better class of buildings, but the smoky character of the atmosphere, although lessened in degree, still prevails, and the houses are everywhere more or less discolored. The Southern Hotel, a large, handsome, and well finished structure, had been selected as the "head quarters" for the members of the association, and here on arrival we met with kindly greetings and a warm welcome from fellow pharmacists, representing many of the States and Colleges of Pharmacy in the Republic. Among our party from Chicago was H. B. Brady, Esq., of Newcastle-on-Tyne, president of the Pharmaceutical Conference of Great Britain, a gentleman whose genial and affable character, combined with great attainments, won for him the esteem of all, and whose presence added much to the pleasures of the journey and the profit of the gathering.

The association was convened in the hall of the Polytechnic building, and began its session at 3 p. m., on Tuesday, the 12th September. In the absence of the President and Vice-President, Prof. J. Faris Moore, of Baltimore, was elected President *pro tem.*, who briefly returned thanks for the honor conferred upon him, and expressed the hope that the present meeting would be one of the most interesting gatherings the association had ever held.

The first business was the appointment of a committee on credentials who reported the following institutions represented by delegates:

Massachusetts College of Pharmacy and its Alumni Association.

New York College of Pharmacy and Alumni Association.

New Jersey Pharmaceutical Association.

Newark Pharmaceutical Association.

Philadelphia College of Pharmacy and Alumni Association.

Maryland College of Pharmacy and Alumni Association.

Columbia Pharmaceutical Association, (Washington).

Louisville College of Pharmacy.

St. Louis College of Pharmacy.

University of Michigan.

Chicago College of Pharmacy.

Kansas College of Pharmacy.

Ontario College of Pharmacy.

Objections were raised to the admission of the delegate from the University of Michigan, inasmuch as that college required less of its graduates than any of the other colleges or schools of Pharmacy throughout the country. From the discussion which followed we learnt that the University of Michigan grants diplomas, giving to the graduate in their School of Pharmacy the title of Pharmaceutical Chemist, without requiring any previous apprenticeship in a drug store, or any other practical acquaintance with the business. This sending of young men out in the world as Pharmacists, who were up in the theory of their business merely; who had little or no practical acquaintance with dispensing; and having had no opportunity of familiarizing themselves with the multifarious operations conducted in every drug store, was condemned on all hands as unwise and injurious. The subject was referred to a Committee, who, after hearing a full explanation of the system of Pharmaceutical education, as carried out there, unanimously recommended that this school of Pharmacy be not recognized by the Association until such time as they require from their students a previous knowledge of the drug business. The credentials were then returned to the delegate.

A letter from W. W. Stoddart, Esq., late President of the British Pharmaceutical Conference, was then read, introducing the President elect, Henry B. Brady, Esq., of Newcastle-on-Tyne. The letter was warmly applauded, and Mr. Brady invited to a prominent seat in the Assembly. After being introduced to the meeting by the President, he made a few happy remarks, expressing the kindest feelings of sympathy and regard, as tendered by the British Phar-

maceutical Conference to the American Pharmaceutical Association, and returned thanks on behalf of himself and the society he officially represented, for the hearty welcome given him. On motion of Mr. Parrish, Mr. Brady was unanimously declared a member of the Association.

Eighty-eight new members were proposed and elected.

Invitations were then read asking the members to visit, at their convenience, various Public Building and other objects of interest in the city and neighbourhood.

The reports of the various committees appointed at the last year's meeting were recalled for and presented, after which a committee to nominate officers for the ensuing year was appointed.

The first session closed with the reading of the address of the retiring President, Dr. R. H. Stabler, Alexandria, Virginia. After regretting his inability to be present, he gave an interesting resume of the progress of the Association from the time of its origin in 1852 to the present date, referring to each year, and particularly to the years when wars ravaged the land and prospects seemed dark, and how they had brightened at the close. The Association had been in debt, but its liabilities were now paid off. Recent legislative enactments relating to Pharmacy and Pharmacists were commented on. Some remarks were made in reference to adulterations, and some good suggestions offered, on this and other matters of interest to the trade.

The assembly then adjourned to meet at nine o'clock on Wednesday morning.

WEDNESDAY.

The minutes of the previous meeting were read and adopted.

A cordial welcome was awarded to the delegates from those colleges of Pharmacy who were here represented for the first time.

The Treasurer's report was then read, showing a healthy state of the funds of the Association—there being a balance on hand of \$1,209.39. The report was accepted and referred to an auditing committee.

The committee on nominations presented the appointment of the following gentlemen as officers for the current year, who were duly elected by ballot :—

President, Enno Sander, St. Louis, Mo.

1st Vice-President, C. L. Diehl, Louisville, Ky.

2nd Vice-President, Prof. G. F. H. Markoe, Boston, Mass.

3rd Vice-President, Mr. F. Ash, Jackson, Miss.

Treasurer, Chas. A. Tufts, Dover, N. H.

Perm. Secretary, Prof. J. M. Maisch, Philadelphia, Penn.

A number of gentlemen representing the various sections of the country were appointed on the following committees:—

Executive Committee.

Committee on Progress of Pharmacy.

“ “ Drug Markets.

“ “ Adulterations.

“ “ Queries.

“ “ Business.

“ “ Unofficial Formulæ.

An interesting report on the Drug market was read by Mr. McKesson, of New York, chairman of the committee for the past year. In it he referred to the new tariff regulations under which many articles formerly dutiable are now admitted free; and also traced the influence of the recent war between Germany and France on the Drug trade; how speculation was rife and prices continually fluctuating. Some interesting details were given in reference to the Smyrna opium trade, and the causes which led to the recent extensive alterations in prices; they having varied in New York from \$3.75 to \$8 or \$9. The remarks on Quinine showed that the importation of foreign Quinine had greatly declined, in consequence of the market being better supplied by the manufacturers in the U.S.—their increasing facilities for production having more than kept pace with the increasing demand. Mercury, oil of lemon, and other leading articles, were also referred to, and their recent fluctuations in price commented on. The yield of cantharides in Europe was said to have fallen off very much of late, which, if continued, must result in our looking to other quarters for supplies. Last year 20 cases were imported from China, which, although differing in appearance from the European insect, had been found fully efficacious as a vesicating agent. Reference was made to the immense amount of adulteration still carried on, and the hope expressed that a remedy might soon be found for this evil.

