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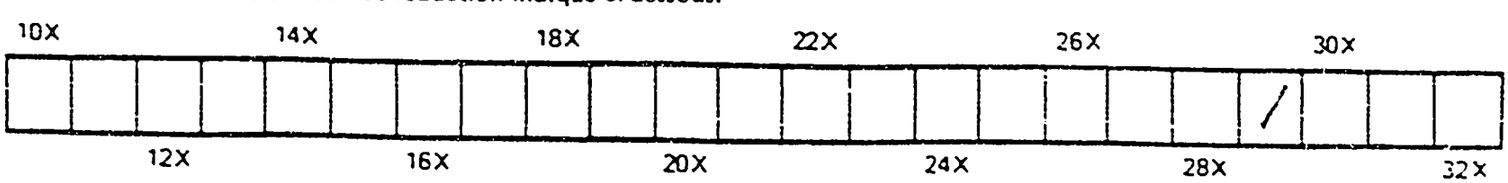

# CANADIAN DRUGGIST

VOL. VIII TORONTO, CANADA, SEPTEMBER, 1896. No. 9.

# Canadian Druggist

*Devoted to the interests of the General Drug Trade and to the Advancement of Pharmacy.*

VOL. VIII. TORONTO, SEPTEMBER, 1896. No. 9



## Canadian Druggist

WILLIAM J. DYAS, PUBLISHER.

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### Dominion Pharmaceutical Association.

The president of the Pharmaceutical Association of the Province of Quebec (Mr. R. A. Williams), in his annual address to the members of that association, referred to the establishment of a Dominion Association as follows:

"I regret to have to report that the Dominion Pharmaceutical Association is not yet *un fait accompli*, but I trust that the small minority of associations which did not see their way clear to join in forming such a body will soon awake to the knowledge that a Federal Canadian Pharmaceutical Society would be of great advantage to the fraternity throughout the length and breadth of our fair Dominion. If the various Boards of Trade see wisdom in forming a general association for the Dominion, why should we be backward in making a similar good move? Union is strength, and we require united efforts to obtain the redress of several things which are prejudicial to our welfare."

That the desired end has not yet been accomplished is a matter for regret, and the fault certainly lies at the door of some of those who should be foremost in furthering the work.

If our pharmaceutical associations and corporate boards of pharmacists, either as college councils or provincial associations, are called upon to legislate "for the good of pharmacy," certainly joint action is necessary and very greatly to be preferred to any individual efforts.

Take, for instance, the work done by the Ontario Society of Retail Druggists. We all know what efforts were made by local organizations, composed of representatives of the various territorial districts, to better the condition of trade interests in their several localities. The work accomplished was, in some cases, a success, in others the reverse; a lack of interest, a selfish indifference we might almost say, preventing the furtherance of the object in view. Then we had a Provincial Pharmaceutical Association, which,

had it received the support it was entitled to, would have made itself felt and would have been a power in our work. However, the apathy displayed caused the promoters to lose heart and abandon the project. Now, these are the only reasons we have yet heard against the non-establishment of a Dominion association, viz., the want of success in firmly establishing the smaller organizations. But here let us look at the latest venture, that of the Ontario Society of Retail Druggists. The urgent appeals of the CANADIAN DRUGGIST and its efforts to stimulate the pharmacists of the Province of Ontario to organize (see CANADIAN DRUGGIST, July, 1895, p. 154) at last had its effect in stimulating a number of pharmacists to take steps towards the formation of a society which now is wielding a power that makes itself felt, not only in the ranks of the retail pharmacists of this province, but also amongst the wholesale and manufacturing interests, and its influence will continue to be felt as long as unanimity of purpose and combined effort in the right direction permeate its members, and not only has it been the means of doing much to help the trade in this province, and to some extent in the sister provinces, but it has stimulated other existing societies to awake to the fact that a combination of forces must accomplish for the Dominion what this one society is doing for a province. A Dominion Pharmaceutical Association need not necessarily be for the purpose of regulating standards of qualification, nor for the determination of degrees—these matters now dealt with by the colleges and associations in our midst can very well be left, in the meantime at least, to these bodies, but that a governing body is necessary to look after trade interests generally throughout the Dominion, to guard all interests of retail druggists, no matter where situated, and unite in one organization a body of men who will have influence, both through weight of numbers and unity of purpose, to obtain legislative action where necessary for its purposes. This, we think, must be conceded by all who have seriously considered the present condition of the drug business and its outlook for the future. It is unanimously admitted that the drug business is not in a satisfactory state. Is it worth while to take steps to bring about, if possible, a better condition of affairs? If so, is not joint action of the larger number the most desirable way to bring about any such result? We think so, and we would like to hear the opinions of some of our readers

## Taken to Task.

Our editorial friends of the *Canadian Pharmaceutical Journal* have taken us severely to task for our article on substitution in our last number.

We admire their zeal in espousing the cause of the retail druggist, and some of their remarks we are in hearty sympathy with. They cannot desire the welfare of the retail druggist any more than we do, and so long as they are willing to discuss and advocate principles of honorable conduct between the druggist and those with whom they form business connections we will be at one with them.

We do not withdraw a particle of what

Mr. John Henderson,
President of the Wholesale Drug and Proprietary Medicine Association.

we wrote last month. We felt then that we wrote what was rigidly true, and in the truest interest of every pharmacist, and we think so still. When we write frankly to druggists we do so knowing that the public are excluded from a knowledge of our statements, and that our readers are too intelligent to believe that we ever write from a personal or unworthy motive. We are free to admit that if we can justly be charged with doing so we will deserve the censure which should follow it. In the censorious article which our fellow-journalists have written they have imputed to us the publishing of a statement regarding Mr. Good which did not emanate from him. Our statement was: "That within one week in the city of Toronto Mr. Good obtained by direct purchase, when asking for Carter's pills, enough substitutes to prove that over one-half the demand he creates is tampered with."

That statement was based on the fact that over sixty substitutes were offered and paid for by his agent when Carter's were asked for, and that in four cases other pills were wrapped up and sold for Carter's without any comment being made whatever.

Now, the case of Carter's pills was only taken as a specimen one, the events recorded having so recently occurred. Our sole object in directing attention to the matter was to show druggists in what an unenviable position they are placed by any substitution. They not only justify, to a certain degree, the charges made against them in the daily press, but they violate an agreement made with another body, from whom they expect and demand protection of their interests.

We are not in the confidence of patent medicine men, nor have we any special desire to be; but when they make definite statements which imply the perpetration of a wrong by those with whom we are so intimately connected, we feel in duty bound to preserve the honorable fame of our fellow-druggists. If that could be done by a denial of the statement, we should be exceedingly pleased to be in a position to make it; but as we are not, and believe the truth of the charge, we cannot, and could not, conscientiously do other than we have done. The principle of substitution is wrong. It is wrong! It is wrong!!

## Editorial Gleanings.

Mr. Joseph Ince has resigned his position as lecturer on pharmacy in the Pharmaceutical Society of Great Britain.

Mr. Michael Carteighe, F.I.C., F.C.S., for the past fourteen years president of the Pharmaceutical Society of Great Britain, has retired from that position. His successor is Mr. Walter Hills, F.C.S.

The manufacturers of antipyrin have declared a dividend of 28 per cent. on a capital of 6,200,000 marks, and those of phenacetin 16 per cent. on 16,000,000 marks, besides distributing otherwise the sum of 938,000 marks.

At a meeting held in Toronto, September 7th, of the graduate opticians of Canada, called for the purpose of organizing themselves into a society, the following officers were elected: President, J. H. H. Jury, Bowmanville; first vice-president, C. J. McIntyre, Chatham; second vice-president, R. Hensley, Montreal; secretary-treasurer, Frank Ellis, Toronto.

## Ontario Society of Retail Druggists.

ANNUAL MEETING.

The annual meeting of the Ontario Society of Retail Druggists was held in the lecture theatre of the Ontario College of Pharmacy, Toronto, on Wednesday, September 9th. The meeting was called for one o'clock, but the members were very dilatory in gathering, and a protracted executive meeting in the forenoon detained the officers, so that it was nearly half-past two o'clock before President G. E. Gibbard took the chair, the attendance then numbering nearly one hundred.

Having opened the proceedings with a few words of welcome, the president called Mr. W. A. Karn to the chair while he read the following address:

In the course of his remarks the president said the evil we undertook to fight had taken fast hold of many places in the provinces, and this evil is such that the present tendency of trade is certain to foster its growth. In those places where the druggists themselves had given way to the evil tendencies, demoralization was complete. The last vestige of profit had been swept away. Men had turned their places of business into free distributing depots of patent medicines, in some places even offering a premium to the public to come and relieve them of the stock. In one town a member of the trade informed your president that on the sale of $2,000 worth of one preparation he had not made a profit of $10. In the city of Brantford at the present time twenty-five articles are being advertised at five cents. These places are a sample of what occurs when the druggists are the transgressors. The seriousness of this condition of affairs can be appreciated when we consider that fully fifty per cent. of the trade of a country druggist is in patent medicines. With the cities of Toronto, Hamilton, Ottawa, and Brantford as centres from which to radiate, the pernicious practice had spread to many places in their vicinities, and threatened every town and city in the province. The danger was most imminent in the west, where a feeling of feverish unrest existed which augured ill for the trade in general. To check the spread of the plague and restore to a healthy condition the trade, where attacked by the disease, was the task imposed on your officers.

Entire success during the short time which has elapsed since our organization is too much for even the most sanguine to expect. When the work was actively entered upon many unforeseen difficulties were encountered, and a number of these have still to be overcome. First among these I might mention the lack of complete unity in our own ranks. Again, we discovered that large stocks of patent medicines are carried by wholesale grocers of Montreal. From these the cutter has been able to replenish his depleted store when his orders were declined by our friendly houses. Another serious difficulty faced us early in the campaign, and one which hampered the work more than all others, I refer to the shortness of funds. The first two of these difficulties still exist, but the last has happily been overcome. There are a number of minor troubles, but these would rapidly disappear before a perfect organization and a short period of vigorous activity, leaving the way clear for a bold onslaught upon our principal enemies. While confining our operations principally to the Province of Ontario, we yet realize the great advantage a united Dominion would be in securing the end aimed at. Accordingly we placed ourselves in communication with the members of the trade in other provinces, and have had the satisfaction of seeing the formation of similar societies in all the other provinces but one.

The questions, "What good has your society done anyway?" and, "Why should we contribute money to keep it going?" have been often addressed to your officers.

We might state briefly, then, some of the results of our work.

(1) The spread of cutting has been prevented. Only one new cut-rate store has come under our notice within the last nine months. Whereas, had it not been for the influence of our society, we believe, and it is also the opinion of others well informed, that the whole of Eastern Ontario would have been overrun with the practice before now.

(2) When we started nine months ago there were at least twenty-five places in different sections of the country where "persistent cutting" prevailed. That number is now reduced to about five. In all but one of these five the conditions are much improved, prices generally have advanced and demoralizing advertising has almost ceased.

(3) We have prevented new preparations just being put upon the market from falling immediately into the hands of the cutters, and thus saved to the druggist many good dollars in profit, which otherwise would have gone elsewhere.

(4) We have aroused the trade of the Dominion to a realization of the threatened danger, and "forewarned being forearmed" it is now in a better position to protect itself against dangerous enemies.

To these might be added the spirit of good fellowship which such societies as ours engenders amongst its members.

Before closing, I wish to bear testimony to the valuable assistance rendered your officers by the members of the wholesale jobbing trade, and also a portion of the manufacturers. Their friendliness to the society from the first enabled us to accomplish much in a short time which otherwise would yet have remained undone. Your executive have shown a willingness to sacrifice personal matters to the general good which should receive proper recognition at your hands. I cannot refrain from a word of praise for your secretary. When we entered upon the work there was a fear that the president and secretary residing in different towns would be a disadvantage, and probably interfere with the success of our plans. Such a fear has proved groundless, and it has been advantageous rather than otherwise. Not only does the amount of work done by Mr Pepper call for special mention, but its manner of doing has been most praiseworthy. With ability and willingness is combined enthusiasm and determination, all going to make up a first-class secretary.

Reference was also made to the death of Mr. W. G. Smith, of Guelph, a member of the executive.

We are obliged to curtail the president's address on account of lack of space.

At the conclusion of his remarks the president resumed the gavel, and Mr. Karn moved the reception of the address, expressing at the same time his regret that the druggists did not take more interest in the doings of the association. The future of the trade was in their own hands, and negligence of the work the society had undertaken must inevitably mean disaster. Their very existence was at stake, and who could be expected to protect them if they did not look after it themselves? (Hear, hear.)

The address was received and laid on the table for future consideration.

Mr. J. T. Pepper, Woodstock, presented his report as secretary-treasurer. It showed the society to have a membership of 650, so that only about 100 druggists were not in sympathy with the movement. Many, however, had not paid the full membership fee, and that matter was dealt with later on. The receipts from members' fees were $1,167.79, and from other sources $185.75, making the total receipts $1,353.34. The expenditure had been $1,286.19, so that there was a balance in hand of $67.35. The report was received and adopted *nem. con.*

A communication was read from Mr. R. W. Chambers, of Blenheim, regretting his inability to attend the meeting, and asking how it was that Robert Simpson continued in the drug business after having been fined in the police court.

The three members of the trade in Dunnville also wrote congratulations upon the work so far accomplished by the society, and stating that a meeting of District No. 10 a resolution had been passed calling on the society to take steps to place Paris green and sulphate of copper upon the poison list. This letter was referred to the executive.

Upon the suggestion of the executive, through the president, a nominating committee was struck, consisting of a representative from each district, to nominate officers for the year. The committee retired to prepare their report.

Mr. Phillips, of Fergus, asked what answer the executive had to offer to the question Mr. Chambers had sent in reference to The Robert Simpson Company.

Mr. W. A. Karn, as chairman of the Infringement Committee of the O.C.P.

Council, made a lengthy explanation of the situation in reply. He said it was true that the firm in question continued to carry on the drug business after the courts had inflicted a fine, and just at the present there was a doubt whether the Act under which they prosecuted reached incorporated companies. The point was a new one, for which there was no Canadian precedent, but there was an English precedent, which, he regretted to say, was against them. Still, they intended to go on with the fight. There was a case now pending against The Robert Simpson Company, and they intended to prosecute it to the bitter end, and find out whether the Act gave to incorporated companies privileges that it denied to individuals. The Council were determined to proceed with the matter if it took every dollar they had. (Hear, hear.)

Continuing, Mr. Karn said that there were many small infringements being committed all the time by retail druggists, and if he had his way they would be brought to time in every case. He would always give a man fair warning, but if he persisted in spite of warnings he would take steps to stop him. (Hear, hear.) He considered, further, that it would be a step in the right direction if every retail druggist was compelled to keep a properly qualified assistant; this would weed out the weak men and provide positions for the students when they had received their diplomas.

Another thing they should do, and that was to endeavor to influence the wholesale houses against the practice of setting up and backing men of small and insufficient means. A young man, without capital, could get a wholesale house to give him a few hundred dollars credit, and be set up in a town where the market was already fully stocked, to the detriment of those already in the field and at no ultimate advantage to himself. The society, too, should protest most emphatically against the wholesale dealers and the manufacturers placing physicians on the same footing with the druggist. The doctor could get goods at the same discounts and on the same terms as the druggist, and they should protest against this continuing.

In conclusion, Mr. Karn endorsed the suggestion in the president's address, that steps be taken towards forming a Dominion association. Such an organization would bind the whole trade in a bond of mutual protection. They had a right to such protection. They had spent the best days of their lives in preparing and fitting themselves for the business, and with the time and money expended—far more than in most businesses—they were entitled to this measure of self-protection. Only in that way could they secure what they needed; but by careful, judicious organization, they could get what they wanted from the wholesalers and jobbers, from the manufacturers, and, if necessary, from the legislature, too. (Applause.)

Mr. Phillips, Fergus, thanked Mr. Karn for his full and lucid exposition, and informed the meeting that only a few miles out of Fergus there was an ordinary country store which was selling patent medicines at cut rates.

Mr. Karn replied that his committee was prosecuting a vigorous campaign against country stores, and they were securing convictions every day. The number of these cases was very large, and the effect of their activity was becoming apparent, he thought.

At the invitation of the president, Mr. G. E. Tremble, of Montreal, secretary of the Retail Drug Association of that city, addressed the meeting briefly. He said that the trade in Montreal had given some consideration to the question of forming a Quebec Provincial Association similar to this, but at present they were not troubled with the evil of price-cutting, consequently there was considerable apathy in the matter. One evil that did exist among them, however, was the practice among the wholesale grocers of carrying big stocks of patent medicines for the country dealers in the many villages where no drug stores existed, and the whole trouble in the trade was that they had not faith enough in one another. (Hear, hear.) It seemed to him that they were too ready to think the next fellow was the biggest fakir on earth, "and," added Mr. Tremble, amid laughter, "it's not necessarily so."

A desultory conversation followed on the question of fees. Some difficulty presented itself to many present in understanding the situation, from the fact that the treasurer's report had shown payments all the way from $1 to $5. The president, however, explained that the constitution provided for the levying of fees up to $5 in $1 instalments, that the first dollar had been paid by all who were counted as members, that a lesser number had paid the second call, fewer still the full amount, but that wherever systematic collecting had been adopted the full $5 had been willingly given. It was, however, a very expensive way to get in their funds, and he thought some change should be made. It was a mistake in the first place to put the first call as low as $1.

Mr. Jury, Bowmanville, suggested that the executive committeeman in each district act as collector for the fees in his district.

At this point the nominating committee returned with their report, which was as follows: That the officers for the ensuing year be: President, G. E. Gibbard, Toronto; vice-president, L. W. Yeomans, Belleville; secretary, J. L. Pepper, Woodstock; executive, H. Watters, Ottawa; D. M. Waters, Belleville; H. S. Macdonald, Peterboro; I. Curry and F. W. Flett, Toronto; George Monkman, Barrie; T. Stevenson, Orangeville; W. Greenwood, St. Catharines; R. Ferrah, Galt; W. T. Strong, London; Robert Wightman, Owen Sound; J. Auston, Simcoe; J. E. D'Avignon, Windsor.

The report was received and some discussion arose as to whether the president should again be charged with the duties of organizer. Mr. Gibbard himself protested against his re-election, declaring that he had given up almost the whole of his time to the affairs of the society, greatly to the detriment of his own business, and that he would much prefer that someone else be put in the chair now. This the meeting refused to consent to and finally it was decided that the matter of the organizer be left in the hands of the executive, upon which Mr. Gibbard consented to stand again for the presidency, and the committee's report was adopted without change.

The president thanked the members for their expression of confidence, remarking that he knew some had professed to believe that the society only existed for the purpose of giving the president a soft sit. If anyone who had that idea would apply to him he would gladly assist him to secure the job if he had the ability to do the work. The time and labor required interfered greatly with his private business, and if it were not for the interest he had in the work, and his anxiety to forward the interests of his fellow-druggists, he would not stay with it another day for all the money they could offer him.

Mr. Secretary Pepper also returned thanks for re-election, at the same time regretting the general lack of interest in the doings of the society. This was the last effort that would be made to protect their interests as a class, and if it failed he would not give much for the future. The wholesale houses were all right, and ready to treat them fairly, but there were still some manufacturers who wanted looking after.

The consideration of the president's report was then taken up, special attention being given to various suggestions offered therein. The proposal to increase the annual fee was introduced by a resolution from Mr. Curry, who moved that the annual fee be at least $3 and not more than $5, the said $3 to be payable on the first call, and the balance to be levied if required. A long discussion followed, and much time was taken up in explaining the exact situation at present existing, but, finally, after several amendments had been proposed and withdrawn, the motion carried unanimously, and was ordered to be incorporated in the constitution.

The president's proposal to reduce the acting executive, on economic grounds, was, after some discussion, left to the executive to deal with, as was also his reference to the wholesale grocers of Montreal and the general question of the control of patent medicines.

The suggestion that steps be taken towards organizing a Dominion Association of Retail Druggists was also referred to the executive for action if deemed advisable.

A resolution was passed instructing the secretary to call in the arrears of fees, which, if fully paid up, will, in all probability, carry the society until the meeting of 1897.

The society then adjourned to meet again at the call of the chair.

# Trade Notes.

A. McLachlan has opened a new drug store in St. Thomas, Ont.

McAulay & Coleman have opened a drug store at Trail, B.C.

John McLeister's drug store, Alexandria, Ont., was destroyed by fire Aug. 21st.

The mortgagee is in possession of the Hobart Medical Hall, Kingston, Ont.

N. A. Bosworth, Stratford, Ont., has sold out to H. W. Thomson, of Mitchell.

Thomas B. Welch has purchased the drug business of F. W. Meek, Strathroy, Ont.

J. H. Dennis has purchased the drug business of Gamon & Co., Shelburne, Ont.

H. W. Cline, 498 Queen street east, Toronto, has sold his business to John R. Ross.

J. B. Stauffer has purchased the drug business of J. Lucas, 148 Avenue Road, Toronto.

R. C. Hewston has purchased the drug business of R. F. Greer, corner Queen and Elizabeth streets, Toronto.

The drug store of the Pharmacie Nationale, Montreal, has been sold, at 25 cents on the dollar, to Dr. Giroux.

The stock of the insolvent estate of John G. Douglas, druggist and bookseller, Southampton, Ont., was sold Aug. 29th.

J. A. Mitchell has opened a new drug store at the corner of King west and Niagara streets, in the premises formerly occupied by Mr. Urquhart.

The twenty-second annual meeting of the National Wholesale Druggists' Association of the United States will be held at Philadelphia, October 5th to 9th.

The O. & W. Thum Co. are adding 26,600 square feet of floor space to their Tanglefoot plant in order to keep up with the increased demand for their product.

We are pleased to learn that S. Lachance, of Montreal, who was in financial trouble through endorsing for a wholesale dry goods firm, has effected a satisfactory settlement.

The Scott & Macmillan Co., a joint stock company for the manufacture of perfumery, pharmaceutical preparations, etc., are successors to the firm of Scott & Macmillan, 14 and 16 Mincing Lane, Toronto.

The Holgate, Fielding Co., Limited, with a capital of $20,000, has been incorporated, and has opened an office at 25 Melinda street, Toronto, Ont. Mr. W. J. Fielding, formerly with the Keasby & Mattison Co., of Ambler, Pa., is manager, and Mr. F. H. Holgate, proprietor of the retail drug establishment of Hooper & Co., is secretary-treasurer. This firm will represent Keasby & Mattison, the New York Quinine and Chemical Co., W. H. Johns & Co., and other manufacturers.

