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Fraser Jas. D. B. & Son

ESTABLISHED 1890.

A Monthly Journal of Chemistry, Pharmacy and Materia Medica.

OFFICE OF PUBLICATION 171 ST. JAMES STREET, MONTREAL, CANADA.

Vol. V—No. 3.

JUNE, 1894.

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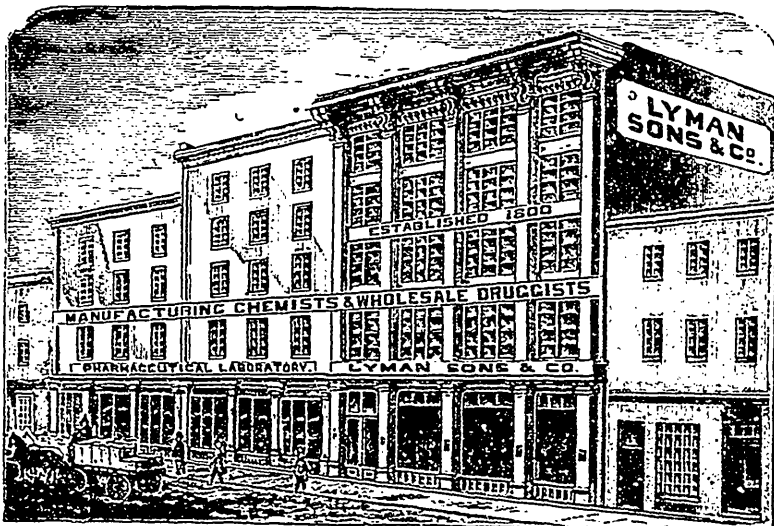
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# Rubifoam

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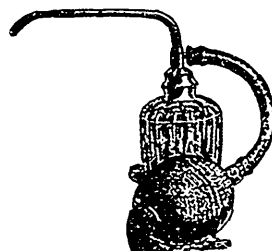
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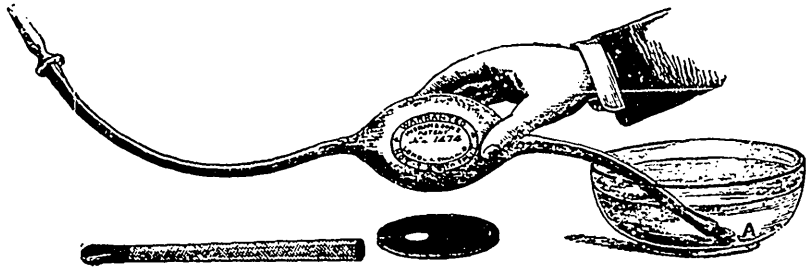
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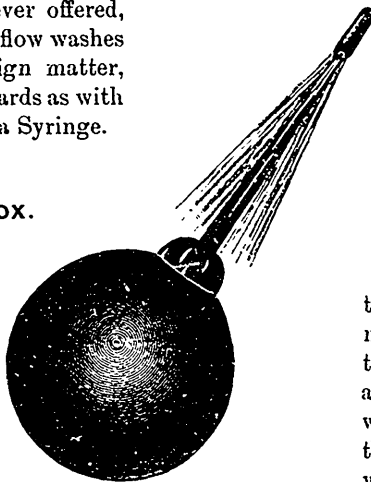
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"Undoubtedly a Syringe of exceptional utility."

J. F. TAYLOR,  
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### DIRECTIONS.

Tightly compress the Ball with the thumb and fingers, place the vulcanite pipe in the liquid, then release the Ball, which becomes quite full and prevents any air being injected with the liquid; insert the Pipe into the urethra and compress the Ball, when a perfect syringing and cleansing takes place.

**NEW**  
Ingram's Patent Seamless Collar or Rim Teat,

THE BEST

Soothing Teat

in the World.

**PATENTED**  
No. 22458

Patented in France, No. 230745. April 7th, 1892.



**IN ENGLAND**

DEC. 23RD, 1891

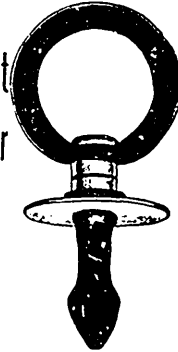
AMERICAN PATENT  
APPLIED FOR.

Made in the same sizes as the ordinary Teats, viz:—  
Small, Medium and Large.

**ADVANTAGES :**

- 1.—Will not collapse during suction.
- 2.—The Rim (AA) prevents the Teat swelling when in use.
- 3.—Entirely prevents air entering the mouth.
- 4.—The cylinder of the Teat being narrow, does not distend the lips of the child.
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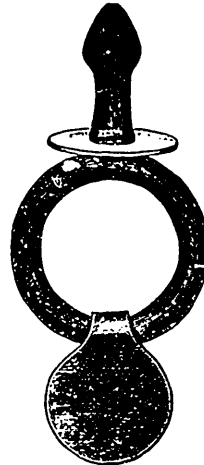


Fig. 31



Fig. 32

Fig. 30  
In two sizes,  
Small and Large.

**THE RESPIROREGENERATOR**

— OR —

**Perfect Inhaler.**



Patented in England, 16th August, 1892.

PATENT No. 14518



HEIGHT OF WATER. \_\_\_\_\_

Directions for using the Inhaler.

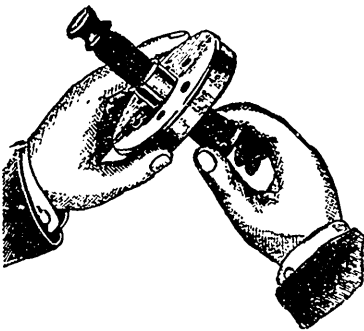


Fig. 1

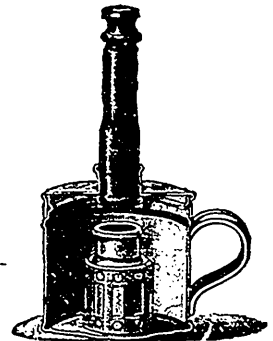


Fig. 2

1. Take the lid off the Inhaler and pass the mouth-piece through the hole from the inside, drawing it tight, as shown in Fig. 1.
  2. Remove the stopper of the glass bottle and pour the drug or medicine to be inhaled into the bottle, and place same in the Inhaler, as shown in Fig. 2.
  3. Fill the Inhaler with hot water up to the top of the perforated tube, replace the lid of the Inhaler, and apply the mouth-piece to the mouth and inspire or breathe in freely.
  4. If a strong vapour is required, pull the indiarubber tube closer down to the neck of the glass bottle containing the medicine.
  5. When again requiring to use the Inhaler, remove the stopper, and simply re-fill the Inhaler with hot water as before, or if more convenient, the water can be made hot in the Inhaler.
- N.B.—Procure the drug or medicine most suitable for your complaint from your own doctor.