Mr. Joseph H. Remington, of Philadelphia, as chairman of the committee, presented the report on adulterations and sophistications. After some introductory remarks, he proceeded to say that

of all substances powders were probably the most liable to adulteration; and that, principally, in consequence of the difficulty of detection. He had been informed of several wholesale drug houses where rooms were set apart for the purpose of mixing powders; and another case where there was a regularly organized adulterating department, with a foreman—of no doubt large experience—to superintend this special branch. All sorts of cheap substances were used in this department of industry, the object being to imitate as nearly as possible the color and general appearance of the genuine article; flour, starch, terra alba, woody fibre, saw dust, musty ship-crackers are all in demand for this purpose.

Spices, on account of their widely extended use, are of all powders most largely adulterated, and some startling revelations might be made if a spice miller could be persuaded to disgorge his ill-gotten knowledge. The only safe way to get pure powdered drugs is to pay a good price and buy from conscientious parties who are above suspicion.

Cochineal is adulterated with sulphate of barytes, a heavy white powder, which, when shaken with the insects, lodges in the wrinkles and crevices on the surface of the body. The weight is thus increased sometimes from 15 to 25 per cent.

Balsam of copaiba was often mixed, and sometimes found entirely fictitious, being composed of a mixture of castor oil, resin, and oil of copaiba. Powdered ipecac was sometimes so adulterated and weakened that tartar emetic was necessary to strengthen it. Oil of lemon has been met with, mixed with 30 per cent. of fixed oil.

Powdered opium is often mixed with powdered extract of liquorice. In fact, some dealers uniformly sent to the grinders a certain proportion of liquorice with the opium, so that they might be ground together. Powdered rhubarb was frequently adulterated with curcuma. Sometimes senega root was mixed with cypripedium.

Castile soap frequently contained an undue proportion of water. It had been met with containing as much as 30 per cent. Acetic acid is also mixed with water, acidulated with dilute sulphuric acid.

Subnitrate of bismuth had been found mixed with phosphate of lime, to the extent of 20 per cent., and citrate of iron and quinine adulterated with citrate of ammonia, and containing less quinine than called for, 10 or 15 per cent., instead of 25 per cent. Quinine itself was frequently met with mixed with cinchona, muriate of cinchona and salicine.

Santonine has been found adulterated with small particles of mica, and cream of tartar frequently mixed with tartar emetic. Cream of tartar is grossly adulterated; the terms strictly pure, pure No. 1, and No. 2, being used to indicate varying proportions of cream of tartar and terra alba, the latter material being largely imported from Europe for the express purpose of adulterating, the importations amounting to many tons annually.

Choloroform is sometimes diluted with alcohol, and iodide of potass in crystals mixed with bromide, and occasionally with bicarbonate of potass. Solid extracts were also much adulterated.

In the manufacture of syrup, a considerable portion of the sugar is replaced by glucose, especially in making fruit syrups.

This valuable report was warmly applauded, and gave rise to some discussions eliciting additional facts in reference to adulterations. Among others, Prof. Marcoe, of Boston, referred to white castile soap of handsome appearance, which he had met with, containing 20 per cent of steatite, which could be detected by its insolubility; and W. Saunders, of London, Ont., to a quantity of oil of peppermint, which has been submitted to him for examination, containing 25 per cent. of castor oil. The presence of this latter, if suspected may be readily determined by heating a small portion in a test tube when the volatile oil is driven off by the heat, the fixed oil remaining in the tube.

The afternoon of Wednesday was devoted to the examination of the magnificent collection of drugs, chemicals, and Pharmaceutical products brought together in the large upper half of the institute. Foremost among exhibitors of chemicals were Messrs. Powers & Weightman, the well-known manufacturing chemists of Philadelphia. At one corner of their table was an immense block of crystallized alum weighing 700 lbs., showing throughout very beautiful and perfect crystals. A huge inverted glass globe contained \$600 worth of sulphate of quinine. A second, of similar size, 153 ounces, \$700 worth of sulphate of morphia, in blocks of interlaced crystals. An immense bottle of very pure looking Gallic acid; another of sulphate of cinchona, containing 151 oz. There were very fine samples of iodoform, iodide and bromide of potass, and strychnia in crystals. Also, elegant scale preparations, including citrate of iron and quinine, citrate of iron and strychnia, pyrophosphate of iron, soluble citrate of iron, and citrate of iron and manganese. Besides these there were large bottles containing fine crystals of acetate of zinc, nitrate of ammonia, nitrate of silver and many other salts, which would occupy too much space to enumerate.

Messrs. Rosengarten & Sons, Chas. T. White & Co., and Chas. Pfizer & Co., of New York, and Messrs. G. Mallincrodt & Co., of St. Louis, each exhibited a fine series of chemical products of their own manufacture, embracing many of those already mentioned, and some others in addition; we observed elegant samples of phosphoric acid in crystals, also, permanganate of potass and carbolic acid.

England and Germany was also represented. Herring & Co., of London, England, exhibited preparations illustrative of British Pharmacy, among which we noticed concentrated infusions and narcotic extracts.

E. Sacharre & Co., of Leipzig, had a fine collection of ethers

and other chemical products. E. Schering & Co., of Berlin, displayed an interesting series of chemicals.

Bullock & Crenshaw, of Philadelphia, had a complete series of their sugar-coated pills; similar collections were shown by Warner & Co., Philadelphia, Henry Thayer & Co., Tilden & Co., New York. T. Metcalfe & Co. made a very nice display of fluid extracts, syrups, and other pharmaceutical products. Fluid extracts were also exhibited by Burrough Bros., Baltimore; Thayer & Co., Tiiden & Co., W. H. Crawford, St. Louis, and several other places.

Codman & Shurtlef, of Boston, had a case of surgical instruments on exhibition, including atomizers and hypodermic syringes. A. M. Lester & Co., of St. Louis, also exhibited in this department. A fine display of chemical glassware was made by Theo. Kalb, of St. Louis; there was also a magnificent soda water fountain shown by John Matthews, of N. Y., called the "Frost King."

