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CANADIAN
PHARMACEUTICAL JOURNAL

Vol. VIII, No. 2. TORONTO, SEPTEMBER, 1874. WHOLE No. LXXVI

Transactions of Pharmaceutical
Colleges and Societies.

MINUTES OF THE SEMI-ANNUAL MEETING OF THE
COUNCIL OF THE ONTARIO COLLEGE OF PHARMACY.

The regular semi-annual meeting of the Council was held at their rooms, Church street, on Wednesday the 5th August, 1874, the following members being present. Mr. B. Lyman, President, Mr. W. Saunders, Vice-President, Messrs. J. W. Bickle, H. Miller, E. Hervey, C. Brent, L. W. Yeomans, N. C. Love, E. Gregory, J. Roberts, E. H. Parker and F. Jordan.

The Minutes of the meeting held 4th Feb. were read, and on motion of Mr. Bickle, seconded by Mr. Harvey, were adopted.

Business arising out of the minutes was then taken up.

Mr. Lyman as Chairman of the Committee on Amendments reported, that there had been several meetings held, a draft of the amendments required had been drawn up, and submitted to a legal gentleman, who considered that any objects sought could be obtained by means of by-laws, it was therefore, determined that it was better to leave the law as it stood.

Mr. Yeomans took up his notice of motion for a new by-law to regulate the Board of Examiners, and explained the reasons which he thought necessary for changing the present method of carrying out the examinations.

Mr. Saunders spoke on the subject, he was not aware that there were conflicting resolutions respecting examinations, he considered that if possible the plan of all the examiners taking part in the several subjects would be the best way. The large number coming

forward might be a reason for making a change in the mode of conducting the examinations.

Mr. Yeomans rose to make some explanations in support of the change.

After some observations on the subject, it was moved by Mr. Yeomans, seconded by Mr. Roberts, and carried :

“That the Board of Examiners shall consist of three persons appointed by the Council. In the event of any vacancy occurring, the remaining members of the Board shall have the power of electing a suitable person to fill such vacancy. Each examiner shall examine in one or more subjects, and shall be responsible for the estimation of the value of the answers given on such subjects. The subjects for examination shall be *Chemistry*, on which ten questions shall be given, each question having the average value of 2.0; *Pharmacy*, ten questions of like value; *Prescriptions*, ten questions of like value; *Botany*, ten questions having a value of 1.5 each; *Practical Dispensing*, a practical and verbal examination, having a total value of 5.0, making in all the total number of marks 100.”

The report of the Board of Examiners was read as follows :

REPORT OF THE BOARD OF EXAMINERS.

The Seventh semi-annual examinations were held as usual at the rooms of the College, on Tuesday, August 4th. Twenty-two candidates presented themselves for examination. Four of these had attended previous examinations, but had not been successful in obtaining the requisite number of marks to entitle them to registration.

The following list embraces the names and ratings of the candidates who have been successful at the present examination :

		No. of Marks.
1.	Christopher Sheppard Toronto.....	90.1
2.	Richard Edwards..... Brantford	85.8
3.	L. E. Blackadar Brantford	76.5
4.	J. J. Ritchie Kincardine	75.2
5.	J. H. Smith Dunville	73.6
6.	Charles Williams..... Sarnia	70.1
7.	Henry J. Hartman Aurora	70.0
8.	Reuben Brown..... Morrisburg ...	69.1
9.	C. R. Matthews Port Hope.....	68.8
10.	J. G. Wilson St. Mary's.....	66.5
11.	M. H. Marett Chatham	64.9
12.	James Crookshank Barrie	64.4
13.	Charles Arnold..... Paris	61.1

The unsuccessful candidates are nine in number; and the lowest number of marks was 29.4.

It is with pleasure that we name as first and second prizemen, Mr. C. Sheppard, of Toronto and Mr. Richard Edwards, of

Brantford. Both these gentlemen evinced a very high degree of proficiency. We also desire to mention Mr. J. G. Wilson, of St. Mary's as being the youngest candidate examined since the organization of the College. This young gentleman has only attained his fifteenth year, but has been successful in obtaining a fair average of marks.

Owing to the continued indisposition of one of your examiners, and his finally declining the position, we have again had recourse to the services of Mr. Miller, who kindly consented to act as provisional examiner. It will, under these circumstances, be incumbent upon the council to elect another examiner to fill the place vacated by Mr. Shapter.

We have deemed it advisable to draw up a number of regulations for the guidance of examiners, and for the proper order of the sessions. These regulations are herewith submitted for approval.

E. B. SHUTTLEWORTH, Chairman.

L. W. YEOMANS.

HUGH MILLER.

REGULATIONS OF THE BOARD OF EXAMINERS.

1. The examinations shall commence at 9 o'clock a.m., at which time candidates will be expected to be seated and ready to answer to their names when the Registrar calls the roll.

2. No two candidates coming from the same town or place shall be allowed to occupy adjacent seats.

3. Any candidate who, during the time of any examination, shall speak to, or converse with any other candidate; or who shall consult or attempt to consult any written memoranda other than such made at the time of examination, or who shall consult or produce any printed paper or book, shall forfeit all marks to which he would otherwise have been entitled for answers in the subject under examination.

4. Should the meaning of any question not be apparent, or should any candidate desire for other reasons to communicate with the Superintendent or Examiner, the candidate may signify such desire by raising his hand, when such explanations may be made as are deemed necessary and consistent.

5. As each candidate has finished each subject to which written answers are required, he shall hand to the Superintendent his examination papers, with his name written at the foot of each page, and shall then be conducted to the Examiner who shall test him as to the recognition of specimens, and verbally examine him thereon.

6. As each candidate concludes his manipulations at the dispensing counter, he will be expected to leave all utensils, etc., with which he may have been working, in a clean and orderly condition.

7. The questions on Chemistry shall be distributed immediately

after the roll has been called, and the time allowed for such examination shall be two hours.

8. The questions on Botany shall be distributed at eleven o'clock: time allowed, one hour.

9. A recess of one hour shall be given between the hours of twelve and one o'clock.

10. At one o'clock the Candidates shall again re-assemble in the same order as before, when six of the candidates whose names appear first on the roll shall be told off for Practical Dispensing.

11. The remaining candidates shall proceed to the examination on Pharmacy. One hour and a half shall be allowed for this examination, at the conclusion of which time, the next six candidates on the roll shall be told off for Practical Dispensing, while the candidates already examined in this branch shall receive the questions on Pharmacy, and shall be allowed the time above specified.

12. The examinations on *Materia Medica* and Prescriptions, and the continuation of that on Practical Dispensing shall be carried on in the manner specified in the preceding regulation.

13. In case that more than twenty-four candidates present themselves for examination, the dispensing facilities must be increased so as to accommodate, at one time, one-fourth of the number to be examined.

E. B. SHUTTLEWORTH,
Chairman.

Moved by Mr. Harvey, seconded by Mr. Love, that the report of the Board of Examiners and the regulations referred to be received and adopted. Carried.

Mr. Lyman presented the prizes to the successful candidates with a few appropriate remarks.

The Treasurer's report was then read and adopted, which showed a balance of \$3,350.57.

TREASURER'S REPORT.

Receipts.

Feby.	4,	1874,	Balance on hand	\$2,290 84
March	28		Cash from Registrar	73 00
April	14		" "	121 09
	30		" "	135 20
May	2		" "	129 80
	8		" "	369 20
	15		" "	253 60
	23		" "	270 00
	30		" "	78 00
June	5		" "	236 00
	15		" "	118 00
	22		" "	96 00
	30		" "	44 60

Ontario College of Pharmacy.

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June	30	Interest on Cash in Bank.....	38	86
July	11	Cash from Registrar.....	118	00
	31	Cash "	136	75

\$4,508 94

Disbursements.

Feb'y.	4, 1874,	Expenses of Council Meeting.....	\$137	58
	4	E. B. Shuttleworth	253	50
	10	Geo. Hodgetts	200	00
	10	<i>Monetary Times</i>	57	00
	10	Kenneth Miller	50	00
	18	Lyman Bros. & Co.	18	70
	24	<i>Globe Printing Co.</i>	10	00
March	13	Carriage		25
	17	<i>Monetary Times</i>	4	50
	17	<i>Monetary Times</i>	57	00
	17	Postage	2	20
	28	Postage	12	10
April	17	Postage	15	67
	24	<i>Mail Printing Co.</i>	10	00
	29	Postage	7	60
	30	Brown Bros	8	25
	30	<i>Monetary Times</i>	61	25
	30	Discount on U. S. Currency		27
	30	" " on two cheques (country).....		50
May	8	" " " "		50
	12	Geo. Hodgetts	100	00
	13	<i>Monetary Times</i>	59	75
June	5	Postage	13	70
	15	Lyman Bros & Co.....	1	75
July	2	Hunter, Rose & Co.....	2	50
	11	Postage	7	80
	30	Postage	4	75
	30	Geo. Hodgetts	1	50
June	25	<i>Monetary Times</i>	59	75

\$1,158 37

Receipts \$4,508 94

Disbursements 1,158 37

\$3,350 57

We, the undersigned appointed by the Ontario College of Pharmacy have examined the above report, compared it with vouchers and find it correct.

E. HARVEY, } Auditors.
NEIL C. LOVE, }

The Registrar's report was next read.

REGISTRAR'S REPORT.

To the Council of the Ontario College of Pharmacy.

GENTLEMEN,—Your registrar begs to report, that during the past six months there has been 22 applications for registration; 19 certificates have been issued, 5 of which were to medical men. The papers upon which the Certificates have been granted are laid before the Council; 3 applications have been refused, the papers not being satisfactory.

The number of Renewals issued to the 31st July is 429, against 405 to the same date last year. About 120 have not yet sent in the fee for the current year, although your Registrar made several appeals to the members through the columns of the JOURNAL, with the hope of having a complete list published in the July number of the JOURNAL, in accordance with the Act.