## Montreal Notes.

The twenty-ninth session of the Montreal College of Pharmacy will open at the College Hall, 595 Lagauchetiere street, on Thursday, October 1, at 8.30 p.m. The lectures will be delivered by Dr. T. D. Reed, Mr. J. E. W. Lecours, Mr. Joseph Bemrose, F.C.S, Professor C. A. Pfister, add Mr. Joseph E. Morrison.

It remains to be said that Mr. E. Muir, secretary and registrar of the Pharmaceutical Association, was most indefatigable in his efforts to make the recent convention a success.

Mr. S. Lachance, pharmacist, St. Catherine street east, has, according to the *Journal of Commerce*, effected a settlement with his creditors, on time. Mr. Lachance will continue business as usual.

M. G. Edson & Co., manufacturers of essences, chocolates, and specialties, are, according to the same authority, trying to make a compromise with their creditors. Mr. Edson is an old pharmacist, and was doing a fair business as a manufacturer, but, like a good many others, has had to go under owing to difficulty of collecting accounts.

Mr. Pierre de Mesle, pharmacist, 1243 St. Lawrence Main street, has made an assignment on demand of Mr. R. de Mesle, with liabilities of about $5,000. Meeting of creditors was held on the 29th ult.

Business in the drug line is a little better in Montreal since the return of people from their summering in the country. Everyone is complaining, and the tendency is to spend five or ten cents where fifty cents was spent in the good old times.

Mr. Tufts, the late soda water apparatus maker, has instituted a heavy action here against a pharmacist for the balance due (some $12 or $14) on a fountain. If such is really the balance unpaid, what did the fountain originally cost, and how could any unfortunate pharmacist ever expect to pay for such an expensive luxury out of his profits?

Dr. T. D. Reed, Dean of the Faculty of the Montreal College of Pharmacy, read a very able paper on pharmaceutical education at the recent convention held here. His views with regard to the ultra-scientific education advocated for pharmacists are very favorably commented on by Montreal pharmacists.

The consensus of opinion in Montreal with regard to the recent annual convention of the American Pharmaceutical Association appears to be that the meeting was not quite so successful as it might have been. In the first place, it was unfortunate that the association was invited here during a period of great business depression; and in the second place, the local pharmacists were not enthused, owing to the entire absence of tact on the part of those who had the management of the affair.

## Manitoba Notes.

Mr. G. W. McLaren, of Morden, has just returned from a visit to Eastern Canada.

D. D. McQueen, M.D., of Cypress River, has purchased his stock for a new drug store at that point.

Dr. S. B. Cowan, proprietor of a drug store in Portage la Prairie, was in Winnipeg for a few days last week.

Mr. R. A. Webster, of the Canada Paint Company, Montreal, spent a few days in Winnipeg week before last, and left for a visit to southern cities with his friend, Mr. L. W. Leithhead.

Dr. Macklin, for many years a resident of Portage la Prairie and late of Winnipeg, has removed to Roland, a thriving little town in southern Manitoba, where he has opened a drug store in connection with his practice.

Mr. Joseph Taylor, of Portage la Prairie, has just returned from an extended trip to the Kootenay mining district. He confirms all that has been said regarding the wealth and ultimate value of this district to Western Canada.

Mr. James R. Wynne, vice-president of the Martin, Bole & Wynne Co., and Mr. W. P. Inman, of Winnipeg, attended the recent annual rifle matches of the Dominion Rifle Association at Ottawa. Mr. Wynne will visit Montreal, New York, and Boston before his return.

Mr. Charles McDonald, who for some time occupied a position in Mr. Pulford's drug store in Winnipeg, has opened up a drug store at Virden, Man. Mr. McDonald's home is in Virden, and being well and favorably known in that district he will no doubt be successful in his new venture.

Mr. Harry Mitchell, a graduate of the Ontario College of Pharmacy, and a son of Mr. W. J. Mitchell, now of Toronto, has opened a drug business at Prince Albert, N.W.T. Harry's many friends in Winnipeg will anticipate with much pleasure his success in the Northwest. He will be greatly missed in football circles, in which he was very popular.

Mr. L. W. Leithhead, formerly of Montreal, and for the last five years a resident of Winnipeg, and a member of the Martin, Bole & Wynne Company, severed his connection with that firm on the 1st of September. A few days previous to his departure he was quietly called into the laboratory of the company, the scene of his labors during his connection with the firm, and there presented by the employees of the company with an illuminated address and a handsome gold-headed walking cane, an evidence of the esteem and regard with which he was held by the employees of the company. Mr. Leithhead will take up his residence in Duluth, Minnesota, where he enters the Sogar Drug Company as chemist and manager of the warehouse of the company. His many friends, both in Montreal and Winnipeg, will extend to him their best wishes for his success in the great republic.

# Pharmacy in England.

**British Pharmaceutical Conference—Abstract of Papers Novelties at the British Medical Association Exhibition—The Chemists' Exhibition—Examination Questions and Answers.**

(From Our Own Correspondent.)

Liverpool was revisited by the conference this year, after an interval of twenty-six years, and Mr. William Martindale, F.C.S., was president for the second time. A declining membership is still noticeable, and as a direct result of this the amount spent upon the "Year Book" is to be cut down. But the tendency to increase the social features of the annual gathering is more likely to attract the younger members of the trade than the development of a more scientific pabulum. In this respect the second Liverpool meeting has been a greater success than usual, and the dropping off in the value of the papers was therefore hardly noticed. Mr. Martindale's address was largely retrospective, and contained many shrewd suggestions based on his ripe experience. Briefly reviewing the papers we may note that no conference meeting could now be considered complete without some contribution from Farr and Wright. This year hemlock was reinvestigated, and the conclusions of former workers that only the green fruit should be retained and preparations of it alone be official were confirmed. They also gave percentage of alkaloids in the official juices, and showed, what everyone knew before, that they vary enormously in strength. For many years they have been steadily declining in British pharmacy, succus taraxi and succus scoparii being only occasionally prescribed, succus conii rarely, and the others never. R. Wright also gave a note on the method of preparing solution of arsenium and bromide of gold, which differs from the national formulary, but seems no improvement. Umney gave two papers on essential oils, the first on oil of Japanese fennel, which does not seem to differ much from European oil; the second on the effect of climate and soil on oils of peppermint. C. T. Tyrer gave evidence that a stronger hydrobromic acid than 1 250 S.G. is not satisfactory, as it attacks glass, and is liable to turn red brown in color. He also contended that the B.P.C. method for making hypophosphorus acid was superior to the national formulary. Naylor and Littlefield have separated cascarillin from cascarilla by two different methods, and concluded that its formula is $C_{14}H_{24}O_4$; they are not prepared to call it an alkaloid, although it yields precipitates with most alkaloid reagents. Parker showed that the finer powder of belladonna root yields less alkaloid than the coarse. Allen gave interesting notes on white wine vinegar and condensed milk, from the public analyst's point of view. Elborne, as usual, made some queer suggestions, that were received with polite derision: his attempt to improve the pronunciation of the word pharmacognosy being most unfortunate. Bird's contribution upon the subject of formaldehyde as a preservative was practical and interesting, although its principal features were not new. As a preservative of milk, cream, lime juice, and many other articles, formaldehyde is daily growing in favor. Liquid extract of bael is hardly used in English practice of medicine, but it is still a favorite remedy for dysentery in tropical climates, and A. C. Abraham's practical note will probably be incorporated in the new B.P., should it be decided to retain this preparation. Ferret gave a formula for essence of rennet that is guaranteed to keep clear and good, and as it is the result of direct experiments it will probably be found useful. Some people, however, raise objection to the presence of salt in this essence. Of course, the X rays came in for a special paper, and a demonstration with a tablet machine carried out a suggestion made in these pages several years ago, viz., that a small machine is a useful adjunct to the dispensing counter, and would soon repay its outlay. The excursions were very enjoyable and included a trip to Chester, Eaton Hall (the seat of the Duke of Westminster), and Hawarden Castle, where a deputation had the honor of an interview with the ex-premier, Mr. Gladstone.

Novelties at the annual museum of the British Medical Association, held at Carlisle, were almost conspicuous by their absence. Roentgen's apparatus in all sizes was, perhaps, the most attractive item, and at least half a dozen firms were exhibiting these. England seems to have taken up skiagraphs with more than usual celerity, and so far our instrument and scientific apparatus makers are in advance of their continental competitors. Prices, however, are rather high, varying from $50 to $250. For the latter sum a complete coil, giving a six-inch spark, requiring only a fraction of a minute exposure, special vacuum tube, dark slide, cryptoscope, etc., are provided. "Ovoids" are neat little aural suppositories, containing the various remedies suggested by otologists, and introduced by Brady & Martin. A new method of practical illustration was introduced by Burroughs, Wellcome & Co., a live sheep in a cage to represent the origin of lanoline, and some moribund codfish in a tank, and a stray sheaf of barley, signifying the Kepler extract of malt and cod-liver oil. This was treated as a good joke, but it would become rather a nuisance if everybody followed suit and illustrated their wares in the same manner. Apart from this, B., W. & Co.'s exhibit was easily first, both in elegance and originality. Compressed tablets were the principal feature, and the new organic animal remedies are yielding themselves well to this form of administration. Oppenheimer, Son & Co. have some new developments of their "palatinoids," permanganate of potash being put up in this form, so as to make a detergent solution when the contents are turned into water. In this case the jujube envelope is not dissolved, or it would tend to reduce the permanganate. New remedies, such as eucaine hydrochlorate, airol, tannaform, erythrol, colchicine salicylate, chinosol, eudoxine, symphorol, etc., were in evidence. "Alapurin" is the name given to the purest form of wool-fat that the N. W. K. Company have yet produced. Among newer pharmaceutical combinations were extract of malt with milk and hypophosphites, petroleum emulsions with pepsin, phenate of soda combinations, compound senecio mixture, etc., and a sulphuric lemonade recommended specially for cholera. Next year the B.M.A. meets at Montreal, and it would be a favorable opportunity for Canadian houses to take up agencies, etc., of English houses, so that the latter may still be represented in a part of Greater Britain.

The Chemists' Exhibition is now open at the National Skating Palace, Oxford street, London, and from a visit I paid yesterday I am inclined to think that it will be an improvement on that of last year. It is organized by the *British and Colonial Druggist*, and over 100 firms are exhibiting, whilst the central position of the theatre, its attractive decorations and the compact arrangements generally, should ensure success. A large number of provincial chemists have attended, as the journal has some 800 shareholders in the trade, and special inducements were offered to them to attend. The chemists' sundries houses, like Maw, Son & Thompson; Barclay; Sanger; Hockin, Wilson & Co., have, perhaps, the best opportunity for display, as their cut-glass goods with plated tops, etc., look very attractive under the rays of the electric light. Wholesale druggists and manufacturing chemists are represented by many of those firms who were exhibiting last month to the doctors. The exhibition remains open for a week, and as the hour of closing is not until 10.30 p.m. there is plenty of opportunity for suburban druggists to attend. There is also a good sprinkling of nurses, medical men, and the public, the Ladies' Hungarian Band being a constant delight. As I have had to report the Medical Exhibition in this article, I propose holding over to my next letter the notes I have made of novelties at the Chemists' Exhibition.

The latest joke from the examination room at Bloomsbury Square is stated to be as follows: A youth was shown a single tuber of jalap, and, on being asked what it was, remarked that it was a monocotyledon! The examiner, scenting something good, immediately produced some tubers clustered together, a couple, and a bunch of three, with the charming result that the candidate said that the couple was a dicotyledon, and he supposed the three to be a tricotyledon!

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Tincture of horse-chestnut in doses of ten drops daily is said to be an infallible cure for hæmorrhoids.

### Wholesale Drug and Proprietary Medicine Association.

The first annual meeting of this association was held in Montreal, August 20th, with a good representation of members. As the business transacted at these meetings is principally in reference to matters pertaining to the governance of the wholesale trade, in the way of uniformity in prices, terms of credit, etc., its proceedings are not supposed to be of general interest to the trade, and consequently no report can be given. Sufficient has been gleaned, however, to know that the formation of the association has been a decided benefit to the wholesale trade, in that it has brought the individual members in closer contact and established a feeling of confidence, which tends to facilitate and strengthen any efforts made for the advancement of their interests. As with the retail trade, so it has been amongst jobbers, there has been a tendency to cut prices and to grant concessions which the present cost of transacting business, and the comparatively small margin in many cases, did not warrant. The fact also that some houses, in their anxiety to do business, started men in the retail trade who had little or no capital showed a tendency to speculate, which must, and in the majority of cases has, prove disastrous to the promoter. These are some of the features in connection with the trade with which the wholesale association may very properly deal, and we trust that any effort it may put forth in the way of righting any abuses that have crept into their ranks will meet with success.

The officers for the past year were all re-elected by acclamation and are as follows:

President, Mr. John Henderson, Toronto; vice-presidents, Mr. D. Watson, Montreal, Mr. G. Rutherford, Hamilton; secretary-treasurer, Mr. C. McD. Hay, Toronto.

# Correspondence.

The Editor does not hold himself responsible for the opinions of correspondents.
Correspondents must in all cases send name and address, not necessarily for publication.

### What a Druggist Has to Know.

Editor CANADIAN DRUGGIST:

DEAR SIR,—Enclosed please find a copy of a few "things a druggist has got to know":

"2 dl Caledonia plasters."
"Oxhide of niter, enough to draw two teeth."
"5 cents' worth powdered divers."
"¼ worth carbolick pills."

The hieroglyphic dl stands for D. & L.

Yours truly,

EDMUND JENNER,
Druggist.

Sherbrooke, N.S., August 24, 1896.

### Answers to Correspondents.

A communication without signature attached has been received, dated Toronto, Aug. 20th. We must call our correspondent's attention to our invariable rule: *All communications must be accompanied by the name of the writer*—not necessarily for publication. The writer in this case propounds queries as to the usefulness of the O.C.P., and asks, "What will be the result if 500 or 800 druggists refuse to pay their annual fee?" If he wishes to ascertain the result, no doubt he can do so very quickly, as the law would probably be put in force which demands payment.

L.D.C.—The following is recommended as a reliable

WORM SYRUP.

| | |
|---|---|
| Fl. Extract Spigelia..... | 5 fl. ozs. |
| Fl. Extract Senna ..... | 3 fl. ozs. |
| Oil Anise... ..... | 10 min. |
| Oil Caraway... ..... | 10 min. |
| Syrup ..... | 8 fl. ozs. |

Label: Teaspoonful at intervals until purging ensues.

### The New President.

Mr. J. E. Morrison, the newly-elected president of the American Pharmaceutical Association, was born in Waterford, Ireland, in the year 1862. Coming to Canada while young, he was educated at the High School of Quebec. He began the work of pharmacy in 1877, and, having attended lectures in Laval University, passed his final examinations in 1882.

J. E. Morrison,
President, American Pharmaceutical Association.

He then visited the United States, where he spent some time acquiring a knowledge of the methods there, and in 1884 started in business in Quebec city, where he remained until 1893, when he moved to Montreal.

Mr. Morrison, who has been for many years prominently identified with pharmacy in the Province of Quebec, has been a member of the council, and was for two consecutive years first vice-president. For four years he was preliminary examiner, and for several years examiner in chemistry. It was owing to the energy displayed by Mr. Morrison at the last three conventions that the Pharmaceutical Association of America was induced to visit Montreal on this occasion. Those who know Mr. Morrison are well assured that the office of president will be worthily upheld by him, and that the association will lose nothing by having at its head one so well qualified to look after its interest in every way.

### Action of Light upon Pharmaceutical Products.

By PROF. A. B. STEVENS, Department of Pharmacy of the University of Michigan, Ann Arbor, Mich.

As we passed through chemical laboratories or dispensing pharmacies, the question arises, "How many pharmacists understand the wondrous action of light, or, if they understand, how many consider its action upon their pharmaceutical products?"

Few pharmacists pause and consider the effects produced upon the substances in their shelf bottles, which, day after day, and sometimes month after month, are exposed not only to the action of light, but often of strong sunlight, constantly modifying, frequently impairing, and in many cases absolutely destroying, the therapeutic value of the drug. Immerse a bit of white paper in strong sunlight for a few hours, compare with one that has been carefully protected from the light's action, observe the change, and consider the changes produced by this agent upon similar organic bodies. It is in obedience to this law of change that the thrifty housewife carefully excludes the midday sun from rugs and draperies.

Realizing the action of this powerful agent, the U.S.P. Committee on Revisions directed that nearly one hundred preparations should be protected. In view of the fact that these important pharmacopœial directions are so frequently overlooked or ignored by pharmacists, the following list from the U.S.P., together with comments upon some of the most important preparations, is here given, in the hope that it may impress upon the minds of at least the younger members of the profession the necessity of a careful protection of these sensitive materials.

ARTICLES AFFECTED BY LIGHT.

Benzoic acid should be kept in dark amber colored, well-stoppered bottles, in a cold place.

Carbolic acid should be kept in dark amber-colored, well-stoppered vials.

Hydrobromic acid should be kept in glass-stoppered bottles, protected from the light.

Hydrochloric acid, nitric acid, nitric acid dilute, and nitro-hydrochloric acid should be kept in dark amber-colored, glass-stoppered bottles.

Nitro-hydrochloric acid should be kept in dark amber-colored, glass-stoppered bottles, which should not be more than half filled, and kept in a cool place.

Hydrocyanic acid dilute should be kept in small amber-colored, cork-stoppered vials, in a cool place.

Sulphurous acid should be kept in dark amber-colored, glass-stoppered bottles, in a cool place protected from light.

Formic acid is darkened by the action of light and air.

Acetic ether should be kept in a cool, dark place.

Ammonium iodide should be kept in small, well-stoppered vials, protected from light.

Amyl nitrite should be kept in small dark amber-colored, glass-stoppered vials, in a cool and dark place.

Sulphurated antimony, keep in well-stoppered bottles, protected from light.

Apomorphine hydrochlorate, keep in dark amber-colored vials.

Stronger orange-flower water should be kept in loosely-stoppered bottles, in a dark place.

Chlorine water should be made fresh, but when kept should be protected from light and air.

Stronger rose water should be kept in a dark place.

Silver cyanide, iodide, nitrate, diluted nitrate, moulded nitrate and oxide should be kept in dark amber-colored vials, protected from the light.

Arsenic iodide should be kept in glass-stoppered vials protected from light.

Bismuth and ammonium citrate, keep in well-stoppered bottles, protected from light.

Chloral and chloroform should be kept in glass-stoppered bottles, in a cool, dark place.

Ferric citrate, iron and ammonia citrate, iron and ammonia tartrate, iron and potassium tartrate, iron and quinine citrate, soluble iron and quinine citrate, iron and strychnine citrate, should be kept in well-stoppered bottles, protected from the light.

Saccharated ferrous iodide should be kept in a cool and dark place.

Soluble ferric phosphate and pyrophosphate should be kept in dark amber, stoppered bottles.

Iron valerianate in a cool, dark place.

Mild mercurous chloride and mercuric cyanide should be kept in dark amber-colored bottles.

Yellow mercurous iodide should be kept in amber-colored bottles with the least possible exposure to light.

Red mercuric iodide, yellow mercuric oxide, red mercuric oxide, yellow mercuric sulphate, ammoniated mercury and mercury with chalk are to be protected from light.

Iodoform, solution ferric acetate, solution of chlorinated soda and methyl salicylate are to be kept in a cool place, protected from light.

Naphthol, keep in dark amber-colored bottles.

Volatile oils, 23 are directed to be kept in cool places, protected from light.

Physostigmine salicylate and sulphate should be kept in small dark amber-colored vials.

Lead iodide is to be protected from light.

Pyrogallol, keep in dark amber-colored vials.

All of the quinine salts should be kept in a dark place.

Resorcin and santonin should be kept in dark amber-colored vials.

Sodium salicylate, protect from heat and light.

Spirit of nitrous ether in small dark amber-colored vials, in a cool place.

Spirit of phosphorus, keep in small dark amber-colored vials, in a cool, dark place.

Strontium iodide, keep in dark amber-colored, glass-stoppered vials.

Terebene should be kept in a cool place, protected from light.

Tincture of chloride of iron should be protected from light.

### OTHER CHEMICALS ACTED UPON BY LIGHT.

The action of light upon silver compounds is a problem upon which a vast amount of study and investigation has been expended. Few investigators agree as to the actual compounds formed, but nearly all have proved that the action is one of reduction.

Silver chloride, when fused repeatedly, or until all traces of the nitrate or organic impurities are lost, is unaffected by light. M. de St. Victor discovered that paper coated with egg albumin and dipped in a solution of silver is far more sensitive than when used with the silver salt alone. At the present time silver salts are invariably associated with albumin, gelatin, or collodion in all photographic plates.

Chloral becomes acid on exposure to light and air.

Chloroform, when absolute and all air is excluded, is not acted upon by sunlight, but in the presence of air is rapidly decomposed. The presence of more than 1½ per cent. of alcohol prevents decomposition; smaller quantities retard the action in proportion to the quantity present. In the absence of alcohol chlorine is liberated. In the presence of alcohol the chlorine is converted into hydrochloric acid.

Creosote, when pure, is not acted upon by light, but when a small quantity of tar oils is present light darkens it.

Sulphurous acid is decomposed by light, forming free sulphur and oxygen. The oxygen combines with a portion of the sulphurous acid to form sulphuric acid—

$$SO_2 = S + O_2$$
$$2SO_2 + 2O + 2H_2O = 2H_2SO_4.$$

Hydrocyanic acid is decomposed by light and air, forming different substances under different conditions. The greatest care must be exercised to promote its preservation. The following is the method employed in the prescription department of one American School of Pharmacy. A block of wood whose dimensions are 2 by 2½ by 6 inches is procured. Eight holes of sufficient size that each will accommodate a dram vial are bored in this block. The vials, filled with freshly made hydrocyanic acid, are corked, placed in the holes prepared to receive them, and the holes closed with corks. When a prescription requiring this acid is received, the acid is taken from one of the vials, and should any acid remain in the opened vial it is thrown away. This method insures fresh acid for each prescription.