**ADVANTAGES. :**

1. When the patient has finished inhaling, the stopper of the bottle has only to be replaced, and no more of the drug is evaporated or wasted, which is a great advantage when expensive drugs are being used, as in ordinary inhalers the drug is mixed with the water, and consequently thrown away with it.
2. No mistakes can occur in the strength of the dose of drug or medicine, and it is immaterial how much drug is put into the glass bottle.
3. These advantages prove this Inhaler to be the most reliable and the most economical, and therefore the cheapest in the market

TO BE OBTAINED OF ALL CHEMISTS AND DRUGGISTS.

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Tar Soap is  
undoubtedly  
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Shampooing  
agent known.  
It does not dry  
the hair, but  
makes it soft  
and glossy.



Physicians  
order its use  
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of Dandruff  
and Baldness.  
It is  
refreshing  
and beneficial  
to the hair  
and skin.

## STEEDMAN'S Soothing Powders,

FOR CHILDREN CUTTING TEETH.

IN USE OVER 50 YEARS.

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To Druggists outside of the Cities  
of MONTREAL and QUEBEC.

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LYMAN, SONS & Co.

Agents.

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Fifth Edition, Thoroughly Revised, in accordance with the new U. S. Pharmacopœia and issued under the official authorization of the Committee of Revision. In one magnificent imperial octavo volume of 1910 pages, with 320 engravings. Cloth, \$7.25 Leather, \$8.00. With Ready Reference Thumb-Letter Index, Cloth, \$7.75. Leather, \$8.50.

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Prepared strictly according to the formula  
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For Loss of Appetite, Dyspepsia, Indigestion, Spring  
 Lassitude, Severe Colds, Neuralgia, General De-  
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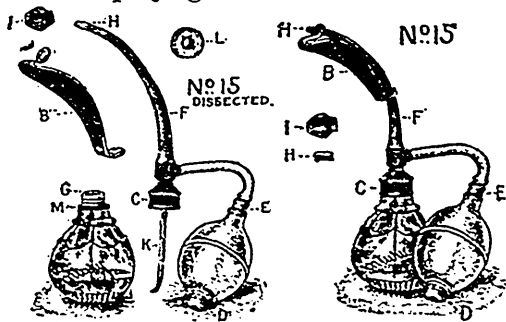
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**USUAL DOSE—Half a Wineglassful.**

**MEAGHER BROS. & CO.,**  
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 \$6.25 per Case of 1 doz. Bottles.

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In Amenorrhœa of anæmic or chlorotic patients, one capsule 2 or 3 times a day, given a week preceding menstruation, rarely fails to induce a normal flow.

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The true active principle of Parsley, differing from the so-called Apicl.  
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In Dysmenorrhœa, (congestive and spasmodic) amenable to internal remedies, the suppressed, irregular or painful menstruation is promptly relieved.



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**The Great South American Nervine Tonic**

cures all Nervous Diseases and Stomach Troubles by its direct action on the nerve centres located in or near the base of the brain.

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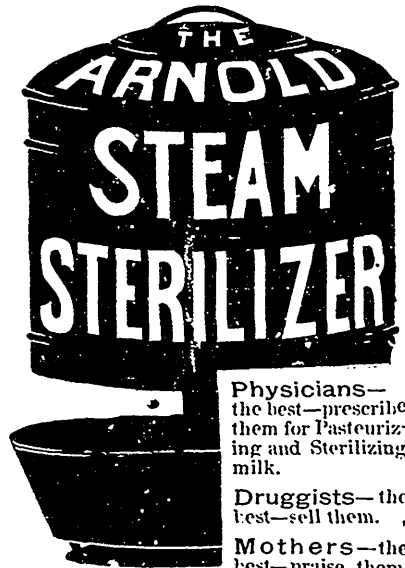
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For Twenty Years exclusive Manufacturers of

Hard Rubber Trusses, Supporters and Pile Pipes,

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Abdominal and Uterine Supporters, Shoulder Braces, Elastic Stockings, Knee Caps, Anklets, Lody Belts, Rheumatic Bandages, Suspensories, etc.

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Avoid the various imitations made to look like SEELEY'S and to sell on the enviable reputation acquired by our goods during the past 25 years, by purchasing only Hard Rubber Trusses, stamped, spring and strap, "I. B. SEELEY & CO.—Warranted."

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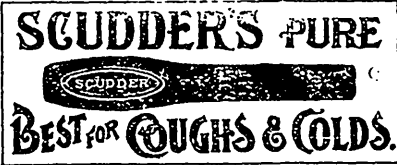
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is an OLD and WELL TRIED REMEDY, and for over FIFTY YEARS has been used by millions of mothers for their CHILDREN while CUTTING TEETH with perfect success. It soothes the child, softens the gums, reduces inflammation, allays all pain, cures wind colic, is very pleasant to the taste, and is the best remedy for diarrhœa. Sold by druggists in every part of the world. PRICE TWENTY-FIVE CENTS A BOTTLE. Be sure and ask for MRS. WINSLOW'S SOOTHING SYRUP and take no other kind, as mothers will find it the Best Medicine to use during the teething period.

## BUFFALO LITHIA SPRINGS. No. 2.

The waters from these Springs have been recommended by the leading doctors in the United States as very beneficial in cases of affections of the nervous system. The waters belong to the alkaline class, and can be used as a remedy for Gout, Rheumatism and Stone in the Bladder.

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Selling Agents for Skinner's Spoon Baits—the best made.  
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Mention this Journal when ordering.

25 CTS. **PISO'S CURE FOR** 25 CTS.  
CROUPS WHERE ALL ELSE FAILS.  
Best Cough Syrup. Tastes Good. Use  
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**CONSUMPTION**

Piso's Remedy for Catarrh is the  
Best, Easiest to Use, and Cheapest.  
**CATARRH**  
Sold by Druggists or sent by mail,  
60c. E. T. Hazeltine, Warren, Pa.

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The highest grade of petroleum jelly, chemically pure, sweet, and odorless. Put up in all sized packages, from one to fifty pounds.