McKesson & Robbins, of N. Y., had a very fine display of drugs. Samples were also shown by Enno Sander, Richardson & Co., and Meyer & Bro., of St. Louis. There were also other stands containing fancy goods, samples of liquors, lubricating and other oils, trusses, supportors, &c.

Correspondence.

A FEW OF THE EVIL RESULTS ARISING FROM THE PERCENTAGE SYSTEM.

To the Editor of the Pharmaceutical Journal.

Now that we are an incorporate body, it is a very proper time to introduce this oft recurring subject, which seems, as we look at it in the distance, insurmountable; but as we draw near and grapple with it, we soon strip it of its apparent plausible attributes, and it remains before us as something that should be unworthy of our notice; but in our time, its propagators, who are many, blindly close their eyes so that they shall see nothing wrong in this fashionable evil, which has become so engrafted in their shop-ethics, and nothing but the censure of a rigid public will eradicate it. It now remains for us, the rising generation, and all who have the interests of the business at heart, to raise a superstructure upon the foundation now laid, that will be a lasting monument of our zeal for the trade of our choice. My sentiments will perhaps seem harsh to some, but it is the only true light in which I can discuss them. Keen competition, and an eagerness to secure gain sometimes prompt us to take advantage of our opposition by this method; and by such improper means

the legitimate trade of the more suburban druggist is entirely subverted. If this system has made the same headway in other cities as it has in our own, pharmacy is a perverted calling. Why do we require pharmaceutical education? For what purpose do we serve an apprenticeship? For what do we toil? Do we educate ourselves only to explain the difference between the words tincture and infusion; or serve a time to weigh an ounce of salts, or dispense a dose of castor oil; or do we toil in the hope of some day grasping the phantom only of our ideal—the prescription business. Is it honorable to give percentages? Most decidedly not; the fault rests with the druggist; he is not content to live on the result of his labor in his own immediate neighborhood, but deprives others of their rightful trade, by throwing out a bait to the faculty, or *vice versa*: if you send us your prescriptions we will allow 20, 33, or even 50 per cent.; This is most effectual, and it is sad to think that physicians of the highest talent are the first to seize the bait, and once entwined, they are the most ardent prosecutors of the lucrative bargain. The writer has a distinct recollection of several instances which are anything but commendable to the reputation of such august zealots. It is not uncommon for them to send a prescription two and-a-half or three miles, passing from seven to ten druggists on the way just as well qualified to dispense it as they whose name it bears. A lady living in the north-western part of the city was obliged to send over two miles for her medicine, and sometimes late in the night, but when she discovered the cause, she at once dismissed her medical adviser. On another occasion, one of our first and oldest physicians visited a patient in the northern part of the city, wrote a prescription with the directions to take it to where he was in the habit of having his medicine dispensed, but, instead, it was taken to their own druggist; the next visit the doctor espied the foreign bottle, he at once seized it and hurled it, without ceremony, into the street, making use, at the same time, of the classical expression *that the man was not fit to make up medicine for a horse let alone a human being*, although, at the same time, the druggist referred to ranks amongst the first of our city. Another finding that they still persisted in having their prescriptions dispensed where they generally dealt, sought, by shaking the mixture (which abounded in incompatibles) before the patient's eyes to expose imaginary carelessness and impurities. A number more might be mentioned of a similar character, but let these suffice. As an offset to the druggists' persistency, and to make him appear ignorant, this class of physicians indulge in a host of what might be called empirical formulæ, which nobody can understand but the clique, and sometimes they are written in such a manner that they can be construed into almost anything, like Macready's pass into the theatre which was dispensed on presentment at a drug counter, as a good cough mixture. It is most detrimental to business to have such receipts presented, and to be unable to dispense

them. You are very naturally looked upon, no matter how plausible your excuse, as an incompetent druggist, and one to be ever afterwards avoided by them and their friends; and thus another evil result arises from the system which is controlled more by percentage druggist than percentage doctors. Again, if physicians who are coerced by such means, choose to tamper with the privileges of the majority, "they are preparing a rod for their own backs," for there is no doubt a great deal of illegitimate prescribing that is indulged in could be traced to the *animus* between the non-percentage druggists and the percentage doctors. Instead of cultivating that kindly feeling which should exist between them, alienation is rendered more complete. Pharmacy has been styled the handmaid of medicine, but Parrish, who has, perhaps, done more for American pharmacy than any other, and himself an anti-percentage advocate, says, that she is more worthy to be called her sister. The percentage system, to express it mildly, is a deception upon the public and ourselves; upon the public, because the patient always pay the percentage; and upon ourselves, because it enriches few at the expense of many; and it is doubtful whether the men who lend themselves to such transactions can lay claim to conscientious pharmacy.

Long hours and Sunday business, twin evils, are aggravated considerably by this system, inasmuch as he who has adopted percentages, feels it incumbent to make the most of his agreement, and to see, by his diligence to business, that no manna falls outside of his own basket. The percentage system might be summed up to represent a mixture, the component parts being unfairness as its base; Sunday business as a corrective; long hours its adjunct, with illegitimate prescribing as its excipient, forming the most incompatible and obnoxious element that could pervade pharmaceutical government.

A TORONTO PHARMACIST.

Editor Pharmaceutical Journal.

DEAR SIR,—In noticing the list of candidates as nominated for election in October next, I perceive the name of our worthy Registrar, H. J. Rose, Esq. Now, there is no name on that list that I would prefer to his as a member of the Council, but I consider that, as Registrar of the College, he has duties to perform that are incompatible with a position as candidate for the Council—his position as Returning Officer seems to be incongruous if he is also a candidate. Then, again, by Sec. 8 of the Act, if a member of the Council, and he desires to resign, he addresses *himself*, as Registrar, and tenders his resignation to himself. Again, Sec. 8 provides that the Council "shall elect from themselves" a President and Vice-President, and "shall appoint a Registrar," this I take to be one *not of themselves*.

It seems to my judgment that if Mr. Rose is elected and he is appointed to the position of Registrar, and which I am sure I trust he may be, then another would have to be appointed by the Council to fill the vacancy, as provided in Sec. 8. My object in writing this is not to influence a vote against Mr. Rose, for I hold him to be a most valuable member of the Council, but that in his position as Registrar he will have an influential voice in that Council, and be a member of the same by virtue of his official position.

I am, yours truly,

CHEMICUS.