Ferric salts.—Inorganic ferric salts, when pure, are stable, but when associated with organic compounds they are invariably reduced to ferrous compounds by the action of light. For example, ferric chloride and the solution of ferric chloride are unaffected by light, while the alcoholic tincture of the solution is partly reduced to ferrous chloride—

$$Fe_2Cl_6 + C_2H_6O = 2FeCl_2 + C_2H_4O + HCl.$$

Hence the U.S.P. directs that it shall be protected. Many of the ferric salts with organic acids are so sensitive to the action of light that they are used for photographic printing. The cyanotypes, or blue prints, are made by exposing paper coated with a solution of ammonio ferric tartrate, and placed under a negative to the action of sunlight. When the iron is reduced to a ferrous condition, the paper is floated upon a solution of potassium ferricyanide, forming ferrous ferricyanide. The kalli-type printing process is based upon the reduction of ferric oxalate to ferrous oxalate by light. Sodium ferric oxalate acts in a similar manner, producing an orange-colored image, which is developed with a solution containing silver nitrate.

Mercurous chloride, when in the dark, is not acted upon by the air. Exposed to light it gradually darkens, indicating partial reduction.

Mercuric cyanide is affected in a similar manner.

Mercurous iodide is easily decomposed by light into mercuric iodide and mercury. Mercuric oxides, both red and yellow, are partially reduced by light.

Iodoform is decomposed by sunlight with the liberation of iodine.

Volatile oils are easily decomposed, and even alcoholic solutions are easily affected by the same agent. Therefore not only volatile oils, but perfumes also should be protected.

The ornamental display of perfumes in clear glass bottles upon the case or shelves is a mistake. Exclude the light from them and their quality will be their best advertiser.

Spiritus ætheris nitrosi rapidly decomposes under the action of light and air, becoming acid. Samples have been found that had decomposed and refused to give a test for ethyl nitrite.

Syrup of ferrous iodide which has oxidized by the actio.. of air may be completely reduced to the ferrous condition by exposure to sunlight. It has been suggested that an acid ferric salt might be formed in the sunlight. This, however, is not the case, as a small sample exposed to sunlight for a period of six months refused to yield more than the faintest ferric test.—*Phi Chi Communicator.*

## Taraxacin.

By L. E. Sayre, Member of Research Committee of the American Pharmaceutical Association.

Continuing the investigation recorded in the preceding volumes of this association, '93, '94, and '95, I have this year devoted my time specially to the study of the bitter principle taraxacin. In a former paper it was stated that the difficulty in isolating the active principle lay in the separation of it from the extraneous matter with which it seemed to be always contaminated. It was stated that all attempts to obtain the bitter principle in a crystalline form, free from admixture with the brownish red extractive, had been unsuccessful, and it was my opinion that all former reports of taraxacin in analyses were only the crude bitter principle containing this extractive. The colorless solutions of the principle on evaporation separate resin-like globules at first, which, when evaporated to the solid condition, now and then show needle-like crystals, intermingled with the above mentioned extraneous matter (?). Whether these crystals, or uncrystallizable amorphous globules, were actually the bitter principle was a question. This problem has been one with which I have wrestled during the past year.

Before stating the results of this work it may be well to go briefly into the history of the principle itself. In 1839 an article appeared by Gustav Polex,* "Ueber das Lowenzahnbitter" (Taraxacin) in *Archiv. der Pharmacie*, second series, Vol. xx., page 50, in which he states that he obtained the bitter principle in crystalline form by extracting the milky juice in distilled water. By this means the albuminous substances were coagulated, carrying with them the resin, fatty matter, and caoutchouc, filtering the concentrated liquor, and allowing it to evaporate spontaneously in a warm place. The crude crystals were recrystallized from alcohol or water. It would form thus arborescent or star-shaped crystals. These were reported as melting readily, non-volatile, having a bitter and rather acrid taste, sparingly soluble in cold water, readily soluble in boiling water, alcohol and ether, soluble in concentrated acids without decomposition; containing no nitrogen. He classed it with the neutral principles.

I have gone over the ground of Polex myself, and have concluded, as did Kromayer in 1861, that the crystals obtained by Polex did not represent the bitter principle. My opinion is that they were a mixture of various substances, included in which was the taraxacerin of Kromayer, of which I will speak later.

*Gustav Polex appears to have been one of the early pioneers in Plant Chemistry. He published articles about the year 1839, as below tabulated:

Berberin, Archiv. der Pharm., Second Series, Vol. vi.; p. 265-281.

Cheledonin and Pyrrhopin, Archiv. der Pharm., Second Series, Vol. xvi., p. 77.

Ligustrin, Archiv. der Pharm., Second Series, Vol. xvii., pp. 75.

Cicutin, Archiv. der Pharm., Second Series, Vol. xviii., p. 174.

Taraxacin, Archiv. der Pharm., Second Series, Vol. xx., p. 50.

Most of the books refer to this and Kromayer's work somewhat confusedly.

The arborescent and stellate forms from the milky juice of Polex have been obtained, but on purification of these I have found that the bitter substance separated from them is not crystalline, leaving behind material which is to some extent morganic. Kromayer, in *Archiv. der Pharmacie*, 1861, p. 6, 105 and 106, second series, is quoted by the editor of that journal, L. F. Bley, as having been unsuccessful in obtaining the bitter principle. He seems to have gone over Polex's work.

Abstracting this article* the editor says: "Fresh root gave, upon treatment with water, fermentable sugar and inulin. In the same were found chiefly sodium chloride and potassium nitrate. From both with mixed extract crystallizations were obtained, which represented, apparently, Polex's taraxacin, although the isolation of it did not succeed. One experiment to separate the milky juice from the fresh roots gave only 9 grammes yield. The dried juice had an acid reaction, while the milky juice, upon separation, was neutral. The author calls this leontodonium. It was dissolved in water, treated with animal charcoal, and this taken up with alcohol. The same evaporated contained crystals; was dissolved in water and precipitated with lead subacetate. The precipitate gave upon decomposition only a flat tasting syrup. From the principle leontodonium, insoluble in water, a bitter solution was obtained with alcohol, which, upon concentration, separated round, tasteless kernels, showing these free from nitrogen. The ultimate analysis gave C 74.444; H 12.686; O 12.870. Kromayer calls this material "taraxacerin." This would seem to be a poor representation of Kromayer's work (see footnote). Looking over the current publications, text-books, etc., I find that published statements of taraxacin rest upon the actual work of Polex in 1829, and upon a confusion between taraxacin, bitter, and taraxacerin, tasteless, of Kromayer. Not infrequently do we see attached to the term taraxacin the statement of its ultimate composition, as, in a text-book on pharmacy, which is very frequently consulted, the statement is made that "taraxacum owes its bitterness to taraxacin, $C_8H_{16}O$." Now, the fact is, there has never been a combustion made of this principle, and it is a question in my mind whether the principle has ever been crystallized. Those who will take the trouble to go over the literature, a bibliography of which is appended hereto, I think, will agree with me in this statement.

It remains for me to state the work of the past year upon this subject in my own laboratory, the results of which, I am pleased to state, seem to be quite promising. Fifty pounds of drug were extracted with chloroform, the chloroform allowed to evaporate spontaneously until a solid or semi-solid extract was left behind. Small portions of this extractive were taken, and several rather unsystematic analyses were made. Data of all the work were carefully recorded, all new developments were carefully studied, in order that a process might be reached for the isolation of the active principle. By the time an amount of fluid representing 25 lbs. was exhausted, sufficient data had been collected to conduct an analysis in a satisfactory manner. The chloroformic extract was macerated for several days in 500 c.c. of alcohol, with occasional agitation. The liquid was then decanted, and the residue marked "A" washed with alcohol until free from bitterness. The alcoholic solution was then evaporated (distilled) to about 100 c.c., and an equal volume of water gradually added, care being taken to avoid emulsifying the resin contained in the alcoholic solution. This treatment precipitated most of the resinous matter soluble in alcohol, which gathered in a soft, waxy mass at the bottom of the vessel. The supernatant liquid was then decanted, and the residue marked "B" was digested with successive portions of hot water until free from bitterness. These resins "A" and "B," with the bitter principle, correspond to what Kromayer, in 1861, called leontodonium.

The aqueous solution was evaporated to about 100 c.c., thus driving off all the alcohol and allowing the resinoid matter held in solution to deposit. The aqueous solution was then shaken with ether to remove all traces of resinoid matter. The ethereal washing, evaporated and redissolved in water, gave a very bitter solution, showing that the bitter principle adhered tenaciously to the resinous matter. The aqueous solution was evaporated to a solid, dissolved in alcohol, the alcoholic solution evaporated to a solid, the alcoholic extract dissolved in distilled water, again evaporated, again treated with alcohol, and in this way all proteid matter seemed to be gotten rid of. The aqueous extractive thus obtained represented the bitter principle; this was soluble in cold water, very soluble in hot water, in alcohol, ether, and chloroform, giving with water a straw-

*Kromayer's fullest publication on taraxacum is found in the publication of a monograph on a prize subject under the German Apothecaries' Union, of which *Archiv. Pharm.* is the organ. The prize research was upon bitter principles at large—the monograph was purchased by Dr. Prescott; from this I make the following translation on taraxacin: "I tried to separate the taraxacin from the root and the fresh milky juice, but secured it only as an amorphous principle. The milky juice has a neutral reaction in its fresh condition, but assumes soon an acid character, while it stiffens to a friable mass, which soon turns brown (Leontodonium). In this respect it shows much similarity to the milky juice of Lactuca varietes, and contains also a body (similar to the lactucerin) taraxacerin. . . . According to my researches on taraxacin the freshly collected leontodonium is repeatedly extracted with hot water till the remainder no longer tastes bitter. The collected washings are treated with animal charcoal, and from the latter the bitter principle is extracted with alcohol. The alcoholic solution is distilled and the residue is precipitated with lead subacetate, and the lead removed by $H_2S$, and evaporated on a water-bath. The colorless very bitter mass which remains is treated with ether, whereby an acid resin is dissolved. The insoluble portion presents a colorless, very bitter amorphous mass, which in its property corresponds to the taraxacin of Polex. The part of leontodonium insoluble in water is almost completely soluble in strong boiling alcohol. Upon long evaporation of the alcoholic solution warty aggregations of taraxacerin are separated, which, upon repeated solution in alcohol and slow evaporation, can be secured dazzlingly white. Dried at 100 degrees C., it corresponds to the formula $G_{40}H_{40}O_5$."—August Kromayer, Die Bitterstoffe und Kratzend-Schmeckenden Substanzen, 1861.

colored solution, which was intensely bitter. From the aqueous, alcoholic, ethereal, and chloroformic solutions an attempt was made to crystallize the principle by spontaneous evaporation, evaporating in vacuo, etc., but all attempts at crystallization were unavailing. It was noticeable, however, that the gummy extractive which when allowed to deposit in thin film on crystallizing dishes showed under the microscope here and there acicular crystals of arborescent and stellate forms. How to account for these it seemed impossible; a theory suggested itself that it might be due to ammonium chloride from the laboratory fumes, which were absorbed in the aqueous solutions in some way. But on further examination this was proved not to be the case. Finally, after a number of unsuccessful experiments upon this subject, it occurred that these crystals might be due to a process of oxidation. The gummy, bitter, uncrystallizable substance was then dissolved in peroxide of hydrogen and allowed to evaporate. Upon examining the extractive from the evaporation of this solution, it was found that the number of crystals had increased enormously, but that not all the extractive had been converted into crystals. The residue was repeatedly dissolved in peroxide of hydrogen, and by this process the whole mass was converted into crystalline form. Another portion of extractive was dissolved in diluted nitric acid, and on evaporation of this solution a solid mass of crystals, free from extractive matter, was obtained. As a name for this derivative of taraxacin, I at that time believed taraxacic acid would be appropriate. Quite a quantity of this was made, and some of it very pure and white. The method used was as follows: The impure bitter substance was heated on a water-bath with dilute nitric acid for some hours, the solution evaporated, and water added; the acid solution filtered, and to it lead acetate was added, which precipitated the acid as a very insoluble lead salt. After washing this salt in distilled water it was suspended in distilled water and treated with $H_2S$. The filtered solution was then evaporated. The acid then crystallizes out in long, white needles, or in short prisms.

It was believed then that this result of forming an acid from bitter principle by oxidation indicated an easy, practical method of standardizing taraxacum root; the process being to convert the bitter principle into the acid and weigh it as a lead salt. But, to my disappointment, on further studying this acid, by observing its crystalline form, solubility in different solvents, by its behavior when heated to determine its melting point, by sublimation, etc.—to my disappointment this crystalline substance was thus identified as oxalic acid, the oxidation product of so many organic compounds. Whether any of the salts of this acid—obtaining it by the oxidation of taraxacin—could be used as means of assaying the drug or not depends on whether or not there is anything else in this extractive, called taraxacin, which will yield oxalic acid when oxidized, and whether the ratio of bitter principle to acid is constant. These things can only be determined by experiment, but of success in this direction I have little hope, because of the many chances of error involved. Of course, if we have found that the crystalline oxidation product is oxalic acid, we would use the calcium salt instead of the lead for its estimation.

It was stated by Polex and by Kromayer that the bitter principle of taraxacin was wholly indifferent to chemical reagents. I have found the bitter principle to be quite different from this in characteristic. It is extremely sensitive to all the alkaloidal reagents; phosphomolybdic and phosphotungstic acids, platinic chloride, gold chloride, tannic acid, etc. On precipitating a solution of the bitter principle with phosphomolybdic acid and treating the precipitate according to Scheibler's process, namely, by treating the precipitate with barium hydrate, drying it upon the water-bath, and then extracting it with chloroform or alcohol, I recovered the same bitter principle unchanged. On vaporating the supernatant liquid, first neutralizing the solution by ammonium hydrate and then by sodium bicarbonate, drying the residue, and extracting it by means of chloroform, I recovered another quite large portion of the same bitter principle. From this experiment it would seem that phosphomolybdic acid unites with the bitter principle, forming a compound which is sparingly soluble. On heating the bitter principle with water acidulated with hydrochloric acid for some time, it gives at the end of a few hours a decided reaction with Fehling's solution, but I do not state this as a conclusive evidence of its being a glucoside. On passing ammonia gas into a chloroformic solution of the bitter principle it had the effect, after the gas had passed through a few minutes, of separating a dark-colored fluid, which floated on top of the chloroform. This dissolved very easily in water, giving a very beautiful rose-red solution with a slight fluorescence. The water solution gave a slight turbidity on treatment with HCl, and this is soluble in alcohol. Before treatment with $NH_3$, the bitter principle is very soluble in chloroform and not very soluble in water; after treatment, the solubility is reversed. As to the other constituents of taraxacum, there have been separated two distinct resins, one soluble in chloroform and insoluble in alcohol; another soluble in 80 per cent. alcohol. The latter resin, when slowly evaporated from alcoholic solution, separates from it in white, cauliflower-like forms. These two resins are now under examination, and it is to be hoped that by the time the proceedings of this association are published more definite statements concerning their ultimate composition, as well as the composition of taraxacin, will be made.

For next year's work I propose to go over the ground, and am negotiating for the preparation of a chloroformic extract of 100 lbs. of drug, as a starting point for further investigation. I should state, before closing, that the resins above mentioned, when purified and boiled with nitric acid, do not yield even a trace of crystals on evaporation. The resins are oxidized to yellow substances, which are only slightly soluble in water; soluble in alcohol. The aqueous alcoholic solutions are colored intensely red by ammonia. These are nitro-compounds, undoubtedly; the amido-compounds, by reduction with alcoholic ammonium sulphide, are being investigated.

For aid in this work, I wish to express my indebtedness especially to Mr. H. P. Cady, Lawrence, Kansas, assistant in chemistry. Also to Prof. A. B. Prescott, for his valuable assistance in collecting the bibliography of the subject, which is tabulated below.

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## American Pharmaceutical Association.

ANNUAL MEETING.

SECOND DAY—CONTINUED.

The treasurer's report showed the total revenue for the year, $9,738.34, and the expenditure, $8,396.25, leaving a balance of $1,342.09.

Prof. Diehl's introduction to the report on the Progress of Pharmacy was of a most exhaustive nature, and showed that the report itself would be of a most comprehensive character.

The report on membership showed that during the year 243 new applications had been made for membership; of these, 141 had completed their application for membership, and there were 209 in arrears. It was considered that the depression in trade had caused a falling off in the number of applicants for membership and had increased the number in arrears. There were now 1,435 members in good standing, to which had to be added 141 new members; one new life member, ninety-five life members, and fifteen honorary members. There had been twenty-three deaths.

Dr. Stewart, of Detroit, delivered an able address on "National Legislation," in the course of which he drew attention to the close relationship existing between medicine and pharmacy. Pharmacy was really a branch of medicine, and as medicine was one of the so-called liberal professions; therefore pharmacy must also be considered as such. Pharmacists should be ready to make public their discoveries, just as it was expected that medical men would publish discoveries made by them, which were for the good of humanity. The constant conflict between trade and science was shown in the fact that the United States patent laws endeavored to protect science, on the one hand, and trade on the other. The pharmaceutical profession should be protected, and pharmacy should not be allowed to degenerate into a trade. Various plans of relief from unfair methods of trade, competition with proprietary medicine houses, department stores, etc., had been proposed. The Committee on Legislation, which Dr. Stewart represented, believed that the only method of relief consisted in the recognition of pharmacy as a liberal profession, its practice in a professional manner, and its protection as a special class of the community, such protection being for the true interests of the public at large. After referring to the question of trade marks and quoting a number of articles from trade papers on decisions of law courts on this question, Dr. Stewart concluded by saying: "The importance of the subject of patents and trade marks in relation to medicine demand more consideration than the limits of this report will allow. Your committee would refer those interested to such standard authorities as 'Browne on Trade Marks,' 'Simond's Manual of the Patent Law,' the article on 'Copyright' in the Encyclopedia Britannica, and the address of the chairman before the section of the Committee of Materia Medica, Pharmacy, and Therapeutics of the American Medical Association recently delivered at Atlanta, and entitled 'Practice of Pharmacy as a Liberal Profession.'"

The general session of the association was then adjourned until the following morning, and Mr. Geo. G. Seabury took the chair as president of the section on Commercial Interests. The chairman's address was, as might be expected, of a highly practical nature, and consisted, to a large extent, of a series of questions addressed to pharmacists, physicians, and non-secret manufacturers, the replies to these questions showing the different positions taken by the different interests. Mr Seabury insisted upon the value of registration, and considered that if trade were in a lamentable state they had themselves to blame. Considerable discussion followed, and Prof. Holberg had something to say about "flim-flams" not being confined to non-secret men only. He referred to the case of a manufacturing firm, not non-secret, which offered to supply to the druggist who should use his own name on the preparation an article at a dollar and a quarter, the ingredients of which could not cost less than three dollars. The inference was clear.

By resolution the following motion by Prof. Holberg was laid on the table: "That the American Pharmaceutical Association approves of an organization by pharmacists for the manufacture and sale of medicines for popular use, as being a logical plan by which the retail druggists can regain the trade lost through the encroachment of the cutting establishments and the indifference of the jobbers, and that it is believed to be the best means by which the pharmacists of the United States may obtain relief from the patent medicine monopoly."

No evening session was held, as it was thought desirable to let the members have an opportunity of attending the Fête de Nuit at Boucherville.

THIRD DAY.

After reading of minutes it was intimated that sixty-two new members had been elected. Professor Diehl reported from the committee on the president's address, the recommendations of which were endorsed by the committee. The work of the Scientific Section was then taken up, with Mr. S. P. Saddler, of Philadelphia, in the chair. In the course of his address he claimed that the pharmacist should be a scientific man, and that he should be up-to-date with every new improvement and requirement of his profession. He referred to the thoroughness of methods in Germany, and insisted that if to the thoroughness of Germany the pharmacists of America would add American energy they would be in a position to cope with all comers, and take a place second to none. Some improvement should be made in their methods of study.

Mr. Lyman F. Kebhler, of Philadelphia, then presented the report of the committee on indicators in the tritration of alkaloids. Considerable discussion followed the reading of this very technical report.

Prof. Bartley then read the report of the Committee on the Revision of the American Pharmacopœia, discussion on which was held over for the evening session. The afternoon was devoted to an electric car ride through the leading streets of the city.

The report of the Committee on the Revision of the Pharmacopœia recommended the alteration of certain formulæ, and the elimination from the Pharmacopœia of certain preparations, especially wines and spirituous liquors. Those who favored the recommendation were of opinion that a slur had been cast upon pharmacists by their keeping these liquids, and thought that they were so seldom prescribed that they might be dispensed with in the Pharmacopœia. The opponents maintained that while brandy, whisky, etc., might be rarely prescribed by the medical profession, they were largely used as vehicles for other drugs, and that when they were prescribed as beverages, as they were sometimes in the case of convalescents, it would be unfair to compel these patients to go to the saloon, where they would get adulterated liquor. A vote was taken, and the committee's recommendation was lost. The whole report, with the exception of such clauses as had been specially referred to other sections, was referred to the National Committee on the Revision of the Pharmacopœia, and the clause on wines and spirits was referred to the section on Materia Medica, Pharmacy, and Therapeutics of the American Medical Association.

The Special Committee on Research and Scientific Papers was appointed as follows: Prof. Prescott Lloyd (elected for two years), Coblentz and Amos (elected for one year).

Papers on "The Caffein Compound in Kola," by Mr. P. T. Knox and Prof. Prescott, and "Taraxacin," by Mr. L. E. Dayre, were also read.

FOURTH DAY.

The sessions to-day were mainly taken up papers from the Scientific Section and the Educational and Legislative Section.

The question of the qualifications of pharmacists was pretty well threshed out, Prof. Holberg holding very strongly that many applicants were deficient in general knowledge and unfit for the profession of pharmacy. This, he thought, was largely owing to the employment of females as teachers. Then there was an immense difference in different schools. In Michigan they were excellent, in Kansas a disgrace.

Prof. Mason spoke on the State boards of pharmacy examinations and the qualifications of those who presented themselves for the examination, and was specially severe on the "quiz-compend."

During the discussion which followed a great deal was said on the subject of

pharmacy boards: there were boards of pharmacy on which there were no pharmacists. The matter of examination questions was taken up, and Dr. Whelpley's model examination paper came in for some pretty strong criticism by Dr. Reed, of Montreal. The difficulty of setting papers to cover all points was insisted on, and Mr. Holshauer, of New Jersey, showed the danger there was of having a lack of technicality on the one hand, or a lack of questions to show general knowledge on the other.