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THE largest manufacturers in the world of Surgical Elastic Hosiery, Trusses, Abdominal Belts, Chest and Lung Protectors, Bath Gloves, Suspensory Bandages, Obstetric Binders, Chest Expanding Braces, Surgical and other Corsets, Ear Caps for Children, Eye Shades, Elastic Webbing, Roller Bandages, also Weavers of Silk Ribbons, Stay Cord and Bindings, Webs, Etc.

The trade supplied free of charge to those stocking my goods Statuettes, Plaster Legs, Show Cards, Circulars, etc. Sole proprietor and manufacturer of the Eureka medicated Pine Wool Felt appliances. A sample order requested.

REGISTERED TRADE MARK <sup>V.W.</sup> "EUREKA." <sub>L.</sub>

## DICK'S UNIVERSAL MEDICINES

FOR  
Horses and Cattle.



DICK'S BLOOD PURIFIER is no sham made up to sell only, but is prepared from the best material. One package of Dick's Blood Purifier we confidently believe contains more real medicinal strength and virtue than ten times its weight of any other Powder in the market. It tones up the system, imparts new life and vigor, and is adapted for the cure of worms, loss of appetite, roughness of the hair or coat, stoppage of water and bowels, all coughs and colds, inflammation of the lungs and bowels, recent founders, swelling of the glands of the throat, horse distemper, hide bound, bots, scurvy, loss of eye, horn distemper, black tongue, &c., and also will backon the heaves, and in recent cases effect a cure. In fact there is no case of disease among Horses and Cattle where Dick's Blood Purifier is not called for, and by its timely administration will save the lives of many valuable animals.

- DICK'S BLISTER, for Spavins, Ringbones, Curbs Swellings, &c.
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- DICK'S LINIMENT, for Swellings, Scalds, Contusions, Frost Bites, Cracked Heels, Chapped Hands, &c., but above all for Rheumatism.

### RETAIL PRICE LIST.

Dick's Blood Purifier, .....	50c
Dick's Blister, .....	50c
Dick's Ointment, .....	25c
Dick's Liniment, .....	25c

Try DICK'S MEDICINES and be convinced of their merit. Ask for them and take no other. Advertising cards and circulars sent on application.

DICK & CO., Montreal.

P. O. Box 482

# CHERRY RIPE!

What thirst and quenching of thirst are in that merry name!

Put this sign in your window: "Cherry Ripe is as good as Red Messina Orange;" you'll have a storeful of people in. Hang at your fountain; "Cherry Ripe, 5 cents. Everybody likes it." They'll take it faster than ice can chill it. Oh, it is a glorious drink to bear that merry name!

Orange was always a favorite. Red Messina Orange, the finest possible orange, took years to become the principal drink at the best fountains in the United States—the name was so long. And here comes merry Cherry Ripe and captures the trade in a twinkling!

It was new last year—merry Cherry Ripe! It is new again this year—merry Cherry Ripe! It will always be new—merry Cherry Ripe; for it feels as it sounds—merry Cherry Ripe! It is to cherry what Red Messina Orange is to orange—merry Cherry Ripe!—and it justifies the name.

Serve cold in dainty thin glass,\* with the splash of water and odor of flowers, five cents and a welcome; not by a lout of a boy with his sleeves rolled up, red hands and black finger-nails, sour slops underfoot, and flies on the counter. The better the soda, the more it requires the proper accompaniments of manner and manners.

Serve Cherry Ripe as if it were big fat rich ripe cherries themselves; it will not belie them. There are no two other words in all soda so tempting and luscious and bringing again. Let us send you **HELP AT YOUR SODA FOUNTAIN**; free.

Order fruit juices direct or through your jobber; \$6 a dozen. Cherry Ripe, Red Messina Orange, Raspberry, Pineapple, Strawberry and twenty others. Let's get acquainted.

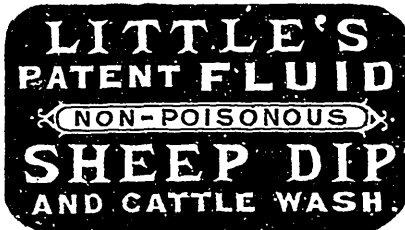
Are you studying **SELF-SELLING MERCHANDISE WITH LOTS OF ADVERTISING IN IT?**

\* Thin glasses cost more and do not last so long; they are easily broken. Admitted; but use the thinnest glass you can get, and take the consequences. Thin glass is a luxury every one recognizes. Some think their customers do not know the difference between good soda and not very good; but nobody doubts that everybody feels the luxurious touch of a dainty glass at the lip. It makes the soda better: actually makes it taste better and feel better; besides, it affects the imagination. Rum-sellers know the advantage of it. Will soda-drinkers break more glasses than rum-drinkers? or be less appreciative of delicacy? The thinnest of glasses are not too thin; their very frailty makes them luxurious.—**HOW TO MAKE A DRUGSTORE PAY BETTER**, p. 130.

Philadelphia	Callowhill and Marshall Streets
New York	17 Platt Street
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Pharmaceutical Chemists.



FOR THE DESTRUCTION OF

**TICKS, LICE, MAGE, and all Insects upon SHEEP, HORSES, CATTLE, PIGS, HOGS, &c., &c.**

Superior to Carbolic Acid for Ulcers, Wounds, Sores, &c. 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 pronounced to be the cheapest and most effective remedy on the market.

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.

For Infants over Three Months, Invalids and Convalescents.

## Milk Granules with Gærøis

— IS THE —

. . IDEAL FOOD . .

ITS MERITS ARE

Perfectly Sterilized Milk,  
The Finest Selected Barley and Wheat.  
The whole partially digested combining to make an exceedingly Palatable and Nourishing Food.

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SPECIALITES PHARMACEUTIQUES.

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For Consumption, Asthma, Catarrh, Grippe and Bronchitis.

This powerful remedy is endorsed, adopted and prescribed by the Medical faculty.

Is useful in Diseases of the Throat and respiratory organs.

Thousands of consumptives have cured themselves by using this unrivalled preparation.

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## VIEL'S VEGETABLE SYRUP.

Cures Dyspepsia, Constipation, and Liver Complaints. This remedy acts directly on the liver, stomach and bowels, and it gives relief to every one using it.

Taken in the morning or at night, it helps the secretion of the liver, which becomes very often congested. It also cures constipation which causes so much trouble and is so common amongst women.

Advise all bilious persons and those suffering from liver complaints to take Viel's Pills from time to time.

Wholesale Price List—Viel's Syrup, - \$4.25 1 doz.  
Viel's Pills, - 1.75 1 doz.

Fragrant, Delicious



Coffee in a Moment!

