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The
Canadian Druggist

A MONTHLY JOURNAL

Devoted to the Interests of the General Drug Trade and to the
Advancement of Pharmacy

VOLUME VII.
January to December, 1895.

W. J. DYAS,
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Europe has 383,290 blind, 230,200 deaf mutes.

In Holland more women than men die of apoplexy.

Of 10,000 deaths in England, 184 are from measles.

Bright's disease is most prevalent in Shanghai, China.

Review of the Year 1894.

During the past year considerable activity has prevailed on the chemical side of pharmacology, and in the more purely medical and bacteriological fields, first opened up by Pasteur, Brown-Séguard, and Koch. Pharmacy depends to a large extent upon the progress of therapeutics, and it is of keen interest, on the threshold of the new year, to take notice in what direction the progress is tending. For some years the tendency was strongly in favor of the organic derivatives which modern chemistry has so wonderfully developed, and to which we owe the existence of antipyrin, anti-febrin, phenacetin, etc. But more recently the development has taken place upon the lines suggested by the late Dr. Brown-Séguard, and animal extracts have been prominently introduced and boomed. The past year will be historically remarkable for the rise and development of what is already known as serum therapeutics.

SERUM THERAPEUTICS.

After the discovery of the bacillus of diphtheria by Loeffler, cultures were made which were found to produce diphtheria in animals inoculated with it. The bacillus is accompanied by toxins which probably assist in producing the disease, and from these cultures toxalbumin may also be obtained. Roux further advanced the subject by showing that the introduction of these substances into the tissues conferred immunity. Behring and Kitasato next discovered, in 1890, that the serum of the blood of animals previously rendered immune by graduated doses of the toxin was itself antitoxic, hence the name of antitoxin. The treatment of diphtheria and tetanus by antitoxin is now on its trial, but it is important to note that most of the leading authorities insist that all the ordinary measures should be employed at the same time that antitoxin is used. The accounts, on the whole, are very favorable, but one or two notes of warning have been uttered in Europe against too high an expectation being formed. In handling antitoxin, care should be taken not to expose it to light more than can be helped, and all vessels, hypodermic syringes, etc., should be carefully sterilized by heat, carbolic acid, or absolute alcohol.

Professor Klebs, of Berlin, has recently patented *antiphthisin* for use in tuberculosis. It is prepared from the tubercle bacillus culture fluid by the addition of cresol, filtering and adding sodio-bismuth iodide in excess, then caustic soda, again filtering, and finally precipitating antiphthisin from the liquid by the addition of alcohol.

It is of interest to record here that Koch's *tuberculin*, the unfortunate forerunner of antitoxin, has been found of great utility as a diagnostic agent in bovine tuberculosis. Dr. Schweinitz, of the Washington Bureau of Animal Industry, says that by its use it will be possible, eventually, if not to entirely eradicate, at any rate to control and limit the disease among cattle. Another diagnostic agent is *mallein*, which is being extensively employed for the detection of glanders, and of which veterinarians speak in highest praise. In each case the liquid is injected subcutaneously, in doses of about 1 c.c., with the usual antiseptic precautions, and the temperature carefully taken, at intervals, to note if any decided increase has occurred.

NEW REMEDIES.

The year has been by no means unproductive of new remedies, although there is some sign of a diminution in the number emanating from German sources. Increased attention is being directed to the development of those previously introduced which appear to have most claim upon medical recognition. Thus, *thioform*, one of the innumerable substitutes for iodoform, has been strongly recommended in veterinary practice, and employed with success.

Amongst those which have been brought more or less into prominence during the year are the following: *Ferratin*, first introduced by Schmiedeberg, and isolated by him from the liver of the pig, has been produced artificially as an albuminate of iron. It contains 7 per cent. in an easily assimilable form, and has been employed with the most satisfactory results in the treatment of anæmia. The dose is from 3 to 20 grains. *Calcium glycerophosphate*, the calcium salt of glycerophosphoric acid, is a white crystalline powder, soluble 1 in 15 of cold water, but less soluble in hot. Glycerophosphoric acid is one of the products of the splitting up of lecithin, and is supposed to present the phosphoric

acid in a specially assimilable form. It has been administered *per os*, and by subcutaneous injection in ataxia, sciatica, and neurasthenia. The potassium, ammonium, and sodium salts are also prepared, and the dose for injection is about five grains three times a day. If taken *per os*, the dose must be larger. *Tussol*, a saline combination of mandelic acid and antipyrin, which is stated to be more effective than antipyrin, and, as the name suggests, is introduced as a cough remedy. The dose, for adults, is 10 to 15 grains; children, less in proportion to age. *Dermol* is a compound of chrysophanic acid and bismuth, stated to have the formula $\text{Bi}(\text{C}_{10} - \text{H}_6 \text{O}_5)_2 \text{Bi O}_3$. It is an amorphous yellow powder, and recommended in skin affections as a substitute for dermatol—the basic gallate of bismuth—either in the form of dusting powder or ointment. *Formalin*, the name given to formaldehyde, is a powerful antiseptic, preservative, and disinfectant. It is supplied in a concentrated state, containing at least 40 per cent. of formaldehyde. *Iodo-cresol*, or, more correctly, tri-iodo-cresol, is a crystalline substance, soluble in chloroform, fats, and oils, but only sparingly soluble in alcohol. It is characterized by its freedom from color and smell. Therapeutic data are yet wanting. Aluminium has been a fruitful source of new remedies of recent years, and *aluminium borohydrate* is the latest. It is readily soluble in water, and recommended in place of alumnol, being milder in its effect, whilst equally antiseptic, and, therefore, particularly adapted for application to the throat. Amongst those which have appeared in our columns are *antitetraizinc*, *ingestol*, *lignosulfine*, etc.

PHARMACY.

The most important event of general interest to pharmacists has been the announcement of an Imperial Pharmacopœia, specially designed to meet the wants of the British colonies. The work of revision will be taken in hand towards the end of this year, and already several suggestions have been tendered from India and Australia. It is of great importance that Canada should formulate recommendations, so as to bring the British Pharmacopœia more into line with everyday requirements. To this end early co-operation of Canadian physicians and pharmacists is very desirable, and we have already urged the provincial associations to take prompt action in the matter.

New editions of the Swiss and Bulgarian Pharmacopœias have appeared during 1894, and comments and criticisms have freely flowed in the pharmaceutical press respecting the new United States Pharmacopœia.

The International Congress of Hygiene took place at Buda-Pesth, Hungary, in September. The usual resolutions in favor of an international pharmacopœia were passed by the pharmacy section, but little of importance transpired.

Among the numerous papers dealing with improvements in pharmacy published during the year, we can only select a few for special notice. Granular effervescent preparations have been ably dealt with by Bradley. Tinctures have received further attention from Farr and Wright, whilst Dodsley has recommended some improved methods for their manufacture, and Parker has made several good suggestions to recover the spirit left in the marc. White considers that infusions may be kept any reasonable length of time if sterilization is effected and a minute quantity of chloroform added, as a preservative. Infusions prepared from concentrated preparations rarely agree with recently-prepared specimens, says Barclay. Spirit of nitrous ether can be kept nearly two years without suffering much depreciation, according to Jones, if the bottles containing it are stoppered, luted, and stored in a cool cellar. McDonnell suggested the more rapid preparation of iodine ointment by merely heating the iodine and lard together, stirring well till dissolved. Henry recommended a tincture of iodine of the strength 1 in 16, which should replace the present liniment and tincture of the British Pharmacopœia. Simple resin and eucalyptus ointments are best prepared without any stirring during the cooling, as recommended in the case of ceratum resinæ. United States Pharmacopœia advocates *Boa Miss Crete*, which has been the subject of a paper by Professor Scoville, who hints that precipitated chalk is frequently used instead of prepared chalk, as the product is whiter. This practice is, of course, reprehended. Glucose is a perennial recommendation as a substitute for syrup in preparations, like syrup of iodide of iron, prone to change. The original formula for *Bland's pills* is published by Ince: Dried sulphate of iron, 30; dried carbonate of potassium, 30; powdered gum acacia, 5; water, 30; syrup, 15. This quantity in grammes to produce 120 pills. Note that a medical committee has announced that the pharmacopœial dose for antifebrin, 4 to 10 grains, is excessive; the proper dosage is from 1 to 4 grains.

PHARMACOGNOSY.

A good deal of solid work has been done in clearing up the pharmacognosy of some of the lesser known drugs. Hooper finds an alkaloid in *Abrus precatorius* root with glycyrrhizin and an acid resin. The *aconite* investigation of Professor Dunstan and his pupils has not advanced much, whilst an amusing controversy as to priority in discovery has taken place between Dunstan and Freund. There is no doubt that aconitine splits up, when heated, into acetic acid and another alkaloid. Keller obtained .87 to 1.23 per cent. of aconitine from aconite root. Dr. Aitchison reported that *asafetida* is certainly not the product of *Ferula Narthex*, nor is it collected in Kashmir, but comes from Afghanistan proper. Greenish discovered asphodel root as an adulterant of

white hellebore. *Balsam of Peru* has been examined by Trog, who finds that the fluid part is benzyl benzoate with cinnamic acid and vanillin. *Cactus grandiflorus*, recommended very highly some few years back as a heart-tonic, is reported by Gordon Sharp to be inert, and certainly produces no effects, pharmacologically, comparable to digitalis. *Cayenne pepper* adulterated with rice has been detected in Washington. *Cinnamon* and *cassia* barks have been carefully compared by Pfister. Schmidt criticizes the description of *chrysarobin* and *chrysophanic acid* given in various pharmacopœias. The former gives a yellow color with sulphuric acid and brown with caustic potash, whilst the chrysophanic acid gives a red color with the acid and blue with potash. Schorm purifies *coniine* and *nicotine* from their hydrochlorates by means of peroxide of hydrogen. *Dorstenia contrayerva* is reported by Mussi to yield an amorphous alkaloid, *contrayeroine*, which forms a white tartarate. The plant is used in Brazil as an antidote to snake bites. *Ergot* has yielded to Bohringer yet another active constituent, *spasmodin* or *sphacelotoxin*, which is stated to be very active in doses of 4 to 8 centigrammes. *Esérine* crystallizes from benzene in large flat prisms, and melts at 105-106° C., according to Petit. *Guaiacol* is best applied by painting doses of 4 grammes upon the skin, when 50 per cent. is absorbed and may be obtained from the urine, state Linnessier and Lannois. *Ginger* is being considerably adulterated with exhausted ginger, and may be detected by the ash. Pohl has given a concise botanical description of *hydrastis* and localized berberine. *Ipecacuanha* is being thoroughly examined by Paul and Cownley, who report that emetine is a mixture of at least two alkaloids. The ash of *kamala* contains a considerable proportion of manganese, and so-called kamaline is rotlerin, $\text{C}_{11} \text{H}_{10} \text{O}_3$, says Bartolotti. *Kala* is the subject of almost the last monograph written by Professor Flückiger. In his usual masterly fashion, he traced the history of the drug and its chemical constituents. The paper was published in our October issue. *Konso* yields a highly active substance, *kosotoxin*, according to Leichsenring; but commercial *kosin* is not a natural constituent, and is formed during isolation. *Jaborandi* leaves are scarce, and another pilocarpus plant has been substituted, called *ceara jaborandi*, which is practically devoid of pilocarpine. Oils have been examined by Schimmel during the year, and much interesting information supplied. *Oil of eucalyptus* is the subject of a recent note by Holmes, in which he gives valuable results obtained by Payne. The average yield of eucalyptol is about fifty per cent. from four or five different species. *Pareira bark* has yielded *vellotine* to Freund, which has a similar action to brucine. *Sugar of milk* sometimes contains as much as 1.5 per cent. of ash, chiefly MgO, so Braithwaite recommends a limit of 0.25 per cent. *Saffron* should not lose more than 12 per cent. of moisture at 202° F., and 7 per cent. of ash on



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the dried substance, is the recommendation of Barclay.

CHEMISTRY.

The discovery of the year, if true, is undoubtedly that made by Lord Rayleigh and Professor Ramsay. They allege the existence of a fifth constituent in the atmosphere, obtained by abstracting water, carbon dioxide, oxygen and nitrogen from air. It occurs with nitrogen, but differs from that body by its greater density.

A usual recommendation of Dett is that specific gravities be taken at 20° C. instead of 15° C. A suggestive paper by Edel on "Pharmaceutical Testing," published in our September issue, should be of great value, as the subject is very important. The purity of chloroform has long engaged attention, and Squibb, Schacht, Biltz, and Brown admit that absolute purity can be obtained, no matter what the source may be—acetone, ketone, or alcohol. The new U.S.P. tests are spoken highly of. Arsenic in glycerin has been reported now and again during the past few years, and should be guarded against. Furfuraldehyde is an excellent test for veratrine, according to Wender. Papers on analytical alkaloidal chemistry have been published by Kebler, and also by Wright and Farr. The tendency is to assist accurate determinations of alkaloidal galenical preparations. Guasti has shown that the isonitrite test for acetanilide in phenacetin is valueless. The following test will detect 0.5 per cent. of acetanilide. One gramme is boiled with 15 c.c. of water, cool and filter. Add bromine water to the filtrate, when if acetanilide be present a turbidity will result. Iodate can be easily detected in iodide of potassium, according to Spica, by precipitation with barium chloride. If the precipitation be barium iodate, it will dissolve in hot concentrated hydrochloric acid, and separate on diluting with water. Mabery reports the examination of Canadian sulphur petroleum, which he found to contain 0.98 per cent. of sulphur. Estimation of HCN in *aqua Laurocerasi* may be improved, reports Denigès, by using potassium iodide as indicator in solutions made strongly alkaline with soda or ammonia. Creosote from beech and oak is identical, and contains phenol, cresols, guaiacol, etc. They also contain a sulphur derivative. Becchi's silver reaction for the detection of cotton-seed oil in lard is not trustworthy. Bevan found that exposure of the lard to the air was sufficient to ensure the silver reaction. The iodine absorption remains the best test.

BOTANY.

Useful contributions to botany have been made by Green, who has examined several ferments. Jamieson has discovered apertures at the tip of root hairs. Berthelot and André have traced the formation of CO₂ and absorption of O₂ by leaves after their removal from plants. Dyer has made exhaustive study of the available mineral plant food in soils. Purjewicz showed that decomposition of organic acids is always taking place in plants, but is favor-

ed by light and heat. Malic acid is most easily decomposed, then oxalic, and next tartaric.

Bacteriology and microscopy deserve special recognition, as their importance grows daily. In the histology of drugs and examination of bacteria, the microscope is becoming an indispensable instrument of research to the pharmacist. We must content ourselves with drawing attention to the numerous notes we have published on the subject during the year, particularly by Dr. Eccles, Dr. Whelpley, and others. Photography is growing in favor every year, and the space devoted to it monthly is sufficient evidence of its importance.

The depression in trade which has existed throughout this continent has, as a matter of course, had its effect upon the drug market.

The volume of business done during 1894 is reported by wholesalers to be, as near as can be ascertained at the time of writing, about the same as in 1893. Although stock has been taken, it yet remains for the books to be balanced to show the proportion of profits. Prices, on the whole, have not varied much, and have, as a rule, favored the buyer.

Prince Edward Island.

Mr. Fred. C. Davies is advertising all his stock, etc., for sale, and contemplates removing to Florida.

Mr. W. W. Macdonald, druggist, of O'Leary, P.E.I., was married on the 25th December, 1894, to Miss Annie E. Ellis, of Alberton, in St. Peter's Church.

Summerside has another—its fourth—drug store, the proprietors of which are respectively Mr. Manson (lately with Dr. Dodd, of Charlottetown, formerly with Mr. Gourlie, of Summerside), and Mr. MacNeill, who, for some years past, has had charge of the Kensington Drug Store. The firm's name is Manson & MacNeill. The business is being carried on in the eastern half of the store lately occupied by Mr. A. C. Rogers.

The *Maritime Grocer* of December 25, 1894, says: Mr. Charles Silver, of Simon Bros. & Co., who has just returned from Charlottetown, tells us that the window display of W. R. Watson's drug store, of that city, is one of the finest he has ever seen. The arrangement of the different Christmas novelties and perfumes is unique, the background of the same being artistically adorned with limbs of young spruce, forming a contrast which is very pleasing to the eye.

A druggist at Cypress, Man., has been fined \$50 and costs on a charge of selling liquor as a beverage.

There is said to be a good opening for a physician at Cartwright, Man. Forty-five families have signed their names to an agreement to pay a doctor \$10 each for the first year. The nearest doctor is now from 16 to 20 miles.

Trade Notes.

Ross & Co. have opened a drug store in Vancouver, B.C.

William Geary has opened a drug store in Vancouver, B.C.

J. D. Warren, druggist, Pembroke, Ont., has made an assignment.

The Sugden Pitt & Drug Co., Winnipeg, Man., has been incorporated.

Chas. Nelson, druggist, Vancouver, has opened a branch at Chilliwack, B.C.

Harry P. Hyatt, Montreal, has registered as the Crescent Chemical Works.

Grant Jessop, druggist, Chilliwack, B.C., has been burned out. Insurance \$2,500.

H. E. Calkin has purchased the drug business of R. O. Christie at Springhill, N.S.

Harbottle has opened a new drug store in the Rossin House block, Toronto, Ont.

N. C. Polson & Co., druggists, Kingston, Ont., have sold their business to W. H. Medley.

R. G. McPherson, druggist, New Westminster, B.C., has sold his business to H. Ryal & Co.

W. S. Robinson has sold his drug business on Avenue Road, Toronto, Ont., to R. C. Hueston.

It is reported that McCartney & Co., druggists, Nanaimo, B.C., are about selling their business.

Thomas Johnston, Avenue Road, Toronto, Ont., has sold his drug business to B. D. Turquand.

H. W. Bleasdale, druggist, Fort Macleod, N.W.T., is arranging a settlement at 50 cents on the dollar.

J. W. Coleleugh, druggist, of Mount Forest, Ont., has been elected mayor of that town by acclamation.

The drug stock of George E. Clark, Gravenhurst, Ont., was completely destroyed by fire on Jan. 4th.

G. E. Gibbard has opened a branch drug store on College street, near Clinton street, Toronto. It will be under the management of F. Nichaus.

H. W. Mitchell, who passed his examination at the O.C.P. last month, goes to Winnipeg, Man., to take a position in his father's drug store in that city.

R. Tutthill has disposed of his drug business on Lake street, Chicago, and has purchased the Market Drug Store, Toronto, owned by R. O. Sinder & Co.

A. B. Petrie, jr., is a partner in his father's businesses, Guelph, Ont., dating from January 1st. We can only wish him the success that has always attended the old firm.

A. B. Petrie, of Guelph, Ont., the genial president of the Ontario College of Pharmacy, and Miss Petrie, left on Wednesday, January 9th, for a pleasure trip to Australia, to be gone three months. We wish them a pleasant voyage and safe return.

Pharmacy in England.

The Widow's Clause in the Pharmacy Act—*Itrouyl*, for the Preparation of Spts. Ether Nit.—*Sanmetto*—*Chlorobrom* in Seasickness—*Pure Chloroform*—The Chemical Market.

(By Our Own Correspondent.)

The president of the Pharmaceutical Society is always springing new surprises upon his supporters. Some few years ago he went for the curriculum scheme with all his heart and soul, and actually induced the council to embody it in a bill before parliament, but its career was short. Next, he evolved some improved method of conducting the examinations with the assistance of outside professors, which the Council adopted, and now seems sorry for it. For one of the first professors appointed was Professor Green, who holds the chair of Botany in the society's school of pharmacy. This unfortunate selection has raised a small hornet's nest, as it is thought that the unimpeachable fairness of the examinations cannot be maintained if a professor of one school of pharmacy is on the board of examiners, whilst all the rest of the schools throughout the country are unrepresented. Now, Mr. Carteighs has started a crusade against the widow's clause in the Pharmacy Act. By this clause, a chemist's widow is permitted to continue the business if she engages a qualified assistant as manager. For some unexplained reason, except that this beneficent provision for the widow and fatherless is an anomaly, we are called upon to sacrifice this clause, and for what? Apparently to assist in closing a few businesses in the country, where competition is getting so keen. But in this absurd outcry against an institution which has certainly never proved a grievance—rather the reverse—the president forgets that, as the law stands, even if the widow clause were repealed, all that she has to do is to turn the business into a limited liability company, and she can carry on the business just as before. From this it will be seen that any agitation on the subject is farcical, and that no surrender of the widow's privilege would effect any alteration in pharmacy unless the companies' immunity is also broken down.

***Itrouyl*.**—Under this cabalistic word, Messrs. Fletcher, Fletcher & Co. have introduced a concentrated spirit of nitrous ether. Indeed, it is so highly concentrated that they claim 1 part mixed with 19 parts of rectified spirit will instantly produce the pharmacopœial spirit of sweet nitre. From an examination of it, I am inclined to believe that it is a solution of ethyl nitrite in absolute alcohol, with a small quantity of aldehyde. The solution is probably prepared by the double decomposition method from sodium nitrite in a freezing mixture, as recommended some few years ago by Professor Dunstan. It is supplied only in sealed glass capsules holding one fluid ounce, with the idea of preserving the fluid without any loss of gas, one of which is to be broken and mixed with the rectified spirit as re-

quired. As one of the bugbears of pharmacy is the preservation of spirit of nitrous ether at its full strength, this method may be of some advantage. The price of the capsules is twenty-four cents each, which makes the preparation somewhat dearer than the ordinary article.

***Sanmetto*.**—This is the latest American candidate for medical favor which has reached this side. It is apparently a fluid extract flavored so as to be rather agreeable, and of a reddish color. It has been suggested that it is an extract of the saw palmetto. Some considerable expense has already been incurred by the proprietors, the Od Chemical Manufacturing Company, by mailing all our registered physicians a free sample, with literature. From the latter I gather it is recommended particularly for cystitis, pyelitis, prostatitis, and pre-senility—whatever that may mean. Apropos of new remedies of this class, I may mention that I had an opportunity of seeing it prescribed the other day by one of our leading West-end physicians. It was for a young woman who, I learned afterwards, was suffering from tuberculosis of the kidney. The prescription was followed in a few days with another calling for Dusart's syrup of the hypophosphites, next a course of Stearn's wine of cod-liver oil, and, finally, Scott's emulsion. Then I lost sight of the patient, but I could not help reflecting on the apparent advantages possessed by our enterprising cousins, who had so effectually captured this physician that nothing in the pharmacopœia, or even manufactured in England, was good enough for him.

***Chlorobrom*.**—This preparation, first suggested by Dr. Charteris, Professor of Materia Medica and Therapeutics at Glasgow University, is being boomed by the proprietors, Messrs. Burgoyne & Co. It is a pleasant mixture of an elixir nature, containing chloralamide and bromide of potassium. Dr. Charteris specially recommended it as a remedy for seasickness, and some remarkable evidence of its success in preventing or abating attacks of this distressing malady has been produced. Messrs. Burgoyne are now pushing the remedy as an ideal sedative and hypnotic. They claim that it can be safely administered even to children, whilst the combination with chloralamide prevents the depressing action of the bromide from being asserted. In connection with its success as a remedy for seasickness, it should be borne in mind that Dr. Charteris insists on the passenger taking an anti-bilious pill, or three-grains tabloids of calomel, for two nights previous to embarking. When on board, a dose of chlorobrom, either 4 or 6 drachms, should be taken, and the passenger should retire to his berth and assume the recumbent attitude. In over one hundred cases only one unsuccessful result was obtained, and this was explained as being due to an excessive dose.