HAMILTON, Sept. 27, 1871.

Editor Pharmaceutical Journal.

I would suggest that a complete list of Registered Druggists' be published, in the new JOURNAL, although, a good many were inserted in the old series, I don't think it included more than half of those entitled to register, and it is very desirable for every one who has paid his fee, to know who are registered and who are not, and if the law is to be enforced every druggist must do his duty.

"BINDER."

Chatham, September 18, 1871.

MARKET REPORT.

Business rather quiet, but now improving; payments have been slow.

The market is noticeable for its upward tendency in many of the leading articles of chemical manufacture; causes supposed to be an unfavorable season, and the difficulties of the labor question.

The articles which have advanced are Camphor, Iodine, Iodide Potassium, and all other Iodides; Solazzi Licorice, Mercury, and all its preparations which had become easier, are again held very firm for advanced prices; Oil Sweet Almonds, Oil Lemon, Bichromate Potash, Cyanide Potassium, Chlorate Potash, Senega Root.

In Spices—Peppers, Mace, and Nutmegs, are very firm, at high rates.

The articles which are lower in price are not numerous or important, and consist of Bismuth, and its preparations, Honey, Morphia, Oil Citronella, Orange Peel, Dandelion Root, Amer-Saffron.

Naval Stores throughout this season have baffled the most careful buyer who has endeavored to fix the probabilities with regard to price. Rosins are nearly double the price they obtained this time last year. Spirits of Turpentine, which everybody has expected to fall in price, has advanced considerably, and firmly maintains its high price.

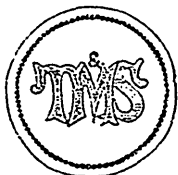
	£ c.	£ c.
DRUGS, MEDICINES, &c.		
Acid, Acetic, fort.	0 12	@ 0 14
" Benzoic, pure	0 25	0 35
" Citric	0 86	0 90
" Muriatic	0 04	0 06
" Nitric	0 11½	0 15
" Oxalic	0 26	0 30
" Sulphuric	0 03½	0 07
" Tartaric, pulv.	0 40	0 42
Ammon, carb. casks	0 19	0 20
" " jars	0 19	0 20
" " Liquor, 88o.	0 18	0 25
" Muriate	0 12½	0 15
" Nitrate	0 45	0 60
" Nitrous	0 45	0 50
" Sulphuric	0 45	0 50
Antim. Crude, pulv.	0 13	0 17
" Tart	0 50	0 55
Alcohol, 95 per ct. Cash	1 62	1 72
Arrowroot, Jamaica	0 19	0 22
" Bermuda	0 45	0 65
Alum	0 02½	0 03½
Balsam, Canada	0 24	0 35
" Copaiba	0 68	0 75
" Peru	4 00	4 20
" Tolu	1 00	1 20
Bark, Bayberry, pulv.	0 18	0 20
" Canella	0 17	0 20
" Peruvian, yel. pulv.	0 45	0 50
" " red	1 40	1 80
" Slippery Elm, g. b.	0 15	0 20
" " flour, packets.	0 28	0 32
" Sassafras	0 12	0 15
Berries, Cubebs, ground	0 20	0 25
" Juniper	0 06	0 10
Beans, Tonquin	0 60	1 10
" Vanilla	16 00	17 00
Bismuth, Alb	4 20	5 00
" Carb.	4 60	5 00
Camphor, Crude	0 35	0 37
" Refined	0 50	0 55
Cantharides	1 90	2 00
" Powdered	2 10	2 25
Charcoal, Animal	0 04	0 06
" Wood, powdered	0 10	0 15
Chiretta	0 25	0 30
Chloroform	1 00	1 50
Cochineal, S. G.	0 80	0 90
" Black	1 00	1 20
Colocynth, pulv.	0 50	0 60
Collodion	0 67	0 70
Elaeterium	4 50	5 00
Ergot	0 65	0 75
Extract	2 20	2 50
" Belladonna	1 25	1 75
" Colocynth, Co.	0 50	0 60
" Gentian	1 12	1 25
" Hemlock, Ang	1 70	2 00
" Henbane	5 00	5 50
" Jalap	1 75	2 00
" Mandrake	0 60	0 70
" Nux Vom.	Variable.	
" Opium	7 50	—
" Rhubarb	1 00	1 20
" Sarsap. Hon. Co.	3 25	3 70
" " Jam. Co.	0 70	0 80
" Taraxicum, Ang.	0 25	0 35
Flowers, Arnica	0 30	0 40
" Chamomile	0 70	0 80
Gum, Aloes, Barb. extra.	0 42	0 50
" " good	0 12	0 20
" " Cape	0 20	0 30
" " powdered	0 76	0 80
" " Socot	0 90	1 00
" " pulv	0 60	0 65
" Arabic, White	0 50	0 55
" " powdered	0 28	0 30
" " sorts	0 42	0 50
" " powdered	0 13	0 16
" com. Gedda	0 31	0 35
Assafoetida	0 13	0 15
British or Dextrine	0 48	0 55
Benzoin	0 12	0 15
Catechu	0 25	0 30
" " powdered	0 32	0 40
Euphorb, pulv.	1 05	1 20
Gamboge	0 38	0 87
Guaiaicum	0 48	0 60
Myrrh		