BY USING

# LYMAN'S FLUID COFFEE.

Samples, (equal to 5 cups) .....	\$0 35 per doz.	Retail at \$0 05
¼ lbs. (equal to 25 cups) .....	2 00	" 0 25
½ lbs. (equal to 50 cups) .....	3 50	" 0 50
Lbs. (equal to 100 cups, or 4½ galls W M)	6 75	" 1 00

# ANTI-DANDRUFF.

THE object in view when Anti-Dandruff was first produced was to offer the public a preparation for the hair that would in the first place remove Dandruff effectually and also act as a perfect hair-dressing without containing any ingredient injurious to hair, head or scalp. Anti-Dandruff has in a short time proved itself a perfect specific for the hair, and now stands in the estimation of its patrons as being head and shoulders above any similar preparation.

- Why? It removes Dandruff with 3 applications.
- " It makes the hair soft and pliable.
  - " It is not of a greasy or oily nature.
  - " It stops falling of the hair—Is not a dye.
  - " It is of a nature peculiar to itself.
  - " It is pleasant to use—Clear as crystal.
  - " It possesses a most agreeable and delicate odor.
  - " Men, women and children endorse it.

Price for Anti-Dandruff, 75c per bottle. \$6 per doz  
We trust there will be no cutting.

DR. L. A. SMITH & CO.



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Nine Gallon Cask of Alcoholic Beer from a brewery will cost you \$4.00, but eight gallons of beer made from . . .

### MASON'S EXTRACT OF HERBS

can be obtained for 25c plus a pound or two of sugar and a little yeast.

WE ARE ALSO MAKERS OF

### MASON'S

Extract of Herbs, Ginger Ale Extract, Ginger Extract, Hop Extract, Foamine, Hcerehound, and Wine Essences.

Inventors and Manufacturers: NEWBALL & MASON,

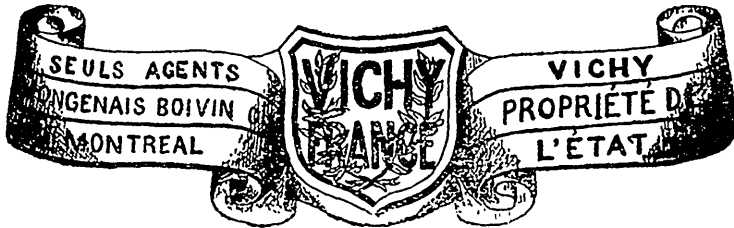
HYSON GREEN WORKS, - NOTTINGHAM.

Our Goods are carried in stock by LYMAN, SONS & Co.



Trade supplied by **LYMAN, SONS & CO, MONTREAL**  
 And by all Jobbers in the UNITED STATES, CANADA and MEXICO.

**SPECIAL NOTICE.**



In order to avoid vulgar imitation be sure that each bottle of Vichy Water State property bears the above neck label in red, white and blue colors.

**MONGENAIS, BOIVIN & CO., Montreal,** Sole Agents for Canada.

**DRUGGISTS' ATTENTION!**

At this time of the year you cannot afford to be without "ANTI-MOTH" PAPER. A ready seller.

CHAPMAN'S IMPROVED

**Anti-Moth Paper**

The value of "ANTI-MOTH" PAPER as a protector of Woolen Goods, Furs, etc., from moths, has been fully proved by the increasing demand and sales each year

Its success has of course brought many imitations into existence.

The **Genuine Anti-Moth Paper** is clean and will not soil the hands or the most delicate white Woollens and Furs.

It is pleasant in odor, and has the hygienic and medicinal properties of the Pine Tree.

It is **better and cheaper than Camphor** or any of its worthless imitations.

Retail Price,	.. ..	10 cent packets, 3 for 25c.
Price per doz-n,	.. ..	75c.
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" 5 "	.. ..	6.50 per gross.

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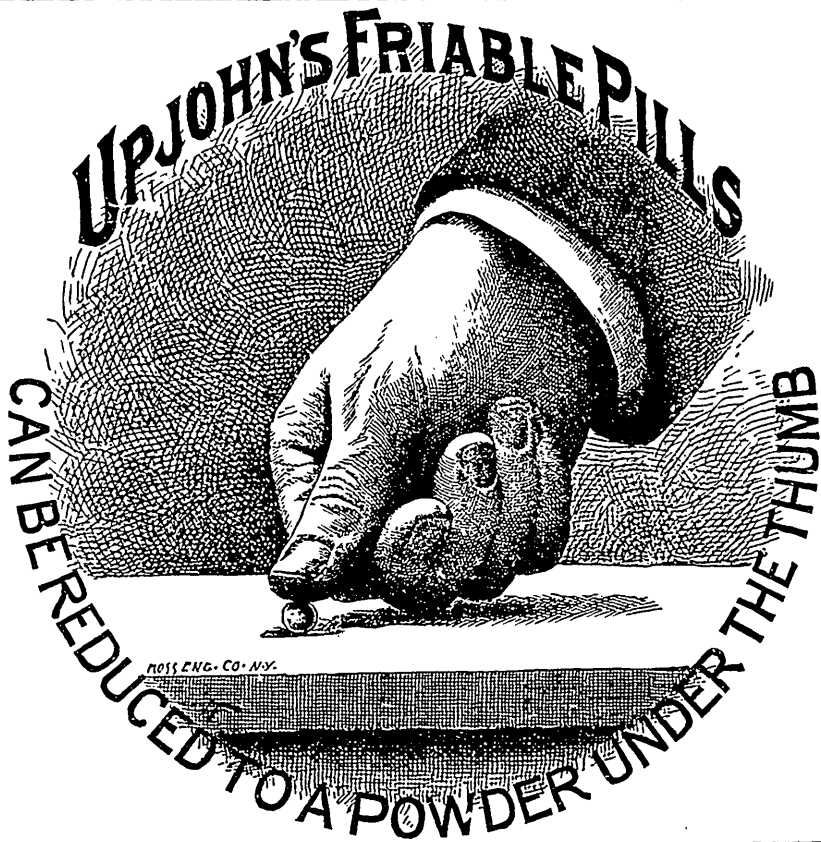
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*Manufacturing and Dispensing Chemist,*

Kindly mention this Journal when ordering.