Mr. Chapman, Montreal, found great ignorance of arithmetic and their own language in candidates, and advocated both written and oral examinations, a point insisted upon by other speakers and deplored the difficulty of getting practical men.

Mr. Williams, of Three Rivers, referred to the difficulty they had to contend with in requiring both French and English in the Province of Quebec.

CONCLUDING DAY.

Monday was an off day with the convention, the members of which, with their friends, to the number of three hundred, spent the day on board the steamer *Bohemian*. The day was ideal: a run was made through the Lachine canal to Lake St. Louis, and the rapids were then run, without accident, of course. Dinner was served on board, and when Verchères was reached the boat's head was again turned to Montreal, which was reached shortly after four o'clock. In the evening a very pleasant concert was given in the Windsor Hall.

Mr. Good, the retiring president, occupied the chair on Tuesday morning, the last meeting of the general session. Prof. Payne, of Atlanta, Georgia, read extracts from the report of the committee on the status of pharmacists in the army and navy of the United States. The report drew attention to the generally wretched condition of these pharmacists, both as to standing and pay. They had to pass an examination before medical officers, and not before a board composed of members of their own profession, and this the report found fault with. Medical officers were no more pharmacists than were pharmacists medical officers. A certain measure of success had attended the efforts of the committee towards reform, and they were pleased to be able to state that the Marine Hospital stewards had now been placed on the civil service list. It was hoped that the committee would be able to report further success at next convention.

A suggestion that the status of pharmacists employed by the Canadian Government be enquired into was made, on the grounds that the association had members from Canada as well as the United States; but the suggestion was not adopted, it being thought unadvisable to interfere with matters referring only to the subjects of Her Majesty.

Prof. Ryan read the report of the Committee on Weights and Measures. The bill making the metric system general throughout the United States was expected to pass through Congress shortly.

It was resolved that the Committee on National Legislation should consist of five members, embracing one from Canada, so as to give it an international character.

It was also resolved that in the event of the passing of the bill making alcohol free to pharmacists, it should be recommended that it be confined to alcohol to be used for medicinal or industrial purposes only, the alcohol being so treated as to make it useless as a beverage.

It was resolved to cable the greetings of this association to the convention meeting in Prague, Austria.

Omaha, New York, and Baltimore urged their claims to have the meeting of 1898, and the matter was referred.

A unanimous vote of thanks was then passed to the local committee, the druggists of Montreal and other cities of Canada, to the daily press of our city, and a special vote of thanks to Mr. Morrison, the local secretary, for their untiring efforts to secure the comfort of the members of the association.

Mr. Chapman, Montreal, replying, said that the indebtedness was entirely on the side of the visited, and their thanks were due to the visitors, from whom they had learned so much.

The American Pharmaceutical Association photographed in front of Windsor Hotel.

INSTALLATION OF OFFICERS.

The ceremony of installing the newly-appointed officers, whose names were given in last issue, was then proceeded with, the retiring president, Mr. Good, appointing Mr. Chapman, of Montreal, and Mr. F. S. Hereth, of Chicago, to introduce the new officers to him, he, in his turn, introducing them to the delegates, who received them standing.

Mr. Good paid a high tribute to the abilities of Mr. J. E. Morrison, their new president, expressing his opinion that the badge of office was safe in Mr. Morrison's hands. The installation was then completed by Mr. Good affixing the president's badge of office on Mr. Morrison's breast.

The new president, in replying, thanked the members of the association most heartily for the high office they had conferred upon him. He remembered thinking, when he entered on the study of pharmacy, that membership of the American Pharmaceutical Convention was an honor which he might one day obtain, but he never imagined that he should be called upon one day to fill the chair once filled by such men as Parish, Ebert, Patch, Remington, Good, and others. He felt that this was an honor conferred, not so much on him individually, as an honor conferred on the pharmacists of Canada, and he was sure that these felt flattered by the honor thus conferred. His elevation to this position, he felt, would have a beneficial effect on the profession in Canada, acting as a stimulus.

Mr. Sheppard, on being installed as treasurer, expressed his conviction that these meetings, bringing together, as they did, members from all over the country, were doing great good. He hoped that they would come back more frequently to Canada and become better acquainted with their Canadian brethren; they were really one, their interests were one, and he hoped that one day they would have but one pharmacopœia for the whole of North America.

Mr. Mayo, having moved that a committee be appointed to enquire as to the desirability of the convention of 1900 being held on board a steamer on its way to Europe, and a committee appointed, Dr. Ryan moved the adjournment until August 26th.

The following committees were declared appointed, and other committees are to be announced later:

Committee on National Legislation—Dr. F. E. Stewart, A. E. Ebert, W. S. Thomson, E. Muir, E. R. Squib.

Revision of the United States Pharmacopœia—Leo Eliel, South Bend, Ind.; E. H. Bartley, Brooklyn; A. B. Stevens, Ann Arbor, Mich.; W. M. Searby, San Francisco; A. R. L. Dohme, Baltimore.

Committee on Prizes—F. S. Hereth, Geo. F. Payne, W. H. Chapman.

Delegates to Materia Medica and Pharmacy of the American Medical Association—Dr. Stewart, C. L. Diehl, J. P. Remington, J. U. Lloyd, A. E. Ebert, L. E. Sayre, H. M. Whelpley, S. T. Saddler, E. L. Patch, H. Trimble, A. R. L. Dohme, W. S. Thomson, W. M. Searby, M. L. Chalin, L. C. Hopp, J. N. Hurtz, J. C. R. Kellam, D. M. R. Culbert, T. D. Reed, Jos. Jacobs, A. B. Prescott, J. H. Beal, O. Oldberg, H. R. Slack, C. S. N. Halberg, R. W. Williams, E. Kremers, V. Coblentz, R. G. Eccles, Chas. Rice, Chas. Caspari, jr., and W. C. Alpers.

During the course of the meeting an excellent group photograph of the delegates and their lady friends was taken in front of the Windsor Hotel by Dennison, 226½ St. Catherine street, from whom copies can be had.

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## Alcohol as a Source of Error in the Titration of Alkaloids and Alkaloidal Residues.*

By CHAS. CASPARI, JR.

Methods for the volumetric determination of alkaloids in crude drugs and galenical preparations frequently include directions to dissolve the varnish-like residue (after the same has been washed with ether and dried to constant weight) in alcohol, with the aid of heat if necessary, and then to add water until a slight permanent turbidity results. A definite quantity of decinormal acid, sufficient to insure a slight excess, having been added to the mixture, the excess is titrated with centinormal alkali in the presence of a suitable indicator.

In the course of some recent analytical work, the [redacted] observed that alcohol appreciably influence the color produced by acids and alkalies with different indicators in the titration of alkaloidal residues, and a series of experiments were therefore made to study more closely the nature of the changes observed, and also to determine, if possible, whether alcohol really was the disturbing factor.

Plain water, diluted alcohol (a mixture of equal volumes of alcohol and water), 94.5 per cent. alcohol (commercially known as cologne spirit) and absolute alcohol, were employed in connection with decinormal sulphuric acid and centinormal potassium hydroxide solution, as also the following well-known indicators: hæmatoxylin, cochineal, Brazil wood, methyl orange or tropæolin OO, lacmoid and litmus. Tap water was found unfit for colorimetric work, as it invariably caused an alkaline reaction with the indicators, even after having been well boiled, and pure distilled water was, therefore, employed instead. 10 c.c. of the respective liquids were put into a beaker, together with the indicator, and acid or alkali added until the desired change of color was produced.

The following results are very significant and well worthy of attention:

*Hæmatoxylin solution*, 1 gm. to 100 c.c. alcohol. 3 drops were used for each experiment.

10 c.c. distilled water; the addition of 1 drop $\frac{N}{100}$ KOH sol. caused a decided purple color.

10 c.c. diluted alcohol required 0.65 Cc. $\frac{N}{100}$ KOH sol. to produce the same purple color, which was again destroyed upon the addition of a few drops of alcohol.

10 c.c. alcohol required 1.25 c.c. $\frac{N}{100}$ KOH sol. to show a decided alkaline reaction.

10 c.c. absolute alcohol; a purple color was produced within one minute by the indicator alone without the addition of any alkali. The color, however, disappeared upon addition of a trace of decinormal acid.

*Cochineal solution*, 10 gm. to 100 c.c. 25 per cent. alcohol. 5 drops were used for each experiment.

10 c.c. distilled water required 6 drops (about 0.2 c.c.) $\frac{N}{100}$ KOH sol. for a decided alkaline reaction, indicated by a purplish red (onion-red) color.

10 c.c. diluted alcohol required 0.80 c.c $\frac{N}{100}$ KOH sol. to produce the same color, which was again destroyed by a few drops of alcohol.

10 c.c. alcohol required 1.4 c.c. $\frac{N}{100}$ KOH sol. to produce the same color.

10 c.c. absolute alcohol required 0.1 c.c. $\frac{N}{100}$ KOH sol. to show the alkaline reaction.

*Brazil-wood solution* (U.S.P. test-solution), 10 gm. to 20 c.c. water with subsequent addition of 2 c.c. alcohol. 10 drops were used for each experiment.

10 c.c. distilled water required 5 drops $\frac{N}{100}$ KOH sol. to produce the pink color indicating alkalinity.

10 c.c. diluted alcohol required 1.0 c.c. $\frac{N}{100}$ KOH sol. to produce the same color, which was again destroyed by a few drops of alcohol.

10 c.c. alcohol required 1.6 c.c. $\frac{N}{100}$ KOH sol. to show the alkaline reaction.

10 c.c. absolute alcohol required 0.25 c.c. $\frac{N}{100}$ KOH sol. to produce the desired pink color.

*Lacmoid solution*, 1 gm. to 500 c.c. 50 per cent. alcohol. 10 drops were used for each experiment.

10 c.c. distilled water required 2 drops $\frac{N}{100}$ KOH sol. to produce a decided purplish blue color.

10 c.c. diluted alcohol required 0.45 c.c. $\frac{N}{100}$ KOH to produce the same color, which was again destroyed by a few drops of alcohol.

10 c.c. alcohol required 0.7 c.c. $\frac{N}{100}$ KOH sol. In this case the purplish blue color produced was discharged by a large excess of alkali.

10 c.c. absolute alcohol. A decided blue color was produced by the indicator alone, which was not changed by addition of an excess of alkali.

*Litmus solution* (aqueous solution). 4 drops were used for each experiment.

*a.* 10 c.c. distilled water; a purplish red color was produced by the indicator alone.

*b.* 10 c.c. distilled water required 2 drops $\frac{N}{100}$ KOH sol to produce a decided purplish blue color.

*Read at the meeting of the A. Ph. A. at Montreal.

10 c.c. diluted alcohol required 0.2 c.c. $\frac{N}{100}$ KOH sol. to produce the same color as in *a*.

10 c.c. diluted alcohol required 0.65 c.c. $\frac{N}{100}$ KOH sol. to produce the same color as in *b*. This color was again destroyed by addition of a few drops of alcohol.

10 c.c. alcohol required 1.10 c.c. $\frac{N}{100}$ KOH sol. to produce the same color as in *b*.

10 c.c. absolute alcohol produced the same color as obtained in *b* with the indicator alone.

*Tropæolin OO or Methyl orange solution*, 1 g.m. to 500 c.c. 50 per cent. alcohol. Two drops were used for each experiment.

*a*. 10 c.c. distilled water upon addition of 1 drop $\frac{N}{10}$ $H_2SO_4$ gave the characteristic pink color, showing an acid reaction.

*b*. 10 c.c. distilled water with 0.1 c.c. $\frac{N}{10}$ $H_2SO_4$ gave a decided crimson color showing a strong acid reaction.

*c*. 10 c.c. diluted alcohol required 1.10 c.c. $\frac{N}{10}$ $H_2SO_4$ to produce the same color as in *b*.

10 c.c. alcohol with 3.5 c.c. $\frac{N}{10}$ $H_2SO_4$ failed to produce the same color as in *b*: a deep orange red color was produced which gradually on further addition of 1.25 c.c. $\frac{N}{10}$ $H_2SO_4$ changed to crimson.

10 c.c. absolute alcohol failed to produce a crimson color with 4.75 c.c. $\frac{N}{10}$ $H_2SO_4$.

*d*. 10 c.c. distilled water, treated as under *b*, required 0.97 c.c. $\frac{N}{100}$ KOH sol. to produce a strong yellow color indicating alkalinity.

10 c.c. diluted alcohol, treated as under *c*, required only 10.20 c.c. $\frac{N}{100}$ KOH sol. to produce the same color as in *d*.

From the foregoing reactions it is very evident that alcohol and absolute alcohol, as available in the market, exercise a decided influence on color indicators and may be the fruitful source of error in volumetric work. Strange to say, while alcohol appears to play the part of an acid toward hæmatoxylin, cochineal, Brazil wood, lacmoid, and litmus, by requiring an increased quantity of alkali to produce the characteristic alkaline color reaction, it behaves quite differently towards methyl orange or tropæolin OO. In the latter case alcohol seems to lend to the indicator a strong alkaline reaction, requiring a phenomenal amount of decinormal acid to produce the characteristic acid color. The fact that absolute alcohol appears alkaline towards all of the above indicators is remarkable, and, while no further examination of the article was undertaken, it is but fair to say that it was the product of a well-known reliable American manufacturer. The alcohol used was such as is usually sold to pharmacists by the jobber as prime cologne spirit.

If, then, alcohol plays so important a part in color reactions, it is more than likely that its presence will influence more or less the results obtained in the titration of alkaloidal residues, and hence it should be rigidly excluded in all such work if accuracy is desired. It may be employed to bring the impure (often resinous) residue into solution, so that the decinormal acid can dissolve the alkaloid more readily, but should invariably be dissipated by the application of heat before titration of the acid solution is undertaken.

To show the effect of alcohol on the valuation of alkaloids, and to point out more forcibly the necessity for the absence of this solvent in such operations, four alkaloids, morphine, cocaine, atropine, and strychnine, all of American manufacture, were assayed volumetrically both in aqueous and dilute alcohol solution. Quinine and cinchonine cannot be determined volumetrically like the other alkaloids above mentioned, because when in acid solution, prepared exactly like the others, both gave an alkaline color indication with cochineal and tropæolin; with hæmatoxylin and Brazil wood, although the reaction at first is acid, an alkaline reaction occurs before the excess of acid is neutralized, and hence results entirely too high are obtained.

The solutions used in making the following determinations were so prepared that 100 c.c. of finished product contained 0.500 g.m. of alkaloid and 20 c.c. of decinormal acid. Ten c.c. of this solution were used for each titration, centinormal alkali solution being used to determine the excess of acid. The equivalent of 1 c.c. $\frac{N}{100}$ KOH sol. in $\frac{N}{10}$ $H_2SO_4$ was determined for each indicator so that accurate calculation as to percentage could be made. The proportion of pure alkaloid determined in both the water and the dilute alcohol solutions is given opposite each indicator for the sake of ready comparison, the quantity of indicator used having been the same as stated in the experiments with plain solvents, mentioned above. Two extra determinations we made in the case of each alkaloid, with hæmatoxylin and tropæolin OO, after addition of 5 c.c. alcohol to the dilute alcohol solution; this was done for the purpose of showing the effect of a larger proportion of alcohol, whereby the detrimental influence of the latter liquid is emphasized.

MORPHINE.

| Indicator. | Water Solution. | Diluted Alcohol Solution. |
|---|---|---|
| Hæmatoxylin | 98.58 per cent. | 96.05 per cent. |
| Cochineal | 98.48 " | 95.26 " |
| Brazil wood | 98.32 " | 89.68 " |
| Tropæolin OO | 98.55 " | 105.44 " |
| Lacmoid | 98.91 " | 97.56 " |
| Litmus | 98.41 " | 94.05 " |

In the case of tropæolin the diluted alcohol solution required the addition of 1.53 c.c. $\frac{N}{10}$ $H_2SO_4$ before a decidedly acid color was obtained and satisfactory titration made impossible.

After addition of 5 c.c. of alcohol to 10 c.c. of the diluted alcohol solution the following results were obtained:

With hæmatoxylin..... 89.00 per cent.
With tropæolin OO, requiring the addition of 3.4 c.c. $\frac{N}{10}$ $H_2SO_4$.... 107.68 "

COCAINE.

| Indicator | Water Solution. | Diluted Alcohol Solution. |
|---|---|---|
| Hæmatoxylin | 97.26 per cent. | 94.65 per cent. |
| Cochineal | 96.35 " | 95.02 " |
| Brazil wood | 95.95 " | 90.71 " |
| Tropæolin OO | 97.26 " | 104.23 " |
| Lacmoid | 97.44 " | 96.53 " |
| Litmus | 96.35 " | 92.83 " |

In the case of tropæolin the diluted alcohol solution required the addition of 1.56 c.c. $\frac{N}{10}$ $H_2SO_4$ before a decidedly acid color was obtained and satisfactory titration made possible.

After addition of 5 c.c. of alcohol to 10 c.c. of the diluted alcohol solution, the following results were obtained:

With hæmatoxylin..... 92.84 per cent.
With trapæolin OO, requiring the addition of 3.2 c.c. $\frac{N}{10}$ H $SO_4$.... 106.65 "

ATROPINE.

| Indicator | Water Solution. | Diluted Alcohol Solution. |
|---|---|---|
| Hæmatoxylin | 99.89 per cent. | 96.82 per cent. |
| Cochineal | 100.08 " | 97.33 " |
| Brazil wood | 99.75 " | 94.62 " |
| Trapæolin OO | 100.02 " | 106.58 " |
| Lacmoid | 100.38 " | 97.95 " |
| Litmus | 98.20 " | 91.49 " |

In the case of tropæolin the diluted alcohol solution required the addition of 1.52 c.c. $\frac{N}{10}$ $H_2SO_4$ before a decidedly acid color was obtained and satisfactory titration made possible.

After addition of 5 c.c. of alcohol to 10 c.c. of the diluted alcohol solution, the following results were obtained:

With hæmatoxylin ..... 92.95 per cent.
With tropæolin OO, requiring the addition of 3.2 c.c. $\frac{N}{10}$ $H_2SO_4$.... 108.09 "

STRYCHNINE.

| Indicator. | Water Solution. | Diluted Alcohol Solution. |
|---|---|---|
| Hæmatoxylin | 97.03 per cent. | 94.59 per cent. |
| Cochineal | 97.43 " | 94.25 " |
| Brazil wood | 96.53 " | 89.11 " |
| Tropæolin OO | 97.19 " | 103.54 " |
| Lacmoid | 98.03 " | 97.19 " |
| Litmus | 92.11 " | 84.02 " |

In the case of tropæolin the diluted alcohol solution required the addition of 1.5 c.c. $\frac{N}{10}$ $H_2SO_4$ before a decidedly acid color was obtained and satisfactory titration made possible.

After addition of 5 c.c. of alcohol to 10 c.c. of the diluted alcohol solution, the following results were obtained:

With hæmatoxylin..... 87.64 per cent.
With tropæolin OO, requiring the addition of 3.3 c.c. $\frac{N}{10}$ $H_2SO_4$.... 110.22 "

QUININE.

Although quinine, for reasons already stated above, cannot be titrated in the same manner as the other alkoloids mentioned, the effect of alcohol can nevertheless be observed. Decinormal hydrochloric acid was used in place of sulphuric acid to avoid fluorescence, and hæmatoxylin was employed as the indicator.

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When titrated in water the result showed 117.18 per cent.; when titrated in a mixture of alcohol and water (equal volumes) the result showed 112.79 per cent.

It is possible that alkaloids and alkaloidal residues may be titrated with a fair degree of accuracy in alcoholic or hydro-alcoholic solution, provided the relation of the centinormal alkali to the decinormal acid has been previously determined for the particular indicator to be employed, in the presence of the alcohol or the mixture of alcohol and water; but this necessitates extra labor as well as a knowledge of the proportion of alcohol present, since an increase or decrease of the latter materially affects the equivalent.

The following tables show at a glance the variation in the relation of alkali to acid, as indicated by color reactions, in the presence of different mixtures of alcohol and water. The presence of alcohol, moreover, seems to have a direct influence on the color produced by the indicator, and the changes are by no means as sharp as in water alone, and in some cases are even observed with difficulty, thus rendering the titration results less reliable. The decinormal sulphuric acid used was standardized by precipitation as barium sulphate and found to contain 0.004889 gm. $H_2SO_4$ in 1 c.c. With this acid the centinormal alkali solution was standardized, phenolphthalein being used as an indicator.

A. Table showing the number of c.c. $\frac{N}{100}$ KOH Solution Necessary to produce a Neutral or Faintly Alkaline Reaction with Different Indicators when 10 c.c. $\frac{N}{10}$ $H_2SO_4$ are Titrated in the Presence of 60 c.c. of Distilled Water, Alcohol, and Mixtures of Alcohol and Water.

| Indicator. | Distilled Water. | Alcohol 1 vol. Distilled Water 2 vols. | Alcohol 1 vol. Distilled Water 1 vol. | Alcohol 2 vols. Distilled Water 1 vol. | Alcohol 94.5 per cent. |
|---|---|---|---|---|---|
| Phenolphthalein | 100.16 | 104.39 | 106.72 | 106 76 | 109.24 |
| Hæmatoxylin | 98.17 | 100 54 | 109.83 | 101.53 | 103.15 |
| Tropæolin OO | 98.42 | 96.93 | 96.11 | 91.70 | 74.65 |
| Cochineal | 98.52 | 101.20 | 101.79 | 102.96 | 104 07 |
| Brazil wood | 98.57 | 102.09 | 103.10 | 104.28 | 106.28 |
| Lacmoid | 99.06 | 100.44 | 101.13 | 101.50 | 102.71 |
| Litmus | 93.66 | *02.69 | 103.40 | 104.93 | 106.32 |

*Color very difficult to distinguish.