	£ c.	£ c.
DRUGS, MEDICINES, &c.—Contd.		
" Sang Dragon	0 60	0 70
" Scammony, powdered	5 60	—
" " Virg.	14 50	—
" Shellac, Orange	0 43	0 45
Gum, Shellac, liver	0 38	0 40
" Storax	0 65	0 75
" Tragacanth, flake	1 10	1 40
" " common	0 35	0 40
Galls	0 27	0 32
Gelatin, Cox's 6d.	1 10	1 20
Glycerine, common	0 25	0 30
" Vienna	0 30	0 40
" Prices	0 60	0 75
" Honey, Canada, best.	0 15	0 17
" Lower Canada	0 14	0 16
Iron, Carb. Precip.	0 20	0 25
" " Sacchar	0 40	0 55
" Citrate Ammon	1 10	1 20
" " & Quinine, oz	0 52	0 60
" " & Strychine	0 17	0 25
" Sulphate, pure	0 08	0 10
Iodine, good	8 00	—
" Resublimed	9 00	—
Jalapin	1 40	1 60
Kreosote	1 60	1 70
Leaves, Buchu	0 25	0 30
" Foxglove	0 25	0 30
" Henbane	0 35	0 40
" Senna, Alex	0 30	0 60
" " E. I.	0 12½	0 20
" " Tinneville	0 20	0 30
" Uva Ursi	0 15	0 15
Lime, C. rbolate	5 50	—
" Chloride	0 04½	0 06
" Sulphate	0 06	0 12½
Lead, Acetate	0 14	0 17
Leptandrin	0 60	—
Liq. Bismuth	0 50	0 75
Lye, Concentrated	1 50	2 00
Liquorice, Solazzi	0 48	0 50
" Cassano	0 23	0 40
" Other brands	0 14	0 25
Liquorice, Refined	0 35	0 45
Magnesia, Carb.	1 oz. 0 20	0 25
" " 4 oz.	0 17	0 20
" Calcined	0 65	0 75
" Citrate	0 40	0 50
Mercury	0 00	0 95
" Bichlor	1 00	—
" Chloride	1 30	—
" C. Chalk	0 60	—
" Nit. Oxyd	1 30	—
Morphia Acet	4 10	4 25
" Mur.	4 10	5 50
" Sulph	4 25	4 40
Musk, pure grain	21 00	—
" Canton	0 90	1 20
Oil, Amonds, sweet	0 50	0 52
" " bitter	14 00	15 00
" Aniseed	3 60	4 00
" Bergamot, super	5 00	5 25
" Carraway	1 00	4 20
" Cassia	2 00	2 20
" Castor, E. I.	0 13	0 14
" Crystal	0 22	0 25
" Italian	0 26	0 28
" Citronella	1 15	1 50
" Cloves, Ang.	1 60	1 00
" Cod Liver	1 35	1 50
" Croton	2 00	2 10
" Juniper Wood	0 80	1 00
" " Berries	6 00	7 00
" Lavand, Ang.	16 00	17 60
" " Exotic	1 40	1 60
" Lemon, super.	4 80	5 00
" " ord.	2 80	3 00
" Orange	2 70	3 00
" Origanum	0 65	0 75
" Peppermint Ang.	13 00	14 40
" " Amer.	3 00	3 25
" Rose, Virgin	7 75	8 00
" " good	5 50	6 00
" Sassafras	0 85	0 95
" Wintergreen	6 50	7 00
" Wormwood, pure	5 80	6 50
Ointment, blue	0 76	0 80
Opium, Turkey	6 00	6 25
" " pulv.	8 00	10 00

	§ c.	§ c.
DRUGS, MEDICINES, &c.—Cont'd		
Orange Peel, opt.	0 30	0 36
" good	0 12½	0 20
Pill, Blue, Mass.	0 80	0 85
Potash, Bi-chrom	0 25	0 27
" Bi-tart	0 27	0 28
" Carbonate	0 14	0 20
" Chlorate	0 45	0 50
" Nitrate	10 50	11 00
Potassium, Bromide	1 15	1 50
" Cyanide	0 75	0 80
" Iodide	7 50	8 00
" Sulphuret	0 25	0 35
Pepsin, Boudault's.....oz	1 50	—
" Houghton's.....doz.	8 00	9 00
" Morson's.....oz.	0 85	1 10
Phosphorus.....	0 75	0 85
Podophyllin.....	0 50	0 60
Quinine, Pelletier's.....	—	2 25
" Howard's.....	2 20	—
" " 100 oz. case.	2 15	—
" " 25 oz. tin.	2 15	—
Root, Colombo.....	0 13	0 20
" Curcuma, grd	0 12½	0 17
" Dandelion.....	0 25	0 35
" Elecampane.....	0 14	0 17
" Gentian.....	0 10	0 12½
" " pulv.....	0 15	0 20
" Hellebore, pulv.....	0 17	0 20
" Ipecac.....	2 20	2 30
" Jalap, Vera Cruz.....	1 35	1 60
" " Tampico.....	0 90	1 00
" Liquorice, select.....	0 11	0 13
" " powdered.....	0 15	0 20
" Mandrake.....	0 20	0 25
" Orris.....	0 20	0 25
" Rhubarb, Turkey.....	3 50	—
" " E. I.....	1 25	2 00
" " pulv.....	1 40	2 50
" " " 2nd.....	1 30	1 50
" " French.....	0 75	—
" Sarsap., Hond.....	0 40	0 45
" " Jam.....	0 88	0 90
" Squills.....	0 10	0 15½
" Senega.....	1 70	1 80
" Spigelia.....	0 48	0 50
Sal., Epsom.....	2 25	3 00
" Rochelle.....	0 26	0 35
" Soda.....	0 01½	0 03
Seed, Anise.....	0 13	0 16
" Canary.....	0 05	0 06
Cardamon.....	3 50	3 75
" Fenugreek, f'd.....	0 08	0 10
" Hemp.....	0 06½	—
" Mustard, white.....	0 14	0 16
Saffron, American.....	2 00	2 50
" Spanish.....	17 00	18 00
Santonine.....	9 50	10 00
Sago.....	0 07½	0 09
Silver, Nitrate.....Cash	14 85	16 50
Soap, Castile, mottled.....	0 10	0 14
Soda Ash.....	0 03	0 04
" Bicarb. Newcastle.....	4 25	4 50
" " Howard's.....	0 14	0 16
" Caustic.....	0 04	0 05
Spirits Ammon., arom.....	0 25	0 35
Strychnine, Crystals.....	2 20	2 50
Sulphur, Precip.....	0 10	0 12½
" Sublimed.....	0 03½	0 05
" Roll.....	0 03	0 04½
Vinegar, Wine, pure.....	0 55	0 60
Verdigris.....	0 35	0 40
Wax, White, pure.....	0 80	0 90
Zinc, Chloride.....oz	0 10	0 15
" Sulphate, pure.....	0 10	0 15
" " common.....	0 06	0 10
DYESTUFFS.		
Annatto.....	0 35 @	0 60
Aniline, Magenta, cryst.....	3 25	4 00
" " liquid.....	2 00	—
Argols, ground.....	0 15	0 25
Blue Vitrol, pure.....	0 08	0 10
Camwood.....	0 06	0 09
Copperas, Green.....	0 01½	0 02½
Cudbear.....	0 16	0 25
Fustic, Cuban.....	0 02	0 04
Indigo, Bengal.....	2 40	2 50
" Madras.....	1 00	1 10
" Extract.....	0 28	0 35