I beg to submit the following detailed statement of cash received during the past six months:

13 Renewal fees, 1873	\$52 00
429 Do 1874	1,716 00
Associate "	66 00
Registration "	96 00
Examination "	60 00
Sales of Poison Books	8 40
1 Branch Store	1 00
	<hr/>
	\$1,999 40

I am happy to say that the defaulters concerning whom so much has been said from time to time, have, with five or six exceptions, complied with the rules of the College. I have placed those who persist in their non-payment, in suit for recovery, but cannot report the result as yet.

The total number of members on the register at the present time is 578, including 27 associates.

It may be interesting to know the progress the College has been making in numbers since its formation in June, 1871, at which date 621 were registered, 485 as in business, and 136 as qualified assistants. The total number of names registered to date is 875. There has been 13 deaths, 22 have claimed exemption as medical men; 18 have left the country; 71 have gone out of business, and 166 assistants have ceased to be connected with the College, not having paid the associate fee or any subscription by which they might retain their membership.

With respect to the members who qualified by passing the examination to the number of 59, only 24 continue their membership.

Your registrar is of the opinion from the above figures that there

must be a large number of druggists in the Province carrying on business in open violation of the Pharmacy Act.

I have to report the JOURNAL account as follows:

To subscriptions for Journal	\$7 00
Advertising situations wanted	1 25
Advertising	185 59
	<hr/>
	193 84
	<hr/>
By paid Treasurer	191 09
“ “	2 75
	<hr/>
	\$193 84

With respect to advertisements there is but a slight improvement.

All of which is respectfully submitted.

GEORGE HODGETTS,
Registrar.

Moved by Mr. Harvey, seconded by Mr. Parker, That the Registrar's report be received and adopted.—Carried.

The names of the members whose subscriptions were in arrear was ordered to be read.

A letter from Mr. Hearn was read: Mr. Saunders moved, seconded by Mr. Roberts, That the Registrar receive Mr. Hearn's fees without costs.—Carried.

Letters were read from Mr. Bond, to the President and Registrar, in reference to the registration of his son. Moved by Mr. Saunders, seconded by Mr. Gregory, That the action of the Registrar be sustained, and the Council refuse to grant a certificate.—Carried.

Letter from Mr. Salter of London, claiming exemption, was read, when the Council decided that he cannot be exempted.

The question as to whether every member of a firm must be registered, was brought under consideration on the reading of a letter from a firm in the country. To settle the question, it was moved by Mr. Yeomans, seconded by Mr. Harvey, That the Registrar be instructed to proceed forthwith to collect the amount due the College of Pharmacy from Messrs. E. Hooper & Co., Toronto, and all others in similar position in regard to this College.—Carried.

Moved by Mr. Yeomans, seconded by Mr. Roberts, and carried, That the thanks of the Board of Examiners be extended to Mr. Hugh Miller for his assistance afforded the examiners in taking the position made vacant by Mr. Shapter's retirement from the Board.

Moved by Mr. Saunders, seconded by Mr. Miller, That Mr.

Edmund Gregory be appointed as an examiner, in place of Mr. Shapter, resigned.—Carried.

Moved by Mr. Parker, seconded by Mr. Roberts, and carried, That the President, Messrs. Love, Miller, and Bickle be a committee to prepare amendments to the By-laws.

Mr. Jordan introduced the subject of pharmaceutical education; he considered something should be done in that direction.

Mr. Yeomans read extracts from the regulations of the Pharmaceutical Society of Great Britain bearing on the subject.

Moved by Mr. Saunders, seconded by Mr. Yeomans, That the regulations affecting winter classes, be extended to those conducted during the summer.—Carried.

Moved by Mr. Gregory, seconded by Mr. Roberts, That the sum of Fifty dollars, be placed at the disposal of the Editor of the PHARMACEUTICAL JOURNAL, to be expended in the giving of prizes to those young men who are engaged in the drug business, not being themselves proprietors, and not having passed their examination, who are the most successful in answering a set of educational questions to be prepared from month to month in the JOURNAL, said prizes to be awarded at the discretion of the Editor.—Carried.

Moved by Mr. Love, seconded by Mr. Parker, That the scrutineers be paid the same amount as at the previous election.—Carried.

Mr. Saunders suggested the advisability of a representative being appointed to the approaching meeting of the American Pharmaceutical Association, and that the President issue credentials to such of the members of the Council who should desire to attend the meeting.

Moved by Mr. Saunders, seconded by Mr. Yeomans, That the expenses of Mr. Gregory, delegate to the meeting of the American Pharmaceutical Association be paid.—Carried.

Moved by Mr. Yeomans, seconded by Mr. Harvey, That this College extends a cordial invitation to the American Pharmaceutical Association to hold their next annual convention in the City of Toronto.—Carried.

Mr. Lyman spoke as to the advisability of investing the surplus money in some way to pay a better percentage than we are getting from the bank.

Moved by Mr. Gregory, seconded by Mr. Jordan, That the President, Messrs. Bickle, Harvey, and Love, be appointed a Finance Committee, and empowered to invest the sum of three thousand dollars of the money now on hand in such a way as they may think best for the interests of the Society.—Carried.

Moved by Mr. Bickle, seconded by Mr. Saunders, That Mr. Harvey be appointed Auditor, in the place of Mr. Shapter, resigned.—Carried.

There being no other business, it was moved that the Council adjourn.

The Council adjourned at 5.15 p.m.

GEORGE HODGETTS,
Registrar.

Original and Selected Papers.

ON A METHOD OF REDUCING THE SALE OF PATENT MEDICINES.

BY E. GREGORY.

The enormous sale of so-called Patent Medicines is a fact well known to all members of the kindred professions of Medicine and Pharmacy, and is much deplored by every one who has at heart the best interests of mankind. The reason for such sales is difficult satisfactorily to assign, and still more difficult is it to propose a remedy that shall be at once effectual and popular. I propose to devote a little time, first, to a consideration of what I conceive to be the true reasons; and secondly, to propose a remedy which shall aim at lessening this evil.

First, as to the reason of such large sales. It has been the fashion to ascribe the whole success of patent medicines to the unscrupulous cupidity of makers and sellers of such articles, and to the verdant simplicity of buyers. But this, I think, is only part of the truth. Many makers and vendors of patent medicines are high-minded and honorable men, and many buyers and users are anything but simple. The makers claim that the intrinsic utility of the articles sold is the secret of their success; whilst their adversaries urge that impudence and lavish advertising are the main elements by which it is reached. I think both are partially right. There is a degree of utility in many such medicines; and no less is it true that advertising and unblushing lies have much to do with their sale. I have come to the conclusion that the popularity of quack medicines, and their consequent sale, proceeds from many causes, and not from one alone.

Many members of the farming community, and especially those who live in the newly-settled districts, have a long distance to go for medical aid. It may be six, ten, or even more hours before the doctor can arrive, and when he does come, it will be a serious draw upon their slender income to pay him his well-earned fee. These persons are good customers for patent medicines, for they have found by experience that a good rub with ready relief, or other preparation of that kind, will often relieve the oppressed chest, assist the sprained joint, or cut short the threatening croup. A timely dose, administered in a draught of water, frequently cures the commencing diarrhœa, or relieves the unpleasant cramp. We cannot blame these people for getting relief as cheaply and speedily as possible.

In our towns and cities, poverty is a great cause of demand for these preparations. Poor people find it much cheaper to buy patent medicines than to run to the doctor for every little ailment.

Another cause which increases the demand, is the great convenience afforded to the druggist in conducting his business. A customer comes in who is troubled with a cough or a rheumatic pain. The druggist hands him down a bottle of pectoral medicine for the one, or a stimulating application for the other, and the patient is as well served as if the druggist had spent half an hour in compounding a bottle especially for the case.

Another reason—and I think the most melancholy one of all—is, that there are always persons afflicted with incurable complaints, who are either doomed to life-long suffering, or are gradually but surely going down to the grave. These will not give up hope, but like drowning men, who catch at straws, fall a ready prey to the lying promises of the quack medicine men.

Of course, the energy and unscrupulousness of advertisers must count very largely as a cause of their success; but I think, without the other causes stated above, their frequent advertisements and big stories would have but a limited effect, for I have found that no medicine will sell for any length of time that has not in it some intrinsic excellence which makes it supply a public want. The most difficult part of the matter is to understand what inclines people to believe the astounding and improbable untruths that are published by some advertisers.

In the second place, I have to propose a remedy, and in this I feel somewhat diffident, as it is much easier to see an evil than to rectify it. However, I have thought the following plan might be serviceable:—I would have formulæ for a series of preparations intended to replace the various classes of patent medicines at present sold, compiled by the best skill that could be commanded, and inserted by a constitutional authority in our Pharmacopœia. These I would have put up in convenient packages, with a few simple and clear directions how to use them for the different classes of disease for which they were intended; stating also the symptoms of those diseases, and the stage at which they become serious, rendering it necessary to obtain medical aid. If a series of these preparations were placed in the market, I think, with the co-operation of respectable physicians and pharmacists, they would in time displace the ordinary quack medicines, at least with the more sensible portion of the community.

To crown all, I would, as soon as public sentiment could be educated up to the right point, get a law passed, prohibiting the sale of all proprietary medicines, unless the formulæ according to which they were prepared were in some way made public property, and compelling every man to have in his possession, for exhibition to any physician who might require it, the formula for the preparation of every medicine he may have on his shelves for sale. Most likely it might be some years before the latter half of my scheme could be successfully carried out; but I see no reason why the first half could not be attempted at once by any of the well established pharmaceutical bodies.

The first step to be taken, I think, should be the compilation of a set of the necessary formulæ, which might be revised from time to time at the usual decennial revisions of the respective pharmacopœias. The next should be the issue of a counter hand-bill, setting forth to the public the advantage and intentions of the scheme, and explaining how often they are gulled by the quack medicine men. This is probably all that could be done for some time.