***Pure Chloroform*.**—For some time past the purity of chloroform has been a sub-

ject of speculation and experiment. Whatever the cause may be, it is an undoubted fact that more deaths from chloroform have occurred in recent years than formerly. Physiologists are inclined to put the onus upon the chloroform manufacturers, and suggest that as chloroform is now prepared from acetone, methylated spirits, etc., impurities are much more probably present than when it was only prepared from pure alcohol. Some such opinion is also held by Squibb, although he admits that pure chloroform is the same thing, no matter what it is made from. Messrs. Macfarlan, of Edinburgh, who are very large makers of this article, have from time to time communicated to the pharmaceutical press their experience in the matter. Whilst advocating more stringent tests to be applied for the detection of impurities, they are perfectly convinced that, with ordinary care, there need be no impurities, but state that the bleaching powder employed is a more prolific source of impurity than acetone, methylated spirits, etc. They have placed upon the market an absolutely pure chloroform for anæsthetic purposes, which extended experience has shown can be safely kept for a year or more without decomposition. Makers of chloroform are naturally rather inclined to saddle anæsthetists with the responsibility of most of the accidents that have happened. They state, with some show of reason, that many a hundred minor operations are now performed under chloroform which used to be performed without anæsthetics, and that this has rendered surgeons careless of the idiosyncrasies and cardiac weakness of patients who are not suitable subjects for chloroform inhalation.

The market at the close of the year is always more quiet, very little business being transacted. Chemicals remain, for the most part, unaltered, and there have been no drug sales since the 15th. Some excitement has been caused among the export drug houses by the county council threatening to summon all who have metric weights and measures on their premises for purposes of trade. As many of the South American indentors require their goods to be supplied by the kilogramme or litre, this is very awkward; and it appears that, as the law stands, it is illegal for chemists here to dispense foreign prescriptions with metric weights. This matter appears all the more ridiculous, inasmuch as the new British Pharmacopœia is to recognize the metric system more fully. Some conjoint action of the Pharmaceutical Society and Chambers of Commerce is spoken about.

December is the most fatal month in the year for asthma.

The number of persons born blind is sixty-five to the million.

Mrs. Shaw, the whistler, says that one of the best cures for indigestion is whistling for about half an hour after eating.

Have You Ever..

Sold TAYLOR'S MARKING INK with stretcher?

If not, send us \$1.75, and we will forward
1 dozen at once, postage or express paid.

Taylor's Marking Ink

Has been on the market for several years, and has given unqualified satisfaction wherever sold. Although not advertised, its sale has gradually increased, and we propose now to place it more prominently before the trade.

— Taylor's Ink —

Is put up in handsome Easel Boxes, 13 inches high by 11 inches broad, making a most attractive ornament for the counter or glass case.

Increase Your Sales

Of Marking Ink by displaying a dozen of TAYLOR'S INK.

THE NEW RAT POISON AND MOUSE KILLER

- SURE DEATH -

Is meeting with a very large sale

Large Boxes.

Neatly Put Up.

Retails 15 Cents.

Costs \$9.00 per gross.

SURE DEATH can be confidently recommended as a reliable poison.

ARCHDALE WILSON & CO.

Wholesale Druggists and Chemists

HAMILTON

ONTARIO

- EXCELSIOR - Drug Mixer and Sifter

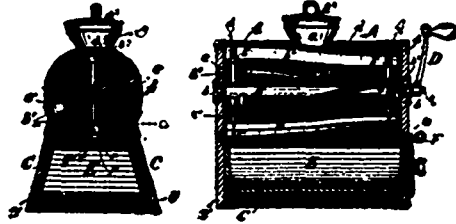
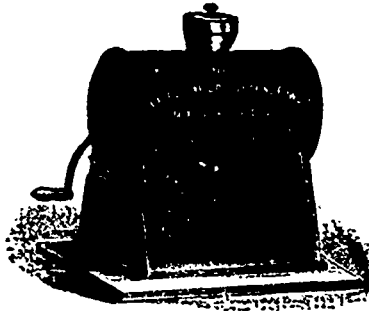
IMPROVED AND PERFECTED

For Druggists, Manufacturing Chemists, Perfumers, Etc.

Suitable for the manufacture of Baking Powder, Tooth Powder, Face Powder, Condition Powder, and for the Compound Powders of the Pharmacopœia.

These are made in Three Sizes SUITABLE TO MIX 5 lbs., 10 lbs., and 25 lbs.—at \$6, \$12, and \$18 each.

Easily Cleaned
and
No Wood
To Scent.



Dust Proof
and
Changeable
Sieves

RUBBER BRUSH RUBS ALL LUMPS OUT OF POWDER BEFORE IT IS SIFTED.

These Machines mix the powders thoroughly, and then force them through sieves of the proper fineness for the intended powders. Two Sieves, 40 and 60 mesh, with each Mixer.

This Mixer and Sifter is handled by the prominent wholesale druggists of the United States, and gives general satisfaction. Amongst those handling them are: Morrison & Plummer, Chicago, Bullock & Crenshaw, and Smith, Kline & Co., Philadelphia; W. H. Scheffelin & Co., and McKesson & Robbins, New York, and others.

The 10 lb. Mixer is specially adapted for the general requirements of the Retail Druggist.

WM. J. DYAS, Strathroy, Ont., Sole Agent for Canada.

RADLAUER'S ANTISEPTIC PERLES

Of Pleasant Taste and Fragrance.

Non-Poisonous and strongly Antiseptic.

These Perles closely resemble the sublimates and carbolic acid in their antiseptic action. A preventive of diphtheric infection.

For the rational cleansing and disinfection of the mouth, teeth, pharynx, and especially of the tonsils, and for immediately removing disagreeable odors emanating from the mouth and nose.

A perfect substitute for mouth and teeth washes and gargles. Radlauer's Antiseptic Perles take special effect where swallowing is difficult in inflammation of the throat and tonsils, catarrh of the gums, periostitis dentalis, stomatitis mercurialis, salivation, angina, and thrush.

A few of the "Perles" placed in the mouth dissolve into a strongly antiseptic fluid of agreeable taste, cleanse the mouth and mucous membrane of the pharynx, and immediately remove the fungi, germs, and putrid substance accumulating about the tonsils, thereby preventing any further injury to the teeth.

METHOD OF APPLICATION:

Take 2-4 Perles, let them dissolve slowly in the mouth, and then swallow. Being packed in small and handy tins, Radlauer's Antiseptic Perles can always be carried in the pocket.

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**S. RADLAUER - Pharmaceutical Chemist
BERLIN W., GERMANY**

W. J. DYAS, Strathroy, Ont., Wholesale Agent for Canada.

Sovereign . . Lime Fruit Juice

Is the Strongest, Purest, and of Finest Flavor

*We are the largest refiners of LIME JUICE
in America, and solicit enquiries.*

For Sale in Barrels, Demijohns, and twenty-four ounce Bottles
by wholesale in

TORONTO, HAMILTON, KINGSTON, AND WINNIPEG

SIMSON BROS. & CO., Wholesale Druggists

HALIFAX, N.S.

TO THE DRUG TRADE

PHENYO-CAFFEIN

Is an acknowledged Leader among HEADACHE
and NEURALGIA Remedies.

Its special advantages are safety, efficiency, convenience of form for carrying and taking.

Our policy is to serve the regular drug trade exclusively by thorough, persistent, and judicious advertising.

We believe we can benefit ourselves by benefiting you.

Correspondence solicited regarding the goods, method of advertising, etc., etc.

Home Office, Worcester, Mass.

Dominion Office, Toronto, Ont.

Direct all Dominion correspondence to

JOHN C. GERRY, Dominion Agent, Toronto.

Drug Clerks' Column.

Felicitatem Adversus Gradus.*

GRUFFS FOR THE DRUG CLERKS OF ONTARIO.

By D. J. ASHURVY, Ontario College of Pharmacy, Junior Class of 1894.

I daresay that the majority of the drug clerks of the province are at this present time in an almost similar predicament to my own about six months or a year ago. I was just about then eagerly anticipating the time when I should be liberated from the *bondage* of apprenticeship and could enter upon a more lucrative and enjoyable course of existence, and in the not very distant future become what is the aspiration of all in any way ambitious youths, my own boss (although I am forced to admit the prospects of having such an employer were not at all of an enviable character). Green fields are pleasant far away, and of the pastures of bliss my too vivid imagination had an exceeding abundance. But there are a few things we mortals are in a position to learn as we advance upon life's pathway. And my turn was yet to come, and that at no far distant season.

I had never for a moment thought of associating my apprenticeship life with the interests of our province's College of Pharmacy, because I was content to leave had enough alone, and to take my medicine of school life as a druggist only can (in capsules) when it should become incumbent upon me to attend the deliberations of the institution of learning which was to attempt to fit me out in the garb of pharmacy. But my apprentice days coming to a fulfilment, and the next consequent step for me being the attending school, I attended this last fall's junior session of our own Ontario college, and I there learned a few lessons which have been of profit to myself, and which I feel may be worth a little to my fellow drug clerks. And so I beg indulgence of them whilst I bring to their notice the product of my observations.

I feel strongly convinced of the circumstance that most of our drug clerks never cast a thought about their connection with our college at Toronto until they are brought into direct contact with it by an attendance upon its course of tuition and training. The clerks never get to feel that they are prospectively as intimately connected with the school as are those who are from year to year attendant upon its sessions. It is absolutely certain that no man can enter the drug business as a business in this Ontario of ours until he has been graduated from the college supposed to train him up in the way he should go in his pharmaceutical life in the province. And so the boy going into the business ought to appreciate fully what is before him and govern himself accordingly. Far too many young fellows squander their time in the store, do nothing toward getting

ready for school work, fail to avail themselves of the facilities and influences for study extended them, and go down to Toronto perfect ignoramuses, sufficiently wrapped up in their own powers to harp Æolian music to that providence their ignorance describes as "luck" as that they hope, and even expect, they will pass through examinations and come out as full-fledged druggists, and be able to take their places among the business men of the province as fit representatives of a business into which they have gained access by the skin of their teeth, and very little skin at that. Well, there may be something so striking about these young men as to commend them extraordinarily favorably to their examiners, but I don't believe their hash will prove half so digestible when they come to eat it. It is generally found each May that those who fail on the council examinations are the men who did not think it worth their while to get a little bit prepared for the work of the course before entering upon it. These are the ones who usually get left. Now, the work at school will not be such an extreme burden to him who has prepared himself before and during the course in some measure for it. There is certainly lots of work to get up, but honest application and perseverance can surmount all barriers, and he who earnestly does his best to get up the work will not find the getting of it up such an onerous task after all.

But there are a few things it will not be amiss for each of us to get an insight into ere we attempt to try our skill at the storing our minds with the knowledge of pharmaceutical book lore. And these we might just for a few minutes take a glance at:—

I. A clerk before attending school should train his mind to a system of study.

At the Ontario College of Pharmacy, as at all others, they do not profess to be able or to attempt to *learn* any man the theories of pharmacy; they only *teach*. No person can regulate the mind of another, none can influence his fellow's powers of thought and mental grasp. To assert and exert themselves, each man must look after his own mental character. And I noticed this circumstance very markedly displayed in my recent experience at school. Some fellows could not apply themselves at all to study, could not get their minds into working trim, could not bring their talents to bear upon their required exercises, and, of course, these men could not but lose through this deficiency of power. It is a very pleasant way of looking at matters, I fully realize, this of considering that while in the store as an apprentice a fellow can afford to let studies run and can allow himself to neglect attention to his books altogether; but I also now from experience realize every bit as fully that this way of looking at the situation is a hood-wink and a dangerous snare. A man's mind needs to be prepared for thinking, and, unless it be prepared, all the knowl-

edge of all the sages the world has ever known will never sprout forth into usefulness from this mind, because the soil is no good, has never been cultivated. I believe that if the clerks of Ontario would only get to realize what they are losing by not paying a little attention to study while in the store, they would stir themselves a little bit in this matter. There are lots of little things each clerk can learn before entering school which he would find would save him a lot of trouble on going to school, and which I know would be of great service to those who are to tutor him. Almost any fellow while in the store can get up the *doses* of drugs and preparations of the Pharmacopœia, can study up the ways of preparing official medicaments, can get up the process of determining specific gravity of substances, and can know a little bit about the metric system of weights and measures, and that table in the front of "Marsch's Materia Medica." This is very little to have to study for four years, but if properly gone at will be of profit to him who attempts it. And then in the college announcement will be found a course of study for apprentices, drawn out by the council of the college, which may well be given the serious consideration of the clerks of our province. This table was not made out just for amusement, it was fixed up for your profiting, brother clerk.

II. A clerk needs to form proper habits of going about his work.

There is nothing so disgusting and distasteful to any person of refinement than a man who is slovenly, and who does not know how to correctly and expeditiously go about his business, and the Professor of Pharmacy at the O.C.P. is not a man of vulgar imitations, not by any means, as many neglectful clerks have found and will yet find out. Any man who is clean and particular himself likes to see the same qualities in others. But there are lots of people in this world of ours who are exceedingly dirty in their methods of work, and who, besides this, never use their common sense to direct them how to go about their business.

Some clerks in their works show this lack of skill to a very, very marked extent. In making pills they too often make very pill *mess* than pill *mass*, a terrible slubber all over the whole of their utensils; in making powders, the powders are more often spread upon the dispensing counter than upon the necessary papers. These clerks more often dispense with the powders than they dispense them. And in their other operations they are equally unskilled. They never think for a minute what ought to be done under a given circumstance, and how this ought to be done. They never use their thinking caps at all.

Now, no school professes to be able to make a man of any fellow. They don't, at school, supply a man with character, only with aids to the framing of this.

These two thoughts came forcibly to me during my connection with our school

*Steps towards success.

at Toronto during this past fall, and I have jotted them down rather hurriedly and uninterestingly for the enlightenment and guidance of those with whom my life is closely knit in the fellowship of occupation.

Examination Questions Ontario College of Pharmacy.

JUNIOR EXAMINATIONS, DECEMBER, 1894.

PHARMACY.

Examiner.—CHAS. F. HEBNER, Ph.G., Phm.B. (Tor.).

Time allowed, three hours.

1. HYDRARGYRI IODIDUM RUBRUM. Give (a) chemical name and formula; (b) method of preparation in detail, stating reasons in full for each step from beginning to end; (c) equation showing chemical change which takes place; (d) means of determining the quantities of the necessary ingredients to furnish the greatest possible yield of salt.

2. What volume of *Aether Purus* will be required to counterpoise four fluid ounces of *Acium Nitricum*? What will 0.5 liter of *Rectified Spirit* weigh, and (c) what weight of absolute alcohol will it represent?

3. (a) Differentiate between *Water of Crystallization* and *Water of Decrepitation*. (b) Explain why granulation is a more efficient means of purifying certain chemical salts than re-crystallization.

4. How many *Avirdupis* pounds are represented by the sum of 425 dekagrams, 8½ kilo's, 3¼ myriagrams, 825 decigrams, 460 milligrams, and 18 grams.

5. (a) Describe and illustrate a method of upward-filtration, stating its advantages over the usual method, and the objects gained. What medium may be used in the filtration of (b) Phosphoric Acid, (c) Solution of Soda?

6. Having in stock 50 grams of powdered opium containing 8 p.c. of morphine, in what proportions can I most economically mix with it powders assaying 9, 12, and 15 p.c., to yield a product that will assay 10 per cent. morphine.

7. (a) Mention the initial unit of the Metric System; (b) explain the derivation of the unit of weight from the lineal unit; (c) show the relation existing between the units of capacity and length. Give the equivalents of the following in the customary weights and measures: (c) Meter, (d) Gram, (e) Liter. Give approximate metrical equivalents for: (f) grain, (g) drachm, (h) fluid ounce, (i) inch.

8. (a) Define and give examples of Solution by Intervention; (b) Define Supersaturated Solution; (c) a solution of Potassic Chlorate, saturated at 15° C., weighs 41¼ ozs.; what amount of salt is there in solution; (d) and what is the percentage strength of the solution?

9. (a) Define specific gravity; (b) what is the unit for solids and liquids; (c) state method of using the loaded cylinder in specific gravity determinations. Give sp. gr. and percentage strength of (a) Spiritus

Tenuior, (b) Aether, (c) Chloroformum, (d) Liquor Ammoniac, (e) Liquor Ammoniac Fortior.

10. A piece of wax weighs 14.25 grams; a block of brass (sufficiently large to immerse the wax in water) weighs in distilled water, 15° C.—30 grams; wax and brass together weigh in distilled water, 15° C.—29.25 grams; what is the specific gravity of the wax?

11. State how each of the following are affected by exposure in uncorked bottles: (a) *Plumbi Acetus*, (b) *Zinci Sulphas*, (c) *Calcii Chloridi*, (d) *Liquor Plumbi Subacetatis*.

12. Give test to distinguish between a solution of plumbic acetate and Goulard's extract.

CHEMISTRY AND PHYSICS.

Examiner.—A. Y. SCOTT, B.A., M.D., C.M.

Time allowed, two hours.

1. State the Law of Definite Proportion and illustrate your answer.

2. Give the history, occurrences, preparation, and properties of Ammonia.

3. How much oxygen can be obtained from 200 grammes of Potassium Chlorate (a) at normal temperature and pressure, (b) at 15° C. and 740 mm. pressure?

4. What are the impurities in ordinary commercial Hydrochloric and Sulphuric Acids? What are the sources of these impurities? How would the Acids be purified?

5. Give an account of the occurrence, preparation, chemical and physical properties of Sulphur Dioxide. How much Sulphur would it require to unite with the Oxygen in 1,000 liters of air at 0° and 760 mm.?

6. Write equations illustrating action of:

(a) Potassium Hydrate on Ammonium Chloride.

(b) Chlorine on Hydrogen Sulphide.

(c) Barium Chloride on a Sulphate.

(d) Sulphur Dioxide, Oxygen, Hydrogen Nitrate and Water.

7. State Boyle's Law. How would it be proved?

PHARMACAL LABORATORY.

Examiner.—CHAS. F. HEBNER, Ph.G., Phm.B. (Tor.).

Time allowed, two and a half hours.

1. Determine the extractive matter in the liquid preparation handed you, and report according to the following forms:

(a) Quantity of liquid taken.

(b) Amount (actual) of extractive matter found.

(c) Percentage of extractive matter found.

(d) Write out process used in determining extractive in detail, and exhibit all figures used.

2. Determine the specific gravity of the solid substance, and submit a report of your results in accordance with the subjoined form:

(a) Substance marked.

(b) Weight of substance taken.

(c) Weight of an equal volume of water.

(d) Specific gravity of substance.

Exhibit all figures used in the above determination.

N.B.—Neatness of work, order in arrangement, and cleanliness of working desk and outfit, will enter as important factors in your ratings.

LATIN, ETC., THERAPEUTICS AND POSOLOGY.

Examiner.—J. T. FOTHERINGHAM, B.A., M.B.

Time allowed, two hours.

1. Decline the nouns:—*Bromidum*, *Congius*, *Liquor*, *Pilula*, and *Spiritus*, naming the cases.

2. Give case and syntax of the italicized words:—*Recipe Lincturae Asafetida drachmam unam quartâ quaque horâ.*

3. Analyze this classical prescription into its component parts, giving each part its name. Translate directions:

R. Pulv. Jalapæ, gr. xx.

Pot. Tart. Ac., ʒj.

Syr. Zingib., ʒij.

Aq. Ment. Pip., ʒj ss.

Ft. haust. stat. sumend.

4. Apply Young's rule to the above prescription to reduce it to suit a child of four years of age.

5. Give maximum doses of the following preparations:—Pulv. Cretæ Aromat. c. Opio; Pil. Hydrarg.; Extr. Stramonii; Extr. Casc. Sagr. Fl.; Extr. Bellad. Alcohol.; Extr. Aloes Barb.; Vin. Antimon.; Tr. Cannab. Ind.; Tr. Capsici; Tr. Valer. Ammon.

6. Enumerate the ordinary methods of administration of drugs, and distinguish between terms Local Effect and Systemic Effect, giving example of each.

7. Define the following terms: Absorption, Digestion, Ventricular Systole, Plasma, and Metabolism.

8. Describe, very shortly, the Blood.

9. Define the following terms, with examples: Tonics, Anaesthetics, Hypnotics, Stimulants, Narcotics.

BOTANY.

Examiner.—A. Y. SCOTT, B.A., M.D., C.M.

Time allowed, two hours.

1. Describe fully specimens marked A and B. Under what would each be classed, and why?

What is meant by Phyllotaxy? Name the different kinds of buds found on the branch shown, and what is their arrangement?

3. Describe the various forms of Inflorescence. Under which would you class the flower shown, and why? Give as minute a description as possible of the parts of the same flower seen without dissection.

4. Trace the formation of the fruit and seed from the flower. Describe the specimen of fruit as to class, loculi, placentation, epicarp, etc., also the seed it contains.

5. Describe Parenchymatous Tissue.

3 GOOD SELLERS

VELROSE SHAVING CREAM
SHAVING STICK
BARBER'S BAR



**PAY YOU WELL. PLEASE YOUR CUSTOMERS
ATTRACTIVE COUNTER ARTICLES**

Order Sample 1/2 dozen from your wholesale house to come with next order.
We supply Samples for free distribution with first orders.

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MONTREAL

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\$7 to \$16 per case

*Put up in
Flat Packages
Plain and Perforated
Rolls*

At Mill Prices

ALSO **FIXTURES**

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BRANCHES:

MONTREAL AND TORONTO

**LITTLE'S
PATENT FLUID
NON-POISONOUS
SHEEP DIP
AND CATTLE WASH.**

For the Destruction of Ticks, Lice, Mange, and
all Insects upon Sheep, Horses, Cattle,
Pigs, Dogs, etc.

Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc.

Removes Scurf, Roughness and Irritation of the Skin,
making the coat soft, glossy, and healthy.

Removes the unpleasant smell from Dogs and other animals.

"Little's Sheep Dip and Cattle Wash" is used at the Dominion
Experimental Farms at Ottawa and Brandon, at the Ontario Industrial
Farm, Guelph, and by all the principal Breeders in the Dominion; and
is pronounced to be the cheapest and most effective remedy on the market.

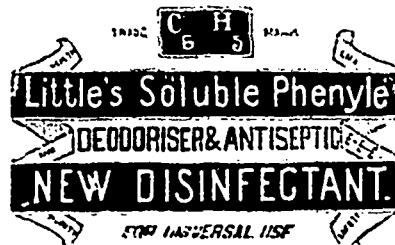
23 17 Gold, Silver, and other Prize Medals have been awarded to
"Little's Sheep and Cattle Wash" in all parts of the world.

Sold in large Tins at \$1.00. Is wanted by every Farmer and Breeder
in the Dominion.

ROBERT WIGHTMAN, Druggist, OWEN SOUND, ONT.

Sole Agent for the Dominion.

To be had from all wholesale druggists in Toronto, Hamilton, and London.



CHEAP, HARMLESS, AND EFFECTIVE

A Highly Concentrated Fluid for Checking and Preventing
Contagion from Infectious Diseases.

NON-POISONOUS AND NON-CORROSIVE.

In a test of Disinfectants, undertaken on behalf of the American Gov-
ernment, "Little's Soluble Phenyle" was proved to be the best Disin-
fectant, being successfully active at 2 per cent., whilst that which ranked
second required 7 per cent., and many Disinfectants, at 50 per cent.,
proved worthless.