B. Table Showing the Equivalent of 1 c.c. $\frac{N}{100}$ KOH in Decinormal Sulphuric Acid when Titrated with Different Indicators in the presence of Distilled Water, Alcohol, and Mixtures of Alcohol and Water.

| Indicator. | Distilled Water | Alcohol 1 vol. Distilled Water 2 vols. | Alcohol 1 vol. Distilled Water 1 vol. | Alcohol 2 vols. Distilled Water 1 vol. | Alcohol 91 5 per cent. |
|---|---|---|---|---|---|
| | c.c. | c.c. | c.c. | c.c. | c.c. |
| Phenolphthalein | 0.09984 | 0.09579 | 0.09414 | 0.09367 | 0.09154 |
| Hæmatoxylin | 0.10180 | 0.09946 | 0.09917 | 0.09849 | 0.09694 |
| Tropæolin OO. | 0.10160 | 0.10316 | 0.10405 | 0.10559 | 0.13396 |
| Cochineal | 0.10150 | 0.09881 | 0.09824 | 0.09712 | 0.09609 |
| Brazil wood | 0.10144 | 0.09795 | 0.09693 | 0.09589 | 0.09403 |
| Lacmoid | 0.10094 | 0.09956 | 0.09887 | 0.09842 | 0.09736 |
| Litmus | 0.13135 | 0.09738 | 0.09671 | 0.09530 | 0.09405 |

The only explanation that can be offered for this peculiar behavior of alcohol is on the basis of Arrhenius' theory of electrolytic dissociation, as detailed in the wrtings of Prof. Ostwald. According to the latter authority, indicators also depend for their value entirely upon dissociation, and, although the various alcohols have a dissociating effect upon salts held in solution by them, it is less marked than in the case of water, and decreases with the increasing molecular weight of the alcohol.

The conclusions forced upon us as a result of the observations above enumerated are, that far more accurate volumetric determinations of alkaloids and alkaloidal residues can be made in water alone than in mixtures of the same with alcohol, and that the error was caused by the latter is augmented as the proportion of alcohol is increased.

Baltimore, Md., July, 1896.

## Ointment Bases.

### THEIR MISCIBILITY WITH WATER, ALCOHOL, AND GLYCERIN.

By Arthur St. Onge, Ph.G.

Fats are not soluble in water or glycerin, and are practically insoluble in alcohol; they will hold mechanically, however, various quantities of those liquids, this power of mechanical suspension being increased by the presence of alkalies or gummy substances.

The amount of liquids absorbed by fatty bodies, or mixtures of fats used as ointment bases, varies greatly, the percentage of water taken by the different bases varying from 2 per cent. to 400 per cent., for glycerin varying from 25 per cent. to 600 per cent., and for alcohol 2.82 per cent. to 200 per cent.

The figures given are not absolute, but are useful for the prescription counter, where the question of how much liquid a certain base will absorb often presents itself.

The method used to incorporate the different fluids into the various bases was simply that which a pharmacist would use if he had an ointment to make containing a liquid: that of rubbing the fat with the liquid. I found it to be the most practical of the different processes suggested.

To find the amount of water taken by a base, I weighed 10 grammes of the substance, placed it in a mortar, and the aqueous fluid was gradually added from a burette, triturating often each addition, until the base was saturated. When saturated, the reading of the burette indicated the percentage of fluid taken; the quantity of the base used was such that each 1-10 of 1 c.c. of the liquid used equalled 1 per cent.

For glycerin the same process was followed, only corrections had to be made, due to the difference in the density of the liquids. The specific gravity of glycerin used had to be multiplied by 1.25 to find the number of parts by weight.

For alcohol, the method of procedure had to be modified, on account of the volatility of the liquid. It consisted, as before, of saturating the base with the liquid, but instead of reading the burette, as in the preceding, the saturated base was weighed, and from the increased weight the percentage was calculated.

Water, when mixed with a base, gives it a white and creamy appearance; alcohol does not whiten the base nor change the color, and glycerin makes a mass more or less translucent.

The length of time taken to incorporate the base with the liquid must necessarily vary. When the proportion of liquid is comparatively small compared with the base, as in the case of lard and petroleum jellies, a minute or two is sufficient for complete saturation; bases that absorb from 35 to 65 parts of liquids can be saturated within fifteen or twenty minutes, whilst lanoline and other wool fats cannot be saturated within a reasonable time; it is not due so much to excessive amount of certain liquids that they will take as to their ropiness and stickiness, and their large increase in bulk when being saturated. From 5 to 10 grammes is about the right quantity to use of the various bases to work with. But 5 grammes of lanoline, on being saturated with water, increase so much in volume as to make an inconveniently large mass to manipulate when nearing the point of saturation, and its stickiness is so great that one cannot continuously triturate.

Adipatum, an ointment base used as a substitute for lard, and consisting of wool fat, vaseline, and cerasin, can be saturated with water in less time and with much more ease than lanoline can, although the amount of water taken by the former is larger than by the latter. Fats diminish the stickiness of wool fat, and also its tendency to enormously increase in volume when incorporated with water.

When large quantities of liquids are to be added to bases, they should be added gradually and caused to disappear before another portion is added.

Bases saturated with water will not take glycerin and *vice versa*; water and glycerin can be used, however, in the same base. A base saturated with alcohol will take up water without the breaking of the mixture.

When two or more liquids are to be incorporated into a base, their previous admixture seems to work better than the separate incorporation. Saturated bases with liquids are not permanent mixtures, the water and alcohol evaporating upon exposure, whilst glycerin has a tendency to separate upon standing; the glycerin appearing as fine globules all through the mass, and the mass becoming readily homogeneous upon stirring. Fats mixed with liquids within two-thirds of the saturating point are comparatively stable.

Ointment bases containing white or yellow wax and the white paraffin jellies, when saturated with water, will grow darker upon standing.

Cerate, spermaceti cerate, ointment, cold cream, goose oil and yellow wax, alboline and white vaseline are the bases referred to above. The other bases did not change in color.

The various bases, after being saturated with water, were kept in a dark place for two months, the average temperature being 20° C. (68° F.). At the end of that time, on being opened, the change in color was noticed in some of them, but none had grown rancid during that period.

It is a generally conceded fact that the various petroleum jellies will absorb only small quantities of liquids. Castor oil has been said to remedy this effect, at least as far as water was concerned, claiming that it would make them miscible with water in all proportions, the quantity stated being two drops of oil for each gramme of liquid.

Mixtures of vaseline, cosmoline, and lucilline, each were made with castor oil by both fusion and incorporation, and in each instance failed to have them take up any more water than without the agency of the oil.

I have found, however, that 5 per cent. of wax added to the petroleums will cause them to absorb a large quantity of water. By this agency from 35 to 65 parts of water was absorbed by some of the commercial products. These substances being mixtures of hydrocarbons, and not definite compounds, may somewhat account for this difference in the amount of water taken. Even samples of the same brand will vary somewhat in their absorptive power.

Wool fat is remarkable for the large amount of water and glycerin it will hold. Lanoline and "N.W.K." hydrous wool fat, although containing 30 per cent. of water, are still miscible with twice their own weight of it. These substances when saturated contain water in the amount of 328 per cent. of their original weight. The stickiness of these fats is overcome by the use of vaseline and glycerin.

Following is a list of the bases examined, with their formulæ and process of manufacture, or the names of the firms producing them, all parts given being parts by weight:

LARD.

Will take 15 parts of water, 9.05 parts of alcohol, and 100 parts of glycerin. Lard stated to take 15 parts of water.

BENZOINATED LARD, U.S.P.

Will take 17 parts of water, 8.36 parts of alcohol, and 100 parts of glycerin. Benzoinated lard stated to take 17 parts of water.

BENZOINATED LARD WITH TINCTURE BENZOIN.

Lard.....1 pound.
Tr. Benzoin.....1 ounce.

Mix and heat on a water-bath, until alcohol is evaporated, and strain.

This is very similar to the preceding.

LARD WITH TOLU.

Prepared in a similar manner to the official benzoinated lard U.S.P.

LARD WITH BALM GILEAD.

Lard digested with 5 per cent. of Balm Gilead on a water bath, until water is evaporated, and strained. It has a pale yellow color and the balsamic odor of Gilead. Same as benzoinated lard U.S.P.

LARD WITH BENZOIC ACID.

Lard melted and 1 per cent. true benzoic acid dissolved in it. Will take 12 parts of water, 6.22 parts of alcohol, and 80 parts of glycerin.

LARD WITH GLYCERIN.

Lard with 5 per cent. glycerin added. Will take 10 parts of water, 9.85 parts of alcohol, and 95 parts of glycerin.

LARD AND RESIN.

Lard containing 2 per cent. of resin. Will take 22 parts of water, 1,080 parts of alcohol, and 75 parts of glycerin.

LARD WITH VASELINE.

Lard.....9 parts.
Vaseline.....1 part.
Mix them.

Will take 4 parts of water, 4 parts of alcohol, and 50 parts of glycerin.

OINTMENT.

Will take 40 parts of water, 11.49 parts of alcohol, and 200 parts of glycerin.

CERATE.

Will take 40 parts of water, 13.25 parts of alcohol, and 100 parts of glycerin.

SPERMACETI CERATE.

Will take 30 parts of water, 9.69 parts of alcohol, and 80 parts of glycerin.

COLD CREAM.

Will take 50 parts of water, 5.68 parts of alcohol, and 300 parts of glycerin.

COCOANUT OIL.

Will take 100 parts of water, 54.8 parts of alcohol, and 50 parts of glycerin.

GOOSE OIL AND CACAO BUTTER.

Goose Oil.....6 parts.
Cacao Butter.....1 part.

Melt the cacao butter, add the goose oil, and stir until cold.

This will take 30 parts of water, 47.94 parts of alcohol, and 200 parts of glycerin. Does not hold the glycerin well.

GOOSE OIL AND YELLOW WAX.

Goose Oil.....6 parts.
Yellow Wax.....1 part.

Melt the wax, add the goose oil, and stir until cold.

This will take 100 parts of water, 37.67 parts of alcohol, and 600 parts of glycerin. The glycerin separates badly.

PETROLATUM.

Will take 10 parts of water, 5.72 parts of alcohol, and 100 parts of glycerin. With 5 per cent. yellow wax it will take 55 parts of water. Amount of water stated at 4 parts.

COSMOLINE.

Will take 15 parts of water, 8.54 parts of alcohol, and 100 parts of glycerin. With 5 per cent. yellow wax it will take 55 parts of water. Amount of water stated at 4 parts.

LUCILLINE.

Will take 12 parts of water, 6.09 parts of alcohol, and 100 parts of glycerin. With 5 per cent. yellow wax it will take 35 parts of water.

VASELINE.

Will take 12 parts of water, 11.14 parts of alcohol, and 100 parts of glycerin. With 5 per cent. of yellow wax, it will take 65 parts of water. Amount of water stated as 4 parts.

WHITE VASELINE.

Will take 10 parts of water, 9.44 of alcohol, and 150 parts of glycerin. With 5 per cent. of white wax, it will take 60 parts of water.

ALBOLINE.

Will take 2 parts of water, 2.82 parts of alcohol, and 25 parts of glycerin. With 5 per cent. of white wax, it will take 15 parts of water. This the least absorptive of the various bases examined.

MOLLOSIN.

Paraffin Oil.....4 parts.
Yellow Wax.....1 part.

Melt the wax, add the paraffin oil, and stir until cold.

This will absorb 112 parts of water, 14.5 parts of alcohol, and 100 parts of glycerin.

LANOLINE.

Will take 200 parts of water, 8.14 parts of alcohol, and 200 parts of glycerin.

ANHYDROUS WOOL FAT.

Will take 200 parts of water, 5.34 parts of alcohol, and 200 parts of glycerin.

AGNINE.

Will take twice its weight in water, and 100 parts of glycerin. With 200 parts of alcohol is a yellow liquid. Agnine with 30 parts of water has not the ointment-like appearance of lanoline. It is darker and not ropy, but is short and mealy.

LANOLINE OINTMENT.

Lanoline.....3 parts.
Vaseline.....1 part.
Mix.

This will take 150 parts of water, 8.86 parts of alcohol, and 200 parts of glycerin.

UNGUENTUM LANOLINE.

Anhydrous Lanoline.....65 parts.
Liquid Paraffin.....30 parts.
White Cerasin.....5 parts.
Water.....30 parts.

Melt lanoline and cerasin together, then add the paraffin oil and water, and stir constantly until cold.

This will take 30 parts of water, 9.40 parts of alcohol, and 300 parts of glycerin.

When saturated with glycerin it is completely free from the stickiness of lanoline.

ADIPATUM.

| | |
|---|---|
| Anhydrous Lanoline | 35 parts. |
| Vaseline | 63 parts. |
| White Cerasin | 7 parts. |
| Water | 5 parts. |

Melt the lanoline and cerasin, then add the vaseline, then the water, and stir until cold.

This will take 400 parts of water, 11.88 parts of alcohol, and 400 parts of glycerin. When saturated with glycerin it is entirely free from the stickiness of lanoline.

EPIDERMINE.

Equal parts of white wax, glycerin, acacia, and water. Rub acacia with glycerin and water. The wax is melted and added to the mucilage previously warmed to about 65° F., so as not to chill the wax, and stir until cold. Behaves with water like an emulsion. A thick, white, syrupy substance with 200 parts glycerin; with 50 parts of alcohol a white, sticky, ointment mass. This mass treated with 50 per cent. water gives a white emulsion.

MOLLIN.

A superfatted soap and glycerin, 100 parts of cocoanut oil or fresh fat, 40 parts of a 15 per cent. solution of potash; saponify without heat, then add 30 parts of glycerin, mix intimately and heat carefully. Ten per cent. of water softens the base; with its own weight of water it is a milk-white emulsion, which separates on standing. Mixes with glycerin, softened or liquefied by it according to quantity. Will take 5.36 parts of alcohol.

CASEIN OINTMENT.

Dissolve 34.5 parts of caustic potash and 8.5 parts of caustic soda in 5,000 parts of water, and dissolve 1,400 parts of casein in this solution. Now add 700 parts of glycerin and 50 parts of carbolic acid, and when they are dissolved incorporate 2,000 parts of vaseline and 50 parts of zinc oxide; finally add water enough to make 10,000 parts. May be diluted almost indefinitely with water or glycerin. Alcohol liquefies it; with 10 per cent. almost a fluid, 25 per cent. of it breaks the emulsion. It is thickened by alkalies and broken up by acids.—*New England Druggist.*

## Tablet Making at the Dispensing Counter.

By S. Hardwick.

I have brought forward this note to show what can be done towards meeting the demand for medicines in the tablet form with a small and inexpensive apparatus sold by Messrs. Maw, Son & Thompson, which is doubtless generally well known.

First, as regards drugs given in small doses as to bulk, as the alkaloids, arsenious acid, calomel, gray powder, podophyllin, aloin, sulphide of calcium, etc., these generally only require to be triturated with a convenient quantity of sugar of milk, and may be compressed easily. This class of tablets should be made to weigh 2 grains each, that being a suitable quantity to work in the machine. The sugar of milk used should be in crystals, and the trituration of the drug carried out without great pressure, as a very fine powder does not compress well. Should there be a tendency for the tablet to stick in the die or split, the addition of a trace of heavy paraffin oil sprayed over the powder will generally overcome the difficulty.

Another method is the addition of half a grain of cocoa powder (from which the oil has been expressed) in place of an equal quantity of sugar of milk. This greatly facilitates compression, the trace of oil preventing the tablet sticking in the mould. The formula stands—

| | |
|---|---|
| Cocoa Powder | ½ grain. |
| Sugar of Milk to | 2 grains. |
| Medicament as ordered. | |

No difficulty is experienced in making such a powder into tablets with a blow of the hammer, the dispenser being able to turn them out with ease and certainty in not more time than would be required to make the same quantity into pills, or put it up in cachets. I have not met with any objection to the color of the resulting tablet, while the facility of manipulation gained by the use of cocoa is a great advantage, as is also the convenience of having a general excipient applicable to a large class of tablets.

Tinctures of aconite, belladonna, digitalis, strophanthus, nux vomica, etc., may be evaporated on the sugar of milk over a water-bath, cocoa powder added, and the resulting powder easily compressed in the usual way.

Tablets of extract of cascara and combinations of cascara and podophyllin are easily made, the dried and powdered extract should be used, half its weight of liquorice powder added, and a trace of heavy paraffin oil sprayed over the powder.

Other tablets requiring special notice are caffeine citrate, and may be compressed without the use of any excipient.

Gray powder, 1 grain, requires 2 grains of sugar of milk, and the addition of a trace of paraffin oil. Quinine, 1 grain, works well with the addition of 1 grain of starch, and a trace of paraffin oil.

Other tablets of this class may generally be made on these lines without difficulty, the great point being to keep the machine perfectly clean, and dust it occasionally with French chalk.

I have had made for me a similar machine of larger diameter, which is useful for making five or ten grain tablets. In it such salts as the bromides of potash, soda, and ammonia are easily compressed without the addition of any excipient. Salol, phenacetin, and sulphonal are also easily made into tablets, but require the addition of one grain of starch to each five grains, when the resulting tablet disintegrates beautifully on the addition of water. An effervescing powder, as a mixture of citric acid and bicarbonate of soda, is useless as an addition for producing a disintegrating tablet; at any rate in moderate quantity.

Bismuth carbonate is perhaps the most difficult to compress, but the free addition of starch and the use of paraffin oil will somewhat meet the difficulty. Bismuth carbonate and bicarbonate of soda compress well if the mixed powder are sprayed over with paraffin.—*From a paper read at the British Pharmaceutical Conference.*

## Iodates in Medicine.

(1) Silver iodate is used internally in doses of 0.005—0.01 gm. as an intestinal astringent, and is prescribed for acute diarrhœa and chronic catarrh of intestines. It does not interfere with the functions of the stomach. Administered in pills the same as the iodates of mercury, zinc and strontium.

(2) Lithium iodate is administered sub cutaneously (0.1 per cent.) in kidney colic; in cases of chronic gout 0.15—0.2 gm. internally.

(3) Mercuric iodate is easily soluble in solutions of potassium iodide, the solution being clear and quite stable. (Dist. water 10.0 gms., mercuric iodate 0.115 gm., and potassium iodide 0.08 gm.; to be used subcutaneously.)

(4) Quinine iodate is used in doses of 0.05—0.10 gm. as a nerve tonic and antineuralgic; it is soluble in water.

(5) Strychnine iodate. Doses of 0.006 gm. should not be exceeded.

(6) Codeine iodate is more active than any other salt of this alkaloid, and can be used as a substitute for morphine without producing constipation. Dose, 0.03—0.05 gm.

(7) Hyoscine iodate is twice or three times as active as any other hyoscine salts. Prescribed in iritis and keratitis as a mydriatic. Maximum dose, 0.5 mgm; subcutaneously 0.1—0.15 mgm. Action is prompt in 0.05—0.07 per cent. solutions.

(8) Atropine iodate. Its solution remains germ-free for a long time, and does not require sterilization nor the addition of antiseptics. These latter two remedies act more rapidly than any other mydriatics, but their effects are less lasting.—*Therap. C. Bl.; Ph. Post.*

## Phosphated Oil in Dentistry.

Phosphated oil is a sovereign remedy for removing violent pain in periostitis resulting from a carious tooth. The cavity should be cleaned, dried, and a few drops of the oil on cotton-wool packed in the tooth, and held in place by means of gutta-percha. The pain will vanish in a few minutes, and the plug can be kept in the cavity for days and weeks. The oil is prepared by dissolving one part of dried phosphorus in about eight parts of expressed oil of almonds.—*British Journal of Dental Science.*

# Advertising.

## Practical Hints on Advertising.



An advertisement sometimes makes a man buy that which he does not really want, but it is only because he did not truly understand what the thing was. His purchase was an effort to supply a need which existed before the advertisement was published.

Men frequently think they need things that they do not need, and that they do not want after they have them. There is a continual effort on the part of mankind to supply desires and wants. The right sort of advertising tells how to do this best, quickest, and easiest.

If the ten articles that ten different advertisements refer to were placed on a table before a crowd, one man would select one article and another another. Each man would be governed by his own needs or fancied needs, and would select the thing which seemed best fitted to his purpose.

* * * *

Advertisements represent goods. The more accurately they represent them, the better advertisements they are. Advertising which misrepresents, either by exaggeration or by inadequacy, is bad advertising.

The nearer an advertisement can get to the plain, naked truth, the more likely it is to be profitable. Newspaper men understand that unreliability in the matter of news is worse than no news at all. Advertisers are learning the same lesson. They have been long in learning it, and the tuition has been very expensive.

* * * *

Real, honest, scrupulous truthfulnes s in advertising becomes more and mo re prevalent as the years go by. It is more common now than it was even a year ago. Five years ago it was very uncommon indeed. It was so uncommon then that even now there are many people who believe that all advertising is more or less disreputable and dishonest.

People will tell you that a man who pays attention to an advertisement certainly has not his full quota of wits. Men turn up their noses at women because women read "bargain" advertisements and pay attention to them. The women know that the advertisements are honest. They have a proof of the honesty in the increased efficiency of their weekly or monthly expenditures. They find that advertised articles are much more likely to be reliable than those that are not advertised. They are learning that advertising is business news and nothing else.

* * * *

There are still many inaccuracies in advertisements. There is still much exaggeration. The frequent use of superlatives is a matter of habit, and it will take some time to get out of it. Each of half a dozen stores in one town claims to be "the best and the cheapest." This is preposterous on the face of it.

* * * *

The same claims of superiority are made for a dozen pianos, half a hundred toilet soaps, and a score of typewriters. Possibly the maker of each one of these articles honestly believes that his production is more desirable than any other. It is more probable, however, that his conception of advertising is wrong, and that he thinks the only way to create a sale for his goods is to claim for them superlative and transcendent qualities.

* * * *

The maker of a thoroughly good, moderate-priced article is not content to say so. He thinks that he must claim the same things for his goods which make successful an article that has cost twice as much to build. He does not seem to realize that there are many people who would rather have a tolerably good thing at a tolerably low price than to have the very finest at the very highest price.

* * * *

There are all kinds of people, and they have all kinds of needs. An article which does not supply some one of these needs cannot be made permanently successful by merely claiming to supply it. Masquerading will not help for very long. A moderate-priced article can be sold to a person who wants that kind, in spite of the ridiculous and unnecessary claims that are made for it. The sale would be easier and quicker and more satisfactory, however, if the plain truth were told at the start.

* * * *

Good advertising is really telling people what and where and who; telling them what a thing really is, where it may be had, and from whom. That is all there is of it. That is all there ever will be.

There are many and varied ways of conveying this information, but, when all is said, good advertising is this and nothing more. It is a simple, sensible, honest, needful thing. It is as much a part of the production of an article as is the article itself.