The Pharmacopœia of the United States has already made a step in this direction by publishing a formula for a "Compound Cathartic Pill;" and I may mention that in my own trade, this preparation, under the name of "Anti-bilious Pills" has very largely supplied the place of many proprietary pills. My scheme to some

may perhaps seem a little visionary, but it proceeds on a sound principle, that of endeavoring to supply a public want by a better article than can now be found in the market. Hoping that it may be serviceable, I leave my suggestion to the consideration of those most interested.

Lindsay, Ontario.

SCHEME FOR THE EXAMINATION OF THE URINE.

(Continued from page 23.)

EXAMINATION FOR ALBUMEN.

This is the first and most important step in the chemical examination of the urine; the presence or absence of albumen must always be determined before proceeding to test for any other substance, and the search must never be omitted in the examination of any urine.

The best way of testing for albumen, is to fill a test tube about two-thirds full of the urine to be examined, and to heat the upper layer of the fluid over the flame of a lamp, the lower end of the tube being held between the thumb and forefinger of the observer. By employing this method, two strata of fluid are obtained for comparison.

The heat is applied until the upper portion of the urine begins to boil, for although albumen, when in large quantity, coagulates far below boiling, yet the presence of a small quantity gives no precipitate below 212° F. The heated stratum of fluid should now be carefully compared with the cool layer in the lower part, by holding the test tube against the light; if any cloudiness or opacity be seen, it must not at once be concluded that albumen is present; but a drop or two of dilute nitric acid should be allowed to flow gently down the side into the urine; the cloud is permanent, if due to albumen; but disappears immediately if due to the earthy phosphates. This addition of acid after boiling should never be omitted, since the most practised eye cannot distinguish, by appearance only, between the cloud produced by albumen, and the phosphate of lime.

Cautions. (a.) The addition of the nitric acid not unfrequently carries down some of the coagulated albumen into the unboiled layer of urine, and thus causes the cloud to be less thick than before; such an appearance is never produced by phosphates; when they are the cause of the turbidity, the urine becomes absolutely clear, as before boiling; slight brown coloration only, occurring from the addition of the nitric acid.

(b.) Should the urine be turbid from the presence of urates, it quickly becomes clear on the application of slight heat; and as it is desirable before testing for albumen to have a clear solution, the whole of the test tube should be passed two or three times through the flame of the lamp, until the urates are dissolved; the upper stratum of the urine should then be boiled, and compared with the lower, as above.

(c.) If the urine be neutral or alkaline at the time of testing, the albumen will not be precipitated by heat; the acid reaction must therefore be restored by a few drops of weak acetic acid, and the urine then boiled, and nitric acid added. If alkaline urine be boiled without previous acidulations, a deposit of phosphate of lime is almost sure to occur, which is immediately dissolved on the addition of an acid.

If nitric acid be added, before boiling, to an albuminous urine, the albumen will often not be precipitated on the application of heat. Care must therefore be taken that it is acetic acid which is used in the preparatory acidification of the urine.

(d.) If the urine be permanently turbid, from any cause, and it is desired to know accurately whether albumen be present, the urine must be filtered before boiling; in this way very minute quantities may be discovered.

The method of testing for albumen, proposed by Heller, which consists of pouring nitric acid into a test tube, and allowing the urine to flow down upon the acid, so that the two fluids touch, but do not mix, and observing the layer of coagulated albumen thus produced, is open to many notorious fallacies, and does not detect minute quantities; it cannot, therefore, be recommended.

A rough way of estimating the amount of albumen present in the urine, is to pour some of the urine into a test tube, until it is about half full, and to boil the whole of the urine in the tube, until the albumen is completely coagulated. One or two drops of nitric acid are then added, and the test tube is set aside for 24 hours; at the end of that time, the proportion of the coagulated albumen, which has collected at the bottom of the tube, to the rest of the fluid, is noticed; if the albumen occupy one-third of the height of the fluid, there is said to be one-third of albumen in the urine; or one-sixth, or one-eighth, as may be. If, however, at the end of 24 hours scarcely any albumen has collected at the bottom, there is said to be a trace. If the urates have been deposited, the urine must be filtered before boiling, or a considerable error will creep in, by their increasing the apparent amount of albumen.*

Clinical Import.—The presence of albumen in the urine is an important objective sign of disease.

* The plan of estimating the albumen, by the difference in the specific gravity, before and after coagulation, is not yet based upon sufficiently numerous observations, to be trustworthy.

Any state, which produces a mechanical impediment to the return of blood from the kidneys, will be accompanied by albumen to the urine; and the albumen will be persistent so long as the congestion of the kidney continues; the longer the albumen remains in the urine, the greater danger is there, of permanent textural injury to the kidney. In many acute febrile diseases, albumen is frequently present, which, as a rule disappears with the termination of the illness; but, if persistent, it affords evidence of organic disease of the kidney. In a chronic, non-febrile disorder, without obvious impediment to the return of blood from the kidneys to the heart, the discovery of albumen in a clear urine would indicate structural change in the kidney.

The search for renal casts must always follow the detection of albumen in the urine. The discovery of these structures renders it certain that the albumen, or, at least, part of it, is derived from the kidney.

A frequent cause of the presence of albumen is pus, in proportion to its quantity; in the urine of a woman, a small quantity of albumen is frequently due to leucorrhæal discharge, which is composed chiefly of pus. Gleet, in the male, similarly causes albumen to be present in the urine.

The presence of blood in the urine necessitates the presence of albumen as well from the escape of the serum through the divided vessels.

EXAMINATION FOR SUGAR.

If the specific gravity rise above 1,030, sugar may be suspected, and should be looked for.

Many methods of testing for sugar have been proposed; but only the most prominent and trustworthy will be mentioned, although it must be confessed that a rapid, and yet trustworthy test, suited to practitioners, is still a desideratum.

Moore's Test.—Equal parts of urine, and liquor potassæ or liquor sodæ, are poured into a test tube, and the upper stratum of this mixture is heated to boiling in the manner described in the section on examination for albumen. The heated portion becomes brown-red, dark-brown, or black, according to the quantity of sugar present. The least alteration of color may be perceived by comparing the upper and the lower portions of the liquid.

Cautions. (a.) High colored urines, and urines containing excess of phosphates, darken perceptibly on boiling with caustic alkalis, and, if the urine be albuminous urine, the color will be greatly deepened, though no sugar be present. Before, therefore, applying Moore's test to an albuminous urine, the albumen must be removed by filtration after boiling with a drop or two of acetic acid.

(b.) It has been noticed that liquor potassæ which has been kept for a few weeks only in white glass bottles, takes up lead from

the glass, and that a black precipitate of sulphide of lead is formed, when the alkali is boiled with certain urines which contain much sulphur. Care must be therefore, taken, that the liquor potassæ is free from lead.

The value of Moore's test is chiefly negative; if the urine on boiling with liquor potassæ does not perceptibly darken, it may be assumed to be free from a hurtful quantity of sugar; if, however, darkening occur, a further observation must be made with the tests, described below.

The *Copper Test* depends on the property which grape sugar possesses, of reducing the higher oxide of copper to a suboxide. There are two methods of conducting this reaction, identical in principle, named respectively Trommer's Test, and Fehling's Test.

Trommer's Test.—About a drachm of the suspected urine is poured into a test tube, and liquor potassæ, or liquor sodæ added in about half the quantity, a weak solution of sulphate of copper (about 19 grs. to the fluid-ounce) is dropped into the mixture. The precipitate which first forms is redissolved on shaking the test tube, and the copper solution should be carefully added, agitating the test tube after each drop has fallen into the mixture, so long as the precipitate is easily redissolved, when the solution will have acquired a beautiful blue or green color, but should be quite clear, and free from any precipitate; the contents of the test tube must next be heated to boiling, when, if sugar be present, an orange-red precipitate is first thrown down which, after some time, becomes reddish brown. The precipitate consists of the suboxide of copper.

Since uric acid and mucus will also reduce copper when they are boiled with its salts, a similar solution should be set aside in the cold; and if after the lapse of 24 hours, the reddish precipitate has fallen, sugar is undoubtedly present.

Cautions.—Much difficulty is often at first experienced in arranging the proper proportion between the copper solution, and the liquor potassæ. If too much copper be added, which is the most common mistake, the potash cannot redissolve the precipitate first formed, which may then be mistaken for a precipitate of suboxide. The best rule to bear in mind is—always to have an excess of potash present, and never to operate except with a clear solution.

Fehling's Test.—In consequence of the difficulty of properly adjusting the quantity of alkali and copper in Trommer's test, many practitioners prefer to use a solution in which the copper and alkali are present in the exact proportion necessary. This solution may be prepared in the following way: 65½ grains of crystallized potassium-tartrate of soda are dissolved in about 5 fluid-ounces of a solution of caustic potash, sp. gr. 1.12. Into this alkaline solution is poured a fluid prepared by dissolving 133½ grains of sulphate of copper in 10 fluid-drachms of water. The solution is exceedingly apt to decompose, and must always be preserved in stoppered bottles, and in

a cool place. It is very often more convenient not to mix the alkali and copper until the solution is wanted for use. In this case a fluid-drachm of the sulphate of copper solution may be added to half a fluid-ounce of the alkaline solution prepared as above.

About a couple of drachms of the the test-solution are poured into an ordinary test-tube, and the fluid boiled over a lamp. If no deposit occur, the solution may be used for analysis; but if a red precipitate be thrown down, the liquid has decomposed, and a fresh supply must be obtained. While the solution is boiling in the test-tube, the urine must be added to it drop by drop, and the effect watched. A few drops of urine which contains a large percentage of sugar will at once give a precipitate of yellow or red suboxide; but if no precipitate occur, the urine should be added to the fluid, drop by drop, any deposit being carefully looked for, until a quantity equal to that of the Fehling's solution employed, has been added. If no precipitate be found after allowing the test tube to remain at rest for one hour, the urine may be considered free from sugar.