"Little's Soluble Phenyle" will destroy the infection of all Fevers
and all Contagious and Infectious Diseases, and will neutralize any bad
smell whatever, not by disguising it, but by destroying it.

Used in the London and Provincial Hospitals and approved of by the
Highest Sanitary Authorities of the day.

The Phenyle has been awarded Gold Medals and Diplomas in all
parts of the world.

Sold by all Druggists in 25c. and 50c. Bottles, and \$1.00 Tins.

A 25c. bottle will make four gallons strongest Disinfectant. Is wanted
by every Physician, Householder, and Public Institution in the Dominion.

ROBERT WIGHTMAN, Druggist, OWEN SOUND, ONT.

Sole Agent for the Dominion.

To be had from all Wholesale Druggists in Montreal, Toronto, Hamilton,
and London, Ont., and Winnipeg, Man.



"MANLEY'S"
CELERY NERVE COMPOUND
 WITH
Beef, Iron, and Wine.

A scientific Combination of Celery, Beef, Iron, and Wine, Tonic, and Pure Glycerine, instead of alcohol.

UNEQUALLED

AS A HEALTH BUILDER and HEALTH RESTORER

Has given the FULLEST SATISFACTION to persons who have taken it.

It is put up in a 16-oz. bottle, contained in an attractive Blue and White carton.

PRICE TO THE TRADE :-\$6 (net) per doz. 5 per cent. off on three dozen orders, and 5 per cent. off for spot cash.

NETS FOR \$1 A BOTTLE.

Orders respectfully solicited.
 For testimonials, etc., write to the makers.

The LION MEDICINE CO.
 87 King St. East, TORONTO.

Gibbons' Toothache Gum

Per doz. \$1.00
 1/4 gross 2.75

For Sale by all Wholesale Druggists

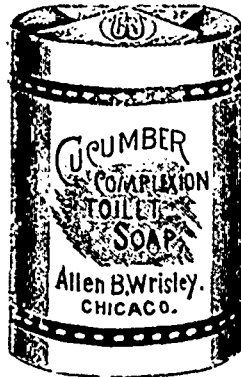
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 IS "PURE GOLD"

The virtues of Cucumber Juice for the Skin and Complexion have become famous. We challenge comparison with any fine milled, delicately perfumed, high grade soap in the market. It's The Complexion Toilet Soap of the world. Made on honor, full value, par excellence. Matchless for a clear, soft, skin beautifier. It is well worth 50 cents a cake, but can be sold at Retail for (1/4) one-quarter of that price. Try it, try it, and be convinced.

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ALLEN B. WRISLEY
 479 to 485 5th Avenue,
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Manufacturer of High Grade Toilet Soaps, Perfumes, and Glycerine.

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Gray's

CASTOR-FLUID
 For the hair.

DENTAL PEARLINE
 An excellent antiseptic tooth wash.

SULPHUR PASTILLES
 For burning in diphtheritic cases.

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Waterloo, Ontario.

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ALCOHOL

Pure Spirits

Rye and Malt Whiskies

"OLD TIMES" AND "WHITE WHEAT"

PRACTICAL CHEMISTRY.

Examiner:—GRAHAM CHAMBERS, B.A., M.B.

Time allowed, two and a half hours.

1. Detect Acid in substance marked "A"
2. Detect Metal in Substance marked "B."
3. Detect Acid in substance marked "C."
4. Detect Acid in substance marked "D."
5. Blow a bulb on end of straight glass tube.
6. Write equations illustrating the action of heat upon :
 - (a) Ammonium Nitrate.
 - (b) Hydrogen Peroxide.
7. What compounds are formed by the action of hot concentrated Sulphuric Acid upon the following substances :
 - (a) Sulphur.
 - (b) Hydriodic Acid.
 - (c) Oxalic Acid.
 - (d) Hydrogen.
8. Write equations, showing the action of Chlorine on :
 - (a) Hydrogen Sulphide.
 - (b) Hot Potassium Hydrate.
 - (c) Potassium Bromide.
9. How would you detect the presence of a Bromide in an Iodide?

SENIOR EXAMINATIONS, DECEMBER, 1894.

DISPENSING.

Examiner:—O. F. BOTSFORD.

Time allowed, three hours.

MISS GRACIE COPLAND.

1. R.—
- | | |
|----------------------|--------|
| Magnesii Sulph..... | ʒiiss. |
| Sodii Bicarb..... | ʒiii. |
| Tinet. Card. Co..... | ʒii. |
| Aque.....ad. | ʒvi. |

Misce et fiat mistura.

Sig. : Cochleare mag : ex cyatho aq. ter in die ante cibos.

J. H. HEWITT, Fsq.

2. R.—
- | | |
|--------------------------|------|
| Sodii Hyposulphitis..... | ʒiv. |
| Acid. Sulph. Dil..... | ʒi. |
| Aq. Destillate.....ad. | ʒiv. |

Misce, fiat Lotio.

Sig. : Adhibendum caputi et carpo semel die.

MRS. FEATHERSTONHAUGH.

3. R.—
- | | |
|----------------------|-----------|
| Plumbi Acetatis..... | gr. x. |
| Acidi Tannici..... | gr. v. |
| Ext. Belladonnæ..... | gr. iii. |
| Olei Theobromæ..... | q.s. ʒii. |

Fiat Suppositorium, mitte tales. iii.

Sig. : Uno stare quaque nocte more dicto.

SYRNEY D. DURHAM.

4. R.—
- | | |
|--------------------------|------------|
| Sulphuris Sublimati..... | gr. xxvii. |
| Sodii Bicarb..... | gr. xxiv. |
- Misce et fiat massa et div. in pil. xii.

Sig. : Duo ante jentaculum omne mane.

R. JOLLIFFE, Esq.

5. R.—
- | | |
|--------------------|-----------|
| Acetanilidi..... | gr. xxiv. |
| Quininæ Sulph..... | gr. xvi. |

Misce et fiat massa et in capsulas octo divide.

Sig. : Unam quaque hora donec dolor in capute mitescat.

PRESCRIPTIONS.

Examiner. W. MURCHISON.

Time allowed, two hours.

1. Name the three cases, and give a list of ten imperative verbs most frequently used in prescription writing.
2. Give the equivalent, expressed in grains, scruples, half-drachms, and drachms (using symbols), of the Metric weights from one to ten grams.
3. Give two or three simple rules for expressing quantity by weight of the Apothecaries system in Metric terms.
4. Give full Latin word and meaning of the following abbreviations. Ad 2 vic. : De d. in d. : Ejud. : F.L.A. : Gr. vj. pond. : O.O.O. : P.C. : P.M. : P. rat. at. : Sesunc. : St. : Temp. dext. : Tra. : Pocul. : Feb. dur. : Decub. : T.O.C. : S.V. : M.P.
4. Give the maximum doses of the following substances: Amyl Nitris, Cocaina, Cantharis, Cerii Oxalas, Codeina, Cupri Sulphas, Elaterium, Ferri Arsenias, Hydrargyri Perchloridum and Oleum Crotonis.
6. Convert fully into English :

R.—

Scillæ Radicis recens exsiccatae et contritæ, drachmam,
Zingiberis Radicis contritæ,
Saponis duri, singulorum, drachmas tres,
Ammoniaci contriti, drachmas duas ;
Miscæ inter se pulveres ; deinde cum Sapone contunde, et adijce syrupi simplicis quantum satis sit, ut idonea fiat crassitudo.
- 7 to 10. Oral.

BOTANY.

Examiner:—CHAS. R. SNEATH.

Time allowed, two hours.

1. What do you understand by the following terms, viz. : Cambium layer, primordial utricle, primary meristem, leaf cycle, adventitious roots, plumule, parietal placentation.
2. (a) What are the Pteridophyta ?
(b) What classes are included in the series ?
(c) Describe the general plan of reproduction.
3. Explain the various forms of Venation, referring them to classes of plants in which found. Explain the example given.
4. (a) Name and describe the parts of a typical flower.
(b) Describe fully the functions of the gynoecium.
(c) Name and explain its modifications.
5. Chlorophyll—
Explain fully its uses and properties.
6. What are the functions of the leaf ? Explain its minute structure.
- 7, 8, 9, and 10. Oral.

PHARMACY.

Examiner:—F. T. HARRISON.

Time allowed, two hours.

1. A drug contains:— Chlorophyll, Fixed Oil, Gum, Sugar, Tannin Albuminoids,

Starch and an alkaloid. I extract it with the following solvents successively : 1st, Ether ; 2nd, Rectified Spirits ; 3rd, Cold Water ; 4th, Hot Water. In which of the solvents would you expect to find the various constituents ?

2. What is an Infusion ? Why is cold water used in preparing infusions of Calumba and Quassia, and why is Sulphuric Acid used in Acid Infusion of Cinchona ? State strength of each of the above named infusions.

3. What is a Crystal, and what qualities of crystals are expressed by the following terms : Anhydrous, Efflorescent, Deliquescent ?

4. What ingredients are used in preparing Yellow Mercurial Lotion and Black Mercurial Lotion, and what Salts do the finished preparations contain ?

5. Give practical notes on the preparation and preservation of three of the following : Lead Plaster, Ointment of Nitrate of Mercury, Solution of Subacetate of Lead, Compound Mixture of Iron, Strong Solution of Acetate of Ammonium.

6. Name the ingredients in the following:—Simple Ointment, Compound Tincture of Camphor, Wine of Ipecacuanha, Liniment of Belladonna, Compound Pill of Soap, Compound Powder of Kino.

7. Add together 14 Millegrammes, 300 Kilogrammes, 80 Grammes, 1240 Centigrammes, and give the equivalent of the total in grains.

8. (a) How is Spirit of Nitrous Ether prepared, and (b) How is its strength estimated ?

9 and 10. Oral, and recognition of specimens.

MATERIA MEDICA.

Examiner:—J. TOLBERT PEPPER.

Time allowed, two hours.

1. Point out the difference in the physical characteristics of the following.—
Conium Fruit and Caraway Seeds.
Short Buchu and Uva Ursi Leaves.
Aconite Root and American Hellebore Root.

2. Castor Oil—

(a) Give Latin name of the plant from which it is obtained.

(b) In what country does the plant grow ?

(c) From what part of the plant is the oil obtained, and how ?

(d) What is the dose, and how may it be best administered ?

(e) What are its medicinal properties ?

(f) Name some other purposes for which it is used.

3. Rubber—

(a) Give English and Latin names of plants from which this is obtained.

(b) From what country does the largest supply come ?

(c) How is it collected ?

(d) In what condition is it when collected ?

(e) In what condition is it when sent to the manufacturer ?

(f) How is this change effected ?

(g) In your estimation, do goods manu-

factured from rubber form an important part of a druggist's stock?

(h) Give a list of goods, manufactured from rubber, which are usually kept in a modern pharmacy.

4. What part or parts of the following plants are used in medicine:—

Myristica Officinalis.

Convolvulus Scammonia.

Hæmatoxylum Campeachianum.

Quercus Infectoria.

Caryophyllus Aromaticus.

5. Licorice—

(a) Give Latin name of plant from which it is obtained.

(b) From what country is it obtained?

(c) What part of the plant is used?

(d) Give medicinal properties.

(e) Give names of several brands or makes that are usually kept in a drug store.

(f) Give common names for a very popular and much used preparation of Powdered Licorice.

6. What is the most common adulterant of Pulvis Rhei, and how would you detect it with the microscope?

7. Wild Cherry Bark—

(a) Give the Latin name.

(b) To what country is it indigenous?

(c) What preparations of it are most frequently used?

(d) What acid does it contain?

(e) Does this acid pre-exist in the bark?

8, 9 10. Oral examination, and recognition of specimens.

CHEMISTRY.

Examiner:—B. JACKES.

Time allowed, two hours.

1. Draw a diagram and illustrate by equations the manufacture of Sulphurous Acid by two different methods.

2. Explain the manufacture of Hydrocyanic Acid and show how it is reduced to Scheele's and B.P. strength.

3. Give an account of the chemistry of HNO_3 , considered (a) as an acid; (b) as an oxidizing agent; (c) give proof that it contains H.

4. Write the formula and names of the compounds containing the elements (a) (H and O), (b) (H and CL), (c) (O and C).

5. Give briefly a method of preparing small quantities of (a) Metallic Arsenic, (b) Alumina (Al_2O_3), (c) Sulphide of Iron.

6. How may (a) Zinc be distinguished from Alumina, (b) Lead from Silver, (c) Cadmium from Arsenic.

7. Trace the different changes which take place in the manufacture of Alcohol, and show what relation it bears to Acetic Acid.

8. Give the original source, preparation, and purification of Potassium Carbonate.

9 and 10. Oral, and recognition of samples.

Ontario College of Pharmacy.

The following are the results of the junior examinations at the Ontario College of Pharmacy, arranged in order of merit:

FIRST-CLASS HONORS.

W. McDowell, H. Eagleson, J. C. Morrison, D. J. McF. Ashbury, J. M. Fisher, J. P. Hennessey, John Woodward, R. Henderson, John Murray and G. E. Thatcher, equal; J. C. Grosch, Winfield Faulds, N. H. Brown, J. S. Brown, J. G. Blain, F. W. Day.

SECOND-CLASS HONORS.

E. Bryson, O. Dowler, J. R. V. Broughton, J. A. Anderson and A. W. Urquhart, equal; Wilson Mitchell, A. F. Gledhill, B. P. St. John, Geo. A. Ionson, C. H. Amys, A. C. Rorabeck, A. E. Maret, F. W. Sils, F. T. McMaster and Johnson Lucas, equal; Harry Taylor, W. E. Bauer, H. A. Rowland, S. J. Mackey and G. F. Campbell, equal; E. T. Jones, Norval Smith and F. Studholme, equal; N. Samuelson, J. A. Graham and S. C. Lamb, equal; W. J. Bauld, A. E. Cox, J. Watson, Charles T. Laird, E. A. Walters, W. J. Kirkland and Colin Campbell, equal; W. M. Wright, A. T. Brown, Geo. J. Hunt and W. W. Turner, equal.

PASS LIST.

Alphabetical—W. H. Andrews, W. Appelbe, D. Ballingal, A. W. Butchlen, H. R. Carter, J. M. Cavanaugh, A. Chambers, H. W. Chambers, Harry Cowan, A. Cundle, J. S. Fraleigh, Paul M. Gordon, Tim. Hatton, Chas. A. Hillis, Major Kelly, Will H. Lee, J. W. Little, E. E. Miller, R. H. McNally, O. A. McNichol, W. B. Nethery, W. H. Pearson, G. A. Ramsden, H. A. Raney, H. G. Radcliffe, Leonidas Rattey, A. W. Roberts, B. J. Rolston, G. A. Rowe, H. N. Roy, C. E. Swaisland, J. F. Taylor, Lawson Wynn.

Granted agrotat with pass standing—Alex. McDougall, George Timeline.

STARRED IN PASS SUBJECTS ONLY.

Materia medica and pharmacy—John J. Doherty.

Pharmacy and chemistry—E. B. Miller.

Chemistry—A. A. Morrow.

Materia medica, pharmacy, chemistry—W. H. Snyder.

Materia medica—J. G. Keogh.

Materia medica, botany, chemistry—Harry U. Tobey.

HIGHEST IN SUBJECTS.

Pharmacy, including practical—H. Eagleson, W. McDowell and John Murray, equal; R. Henderson, John Woodward and J. N. Fisher, equal.

Latin, posology, etc.—W. McDowell, Winfield Faulds, H. Eagleson, R. Henderson and Wilson Mitchell, equal.

Botany—H. Eagleson, W. McDowell, and J. C. Morrison.

Chemistry—J. C. Morrison, W. McDowell, J. P. Hennessey, J. N. Fisher, and D. J. McF. Ashbury.

Practical chemistry—N. E. Brown, F. W. Day, O. Dowler, H. Eagleson, J. P. Hennessey, Wilson Mitchell, W. McDowell and George F. Thatcher, equal.

The senior session begins on January 8, 1895.

COUNCIL EXAM.—DEC., '94.

Pass List—Allen, T. S., Barnes, T. T., Barnhart, F. C., Barrie H. G., Booth, J. H., Cruttenden, Thomas, Davis, Geo. H., Dunn, S. L., Hill, Reuben, Mitchell, H. W., Ross, A. H., Srigley, J., Jackson, Sydney, Johnston, John J., McKinnon, D., Shuric, Jas., Ward, R. C., Waugh, J. C., and Johnston, A. R.

Passed in subjects—Four subjects, Brown, T. A., and Carter, W. C. Five subjects, Johnston, J. A. One subject, Thompson, J. C., and Bunting, G. B.

"Observation Sheets" of the American Pharmaceutical Association.

The following has been sent out by Mr. Alfred R. L. Dohme, chairman of the section on scientific papers of the American Pharmaceutical Association:—

TO EVERY PHARMACIST IN THIS GREAT LAND.—*Greeting*: In accordance with the resolution adopted by the American Pharmaceutical Association at its forty-second annual meeting at Asheville, in September, 1894, it becomes my pleasant duty to place before the pharmacists of this country the "observation sheet" given below. The purpose of this paper (as was ably pointed out in his address by the ex-president of the association, Mr. E. L. Patch, who formulated it) is to collect and tabulate a series of data upon incompatibilities, difficult problems, and experiences of all kinds in compounding and dispensing drugs, and how they were solved; upon the relative salability and therapeutic value of the various new remedies; upon the condition of the various products purchased by the pharmacist, his experience with formulas of the Pharmacopœia, National Formulary, etc., as well as errors or difficulties of any kind found in the Pharmacopœia, dispensaries, or elsewhere.

When you consider that as many as 5,000 able and conscientious pharmacists will receive a copy of this observation sheet, and that the committee will thus secure the experience, reports, etc., of that number of men, you will readily recognize the great value that will accrue to every pharmacist. These reports will be tabulated, and in all probability published, and the experiences, suggestions, ideas, and much of the knowledge of this large number of men will thus be made public, and all will derive benefit.

The number of suggestions for experiment, reflection, and original research that will thus be brought to light, and the number of knotty problems to pharmacists solved, will be very great. The report upon the salability of preparations and new remedies all over the land, and upon the quality of many U.S. Pharmacopœia and other preparations, will be of great service and interest to every pharmacist. The whole idea of the sheet is so new and so rich in valuable possibilities and usefulness that no just estimate of it can be given yet, save to say that it will prove of immense value to us all. One

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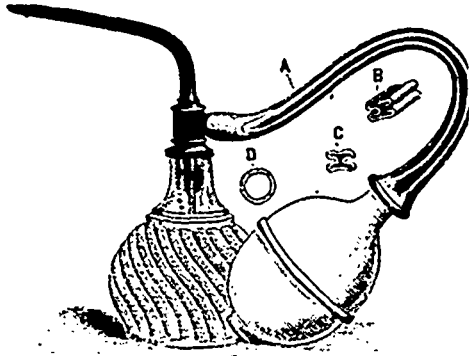
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| Bird Seed,
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| Chloride of Lime,
Impervious Boxes and Wraps. | Epsom Salts,
Folding Cartons, or Cartons and Wraps. |
| Baking Powder,
Boxes and Wraps. | Senna Leaves,
Folding Cartons, or Cartons and Wraps. |
| Compound Licorice Powder,
Boxes and Wraps. | Cough Drops,
Folding Cartons—2 ounce and 4 ounce. |
| Powdered Borax,
Folding Cartons. | |

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thing is essential to make it thus valuable and useful, and that is that you, with every pharmacist who receives a copy, should take it up in the spirit in which it was conceived. Fill it up, and more, if possible, with your own personal experiences and ideas, and be convinced that you are one of a large number who are working for the common good, and the advancement of our calling—the science of pharmacy.

Do not cast it aside, but begin at once to jot down such information as it seeks, and continue to do this until any time convenient before the end of June, 1895. Then send it to the undersigned, who will place the information and data which it embodies in the proper columns of his tabulated report, and, when completed, report it to the association, which will, no doubt, so dispose of it that all who have helped to produce it will receive a copy. The undersigned will gladly send a supply of "observation sheets" to all those who desire to join in this grand piece of work, if they will be kind enough to inform him to that effect in writing.

Hoping that you will join us heartily in this good work, and that I will hear from you in due season, I remain, dear sir,

Yours very respectfully,

ALFRED R. L. DOHME,

Chairman Section on Scientific Papers.

303 PRATT ST., BALTIMORE, MD.

Below will be found a transcript of the points in which observations are to be made and jotted down on these "observation sheets":—

THE PRESCRIPTION.—(1) A prescription received calling for therapeutic incompatibles (medicaments opposed to each other in action). (2) A prescription received calling for chemical incompatibles. (A precipitate, *a*; change of color, *b*; effervescence, *c*; caused by chemical action.) (3) Physical incompatibles. (A precipitate due to change in character of solvent, *a*; due to a separation, *b*.) (4) A difficult pill mass. (5) An unsatisfactory ointment. (6) An excessive dose. (7) Dangerous abbreviation. (8) Peculiar composition. Copy of *R* attached. How the trouble was treated, and result.

THE STORE.—(1) New remedies called for and times employed. (2) Obsolete, unmarketable, or peculiar products called for.

THE LABORATORY.—Experienced difficulty in securing satisfactory products in using U.S.P. (*a*), Nat. Form. (*b*), published in (name of drug journal or other work of reference) (*c*), formula for the following:—(1) Fluid extract of..... (2) Tincture of..... (3) Syrup of..... (4) Elixir of..... (5) Plaster of..... (6) Ointment of..... (7) Extract of..... (8) Chemical product. (9) Character of trouble and how remedied. (10) Noticed the following errors in the U. S. P. (*a*), Dispensatory (*b*), description of (name of article or product). (11) Had the following difficulty in applying the U.S. P. test for (name of article or product). (12) Found

the following product had become unsalable from having changed as stated (name article or product). Had been in stock for (time), and was stored (place or situation as concerns temperature, moisture, etc.).

Eau de Cologne Tipplers.

Whether eau de Cologne is, or is not, used to any great extent in this country as a cordial, or as an intoxicant, is probably known only to ladies' maids. If a few thousands of these could be interviewed, some approach to the truth might be made; more probably not. But according to the *St. James' Budget*, which gleans its knowledge from some articles which have been recently published in the *Kölnische Zeitung*, the consumption of the perfume in some foreign countries as a drink is considerable. It is stated that lax Moslems affect to regard it as something which does not rank as wine or spirit. No strict Mohammedan would admit hair-splitting of this kind; but there are Mohammedans who are not strict, and these not only drink it themselves, but allow large quantities of it to be introduced into the harem. This accounts for its enormous consumption in North Africa and Asia. It is said to produce a state of intoxication, more complete than can be caused by an equal quantity of any other spirit, for, besides being strong, it is loaded with various ethers. King Juru, of Rio Nunez, excused himself for stealing and drinking Consul Vohsen's eau de Cologne in 1879 by saying, "He very good for drunk," and the Hottentots to this day declare with regard to it that nothing else makes a man really and truly intoxicated. The writer in the *Cologne Gazette* states that the best Cologne water has the worst taste, and that the cheaper varieties—and there are some very cheap sorts made in Germany for export to the East, etc.—are the least unpleasant to drink. The great Cologne makers, upon being appealed to, have expressed doubts whether their wares can be much used in this way. "Jülich platz, No. 4," writes that the strength of his eau de Cologne, containing 90 per cent. of alcohol, would prevent it from being drunk "neat," and that the admixture of water renders it so milky and oily on the surface that he does not believe it would be palatable to any one. But this manufacturer forgets that people do drink absinthe and mastic, which, mixed with water, develop similar phenomena. As for the little eau de Cologne makers, some of them certainly study to produce potable rather than merely pleasant-smelling distillations, and few of them can be ignorant that their wares are extensively used for drinking.