It makes no difference to us how good a thing may be if it is a thousand miles away, and there are no means of transportation. It is exactly as if that thing did not exist at all. Its production is not complete until it is placed within our reach, where we can see it, or use it, or hear it, or wear it, or eat it. If we have the transportation and have not the knowledge of its existence, its making and the transportation are of no value whatever. We are just as far from the enjoyment of that thing as if it did not exist. It is really not produced for us until advertising of some kind has told us about it.

Advertising may be done in a thousand ways. Any method which tells anybody about anything is advertising. Advertising may be done by word of mouth, or by word of type. Advertising is anything which conveys a message about a business or a product.

If a man opens a store and tells his friends about it, he is advertising the store.

If he prints his announcement on cards and hands them to passers-by, he is advertising the store.

If he puts a sign above his door, or goods into his window, he is advertising the store.

If he makes a hundred duplicates of this sign and nails them on fences, or dead walls, where people can see them, he is advertising.

If he joins a church or a club, or a secret society, his name and his business will become known, and he will still be advertising.

If he causes his sign or his card to be reproduced and printed in a newspaper, he is doing the same thing that he did when he tacked the sign on the fences, or handed the card to the passer-by. He is putting his sign into the house of every reader of that paper. This hypothetical man is a retail dealer. He is in direct contact with the people to whom he seeks to convey the news of his enterprise. The principle is exactly the same with the maker or handler of goods that are to have a more than local sale.

## "Bicycle Teeth."

It may be something peculiar to the Eastern climate, to the dust of the Eastern roads, or to some peculiarity about the Eastern method of riding, but the fact remains that down Philadelphia way bicycle riders are in large numbers affected by what the dentists call "receding gums." The offices of the dentists, according to a Philadelphian's tale, are overrun with wheelmen and wheelwomen who want to know what is the matter with their teeth. They complain that they have more and more exposed ivory surface for every day that they live, and that unless some remedy is speedily found they will all either soon be fang-toothed, or will lose molars, incisors, and cannes altogether.

The story goes that it took the dentists a long time to find out that the complaints came only from riders of the wheel. They put two and two together, and have put a peremptory stop to the riding of wheels in the Quaker city until they can evolve a remedy for bicycle teeth.

Chicago dentists laugh at the story, and say that if there are such things as bicycle teeth in Philadelphia they constitute the only thing in which the Quaker city is ahead of Chicago, and they add that they don't believe that they ride fast enough in Philadelphia to injure any part of the anatomy.—*Drug Topics.*

Salol and bromide camphor are incompatible.

# Formulary.

### ROOT BEER.

Of late, extracts of root beer, either in liquid or powdered form, have become popular proprietary preparations. A few of the best formulas are here given:

| | |
|---|---|
| American sarsaparilla | 16 ounces av. |
| Sassafras bark | 12 " |
| Dandelion | 12 " |
| Sweet flag (calamus) | 3 " |
| Nutmeg | 2 " |
| Oil of wintergreen | 2 fl. drams. |
| Oil of lemon | 2 " |
| Oil of spruce | 1 " |
| Caramel coloring | 1 fl. ounce. |
| Carbonate of magnesia | 1 ounce av. |
| Alcohol | 4½ pints. |
| Water, sufficient to make | 1 gallon. |

Grind the drugs to a course powder; mix four pints of the alcohol with four pints of water; make an extract by water-bath percolation, reserving the first seven pints which pass, and continue the percolation with water until the drugs are exhausted, evaporate this last, percolate to one pint, and add to the reserved extract. Dissolve the oils in eight ounces of alcohol, and mix with the extract. Rub the carbonate of magnesium with a portion of the extract, and add to the remainder; then add the caramel, and, after standing a few days, with occasional agitation, filter.—*The Formulary.*

### ELIXIR ANTISEPTIQUE.

| | |
|---|---|
| Thymic acid | 30 cgm. |
| Tincture of eucalyptus | 10 gm. |
| Tincture of vanilla | 10 gm. |
| Essence of mint | 150 cgm. |
| Essence of clove | 1 gm. |
| Essence of lemon | 1 gm. |
| Alcohol of 90 | 100 gm. |
| Tincture of cochineal—enough to color a lively red. | |

Mix. Twenty drops to a half tumbler of water as a mouth wash.—*Le Monde Pharmaceutique.*

### COMPOUND SYRUP OF CAMPHOR.

According to F. J. Kilner, dispenser to the Bristol Royal Infirmary, this compound is prepared as follows:

| | |
|---|---|
| Acidi benzoici | 3 dr. |
| Acidi acetici glacialis | 3 oz., 5 dr. *max.* |
| Aceti scillæ, B.P. | 40 oz. |
| Acetiipecacuanhæ (B.P. additions) | 40 oz. |
| Olei anisi | |
| Camphoræ, aa | 2 dr. |
| Tinct. opii, B.P. | 10 oz., 5 dr., *max.* |
| Sacchari albi (cryst.) | 28 lbs. |
| *Sacchari usti, q.s. | |
| Aq. dist., ad. cong. iv | |

Misce. Each fluid dram contains one minim of tinct. opii.

Dose. One teaspoonful occasionally. —*Pharmaceutical Journal.*

### SHAMPOO CREAM.

| | |
|---|---|
| Soap fine white, shaved | 4 parts. |
| Rose-water | 8 " |
| Ammonia water | 8 " |
| Alcohol (or bay rum) | 4 " |
| Distilled water | 40 " |

*Sufficient to give the mixture the color of tinct. camphoræ, B.P.

Dissolve the soap in the water by the aid of heat. Let cool down to about 110° or 120°, and add gradually the ammonia, rose water and alcohol, stirring constantly while making the addition.—*National Druggist.*

### AROMATIC EXCELSIOR VINEGAR.

| | |
|---|---|
| Acetic ether | 1 ounce. |
| Spirit jasmine (jasmine extract) | 1 " |
| Acetic acid, best, from sugar, diluted | 2 ounces. |
| Tincture benzoin | 8 " |
| Oil rose | 3 drops. |
| Oil neroli | 3 " |
| Oil wintergreen | 2 " |
| Cologne spirit | 8 ounces. |

Mix. Let stand and filter.

### WHITE GLYCERIN.

1. Subnitrate of bismuth ½ drachm.
   Glycerin 1 fl. ounce.

Mix thoroughly by trituration in a mortar.

2. Cologne 1 fl. ounce.
   Rose water 1 fl. "
   Glycerin 6 fl. ounces.

Mix.

3. Tincture of benzoin 1 fl. ounce.
   Glycerin 2 fl. ounces.

Mix.

4. Quince seed 1 drachm.
   Powdered borax 1 "
   Cologne 1 fl. ounce.
   Glycerin 10 fl. ounces.
   Hot water 4 fl. ounces.

Macerate the quince seed in the water for two hours, strain, and to the mucilage add the other ingredients, and thoroughly mix.—*Meyer Bros. Druggist.*

### PERFUME FOR POMADES, HAIR OIL, ETC.

| | |
|---|---|
| Oil bergamot | 12 drachms. |
| Oil citronella | 6 " |
| Oil cloves | 3 " |
| Oil lavender | 3 " |
| Oil thyme | 1 drachm. |
| Oil mace | 1 " |

Mix.

One, two, or three drachms of this mixture may be used to a pint of oil or a pound of pomade.

### KOLA ELIXIR.

| | |
|---|---|
| Powdered kola | 2 oz. |
| Glycerin | 14 drs. |
| Rectified spirit | 10 " |
| Cinnamon water | 6 oz. |
| Essence of vanilla | 1 drm. |
| Tincture of orange | 1 oz. |

Macerate for a week and filter. More essence of vanilla may be added if desired.—*Chemist and Druggist.*

### COMPOUND CASCARA MIXTURE.

| | |
|---|---|
| Ext. cascaræ sag. liq. misc. | 3 oz. |
| Ext. sennæ liq. | 2 " |
| Ext. euonymi liq. | 1 " |
| Ext. glycyrrhiz. liq. | 2 " |
| Saccharin | 1 dr. |
| Elixir. simplicis ad. | 16 oz. |

M.

—*Chemist and Druggist.*

### MOSQUITOLIN.

| | |
|---|---|
| Oil of patchouli | 10 minims. |
| Oil of cinnamon | 10 " |
| Yellow sandalwood | ½ oz. |
| Rectified spirit | 6 " |
| Water | 4 " |

Macerate for three days and filter.

To be used for sponging on the neck and hands.—*Chemist and Druggist.*

### MOTH PAPER.

1.

| | |
|---|---|
| Carbolic acid | 1 oz. |
| Ceresin | 1 " |
| Naphthalin | 2 " |

Melt, immerse pieces of bibulous paper, and dry these on plates.

2.

| | |
|---|---|
| Carbolic acid | 1 oz. |
| Camphor | 1 " |
| Benzin | to make 1 pt. |

Saturate pieces of blotting paper, and apply, or use the liquid in the form of spray by means of an atomizer.

### PREVENTIVE LOTION AGAINST INSECT BITES.

| | |
|---|---|
| Acetic ether | 5 parts. |
| Eucalyptol | 10 " |
| Eau de cologne | 10 " |
| Tincture of pyrethrum roseum | 50 " |

One part diluted with three or six parts of water, to be used as a lotion.—*Jour. des mal. cutan.*

## New Method of Determining the Morphine Value of Opium.

G. Loof, whose method of assaying opium we gave some months ago, contributes to the *Apotheker Zeitung* a simpler and much shorter process, of which we give the essential features, as follows:

Rub up 5 gm. of the opium to be assayed with an equal amount of water, being careful to use no pressure in rubbing. Pour into a weighed flask, rinsing the mortar and adding the rinse water to the contents of the flask. Add sufficient water to bring the amount up to 44 gm. Close the flask and agitate for fifteen minutes. Now add 1 gm. sodium salicylate, shake a few minutes longer, and filter. To 28.5 gm. of the filtrate (which equals 3 gm. of opium), add 3 gm. of ether and 1 gm. ammonia water, and shake together for ten minutes. The separated morphine is collected on a small tarred round filter, and the flask is washed twice with 5 gm. of water each time, using the wash water to rinse the morphine on the filter. After allowing the morphine to dry on the filter, wash it again with benzol to remove the last traces of narcotine, and again let it dry.

The morphine, as thus obtained, is perfectly pure, and appears as elegant shining crystals. The process will show from ¼ to ½ per cent. less morphine than the formula given by Loof, but this is compensated for by the greater purity of the product. Assays made after this plan show remarkable consistence, rarely varying as much as ¼ of 1 per cent.—*National Druggist.*

# Photographic Notes

SULPHATE OF ZINC AS A PRESERVATIVE OF MUCILAGE.—Dr. E. Vogel suggests the addition of a small proportion of sulphate of zinc to mucilage of gum arabic in order to prevent decomposition. Although the addition is said not to interfere with the adhesive property of the gum, the *Amateur Photographer* remarks that it would obviously be madmissible in some cases where the gum is used for photographic purposes, on account of possible interference with the reactions that take place.

WATERPROOF VARNISH. The following formula for varnish, well adapted for the protection of prints on glass against humidity, is from *L'Amateur Photographe:* White gum lac, 27 to 32 parts; borax, 8 parts; carbonate of sodium, 2 parts; glycerin, 1 to 2 parts; water, 320 parts. Dissolve the borax and the carbonate in 160 parts of warm water, add to the solution the gum lac, which has been broken into small fragments. Place the vessel containing the mixture on the fire, and stir until the lac is dissolved. Allow to cool, filter, and afterwards add the glycerin and the remainder of the water. At the end of a few hours a deposit is formed, and after filtration the liquid should have an amber-yellow color. The varnish is said to keep well.

PHOTOGRAPHY EXPERIMENT.—At the last meeting of the Academy of Sciences Professor Lippmann referred to an interesting photographic experiment made by M. Pellat. It consisted in placing an iron object on a photographic plate, and leaving them in contact for several months in a dark room. On developing the plate the object was found to be reproduced thereon. M. Pellat thinks this reproduction may be attributed to vapors which the metal probably gives off, and which act on the plate in course of time. Another theory is that the radiations of the metal act on the sensitiveness of the plate.

A MATT BLACK FOR IRON.—According to the *Revue Suisse de Photographie*, a matt black surface on iron can be obtained by the use of the following solution:

| | |
|---|---|
| Mercuric chloride | 2 parts. |
| Cupric chloride | 1 part. |
| Hydrochloric acid | 6 parts. |
| Alcohol | 5 parts. |
| Water | 50 parts. |

The article is carefully cleaned and immersed in the above, or a brush may be used for its application, after which it must be well soaked in hot water. A second application can be given if the color is not dark enough. *Pharmaceutical Journal.*

A RELIABLE PLATE-BACKING.—

| | |
|---|---|
| Caramel | 1 oz. |
| Strong gum arabic solution | 1 oz. |
| Burnt sienna (in powder) | 2 oz. |
| Methylated alcohol | 2 oz. |

Mix thoroughly and apply to the back of the plate with a linen dabber; a very thin coating will be sufficient for the purpose, and it should dry within half an hour. It will prevent halation, and can be easily removed before development by rinsing under a tap and wiping with a sponge.

PYROCATECHIN AS A PHOTOGRAPHIC DEVELOPER.—Pyrocatechin is said to possess the following advantages as a developer: Its delicacy is equal to pyrogallol. The solution only alters very slowly on exposure to air, and is much more stable than hydroquinone, eikenogen, etc. The color of negatives is very favorable to printing, which proceeds more rapidly than with other developers. It gives brilliant prints without hardness. It does not fog the plates. It does not stain the fingers. The same bath will develop several plates. The following are the principal solutions: Solution A: Water, 1 ounce; sodium sulphite, 20 grains; pyrocatechin, 10 grains. Solution B: Water, 1 ounce; potassium carbonate, 100 grains. For use in ordinary exposures, equal parts of A, B, and water. For under-exposed plates, take one part A to two parts B. For plates that have had a timed exposure, the following one solution developer is recommended: Water, 2 ounces; sodium sulphite, 25 grains; sodium carbonate, 50 grains; pyrocatechin, 15 grains. To bring out contrasts, a two per cent. boric acid solution is recommended instead of bromide.—*Western Druggist.*

CYCLING AND PHOTOGRAPHY.—Perhaps one of the most wonderful signs of late years is the widespread popularity the camera and cycle have attained, nor is it to be wondered at when the pleasure to be derived from indulging in either form of amusement, riding or photographing, is remembered, yet it is a matter of surprise to find the two are not more often combined than is done, considering the vast number of those who now use a cycle as the means of running out into the country for a brief spell. We all know the enjoyment derived in this manner—the delight experienced in passing through a stretch of beautiful scenery, the many pleasant glimpses of rural life obtained, happy groups of children playing in the lanes, cattle and sheep forming bright spots of life in meadows and many other phases of nature which attract us by their beauty and leave pleasant recollections on our mind. Yet at best they are fleeting, and it is in just the ability to secure permanent records of these matters, with which to renew to ourselves and friends, during the dark, dull days of winter time, in some measure the pleasant scenes visited in summer months, that a small, light camera will prove useful. It need be but a compact affair. For convenience a quarter-plate will prove sufficiently large, while with three double dark slides, enabling six plates being carried with a lens and shutter. The whole may be packed in small case and strapped to the handle bar, the tripod being carried attached to the fork of the machine, without any inconvenience from the trifling addition in weight being felt, for the whole need weigh no more than two or three pounds. —*The Amateur (London) Photographer.*

## Flashlight Photography.

By DR. HUGO ERICHSEN.

Generally flashlight photography is supposed to be a suitable pastime for the long winter nights, and it is usually practised only at the time of the year when the ground is covered with snow and Jack Frost is king, and relegated to obscurity as soon as nature again puts on its vernal raments and outdoor photography becomes possible once more.

I believe this is wrong. In many respects summer is better adapted for taking flashlight pictures than winter, for doors and windows may be opened wide during the warm season for the egress of the stifling smoke that fills the rooms after any considerable use of magnesium powder. Lately, I understand, aluminum has been used for flashlight photography and is said to have been quite satisfactory. It is claimed that it produces less smoke and a light of greater intensity than that of magnesium.

The amateur will do better to purchase his magnesium powder ready made than to attempt to manufacture it himself, for it is made of highly explosive ingredients. Only recently the workshop of a photographer who was compounding some of the dangerous stuff—I think it was in Chicago—was totally wrecked, and the poor fellow was instantly killed and his remains mutilated beyond recognition. Especially those recipes containing chlorate of potassium are exceedingly explosive and should be avoided, and flashlight powders that are known to contain that ingredient should never be used under any circumstances. Amateurs had better leave the manufacture of flashlight powder to those who make a business of it; but, if they should be resolved to make it themselves, I know of no better mixture than the following. Three parts of finely powdered permanganate of potassium to four parts magnesium powder. But even this compound may explode, so that I must repeat my warning. Only to one who does not value his limbs and life is the manufacture of flashlight powder a delightful occupation.

Those who propose to take but a limited number of flashlight photographs will find the Blitz Pulver cartridges, that may be obtained from any dealer in photographic supplies, of the greatest usefulness. I do not desire to specify any particular kind; those that bear the name of a reputable firm may be relied upon. In igniting these cartridges great care should be taken. After severely burning my fingers in lighting the first one, I evolved a plan which has been successful ever since, and which may prevent others from

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burning their digits. I take a long piece of paper, fold it several times, and then place one end of it under the fuse while the other hangs loosely down and is lit when everything is ready for the exposure. This method gives time enough for the photographer to get to a distant part of the room, in case he wishes to photograph himself, or to be included in a group or interior. To one who desires to make many photographs by means of this artificial light, a flashlight lamp becomes indispensable. There are many different designs on the market, varying in price from one to five dollars, but anyone possessing ingenuity can make one himself at small expense. The principle is the same in all of them. The component parts of these lamps are a receptacle which holds some material saturated with alcohol, another filled with the magnesium and rubber tubing, and a bulb by means of which the powder is blown through the alcohol flame. Lamps of simple construction are often the best and should be preferred to complicated ones.

Flashlight photography is especially adapted for taking interiors, groups, and portraits. It is impossible to give specific rules, as so much depends on circumstances and individual judgment. The best results will be obtained with rapid plates, quick lenses, and large stops. In taking flashlight photographs of interiors or portraits, I generally focus on a lighted candle, which is held on a plane with the person about to be photographed, or which is placed in the most distant part of the room. It is almost impossible to focus with the ordinary gas or lamplight, but the little scheme with the candle does very well. When the proper focus is obtained, the plate-holder is inserted, the slide drawn, and then everything is ready for the exposure. In making the latter care should be taken to prevent the light rays from entering the lens directly, as this would fog the plate. Whenever possible the flashlight should be touched off at one side and behind the camera, and at a height of four or five feet from the floor.

Portraits and groups are best taken by means of diffused light, which is easily produced by placing a screen of white cloth before the source of light. One of the drawbacks of flashlight photography is the strong contrast which it produces, but this may be obviated to a great extent by giving more than one flash. Reflectors of white cloth and paper are also useful.

In conclusion, I want to say that there are many men who are prevened by their profession or business from photographing in the daytime, but who would find flashlight photography an agreeable pastime that could be practised every night in the year, and would leave an occasional holiday for landscape photography and outdoor work.—*Canadian Photographic Journal.*

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To preserve milk for analysis add a small quantity of potassium bichromate.

## Magazines.

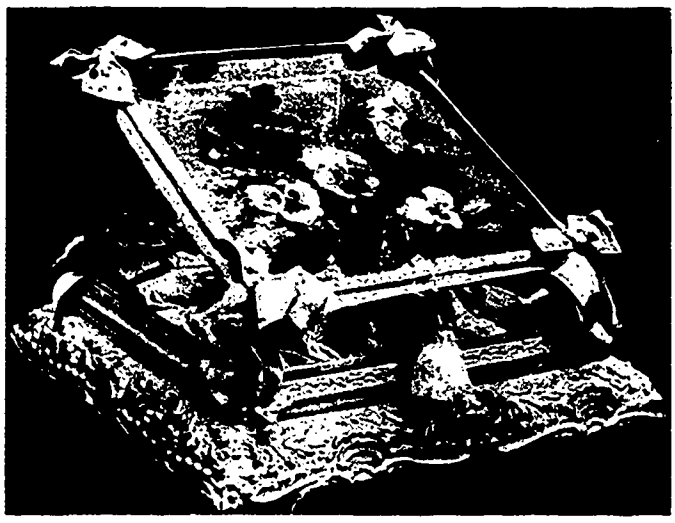
George W. Smalley, the famous American editor-author, has been granted a two months' holiday by his paper, the London *Times*, and has gone abroad on a special mission for *The Ladies' Home Journal.* He has engaged to prepare a short series of articles for that magazine, and is gathering the material for them in Europe. The work will necessitate his spending part of the summer in England, and the remainder in Germany.

Ian Maclaren's new short story, the last he will write until after his American visit, has been secured by *The Ladies' Home Journal*, for publication in the October and November issues. It is called "The Minister of St. Bede's," and is said to be in the brightest and cleverest Maclarenesque vein. Besides its charm as a delightful romance, the story is said to be notable for the admirable character that the author has created for the chief personage—the minister of St. Bede's, as the loyal lover of a humble Scotch lassie.

## Amongst the Wholesalers.

### Choice Holiday Goods.

Amongst the new goods designed for the holiday trade one of the choicest lines is that of crystal glass boxes in various designs, and which are bound, in a great measure, to take the place of plush and xylonite goods. These may be had in collar and cuff boxes, glove and handkerchief cases, work boxes, jewel cases, comb and brush boxes, shaving cases, etc., in all shapes, round, square, octagon, and diamond, and are bound with ribbon of assorted colors. They are substantially made, hand painted, and, altogether, amongst the prettiest things we have seen. They range in price from eighty-five cents to five dollars each. The illustration given is of a combination set, pattern No. 14. Messrs. Nerlich & Co., Front street west, are sole agents and manufacturers of these goods, and will be glad to receive mail orders. This firm has also a very choice assortment of smokers' sundries, pipes, etc.