Cautions. (a) The test solution should never be employed without previous boiling for a few seconds; the tartrate being exceedingly apt to decompose, and the solution then reduces copper as effectually as would grape sugar.

(b.) The quantity of urine used in the test should never be greater than the quantity of test solution employed.

(c.) After adding the urine in volume equal to the Fehling's solution, the boiling of the mixture must not be continued, as other substances, besides sugar, present in the urine, will reduce copper at a high temperature.

Fermentation Test.—A few grains of German yeast are put into a test-tube, which must then be filled with urine, and inverted in a shallow dish already containing a little of the urine, or better still, quicksilver, and set aside in a warm place, as a mantle-piece, or a hob. A similar test-tube must be filled with water, a few grains of yeast added, and the whole subjected to the same conditions. If sugar be present, the formation of carbonic acid will, at the end of 24 hours, have driven nearly all the urine out of the test tube; a few bubbles only will have appeared in that containing the water. To prove that this gas is carbonic acid, some caustic potash or soda must be introduced into the test tube, when the gas will be quickly absorbed, and the urine again rise in the tube.

Estimation by loss of density after fermentation.—Dr. Roberts has found that after fermentation, "the number of degrees of 'density lost' indicated as many grains of sugar per fluid ounce," and he proposes to estimate by this means the amount of sugar present.

About 4 fluid-ounces of the urine are placed in a 12 ounce bottle with a piece of German yeast of the size of a chestnut. The bottle is then set aside, very lightly covered, in a warm

place, such as the mantel-piece, or hob, and by its side, a bottle filled with the same urine, but without any yeast, and *tightly corked*. In 24 hours the fermentation is almost finished; the fermented urine is poured into a urine glass, and the specific gravity taken with the urinometer; the specific gravity of the unfermented urine is also taken, and the specific gravity of the fermented is subtracted from the specific gravity of the unfermented, the remainder giving the number of grains of sugar contained in a fluid ounce; for example, if the specific gravity of the unfermented be 1,040, and that of the fermented 1,010, the number of grains of sugar in a fluid ounce will be 30.

The researches of Bruhcke have proved that healthy man excretes daily through the kidneys about 15 grains of sugar.

Clinical Import.—If the foregoing test announces the presence of sugar, in considerable quantity, whenever the urine is examined, diabetes mellitus may be inferred to exist. But should the presence of sugar in the urine be variable, and its amount small, the fact is not of any great diagnostic, or therapeutic importance.

Some writers have asserted that sugar is present in the urine in all cases of impediment to the respiration, and in old persons; this statement, however, must be received with the greatest caution, since it has been contradicted by many excellent observers.

RESINA PODOPHYLLI.*

BY FREDERICK B. POWER, G.P.

Eight troy ounces of powdered podophyllum were treated as per formula for resina podophylli, U. S. P., 1870, until the alcoholic percolate ceased to cause a precipitate when dropped into water, and passed perfectly colorless; the residue contained in the percolator was dried and found to weigh seven troy ounces and two drachms, the amount of moisture in the powder having been previously ascertained and found to be 5 per cent., leaving the amount of soluble matter abstracted by the alcoholic menstrum about 4 per cent.

The precipitated resin was allowed to drain, and washed with successive portions of cold water until freed from acid, and the washings upon evaporation left no residue; the yield of resin thus obtained after careful drying was two drachms or three per cent.; it was of a light yellowish brown color, and presented a marked contrast with some of the commercial specimens examined. The percentage of resin seeming small, a larger quantity of selected rhizomes was operated upon, but the percentage in both instances was the same; the rhizomes, however, had been previously deprived of the

* From the American Journal of Pharmacy.

radicles, and it being known that these are at least quite as rich in resin, the operation might have led to different results had they not been detached.

The mother liquor remaining after the precipitation of the resin, together with the washings therefrom, was concentrated by evaporation, when a portion of resinous matter separated, which was found to be entirely soluble in alcohol, being precipitated by water; but by treatment with ether, was divided into two portions, soluble and insoluble, therein maintaining about the same degree of solubility as the precipitated resin. The exact amount of this substance was not ascertained, but must be at least ten per cent of that originally obtained by precipitation. The portion of alcoholic resin insoluble in ether thus separated by the concentration of the mother liquor, was taken in doses of five grains, producing only a slight cathartic action, attended by no unpleasant effects, while the ethereal resin taken in the same amount proved to be an active emeto-cathartic, very violent in its action, producing vomiting and purging, attended with severe griping, sense of dryness in the throat and dilation of the pupils, the effects lasting for about twenty-four hours; the latter effect I have never seen recorded, and may possibly only be produced by an excessive dose; but it was plainly marked in this instance, affording conclusive evidence that the substance thus separated is identical with the precipitated resin, at the same time establishing the fact that *the so-called resin of podophyllum is not a true resin*, which term, as applied by the older chemists in its widest sense, distinguishes those substances insoluble in water, generally soluble in alcohol, for the most part uncrystallizable, and melting when warmed; it might with some degree of propriety be called a resinoid, from its resemblance to a resin, but this in turn is so vague in its meaning, that the nomenclature adopted by our Pharmacopœia may be more conveniently used until its true composition is more definitely determined.

The concentrated mother liquor when filtered was of a yellowish red color, possessing a slight bitter taste and strong acid reaction; no precipitate was produced by iodohydrargyrate of potassium, tannic acid, mercuric chloride or tincture of iodine, indicating the absence of any organic alkali; the statement of berberina having been separated from this liquid must have been applied with reference to the former officinal resin, precipitated without the agency of hydrochloric acid, as in the present process it was found to have been entirely precipitated.

The liquid, however, when quite dilute, frothed strongly upon agitation; the color was rendered much brighter upon the addition of alkalies. Ferric chloride colored it olive green, baryta water produced a dense precipitate, but it was not precipitated by a solution of gelatin; when mixed with an anhydrous alcohol, a perfect solution was formed, which however did not froth; added to an alkaline solution of cupric oxide, it became of a bluish green color,

forming upon standing, a slight flocculent precipitate, which upon boiling turned to reddish brown. The liquid, when freed as much as possible of coloring matter by ether, was precipitated by barium hydrate, the precipitate collected and washed with a solution of the same, dissolved in a small portion of water and the barium removed by CO_2 , the resulting solution upon evaporation possessed the peculiar odor of saponin, tending to convey the statement of Professor Mayer as to the presence of this substance, to which is no doubt partially due the extremely irritating effect upon the eyes and skin, experienced by those engaged in the manufacture of the resin on a large scale.

The residue contained in the percolator, after exhaustion by alcohol, was macerated with cold water for five days, filtered and evaporated to the consistence of an extract, possessing a sweetish odor, in color and taste closely resembling the English extract of taraxacum. This was taken in doses of from ten to twenty grains, producing only slightly laxative but decided tonic effects. Although proving that the rhizome after exhaustion by alcohol is almost entirely destitute of cathartic properties, yet the extract thus obtained may, upon trial, merit some application.

This extract was again liquified and treated with purified animal charcoal, which nearly deprived it of color; the solution gave a dense precipitate upon the addition of alcohol, which, when separated, by treatment with ferric chloride and solution of borax, was found to consist principally of gum. The solution, after the removal of the gum, contained extractive matter with some sugar; the latter, after separation by ether, was indicated by Trommer's test, and upon evaporating the solution and heating the odor of caramel was evolved. The charcoal was then exhausted with boiling alcohol; this liquid, however, upon evaporation, left but a slight amorphous residue.

Upon the officinal resin, as previously obtained, sulphuric and hydrochloric acids produce no change of color in the cold; nitric acid colors it deep yellowish brown; when heated with concentrated sulphuric acid it is partially dissolved, forming at first a yellowish solution, which soon changes to a deep blood red, and upon dilution with water, separates flocks of a brownish red color. The portion undissolved by the concentrated acid is dissolved by alcohol with the formation of the same blood red color. The resin, when boiled with diluted sulphuric acid, is also partially dissolved, forming a red solution, though more slowly, and the filtered liquid is not capable of reducing cupric oxide in alkaline solution.

The resin fuses at 220°F. , which was ascertained by placing a portion upon the surface of mercury, with a thermometer immersed in the liquid, and applying a carefully regulated heat; when heated on platinum foil it melts to a brownish liquid, and upon increasing the heat, takes fire and burns with a bright sooty flame with considerable empyreuma, leaving light porous charcoal. Two grams

of the resin were boiled with a fluid ounce of water, imparting thereto a light yellow color, while the resin ran together, forming a soft brownish mass, becoming brittle on cooling. The liquid was filtered while hot, by means of an arrangement for hot filtration, it was transparent while hot, but became turbid upon cooling, and upon evaporation of the liquid, separated resinous flocks. Upon weighing the resin after this treatment it was found to have lost 0.03 grams. The ethereal resin yielded similar results.

The resin is entirely soluble in amylic and methylic alcohol, acetone, officinal solution of potassa, forming, when diluted, a bright yellow solution; it is also soluble in carbolic acid, with which it seems to combine, depositing upon evaporation, reddish yellow crystals, but it is insoluble in turpentine.

Supported by a series of experiments made with the alcoholic and ethereal portions of this resin, I can confirm the statements that have been previously made, that while the portion of resin insoluble in ether is not without some activity, the ethereal resin is very much more active, and is to be preferred for medicinal use.

By the following tabular statement, the relative value of the officinal resin, as compared with some commercial varieties, will be seen based upon the relative activity of the ethereal and alcoholic resin; all were found to be free from admixture, and, with one exception, were found to be superior to many specimens of western manufacture; the difference in color is probably due to various modifications in the process of preparation, by the application of heat in the separation of the resin, which no longer becomes necessary with the use of hydrochloric acid, or by the addition of a greater or less amount of muriate of berberina.