Dr. Stuhlmann, in his account of Emin Pasha's country, mentions that many a Central African Mohammedan drinks his eau de Cologne and water as regularly as the Englishman drinks his whiskey, and describes as a particularly favorite beverage a mixture of eau de Cologne with

sugar and water. Dr. Baumann, the discoverer of the sources of the Nile, says that the Arabs not only mix eau de Cologne with their drinking water, but also use it in their cooking, and that it is largely drunk by the Soudanese soldiers in the German service. Consul Siemsen, writing from Macassar, tells of a native rajah who greatly appreciated a cocktail composed of eau de Cologne and orange bitters. One of the numerous *Parinas* admits that, to his knowledge, the Indian Mohammedans and their ladies drink enormous quantities of Cologne water, and points out as a significant fact that native dealers, when desirous of forming an opinion of a sample, invariably taste and do not smell. And it is notorious that another Cologne firm some years ago flooded the Bombay market with a professedly potable eau de Cologne flavored with sugar and Kummel. The stuff failed to sell, partly because it was too expensive, but chiefly because, owing to the admixture, it was too weak. The native dealer has no faith in an eau de Cologne a mouthful of which does not cause the taster actual pain. In Paraguay it is loved by the women. In the Moluccas it will purchase almost anything, though it does not seem to be established that the women there drink it. It is only certain that their favorite drinking vessel is an eau de Cologne bottle. In the Kilima-Njaro district of Africa both the king, Mandara, and his prime minister, Mareale, drink it habitually. Count Joachim Pfeil noticed the prevalence of the habit in Griqualand East as early as the seventies; and in Southwest Africa, at this day, cheap sorts of eau de Cologne are drunk by the natives in preference to all else. In Zanzibar native doctors prescribe eau de Cologne as a medicine, and have thus introduced it as a dissipation. It is now taxed there as spirits, and its sale is proportionately restricted: but it used, until recently, to enter duty free, and was actually cheaper than gin or brandy. It is drunk in Greenland.—*Chemist and Druggist*.

A New Saccharine Patent.

A new method of preparing saccharine has just been patented by the Basler Chemische Fabrick. The process consists in the transformation of thio-salicylic acid into thio-salicylic chloride, and this into the corresponding acid amide. This latter body is then oxidized by means of potassium permanganate, or other oxidizing agents. The details are as follows: 21 kilos of PCl_2 and 15.3 kilos of thio-salicylic acid are mixed quite dry. The resulting body is a fluid, and HCl is given off. After getting rid of the HCl and POCl_3 , the thio-salicylic chloride is crystallized and suspended in water, heated, and treated with potassium permanganate. The saccharine is separated with great ease.—(*Moniteur Scientifique*)—*British and Colonial Druggist*.

Canadian Druggist

WILLIAM J. DYAS, Editor and Publisher.

JANUARY 15TH, 1895.

Volume Seven.

With this issue the CANADIAN DRUGGIST enters on its seventh volume, and, at the same time, makes an important step in the removal of the office to Toronto. In 1889 the publisher issued the initial number, launching out into the sea of journalism without experience in the inner working of the printer's "sanctum," or in the many difficulties which a combined editorship and general management entailed, but with the determination to leave nothing undone to make the undertaking a success, and endeavoring to steer clear of the shoals and quicksands upon which many a venture has been wrecked, and so to guide the ways of the vessel, and to properly equip her, as to make her not only the pride of the owner, but a source of gratification and profit to the ports of entry into which she would steer—and these, we might mention, are in the whole length and breadth of this vast Dominion.

Our patrons, the druggists of this "Canada of ours," have nobly and liberally aided us in our efforts, have applauded our steady progress, and in many ways have given token of the appreciation felt in having a representative journal, akin to their feelings, and imbued with the desire, above all things, to assist in every legitimate and honorable way the interests of the retail drug trade.

While not making any rash promises for the future, it is our intention not only to maintain the enviable character given this publication as a Trade Paper, but, from time to time, to enhance its value not only as a reliable medium of information on matters of pharmaceutical happenings within our own borders, but giving the pith of pharmaceutical literature, culled from the columns of many of our able *confrères*, together with contributed articles from the pens of practical and skilled pharmacists in this and other countries.

To our readers we return thanks for their liberal support and encouragement, and also to our advertisers, who have contributed so largely towards our success.

To one and all we wish

A HAPPY AND PROSPEROUS NEW YEAR.

The New Year.

With the opening of the new year, we extend to each of our readers, our contributors, and our supporters, our best wishes for a happy and prosperous new year. The advent of the new always marks the limit of the old, and, while opening to us the hopes and opportunities of a new period, it closes behind us a time in which former hopes were realized or frustrated, and opportunities lost or made good use of. We all naturally long

for prosperity. In our varied ways we strive for it, and use to the fullest the natural gifts we possess and the advantages we can secure. The limit of our field is, in many cases, the limit of the results we can attain. The character of the pursuit in which we are engaged does not afford us very great scope for commercial enterprise; yet for the amount of capital we require to invest, it is certain to yield us a greater return than could be derived from an equal amount invested in any other way. It is true that but few can ever hope to become wealthy, if their wealth is to be derived from the retail trade; yet it is equally true that to its diligent and painstaking votaries the drug business affords a happy medium, if the word happy is appropriate. Its pursuit is eminently respectable, and all that is required to make it satisfactory and enduring is contentment with what we have, and frugality deserving of better reward, with a determination to do still better, if possible. The year which has just ended has been as trying in many respects as could well be thought possible; and as we have all survived it, and are yet hopeful of the future developing to our advantage, it cannot be amiss for us to express hopes which we all feel an interest in, and which, if fulfilled, will make the new year to us, at least, a much better one than the old.

Druggists and Physicians.

In an editorial in a late number of the *Ontario Medical Journal* an onslaught is made on druggists under the supposition that they are responsible for the sale of proprietary medicines. The statement of the case and the arguments used are so weak that it might be allowed to pass without criticism, but the frequency with which articles of a similar kind, with the same end in view, appear in medical journals of late makes it advisable that some notice should be taken of them in the pharmaceutical press. The fact that the country is being flooded with physicians, many of whom barely eke out a living, is no doubt the reason for much of the outburst of feeling which is exhibited. Pining for a professional life, young men, encouraged by the fact that in former days practitioners made, in many cases, handsome competences out of their profession, and trusting in the "close combine" which exists to realize all their expectations, they enter on a life calling for which many of them are unfitted, and, as the article referred to says, "settle down and be ready for any emergency," trusting to the people to support them, and, in fact, demanding a support, and resisting any supposed invasion of their rights.

The article says, "When druggists will undertake to manufacture and compound medicines to cure diseases, and make a trade of them to everybody, we think they are going beyond their duty, and invading the rights of every physician now devoting his time to the practice of medicine."

Who, we ask, is the proper person to "manufacture and compound medicines" if not the druggist? The law says he is, and licenses him to do so; then by what right or on what grounds can the physician object? How are they "invading the rights of every physician"? What law, either of custom or on the statute books of the country, consigns to the physician "the right" to "manufacture and compound medicines"? True, there are many physicians throughout the country who do prepare proprietary remedies and push their sale; still this does not say they are the only persons who should do so, neither, we think, will our contemporary attempt to justify them.

Our contention is, if proprietary medicines are to be manufactured, the druggist is the one who should make them, and "make a trade of them to everybody."

Another complaint made by physicians is in respect to the refilling of prescriptions by druggists. This matter we spoke of at length in a recent issue. We would merely notice a threat made in the *Dominion Medical Monthly*, where its says, "A physician can now keep his supply of tablets, triturates, pills, dressings, etc., in such a convenient form that he can give his own medicines to his patients at very little waste of time. If the druggists are not careful, they may force medical men to keep their own supplies." All of which is quite true, and, referring to the first clause, we know of instances—and who does not?—of physicians now dispensing their own medicines, sometimes charging for them and sometimes not, in some cases giving advice and medicine as low as twenty-five cents, and ranging upwards to five dollars and sometimes more. The threat to "keep their own supplies," therefore, does not alarm many; but how would it do for every druggist to have his own physician, who could prescribe free? If doctors will go at us with "daggers drawn," surely we must, as pharmacists, prepare to meet them, and "where there's a will there's a way." Let us rather, therefore, work harmoniously together, as we should do, each keeping as much as possible within his own limit, and be co-laborers in the main aim and end of both professions—the relief of the suffering and cure of the diseased.

Cash Discount.

The wholesale drug houses of Montreal have issued a joint circular in reference to discounts, etc., which reads as follows:

On and after January 1st, 1895, our terms will be as under:

Monthly accounts (four months' goods) paid on or before the fifteenth day of the month following that of purchase will be subject to 5 per cent. discount.

If paid after that date, and on or before the last day of the same month, 3 per cent. discount will be allowed.

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Send for a copy of our Catalogue for 1895, or fill out the attached coupon, and mail to

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Montreal, Dec. 10th, 1894.

Perfumes and Formulæ for Their Manufacture.

By JACOB JESSON, MUSKEGON, MICH.

The query, "How far is it expedient for pharmacists to manufacture their own perfumes, and what formulas can be proposed for their manufacture?" may be answered with the statement that it is expedient so far as the pharmacist may desire pleasure and profit from his business. The art of manufacturing perfumes by right belongs to the pharmacist, but it has drifted into the hands of specialists, owing to the general impression that it is something mysterious and difficult. I assure you, however, that it is not difficult, and every pharmacist of ordinary intelligence should be able to supply his trade with goods equal to those produced by domestic or foreign specialists. The outlay required is small compared with the profits derivable from the investment. The essential oils and pomades required can be obtained from wholesale druggists, and in the desired quantities. The formulas herewith presented have been in use by me for the past seven years, and may be accepted as reliable. . . . I have divided the subject into three parts, (1) a short description of each article, and the mode of preparing the tincture, spirit, or essence; and as these formulas have proven to be good and practical, we herewith publish them. The materials entering into the manufacture of perfumes are obtained in different parts of the world, and from the vegetable and animal kingdoms.

ALMOND (AMYGDALA AMARA).

Is a native of Persia, Syria, and Barbary, and is cultivated in Southern France and Italy.

Almond Spirit.

Oil of bitter almonds.....drops 80
Deodorized alcohol.....oz. 16

Procure the best Cologne spirits or deodorized alcohol obtainable. Do not use common alcohol, as its odor is too strong and pungent for perfumers' use.

AMBERGRIS.

This substance, which is found floating in the sea, or is thrown up by the waves upon the shores of various countries, is now generally believed to be produced in the intestines of the sperm whale. The best gray ambergris is quite expensive, but is the only one worth buying.

Tincture of Ambergris.

Ambergris.....drams 2
Powd. orris root.....drams 2
Deodorized alcohol.....oz. 16

Grind the ambergris and orris in a mortar until reduced to a fine powder; transfer to a bottle, and add the alcohol. Macerate for thirty days, and filter through paper.

BENZOIN (BENZONINUM).

Benzoin is imported from Borneo, Java, and Siam. The tincture of benzoin has the property of adding permanence to some of the more fleeting odors.

Tincture of Benzoin.

Gum benzoin, in fine powder.....oz. 2
Deodorized alcohol.....oz. 16

Macerate for thirty days and filter.

BERGAMOT (CITRUS BERGAMIA).

The oil is obtained in Italy by expression from the peel of the fruit. It should be kept in a dark place and in a tightly corked bottle. If not well taken care of, it soon loses its green color, becomes cloudy from a deposit of resin, and acquires a turpentine smell. Care should be taken to preserve all oils as above directed.

CASSIE (ACACIA FARNESIANA).

Cassie is cultivated in Southern France and Italy, and produces a very valuable perfume, resembling violets, but stronger.

Essence of Cassie.

Cassie pomade.....oz. 16
Deodorized alcohol.....q.s. or oz. 16

Introduce the pomade and alcohol into a Mason fruit jar of half gallon capacity. Digest by means of a water bath until the pomade is barely melted; shake well together, and repeat the shaking frequently until cold. Allow this to stand forty days; then drain off the essence. If this falls short of one pint, repeat with a sufficient quantity of alcohol to make up that measure. The washing can be continued and a second pint of essence obtained, which, although much weaker, may be found useful in a cheaper grade of perfumes.

CLOVE (CARYOPHYLLUS).

The clove tree is one of the most elegant trees found in the Moluccas and other islands of the Chinese seas. Clove is a leading feature in some of the fine bouquets.

Spirit Cloves.

Oil of cloves.....drams 4
Deodorized alcohol.....oz. 16

CITRONELLA (ANDROPOGON MARIJUS).

Oil of citronella is obtained by distillation from citronella grass, a native of Ceylon and India.

CIVIT (FROM VIVERRE CIVETTA).

The substance is secreted by the civit cat. It is found in a large glandular receptacle, between the anus and pudendum. The cat abounds in portions

of Asia. Civit has a most disagreeable odor, but as a fixing substance, for giving permanence to the more fleeting odors, it is very valuable.

Tincture of Civit.

Civit.....dram 1
Powd. orris root.....dram 1
Deodorized alcohol.....oz. 16

Proceed as with tincture of ambergris.

GERANIUM (PELARGONEUM CAPITATUM).

Geranium oil is obtained in Southern France and Turkey, from rose leaf geranium.

Spirits of Geranium.

Oil of geranium.....oz. 1
Deodorized alcohol.....oz. 15

JASMINE (JASMINUM ODORATISSIMUM).

Jasmine is cultivated in Southern France and Italy. Its odor is so peculiar and fine that it cannot, itself, be imitated, but it is used for imitating odors of other flowers.

Essence of Jasmine.

Jasmine pomade.....oz. 16
Deodorized alcohol.....q.s. or oz. 16

Proceed as with cassie.

LAVENDER (LAVENDULA VERA).

The best of oil of lavender comes from Mitcham, in England, where the plant is grown extensively.

LEMON (CITRUS LIMONUM).

The lemon tree is a member of the great citrus family. Sicily produces a large amount of the oil of lemon. The raising and extracting of oils of lemon, orange, and bergamot form one of the chief industries in the vicinity of Palermo. A good *essence of lemon* for dispensing, or for soda water syrups, may be prepared as follows:

Oil of lemon.....drams 4
Carb. magnesia....." 4
Sugar....." 4
Deodorized alcohol.....oz. 8
Water.....oz. 8

Dissolve the oil in two ounces of alcohol; triturate in a mortar with the magnesia and sugar. Gradually add the remainder of the alcohol and water, and filter.

LEMON GRASS (ANDROPOGAR CITRATUS).

Is a species of grass growing in India. On account of its odor resembling verbena, the oil is used for preparing the extract of verbena.

MUSK (FROM MOSCHUS, MOSCHATUS).

Musk is obtained from the musk deer, a small animal inhabiting the mountainous regions of Central Asia. Grain musk is the best form in which to purchase the article. Musk is used extensively in perfumes, both as a simple extract and for giving permanence to more fleeting odors.

Tincture of Musk.

Grain musk.....drams 2
Hot water.....oz. 1
Deodorized alcohol.....oz. 15

Rub the musk to a fine paste with the hot water. Digest in a covered mortar

for two hours, add the alcohol, and transfer to a tightly-corked bottle. Digest for thirty days and filter.

ORANGE (CITRUS AURANTUM. CITRUS BIGARADE).

From the orange tree is obtained five distinct and valuable perfumes: (1) The true flower odor, obtained by digesting the flowers with lard; (2) oil neroli petale or oil neroli bigarade, by distilling the flowers of the sweet and bitter orange respectively; (3) oil of neroli petit grain, by distilling the leaves and unripe fruit; (4) oil of orange Portugal, obtained by rolling the fruit in a metal cup covered with spikes, known as an ecuelle, which wounds the fruit and causes the oil to flow from the oil glands; (5) commercial oil of orange, obtained by expressing or distilling the orange peel. The orange tree is cultivated extensively in Southern France, Italy, and Sicily.

Essence of Orange Flowers.

Orange flower pomade.....oz. 16
Deodorized alcohol.....q.s. or oz. 16
Proceed as with cassie.

Neroli Spirit.

Oil neroli petale.....drams 4
Deodorized alcohol.....oz. 16

ORRIS (ORIS FLORENTINA).

Is largely cultivated near Florence, Italy.

Tincture Orris.

Orris root pulverized.....oz. 8
Deodorized alcohol, enough to make.....oz. 16
Prepare by percolation.

PATCHOULY (POGOSTEMON PATCHOULL LINDLEY).

Patchouly is a native of Selhet, a district of Bengal. It is also found in Java, Ceylon, and portions of China. The oil is distilled from the fresh herb. It has a very peculiar musty, mossy odor; but, when properly blended, forms a very fashionable perfume.

PIMENTO.

The allspice tree is a native of the West Indies, Mexico, and South America. The oil is obtained by distilling the berries.

ROSE (ROSE CENTIFOLIA).

This is truly the Queen of Flowers, and, although roses are found growing wild in nearly every part of the world, it is only in France, Turkey, and India that they are cultivated for their perfume. The Turkish oil is the one commonly found in the market. Oil of rose should congeal at 80 deg. F. When slowly cooled to 50 deg. F. the oil becomes a transparent solid, interspersed with numerous slender, shining, iridescent scale-like crystals (U.S.P.). The oil is obtained by distilling the flowers with water.

Essence of Rose.

Rose pomade.....oz. 16
Deodorized alcohol.....q. s. or oz. 16

Proceed as with cassie essence.

Spirit of Rose.

Oil of rose.....drams 2
Oil of rose geranium....." 1
Deodorized alcohol.....oz. 16

The oil of rose geranium is added to give permanence to the spirit.

ROSEMARY (ROSMARINUS OFFICINALIS).

The rosemary plant is a native of the borders of the Mediterranean Sea. It is also cultivated in this country. The oil is one of the leading ingredients in Cologne.

SANTAL (SANTALUM ALBUM).

The oil is distilled from the wood, which is a native of Australia and the South Sea Islands.

Spirit of Santal.

Oil of santal wood.....drams 2
Deodorized alcohol.....oz. 16

TONKA (DIPTERIX ODORATA).

The Tonka bean is the fruit of a large South American tree. When fresh they are very fragrant, having a strong odor of new-mown hay. They are exported from Para and Angustura. Tonka beans are used for scenting snuff, and by unscrupulous dealers for adulterating vanilla. And in perfumery in the form of tincture they enter into many of the leading bouquets.

Tincture of Tonka.

Tonka beans.....oz. 6
Deodorized alcohol, a sufficient quantity.

Reduce the beans to a coarse powder; macerate in a corked bottle with 16 ounces of alcohol four days. Then filter and add enough alcohol through the filter to make the product measure 16 ounces.

TUBEROSE (PALEANTHES TUBEROSA).

The tuberose is a native of the East Indies. It is cultivated for its perfume in Southern France. Its odor is very fine and is a general favorite.

Essence of Tuberose.

Tuberose pomade.....oz. 16
Deodorized alcohol.....q. s. or oz. 16

Proceed as with cassie.

VANILLA (VANILLA PLAINFOLIA).

The best vanilla beans come from Mexico. Tincture of vanilla is used as a fixing ingredient to some perfumes.

Tincture of Vanilla.

Vanilla beans.....oz. 1
White sugar.....oz. 1
Deodorized alcohol.....oz. 16

Cut the beans in small pieces. Beat with the sugar in a mortar until they are reduced to a coarse powder. Macerate with the alcohol for thirty days and filter.

VIOLETS (VIOLA ODORATA).

A very delicate odor, but very fleeting; by the addition of some of the stronger properties a very fine and popular perfume is obtained. Violets are cultivated in Southern France.

Essence of Violets.

Violet pomade.....oz. 16
Deodorized alcohol.....q. s. or oz. 16

Proceed as with cassie essence.

VITIVERT, OR KUS KUS (ANDROPOGON MURICATUS).

Is the rhizome of an Indian grass.

Spirits of Vitivert.

Oil of vitivert.....drops 30
Deodorized alcohol.....oz. 4

YLANG OR IHLANG (CANANGA ODORATA).

This plant is found in the Phillipines and the islands of the Indian Archipelago. The oil is obtained by distilling the flowers. The perfume is very characteristic and lasting.

Spirit of Ylang.

Ylang oil.....drams 3
Deodorized alcohol.....oz. 4

In the following formulæ, if the perfumes are too expensive, the ambergris can be omitted and civit substituted, except in extract of ambergris. The musk can also be reduced in strength one-half and still yield satisfactory results. In all cases secure the best goods, regardless of price. In perfumes as well as in medicines quality is of the first importance. When the perfumes are mixed they should be frequently agitated, and allowed to stand for two or three weeks before filtering. Age improves all perfumes if kept in a moderate atmosphere and in a dark place.

(1) **AMBERGRIS EXTRACT.**

Spirit of rose.....oz. 3
Tincture of ambergris....." 8
" musk....." 4
" vanilla....." 1

Where permanence is desired this can be recommended.

(2) **ESS. BOUQUET.**

Spirit of rose.....oz. 8
Tincture of ambergris....." 1
" orris....." 1
Essence of cassie....." 1
Oil of bergamot.....drops 30
" lemon....." 60
" neroli petale....." 15
Deodorized alcohol.....oz. 5

(3) **FRANGIPANNI.**

Tincture of musk.....oz. 5
" civit.....drams 4
" orris root.....oz. 3
Essence of orange flowers....." 3
" tuberose....." 3
Spirit of vitivert....." 1
Oil of santal.....drops 60
" neroli petale....." 60
" rose....." 120
" rose geranium....." 60

Where there is a demand for something lasting regardless of price, this will prove satisfactory.

(4) **ROSE GERANIUM EXTRACT.**

Oil of rose geranium.....oz. 1
Deodorized alcohol....." 15

(5) **HELIOTROPE.**

Tincture of vanilla.....oz. 8
" ambergris....." 1
" civit....." 1
Spirit of rose....." 3
Essence of rose....." 3
Oil of bitter almond.....drops 5

(6) **HONEYSUCKLE.**

Essence of rose.....oz. 4
" violet....." 4
" tuberose....." 4
Tincture of vanilla....." 1
" tolu....." 1
" musk....." 1
Oil of neroli petale.....drops 3
" bitter almond....." 2
Deodorized alcohol.....oz. 1

(7) JOCKEY CLUB.

Spirit of rose.....oz.	4
Essence of rose.....	1
" " tuberose.....	4
" " cassie.....	2
" " jasmine.....	1
" " orange flowers.....	1
Tincture of civit.....	2
" " musk.....	1

(8) LAVENDER EXTRACT.

Oil of lavender (Mitcham).....	drams 4
Essence of rose.....oz.	2
Deodorized alcohol.....	" 14

(9) LILY OF THE VALLEY OR WHITE POND LILY.

Essence of tuberose.....oz.	8
" " jasmine.....	1
" " orange flowers.....	1
" " cassie.....	2
" " rose.....	2
Spirit of rose.....	1
Tincture of vanilla.....	1
Oil of bitter almonds.....	drops 2

(10) MILLEFLEURS (THOUSAND FLOWERS).