	0 05½	0 06½
DYESTUFFS—Continued.		
Japonica.....	0 05½	0 06½
Lacdye, powdered.....	0 33	0 38
Logwood.....	0 02	0 03
Logwood, Camp.....	0 02	0 37
" Extract.....	0 10	0 14
" " 1 lb. bxs.....	0 14	—
" " ½ lb. ".....	0 15	—
Madder, best Dutch.....	0 16	0 17
" 2nd quality.....	0 15	0 16
Quercitron.....	0 03	0 05
Sumac.....	0 06	0 08
Tin, Muriate.....	0 10½	0 12½
Redwood.....	0 05	0 06
SPICES.		
Allspice.....	0 8½ @	0 10
Cassia.....	0 38	0 40
Cloves.....	0 12½	0 15
Cayenne.....	0 18	0 25
Ginger, E. I.....	0 12	0 14
" Jam.....	0 20	0 30
Mace.....	1 45	1 50
Mustard, com.....	0 20	0 25
Nutmegs.....	0 85	0 90
Pepper, Black.....	0 10	0 20
" White.....	0 26	0 28
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
Green, Brunswick.....	0 07	0 10
" Chrome.....	0 16	0 25
" Paris.....	0 25	0 35
" Magnesia.....	0 20	0 25
Litharge.....	0 06½	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.....	1 15	1 25
" American.....	0 25	0 35
Whiting.....	0 85	0 90
White Lead, dry, gen.....	0 08	0 09
" " " No. 1.....	0 07	0 08
" " " No. 2.....	0 05	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 30	0 37½
Red, Venetian.....	0 07	0 10
Patent Dryers, 1 lb tins.....	0 11	0 12
Putty.....	0 03½	0 04½
Yellow Ochre.....	0 08	0 12
White Lead, gen. 25 lb. tins.....	2 30	—
" " " 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 00 @	4 20
Rosin, Strained.....	4 50	4 80
" Clear, pale.....	9 00	10 00
Spirits Turpentine.....	0 75	0 80
Tar Wood.....	4 50	4 75
OILS.		
Cod.....	0 60 @	0 65
Lard, extra.....	1 00	—
" No. 1.....	0 95	1 00
" No. 2.....	0 85	0 90
Linseed, Raw.....	0 77½	0 80
" Boiled.....	0 82½	0 85
Olive, Common.....	1 17	1 30
" Salad.....	1 80	2 35
" " Pints, cases.....	4 20	4 40
" " Quarts.....	3 60	3 00
Seal Oil, Pale.....	0 68	0 75
" Straw.....	0 60	0 65
Sesame Salad.....	1 30	1 35
Sperm, genuine.....	1 90	2 00
Whale, refined.....	0 75	0 80

ONLY SILVER MEDAL AWARDED. PARIS EXHIBITION
1867. JUROR, 1862.



T. MORSON & SON.

Pure Chemicals and all New Medicines.

PREPARATIONS OF PEPSINE.

MORSON'S MEDICINAL PEPSINE
OR DIGESTIVE POWDER.

(*Pepsine Acide Amylacee, ou Poudre Nutritive*),

Contains the active digestive principle of the gastric juice of the stomach, purified and rendered permanent and palatable. Dose—15 to 20 grains. In 1 oz. bottles.

MORSON'S PEPSINA PORCI,

Dose, 5 to 10 Grains.

Every Bottle or Box containing the Preparations named, and bearing the Trade Mark of T. Morson & Son, *but not otherwise*, is sold with such guarantee.

PEPSINE GLOBULES (each containing 5 grains of pure Pepsine).

“ in Bottles, each containing 1, 2, and 4 dozen Globules.

“ LOZENGES, in boxes.

“ WINE, in Pints, Half-pints, and Quarter-pints.

These Preparations bearing the Trade Mark, *but not otherwise*, will be guaranteed to possess the full efficacy of the digestive principle.

PANCREATIC EMULSION, and PANCREATINE in powder, containing the active principle obtained from the Pancreas, by which the digestion and assimilation of fat is effected.

PANCREATINE POWDER, in 1 oz. Packets. PANCREATIC EMULSION, in bulk for dispensing; also in 4, 8, and 16 oz. Stopped Bottles.

ARTIFICIAL ESSENCES FOR FLAVOURING.

SACCHARATED WHEAT PHOSPHATES, a valuable dietetic preparation for Invalids and Children, supplying the elements for the formation of bone. In 4, 8, and 16 oz. Bottles.

CREOSOTE—(Caution)—from Wood Tar, of which T. M. & Son are the only British Manufacturers.

GELATINE, a perfect and economical substitute for Isinglass.

CHLORODYNE

Has now obtained such universal celebrity as a remedial agent, it can scarcely be considered a speciality, its composition being known to most European practitioners.

The combination of Chloroform quickly relieves the pain and spasms of Cholera, Diarrhœa, Dysentery, and in fact all acute and nervous pains, and chronic coughs, frequently very small doses will produce this beneficial result. It may be administered in almost any fluid or on sugar.

Many of the chlorodynes of commerce are not of uniform strength, and vary in their effect, which has induced Morson & Son to compound this preparation to remedy these defects.

The dose for an adult is from 10 to 20 drops (and 1 minim is equal to 2 drops), the dose may, however, be increased in especial cases to 25 or even 30 minims, but is best to commence with the lesser dose.

Sold in 1, 2, 4 and 8 oz. Bottles.

MORSON'S PREPARATIONS are sold by all Chemists and Druggists throughout the world.

TORONTO CHEMICAL WORKS

AND



DRUG BROTHERS & CO. MILLS.

PURE CHEMICALS

Including Chloroform, Ethers, Compounds of Silver, Gold, Potassium, Iron, &c.

PHARMACEUTICAL PREPARATIONS:

Tinctures, Solid Extracts, Plasters, and all the Important Preparations of the British Pharmacopœia

FLUID EXTRACTS

Guaranteed of Standard Strength.