No. 1. U. S. Pharmacopœia, 1870: light yellowish brown. No. 2. B.A. Hance, Philadelphia: bright yellow. No. 3. Manufacturer unknown: dark brown. No. 4. B. Keith & Co., N. Y.: yellowish brown. No. 5. Charles Ellis, Son & Co., Philadelphia: bright yellow. No. 6. Tilden & Co., New Lebanon, N. Y.: bright yellow.

Action of Solvents upon five grains of Resin.

	1	2	3	4	5	6
Soluble in Turpentine ...	Insoluble	Insoluble	Insoluble	Insoluble	Insoluble	Insoluble
“ Ether	4.6	3.95	2.95	3.55	4.2	4.3
“ Chloroform ...	0.02	0.01	0.01	0.015	0.005	0.02
“ Carb. Bisulph.	—	—	—	—	—	—
“ Petrol. Benzin.	—	—	—	—	—	—
“ Officinal solution Potassa re-precipitated by HCl in excess	0.17	0.77	1.65	1.2	0.52	0.51
Loss	0.21	0.27	0.39	0.235	0.275	0.17
	5	5	5	5	5	5

Solubility of two grams of Ethereal Resin.

	1	2	3	4	5	6
Soluble in Chloroform.....	1'4	1'25	1'6	1'32	1'15	1'2
“ Carbon Bisulphide..	—	—	—	—	—	—
“ Petroleum Benzin...	—	—	—	—	—	—
“ Ether or Alcohol ...	0'45	0'55	0'3	0'45	0'70	0'6
Loss	0'15	0'20	0'1	0'23	0'15	0'2
	2	2	2	2	2	2

Some experiments were made with a view of isolating the white alkaloid, stated some time since by Professor Mayer to be contained in that portion of the former officinal resin which is insoluble in ether, but by the present process, should its hydrochlorate be soluble in water, it should have been present in the mother liquor, remaining after the precipitation of the resin, but was not there detected.

TESTING FRENCH RED WINES FOR ARTIFICIAL COLORING MATTER.

The red wines of France are distinguished by a red color, which in thin layers looks brown. When diluted with 50 parts of water the color is scarcely perceptible, while artificially-colored wines, even when thus diluted, still have quite an intense color, which is bluish red. In a series of comparative experiments with reagents I diluted the wine with 20 parts of water, and obtained the following results :

Reagent.	Genuine Wine.	Colored Wine.
Acetate of lead solution, 1 to 10.....	Color disappeared, liquid muddy and dirty. On warming, little silver gray flakes with reddish tinge.	Large, cheesy flakes of dark purple color; on warming more appear'd
Sulphate of Copper solution 1 to 10.....	Color disappeared almost entirely, without any cloudy appearance.	Purple color, slightly cloudy.
Baryta water, 1 to 10.....	Lost color almost wholly; slightly turbid.	Purple to blue green, and turbid.

In order to make the tests quickly and conveniently, I saturated filter paper with the three reagents and dried it. I then placed a single drop of the wine on the paper, and the result was surprisingly distinct and favorable. Genuine wine left the paper almost colorless, while the artificial made violet or blue spots. I will

also add that the lead paper worked even when old and decomposed. The most important reaction was that with baryta water."

Dr. Jacobsen, the editor of the *Industrie Blatter*—from which we translate the above article by Eugene Dieterich—adds the remark that the amount of natural coloring matter in red wine varies with the season, the soil, &c., and hence Dieterich's test by dilution is of little value. He also states that wine growers themselves sometimes add coloring matter, and thus we can have both natural and artificial coloring in the same wine.

Le Temps gives another test, that of dropping a piece of caustic potash into a small quantity of the wine. If no deposit is formed, and the wine assumes a greenish tint, it has not been artificially colored. If however, a violet deposit appears, elder or mulberries have been used. If the deposit be red, the adulteration is sugar beet; if violet red, campeachy wood; if violet blue, privet berries; if clear blue, coloring matter from sun-flowers.—*Four. of App. Chem.*

PILL COATING.*

BY J. A. COPE.

The introduction of pills covered with a tasteless kind of enamel, which is perfectly soluble and harmless, is certainly a step towards elegant pharmacy, and has many great advantages over the old method of dusting pills, to prevent their sticking together and to mask the taste. The manufacture of pearl-coated pills has been carried on extensively by several firms during the last few years, and there appears to be a growing demand for the product. The bulk of these pills reach the public through medical men who send out their own medicine, and who, no doubt, are glad to be relieved of the troublesome business of pill-making. And if medical men educate their patients to prefer their pills made tasteless and as attractive as possible, it will not do for pharmacists to be behind the times. They must be able to compete on the small scale with those firms who make it their business.

Medical men are not to be questioned as to the remedies they prescribe, and few pharmacists would care to acknowledge "they did not make their own pills, but obtained them from a reliable source, and believed them to be of the purest ingredients." And it is desirable that even stock pills should be prepared on the premises. The secret of pill-coating does not appear to be in what the coating

* From the *Pharmaceutical Journal and Transactions*.

consists of, which, in most cases, is powdered French chalk, but in the way it is put on.

The following simple method I have found to give very satisfactory results, and produce pills having an elegant appearance which will bear comparison with those now in the market.

The ingredients used are powdered French chalk, and thin mucilage of gum arabic—one part mucilage of the Pharmacopœia and two parts distilled water, answers very well. The apparatus used may be found in any pharmacy, namely, a small evaporating basin, having a flat bottom, capacity eight or ten ounces, two covered gallipots, one holding four or six ounces, the other about double that size, and a pill-tray.

The pills to be coated should be of good consistence, not too hard, and rolled perfectly round, to ensure their being a good shape when finished. It is well to use French chalk in the place of starch-powder when rolling them out.

Into the small gallipot put some of the chalk, and into the basin put as much mucilage as may be necessary to thoroughly moisten the quantity of pills to be coated (from six to six dozen pills may be done conveniently at one operation.) Next put in the pills and shake them round horizontally until sufficiently moistened, then turn them into the pot containing the chalk, and shake them round so as to get well covered with powder; turn them on to the pill-tray and allow to remain a short time, and lastly place them in the empty gallipot and shake round, so as to polish them and shake off the superfluous powder.

To coat pills by this method occupies about the same time as to silver them, but for stock pills which may have to be kept some time it is better to repeat this process, taking care to have the first coating dry before a second is put on. This will be found to give them a firm pearl-like exterior, which preserves the pills of good shape and consistence, and prevents any change that would be likely to occur through lengthened exposure to the atmosphere.

A few trials will suggest the best way of manipulating, and enable anyone to produce a fair sample of coated pills.

Since the above was put into type, we have been favoured with a note on Pill Coating by Mr. John Whitfield, F C.S., of Scarborough. The details of the manipulation are essentially the same as those described by Mr. Cope; but as the result of experiments in this direction, Mr. Whitfield uses a varnish made as follows:—

Common Amber Resin.....	1 to 2 drachms.
Spirit of turpentine.....	1 drachm.
Oil of Geranium.....	20 minims.
Absolute alcohol.....	To make 1 ounce.

The oil of geranium may be omitted, or substituted by other

essential oils at discretion. The pills should be made as hard as possible.

Mr. Whitfield remarks that some pills take the coating at once, others not so readily. In the latter case the powder should be sifted off, and the varnish applied again exactly as at first. A second coat seldom fails, and it increases the bulk of the pills but slightly. He is of opinion that there can be no objection to the resinous varnish on the ground of insolubility, as he finds when the coated pills are placed in water the covering cracks and exposes the pill more rapidly than sugar coating.

Pills containing much essential oil are not well adapted for coating.

ON THE EXAMINATION OF OIL OF PEPPERMINT.*

A valuable paper has been published by Prof. Fluckiger, in "Pharm. Handelsblatt," April 1st. The author calls attention to the fact that the optical behavior is no reliable criterion for the purity of volatile oils, the rotatory power of their proximate constituents being influenced and often reversed by various agents. Even the color reactions are more or less dependent upon the relative proportion of these compounds; but some are so characteristic that they deserve attention. Thus oil of peppermint is colored beautifully green or blue by a very small quantity of nitric acid, and it acquires at the same time a fluorescence, appearing copper-red by reflected light.*

The influence of chloral upon oil of peppermint has been noticed by Jehn.† The author found that his samples of the oil were colored but slightly brown or yellow by chloral hydrate, even after the application of heat; but anhydrous chloral alters the oil gradually at ordinary temperature. Of two samples which showed exactly the same behavior to nitric acid, one acquired, with one-fifth volume of anhydrous chloral, gradually a brown color, while the other turned green, the color being always purer and richer after a contact of some hours or days in the cold.

Concentrated sulphuric acid or bromine also show peculiar colorations; the reaction should be moderated by the addition of carbon bisulphide. Very remarkable differences are observed on agitating different samples of the oil with a saturated solution of bisulphite of sodium; one was colored green, then blue; the other rose-red, violet, &c.

The author suggests to those having authentic samples of oil of peppermint to endeavor to ascertain the cause of this different behavior.

*From the American Journal of Pharmacy.

†See American Journal of Pharmacy, 1871, p. 164.

† Ibid., 1873, p. 447.

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

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

*We have been requested to reproduce this table, which originally appeared in one of the earlier numbers of the old series of the "Journal."

CHAMOIS.

The chamois of commerce is a variety of soft, pliable leather, obtained by tanning the skin of the animal of the same name belonging to the antelope species. The leather is used extensively for burnishing metals, jewelry, glass, precious stones, silverware, fine woods, etc., and also in some cases for linings, and as a filling in or pack for surgical instruments. A great deal of the leather sold in the shops is nothing but finely-tanned sheep skin; but this is not nearly so soft or strong as the genuine article, although it is held at the extreme prices asked for the imported and real chamois leather. The animal known as the chamois chiefly inhabits the Alps and the Pyrenees mountains in Europe, being found in flocks of from half a dozen up to a hundred in number. It is of an exceedingly wild nature and never has been domesticated. Its size is about that of the domestic goat, of a dusky yellow-brown color, with the cheeks, throat, and belly of yellowish-white. It is very agile in its movements, and when being pursued bounds over the ground with great rapidity. The horns are black, slender, upright, hooked backward at their tips, and about eight inches in height, and are very graceful both in their proportions and appearance. At the base of each there is a good-sized orifice in the skin, of which the use is unknown. Like all animals of the antelope species, the chamois has sparkling and beautiful eyes. It feeds only on the sweetest and finest herbage of the mountains, and its flesh is of a very delicate flavor, and is highly prized.