Spirit of rose.....oz.	2
Essence of rose.....	1
" " jasmine.....	4
" " orange flowers.....	1
" " cassie.....	2
Tincture of orris.....	2
" " tonka.....	drams 4
" " ambergris.....	4
" " musk.....	4
Oil of bitter almonds.....	drops 3
" " neroli petals.....	3
" " cloves.....	3
" " bergamot.....	" 120

(11) MUSK.

Tincture of musk.....oz.	11
Spirit of rose.....	4
Tincture of civit.....	1

This is rather a high-priced article, but the tincture of musk can be reduced one-half with alcohol, and still yield a satisfactory result.

(12) NEW-MOWN HAY.

Tincture of tonka.....oz.	6
Spirit of rose.....	2
Essence of rose.....	2
" " jasmine.....	2
Oil of neroli petals.....	drops 10
" " rose geranium.....	" 60
Deodorized alcohol.....oz.	4

(13) NIGHT-BLOOMING CEREUS.

Spirit of rose.....oz.	4
Essence of jasmine.....	4
Tincture of tonka.....	2
" " civit.....	2
" " benzoin.....	4

(14) ORANGE FLOWER EXTRACT.

Essence of orange flowers.....oz.	12
" " cassie.....	2
Tincture of musk.....	2

(15) PATCHOULY.

Oil of patchouly drops.....	drops 75
" " rose.....	15
Deodorized alcohol.....oz.	16

SWEET PEA.

Essence of tuberose.....oz.	5
" " orange flowers.....	5
" " rose.....	5
Tincture of tonka.....	1

(16) CLOVER PINK.

Essence of rose.....oz.	6
" " cassie.....	4
Spirit of orange flowers.....	4
Tincture of vanilla.....	2
Oil of cloves.....	drops 10

(17) RONDOLETIA.

Tincture of musk.....drams	4
" " ambergris.....	4
" " vanilla.....	4
Oil of bergamot.....	1
" " lavender (Mitcham).....	drams 2
" " cloves.....	2
" " rose.....	drops 30
Deodorized alcohol.....oz.	14

(18) ROSE.

White Rose (No. 1).

Spirit of rose.....oz.	8
Essence of rose.....	3
" " jasmine.....	4
Extract of patchouly.....	1

(19) White Rose (No. 2).

Oil of rose.....drams	2
" " geranium.....	drops 30
Essence of rose.....oz.	4
Deodorized alcohol.....	" 16
Essence of jasmine.....	2
Tincture of musk.....	1
" " ambergris.....	1

Extract of white rose is a general favorite and cannot be recommended too highly.

(20) MOSS ROSE.

Spirit of rose.....oz.	9
Essence of orange flowers.....	8
" " rose.....	2
Tincture of civit.....	1
" " musk.....	1

(21) TEA ROSE.

Essence of rose.....oz.	4
Spirit ".....	8
" " santal.....	2
Essence of orange flowers.....	1
Tincture of orris.....	1
Oil of rose geranium.....	drops 20

(22) SPRING FLOWERS.

Essence of rose.....oz.	7
" " violet.....	6
Oil of bergamot.....	drams 1
Spirit of rose.....oz.	1
Tincture of ambergris.....	1
Essence of cassie.....	1

(23) TUBEROSE EXTRACT.

Essence of tuberose.....oz.	15
Tincture of ambergris.....	1

(24) UPPER TEN.

Tincture of vanilla.....oz.	4
" " ambergris.....	3
" " orris.....	3
Spirit of rose.....	3
Essence of orange flowers.....	3
Oil of bergamot.....	drops 90
" " lemon.....	" 15

(25) VERBENA.

Oil of lemon grass.....drams	50
" " lemon.....	" 320
" " neroli petals.....	" 20
" " orange.....	" 160
Essence of orange flowers.....oz.	3
" " tuberose.....	3
Spirit of rose.....	3
Deodorized alcohol.....	" 6

(26) VERBENA (NO. 2).

Oil of lemon grass.....drams	3
" " lemon.....	3
" " orange.....	drops 30
Deodorized alcohol.....oz.	15

(27) VIOLET.

Essence of violets.....oz.	11
" " cassie.....	2
Tincture of musk.....	1
" " orris.....	2

(28) VIOLET (NO. 2).

Essence of cassie.....oz.	6
" " rose.....	3
" " tuberose.....	3
Tincture of orris.....	3
Spirit of bitter almonds.....	1

(29) WOOD VIOLET.

Extract of violets (No. 2).....oz.	16
Oil of bitter almonds.....	" 15

(30) YLANG YLANG.

Spirit of ylang.....oz.	8
" " rose.....	4
Essence of jasmine.....	2
Tincture of civit.....	2

This is my favorite; it combines fragrance and lasting qualities at a moderate price.

(31) WHITE LILAC.

Essence of tuberose.....oz.	12
" " orange flowers.....	" 3
Tincture of civit.....drams	4
Spirit of ylang.....	" 4
Oil of bitter almonds.....	" 3

[This article was read before the Michigan Pharmaceutical Association, and has been republished in the *Registered Pharmacist*.—E.D.]

The Disinfection of the Dust of Rooms.

Dr. P. Miguel has recently made a comparative study of the disinfectants available for the disinfection of living rooms. He condemns, first of all, the system by which the public can procure the most dangerous antiseptics, notably corrosive sublimate.

The experiments of the author have been chiefly made upon the dry dust of rooms, and have tried the effect of vapors of various volatile substances on microbes.

The classification of acid vapors in the order of their destructive activity with regard to microbes is as follows:

- Osmic acid.
- Hydrochloric acid.
- Nitro-hydrochloric acid.
- Formic acid.
- Hydrocyanic acid.
- Sulphurous acid.
- Acetic acid.

Ammoniacal vapors are not capable of destroying the germs of all bacteria, and are, moreover, inactive against the spores of the anthrax bacillus; they act injuriously upon objects exposed to their action.

Methylic alcohol, though possessing an energetic disinfecting power, belongs to the class of antiseptics whose action is incomplete.

Ethylic alcohol, in some cases, is an unreliable bactericide, but in many cases gives satisfactory results.

The *butylic* and *amyllic alcohol* are slow and inactive bactericides.

Formaldehyde seems to be a bactericide of altogether remarkable power, and the author thinks it is destined to supplant all the other antiseptics as soon as its cost is sufficiently reduced to make its general application practicable. The vapors of a 1 per cent. solution of formaldehyde will destroy all microbes and all germs of the typhus micro-organisms. They have no action upon other objects.

Having obtained this important result, Dr. Miguel commenced a series of experiments on "typhus bacillus," using gradually diluted solutions of formaldehyde. He found that with a 2½ per cent. solution the bacteria were killed in forty-eight hours. It was only when the dilution reached 1 in 800 that the bacteria commenced to resist the action for a longer period—it was only killed, in fact, at the end of ninety-six hours—and with 1 part in 1,000 the time required to effect the same object was 168 hours.

As is the case with sulphur dioxide, the vapor of the aldehyde has great penetrating powers, and destroys the microbes even when the dust has accumulated to a great depth.

In the direct experiments made upon cultures in *bouillon*, 1 part of formaldehyde in 2,000 stopped all growth, whilst to produce the same effect with corrosive sublimate twice this proportion was necessary.

The author has also satisfied himself that no risk is run through breathing the vapor, and states that a person can breathe freely for several minutes in a closed room in which a 10 per cent. solution was left to evaporate, without suffering any inconvenience.

Briefly summarizing the results, formaldehyde combines all the qualities of an excellent disinfectant: promptness of action, considerable penetrative power, energetic action at low temperatures; innocuousness towards metals and other objects exposed to the vapor, and to inhalation at the strength used for bactericidal purposes.

The author, continuing the study of aldehydes in this connection, arrives at the conclusion that formaldehyde, trioxymethelene (polymerized formaldehyde), and benzoyl chloride may be classed in the order named as absolute disinfectants; two others, viz., benzylic aldehyde and chloral as relative disinfectants.

The author has also determined the relative disinfecting value of various essential oils, and classes them in the following order, the temperature during the experiments being constant (15°C.), and the duration forty-eight hours:

	Percentage of bacteria destroyed.
Essential oil of almonds (bitter).....	99
“ “ thyme.....	99
“ “ cumin.....	95
“ “ peppermint.....	93
“ “ giraffe.....	92
“ “ neroli.....	90
“ “ lemon.....	88
“ “ lavender.....	81
“ “ canella.....	75
“ “ aspic.....	74
“ “ eucalyptus.....	74
“ “ rosemary.....	73
“ “ terebenthine.....	66
Camphor.....	66

The essences are agreeable disinfectants, not affecting either materials or colors, but of limited value on account of the incompleteness of their action.—*Ann. de Micrographie*, 1894; *Manufacturing Chemist*.

Three Creosote Preparations.

By H. L. GRIMES.

Urged by the growing importance of creosote as a therapeutic agent, and by the frequent inquiries by physicians for a palatable form of administering the same, I made a series of experiments to attain that end.

Owing to the peculiar and persistently pungent taste of creosote, there is nothing, in my opinion, short of the gelatin

capsule, that will completely mask it. However, as this form of administration is not always eligible, I confined my efforts to combining the drug with other agents calculated to modify the pungency of the drug to a greater or smaller extent, and make the medicament more acceptable to the palate and to the stomach.

In all pharmaceutical preparations of creosote, intended for internal use, none but the purest beech-wood creosote should be used. That of Merck & Co.'s importation takes preference with me.

The three appended formulas have been deduced from my experiments, and the products have received the approval of many very prominent physicians:

WINE OF CREOSOTE.

Creosote (Beech-wood).....	96 min.
Alcohol.....	1 fl. oz.
Oil Cinnamon.....	24 drops
Oil Cloves.....	12 drops
Oil Anise.....	12 drops
Syrup Orange-Peel.....	4 fl. oz.
Sherry Wine.....	8 fl. oz.
Simple Elixir, enough to make.....	16 fl. oz.

Dissolve the creosote and oils in the alcohol, add the wine, syrup, and elixir, and filter through purified talcum. Each tablespoonful represents 3 minims of creosote. The dose is a tea- to a tablespoonful three or four times a day, after meals.

EMULSION OF CREOSOTE.

Creosote (Beech-wood).....	768 min.
Powdered Acacia.....	1080 grs.
Water, enough to make.....	32 fl. oz.

Triturate the creosote with the acacia in a dry mortar, and add, all at once, 27 fluid drams of water; stir briskly with the pestle until the nucleus of the emulsion is formed, and add enough water to make 2 pints; finally, strain through a cloth. This is a convenient preparation for admixture with other medicaments. Each tablespoonful contains 3 minims of creosote.

Perhaps the most admirable combination is a creosoted emulsion of cod-liver oil with hypophosphites, of which the following is the formula:

CREOSOTED EMULSION OF COD-LIVER OIL WITH HYPOPHOSPHITES.

Cod-Liver Oil.....	32 fl. oz.
Creosote (Beech-wood).....	6½ fl. drs.
Powdered Acacia.....	8 oz.
Glycerin.....	4 fl. oz.
Syrup Orange-Peel.....	2 fl. oz.
Calcium Hypophosphite.....	555 grs.
Sodium Hypophosphite.....	555 grs.
Oil Wintergreen.....	.2 fl. dr.
Oil Sassafras.....	.2 fl. dr.
Oil Cinnamon.....	.2 fl. dr.
Distilled Water, enough to make.....	4 pints.

Mix the cod-liver oil, creosote, and essential oils with the acacia, in a dry mortar; dissolve the hypophosphites in 12 fluid ounces of warm water, pour the solution, all at once, into the mixture of oils, creosote, and acacia, and stir briskly in one direction with the pestle until emulsification takes place; then add the glycerin, syrup, and enough water to make 4 pints, and strain through a cloth. Recently-distilled water should preferably be used in these emulsions; but, if none

is at hand, water that has been freshly boiled and filtered will serve the purpose. In cold weather the water should be slightly warmed, else the emulsion will be very slow in forming. The creosote in the latter emulsion temporarily obtunds the sense of taste to a considerable degree while the preparation is being swallowed, and helps to conceal, in a measure, the unpleasant taste of the cod-liver oil.—*Merck's Market Report*.

The Origin of Pharmacy.

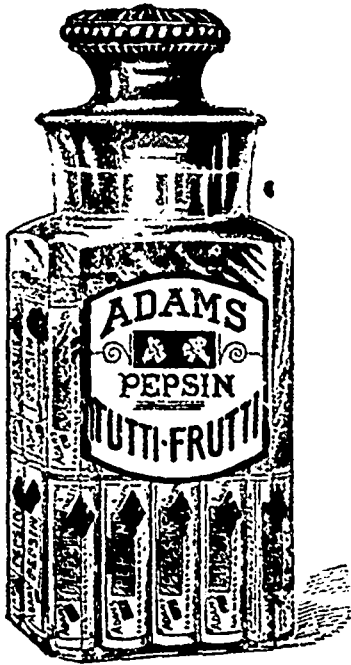
The historian of the St. Louis *Globe-Democrat* has been occupying himself with the origin and development of pharmacy, and as a result we have an interesting study of the subject.

3300 YEARS B.C.

The identity of the druggist and the medicine man, he remarks, are, in the early ages, after as well as before Christ, necessarily almost inseparable. As early as 3300 years B.C., in the reign of Seneferu, we find directions as to the preparation of prescriptions. The giving of these was accompanied by incantations, so that the faith-cure advocates of to-day may almost claim this great antiquity. That the school of pharmacy was known among the Assyrians is abundantly attested. In the Ebers papyri, 1600 B.C., we have prescriptions of famous physicians. There were blisters and powders and ointments and the general use of drugs, both mineral and vegetable. The Hebrews early absorbed a curiosity as to the pharmaceutical art, so great that they had a medical school of their own at Sora, as late as 200 A.D. There was also development in pharmacy in China at a very early day, Ching Nong, a contemporary of Menca I., being learned in the art. Hippocrates, 460-370 B.C., is authority for many facts going to show that in the temples of Æsculapius the art of medicine became somewhat systematized. The pharmacists dwelt within the walls, whilst the physician went out among the people. With Hippocrates, however, the physician and the pharmacist became one. His relations are of his predecessors. He carried his drugs with him. In consequence of an epidemic, about 187 B.C., temples were erected to Æsculapius and Hygeia, introducing pharmacy and therapeutics into Rome. About ninety years later, or about 100 B.C., the people of Rome purchased a "shop of surgery" for Areagathus, who had left Greece for Rome. There he practised both medicine and pharmacy. He had a fancy for operations, and was therefore driven out.

IN THE YEAR 1.

After this the extensive use of drugs showed the tendency towards pharmacy. Monecrates, 1 A.D., was one of the earliest of these disciples. He invented diachylon plaster, which is much the same as that used to-day. So also was Archigenes. He employed opium in dysentery. Another pioneer in pharmacy was



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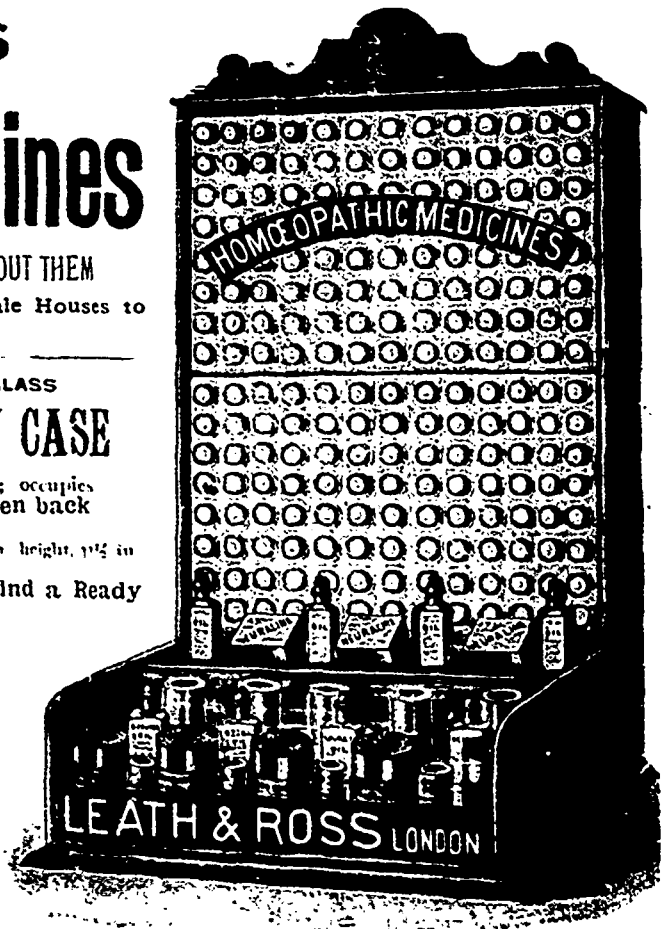
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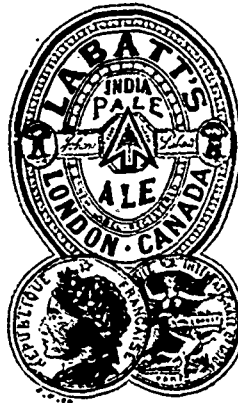
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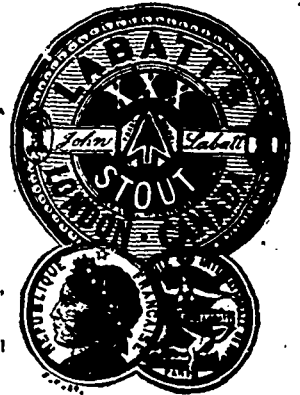
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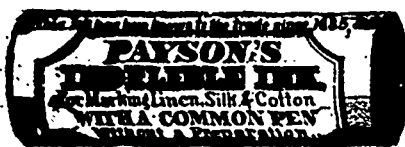
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Dioscorides, a student in botany and pharmacology, whose work was recognized as an authority as late as the seventeenth century. Dioscorides described 400 different plants. Galen was the first to secure the aroma of plants by distillation. His supremacy was maintained for 1,400 years. It is on record of him that he kept a drug store in Rome. He added half as many to the plants described by Dioscorides. Then came a period of decline. There were, however, three great men—Buffus, who discovered the function of the recurrent laryngeal nerve, and Aurelianus and Leonidas, who proposed isolation in contagious diseases, and who were denounced as brutes for this action. Oribasius, in the fourth century, was very active in pharmacy. Pope Gregory the Great, in the sixth century, proclaimed the school of homoeopathy, which, however, had prevailed in China several centuries before.

PHARMACY AMONG THE ARABIANS.

The Arabians did much to extend the practice of pharmacy, together with the separation of medicine and pharmacy, which was recognized as early as the eighth century. The Arabians held the practitioners of medicine in very high esteem. Mahomet himself had a fancy for the healing art, and there is reason for believing that numerous medical works were preserved by the Arabian physicians out of the destruction of the Alexandrian library. There were two great schools among the Arabians. Many drugs were imported from the East, and this gave birth to an army of dealers, physicians, who also practised pharmacy, and who were thus distinguished from the regular apothecaries. They existed in Italy as early as the eleventh century. It is also important to know that the separation of medicine and pharmacy was established by law among the Arabians as early as the eleventh century. The school at Salerno compelled its graduates to swear not to give or accept percentages on prescriptions. This school was founded in the seventh century, but subsequently fell under the control of the Arabs, after which their ideas as to the separation of medicine and pharmacy prevailed.

PHARMACY UNDER THE SARACENS.

It is beyond doubt that, prior to the twelfth century, there were drug stores in Cordova, Toledo, and other large towns, and that these establishments were under very severe restrictions. The material for the law passed in 1233, and which remained in force a long time, was drawn from these laws by Emperor Frederick II., of the two Sicilies. Under this law every physician was required to give information against any pharmacist who should sell bad drugs. Pharmacies were divided into two classes:—(1) The stationarii, who sold simple medicines and non-magistral preparations according to a tariff determined by competent authority; and (2) the confectionarii, whose business consisted in scrupulously dispensing the prescriptions of the medical men. All such

establishments were placed under the surveillance of the College of Medicine. Pharmacy was, to a great extent, under the control of the Arabian physicians during the Middle Ages. The religious orders, the Benedictines particularly, largely devoted themselves to pharmacy, pharmacology, and therapeutics. These monks were forbidden to shed blood, so surgery largely fell into the hands of the barbers. With the use of alchemy, medicine, pharmacy, chemistry, toxicology, the grocery business, the confectionery business, and barbering became one combined trade. In Spain, under the auspices of the Saracens, pharmacy attained a status it never lost. So, also, in Italy. The development of pharmacy in Germany and England, however, took place somewhat later, so that the beginning of their pharmaceutical history is comparatively recent.

EARLY GERMAN DRUGGISTS.

The history in Germany begins in the thirteenth century. A drug store is found to have existed at Muenster in 1267, and one in Augsburg in 1285, and a third in Hildsheim in 1318. So the growth was very slow. The establishment at Hildsheim was originally the property of the church, but after 1385 was controlled by the city. That the boundary line of pharmacy and medicine was clearly defined at this period is shown by the existence of a parchment ordinance of the city of Nuremberg, 1350. This decree ordains that the druggist shall conscientiously fill all written and verbal orders on him according to his best ability; that he shall use none but pure drugs; that he shall treat rich and poor with equal courtesy; that he shall be modest in his charges, and not demand more than he needs to feed and clothe himself and those dependent upon him, allowing a reasonable advance in the cost of the drug as a compensation for his service.

THE GROCER-APOTHECARIES OF FRANCE AND ENGLAND.

In France and England grocers and spicers were early united with apothecaries. In 1345 King Edward of England gave a pension of six pence a day to an apothecary of London who took care of his majesty during his illness in Scotland. The separation of the apothecary and the physician must have been pretty complete about that time, and it is also pretty certain that the populace suspected both of giving and taking percentages on prescriptions. This is shown in the "Canterbury Tales," in which Chaucer says of his physician:—

Full ready had he apothecaries
To send him drugs and lectors,
For each of them made other to winne,
Their friendship was not new to begin.

The pictures of the old apothecaries still in existence are of considerable interest. One of them of a drug store of 1548 is vividly described by Shakespeare, fifty years later, in Romeo and Juliet:

I do remember an apothecary—
And hereabouts he dwells—which have I noted
In tatter'd weeds, with overwhelming brows

Calling of simples, magic were his looks,
Sharp misery had worn him to the bones;
And in his needy shop a tortoise hung,
An alligator stuffed, and other skins
Of ill-shaped fishes; and about his shelves
A beggarly account of empty boxes,
Green earthen pots, bladders and musty seeds,
Remnants of packthread and old cakes of roses,
Were thinly scattered to make up a show.

THE OLDEST PICTURE OF A DRUG STORE.

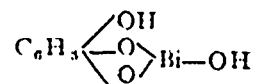
The oldest picture of a drug store is one of 1450. It looks like the warehouse of a creamery, with buckets full of butter piled shelf upon shelf, and might easily be taken for such a place were it not for the presence of the druggist preparing his drugs in a three-legged mortar. Another of 1505 shows the pharmacist, in all his official robes, designating to his assistant with his sword the drugs to be used. Another, of 1536, is still more pretentious. It is shown while it is undergoing the very rigid inspection provided by law.