### For Fall and Winter.

Nothing could be more seasonable for display by druggists than a line of chest protectors, chamois vests, etc. It does not pay either the customer or the retail druggist to wait until cold weather sets in to provide themselves with these goods. It is "the sudden chill that causes the sudden ills," and at no time are these goods more necessary for persons of a delicate constitution than during the changeable weather of autumn. We have been shown by Messrs. Lyman, Knox & Co., of this city, the new "Frost King" chamois vests, which appear to us the most desirable of any of this class of goods. Being made reversible, of the very best materials, and with such due regard to "fit," they are certainly sure to give satisfaction to the wearer. This firm have a very complete assortment of these lines put up in a box containing six chamois vests, "Frost King," four cuirass chest protectors, and two each double and single chamois protectors, all assorted sizes, which will cost the retailer $21.37. These goods will allow a liberal profit, and should be sure sellers. Drop a card to Lyman, Knox & Co., Toronto or Montreal, for particulars of assortment.

### Lyman Bros. & Co.'s Annual Road Race.

The second annual road race of the Lyman Bros. & Co., Ltd., employees will take place at the Woodbine Park on Saturday, September 19th, at 3 p.m.

First race — 1 mile open — 2 prizes: 1st and 2nd.

Second race — ½ mile, open to messenger boys: 1st prize.

Third race — 10 mile handicap–3 prizes: 1st, 2nd, and time prize.

Fourth race–¼ mile slow race, open : 1 prize only.

Rules—(1) Decision of judges will be final. (2) No one will receive more than one prize in one race. (3) Fouling disqualifies.

Starters—G. H. Leslie, T. J. MacIntyre.

Judges—G. W. Lillie, C. McD. Hay, James Watt.

Timers—J. B. Henderson and John Massey.

Committee of Management—G. H. Leslie, W. G. Noble, E. N. Tyrrell, H. J.

Fidler, F. Holliday, O. Flett, and T. M. Hagarty, chairman.

## Pharmaceutical Association of the Province of Quebec.

NOTICE TO STUDENTS.

The semi-annual examinations for major and minor candidates will commence on Tuesday, October 13th, 1896, at 9 a.m., and will be held in Laval University, Quebec. Candidates must file their applications, duly certified, with the registrar on or before the 3rd of October. Printed regulations and form of application must be obtained from the registrar, and be duly signed by the applicant.

Candidates who have failed more than once in their examinations will be required to pay the full examination fee.

No applications for these examinations will be received after the 3rd of October, and candidates remitting their examination fees must do so in funds payable at par in Montreal. American money not taken for fees.

E. MUIR, Registrar,
595 Lagauchetiere Street.

Montreal, September 5th, 1896.

## A. Ph. A. Notes.

Professor Good makes a model chairman.

The attendance was disappointing, not over 100 actual members registering.

A number of leading pharmacists of Ontario were present during the proceedings.

Representatives were on hand from the *Pharmaceutical Journal* and the CANADIAN DRUGGIST.

The proposition to hold a mid-Atlantic session in 1900 was well received, although to some it brought remembrances of *mal de mer*.

The CANADIAN DRUGGIST, with its usual enterprise, was enabled to furnish a summary of the first and second days' proceedings, and mail the DRUGGIST on the usual day of publication, the 15th of August.

Messrs. Desbarats & Co. published a very pretty souvenir for the convention. The letter-press was excellent, and the photo-engravings with which it was interspersed were all of a high class of workmanship.

C. D. probabilities: A. Ph. A. meetings—1897, at Lake Minnetonka, Minn.; 1898, at New York; 1899, at Baltimore; 1900, in mid-ocean, *en route* to the Paris International Exhibition.

## How to Pronounce "Pharmaceutical."

A correspondent of the Montreal *Daily Star* asks for the correct pronunciation of the word "pharmaceutical," to which the editor of that paper replies as follows:

If by "correct pronunciation" my correspondent merely means the mode generally prevailing, I think there can be little doubt on the subject. Not to go farther back than the time of Dr. Johnson, his famous dictionary gives the soft sound to the letter "c" in the word. In this, he is followed by the later lexicographers, Noah Webster, Chambers, the Rev. Jas. Stormonth, and Cassell's "Encyclopedic Dictionary," a most valuable work in seven volumes.

Funk's Standard Dictionary (of which the *Star* is preparing a careful notice) gives the soft pronunciation of the "c," as preferable, with the alternative of the "k" sound. Mr. W. H. P. Phyfe, in an admirable work entitled "Seven Thousand Words Often Mispronounced," mentions only one pronunciation, viz., "farma-su'-tist," and most of the best dictionaries follow suit. The original "Pharmaceutical Society" was commenced in London, June 1, 1841, and obtained a royal charter on February 18, 1843. It is empowered to institute examinations for those who desire to practise pharmacy; and as at the time it was formed the "c" in its title was always pronounced "s," I see no reason for any innovation of the present day. Personally, I never heard the "k" sound of the "c" in England. Can anyone mention another instance of "ceut" being pronounced "cute"? The little beetle called "ceutorphyncus didymus," so frequently found on the stinging nettle, is, so far as I know, always pronounced "sutorhyncus" by entomologists.

## Answer to Correspondent.

A. C. Hess asks what is meant by the words "a ruled screen" in the article on "A Simple Photo-engraving Method." A ruled screen is made by getting two square pieces of glass with parallel lines cut with a diamond and inlaid with some dark substance. These lines average about 133 to one inch space. The pieces of glass are so placed one over the other as to make the lines form right angles. This forms the background for the photo-engraving.

Wood alcohol can be deodorized by treating it with caustic soda and potassium permanganate and subsequent distillation. One ounce of the soda to every gallon of alcohol will be found sufficient. After distillation in a water bath or still, redistill with the potassium permanganate, one drachm to the gallon.





## WANTS, FOR SALE, ETC.

*Advertisements under the head of Business Wanted, Situations Wanted, Situations Vacant, Business for Sale, etc., will be inserted once free of charge. Answers must not be sent in care of this office unless postage stamps are forwarded to re-mail replies.*

### SITUATIONS WANTED.

SITUATION WANTED as Manager or Assistant by Medallist of O.C.P. Good dispenser and Manufacturer; experience with books and stationery; best of references. Address Box 238, Watford, Ont.

WANTED- An Improver, two or three years' experience. Must have had some experience in dispensing. Apply, stating salary expected, to Broadway Pharmacy, 367 Broadview Avenue.

### FOR SALE.

A WELL-ESTABLISHED AND PAYING DRUG business in N.W.Territories, the only one in the town and having other sources of revenue in connection with it. Stock small and in good condition. Also dwelling above, nicely decorated and in good order. The business and property must be sold together. Good reasons for selling. Address, in first instance, Box 46, CANADIAN DRUGGIST.

# CANADIAN DRUGGIST PRICES CURRENT

**Corrected to September 10th, 1896.**

The quotations given represent average prices for quantities usually purchased by Retail Dealers. Larger parcels may be obtained at lower figures, but quantities smaller than those named will command an advance.

| | | |
|---|---|---|
| ALCOHOL, gal | $4 37 | $4 65 |
| Methyl | 1 90 | 2 00 |
| ALLSPICE, lb | 13 | 15 |
| Powdered, lb | 15 | 17 |
| ALOIN, oz | 40 | 45 |
| ANODYNE, Hoffman's bot., lbs | 50 | 55 |
| ARROWROOT, Bermuda, lb | 50 | 55 |
| St. Vincent, lb | 15 | 18 |
| BALSAM, Fir, lb | 40 | 45 |
| Copaiba, lb | 65 | 75 |
| Peru, lb | 3 75 | 4 00 |
| Tolu, can or less, lb | 95 | 1 00 |
| BARK, Barberry, lb | 22 | 25 |
| Bayberry, lb | 15 | 18 |
| Buckthorn, lb | 15 | 17 |
| Canella, lb | 15 | 17 |
| Cascara, Sagrada | 25 | 30 |
| Cascarilla, select, lb | 18 | 20 |
| Cassia, in mats, lb | 18 | 20 |
| Cinchona, red, lb | 60 | 65 |
| Powdered, lb | 65 | 70 |
| Yellow, lb | 35 | 40 |
| Pale, lb | 40 | 45 |
| Elm, selected, lb | 18 | 20 |
| Ground, lb | 17 | 20 |
| Powdered, lb | 20 | 28 |
| Hemlock, crushed, lb | 18 | 20 |
| Oak, white, crushed lb | 15 | 17 |
| Orange peel, bitter, lb | 15 | 16 |
| Prickly ash, lb | 35 | 40 |
| Sassafras, lb | 15 | 16 |
| Soap (quillaya), lb | 13 | 15 |
| Wild cherry, lb | 13 | 15 |
| BEANS, Calabar, lb | 45 | 50 |
| Tonka, lb | 1 50 | 2 75 |
| Vanilla, lb | $ 50 | 9 00 |
| BERRIES, Cubeb, sifted, lb | 30 | 35 |
| powdered, lb | 35 | 40 |
| Juniper, lb | 7 | 10 |
| Ground, lb | 12 | 14 |
| Prickly ash, lb | 40 | 45 |
| BUDS, Balm of Gilead, lb | 55 | 60 |
| Cassia, lb | 25 | 30 |
| BUTTER, Cacao, lb | 75 | 80 |
| CAMPHOR, lb | 65 | 75 |
| CANTHARIDES, Russian, lb | 1 40 | 1 50 |
| Powdered, lb | 1 50 | 1 60 |
| CAPSICUM, lb | 25 | 30 |
| Powdered, lb | $ 30 | 35 |
| CARBON, Bisulphide, lb | 17 | 18 |
| CARMINE, No. 40, oz | 40 | 50 |
| CASTOR, Fibre, lb | 20 00 | 20 00 |
| CHALK, French, powdered, lb | 10 | 12 |
| Precip., see Calcium, lb | 10 | 12 |
| Prepared, lb | 5 | 6 |
| CHARCOAL, Animal, powd., lb | 4 | 5 |
| Willow, powdered, lb | 20 | 25 |
| CLOVE, lb | 16 | 17 |
| Powdered, lb | 17 | 18 |
| COCHINEAL, S.G., lb | 40 | 45 |
| COLLODION, lb | 75 | 80 |
| Cantharidal, lb | 2 50 | 2 75 |
| CONFECTION, Senna, lb | 40 | 45 |
| CREOSOTE, Wood, lb | 2 00 | 2 50 |
| CUTTLEFISH BONE, lb | 25 | 30 |
| DEXTRINE, lb | 10 | 12 |
| DOVER'S POWDER, lb | 1 50 | 1 60 |
| ERGOT, Spanish, lb | 75 | 80 |
| Powdered, lb | 90 | 1 00 |
| Ergotin, Keith's, oz | 2 00 | 2 10 |
| EXTRACT LOGWOOD, bulk, lb | 13 | 14 |
| Pounds, lb | 14 | 17 |
| FLOWERS, Arnica, lb | 15 | 20 |
| Calendula, lb | 55 | 60 |
| Camomile, Roman, lb | 25 | 30 |
| German, lb | 40 | 45 |
| Elder, lb | 20 | 22 |
| Lavender, lb | 12 | 15 |
| Rose, red, French, lb | 1 60 | 2 00 |
| Rosemary, lb | 25 | 30 |
| Saffron, American, lb | 65 | 70 |
| Spanish, Val'a, oz | 1 00 | 1 25 |
| GELATINE, Cooper's, lb | 75 | 80 |
| French, white, lb | 35 | 40 |
| GLYCERINE, lb | 22 | 25 |
| GUARANA | 200 | 2 25 |
| Powdered, lb | 2 25 | 2 50 |
| GUM ALOES, Cape, lb | 18 | 20 |
| Barbadoes, lb | 30 | 50 |
| Socotrine, lb | 65 | 70 |
| Asafœtida, lb | 40 | 45 |
| Arabic, 1st, lb | 70 | 75 |
| Powdered, lb | 80 | 95 |
| Sifted sorts, lb | 45 | 50 |
| Sorts, lb | 30 | 35 |
| Benzoin, lb | 50 | 1 00 |
| Catechu, Black, lb | 9 | 20 |
| Gamboge, powdered, lb | 1 20 | 1 25 |
| Guaiac, lb | 50 | 1 00 |
| Powdered, lb | 90 | 95 |
| Kino, true, lb | 2 00 | 2 25 |
| Myrrh, lb | $ 45 | $ 48 |
| Powdered, lb | 55 | 60 |
| Opium, lb | 4 25 | 4 50 |
| Powdered, lb | 5 25 | 5 50 |
| Scammony, pure Resin, lb | 12 50 | 13 00 |
| Shellac, lb | 40 | 45 |
| Bleached, lb | 45 | 50 |
| Spruce, true, lb | 30 | 35 |
| Tragacanth, flake, 1st, lb | 85 | 90 |
| Powdered, lb | 1 10 | 1 25 |
| Sorts, lb | 55 | 70 |
| Thus, lb | 8 | 10 |
| HERB, Althea, lb | 27 | 35 |
| Bitterwort, lb | 36 | 40 |
| Burdock, lb | 16 | 18 |
| Boneset, ozs, lb | 15 | 17 |
| Catnip, ozs, lb | 17 | 20 |
| Chiretta, lb | 25 | 30 |
| Coltsfoot, lb | 20 | 38 |
| Feverfew, ozs, lb | 53 | 55 |
| Grindelia robusta, lb | 45 | 50 |
| Horehound, ozs., lb | 18 | 20 |
| Jaborandi, lb | 45 | 50 |
| Lemon Balm, lb | 38 | 40 |
| Liverwort, German, lb | 38 | 40 |
| Lobelia, ozs, lb | 15 | 20 |
| Motherwort, ozs., lb | 20 | 22 |
| Mullein, German, lb | 17 | 20 |
| Pennyroyal, ozs., lb | 18 | 20 |
| Peppermint, ozs., lb | 21 | 22 |
| Rue, ozs., lb | 30 | 35 |
| Sage, ozs., lb | 18 | 20 |
| Spearmint, lb | 21 | 25 |
| Thyme, ozs., lb | 18 | 20 |
| Tansy, ozs., lb | 15 | 18 |
| Wormwood, oz | 20 | 22 |
| Yerba Santa, lb | 38 | 44 |
| HONEY, lb | 13 | 15 |
| HOPS, fresh, lb | 20 | 25 |
| INDIGO, Madras, lb | 75 | 80 |
| INSECT POWDER, lb | 35 | 38 |
| ISINGLASS, Brazil, lb | 2 00 | 2 10 |
| Russian, true, lb | 6 00 | 6 50 |
| LEAF, Aconite, lb | 25 | 30 |
| Bay, lb | 18 | 20 |
| Belladonna, lb | 25 | 30 |
| Buchu, long, lb | 50 | 55 |
| Short, lb | 25 | 27 |
| Coca, lb | 35 | 40 |
| Digitalis, lb | 15 | 20 |
| Eucalyptus, lb | 18 | 20 |
| Hyoscyamus | 20 | 25 |
| Matico, lb | 70 | 75 |

| | | |
|---|---|---|
| Senna, Alexandria, lb | $ 25 | $ 30 |
| Tinnevelly, lb | 15 | 25 |
| Stramonium, lb | 20 | 25 |
| Uva Ursi, lb | 15 | 18 |
| LEECHES, Swedish, doz | 1 00 | 1 10 |
| LICORICE, Solazzi | 45 | 50 |
| Pignatelli | 35 | 40 |
| Grasso | 30 | 35 |
| Y & S—Sticks, 6 to 1 lb., per lb. | 27 | 30 |
| " Purity, 100 sticks in box | 75 | 75 |
| " Purity, 200 sticks in box | 1 50 | 1 50 |
| " Acme Pellets, 5 lb. tins | 2 00 | 2 00 |
| " Lozenges, 5 lb. tins | 2 00 | 2 00 |
| " Tar, Licorice, and Tolu, 5 lb. tins | 2 00 | 2 00 |
| LUPULIN, oz | 30 | 35 |
| LYCOPODIUM, lb | 70 | 80 |
| MACE, lb | 1 20 | 1 25 |
| MANNA, lb | 1 60 | 1 75 |
| Moss, Iceland, lb | 9 | 10 |
| Irish, lb | 12 | 13 |
| MUSK, Tonquin, oz | 46 00 | 50 00 |
| NUTGALLS, lb | 21 | 25 |
| Powdered, lb | 25 | 30 |
| NUTMEGS, lb | 1 00 | 1 10 |
| NUX VOMICA, lb | 10 | 12 |
| Powdered, lb | 25 | 27 |
| OAKUM, lb | 12 | 15 |
| OINTMENT, Merc., lb. ½ und ¼ | 70 | 75 |
| Citrine, lb | 45 | 50 |
| PARALDEHYDE, oz | 20 | 22 |
| PEPPER, black, lb | 12 | 13 |
| Powdered, lb | 15 | 16 |
| PITCH, black, lb | 3 | 4 |
| Bergundy, true, lb | 10 | 12 |
| PLASTER, Calcined, bbl. cash | 25 | 3 25 |
| Adhesive, yd | 12 | 13 |
| Belladonna, lb | 65 | 70 |
| Galbanum Comp., lb | 80 | 85 |
| Lead, lb | 25 | 30 |
| POPPY HEADS, per 100 | 1 00 | 1 10 |
| ROSIN, Common, lb | 2½ | 3 |
| White, lb | 3½ | 4 |
| RESORCIN, white, oz | 25 | 30 |
| ROCHELLE SALT, lb | 28 | 30 |
| ROOT, Aconite, lb | 22 | 25 |
| Althea, cut, lb | 30 | 35 |
| Belladonna, lb | 25 | 30 |
| Blood, lb | 15 | 16 |
| Bitter, lb | 27 | 30 |
| Blackberry, lb | 15 | 18 |
| Burdock, crushed, lb | 18 | 20 |
| Calamus, sliced, white, lb | 20 | 25 |
| Canada Snake, lb | 30 | 35 |
| Cohosh, black, lb | 15 | 20 |
| Colchicum, lb | 40 | 45 |
| Columbo, lb | 20 | 22 |
| Powdered, lb | 25 | 30 |
| Coltsfoot, lb | 38 | 40 |
| Comfrey, crushed, lb | 20 | 25 |
| Curcuma, powdered, lb | 13 | 14 |
| Dandelion, lb | 15 | 18 |
| Elecampane, lb | 15 | 20 |
| Galangal, lb | 15 | 18 |
| Gelsemium, lb | 22 | 25 |
| Gentian or Genitan, lb | 10 | 11 |
| Ground, lb | 11 | 12 |
| Powdered, lb | 13 | 15 |
| Ginger, African, lb | 18 | 20 |
| Po., lb | 20 | 22 |
| Jamaica, blchd., lb | 27 | 30 |
| Po., lb | 30 | 35 |
| Ginseng, lb | 4 50 | 4 75 |
| Golden Seal, lb | 75 | 80 |
| Gold Thread, lb | 90 | 95 |
| Hellebore, white, powd., lb | 12 | 15 |
| Indian Hemp | 18 | 20 |
| Ipecac, lb | 1 75 | 2 00 |
| Powdered, lb | 2 00 | 2 25 |
| Jalap, lb | 55 | 60 |
| Powdered, lb | 60 | 65 |
| Kava Kava, lb | 40 | 90 |
| Licorice, lb | 12 | 15 |
| Powdered, lb | 13 | 15 |
| Mandrake, lb | 13 | 18 |
| Masterwort, lb | 16 | 40 |
| Orris, Florentine, lb | 30 | 35 |
| Powdered, lb | 40 | 45 |
| Pareira Brava, true, lb | 40 | 45 |
| Pink, lb | 40 | 45 |
| Parsley, lb | 30 | 35 |
| Pleurisy, lb | 20 | 25 |
| Poke, lb | 15 | 18 |
| Queen of the Meadow, lb | $ 18 | $ 20 |
| Rhatany, lb | 20 | 30 |
| Rhubarb, lb | 75 | 2 50 |
| Sarsaparilla, Hond, lb | 40 | 45 |
| Cut, lb | 50 | 55 |
| Senega, lb | 55 | 65 |
| Squill, lb | 13 | 15 |
| Stillingia, lb | 22 | 25 |
| Powdered, lb | 25 | 27 |
| Unicorn, lb | 38 | 40 |
| Valerian, English, lb. true | 20 | 25 |
| Virginia, Snake, lb | 40 | 45 |
| Yellow Dock, lb | 15 | 18 |
| RUM, Bay, gal | 2 50 | 2 75 |
| Essence, lb | 3 00 | 3 25 |
| SACCHARIN, oz | 1 25 | 1 50 |
| SEED, Anise, Italian, sifted, lb | 13 | 15 |
| Star, lb | 35 | 40 |
| Burdock, lb | 30 | 35 |
| Canary, bag or less, lb | 5 | 6 |
| Caraway, lb | 10 | 13 |
| Cardamom, lb | 1 25 | 1 50 |
| Celery | 25 | 30 |
| Colchicum | 50 | 60 |
| Coriander, lb | 10 | 12 |
| Cumin, lb | 15 | 20 |
| Fennel, lb | 15 | 17 |
| Fenugreek, powdered, lb | 7 | 9 |
| Flax, cleaned, lb | 3½ | 4 |
| Ground, lb | 4 | 5 |
| Hemp, lb | 5 | 6 |
| Mustard, white, lb | 11 | 12 |
| Powdered, lb | 15 | 20 |
| Pumpkin | 25 | 30 |
| Quince, lb | 65 | 70 |
| Rape, lb | 8 | 9 |
| Strophanthus, oz | 50 | 55 |
| Worm, lb | 22 | 25 |
| SEIDLITZ MIXTURE, lb | 25 | 30 |
| SOAP, Castile, Mottled, pure, lb | 10 | 12 |
| White, Conti's, lb | 15 | 16 |
| Powdered, lb | 25 | 40 |
| Green (Sapo Viridis), lb | 25 | 25 |
| SPERMACETI, lb | 65 | 70 |
| TURPENTINE, Chian, oz | 75 | 80 |
| Venice, lb | 10 | 12 |
| WAX, White, lb | 50 | 75 |
| Yellow | 40 | 45 |
| WOOD, Guaiac, rasped | 5 | 6 |
| Quassia chips, lb | 10 | 12 |
| Red Saunders, ground, lb | 5 | 6 |
| Santal, ground, lb | 5 | 6 |
| **CHEMICALS.** | | |
| ACID, Acetic, lb | 12 | 13 |
| Glacial, lb | 45 | 50 |
| Benzoic, English, oz | 20 | 25 |
| German, oz | 10 | 12 |
| Boracic, lb | 13 | 14 |
| Carbolic Crystals, lb | 28 | 30 |
| Calvert's No. 1, lb | 2 10 | 2 15 |
| No. 2, lb | 1 35 | 1 40 |
| Citric, lb | 45 | 50 |
| Gallic, oz | 10 | 12 |
| Hydrobromic, diluted, lb | 30 | 35 |
| Hydrocyanic, diluted, oz. bottles doz | 1 50 | 1 60 |
| Lactic, concentrated, oz | 22 | 25 |
| Muriatic, lb | 3 | 5 |
| Chem. pure, lb | 18 | 20 |
| Nitric, lb | 10½ | 13 |
| Chem. pure, lb | 25 | 30 |
| Oleic, purified, lb | 75 | 80 |
| Oxalic, lb | 12 | 13 |
| Phosphoric, glacial, lb | 1 00 | 1 10 |
| Dilute, lb | 13 | 17 |
| Pyrogallic, oz | 30 | 35 |
| Salicylic, white, lb | 75 | 80 |
| Sulphuric, carboy, lb | 2½ | 2¾ |
| Bottles, lb | 5 | 6 |
| Chem. pure, lb | 18 | 20 |
| Tannic, lb | 80 | 85 |
| Tartaric, powdered, lb | 38 | 40 |
| ACETANILID, lb | 65 | 75 |
| ACONITINE, grain | 4 | 5 |
| ALUM, cryst., lb | 1¾ | 3 |
| Powdered, lb | 3 | 4 |
| AMMONIA, Liquor, lb., .880 | 10 | 12 |
| AMMONIUM, Bromide, lb | 80 | 85 |
| Carbonate, lb | 14 | 15 |
| Iodide, oz | 35 | 40 |
| Nitrate crystals, lb | 40 | 45 |
| Muriate, lb | 12 | 16 |
| Valerianate, oz | $ 55 | $ 60 |
| AMYL, Nitrite, oz | 16 | 18 |
| ANTINERVIN, oz | 85 | 00 |
| ANTIKAMNIA | 1 30 | 1 35 |
| ANTIPYRIN, oz | 1 10 | 1 20 |
| ARISTOL, oz | 1 85 | 2 00 |
| ARSENIC, Donovan's sol., lb | 25 | 30 |
| Fowler's sol., lb | 10 | 13 |
| Iodide, oz | 50 | 55 |
| White, lb | 6 | 7 |
| ATROPINE, Sulp. in ⅛ ozs. 80c., oz | 6 00 | 6 25 |
| BISMUTH, Ammonia-citrate, oz | 35 | 40 |
| Iodide, oz | 50 | 55 |
| Salicylate, oz | 20 | 25 |
| Subcarbonate, lb | 1 80 | 2 00 |
| Subnitrate, lb | 1 50 | 1 60 |
| BORAX, lb | 7 | 8 |
| Powdered, lb | 8 | 9 |
| BROMINE, oz | 8 | 13 |
| CADMIUM, Bromide, oz | 20 | 25 |
| Iodide, oz | 45 | 50 |
| CAFFEINE, oz | 55 | 60 |
| Citrate, oz | 45 | 50 |
| CALCIUM, Hypophosphite, lb | 1 50 | 1 60 |
| Iodide, oz | 95 | 1 00 |
| Phosphate, precip., lb | 35 | 38 |
| Sulphide, oz | 5 | 6 |
| CERIUM, Oxalate, oz | 10 | 12 |
| CHINOIDINE, oz | 15 | 18 |
| CHLORAL, Hydrate, lb | 1 25 | 1 30 |
| Croton, oz | 75 | 80 |
| CHLOROFORM, lb | 60 | 1 90 |
| CINCHONINE, sulphate, oz | 25 | 30 |
| CINCHONIDINE, Sulph., oz | 15 | 20 |
| COCAINE, Mur., oz | 5 25 | 6 25 |
| CODEIA, ⅛ oz | 70 | 75 |
| COLLODION, lb | 65 | 70 |
| COPPER, Sulph., (Blue Vitriol) lb | 6 | 7 |
| Iodide, oz | 65 | 70 |
| COPPERAS, lb | 1 | 3 |
| DIURETIN, oz | 1 60 | 1 65 |
| ETHER, Acetic, lb | 75 | 80 |
| Sulphuric, lb | 40 | 50 |
| ENALGINE, oz | 1 00 | 1 10 |
| HYOSCYAMINE, Sulp., crystals, gr. | 25 | 30 |
| IODINE, lb | 4 75 | 5 50 |
| IODOFORM, lb | 6 00 | 7 00 |
| IODOL, oz | 1 40 | 1 50 |
| IRON, by Hydrogen | 80 | 85 |
| Carbonate, Precip., lb | 15 | 16 |
| Sacch., lb | 30 | 35 |
| Chloride, lb | 45 | 55 |
| Sol., lb | 13 | 16 |
| Citrate, U.S.P., lb | 90 | 1 00 |
| And Ammon., lb | 70 | 75 |
| And Quinine, lb | 1 50 | 3 00 |
| Quin. and Stry., oz | 18 | 30 |
| And Strychnine, oz | 13 | 15 |
| Dialyzed, Solution, lb | 50 | 55 |
| Ferrocyanide, lb | 55 | 60 |
| Hypophosphites, oz | 25 | 30 |
| Iodide, oz | 40 | 45 |
| Syrup, lb | 40 | 45 |
| Lactate, oz | 5 | 6 |
| Pernitrate, solution, lb | 15 | 16 |
| Phosphate scales, lb | 1 25 | 1 30 |
| Sulphate, pure, lb | 7 | 9 |
| Exsiccated, lb | 8 | 10 |
| And Potass. Tartrate, lb | 80 | 85 |
| And Ammon Tartrate, lb | 80 | 85 |
| LEAD, Acetate, white, lb | 13 | 15 |
| Carbonate, lb | 7 | 8 |
| Iodide, oz | 35 | 40 |
| Red, lb | 7 | 9 |
| LIME, Chlorinated, bulk, lb | 4 | 5 |
| In packages, lb | 6 | 7 |
| LITHIUM, Bromide, oz | 30 | 35 |
| Carbonate, oz | 30 | 35 |
| Citrate, oz | 25 | 30 |
| Iodide, oz | 50 | 55 |
| Salicylate, oz | 35 | 40 |
| MAGNESIUM, Calc., lb | 55 | 60 |
| Carbonate, lb | 18 | 20 |
| Citrate, gran., lb | 35 | 40 |
| Sulph. (Epsom salt), lb | 1¾ | 3 |
| MANGANESE, Black Oxide, lb | 5 | 7 |
| MENTHOL, oz | 55 | 66 |
| MERCURY, lb | 75 | 80 |
| Ammon (White Precip.) | 1 25 | 1 30 |
| Chloride, Corrosive, lb | 85 | 90 |
| Calomel, lb | 1 00 | 1 10 |
| With Chalk, lb | 60 | 65 |