Heat is very disagreeable to the chamois, and they are very seldom seen in summer, except in excavations in the rocks, surrounded by fragments of unmelted ice, or under the shade of overhanging precipices which face the north and effectually keep off the rays of the sun. They drink but sparingly, and chew the cud in the intervals of feeding. When in rapid flight from any cause they make the most wonderful leaps, and frequently throw themselves across a chasm and down a perpendicular wall of rock twenty or more feet in height. Thousands of these animals are killed annually, both for the sake of their flesh and their skins; but such is the demand for the leather in civilized countries that immense quantities of inferior goods are sold to consumers.—*Druggists' Journal*.

Editorial.

THE EXAMINATIONS.

The Midsummer Examinations were held, as usual, on the day preceding the Council meeting. The candidates numbered twenty-two, or ten over the number examined at the corresponding period of last year. Barely two-thirds of these were successful in passing, as nine were rejected. From this it would, at first sight, appear that the degree of proficiency shown was below former years, as the proportion of successful candidates has usually been three-fourths or four-fifths. We are, however, of the opinion that the proficiency evinced was fully up to the standard, and that the fact of so few passing is to be accounted for by the character of the examination, which was altogether more severe than usual. This is especially true of the department of Botany. Heretofore, very little importance has been attached to this branch, and the questions given have been of the most simple kind; but, on this occasion, they were of a more thorough and practical nature, though still far from difficult to answer, even by those of the most superficial acquirements. Although botany may be regarded as the least practical branch of examination, and of consequently little utility in professional life, yet it forms an essential feature in pharmaceutical education, and, as such, its importance must be maintained. We think that the standard will still bear raising, and intending candidates will do well to remember that a mere smattering of knowledge will not enable them to pass the ordeal. An acquaintance with structural and physiological botany, and with the characteristics of the natural orders—more especially of those orders embracing medicinal plants—is not at all difficult to acquire, and is the least the board of examiners can be expected to be satisfied with.

The highest number of marks was obtained by Mr. C. Sheppard, of Toronto, who carried off the first prize. Mr. R. Edwards, of Brantford, was only a few marks behind his more successful rival, and succeeded in taking the second prize. Both these gentlemen were fully up to the average of prizemen of former years, and showed a degree of proficiency highly creditable to their knowledge and perseverance.

We append, as usual, a copy of the questions in the various branches of examination :

PHARMACY.

Examiner—MR. SHUTTLEWORTH.

1. State the quantity, troy weight, of aconite root required to prepare one gallon, wine measure, of *Tinct. Aconiti*, B. P.
2. A vessel is capable of holding exactly ten ounces by weight of water, at a temperature of 15.5° C. How much *Æther Purus*, *Liquor Potassæ*, *Glycerin*, *Syrupus*, or *Chloroform* might be put into it?
3. Give formulæ for the preparation of *Tinctura Digitalis*; *Gentianæ co.*; *Iodi*; *Opii*: and *Rhei*.
4. Name the liquids employed in exhausting the solid materials used in preparing the following extracts: *Aloes Socot.*, *Hyoscyami*, *Nucis Vomicae*, *Opii*, *Filicis Liquidum*.
5. How is *Emp. Plumbi* prepared? and of what officinal plasters is it a constituent?
6. What are the principal impurities of *Spiritus Ætheris Nitrosi*, *Spiritus Rectificatus*, *Hydrargyri Iodidum Viride*, *Ferri Carbonas Saccharata*, *Acid. Phosphoricum Dilutum*?
7. Describe the mode of preparing *Liquor Arsenicalis*; state the dose; and give the quantity of arsenious acid contained in each fluid ounce.
8. What are the advantages of percolation over maceration? In what cases is percolation inapplicable? What is repercolation? How do the officinal directions regarding percolation differ from those of the U. S. P.?
9. State the general principles of volumetric analysis; and describe the apparatus necessary to follow out the directions of the Pharmacopœia.
10. Recognize specimens and answer verbal questions regarding them.

MATERIA MEDICA.

Examiner—MR. YEOMANS.

1. Santonin. Give officinal name of plant from which derived; its dose and medical use.
2. Iodine. How is it procured? Name the principal preparations into which it enters, with medical use and dose of each.
3. How would you distinguish Morphia from Quinia? *Pulv. Antim. et Potas. Tart.* from *Pulv. Antimonialis*? Give dose of each.
4. Give six leading nervous sedatives, with the form in which administered, and dose.
5. Give officinal name of plant from which Camphor is derived; manner of collection; medical properties, and dose.

6. Give officinal names of the following preparations, with dose of each: *Paregoric, Elixir Pro., Spiritus Mindereri, Hoffman's Anodyne, Ethiop's Mineral, Fleming's Tincture, Corrosive Sublimite, White Precipitate, Fowler's Solution.*
7. *Ipecacuanha.* Name all its preparations, giving action and dose of each.
8. Name twelve important tinctures of the Pharmacopœia, giving the use and dose of each.
9. Give the names of antidotes for poisoning by *Acid. Arsenious, Opium, Acid. Oxalic, Phosphorus, Corrosive Sublimite, and Aconite.*
10. *Atropa Belladonna.* Give the medical properties and use of three of its preparations.

CHEMISTRY.

Examiner—MR. SHUTTLEWORTH.

1. Define the terms specific gravity, specific heat, latent heat, isomorphism, isomerism.
2. Give the names of the compounds indicated by the following formulæ:—

$$\text{Hg Cl}_2 : \text{Na}_2 \text{CO}_3, 10\text{H}_2 \text{O} : \text{NH}_4 \text{Al} (\text{SO}_4)_2, 12 \text{H}_2 \text{O} : \text{C}_2 \text{H}_5 \text{HO}$$

$$\text{C}_2 \text{H}_6 \text{O}.$$
3. Give simple chemical tests for acetic, carbonic, hydrocyanic, oxalic, and phosphoric acids.
4. Name the source of phosphorus; state some of its leading properties; mention some of its solvents; what body is formed when phosphorus is heated to a temperature of 450° F., out of contact with air? How is *Acid. phosphoricum dilutum* prepared?
5. How would you distinguish, by chemical tests, the iodide, bromide, and chloride of potassium?
6. How is nitric acid prepared? what is its composition? what forms of nitric acid are officinal in the B. P.? give their specific gravities, and percentages of real acid.
7. *Liquor Bismuthi* frequently contains copper, silver, and arsenic. How would you detect these impurities?
8. What alkaloid is contained in the following compound: $(\text{C}_{20}\text{H}_{14}\text{N}_2\text{O}_2)_2 \text{H}_2 \text{SO}_4 \cdot 7\text{H}_2 \text{O}$; and what would be the easiest method of separating it?
9. Explain, by formula, the difference between *Ferri Sulphas* and *Ferri Sulphas Granulata*.
10. Recognize specimens and answer verbal questions regarding them.

4. Write a prescription in the usual manner for a four ounce mixture, each dose to contain $1\frac{1}{2}$ grains of quinine, 10 minims Tr. Iron and 15 minims Tr. Columbo, and water to make up the required quantity. Dose,—One tablespoonful three times a day.
5. Write a prescription in the usual manner for an eight ounce mixture, each dose to contain 5 minims Tr. Opii, 10 minims Tr. Iron, one drachm Tr. Card. Co., and water to make up the required quantity, and state the order of mixing the ingredients. Dose, two teaspoonfuls in water before eating.
6. Give approximate measurement of a teacup, a wineglass, tablespoon and teaspoon.
7. Give full Latin and English translation for the following abbreviations: aa., ad. libit., C., coch. mag., coch. med., coch. min., comp. dil., F. S. A., gtt., mitt., O., omn. hor., P. R. N., Pug., Q. S., Sig., Si. op. sit., S. V. R., Troc., Tr.

TO APPRENTICES AND STUDENTS.

Some four or five years ago we commenced the publication of a series of questions in pharmacy and the collateral branches of science which were intended to stimulate our students in the pursuit of pharmaceutical knowledge. These questions were continued for a considerable time, and eight or ten competitors contended zealously for the first place. But few prizes were offered, and at last the meagre appropriation, which had been made for the purpose ceased, and, in consequence, the questions were discontinued. The only encouragement which we received, until lately, was that of noticing that at nearly every examination held under the auspices of the College, these competitors headed the list, and one of them obtained the highest number of marks that has been obtained; and which, in all probability, will never be exceeded.

At the last meeting of the Council we were glad to notice that this subject was referred to. Several members were pleased to speak highly of the benefit which students had derived from this system of instruction, and it was recommended that the course be recommenced.

On motion of Mr. Gregory, seconded by Mr. Roberts, it was resolved, "That the sum of fifty dollars be placed at the disposal of the Editor of the PHARMACEUTICAL JOURNAL, to be expended in the giving of prizes to those young men who are engaged in the drug

business, not being themselves proprietors, and not having passed their examination, who are the most successful in answering a set of educational questions to be prepared from month to month in the JOURNAL, said prizes to be awarded at the discretion of the Editor."

In the present number we therefore publish the first of a new series of questions. The conditions of competition will also be found in the "Students' Department," and we hope to see a large number of competitors on the list.

As but a limited number of apprentices are supplied with the JOURNAL, it is requested that employers direct to this subject the attention of those who are under their instruction.