The first trace of a pharmaceutical corporate body is found in Bruges, in Belgium, in 1297. It had a large hall, seals, statues, and a chapel. Divine services were held every day, and members sworn in. Its members were of distinguished families. It had the exclusive right to sell medicines, and soon became rich and powerful.—*American Druggist.*

Pyrogallate of Bismuth.

This compound has recently been introduced as an antiseptic medicine, and the striking feature of the body is that whilst pyrogallic acid is a virulent poison, the pyrogallate of bismuth appears to be non-toxic.

Voswinkel prepares the compound by dissolving separately 150 grammes of pyrogallol in 630 grammes of a 25 per cent. solution of common salt, and 316 grammes of bismuth trichloride in 1,000 grammes of the same solution. The two solutions so obtained are filtered, mixed, and warmed together for half an hour on the water bath. The product is then poured into twenty parts of water, whereby the basic salt is precipitated. After allowing to settle the liquor is filtered off, and the precipitate washed until the washings are free from chloride. According to Voswinkel, the product so obtained has the formula—



Vittorio prepares the salt by triturating in a porcelain capsule two parts of carbonate of bismuth and one part of pyrogallol with sufficient water to make a thin cream. The whole is then heated on the water bath, replacing the water, which evaporates as long as carbonic acid gas is evolved. The mass gradually becomes yellow. When the reaction is completed, the whole is thrown on to a filter and washed with warm water until the wash water is no longer colored violet on addition of lime water, after which the product is dried at a temperature not exceed-

ing 50°. The pyrogallate so obtained possesses a sulphur-yellow color, and contains 60.1 per cent. of bismuth. The amount of pyrogallol in the compound may be determined volumetrically by means of a solution of iodine, using starch paste as an indicator. The blue color of the iodide of starch is only formed when all the pyrogallate is decomposed. It is necessary to work with very dilute solutions, and 762 parts of iodine correspond to 126 parts of pyrogallol. The bismuth is removed by passing sulphuretted hydrogen through water containing a weighed quantity of the pyrogallate in suspension, and the excess of the gas removed by warming the liquid. By this means Vittorio finds that his preparation corresponds with the formula— $C_6 H_3 O_4 Bi$.

The author concludes as follows from his researches:

(1) Pyrogallate of bismuth, even in considerable doses, is not toxic.

(2) When introduced into the system, it suffers but little decomposition in the intestines. The bismuth passes through the system, whilst the pyrogallol is only found in the form of the products of its oxidation.

(3) By reason of its slight solubility, its application is advantageous in all cases where the use of pyrogallol is desired without the risk attendant on the simple acid. In particular, therefore, it is recommended in infectious maladies of the intestines.—*Journal de Pharm. et de Chim.; Manufacturing Chemist.*

Demonstration of Wood Fibre in Paper.

Wolesky states in the *Papierzeitung* that if paper, either sized or unsized, be wet with a solution of diphenylamin in alcohol, to which sulphuric acid has been added, if wood fibre be present it will show itself by an orange reaction that is very characteristic. The intensity of the color is in direct proportion to the amount of the fibre present. In colored papers, which yield to sulphuric anilin very feeble or no results at all, and even phloroglucin gives a very faint reaction, the diphenylamin test gives most satisfactory results, the orange coloration becoming very marked as the paper dries. Yellow or orange-colored paper sometimes makes the detection of wood fibre by this means somewhat difficult, but the difficulty is removed at once by bleaching the paper with a mineral acid, hydrochloric preferably.

Koch, the great bacteriologist, has placed himself under the care of Father Kneipp, the clerical water-cure practitioner.

In the French budget for 1895 is an appropriation of \$15,000 to provide for the organization of chairs of dental surgery in several of the medical schools of that country.

Pharmacy Abroad.

MUNICIPAL PHARMACY.—It is not often that pharmacy is even remotely connected with such a hot debate in supreme legislative bodies as took place lately in the French Chamber. The Municipal Council of Roubaix is Socialist, and in carrying its opinions into practice established a pharmacy, managed by a duly qualified pharmacist, at which drugs were sold and prescriptions dispensed at cost price. The local pharmacists naturally objected to this, and agitated for the suppression of the municipal pharmacy. In virtue of a law prohibiting corporations from engaging in commercial transactions, this was done by the Prefect of the Nord. M. Guesde, a prominent Socialistic revolutionist leader and a deputy in the Chamber, seized the opportunity for a general debate on Socialistic doctrines. M. Dupuy, the Premier, showed how the establishment of a pharmacy would lead to other shops being opened, and to Collectivism. After violent speeches, a vote of confidence in the government was passed, and so the Roubaix pharmacists have got their way.—*British and Colonial Druggist.*

THE CHINESE PHARMACOPOEIA.—The Chinese Pharmacopoeia contains many peculiar remedies. Snow-water is supposed to be good for worms, while hail-water is poisonous. For eye troubles the excrement of bats is recommended. Amber is nervine. Ink is a diuretic, and gunpowder is a vermifuge. Benzoin is good for stomach ache. It is much adulterated, but there is a sure test. If real, its fumes will charm rats out of their holes. Wheat bread is prescribed for a variety of complaints, and bread pills are an old remedy with celestial doctors. Verdigris is good for skin troubles. Ambergris is a substance coughed up by dragons, and is excellent for healing. Plasters of elephant hide are useful for wounds that heal slowly. Dried scorpions and seed pears cure a number of diseases. Ashes of paper are an astringent.—*New England Druggist.*

PHARMACY IN WESTERN AUSTRALIA.—The Western Australian Pharmaceutical Society have succeeded in getting an Act passed through the legislature last month to control the practice of pharmacy in the colony. The Pharmaceutical Society of Western Australia is the official body, and will have the power of enforcing the subscriptions payable yearly for the right to keep open shop. All sellers of poisons are to hold a license from the society. The council will be elected by the chemists, but the Governor may remove any member of the council, and on the advice of the council he may direct the removal of any name from the register, and may add fresh items to the poison schedule. The Act comes into force on March 1st, 1895. Their rights are secured to per-

sons already in practice, and the society are empowered to recognize certificates from other countries. Four years' apprenticeship is enjoined before passing the qualifying examination. The poisons regulations include directions for their safe keeping, and for sales by post. Medicines dispensed by medical men or by pharmaceutical chemists from prescriptions by medical men, as well as patent or proprietary medicines, are outside the poisons regulations.—*British and Colonial Druggist.*

Italy now requires that all compounded medicines sold within her borders shall bear outside the package a recipe showing the ingredients of which they are composed.

A Scientific Discovery from Japan.

A Japanese *savant*, Jokichi Takamine, who has studied at Glasgow and Tokio Universities, has discovered says *The Times*, a novel method of preparing diastase and some other substances, of which we recently received specimens. He has been cultivating *Eurotium oryzae*, a mycelial plant of the *Aspergillus* family, on wheat-bran, and has found that, at an early stage of its growth, it bears upon its roots minute crystals of diastase, while the unripe spores contain a very powerful ferment. By washing the bran in percolators and crystallizing the solution, he claims to be able to obtain diastase of considerable purity as a commercial product. Takamine claims that a mixture of equal parts of this diastase (or "Taka-koji," as he calls it) and crude wheat-bran, when added in the proportion of 10 per cent. to the quantity of grain mashed, will effect a more perfect conversion than the use of 10 per cent. of the best malt. The ferment is a very remarkable substance. It is said to be three times as powerful as yeast—that is, it will continue to produce fermentation in a sugar solution till there is 20 per cent. of alcohol present, whereas the action of ordinary yeast stops when the percentage of alcohol reaches 7. This one fungus, therefore, appears to produce in itself the converting agents required in two of the most important processes in the manufacture of beer and spirits. Besides this, the wheat-bran, after two or three cultivations have been grown upon it, is said to form a good food for cattle, containing some 20 per cent. of protein, or flesh-forming substance.—*British and Colonial Druggist.*

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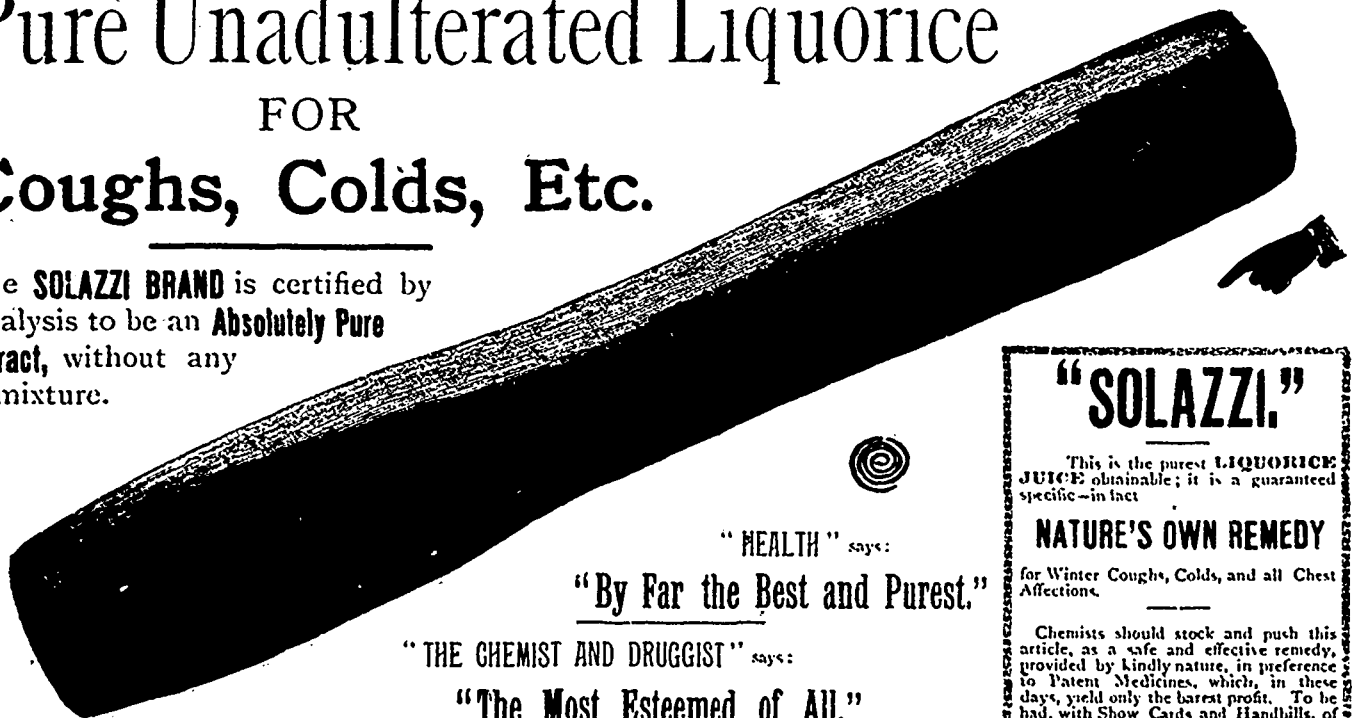
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small particle of red aniline, soluble in alcohol, be dropped into a vial of the synthetic oil, it will immediately show a disposition to dissolve, which is not the case with true wintergreen. Practically, this is found to be the case. In three to five minutes' time, by agitating vials of both oils with aniline in them, it will be noticed that the artificial product readily dissolves the aniline, whereas the other will hardly have any perceptible effect on it. After the lapse of fifteen minutes to half an hour both will be discolored, but the artificial will have a purplish tint, while the natural oil will be more of a cherry color, and, in proportion as the two are mixed, so will be the time and extent of coloration.

This is a delicate test, fit only for use by experts, for which reason we have not hitherto published it, as by it a careless user would probably reject all the oil he purchased, whether pure or otherwise. Before adopting it for use it will be well to make several experiments, in order to get a correct idea of the length of time required for the action of pure oil wintergreen on the aniline, in comparison with the artificial or known mixtures of the two.—*American Soap Journal*.

Camphor.

A great variety of plants contain camphor, but the article of commerce known as camphor is chiefly obtained from the *Laurus camphora*, a tree which grows in Japan and the islands of the Eastern seas. The chief habitat of the tree, however, is the island of Formosa, where it reaches to its greatest size, and where most of the camphor of the Western commerce is produced.

In addition to these supplies, a large quantity is shipped from Japan, but there is considerable difference between the produce of the two localities, the latter being of a lighter color, and of a pinkish hue, and also a coarser grain than that obtained from Formosa, and it also commands a higher price in the market—almost twice the amount as that from the island. Although the camphor tree, or shrub, is found in China, especially abounding in the eastern and central provinces, Chekiang and Kiangsi, very little is manufactured in that country, although very large trees are met with, some of them being nine feet in girth, and the wood is an important item in the timber trade of Hankow. But in the island of Formosa the forest covers the line of mountains from north to south in those districts where the virgin vegetation has not given place to cultivation. The island of Formosa lies partly within the tropics. It is 210 miles in length, and 70 miles in width, and separated from China by the Formosa Strait, and the position is such as to render it a possession of importance for the Eastern trade. It has a fertile soil, and is extremely rich in minerals.

The island is inhabited partly by Chin-

ese, and partly by the aboriginal savage tribes. These are natives, sprung from the Malayan stock, and are confined to the mountain country of the eastern and southern districts, while the Chinese are limited to the western and a small portion of the north. Year by year the latter slowly advance in their search for camphor, but at great risk to themselves, as there is no friendly feeling between them and the natives. The trade has of late years been gradually decreasing owing to the great risk entailed in collecting, and from the fact that the extraction of camphor causes the destruction of the tree, and this has never been made good by replanting, so the forest becomes less and less, the Chinese advancing, while the aboriginals retreat. The mutual jealousy and encroachments between the two parties are considerable.

The sight of a virgin forest, such as these in Formosa, when once seen will not easily be forgotten. The trees grow to a height of about fifty feet, the leaves are of a bright shining green color, and when bruised give out the odor of camphor. The wood is much prized and sought after for carpentry and cabinet work, as it is white and very fragrant, which latter quality is considered to act as a deterrent to all kinds of insects. The tree has of late years been introduced into other countries, and may be found in the Parisian nurseries, and is occasionally met with in Great Britain.

The method of collecting and preparing this substance differs considerably in the various countries in which it is found, and it is exceedingly pleasant and interesting to accompany the camphor merchants, although the expedition is attended by numerous risks in Formosa, as the work must be done in an enemy's country.

A careful selection of the trees is first made; those chosen are such as possess an abundance of sap, for those which are dry are useless except for the wood, which in every case is secured, as it is in great demand. The camphor is prepared from such portions as the branches, roots, and refuse; these are taken freshly cut, and reduced to small pieces, so as to be suitable for distillation. This process is done by means of stills fixed under temporary erections on the ground; they are exceedingly rough and crude. A number of fires are then made, and over them is placed a long wooden trough or hollowed tree, coated with clay, and half filled with water. Boards pierced with holes are then fitted on to the trough, and above these are placed rough jars containing the camphor wood. The mouths of these jars are then covered with inverted pots, and the joints made air-tight by various methods, mostly by hemp packing.

The fires being lit, in course of time the generated steam passes from the water through the pierced boards, and so saturates the wood contained within the jars, causing the sublimated camphor to settle in crystals on the inside of the pots.

It is then scraped off, and undergoes other processes of distillation for the purpose of purifying the substance. Within a copper vessel a layer of earth containing lime is placed, and on this layer is deposited the crude camphor. This again is covered by a layer of earth, and so alternately, until the vessel is full, the last layer being, of course, the earth. The whole is then covered with green mint.

A vessel formed of straw, covered on the outside with wet clay, is then put over the still and fixed. This combined apparatus is then placed over a fire and allowed to heat, and, after a considerable time, left to cool.

The vessels are then opened and the camphor is found to have sublimed, attaching itself to the upper vessels. From these it is scraped every few days, and is then very pure and clean. Camphor, when pure, is a white brittle substance, forming octagonal crystals or square plates.

For purposes of transport, camphor is placed in large vats or tubs with holes at the bottom; through these holes passes an oily liquid, known as camphor oil, to the extent of three to four per cent. This possesses a very strong odor, and holds in solution a quantity of common camphor, which it deposits in crystals when exposed to a low temperature. This oil is much used by the Chinese as an embrocation for all rheumatic complaints, and bids fair to become a very valuable import. In Japan this oil is used for lighting purposes by the very poor, who burn it in open lamps, notwithstanding its odor and dense smoke.

Nearly all the camphor produced in Formosa is shipped from Tamsui, at the northern extremity of the island. This is, indeed, an interesting place, and the old Spanish fort on the eastern side of the harbor, built more than a thousand years ago, as well as the Consular prison, adds to its charms. Were it not for the trade in camphor the exports would be small indeed. From here, it is conveyed in native vessels to the various ports of China. Owing to its being badly packed, and the large quantity of water absorbed during its sublimation, the loss by evaporation during the sea journey is considerable.

This has been somewhat remedied of late years by means of an hydraulic press. But it is becoming more and more evident that the supply from this locality is gradually decreasing. The seaboard has no longer its camphor trees, and the collectors are compelled to go further inland for their supply. On the mountains in the interior there are still large tracts, but some care is necessary, so that the supply should not cease altogether.

The Japanese are, however, alive to the importance of this trade, and, as the tree is fairly distributed throughout that country, it will doubtless receive the attention of that enterprising nation, especially in the province of Tosa, in Sikok, for it is in this locality that the preparation of cam-

phor is carried on throughout the year, the best results being obtained in the winter. There are at the present time, under the care of the Japanese Forestry Department, large plantations of young trees, so that it is estimated that the supply of camphor is assured for the next twenty-five years. The distilling process is simple, but very much in advance of that used in Formosa. The article produced is never quite pure; it generally needs purifying after its arrival in Europe. A few years ago the annual imports into the United Kingdom were—unrefined, 12,368 cwt.; refined, 2,361 cwt.

This refining was for some time almost exclusively carried on in Venice, but it is now done in Great Britain, Holland, Hamburg, and Paris, the process being a most interesting one. The methods used vary in the several countries. Besides what is known as camphor, there are many varieties of the drug, differing somewhat from this article of Eastern commerce, such as Borneo and Malayan camphor, Borneole, Camphyl alcohol or Kapur Barus, Blumea or Ngai camphor, and others more or less known in perfumery and pharmacy, obtained from the leaves, flowers, fruit, and roots of various trees and shrubs, such as the bergamot tree, the bitter orange, orris root, thyme, tobacco leaves, and many other sources.—*G. D., in British and Colonial Druggist.*

Antidotes for Poisons.

In cases where other articles to be used as antidotes are not in the house, give two tablespoonfuls made mustard in a pint of warm water. Also give large draughts of warm milk or water mixed with oil, butter, or lard. If possible, give as follows:

For Bed-bug poison, Corrosive sublimate, Blue vitriol, Lead water, Saltpetre, Sugar of lead, Sulphate of zinc, Red precipitate, Vermilion.	} Give milk or white of eggs, in large quantities.
For Fowler's solution, White precipitate, Arsenic.	} Give prompt emetic of mustard and salt, tablespoonful of each; follow with sweet oil, butter, or milk.
For Antimonial wine, Tartar emetic.	} Drink warm water to encourage vomiting. If vomiting does not stop, give a grain of opium in water.
For Oil of vitriol, Aqua fortis, Bicarbonate potassa, Muriatic acid, Oxalic acid.	} Magnesia or soap dissolved in water, every two minutes.
For Caustic soda, Caustic potash, Volatile alkali.	} Drink freely of water with vinegar or lemon juice in it.
For Carbolic acid.	} Give flour and water or glutinous drinks.
For Chloral hydrate, Chloroform.	} Pour cold water over the head and face, with artificial respiration, galvanic battery.
For Carbonate of soda, Copperas, Cobalt.	} Prompt emetics; soap, or mucilaginous drinks.
For Laudanum, Morphine, Opium.	} Strong coffee followed by ground mustard or grease in warm water to produce vomiting. Keep in motion.
For Nitrate of silver.	} Give common salt in water.
For Strychnine, Tincture nux vomica.	} Emetic of mustard or sulphate of zinc, aided by warm water.

—*Medical and Surgical Reporter.*

Thermometers and Thermometer Testing.

The *Zeitschrift für Instrumentenkunde* takes from a bulletin of the Physikalisch-technischen Reichsanstalt, at Charlottenburg, the following interesting points concerning thermometers and their testing:—

After a thermometer has been "proved," a stamp is placed on it. This consists of the figure of an eagle, a number, and the current year. The stamp is filled with metallic bismuth, which many tests have demonstrated to be the most durable, even with the most severe handling.

All thermometers destined for scientific and technical use are marked with double lines, to avoid any incompetent tampering with the scale. Since recently a concern in Thuringen has been testing thermometers and giving certificates of accuracy which resemble in form and general appearance those of the institute, in future all of the latter will be headed and marked *Amtliche* (official).

The liquid amalgam of sodium and potassium (introduced, some five years ago, by Hempel, of Berlin) would seem to be applicable for high-grade thermometers without the use of compressed gases, as its boiling point is very high (between 680° and 700° C. = 1264°—1292° F.). Experiments, however, have demonstrated that even at 300° C. the glass begins to be attacked by it, and the effect is rapidly progressive with temperature rising above this point, until at 480° the entire filling becomes black (probably through the separation of silicon).

For filling thermometers for the measurement of very low temperatures (like Six's) cresote is used. The blue-colored liquids used in ordinary thermometers, cuproammonium acetate and cupropyrindin acetate, are used.

The borosilicate glass recently recommended for thermometer tubes has proven itself very effective up to 300° C., and is therefore much used in the manufacture of high-grade instruments. The blue striped glass, the so-called resistance glass, introduced by Grenier & Friedrichs,* of Stuetzerbach, is also much used in high-class instruments.

In proving thermometers for ordinary temperatures, olive oil is used for the highest point, and a solution of a mixture of potassium and sodium salts are used as baths.—*National Druggist.*

Explosive Mixtures.

We are so frequently in receipt of complaints from our readers relating to explosions of mixtures that we think a few notes on some of the more frequently prescribed dangerous compounds may be of service.

POTASSIUM CHLORATE.—This is probably more often the cause of explosion than any other chemical which is handled by pharmacists. It should never be mixed in the powdered state with *organic substances*; even in very small traces in "saline," it is apt, after a time, if all the in-

gredients and the containing bottle is not absolutely dry, to burst the bottle and violently scatter the contents. It should, should never be mixed dry with *tannin*. Occasionally a gargle is ordered containing these ingredients; they should always be dissolved separately. *Hypophosphites* and chlorate similarly explode when mixed in the dry state. Chlorate of potassium and *glycerine* alone should never be dispensed, nor should it be combined with *sulphur* or the metallic sulphides.

PERMANGANATE OF POTASSIUM is another source of danger, for the same reason as chlorate, it so readily gives up its oxygen; consequently, it should not be mixed with any organic bodies, such as *sugar* or *glycerine*, nor with *spirit of wine* or spirituous preparations. When ordered in the form of pills, it should be massed with kaolin and petrolatum.

GLYCERINE, in addition to the cases above mentioned, should not be combined with chromic acid; nor with *borax* together with *alkaline carbonates*.

TURPENTINES AND VOLATILE OILS CONTAINING TERPENES should not be combined with *strong mineral acids*, nor with *iodine* or *bromine*.

IODINE should never be mixed in the free state with any preparations containing free ammonia, especially when combined with *fatty matter*.

OXIDE OF SILVER, sometimes ordered in the pilular form, should be massed with kaolin and petrolatum, and, no *chloride* combined with it.