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Send for Price Lists  
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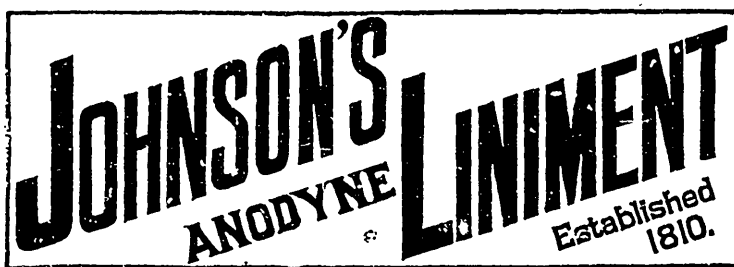
**GREEN MOUNTAIN**

Pills, Salve,  
Balm, Syrup.

<p>GEORGE TUCKER'S GREEN MOUNTAIN SALVE HAS NO EQUAL FOR RHEUMATIC PAINS, WEAKNESS OF THE SIDES &amp; BACK, LADIES' PAINS.</p>		<p>GEORGE TUCKER'S BOTANIC SYRUP WARRANTED TO CURE COLDS, INFLUENZA AND WHOOPING COUGHS.</p>	
<p>ARRAPAHOO OR <b>GEORGE TUCKER'S</b> <b>GREEN MOUNTAIN BALM</b> THE WELL KNOWN INTERNAL - EXTERNAL REMEDY</p>			
<p><b>\$5000 REWARD</b> FOR BETTER PATENT MEDICINES SOLD BY ALL RESPECTABLE DRUGGISTS AND GROCERS SOLE AGENTS</p>		<p>THE SAFEST, SUREST AND MOST SPEEDY RELIEF FOR ALL NERVOUS AND INFLAMMATORY ACHES AND PAINS. IT HAS NO EQUAL ITS ACTION UPON THE NERVES IS REALLY ASTONISHING; IT STOPS PAINS AS IF BY MAGIC IT SHOULD BE IN EVERY FAMILY FOR IT IS TRULY A DOCTOR IN YOUR HOUSE IT GIVES IMMEDIATE RELIEF. TRY IT. DIRECTIONS ON EACH BOX</p>	
<p><b>LYMAN, SONS &amp; CO.</b> WHOLESALE DRUGGISTS 51 PAUL STREET MONTREAL</p>		<p><b>THOUSANDS OF PERSONS SUFFERING FROM VARIOUS DISEASES, IMMEDIATELY HAVE RECOURSE TO GEORGE TUCKER'S INDIAN REMEDIES 429 CRAIG STREET MONTREAL</b></p>	

Chocolate  
Worm Balm.

**PREPARATIONS**



ORIGINATED BY AN OLD FAMILY PHYSICIAN.  
 GENERATION AFTER GENERATION HAVE USED AND BLESSED IT.

**Every Mother** Should have Johnson's Anodyne Liniment in the house for Croup, Colds, Sore Throat, Tonsillitis, Colic, Cuts, Bruises, Cramps and Pains, liable to occur in any family without notice. Delays may cost a life.

**Every Mechanic,** or person exposed to accidents or injury, Base-Ball players, etc., should keep it near at hand; for it acts promptly, is Soothing, Healing and Penetrating. When once used always used.

**THE REASON WHY**—Generation after Generation have Used and Blessed Johnson's Anodyne Liniment, is because it cures when all other remedies fail. It was devised and used for years in the private practice of old Dr. Johnson, to treat inflammation liable to afflict any person on earth; and which cause the danger in all the above troubles. The medical advice around each bottle is worth ten times the price.

**How to Use Economically.** Advice sent free. All who buy direct from us, and request it, shall receive a certificate that the money will be refunded if not abundantly satisfied. Price, 35 cts. by mail; 6 bottles, \$2.00. Express prepaid to any part of the United States or Canada. Duty also paid. **I. S. JOHNSON & CO., Boston, Mass.**

**Every Traveller** Should have a bottle in their satchel. It can be used Internally or Externally in more cases than any other medicine. Cures head-aches if inhaled.

**Every Sufferer** From Rheumatism, Sciatica, Neuralgia, Nervous Headache, Diphtheria, Coughs, Catarrh, Bronchitis, Asthma, Cholera-Morbus, Diarrhoea, Lameness or Soreness in Body or Limbs, Stiff Joints or Strains will find in this old Anodyne relief and speedy cure.

DOMINION OF CANADA PRICE LIST.

— FOR —

Johnson's Anodyne Liniment,  
 Parsons' Pills,  
 Sheridan's Condition Powder.

EACH INVOICE SUBJECT TO CONTRACT.

Goods to be Invoiced in all cases after December 1, 1893, as follows:—

<b>JOHNSON'S ANODYNE LINIMENT</b>	<b>\$2.00</b>	<b>per doz.</b>	<b>without rebate.</b>
<b>PARSONS' PURGATIVE PILLS</b>	<b>1.50</b>	“	“
<b>SHERIDAN'S CONDITION</b>	<b>Small— 1.50</b>	“	“
<b>POWDER.</b>	<b>Large— 8.00</b>	“	“

REBATE IF PAID IN 4 MONTHS.—To Retailers for orders amounting to \$20.00 or more, 5 per cent.

To Jobbers “ “ \$120.00 “ 12½ per cent.

QUANTITIES as above may be made up of any one or more articles at the long prices, but in all cases must amount to \$20.00 and \$120.00 or more respectively.

FOR SPOT CASH we shall allow 5 per cent. discount extra after rebate as above has been deducted. Extra 5 per cent. not allowed after 10 days.

# MONTREAL PHARMACEUTICAL JOURNAL.

VOL. V—No. 3.

JUNE, 1894.

\$1.00 per annum.

## The Montreal Pharmaceutical Journal.

171 St. James St., Montreal, Canada.  
JOSEPH E. MORRISON, Editor.

Subscription. \$1.00 per Annum.  
Advertising Rates will be made known on application.  
All remittances, matters intended for publication, new advertisements or changes should be addressed,

MONTREAL PHARMACEUTICAL JOURNAL.  
P. O. Box 1144, Montreal.  
F. L. BENEDECT, Secretary.

### EDITORIAL NOTES.

QUITE a number of Montreal druggists ran down to Quebec for the annual meeting, the R. & O. Navigation Co. having made a special rate for the occasion.

Mr. and Mme. A. Robert, Mr. and Mme. L. A. Bernard, Mr. and Mme. S. Lachance were among those who took the boat trip to Quebec and stayed over for a few days.

The Montreal *Herald* had it that about twenty of Montreal's prominent druggists had gone to Quebec for examination.

The meeting, although better attended than usual, was very quiet, there having been very little discussion except on one or two points, which were thoroughly threshed out while the scrutineers were counting the ballots, and thus gave some of the members a chance of showing how much they did not know of pharmaceutical legislation.