DRUGGISTS' PIC-NIC.—A very pleasant pic-nic and *reunion* of the employees of Messrs. Lyman Brothers & Co., of this city, was held on Thursday, August 20th. The party, numbering over one hundred and fifty, were conveyed to West Lodge, where every provision for comfort and amusement had been made by the Messrs. Lyman. The weather was delightfully pleasant, though somewhat warm, not however so sultry as to interfere with the enjoyment of the games of base-ball, foot-ball, &c., in which the more juvenile portion of the party was soon engaged. West Lodge is admirably suited for parties of pleasure; the cool, shady walks and arbors and pleasant lawn affording scope for the gratification of a variety of tastes in the way of amusement. Towards the close of the day a number of prizes for running, jumping, &c., were offered and warmly contested. About six o'clock tea was served, and as evening advanced the party was conveyed to the city in evident good spirits, and bearing evidence of having enjoyed a thoroughly satisfactory day of pleasure.

COMMENCEMENT OF THE EDUCATIONAL TERM.—We shall be happy to supply to those intending to enter upon a course of study at any of the educational institutions of this city any information in our power. Lectures in the various colleges will commence at the close of this or at the opening of next month, and students should always be on hand at the opening. Last year a number of pharmaceutical students attended lectures in this city, but most of them did not

enter until the term was somewhat advanced, and therefore lost the benefit of some of the most important lectures. We shall be happy to see any of our friends at our office, Toronto Chemical Works, 147 Front Street, or at our residence, 220 Sherbourne Street.

Editorial Summary.

ACTION OF CAMPHOR ON PLANT LIFE.—An interesting article on this subject appears in the *Gardeners' Chronicle*, in which allusion is made to the experiments made by Barton in 1798. This observer found that flowers could be preserved in camphor water for a much longer period than when immersed in ordinary water; and also that flowers, already withered, might be in some measure restored by having their stems placed in a solution of camphor. He came to the conclusion that camphor has a greater action on plants than any other known substance, and he compared its action to that of spirituous liquors, or of opium, on the human body, when taken in judicious quantities. These almost forgotten experiments of Barton have been repeated in new forms by M. Vogel, of Munich, who recently communicated the details and results of his experiments to the Munich Academy. The experiments were mainly made with an aqueous solution of camphor—ordinary *aqua camphoræ*—and it was found that not only had this liquid the power of preserving and restoring cut flowers, but also exercised a remarkable influence on the germination of seeds, and the vigor of the resulting plants. Old seeds, which had been kept beyond the ordinary period of their germinative force, and which, when treated with water, showed but tardy signs of life, germinated rapidly when kept moist with the camphor water. Comparative trials with both liquids gave results greatly in favor of that containing camphor. From these experiments, which were very numerous, and apparently observed with great care, M. Vogel concludes that we have in camphor a stimulant for vegetation, capable both of strengthening the force and accelerating the time of vegetation. There are, however, some cases in which the favorable action of camphor is not observed. Clover seeds, sown in ordinary earth, germinated in twenty-four hours; but in earth commingled with a little powdered camphor, the germination was much more tardy. As oil of turpentine has on the animal organism a similar effect to camphor, M. Vogel was induced to try this liquid, and found that it also accelerated the germinative process, but it had an apparently injurious effect on the after development of the plants.

SYRUPUS FERRI PHOSPHATIS.—Mr. Wilson, (*Pharm. Jour. and Trans.*) proposes the following method for the preparation of this syrup:—Prepare the ferrous phosphate in the usual manner, being very careful to wash it perfectly free from the acetic acid formed during the process. Dissolve the moist phosphate in 7 drachms of syrupy phosphoric acid (sp. gr. 1.500), instead of the 5½ ounces of diluted phosphoric acid, as directed in the Pharmacopœia; when dissolved, add sufficient distilled water to make the solution measure 1½ ounces, and keep in a well-stoppered bottle. One drachm of this solution added to 7 drachms of simple syrup, forms a syrup in every respect identical with that of the B. P. The use of syrupy phosphoric acid will be found far more convenient than the old mode (Groves' process) of evaporating the diluted acid. Glycerine has been strongly recommended as a substitute for sugar in this syrup, but, so made, it is frequently objected to by the patient, as not being as thick so usual; and as a *Liq. Ferri Phosph*, prepared as above, keeps well, its use is rendered quite unnecessary.

RELATION OF COMMERCIAL PEPSINE TO THAT OF THE PHARMACOPŒIA.—Pepsine is one of the articles included in the recently published "Additions to the Pharmacopœia," and it is therefore a question of interest whether the pepsines of commerce are in conformity with the official standard. An examination in reference to this subject has been made by Mr. John Abraham (*Pharm. Jour. and Trans.*), who arrives at the conclusion that, though the pepsines of commerce generally contain starch, and do not therefore resemble the pharmacopœial article, yet, when tested as to their power of dissolving albumen, or animal fibre, they are fully up to the standard of strength. The makers of the pepsines examined are not named.

ADULTERATION OF PAREIRA BRAVA.—Mr. J. Moss (*Pharm. Jour. and Trans.*) calls attention to a sophistication of pareira root, not previously announced. Examination of a bale, the contents of which were professedly the root of *Chondodendron tomentosum*, revealed the fact that not only was there present the root described by Mr. Hanbury (*Can. Pharm. Jour.*, vol. viii, p. 41), but a considerable proportion—over 50 per cent.—of the stem of *C. tomentosum*. This had a sickly sweet taste, yet slightly bitter; was covered with an easily seen bark, with occasional patches of lichen or tufts of moss. The author is of the opinion that few parcels of the root will be found free from this admixture. As the stem is comparatively inert, it is of importance that this admixture be looked after.

DR. SAGE'S CATARRH REMEDY.—Mr. Bowens (*Am. Jour. Pharm.*) has made this popular remedy the subject of investigation, and finds its composition similar to that of the following mixture:—Powd. hydrastis canadensis, 5 parts; indigo, $\frac{1}{2}$ part; p. camphor, 2 parts; carbolic acid, 2 parts; common salt, 50 parts. In order to produce a close imitation of the medicine, the following mode of manipulation must be adopted:—Powder the camphor by means of alcohol, and mix with the salt, previously reduced to fine powder; rub the indigo and carbolic acid together, mix with the salt and camphor, and add the powdered golden seal; mix intimately, without much pressure, in a mortar.

COMPOSITION OF VANDYKE RED.—This pigment, which rivals vermilion in brilliancy, and is very extensively used as a substitute therefor, and also largely employed in dyeing and calico printing, has been examined by Mr. G. Welborn (*Pharm. Jour. and Trans.*), and found to be diplumbic chromate, = $2 \text{Pb}_2 \text{Cr O}_4$.

Students' Department.

Answers to the following questions must be sent in so as to be received by the editor before the twentieth of each month. Competitors must be engaged in the drug business, not being proprietors or having passed examination, and must furnish, with the answers sent, their real names and addresses. It is trusted that all answers sent will be the *bona fide* work of competitors, and that no assistance will be sought except such as is afforded by books.

Answers requiring calculation and involving fractions must be given in decimals, which need not be carried beyond the third place.

The following books are offered this month as prizes:—

FIRST PRIZES.

- United States Dispensatory.
- Parrish's Pharmacy.
- Garrod's Materia Medica.
- Gray's Manual of Botany.
- Fownes' Chemistry.

SECOND PRIZES.

- Gray's First Lessons in Botany.
- U. S. Pharmacopœia, 1873.
- Wittstein's Practical Pharmaceutical Chemistry.
- Roscoe's Chemistry.

Successful competitors may select from any of the above works, and on notifying the editor, the book selected will be forwarded by post.

QUESTIONS.

- I. *Chemistry*.—Explain, by symbols, the action of sulphuric, nitric, and hydrochloric acids upon copper.
- II. *Pharmacy*.—Give, in tabular form, the officinal names; percentages, by weight and volume, of absolute alcohol; specific gravities; and degrees of strength, according to Syke's scale, of all the strong and dilute alcohols of the British and United States Pharmacopœias.
- ✓ III. *Materia Medica*.—Enumerate the alkaloids found in opium; state their leading characteristics, uses in medicine, and doses.
- IV. *Botany*.—Enumerate the natural orders to which the vegetable *materia medica* of the *British Pharmacopœia* may be referred, and give an example of each order.
- ✓ V. *Dispensing*.—Describe the various processes for the extemporaneous coating of pills, with the objections to each, and the precautions necessary to ensure an elegant appearance.
- VI. *Prescriptions*.—Criticism the following prescription, with regard to elegance, compatibility of ingredients, dose, &c.; and describe the reactions, if any, which take place while compounding it.

℞	Tinct. Ferri Perchlor.....	ʒij
	Tinct. Quassiā	ʒj
	Sp. Ammon. Arom	ʒiij
	Aqua.....ad	ʒviiij
Sig.	Coch. mag. ter in die.	

Correspondence.

MIXTURE OF CHLORAL AND CAMPHOR FOR TOOTHACHE.

Editor Canadian Pharmaceutical Journal.

DEAR SIR,—I was rather surprised the other day on being asked for a solution of camphor in chloral hydrate, and still more

surprised to find that the apparent anomaly was not such in reality, and that a mixture of equal parts of each formed a bland liquid of the appearance of glycerine. This mixture has been, I understand, recommended in the *Lancet* as a local application for neuralgia and toothache, and from a few trials seem really efficacious; and will, no doubt, in spite of the sensible remarks of the CANADIAN PHARMACEUTICAL JOURNAL, be made the basis of a new panacea for toothache. Thinking the above may be new to some of your readers, it may be worth a place in the JOURNAL.

Yours truly,

HENRY J. ROSE.

Toronto, August 20th, 1874.

Varieties.