## The Cod Fisheries of Norway.

The following tabulated report of the production of cod-liver oil and livers for industrial oils from 1888-1896 has been compiled from official reports by Joh. Rye Holmboe, cod-liver oil exporter, Tromsoe, Norway, and will be found interesting as affecting the prices in these oils.

A. CATCH OF CODFISH — IN THOUSANDS.

| District. | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | Average 1888-95. | 1896 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lofoten | 28300 | 18000 | 30000 | 21000 | 16250 | 27000 | 28300 | 38600 | 25919 | 18000 |
| Vesteraalen & south. dists | 21775 | 18129 | 19654 | 11368 | 21394 | 26143 | 22527 | 17926 | 19865 | 15336 |
| Finmarken | 8686 | 21300 | 13652 | 11868 | 20000 | 15776 | 13499 | 9057 | 14230 | 16371 |
| | 58761 | 57429 | 63306 | 44236 | 57644 | 68919 | 64226 | 66583 | 60014 | 49707 |

B. PRODUCTION OF COD-LIVER OIL — IN HECTOLITERS.

The above figures represent crude oil. 100 hectoliter crude will give from 70 to 75 barrels refined oil.

| District. | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | Average 1888-95 | 1896 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lofoten | 16100 | 12900 | 16700 | 18200 | 8100 | 18600 | 12300 | 12300 | 14400 | 8850 |
| Vesteraalen & south. dists | 12427 | 8019 | 11707 | 7115 | 10320 | 13200 | 6758 | 4261 | 9226 | 5219 |
| Finmarken | | 4267 | 1400 | 772 | 3899 | 2076 | 4168 | 2831 | 2723 | 9625 |
| | 28527 | 25186 | 29807 | 26087 | 22319 | 33876 | 23226 | 19392 | 26349 | 23694 |

C. YIELD OF LIVERS FOR OTHER OILS — IN HECTOLITERS.

100 hectoliters raw livers give about 40 barrels oil (about one-third each of raw medicinal, light and light brown) and 10 barrels boiled (black) tanner's oil (bruntran).

| District. | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | Average 1888-95 | 1896 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lofoten | 38000 | 23500 | 58500 | 22700 | 23000 | 31500 | 14000 | 11000 | 27778 | 3450 |
| Vesteraalen & south. dists | 23557 | 41213 | 39098 | 21272 | 39981 | 50436 | 21273 | 8710 | 30693 | 7826 |
| Finmarken | 20293 | 58925 | 38104 | 29172 | 54148 | 35044 | 15600 | 3400 | 36211 | 8021 |
| | 81850 | 123638 | 135702 | 73144 | 117129 | 116980 | 50873 | 23110 | 94682 | 9297 |

As will be seen from the above, the production of cod-liver oil this year, stimulated by the high prices in March and April, exceeds that of last year, and approaches the average of the preceding eight years.

These figures, however, should be considered in connection with the following facts:

(1) That the exceptionally small production of raw medicinal oil (see table C) necessarily opens for cod-liver oil several continental markets which have hitherto stuck to raw oil.

(2) That stocks of cod-liver oil at the commencement of 1895 were practically cleared, which shows that the world's consumption has been able to do away with 57,000 hectl. in the two years 1893-94, whilst 1895-96 have only produced 43,000 hectl.

As far as can be ascertained, all stocks in Norway are now on the hands of exporting houses, who will do their best to avoid severe losses on their Lofoten stocks.

A brisker demand has manifested itself lately, and the general prospects for the autumn campaign are for a livelier market with somewhat higher prices.

Tromsoe, July 31st, 1896. JOH. RYE HOLMBOE.

## Spanish Prescriptions.

By GEORGE FOY, F.R.C.S., Surgeon to the Whitworth Hospital, Drumcondra.

PHARYNGEAL SPRAY.

Iodine.....25 centigrms.
Carbolic acid.....25 "
Potassium iodide.....25 "
Glycerine.....5 grms.
Distilled water.....30 "

Mix.

To be sprayed on the inflamed tissues occasionally.—*El Eco del Consultorio*

MOUTH WASH.

Saccharine.....1 grm.
Soda bicarbonate.....1 "
Salicylic acid.....4 grms.
Alcohol.....200 "

Make a solution.

A few drops in water to be used as a gargle.

ANODYNE OINTMENT.

Hydrochlorate of cocaine.....30 centigrms.
Eucalyptol.....20 drops.
Lanoline.....30 grms.

Make an ointment.

Recommended for a nose pigment in hay fever and before minor operations in the nose.

NASAL OINTMENT.

Eucalyptol.....1 to 4 grms.
Lanoline.....30 grms.

Mix.

A useful application in *rhinitis sicca.*

SYRUP OF EUCALYPTUS.

Dried leaves of eucalyptus.....30 grms.
Water.....690 "
Loaf sugar.....1,240 "

Make an infusion; strain it through serge with slight pressure; allow the sediment to subside; add the sugar and dissolve by heat of a water-bath.

SYRUP OF RHATANY.

Extract of rhatany.....12 grms.
Water.....115 "
Loaf sugar.....220 "

Dissolve the extract in water; filter the liquid; add the sugar, and make the syrup without heat.

SYRUP OF COMFREY.

Prepared from the root of the comfrey in the same way as syrup of marshmallow.

SYRUP OF COLTSFOOT.

Prepared with the dried leaves of the plant.

SYRUP OF RASPBERRIES.

White sugar.....1,000 grms.
Raspberries.....520 "
Water.....345 "

Dissolve the sugar in the water with a gentle heat; add the raspberries; and after a slight simmer strain, without pressure, through serge.

Syrup of strawberry is prepared in the same way.

SYRUP OF GUM.

White gum arabic.....90 grms.
Water.....90 "
Simple syrup.....600 "

Dissolve the gum in water; strain through serge; mix with boiling syrup.

SYRUP OF CINCHONA.

Cinchona loja in powder.....115 grms.
White wine.....1,035 "
Alcohol, 90 per cent.....85 "
Loaf sugar.....1,550 "

Macerate the quinine for 24 hours in the mixture of wine and alcohol; filter; add the sugar, and dissolve without heat.

Syrups of gooseberry, lemon, quince, mulberry, and pomegranate are prepared with juice of the fruit as verjuice syrup.

Syrup of the blue violet, syrup of heartsease, syrup of ground ivy, and syrup of sarsaparilla, all find a place in the Pharmacopœia.—*Translated for The Medical Press and Circular.—British and Colonial Druggist.*

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The Chemists' Exhibition, organized by the *British and Colonial Druggist*, opened on Monday, August 24th, in the National Skating Palace, London, Eng., and was, we are informed, a decided success, both in the number and variety of exhibits and the attendance of pharmacists from all over the country. It is intended to make it a permanent annual exhibition, and its promoters are to be congratulated on the idea of its conception and the success which has attended their efforts.

| | | |
|---|---|---|
| Iodide, Proto, oz | $ 35 | $ 40 |
| Bin., oz | 25 | 30 |
| Oxide, Red, lb | 1 15 | 1 20 |
| Pill (Blue Mass), lb | 70 | 75 |
| MILK SUGAR, powdered, lb | 30 | 35 |
| MORPHINE, Acetate, oz | 1 80 | 1 85 |
| Muriate, oz | 1 80 | 1 85 |
| Sulphate, oz | 1 90 | 1 90 |
| PEPSIN, Saccharated, oz | 35 | 40 |
| PHENACETINE, oz | 40 | 42 |
| PILOCARPINE, Muriate, grain | 35 | 38 |
| PIPERIN, oz | 1 00 | 1 10 |
| PHOSPHORUS, lb | 90 | 1 10 |
| POTASSA, Caustic, white, lb | 60 | 65 |
| POTASSIUM, Acetate, lb | 35 | 40 |
| Bicarbonate, lb | 15 | 17 |
| Bichromate, lb | 14 | 15 |
| Bitrat (Cream Tart.), lb | 29 | 30 |
| Bromide, lb | 65 | 70 |
| Carbonate, lb | 12 | 13 |
| Chlorate, Eng., lb | 18 | 20 |
| Powdered, lb | 20 | 22 |
| Citrate, lb | 70 | 75 |
| Cyanide, lb | 40 | 50 |
| Hypophosphites, oz | 10 | 12 |
| Iodide, lb | 4 00 | 4 10 |
| Nitrate, gran, lb | 8 | 10 |
| Permanganate, lb | 40 | 45 |
| Prussiate, Red, lb | 50 | 55 |
| Yellow, lb | 32 | 35 |
| And Sod. Tartrate, lb | 25 | 30 |
| Sulphuret, lb | 25 | 30 |
| PROPHYLAMINE, oz | 35 | 46 |
| QUININE, Sulph, bulk | 34 | 37 |
| Ozs., oz | 37 | 41 |
| QUINIDINE, Sulphate, ozs., oz | 16 | 20 |
| SALICIN, lb | 75 | 4 00 |
| SANTONIN, oz | 20 | 22 |
| SILVER, Nitrate, cryst, oz | 90 | 1 00 |
| Fused, oz | 1 00 | 1 10 |
| SODIUM, Acetate, lb | 30 | 35 |
| Bicarbonate, kgs., lb | 2 75 | 3 00 |
| Bromide, lb | 65 | 70 |
| Carbonate, lb | 3 | 6 |
| Hypophosphite, oz | 10 | 12 |
| Hyposulphite, lb | 3 | 6 |
| Iodide, oz | $ 40 | $ 43 |
| Salicylate, lb | 1 00 | 1 10 |
| Sulphate, lb | 2 | 5 |
| Sulphite, lb | 8 | 10 |
| SOMNAL, oz | $5 | 00 |
| SPIRIT NITRE, lb | 33 | 65 |
| STRONTIUM, Nitrate, lb | 18 | 20 |
| STRYCHNINE, crystals, oz | 80 | $5 |
| SULFONAL, oz | 40 | 42 |
| SULPHUR, Flowers of, lb | 2½ | 4 |
| Pure precipitated, lb | 13 | 20 |
| TARTAR EMETIC, lb | 50 | 55 |
| THYMOL (Thymic acid), oz | 55 | 60 |
| VERATRINE, oz | 2 00 | 2 10 |
| ZINC, Acetate, lb | 70 | 75 |
| Carbonate lb | 25 | 30 |
| Chloride, granular, oz | 13 | 15 |
| Iodide, oz | 60 | 65 |
| Oxide, lb | 13 | 60 |
| Sulphate, lb | 9 | 11 |
| Valerianate, oz | 25 | 30 |
| **ESSENTIAL OILS.** | | |
| OIL, Almond, bitter, oz | 75 | 80 |
| Sweet, lb | 50 | 60 |
| Amber, crude, lb | 40 | 45 |
| Rec't, lb | 60 | 65 |
| Anise, lb | 3 75 | 3 90 |
| Bay, oz | 50 | 60 |
| Bergamot, lb | 3 75 | 4 00 |
| Cade, lb | 90 | 1 00 |
| Cajuput, lb | 1 60 | 1 70 |
| Capsicum, oz | 60 | 65 |
| Caraway, lb | 2 75 | 3 00 |
| Cassia, lb | 3 30 | 3 50 |
| Cedar | 55 | 85 |
| Cinnamon, Ceylon, oz | 2 75 | 3 00 |
| Citronella, lb | 80 | 85 |
| Clove, lb | 1 10 | 1 20 |
| Copaiba, lb | 1 75 | 2 00 |
| Croton, lb | 1 50 | 1 75 |
| Cubeb, lb | 2 50 | 3 00 |
| Cumin, lb | 5 50 | 6 00 |
| Erigeron, oz | 20 | 25 |
| Eucalyptus, lb | 1 50 | 1 75 |
| Fennel, lb | 1 60 | 1 75 |
| Geranium, oz | $1 75 | $1 80 |
| Rose, lb | 3 20 | 3 50 |
| Juniper berries (English), lb | 4 50 | 5 00 |
| Wood, lb | 70 | 75 |
| Lavender, Chiris. Fleur, lb | 3 00 | 3 50 |
| Garden, lb | 1 50 | 1 75 |
| Lemon, lb | 1 90 | 2 00 |
| Lemongrass, lb | 1 50 | 1 60 |
| Mustard, Essential, oz | 60 | 65 |
| Neroli, oz | 4 25 | 4 50 |
| Orange, lb | 2 75 | 3 00 |
| Sweet, lb | 2 75 | 3 00 |
| Origanum, lb | 65 | 70 |
| Patchouli, oz | 80 | 85 |
| Pennyroyal, lb | 2 50 | 2 75 |
| Peppermint, lb | 3 00 | 3 25 |
| Pimento, lb | 2 60 | 2 75 |
| Rhodium, oz | 80 | 85 |
| Rose, oz | 7 50 | 11 00 |
| Rosemary, lb | 70 | 75 |
| Rue, oz | 25 | 30 |
| Sandalwood, lb | 5 50 | 7 50 |
| Sassafras, lb | 75 | 80 |
| Savin, lb | 1 60 | 1 75 |
| Spearmint, lb | 3 75 | 4 00 |
| Spruce, lb | 65 | 70 |
| Tansy, lb | 4 25 | 4 50 |
| Thyme, white, lb | 1 80 | 1 90 |
| Wintergreen, lb | 2 75 | 3 00 |
| Wormseed, lb | 3 50 | 3 75 |
| Wormwood, lb | 4 25 | 4 50 |
| **FIXED OILS.** | | |
| CASTOR, lb | 9 | 11 |
| COD LIVER, N.F., gal | 2 25 | 2 30 |
| Norwegian, gal | 3 00 | 3 25 |
| COTTONSEED, gal | 1 10 | 1 20 |
| LARD, gal | 90 | 1 00 |
| LINSEED, boiled, gal | 62 | 65 |
| Raw, gal | 60 | 62 |
| NEATSFOOT, gal | 1 20 | 1 30 |
| OLIVE, gal | 1 20 | 1 25 |
| Salad, gal | 2 50 | 2 60 |
| PALM, lb | 12 | 13 |
| SPERM, gal | 1 35 | 1 40 |
| TURPENTINE, gal | 60 | 65 |

# Drug Reports.

## Canada.

The holiday season is not usually a busy one. Last month has been quite up to the average.

Opium, every indication is higher prices. Look out for adulterated gum.

Quinine has declined in price. The reason, so far, is not known here, and the outlook is uncertain.

Balsam tolu is higher.

Glycerine. The indications are it will continue to bring high prices.

Camphor is stiffer in price.

Ipecac is higher.

Acetanilid is a trifle higher.

Menthol is easier.

Insect powder much advanced.

## England.

London, Aug. 27, 1896.

The chemical and drug markets are always quiet at this time of the year, and business is very dull.

Camphor has given way still further. Quinine is also steadily on the down grade; competition between English and German manufacturers forcing down the price. Cod-liver oil is lower, and with only a small demand. New otto has just arrived, but prices are not fixed; well-known firms are, however, accepting lower rates. Balsam tolu dearer, copaiba easier. Oil of aniseed is marked up, though cassia is down. As usual, at the close of the season, tartaric and citric acids are lower.

## Be a Merchant.

These are "merchant times" in the drug business, and he who trims his sails to the coming breeze will surely get the advantage of being among the first to move in the right direction. The trend of the times is toward consolidation, and "only a chemist" will bring a man in but very few dollars. Better to adapt yourself to the conditions existing and try to be near the head of the procession as it passes on. Keep in your store what is asked for, or liable to be, even if it is postage stamps or fishing tackle, cutlery or stationery. There is profit in these goods, and that is what you are in business for, or should be. An honorable profession is very nice, but in the drug business it cuts a very small figure in producing bread for your family. There is not enough "profession" to go round, but there is enough "honorable business," if you make an effort to keep it in the drug stores and not drive it away.—*Boston Drug Market.*