Some members seem to think that the Association should do all the work of ferreting out infringements of the Act, and never imagine

that the Registrar is neither omnipresent or omniscient, expecting him to take action in every case. Members must aid the Registrar by notifying him of any infringements of which they may become cognizant.

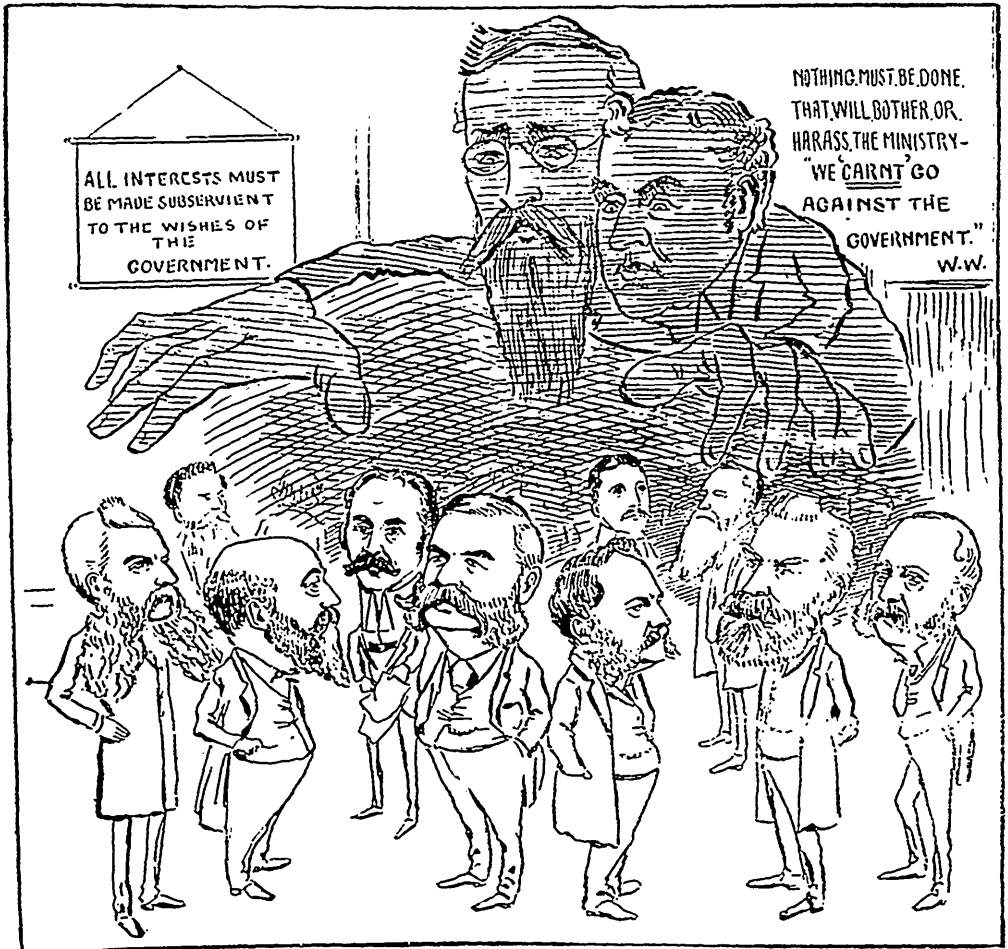
The President's address contained nothing very startling, and there was nothing extraordinary to note in connection with pharmaceutical affairs. As is usual with Mr. Contant, what he had to say was to the point and without waste of words.

The financial statement shows a very satisfactory state of affairs, a balance of over \$2,600 being left to the credit of the Association.

Mr. Jno. Lowden, of Toronto, and Mr. S. Lachance, of Montreal, have sent out circulars regarding membership in the American Pharmaceutical Association. We hope that many will return the membership blanks properly filled out, and enclose \$5 for the annual subscription. Every druggist should be a member if only for the sake of the volume of proceedings which is published annually, and is worth much more than the subscription. The meeting this year will be held at Asheville, N. C., commencing Sept. 3rd. Next year we believe it will be held in Montreal. Send in your subscriptions as soon as possible.

"The New England Druggist" is organizing an excursion from Boston to Asheville, N. C., for pharmacists wishing to attend the American Pharmaceutical Association Convention, Sept. 3.





THE DOMINATING SPIRIT OF THE COUNCILS OF THE MONTREAL BOARD OF TRADE—PAST AND PRESENT

### THE MONTREAL BOARD OF TRADE.

The introduction or preamble of the Act incorporating the Montreal Board of Trade reads as follows:

"WHEREAS John Thomas Brondgeest, Thomas Cringan, Robert Armour, John M. Tobin, James Logan, and others hereinafter named, merchants, resident and carrying on trade in the City of Montreal, have by their petition to the Legislature represented, that they have associated themselves together for some time past for the purpose of promoting such measures as they might upon due consideration deem calculated to advance and render prosperous the lawful trade and commerce of this Province, and of the said City of Montreal more especially, and have further represented that having already experienced the good effects of their said association, and being convinced that the advantages arising from it would be greatly extended and increased if they and their associates and successors were incorporated, and if certain powers were conferred on them, they pray the

Legislature so to incorporate them and grant them such powers, and whereas it is expedient to grant the prayer of their said petition." &c., &c.

Is this the main effort now? This description of the Board's objects was certainly written many, many years ago. Some of the members of the institution are of the opinion to-day that politics have crept in somewhat, and that the Executive Council, for a few years back, have been alert and alive in matters other than trade affairs properly speaking. They have afforded good service where the trade requirements did not clash with the Ottawa Government, but there have been many instances of neglect or apathy of late. The influence of the Government of the country predominates in its councils.

The latest instance of dilatory inaction is in connection with the Board of Customs matter. This affair also illustrates the absolute confidence of the Ministers in their Board of Trade friends. A member's letter, asking their action towards securing the practical existence of an expert Board of Customs was, after some delay, submitted to the Hon. Comptroller of Customs. The date of this submission was May 2nd. The Ministers' reply was received by the Board Monday, June 4th. It was dated May 21st (!) and mailed in Ottawa June 2nd. This is a fair sample of the courtesy or attention that can be secured by the Board (at Ottawa) under present executive.