ANTIDOTE TO PHENIC ACID POISONING.—As this acid poisons by its direct effect, Mr. Haussman has found that the use of alkaline earths constitutes the best antidote. He found those containing lime the best, and proposed the use of saccharate of lime as the best remedy, prepared by dissolving sixteen parts of sugar in forty of distilled water; add five parts of caustic lime, digest for three days with frequent agitation, then filter and dry. The product is saccharate of lime, which dissolves easily in water, with which it may be administered.—*Phila. Med. & Surg. Reporter*.

CULTIVATION OF VANILLA IN THE ISLAND OF REUNION.—The cultivation of the vanilla plant has recently become in high favour in the island of Reunion in consequence of the enormous increase in its value, which is stated to have quintupled during the last eighteen months, and to be still increasing. Last year's crop, however, fell short of that of 1871-72, by something like 2000 kilos, while in Mexico, the great rival of Reunion in vanilla, the decline was still greater. The value of the vanilla exported from Reunion last year, was upwards of £50,000. It is said by the people of Reunion that the Germans contracted a taste for vanilla in confectionery during their stay in France during the late war, and that owing to the great increase in their wealth by the payment of the French indemnity, they are now able to indulge that taste. At any rate, a large portion of the vanilla now grown in this island is exported to Germany, to supply a demand that has sprung up since that time. Unfortunately, the island is devastated by periodical cyclones, which make it very difficult to cultivate successfully a plant like the vanilla, notwithstanding the support and shelter afforded by the trees, or espaliers, on which it is trained. It suffered immensely in the cyclone of 1872, and one that has recently passed over the island has probably seriously compromised this year's crop.—*Phar. Jour. & Trans.*

It is said that of the Scammony exported in 1872 from Aleppo, six-sevenths of it went to England, and one-seventh to France—the whole amounting to 737 cases, weighing 1,456 hundred weight, and costing at the shipping port 210,000 piastres or dollars. This low price resulted from

the cupidity of the collectors of it, who adulterated the article more villainously than ever. The scammony gathered is of good quality, and if pure would fetch a high price.—*Druggists' Circular*.

BLACK STENCIL INK.—A “cheap jet-black stencil ink, that will not rub off when handled or exposed to the weather,” is, no doubt, a great desideratum. But the conditions imposed are not quite easy to fulfil. *Cheapness* and *durability* are not often found associated together. However, we subjoin a receipt which is said to produce a very durable ink, at a moderate price:

Shellac	4 ounces.
Borax	2 “
Soft water	20 “
Gum arabic	2 “
Lampblack,	
Indigo, of each sufficient.	

Boil the shellac and the borax in the water until they are dissolved, then add the gum arabic, dissolve it, and withdraw the mixture from the fire. When cold, add enough lampblack to bring it to a suitable color and consistency, and, lastly, a very small quantity of finely powdered indigo, to give it the real “jet” shade. Keep in glass or earthenware vessels. When dry, this ink is said to resist the action of almost all solvents, except concentrated acids or alkalies.—*Drug. Circular*.

Registrar's Notices.

LIST OF RENEWALS.—CONTINUED.

Banks, J. H., Weston.	Jones, C. R., Montreal.
Brown, T. H., Paris.	Rose, H. J., Toronto.
Brydon, Wm., Toronto.	Shaw, Robert, Arnprior.
Elliott, Henry, Hampton.	Vanfelson, C., Senr., Chatsworth.
Hamilton, Alex., Hamilton:	Walton, E., Peterborough.
Harvey, E., Guelph.	Wilson, A., Hamilton.
Higginbotham, J., Bowmanville.	Wilson, John, Simcoe.

NEW REGISTRATIONS.

Boyd, Geo., Toronto.	Bromley, E. M., Clifton.
Hooper, Edward, Toronto.	

ASSOCIATES.

Bowden, H. K., Prescott.

DEATHS.

Gibbard, John, Toronto.

A communication has been received from an anonymous correspondent at Innisfil, and will be attended to.

GEORGE HODGETTS, Registrar.

	\$ c.	\$ c
DRUGS, MEDICINES, &c.—Cont'd		
Orange Peel, opt.	0 30	0 36
" good	0 12½	0 20
Pill, Blue, Mass.	1 35	1 40
Potash, Bi.chrom	0 18	0 20
Bi-tart	0 33	0 35
Carbonate	0 14	0 20
Chlorate	0 45	0 50
Nitrate	8 00	9 00
Potass um, Bromide	95	1 00
Cyanide	0 60	0 5
Iodide	4 50	5 00
Sulphuret	0 25	0 35
Peppin, Boudault's.....oz	1 40	—
Houghton's..... doz.	8 00	9 00
Morson's.....oz.	0 85	1 10
Pho horous.....	0 95	1 00
Pododyllin.....	0 50	0 60
Quinine, Pelletier's.....	—	2 45
Howard's.....	2 52	—
" 100 oz. case.	2 50	—
" 25 oz. tin..	2 47	—
Root, Colombo.....	0 13	0 20
Curcuma, grd	0 12½	0 17
Dandelion.....	0 17	0 20
Elecampane.....	0 16	0 17
Gentian.....	0 08	0 10
" pulv.....	0 15	0 20
Hellebore, pulv.....	0 17	0 20
Ipecac.....	1 50	1 60
Jalap, Vera Cruz.....	90	1 15
" Tampico.....	0 70	1 00
Liquorice, select.....	0 12	0 13
" powdered.....	0 15	0 20
Mandrake.....	0 20	0 25
Orris.....	0 20	0 25
Rhubarb, Turkey.....	2 50	2 75
" E. I.....	0 75	0 90
" pulv.....	1 60	1 10
" 2nd.....	0 60	0 70
" French.....	0 75	—
Sarsap., Hond.....	0 50	0 52
" Jam.....	0 88	0 90
Squills.....	0 10	0 15½
Senega.....	0 90	1 00
Spigelia.....	0 25	0 30
Sal, Epsom.....	2 25	3 00
Rochelle.....	0 32	0 35
Soda.....	0 02½	0 03
Seed, Anise.....	0 13	0 16
Canary.....	0 05	0 06
Cardamon.....	2 15	2 50
Fenugreek, g'd.....	0 08	0 09
Hemp.....	0 06½	—
Mustard, white.....	0 14	0 16
Saffron, American.....	0 75	0 85
Spanish.....	12 00	13 00
Santonine.....	7 50	8 00
Sago.....	0 08	0 09
Silver, Nitrate.....Cash	14 85	16 50
Soap Castile, mottled.....	0 11	0 14
Soda Ash.....	0 03½	0 05
Bicarb. Newcastle.....	6 20	6 51
" Howard's.....	0 14	0 16
Caustic.....	0 05½	0 05½
Spirits Ammon., arom.....	0 35	0 35
Strychnine, Crystals.....	2 25	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 75	0 80
Zinc. Chloride.....oz	0 10	0 15
Sulphate, pure.....	0 10	0 15
" common.....	0 06	0 10
DYESTUFFS.		
Annatto.....	0 35 @	0 60
Aniline, Magenta, cryst.....	2 50	2 80
" liquid.....	2 00	—
Argols, ground.....	0 15	0 25
Blue Vitrol, pure.....	0 09½	0 10
Camwood.....	0 06	0 09
Copperas, Green.....	0 01½	0 02½
Cudbear.....	0 16	0 25
Fustic, Cuban.....	0 02½	0 04
Indigo, Bengal.....	2 40	2 50
Madras.....	0 85	0 90
Extract.....	0 26	0 30

DYESTUFFS—Continued.		
Japonica.....	0 07½	0 08
Lacdye, powdered.....	0 33	0 38
Logwood.....	0 01½	0 03
Logwood, Camp.....	0 01½	0 03
Extract.....	0 9½	0 12
" 1 lb. bxs.....	0 13	—
" ¼ lb. ".....	0 14	—
Madder, best Dutch.....	0 11	0 12
2nd quality.....	0 10	0 11
Quercitron.....	0 03	0 05
Sumac.....	0 06	0 08
Tin, Muriate.....	0 10½	0 12½
Redwood.....	0 05	0 06
SPICES.		
Allspice.....	0 11½ @	0 12
Cassia.....	0 35	0 38
Cloves.....	0 46	0 48
Cayenne.....	0 28	0 30
Ginger, E. I.....	0 19	0 20
Jam.....	0 29	0 30
Mace.....	1 65	1 75
Mustard, com.....	0 20	0 25
Nutmegs.....	1 15	1 20
Pepper, Black.....	0 22½	0 23
White.....	0 31	0 32
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 30	0 35
Magnesia.....	0 20	0 25
Litharge.....	0 07	0 09
Pink, Rose.....	0 12½	0 15
Red Lead.....	0 07½	0 08
Venetian.....	0 02½	0 03½
Sienna, B. & G.....	0 07	0 08
Umber.....	0 07	0 10
Vermillion, English.....	1 90	1 90
American.....	0 25	0 35
Whiting.....	0 85	0 90
White Lead, dry, gen.....	0 08½	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 35	—
" No. 1.....	2 10	—
" No. 2.....	1 85	—
" No. 3.....	1 60	—
" com.....	1 30	—
White Zinc, Snow.....	2 75	3 25
NAVAL STORES.		
Black Pitch.....	4 10 @	4 50
Rosin, Strained.....	4 10	—
Clear, pale.....	5 75	7 25
Spirits Turpentine.....	0 52	0 55
Tar Wood.....	4 40	4 50
OILS.		
Cod.....	0 63 @	0 70
Lard, extra.....	0 95	1 00
No. 1.....	0 90	0 95
No. 2.....	0 80	0 85
Linseed, Raw.....	0 70	0 72
Boiled.....	0 75	0 77
Olive, Common.....	1 05	1 10
Salad.....	1 80	2 30
" Pints, cases.....	4 20	4 40
" Quarts.....	3 25	3 50
Seal Oil, Pale.....	0 75	0 75
Straw.....	0 68	0 70
Sesame Salad.....	1 30	1 35
Sperm, genuine.....	2 35	2 40
Whale refined.....	0 70	0 75