CONCENTRATED LYE, ARTIFICIAL FRUIT ESSECES, CITRATE OF MAGNESIA,

PURE POWDERED DRUGS AND SPICES.

PAINTS, (Ground in Oil)—White Lead, of Various grades, Zinc White, Patent Dryers, Colors.

CONCENTRATED LYE.

As there are IMITATIONS of this well-known article being sold in the Canadian market, the subscriber begs to notify his customers that his address is stamped upon each tin of the GENUINE LYE.

PRICE, \$1 50 PER DOZEN, OR \$16 PER GROSS.

SPECIAL QUOTATIONS FOR QUANTITIES,

For sale by the Wholesale Druggists.

Harte's Florida Water.

PRICE, \$3 50 AND \$2 00 PER DOZEN.

PARODEE'S EPILEPTIC CURE.

The subscriber would draw the attention of the trade to this article, which he guarantees will give satisfaction to all who give it a trial.

PRICE, \$7 00 PER DOZEN.

Laurie's Imperial Food.

FOR INVALIDS AND INFANTS.

PRICE, \$1 75 AND \$3 50 PER DOZEN.

ENGLISH RAT EXTERMINATOR. \$1 PER DOZ. \$10 PER GROSS.

J. A. HARTE, *Druggist, Montreal.*

DOMINION LANTERN AND DRUGGISTS' TINWARE FACTORY.

T. McDONALD, (late of the firm of McDonald & Whitten) begs to thank the Druggists of Ontario for the favors extended to him during the past four years, and also to inform them that he has opened a NEW FACTORY especially for the manufacture of LANTERNS and DRUGGISTS' TINWARE.

Oil Cans,

Oval Blacking Boxes
(all sizes.)

FACTORY:

325 Queen St. East.



Ointment Boxes,

Percolators,

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GENERAL MANUFACTURING STATIONERS.

SPECIAL ATTENTION GIVEN TO CHEMISTS' LABELS.

*A Large Stock of Labels for Perfumes, Essences, Drugs, and Liquors
always in Stock.*

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GOLD BEATER'S SKIN, AND

SURGICAL PLAISTER MANUFACTURER,

SURGICAL INSTRUMENT, AND

MEDICAL GLASS DEALER,

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MANUFACTORY—TRENTHAM STREET, HULME.

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ROYAL BALSAMIC PLAISTERS,

ON LEATHER,

Are manufactured as those sanctioned and ordered by DR. ANDREW SMITH, for the use of th
Soldiers and Marines in Scutari Hospital.

Every description of Plaister used in Pharmacy spread on Leather, Calico Moleskin, &c.; per
yard, or in sizes and shape to order.

MATHER'S

IMPROVED INFANTS' FEEDING BOTTLES

COMMAND A READY SALE.

No. 1, 14s. per doz. No. 2, 7s. per doz. No. 3, 4s. per doz.

MATHER'S

IMPROVED INFANT'S FEEDING BOTTLES,

FITTED WITH DOLBY'S PATENT VALVE.

No. 1, Silver Valve, 20s. per doz. No. 2, Pure Tin Valve, 12s. per doz.

Mather's

CHEMICAL FLY PAPERS,

20s. per 1,000.

Subject to the usual discount—Detailed Price List of Druggists' Sundries, Medical Glass, &c.,
&c., posted free on application.

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and more particularly by the following Houses:—Lyman, Bros. & Co., Toronto, Elliot & Co.,
Toronto; Kerry, Crathern & Co., Toronto; J. Winer & Co., Hamilton; Kerry Bros. & Crathern,
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MANUFACTURERS

Of every description of
CHEMICAL, PHARMACEUTICAL, PHOTOGRAPHIC
AND OTHER PREPARATIONS,
OIL PRESSERS,
DISTILLERS of Essential OILS,
DEALERS IN
PATENT MEDICINES,
Surgical Instruments and Appliances,
GLASSWARE,
PAINTS, COLORS AND DYES,
CONFECTIONERY, MEDICAL BOOKS, SHOP FITTINGS,
And every description of
DRUGGISTS' SUNDRIES.

H. P. BRUMELL,

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Has been appointed representative of the above House in Canada. All orders and communications, for the future, should be transmitted to him, and will receive prompt attention.

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WHOLESALE DRUGGISTS

IMPORTERS OF
Foreign Drugs and Chemicals, Surgical Instruments
Agricultural Seeds, Window Glass, Spices, and Dye Stuffs.



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Linseed Oil, Paints, Putty, Varnishes,
Oil Cake Cement, Calcined Plaster, Land Plaster, Superphosphate of Lime,
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W. J. WHITTEN & Co.,

(Late McDonald and Whitten,)

No. 173 King Street East, TORONTO,

MANUFACTURERS TO THE TRADE OF

SALVE, OINTMENT, BLACKING,

And every description of

TIN BOXES, OIL CANS,

And every description of Druggist's Tinware.

Orders from Country merchants promptly attended to.

J. WINER & CO.,
HAMILTON
DRUG IMPORTERS,
 AND
WHOLESALE DEALERS

IN
 CHEMICALS
 DYESTUFFS,
 PAINTS,
 COLORS,
 OILS,
 GLASSWARE,

PATENT MEDICINES,
 DRUGGISTS' SUNDRIES,
 AND EVERY ARTICLE IN DEMAND BY THE DRUG TRADE.

Requests for Quotations promptly responded to.

OFFICE AND SALE ROOMS—25 KING STREET.
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NEWCASTLE, ONT.,

GENERAL AGENTS FOR THE FOLLOWING

M E D I C I N E S .

Ayer's Cherry Pectoral.
 " Cathartic Pills.
 " Sarsaparilla.
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 " Hair Vigor.
 " Pulmonic Wafers.
 Clark's Female Pills.
 Job Moses Female Pills.
 Canadian Hair Dye.
 " Arnica Plaster.

Ransom's Hive Syrup and Tolu.
 Canadian Pain Destroyer.
 Darley's Arabian Heave Remedy.
 Trask's Magnetic Ointment.
 Pettit's American Eye Salve.
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 Holloway's Worm Lozenges.
 Dr. Kellogg's Catarrh Snuff.
 Darley's Black Oil.
 " Arabian Oil.