A whole month to get an acknowledgment of a communication! The Hon. Comptroller dates it back ten or twelve days and in print is relieved of one-third of the undue time taken to reply. The Council is satisfied with this sort of thing, and the Montreal Board of Trade can exert no real influence where it would serve trade most so long as politics rule its councils and so long as the election ticket system in vogue for years past is continued. Importers are not properly represented on the Council, while exporters, manufacturers, &c., &c., are largely over-represented. The question of Customs administration is an important one—vital, indeed, to the commerce of the Dominion—yet no active interest can be awakened with the trade body that should step forward, shoulder the responsibility, and secure justice for the merchant importers.

The cartoons in this number convey the idea better than words will, of the actual position of the Board of Trade with our Ottawa rulers.

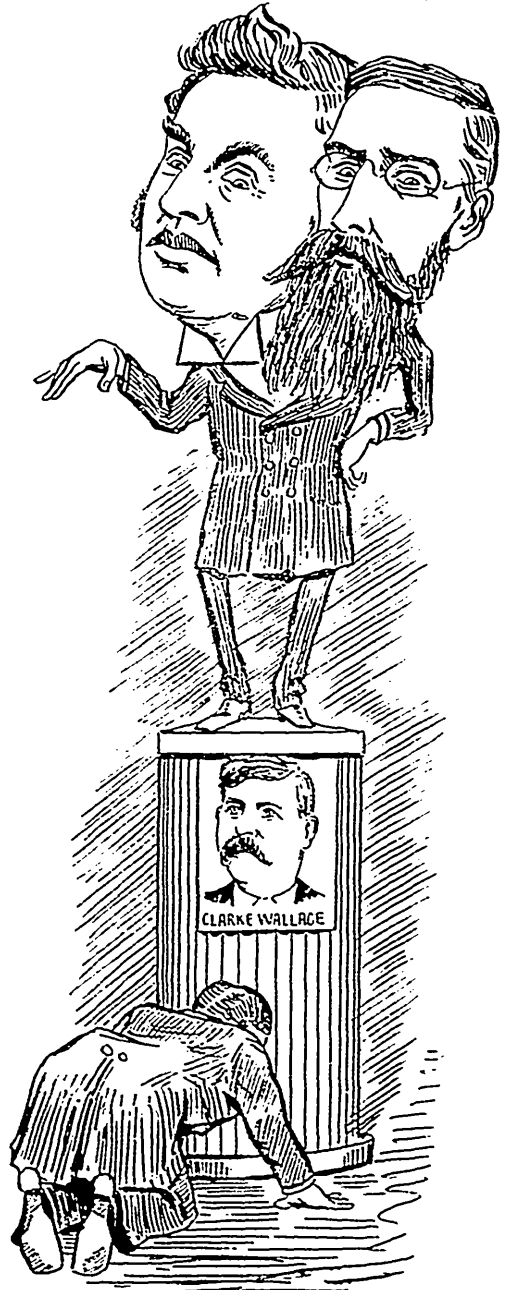
Let us suggest:

Banish politics from all and every surrounding of the Board of Trade.

Drop the ticket system at the annual election for council, and let some of the fathers of the Board retire to simple membership again.

Let the importers who are members of the Board insist upon a fair representation (in the council) of active men—energetic sufferers.

The Board, as a trade organization, will then fulfil its true mission. A change is necessary, and an active, energetic policy only will satisfy progressive members.



THE ATTITUDE OF THE MONTREAL BOARD OF TRADE.

### IMPORTERS AND THE CUSTOMS DEPARTMENT.

The wholesale druggist comes in contact with the Customs officers more frequently than the importer in any other branch of trade. The

tariff includes some 1,100 items, and of these about one-third cover the various lines to be found in a drug (and druggists' sundries) warehouse. The question therefore of uniformity in the administration of the tariff is certainly a matter of interest, directly or indirectly, to every druggist in the Dominion. The amount of duty in the aggregate may not be anything like so large as in some other lines; but the chances for conflict or for difference of opinion with the Customs officers is infinitely larger on account of the enormous number and great variety of the goods imported. The difficulties of classification are indeed very great, and admittedly it can be no easy matter to satisfactorily administer the law in all its details. Much complaint and urgent representations made to the Government has failed to obtain until, at least, recently any action that could be pronounced an improvement.

Some headway has lately been made in the right direction, and the meeting of the Dominion Board of Customs at Ottawa and its prolonged session (May 21st) affords a somewhat cheering prospect. It is to be hoped that the members of the Board have devoted their time towards assimilating the views of the appraisers upon the items of the revised tariff. The time will be well spent if they will only read it together and discuss its doubtful or indefinite lines. We hope for regular meetings of the Board in future. It is certainly a grave "straining" of our language; or, perhaps better—it strains one's imagination to accept or arrive at the conclusion that the *individual* consultation of the Dominion appraisers in the past were an actual fulfillment of the law, and that there have been meetings of the Board in question prior to Monday, May 21st. Can we call these communications between the Department and appraisers at all equivalent to the meetings of a Board?

Another question that arises in connection with Hon. Mr. Wallace's statement on this subject: Is it really intended that this Board will fulfill an important mission? Can they be looked to, to enthusiastically perform important duties without receiving any remuneration therefor? It is startling to learn that all our hope for the future will hang upon a Board of competent and experienced gentlemen

who will serve the Government gratuitously!!!

We give herewith extracts bearing upon this subject from the Montreal *Daily Star* and the Montreal *Herald*. In conclusion, it must seem strange and is certainly a pity that the unfortunate fact of the subject having received first, attention in the columns of *La Patrie* and then comments in the House from Hon. Mr. Laurier—a Liberal paper and a Liberal leader—the merits of the question were lost sight of and the Comptroller could not see beyond the red flag. A manly and straightforward statement and assurance would have given confidence, and further the attitude really assumed by him is open to grave question and there cannot be found an applauding voice. Meet the demand fairly—give us the advantage of a board of experts for the future, secure uniformity of application of the tariff and the importers of the whole Dominion whoever the successful administrator of the Department may be. The *Star*, May 22nd, says:

The following letter was addressed to the Presidents of the Montreal Board of Trade and Chambre de Commerce, Montreal, by Mr. Henry Miles, of the firm of Lyman, Sons & Co., and covers a subject of interest to all importers:

I beg to solicit your interest and the influence of the important body over which you preside towards securing for importers the full protection which the Customs law provides, and which they do not obtain through the fact that the Act in some of its provisions is totally ignored by the Government in the administration of the Department of Customs. To specify more particularly, I would draw your attention to the Customs Act, section 4, clause 2. The law clearly calls for the existence of a Board of Customs and the above section declares how the said Board shall be constituted. Section 6 of the Customs Act states further, that the duties imposed shall be subject to the provisions of the Act. There can be no doubt as to the purpose of Parliament in enacting that there should be a "Board of Customs" The intention was to protect the taxpayers of this country and to secure for all importers a just, fair and equitable administration of the law.