SPIRIT OF NITROUS ETHER frequently becomes very acid in keeping; in this state, when mixed with carbonates or bicarbonates, it liberates carbonic anhydride, and, if tightly corked, the bottle is frequently burst. Such a mixture should not be corked immediately after mixing. Excess of acid in the nitre may be removed by keeping a large crystal of sodium bicarbonate in the stock bottle, occasionally easing the stopper.—*British and Colonial Druggist.*

Salubrine.

Under this name a remedy has been patented in France, and the proprietors claim for it marvellous properties. It is composed of two parts of acetic acid, twenty-five parts of acetic ether, fifty parts of alcohol, and twenty-three parts of water.

This mixture, diluted with varying quantities of water (from two to six parts water to one part of salubrine), possesses antiseptic and hæmostatic properties; it is used for contusions, certain skin diseases, corns, dental disease, insect stings, rheumatism, etc., and, in fact, the extraordinary virtues must be accepted with a very large grain of salt.—*Manufacturing Chemist.*

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Formulary.

CLOTH CLEANSERS.

	Parts.
(1) Alcoholic spirit of ammonia.....	10
Oil of turpentine, rectified	10
Sulphuric ether.....	10
Oil of lavender.....	1
Alcohol, 90 per cent.....	169

Mix, dissolve, and filter.

	Parts.
(2) Spirit of ammonia.....	4
Ether.....	10
Benzine.....	30
Oil of lavender.....	1
Tincture of soap bark.....	45
Alcohol, 90 per cent.....	100

Mix and filter.

	Parts.
(3) Rectified turpentine.....	10
Benzine.....	10
Ammonia water.....	10
Alcohol, 90 per cent.....	70

	Parts.
(4) Benzine.....	999
Oil of turpentine.....	½
Oil of myrbane.....	½

Before applying any of the cleansers recommended to colored goods, an experiment should be made either with a sample of the goods, or on some portion which will not be seen, to determine whether directions given for treating the spot will affect the color.—*Dieterich's Manual.*

GLYCERINE AND ROSEMARY HAIR-WASH.

Ol. amygdal. dulc.....	ʒi.
Liq. ammonia.....	ʒij.
Ol. rosmarini.....	ʒix.
Glycerini.....	ʒij.
Spt. vini rect.....	ʒiv.
Aq. rose.....	ʒviij.

Mix the oils with the solution of ammonia and 2 oz. rose water, shake well, and add the glycerine, spirit, and the rest of the rose water.

ALMOND TOILET PASTE.

Blanched sweet almonds.....oz.	12
Rice starch.....oz.	3
Powderd orris root.....oz.	1
Zinc oxide.....oz.	½
White soft soap.....oz.	1
Spermaceti.....drams	2
Oil of almonds.....fl. oz.	7
Oil of bitter almonds.....minims	30
Otto.....	15
Rose water.....	q.s.

Beat the almonds to a paste with the rice powder, orris, and zinc oxide, and add the soap. Melt the spermaceti in the oil of almonds, and then beat all together, adding enough rose water to make a soft paste.—*British and Colonial Druggist.*

HEKTOGRAPH, OR COPYING PADS.

	Parts.
Gelatine, by weight.....	1
Glycerine.....	4
Water.....	2

INKS.

	Parts.
(1) Methyl violet.....	1
Water.....	7
Alcohol.....	1

	Parts.
(2) Rosaniline.....	2
Water.....	10
Alcohol.....	1

The patent for hektograph having expired, any one can make or sell it.—*Scientific American.*

BEDBUG EXTERMINATOR.

Soft soap.....	20 parts.
Water.....	65 parts.
Turpentine.....	5 parts.
Coal oil.....	10 parts.

Dissolve the soap in the water, with the aid of heat, add the turpentine, stir until the latter is thoroughly mixed, and finally add the coal oil, continuing the heat and stirring until a homogeneous mixture is obtained.

Directions to go with the above: Wash the parts of the bedstead, let dry, and apply the mixture with a brush to all parts frequented by the bugs. The preparation may also be painted on walls, etc.—*National Druggist.*

GLYCERINE OF IODIDE OF IRON (ED. ROYAL INF.).

Fine iron wire.....	1 oz.
Iodine.....	2 oz.
Distilled water.....	3 oz.
Glycerine.....	27 oz.

Mix two ounces of glycerine and two ounces of water in a flask, and digest the iodine and iron in the mixture, at first cooling and afterwards heating until the froth becomes white. Then filter into twenty ounces of glycerine, wash the flask, and filter with the remaining water, and make the final volume up to thirty-one fluid ounces with glycerine.—*British and Colonial Druggist.*

HARNESSMAKERS' AND SADDLERS' WAXES.

The yellow wax consists of equal parts of balsam of fir and yellow beeswax. The black consists of 50 parts of balsam of fir and 46 parts of beeswax (yellow) melted together. While melting, stir in 3 parts of linseed oil and 1 part of bone or lamp black.

DRY BRONZE POWDER, FOR USE WITH WATER.

The *Pharmaceutische Centralhalle* gives the following: Rub to a fine powder 1 part of potassium dichromate, and add 65 parts of bronze powder and 40 parts of dextrin. Rub until perfectly smooth, and then put up in water-tight paper, either parchment, waxed, or paraffined. About two drams will make a convenient package. As "directions" for the package, use the following: "Mix only when you are going to use. For use, add an equal amount of water, and rub smooth. Apply with a camel's-hair pencil or soft brush."—*National Druggist.*

CRÈME CELESTE.

The *Revista di Clinica Medica* gives the following formula:

White cerate.....	80 parts.
Spermaceti.....	80 parts.

Oil of sweet almond.....	600 parts.
Glycerin.....	120 parts.
Distilled water.....	120 parts.
Borax.....	5 parts.
Cumarin.....	0.03 part.
Attar of rose.....	1 part.
Oil of bergamot.....	0.50 part.
Essence of orange flower.....	0.50 part.
Attar of ylang-ylang.....	0.30 part.
Attar of iris.....	0.10 part.
Tincture of amber.....	0.30 part.

Mix. If desired, color with alkanin dissolved in a part of the oil of almond.—*National Druggist.*

Elecampane as an Antiseptic.

According to the *Medical Age*, elecampane is one of the most valuable of modern antiseptic remedies, one that, aside from its powerful effect, has the great advantage of being free from odor. It is aromatic, stimulant, expectorant, emmenagogue, diaphoretic, and tonic to mucous membrane. It has been found of especial use in malaria, tuberculosis, catarrhal diseases, whooping-cough, and chronic bronchitis. One grain of the inulin added to 10,000 of urine will prevent the latter from decomposition. With this evidence it would seem as if it would prove a true bactericide in wasting diseases. Elecampane in the early forties enjoyed much reputation in phthisis, but fell into disuse until the revival of the old contagious views of that disease.

To Distinguish Between Lemon and Orange Peel.

When orange peel is moistened with strong hydrochloric acid, its color changes from yellowish to a rich dark green; lemon rind, similarly treated, retains its hue, or, at most, assumes a dingy, yellowish-brown tint. A convenient and simple chemical test, therefore, which will distinguish between small fragments of lemon and orange peel is to touch them with a glass rod previously dipped in hydrochloric acid. The diluted acid will answer the purpose, but the reaction is slower. A few minutes' exposure, says Mr. E. G. Clayton (*Science Siftings*), to hydrochloric acid gas will effect this change in the pigment of orange peel. The color of lemon rind is unaffected.

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Photographic Notes

Electric Photography.

Following up the Henrich Hertz theory of the similarity of the other waves of light to those of electro-magnetism, except that the latter are larger, Professor Dolbear has shown that electro-magnetic waves can act the part of light in taking photographs, which may thus be produced even when the subject whose picture is desired remains in absolute darkness.

An Intensifier for Negatives Reproducing Lines.

Water.....	1,000 parts
Iodine.....	14 parts
Iodide of potassium.....	27 parts

The negative is allowed to remain in this until entirely yellow. It is thoroughly washed, so that the water running from it is colorless. Afterward the negative is placed in a one per. cent. solution of Schlippe's salt rendered alkaline by a little caustic soda.—*Paris Photo.*

Photographic Reproduction of Chalk Drawings.

The observation made in this column, says *The Graphic*, with regard to the closeness with which chalk drawings could be copied in photography, received ample illustration in a case that I only heard of the other day. It seems a drawing made by a notable artist was obtained, and carefully copied on exactly the right kind of paper by means of photography. The imitation was said to be so complete as to almost deceive the artist himself. A good many copies of the print were then obtained; they were all carefully mounted in imitation of the original drawing, and these were all pledged at pawnbrokers in different parts of London for various sums. The majority of them were sold, and the affair was only found out by the artist discovering it in the house of a friend, and pronouncing it to be a photograph.—*Scientific American.*

Brown Ferro-Prussiate Prints.

Ferro-prussiate blue prints can be easily transformed to brown by the following process: The blue print, well washed and dried, is plunged in dilute ammonia for two to four minutes, until it is almost colorless; then rinse and immerse it in a bath of tannic acid, where it is left until it is clear and toned. This operation requires about twelve hours. If, at the end of this time, the color is not sufficiently deep, add to the bath several drops of ammonia, and let the print remain in it a minute or two longer, then rinse it in plenty of water. The prints thus obtained are very pretty, and resemble in color sepia drawings. Here are the formulæ for the different baths employed:

Sensitizing Solution.

Tartrate of iron and potash....	15 grams.
Red prussiate of potash.....	12 grams.
Rain water.....	250 grams.

Solution to Fade the Print.

Ammonia.....	100 grams.
Rain water.....	900 grams.

Solution to give the Brown Tint.

Tannic acid.....	10 grams.
Rain water.....	500 grams.

—*American Journal of Photography.*

Professional Models.

The *Photographic News* proposes to induce a number of people, both male and female, big and little, to form an association of models, and after sufficient training to frequent the picturesque and other localities to which photographers are mostly attracted. On a stick, over his shoulder, the male would carry a bundle, and the female a basket on her arm, each containing a number of inexpensive but suitable costumes, and, to prevent misunderstanding, a scale of fees.—*Scientific American.*

Exhibition of Photography.

The Executive Council of the Imperial Institute have announced that a special exhibition of photography in its applications to the arts, sciences, and industries will be held at the Imperial Institute, in connection with the United Kingdom section, during the summer season of 1895. An influential committee of advice has been formed, composed of governors of the Imperial Institute and scientific men of well-known standing who are interested in photography; and sub-committees have been appointed in connection with the seven sections of the exhibition, viz.:

Division 1.—The history of photography, including illustrations of early processes, the progressive development of processes, the early processes of photo-mechanical work, and modern photographic literature.

Division 2.—Artistic photography, comprising a thoroughly representative exhibition of all schools, embracing known as well as new works, and illustrations of the present condition of photographic art in the various colonies and in India.

Division 3.—Photography as an industry, demonstrating the apparatus used in photography and the special processes connected with the preparation of lenses, the production of brass fittings, cameras, etc., shown in actual operation; the preparation of dry plates, coating of sensitive media, printing processes, also shown in actual operation; reproduction of pictures, and the production of portraits by daylight and artificial light.

Division 4.—Photography in its applications to industries, such as reproductions having photography as their basis, as applied to illustrated journalism, litera-

ture, etc., and industrial applications of photography to ornamentation.

Division 5.—Applications of photography to the sciences, including orthochromatics, optics, stereoscopy, photomicrography, spectroscopy, meteorology, and magnetism, astronomy, automatic recording apparatus, etc.

Division 6.—Applications of photography to educational purposes.

Division 7.—Miscellaneous applications of photography, including applications of photography to architecture and archaeology, to engineering, to military and naval purposes, to legal purposes (such as the detection of forgeries), to surveying, cartography, chronography, etc.

Notification of the exhibition will shortly be transmitted to the principal firms engaged in the manufacture of apparatus connected with photography in the United Kingdom. The Governor-General of India, the Governor-General of the Dominion of Canada, and the governors of the various colonies have, by a recent mail, been requested to invite Indian and colonial manufacturers to exhibit.—*British and Colonial Druggist.*

Pharmaceutical Analysis.

SOME SPECIAL TESTS FOR DRUGS AND CHEMICALS.

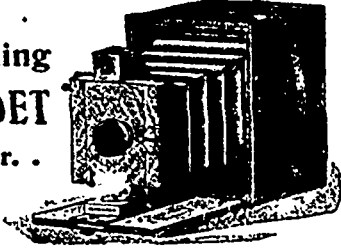
It is highly essential for every pharmacist to know how to test the articles he deals in as to their purity and freedom from adulterants. It is, further, important that he should not only have the knowledge, but also put it into actual and regular practice. The public now look to the skill and training of the educated chemist for protection from fraud, and expect to find the drugs they purchase from him pure and good. The medical practitioner also entrusts him with the preparation of the means by which he has to combat disease—a position of no slight responsibility. The duty, therefore, lies with every pharmacist to satisfy himself that the drugs and chemicals he uses are free from impurity, and justify the trust reposed in him. The processes included in the following tests have been rendered as simple as possible, so that they may be conducted at any dispensing counter.

ACETUM.—For excess of sulphuric acid, add one grain of chloride of barium to one fluid ounce of vinegar, and filter. The filtrate should not give any further precipitate with chloride of barium. If copper, iron, or lead are present, a black coloration will be found if the vinegar be first neutralized with ammonia, and sulphhydrate of ammonium then added. Good malt vinegar should dissolve exactly 18 grains of carbonate of magnesium, and no more.

ARSENIC.—To test for the presence of antimony, add dilute hydrochloric acid and pass H_2S through the solution. If present, an orange precipitate will be thrown out. Heavy mineral bodies, such as baryta or lead, may be detected by

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{ Size of Picture 4 x 5 1/2 }

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- Dr. Wilson's Dead Shot Worm Stick
- Nurse Wilson's Soothing Syrup
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igniting a portion in a capsule. Arsenious acid, being volatile, leaves the impurities behind.

ALUM.—Alum is sometimes contaminated with iron. To determine this, add excess of caustic potash to a boiling solution. If a reddish-brown precipitate is formed, iron is present. As a confirmatory test, add to a solution a little nitric acid, and boil until the excess of acid is driven off. To a portion of the liquid add sulphocyanide of potassium, and to another portion ferrocyanide of potassium. The former will turn red in color, and in the latter a blue precipitate will be found if iron be present. Commercial sulphate of alum may be tested for sulphate of potash by adding carbonate of ammonia in excess, filtering, concentrating the filtrate, evaporating to dryness, and heating to redness in a platinum crucible. If alkali be present in the sample, a residue will be left in the crucible.

AMMONIACUM.—Gum ammoniacum turns a blood-red color on the addition of hypochlorite of lime or soda, and may thus be distinguished from any other resin or gum resin.

CITRIC ACID.—Add lime water to a cold dilute solution, sufficient to render it slightly alkaline. If a white precipitate at once falls, oxalic acid is present. The presence of tartaric acid may be proved by adding a solution of sulphate of potash. If present, a white crystalline precipitate will be formed.

CHLORATE OF POTASH.—To a solution add nitrate of silver. A white precipitate will be thrown down if any alkaline chloride be present.

CARBONATE OF MAGNESIA.—Should be entirely soluble in hydrochloric acid. Shake up a small quantity with water, filter, and concentrate the filtrate. Add a few drops of hydrochloric acid and chloride of barium solution. If a white precipitate is formed, alkaline sulphates are present.

CARMINE.—Shake up for some time a weighed quantity with ammonia, wash the precipitate, and dry over a water bath. The impurities will remain.

CREAM OF TARTAR.—Cream of tartar is sometimes contaminated with lime. To test for this, dissolve a small quantity in dilute hydrochloric acid; if effervescence is caused, add ammonia till the solution becomes slightly alkaline; next add oxalate of ammonia, allow to stand for eight hours, filter, wash the precipitate (if any), and dry, then ignite, and when cool weigh the residue as lime. A ready test is to dissolve 84 grains of bicarbonate of soda in 2 ounces of water, and add 204 grains of the cream of tartar; the mixture, after heating, should be neutral to litmus paper. If the sample is of superior quality, the mixture will be acid. For adulteration with barium, dissolve 20 grains of cream of tartar in 1 ounce of distilled water, with heat; if any remains undissolved, or a precipitate is thrown

down on adding a little sulphuric acid, the presence of barium is indicated.

CHLOROFORM.—Chloroform should have a specific gravity of 1.49. It should not bleach nor redden litmus paper. On the addition of nitrate of silver, it should not become turbid or give a white precipitate. Solution of caustic potash should not turn it brown on heating, and it should mix with ether or alcohol. It should not be colored after shaking up with sulphuric acid, and should leave no residue or unpleasant odor after evaporation.

ETHER.—The specific gravity of ether should not exceed 0.720. It should be neutral to litmus paper. If it forms an opaque emulsion on shaking up with oil of copaiba, it indicates the presence of water and alcohol. Pure ether should remain clear.

GUMS.—Acacia and senegal, with solution of sulphate of iron, give a yellow precipitate. Dextrine gives no precipitate. The former gums gave, with subacetate of lead, a white curdy mass, and with tincture of guaiacum a blue color. Tragacanth does not change color on the addition of tincture of guaiacum, and forms a transparent jelly with subacetate of lead.

GLYCERINE should have a specific gravity about 1.25, should be quite neutral to litmus paper, and its solution should not be affected by nitrate of silver, oxalate of ammonia, or chloride of barium. On the addition of sulphhydrate of ammonium, if a black or brown color be formed, the presence of lead, copper, or iron is indicated. Shaken with an equal volume of sulphuric acid, it should be unaffected, or only a very pale straw coloration result, which proves the absence of sugar or dextrine. On heating a small quantity in a platinum dish till the glycerine is driven off, a charred residue will remain if sugar be present, but only a black stain if the glycerine be pure, which burns away without leaving ash when heated to redness.

GUAIACUM.—Perchloride of mercury solution poured on guaiacum wood and slightly warmed should produce a bluish green color. Guaiacum resin turns greenish blue on the addition of chloride of lime or chloride of soda, and a solution in rectified spirit strikes a clear blue when applied to the inner surface of a raw potato.

HOPS.—Exhaust a weighed quantity of hops by repeated macerations with alcohol; wash the residue with alcohol, and finally carefully dry at a low temperature, and weigh. The loss should not be less than from 9 to 12 per cent.; if less, they are deficient in lupulin. To detect if hops have been sulphured, introduce a portion of the sample into a hydrogen apparatus, and pass the gas into a solution of nitro-prusside of sodium. If sulphur is present a purple color will be formed, which, however, quickly fades away.

HYDROCYANIC ACID.—(Dufa's test).—To determine the amount of actual hydro-

cyanic acid in a sample, mix some nitrate of silver with a little ammonia, so that the clear liquid may be slightly acid, then pour it into a weighed portion of the sample of hydrocyanic acid as long as any precipitate is found. Collect the precipitate of cyanide of silver on a small filter, previously dried and weighed at 212° F., and wash the precipitate and filter, and dry again at 212° F., and weigh. 135.9 parts of cyanide of silver represent 27 parts of anhydrous hydrocyanic acid.

HONEY.—Honey is often adulterated with glucose and artificial flavorings. Mix the sample with an equal quantity of water, and add strong spirit, stirring constantly till a permanent turbidity is produced. In honey adulterated with glucose, syrup, or dextrine, a heavy gummy deposit will soon form; with genuine honey but a slight milkiness is produced. Starch and flour are readily detected, as they remain insoluble when the sample is dissolved in cold water or spirit.

IODIDE OF POTASSIUM. The chief impurities found in commercial iodide of potassium are iodate, carbonate, and sulphate of potash, chloride of potassium and sodium, sulphide of potassium, and organic matter containing sulphur. Iodate of potash may be detected by adding a small quantity of tartaric or hydrochloric acid, when a deposit of iodine takes place. For determining the presence of carbonate and sulphate of potash, and the alkaline chloride, if in large amount, shake up well with pure alcohol, and these salts will be left undissolved. The chloride may be estimated by precipitating the solution of the sample with excess of nitrate of silver, and adding ammonia to excess. The iodide of silver remains insoluble, while the chloride is dissolved, and can again be precipitated from the filtered liquid by the addition of an excess of nitric acid. Sulphur impurities may be detected by adding to the solution a little sulphuric acid and a small quantity of granulated zinc. Allow the gas evolved to pass over some moist carbonate of lead, which will be blackened if sulphuretted impurities are present.

LARD.—Pure lard should be quite free from taste and smell, and form a perfectly clear liquid when melted by immersing a tube containing it in hot water. If either lime, carbonate of soda, or water has been added, the melted fat will be more or less opaque. By keeping the sample in a molten condition, the water gradually settles out.

MYRRH.—Genuine myrrh, on the addition of nitric acid, forms a transparent, dirty-yellow liquid. *Bdellium indicum* will not dissolve in nitric acid, but becomes soft, and turns whitish and opaque. Filter paper moistened with an alcoholic tincture of myrrh, and then touched with nitric acid, turns a blood-red color, while a strip of paper soaked in a tincture made from *Bdellium* or *myrrha indica*, and treated in the same manner, remains yellow or brown. On igniting, good myrrh should not leave more than from 3.5 to 3.8 per cent. of ash.

MENTHOL.—Is occasionally adulterated when moulded into cones, with wax or paraffin, in order to make it hard. To detect this, slowly evaporate a portion of the suspected cone at a low water bath temperature. If either adulterant be present, a fusible residue will be left, which has very little smell.

MUSK.—Genuine musk grains should dissolve in boiling water, not leaving more than 25 per cent. of residue. On incineration it should not leave more than 6 per cent. of ash. It should be soluble in ether, and should be precipitated from a hot solution by acids and acetate of lead, but not by chloride of mercury.

NITRATE OF POTASSIUM.—For the detection of nitrite in nitrate of potash, to a solution of the salt add one or two drops of yellow prussiate of potash, not sufficient to communicate a perceptible yellow tint. A few drops of acetic acid should then be added, and almost immediately, according to the quantity of nitrite present, the liquid will turn a bright golden color. When testing for minute quantities it is best to use two similar flasks, one containing pure water and the other the solution of salt to be examined, and add the reagent to each in exactly the same quantity, placing a sheet of white paper behind each vessel. This may also be used as a test for nitrates by boiling the sample for a short time with clean shavings of lead, and proceeding as above, the absence of nitrites in the substance having been first determined. Lead reduces even the nitrate of potash to nitrite. —(Schaeffer's test.)

NITRATE OF SILVER.—Make a solution in water and add hydrochloric acid, filter, and treat the precipitate with excess of ammonia. If it does not entirely dissolve the ammonia, chloride of lead is indicated. Treat the filtrate with H_2S ; a brown or black precipitate proves copper or lead present. Filter the liquid, evaporate to dryness, and ignite. A white saline residue indicates the presence of nitrate of potash.

OLIVE OIL.—Its specific gravity should be between .913 and .918 at 60°. For the detection of cotton-seed oil, make a 1 per cent. test solution of nitrate of silver in absolute alcohol. Place 5 c.c. of the suspected oil in a glass flask, add to it 25 c.c. of absolute alcohol and 5 c.c. of the test solution. The flask is then heated in a water bath at 84° C. If there be any cotton-seed oil present the mixture will begin to darken, the most minute quantity serving to discolor, and the tint assumed will depend on the amount of cotton-seed oil present. —(Bechi's test.)