AND ALL THE POPULAR MEDICINES OF THE DAY.

They also keep a full assortment of

TRUSSES, SUPPORTERS, SHOULDER BRACES, &c., &c.

Orders addressed to

NORTHROP & LYMAN,
 NEWCASTLE, ONT.

Will receive prompt attention.

CATALOGUE OF
CHEMICALS.

AND

Pharmaceutical Preparations,

MANUFACTURED BY

LYMAN BROTHERS & Co.,

AT THE

TORONTO CHEMICAL WORKS,

PALACE STREET,

OFFICE:

TORONTO.



KING ST. EAST.

TRADE MARK.

ACID Phosphoric dilut.....	lb
" Sulphuric. aromat	"
" Sulphurosum	"
Æther Acetic	"
" Nitros, (Spts Nitre)	"
" " Case of 6 bots. }	"
" " 24 lb	"
" " (by carboy) 80 lb.....	"
" Sulphuric s.g. 725.....	"
" " s.g. 750.....	"
Ammon nitras.....	"
Argentī nitrās.....	oz.
" " (1 lb. bots.).....	lb
" " 5 lb. bots	"
" " Fusa	oz.
Arsenci Iodidi	lb
Chloroform	lb
" (by case of 24 lb).....	"
Collodium cum Cantharid	oz.
Confect Sennæ	lb
Caramel (Brandy coloring).....	gal
Cochineal coloring.....	pt.

EXTRACTS, SOLID.

Aloes Barb	"
Aloes Socot	"
Colocynth. co	"
Colocynth, co. pulv	"
Fel bovini.....	oz.
Jalapæ	lb
Podophylli	"
Nucis Vomica	oz.
Opii	"
Sarzæ Hond. co.....	lb
" Jam. co.....	"

EXTRACTS, FLUID.

Arctii Lappæ	lb
Belladonnæ.....	"
Buchu	"
Calumbæ	"
Cinchon, flavæ	"
Conii	"
Cimicifugæ	"
Chimaphilæ.....	"
Ergotæ	"
Gelsemini.....	"
Gentianæ	"
Glycyrrhizæ.....	"
Hydrastis	"
Hyoscyami	"
Ipecacuanhæ	"
Lobeliæ.....	"
Leptandræ	"
Nucis Vomica	"
Papaveris.....	"
Podophylli	"
Fructi Virg	"
Quassia.....	"
Rubi Villosi.....	"
Rhei	"
Rumicis	"
Scillæ.....	"
Scillæ co	"
Sennæ	"
Sarzæ.....	"
Sarzæ co	"
Senegæ.....	"
Stillingiæ.....	"
Taraxaci	"
Valerianæ.....	"
Veratri Viridis	"

CATALOGUE OF CHEMICALS.—(Continued.)

EXTRACTS, LIQUID.

Opii sedativ, (Elixir of)	} lb
Opium	
Sarzæ co	"
Senna	"

EXTRACTS, FLAVORING.

Pear	"
Pineapple	"
Raspberry	"
Strawberry	"
Vanilla	"

Ferri Carb. precip.	"
" Carb. sacch	"
" et Quinia cit	"
" Peroxid	"
" Phosphas	"
" Sulphas	"
" Sulphuret	"
Gold Chloride (15 gr. bots)	doz
Hydrarg. iodid rubrum	"
" " viride	oz.
Jalapin	"
Leptandria	"
Lupulin	"
Lia Saponis	℥.

LIQUORS.

Ammonia Acet	"
Antimonii Chlor. (Butter)	}
Antimony	
Arsenicalis	"
Arsenic et Hydrarg. iodid	"
Bismuthi	"
Ferri Perchlor	"
" " fort.	"
" Pernitrat	"
" Persulph	"
Plumbi Subacet.	"
Potassa	"
Soda Chlorinata	"
Madder Compound	"
" (carboy)	"
Magnesia Citras Efferves.	"
" (25 lb. tins.)	oz.
Ol. Ergotæ	"
" Sulphurat. (Balsam Sulphur)	"

PLASTERS.

Belladonna	℥lb
Calefaciens	"
Cantharidis	"
Ferri	"
Galbani	"
Hydrargyri	"
Opii	"
Picis	"
Plumbi	"
Resinæ	"
Saponis	"
Plumbi Iodid	oz.
" Nitras	lb
Podophyllin	oz.
Potass Carbonas	lb
" (50 lb tins)	"
" Sulphas	"
" Sulphuret	"
Phy. Creta arom	"
" Ipecac. co	"
" Jalap co	"
" Rhei co	"

Spirit Ætheris	lb
" " Nitrosi	"
" " case of }	}
24 lbs	
Spirit Ætheris Nitrosi (carboy)	"
" Ammonia Aromat.	"
" Camphora	pt.
" Chloroformi	lb
Stoughton Bitters	gal
Syrup Simplex	lb
" Ferri Iodidi	"
" " Phosphatis	"
" Hypophosphites	"

TINCTURES.

Aconiti	pt
" (Fleming's)	"
Aloes	"
Aloes et Myrrh	"
Arnica, U. S. P.	"
Assafetida	"
Aurantii	"
Belladonna	"
Benzoini co	"
Buchu	"
Calumbæ	"
Camphor. co	"
Cannabis Indic	"
Cantharidis	"
Capsici	"
Cardamomi co	"
Cascarilla	"
Castorei	"
Catechu	"
Chirata	"
Cinchona co	"
" flava	"
Cimicifuga U. S. P.	"
Cinnamomi	"
Cocci	"
Colchici seminis	"
Conii	"
Croci	"
Cubebæ	"
Digitalis	"
Ergotæ	"
Ferri perchloridi	"
Galla	"
Gentian. co	"
Guaiaci, ammon	"
Hyoscyami	"
Iodi	"
Jalapin	"
Kito	"
Krameria	"
Lavandulæ co	"
Limonis	"
Lobelia	"
Lupuli	"
Myrrh	"
Nucis Vomic.	"
Opii	"
Opii Ammon	"
Quassia	"
Rhei	"
" abin	"
Scilla	"
Senega	"
Senna	"
Serpentaria	"
Stramonii	"
Tolu	"
Valerian	"
Valerian. ammon	"
Veratri Viridis	"
Zingiberis	"
" fort.	"

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