CASTOR OIL.—Should be entirely soluble in one volume of absolute alcohol and in two volumes of rectified spirit. (B.P. tests.) For adulteration with rosin oil, add a few drops of stannic bromide in carbon bisulphide to the suspected sample of oil in the same solvent. If a red or violet color is developed, rosin oil is present in proportion to the rapidity and color produced. As low as 3 or 4 per cent. of

rosin oil may thus be detected. —(Renard's test.)

OXALIC ACID.—Organic impurities may be detected by heating a small quantity with sulphuric acid; if pure it will not turn brown or bluish. Pure oxalic acid should leave no residue after heating to redness in a platinum crucible.

PHOSPHORIC ACID.—A white precipitate on the addition of chloride of mercury indicates the presence of phosphorous acid. Arsenic may be detected by passing a current of H_2S through it; and sulphuric and nitric acids by applying the usual tests. Sulphocyanide of potassium gives a red coloration if iron be present.

SOFT PARAFFIN (Vaseline).—Good soft paraffin should be completely volatile when heated on fire, and should not give off any smell of burning fat. When agitated with twice its volume of strong spirit, it should remain practically undissolved. The spirit on testing afterwards should be neither acid nor alkaline.

PODOPHYLLIN.—According to Podwysotzki, the active constituent of podophyllin is podophyllotoxin, which is present in commercial samples of podophyllin to the extent of from 20 to 30 per cent. This may be estimated by treating about a grain of resin with chloroform in the cold as long as anything is dissolved; the greater part of the chloroform is then driven off by heat, and the remainder of the chloroformic solution is poured into 20 times its volume of light petroleum spirit. The podophyllotoxin separates out, and can be removed, dried, and weighed.

POTASSIUM BROMIDE.—In solution, on being mixed with chlorine (chlorinated lime and HCl will do), then agitated with chloroform, the latter, on falling to the bottom, exhibits a red coloration. A further portion of the solution mixed with mucilage of starch and a drop of an aqueous solution of bromine or chlorine should not give a blue color. The addition of diluted sulphuric acid should not immediately cause a yellow coloration, which indicates the absence of bromate.

QUININE.—Should be entirely soluble in water acidulated with sulphuric acid. It dissolves in pure sulphuric acid with a feeble yellowish tint, and undergoes no further change of color when gently warmed. Twenty-five grains of the freshly-prepared salt should lose 3.8 grains of water by drying at 212° F. Ignited, with free access of air, it should leave no residue.

RHUBARB.—An old test for the quality of rhubarb root is to place two or three drops of oil of aniseed or fennel on a piece of the root and rub on it for a few minutes a little magnesia. If the root be of inferior quality, the spot rubbed will gradually turn salmon color or pink; while if genuine and of good quality, it will remain the usual yellow color.

SALICIN.—For contamination with lead, dissolve a small quantity in water, and add a few drops of sulphhydrate of

ammonium; if a dark coloration or black precipitate be produced, the presence of lead is indicated. Ten grains of salicin, shaken up with two ounces of ether, and filtered, allowed to evaporate, should leave no residue. On igniting, no ash should be left.

SULPHATE OF IRON.—Test for copper: Boil a small quantity in water with nitric acid, and add ammonia to excess. If copper is present, the liquid will be tinted blue after the precipitate has settled. Alumina is also a frequent impurity. To determine this, add to a solution which has been treated in a like manner with nitric acid an excess of caustic potash, boil and filter; then add ammonium chloride; if alumina be present, a white precipitate will be thrown down on standing.

SULPHATE OF MAGNESIA.—To a solution of the salt add baryta water, then excess of ammonia carbonate. Filter, evaporate the filtrate to dryness and ignite. If sulphate of soda be present, carbonate of soda will remain. If contaminated with iron, sulphhydrate of ammonia will give a black precipitate. To test for copper add excess of ammonia, and the liquid will assume a blue color if copper be present.

Of every 10,000 deaths in England, 270 are from apoplexy.

In 1857 the Russian hospitals had 62,000 typhus patients.

Our Latest Importations.

ALUM, in bbls.

ALUM POWDERED, in bbls.

FINEST EPSOM SALTS, in bbls.

FINEST SUBLIMED SULPHUR, in bbls.

ROLL SULPHUR, in bbls.

CHLORIDE LIME, in casks.

SALTPETRE CRYSTALS, in kegs.

SALTPETRE POWDERED, in casks.

POWDERED HELLEBORE, in bbls.

GLYCERINE, in tins.

WHITE CASTILE SOAP, bars.

WHITE CASTILE SOAP, cakes.

PARIS GREEN, in casks and drums.

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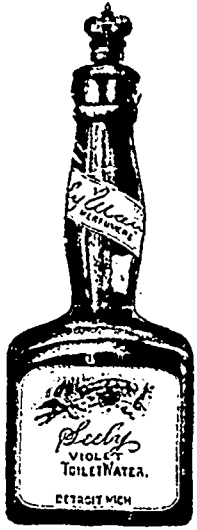
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THESE NEW PRODUCTS OF OUR LABORATORY ARE
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SEELY MANUFACTURING COMPANY

DETROIT, MICH.

ESTABLISHED IN 1862.

WINDSOR, ONT.

CANADIAN DRUGGIST PRICES CURRENT

Corrected to January 10th, 1895.

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 05	\$4 25
Methyl.....	1 90	2 00
ALLSPICE, lb.....	13	15
Powdered, lb.....	15	17
ALON, oz.....	40	45
ANODYNE, Hoffman's bot., lbs...	50	55
ARROWROOT, Bermuda, lb.....	45	50
St. Vincent, lb.....	15	18
BALSAM, Fir, lb.....	40	45
Copaiha, lb.....	65	75
Peru, lb.....	2 50	2 75
Tolu, can or less, lb.....	65	75
BARK, Barbary, 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.....	20	21
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.....	\$ 00	10 00
BERRIES, Cubeb, sifted, lb.....	50	55
powdered, lb.....	55	60
Juniper, lb.....	7	10
Ground, lb.....	12	14
Prickly ash, lb.....	40	45
BUNS, Balm of Gilead, lb.....	55	60
Cassia, lb.....	25	30
BUTTER, Cacao, lb.....	75	80
CAMPHOR, lb.....	65	68
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
CASOR, 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.....	25	30
Powdered, lb.....	30	35
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
DENTRINE, 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
Chamomile, Roman, lb.....	30	35
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.....	75	80
Spanish, Val'a, oz.....	1 00	1 25
GELATINE, Cooper's, lb.....	75	80
French, white, lb.....	35	40
GLYCERINE, lb.....	14	16
GUARANA.....	3 00	3 25
Powdered, lb.....	3 25	3 50
GUM ALOES, Cape, lb.....	18	20
Barbadoes, lb.....	30	50
Socotrine, lb.....	65	70
Asafoetida, lb.....	40	45
Arabic, 1st, lb.....	65	70
Powdered, lb.....	75	85
Sifted sorts, lb.....	40	45
Sorts, lb.....	25	30
Benzoin, lb.....	50	1 00
Catechu, Black, lb.....	9	20
Camboe, powdered, lb.....	1 20	1 25
Guaiac, lb.....	50	1 00
Powdered, lb.....	70	75
Kino, true, lb.....	1 25	

Myrrh, lb.....	\$ 45	\$ 48
Powdered, lb.....	55	60
Opium, lb.....	4 25	4 50
Powdered, lb.....	6 00	6 50
Scammony, pure Resin, lb.....	12 80	13 00
Shellac, lb.....	45	48
Bleached, lb.....	45	50
Spruce, true, lb.....	30	35
Tragacanth, flake, 1st, lb.....	75	80
Powdered, lb.....	1 10	1 15
Sorts, lb.....	45	75
Thus, lb.....	8	10
HERB, Althea, lb.....	27	30
Bitterwort, lb.....	27	30
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
Hoarhound, ozs, lb.....	17	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	25
Rue, ozs, lb.....	30	35
Sage, ozs, lb.....	18	20
Spear-mint, 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.....	25	28
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.....	20	22
Coca, lb.....	35	40
Digitalis, lb.....	15	20
Eucalyptus, lb.....	18	20
Hyoseyamus.....	20	25
Matico, lb.....	70	75

Table listing various medicinal substances and chemicals with their prices in dollars and cents. The list includes items like Senna, Queen of the Meadow, Valerianate, and various acids and salts.

Business Notices.

As the design of the CANADIAN DRUGGIST is to benefit mutually all interested in the business, we would request all parties ordering goods or making purchases of any description from houses advertising with us to mention in their letter that such advertisement was noticed in the CANADIAN DRUGGIST.

The attention of Druggists and others who may be interested in the articles advertised in this journal is called to the special consideration of the Business Notices.

Read the list of text-books advertised by P. Blakiston, Sons & Co., of Philadelphia, in this issue.

We call attention to the advertisement of E. J. Hussey & Co. in this issue of the new ladies' syringe for which Lyman, Knox & Co., Montreal and Toronto, are agents for Canada.

Mr. G. Elmendorf, of Elmira, N.Y., when in Toronto a short time ago, appointed the Canadian Specialty Co. Dominion agents for his Tar Gum, which has already made a good reputation for itself in the States, and, in fact, they have been working day and night to supply the demand. The Tar Gum is put up in attractive five-cent packages, containing five pieces each, and twenty packages in a paper box, with advertising matter. See advertisement.

A very handsomely gotten up catalogue giving a list of the non-secret preparations manufactured by the house of Frederick Stearns & Co. has just been received by us. It is a copy of their very recent issue, and when our readers send for one, as we would advise them to do, ask for "Catalogue '94." Before turning to the inside pages one is attracted by the artistic design of the outside cover, which is lithographed in blue and white, and bears a fine cut of their extensive laboratory in Detroit. The first thing that catches the eye on the inside is their introductory page. Here Messrs. Stearns & Co. briefly but clearly express their views on the non-secret question, which idea they introduced in 1876 to meet a demand that existed, and always will exist. They claim for their non-secret preparations a distinct and unique position, that of household remedies of open composition, carefully and accurately compounded from the best materials, sold on their own merits, and not intended to replace or substitute any remedies made by others for similar purposes. The arrangement adopted throughout the catalogue itself is a model one, and exceedingly convenient for reference. Each preparation is to be found under its proper heading, and in regular order are given a list of the diseases or ailments for which it is intended to be used, its formula in full, the dosage, and a description of each package, including the size, style of wrapper, etc. The price to the druggist, as well as the retail price, with the percentage of profit to be made on the sale of each article, follows, the whole concluding with a few explanatory notes, giving further particulars regarding the preparation. As the description of almost every preparation is accompanied by an illustrative cut, showing the style of the finished package, the druggist is enabled

to get an extremely clear idea of each remedy listed.

A Great Canadian Wine Firm.

Canada has made great strides in wine-making since 1866. At that date little thought was given to the manufacture of wines in Canada. Its climate was considered too cold and unfit for vine-growing. In that year a company of gentlemen from Kentucky, who had been engaged in vine-growing in that state, feeling sore over the results of the war, learned of the mild and salubrious climate of Pelee island, in Canadian territory, only six miles north of Kelly's island, then considered the home of the Catawba grape, removed to that island and established the first grape vineyard in Canada. Five years afterward Captain J. S. Hamilton, of Brantford, took an interest in the company, and through his tact and push, combined with the high class of wines manufactured, made Pelee island wines a household name throughout the Dominion of Canada. They are to be found on the wine list of every first-class hotel from Halifax in the east to Vancouver in the west. In 1889 the Pelee Island Wine and Vineyards Co., Limited, was established, and Captain Hamilton was elected president. He still holds that position, practically controlling the stock, and the company's brands of dry and sweet Catawba, St. Augustine, Isabella, and claret, are creditable alike to the company and Canada. The company's special claret, now on the market, is a wine of 1891 vintage, known as "Chateau Pelee Medoc," has a large sale in Canada, and can be obtained from leading wine merchants everywhere in Ontario at \$3.75 a case. In the lower provinces, where E. G. Scovil, of St. John, N.B., has the agency, \$1 a case is added, to pay freight charges. In 1891 a brandy distillery was established on the island, and is now being put on the market under the brand "J. S. Hamilton & Co., Cognac." The purity and high quality of the brandy already commands an extensive sale, and connoisseurs state that few French brandies equal it in quality.—Toronto *Empire*.

Books and Magazines.

Frank Leslie's Popular Monthly for January, just out, is really a holiday number, with regard both to the character of its reading matter and its richness in illustration. The leading article, "St. Andrews and Andrew Lang," by Mrs. Leicester Addis, is a charming account of the university career and literary life of this versatile author, also of the quaint little Scotch city of his *alma mater*, where the now faddish game of golf has been played on its native links ever since the middle ages. "Chiming Bells," a full-page engraving of Boutigny's picture of the death of Marshal Lannes at the battle of Essling, furnishes the motive for some interesting historical pages about Napoleon and Alexander I. of Russia.

Girls who like to read about marriage—and what girl does not?—should buy a

copy of the January *Ladies' Home Journal* and read the excellent marriage article which Mrs. Burton Harrison has written under the title of "Heigh Ho! for a Husband." Edward Bellamy sketches, in his own way, what he believes a "Christmas in the Year 2000" will be like. Other articles there are—some twenty odd of them—all good and wise, making this issue of the *Journal* one of the most evenly interesting which the editors have made. No magazine is certainly better worth its price of ten cents. The Curtis Publishing Company, of Philadelphia, issue it.

The relation which price bears to quality in literature is made obscure by the Christmas *Cosmopolitan*. Stories by Rudyard Kipling, Wm. Dean Howells, Mrs. Spencer Frask, Mrs. Burton Harrison, and Albion W. Tourgee, are interspersed with poetry by Sir Edwin Arnold, Edmund Clarence Steadman, and James Whitcomb Riley, while through the number are scattered illustrations by such famous artists as Remington, Toche, Reinhart, Turner, Van Schaick, Gibson, and Stevens. A series of portraits of beautiful women of society illustrate an article on "The Relations of Photography to Art"; a travel article by Napoleon Ney, grandson of the famous Field Marshal; one of the series of "Great Passions of History," to which Froude and Gosse have already contributed, and half a dozen others equally interesting, go to make up the attractions of the number. The *Cosmopolitan* people say: "We might charge you more for this number, but, in all frankness, could we give you better material, better illustrated, if we charged you a dollar a copy?"

It has been generally understood for some time past that some change was being made in the control of the *Empire*, and in a recent issue announcement was made that a syndicate of wealthy and influential men had secured a controlling interest, with the intention of taking an active part in its publication and management. The syndicate is composed of:—W. R. Brock, Esq., of W. R. Brock & Co., Pres. Canada General Electric Co.; Hon. Senator Sanford, Pres. Sanford Manufacturing Co.; Hon. Sir Frank Smith, Vice-Pres. Dominion Bank; Thos. Long, Esq., Pres. Great Northern Transit Co.; Col. John I. Davidson, of Davidson & Hay, Vice-Pres. Bank of Commerce; Waring Kennedy, Esq., of Samson, Kennedy & Co., Mayor of Toronto; H. Cargill, M.P., of Cargill; A. F. Gault, of Gault Bros., Montreal, Pres. Dominion Cotton Mills Co.; D. Morrice, of D. Morrice, Sons & Co., Montreal; R. A. Lucas, of Lucas, Steele & Bristol, Hamilton; Frank J. Phillips, Pres. Cobban Manufacturing Co. and Consolidated Plate Glass Co.; James Murray, Esq., St. Catharines; Frank Turner, C.E., Toronto; H. J. Scott, Q.C., Toronto; D. Creighton, Publisher, Toronto. This is undoubtedly the strongest syndicate ever formed in connection with a paper in Canada.

Iodide, Proto, oz.....	\$ 35	\$ 40	Iodide, oz.....	\$ 40	\$ 43	Geranium, oz.....	\$ 1 75	\$ 1 80
Bim., oz.....	25	30	Salicylate, lb.....	1 75	1 80	Rose, lb.....	3 20	3 50
Oxide, Red, lb.....	1 15	1 20	Sulphate, lb.....	2	5	Juniper berries (English), lb...	4 50	5 00
Pill (Blue Mass), lb.....	70	75	Sulphite, lb.....	8	10	Wood, lb.....	70	75
MILK SUGAR, powdered, lb.....	30	35	SOMNOL, oz.....	85	00	Lavender, Chiris, Fleur, lb....	3 00	3 50
MORPHINE, Acetate, oz.....	2 00	2 10	SPIRIT NITRE, lb.....	35	65	Garden, lb.....	1 50	1 75
Muriate, oz.....	2 00	2 10	FRONTIUM, Nitrate, lb.....	18	20	Lemon, lb.....	2 00	2 10
Sulphate, oz.....	2 00	2 10	STRYCHNINE, crystals, oz.....	1 00	1 10	Lemongrass, lb.....	1 50	1 60
PEPSIN, Saccharated, oz.....	35	40	SULFONAL, oz.....	34	35	Mustard, Essential, oz.....	60	65
PIRENACETIN, oz.....	35	38	SULPHUR, Flowers of, lb.....	2 1/2	4	Neroli, oz.....	4 25	4 50
PILOCARPINE, Muriate, grain....	20	22	Pure precipitated, lb.....	13	20	Orange, lb.....	2 75	3 00
PIPERIN, oz.....	1 00	1 10	TARTAR EMETIC, lb.....	50	55	Sweet, lb.....	2 75	3 00
PHOSPHORUS, lb.....	90	1 10	THYMOL (Thymic acid), oz.....	55	60	Origanum, lb.....	65	70
POTASSA, Caustic, white, lb.....	55	60	VERATRINE, oz.....	2 00	2 10	Patchouli, oz.....	80	85
POTASSIUM, Acetate, lb.....	35	40	ZINC, Acetate, lb.....	70	75	Pennyroyal, lb.....	2 50	2 75
Bicarbonate, lb.....	15	17	Carbonate lb.....	25	30	Peppermint, lb.....	4 25	4 50
Bichromate, lb.....	14	15	Chloride, granular, oz.....	13	15	Pimento, lb.....	2 60	2 75
Bitar (Cream Tart.), lb.....	22	25	Iodide, oz.....	60	65	Rhodium, oz.....	80	85
Bromide, lb.....	55	60	Oxide, lb.....	13	60	Rose, oz.....	7 50	11 00
Carbonate, lb.....	12	13	Sulphate, lb.....	9	11	Rosemary, lb.....	70	75
Chlorate, Eng., lb.....	18	20	Valerianate, oz.....	25	30	Rue, oz.....	25	30
Powdered, lb.....	20	22	ESSENTIAL OILS.			Sandalwood, lb.....	5 50	7 50
Citrate, lb.....	70	75	Oil, Almond, bitter, oz.....	75	80	Sassafras, lb.....	75	80
Cyanide, lb.....	40	50	Sweet, lb.....	50	60	Savin, lb.....	1 60	1 75
Hypophosphites, oz.....	10	12	Amber, crude, lb.....	40	45	Spearmint, lb.....	3 75	4 00
Iodide, lb.....	4 00	4 10	Rec't, lb.....	60	65	Spruce, lb.....	65	70
Nitrate, gran, lb.....	8	10	Anise, lb.....	3 00	3 25	Tansy, lb.....	4 25	4 50
Permanganate, lb.....	40	45	Bay, oz.....	50	60	Thyme, white, lb.....	1 80	1 90
Prussiate, Red, lb.....	50	55	Bergamot, lb.....	3 75	4 00	Wintergreen, lb.....	2 75	3 00
Yellow, lb.....	32	35	Cade, lb.....	90	1 00	Wormseed, lb.....	3 50	3 75
And Sod. Tartrate, lb.....	25	30	Cajuput, lb.....	1 60	1 70	Wormwood, lb.....	4 25	4 50
Sulphuret, lb.....	25	30	Capsicum, oz.....	60	65	FINED OILS.		
PROPYLAMINE, oz.....	35	40	Caraway, lb.....	2 75	3 00	CASTOR, lb.....	9	11
QUININE, Sulph, bulk.....	30	32	Cassia, lb.....	1 75	1 80	COD LIVER, N.F., gal.....	1 15	1 25
Ozs., oz.....	35	38	Cedar.....	55	85	Norwegian, gal.....	1 50	1 60
QUINIDINE, Sulphate, ozs., oz...	16	20	Cinnamon, Ceylon, oz.....	2 75	3 00	COTTONSEED, gal.....	1 10	1 20
SALICIN, lb.....	3 75	4 00	Citronelle, lb.....	80	85	LARD, gal.....	90	1 00
SANTONIN, oz.....	20	22	Clove, lb.....	1 00	1 10	LINSEED, boiled, gal.....	60	63
SILVER, Nitrate, cryst, oz.....	90	1 00	Copaiba, lb.....	1 75	2 00	Raw, gal.....	58	61
Fused, oz.....	1 00	1 10	Croton, lb.....	1 50	1 75	NEATSFOOT, gal.....	1 00	1 10
SODIUM, Acetate, lb.....	2 75	3 00	Cubeb, lb.....	3 00	3 25	OLIVE, gal.....	1 30	1 35
Bicarbonate, kgs., lb.....	2 75	3 00	Cumin, lb.....	5 50	6 00	Salad, gal.....	2 25	2 40
Bromide, lb.....	63	65	Erigeron, oz.....	20	25	PALM, lb.....	12	13
Carbonate, lb.....	3	6	Eucalyptus, lb.....	1 50	1 75	SPEKM, gal.....	1 75	1 80
Hypophosphite, oz.....	10	12	Fennel, lb.....	1 60	1 75	TURPENTINE, gal.....	60	65
Hyposulphite, lb.....	3	6						

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Drug Reports.

Canada.

The report of trade during holiday times from retail druggists has been very good, many doing much better than expected. The demand for expensive goods has been light, but perfumery and general sundries have sold well. In these hard times people get intensely practical in Christmas gifts, as one druggist reports sales of patent medicines for that purpose.

There are no important changes in prices to note, gum arabics tending higher. Sulfonal has advanced; no particulars of it yet.

Caffeine still high on account of scarcity.

Tartaric acid easier.

Norway cod-liver oil has again advanced.

The new duty will advance price of salad oils.

Opium continues firm. The demand

is small and stocks reported very large, but the reports of a proposed combination keep the price up.

Linseed Oil.

The situation in linseed oil seems a little stronger. Some of the American crushers who, a couple of weeks ago, were anxious to sell in one or two carload lots at 53 to 54c. have declined bids at those figures for much larger quantities during the past few days. It is claimed that the only reason oil does not advance as a result of the strong statistical position is that the import prices at present will not admit of it. On the other hand, English crushers, having disposed of their surplus stock of seed, have no oil to spare for this market, and, if they had, American consumers would not give it the preference, even at 1 to 2c. below the cost of the domestic product, because of its generally inferior quality and the unsatisfactory methods of packing followed by the English crushers.—*Journal of Commerce.*

A New Surgical Dressing.

Kikusi, a surgeon of Tokio, Japan, has called attention to a novel and what promises to be a very important article of surgical dressing. It is a form of charcoal derived from burning straw in a smouldering fire, or so arranged that the supply of air is insufficient for complete combustion. The little stalks of charcoal thus prepared are said to be highly hygroscopic, and to make a wonderfully cheap and efficient dressing for wounds. It may be applied directly, or enclosed in little linen or cotton bags.—*National Druggist.*

Japanese camphor can now be had in compressed cakes of two-ounce weight.

Quinine and uranium chloride is a yellow, crystalline powder, soluble in water.

Caffeine oxalate is a true salt, occurring as a white crystalline powder, soluble in water and alcohol.