According to a proper value to the Customs law as it stands to-day, no one, minister, comptroller, or commissioner, is empowered to fix any duty, not absolutely provided for by law, and where dispute may arise between importer and Customs appraiser as to the correct rate of duty to be applied, the only legal decision can be rendered by the Board of Customs sitting

with the Commissioner as chairman, and the decision of this board to have the force of law must be confirmed by the Minister.

Further, when an importer deems himself unjustly treated by the Board of Customs, the law again provides that he has the right to appeal from their decision to the Governor-General-in-Council. The basis of the present administration of the Customs Department is, in many particulars, an illegal one. The Board of Customs has no existence in fact. Importers are deprived of the right of final appeal above referred to, and are forced to accept decisions rendered by the Assistant Commissioner of Customs. I address you with the belief that a proper representation made by the Board of Trade to the Dominion Government upon this subject will secure their consideration. We have the right to ask that the Government conduct the Customs branch of the public service in accordance with the law, and as well it can very reasonably be claimed that one individual cannot be a satisfactory expert in the detail of every branch of trade, nor an acceptable substitute in himself for a board of experienced and technically competent men. Uniformity of application of the law is more important to the business community than the rate of duty itself, and to obtain the greatest possible uniformity, a Board of Customs, composed of experts in each trade, is a necessity. As an urgent trade need, therefore, as a matter of infinite importance to all importers, and as a trade grievance against the Government, demanding rectification, I ask the interest of the Board of Trade, and beg that action be taken.

The Montreal Board of Trade communicated with the Government upon the subject, and as yet have received no reply. The Chambre de Commerce are also memorializing the Government upon the matter brought to their attention. In the meantime the above letter has been the subject of brief reference in the House, and is given the following from *Hansard* report:

Mr. Charlton—There should be some safeguard for importers. Of course there may be cases where the attempt is made to defraud the Customs by means of undervaluation, and I would not think of facilitating operations of that kind. But if there is a disposition to the arbitrary use of the power which now rests in the hands of the Customs officer to raise the valuation of an article, then it becomes at once a dangerous power, and the liability to abuse soon causes that abuse to be an accomplished fact.

Mr. Foster—The importer can appeal and get justice.

Mr. Laurier—Surely the Minister of Finance and the Comptroller must have seen the letter of Mr. Miles, of the firm of Lyman Sons & Co.,

published only a few days ago, stating that in such a case it is impossible to get justice?

Mr. Wallace—Mr. Miles has made a number of mis-statements in his letter. Moreover all the complaints that he himself has preferred to the department have been carefully considered, and, I think, satisfactorily adjusted.

Mr. Laurier—Not satisfactorily to him.

Mr. Wallace—His demand is that there shall be established a Board of Customs, and such a board already exists.

Mr. Laurier—But he says it is a dead letter.

Mr. Wallace—It is not a dead letter. We consult daily the members of our Board of Customs, and get the opinions of our most competent appraisers on every difficult case that comes up. And, as soon as this tariff is through the members of the Board of Customs and the most experienced of the appraisers will be called to meet here and give their opinions on matters in dispute.

Mr. Laurier—The hon. gentlemen take issue with the statement of the member for Quebec Centre (Langelier), that injustice arises, and declare that there is a remedy. I quote the opinion of a man who has to deal with the Customs Department, and who says that he never receives satisfaction. Now, the Comptroller of Customs says that this gentleman did receive justice. That is a question between the Comptroller and Mr. Miles. Perhaps, when the matter is discussed more in detail later on, we may be able to consider this point more fully. I only wished to show that there are occasions, in the opinion of those who deal with the Customs Department, when justice cannot be had.

Mr. Wallace—Mr. Miles has not cited one case of injustice or wrong doing, and the statements that he makes are entirely of a man knowing nothing of the law or how it is administered. If he had any specific grievances and would mention them, that would be a ground to work upon.

Mr. Miles disclaims having brought this matter up other than as a vital trade question, and addressed himself to the two representative trade bodies in Montreal, and claims that the Hon. Mr. Laurier or any other member of the house at Ottawa will win the gratitude of the commercial public if action can be secured through urging the Government to live up to the written law. The Hon. Mr. Wallace, while apparently admitting that the future will see a somewhat different state of affairs, takes particular pains to emphasize his belief that the subject is foreign to Mr. Miles' knowledge, "not being familiar with the law, etc." No one, without devoting time and study or without extensive practical experience, can fathom the tariff (and Customs law.) Mr. Miles has devoted himself greatly to the subject, is considered by the trade an authority, and his ef-

fort far from being political, has been simply and solely for "uniformity in the application of the tariff," holding always that uniform classification for duty is infinitely more important than the rate of duty itself.

A leading importer said to-day: "The fact remains that there is no Board of Customs, and from the manner which the Comptroller has adopted upon the occasion referred to, it seems that it can scarcely be hoped that the question will be dealt with upon the basis of its magnitude or satisfactorily to the importers of the Dominion."

The *Montreal Herald* of Saturday, June 2nd, says:

#### THE CUSTOMS DEPARTMENT.

For many years there has existed a law under which the merchants of Canada were entitled to a certain safeguard against ignorance and injustice. The Parliament of Canada decreed that a Board of Customs should be formed and that it should be constituted of the ablest and most experienced men in the Customs service. There was nothing dubious or that was not clear in the enactment. It was dictated by wisdom; and was a very necessary adjunct to the Department of Customs, affording the chief executive officers the advantage of knowledge to be gained only outside the sphere of politics.

The experienced appraisers constituting the Board of Customs in short could be looked to, safely, to furnish the necessary brains to the department, and at the same time importers could look to them for justice and for sensible, reasonable decisions upon all technical questions arising. The law fairly carried out would prevent the exercise of one-man power; and a man's stripe of politics would not be so likely to warp the judgment of a board of experts who occupied their positions on account of their knowledge and experience.

Many years have rolled by during all the time of which this law has been ignored and has remained a dead letter. Recently the Montreal trade organizations were asked to exert influence with the Government and urge that the law be put in force. This effort received no attention until Hon. Mr. Laurier brought the grievance of the trade before the House. Publicity has stirred the Customs authorities up at last; and the thanks of the business community are due the Hon. Mr. Laurier and Mr. T. B. Rider, whose questions upon the subject have actually brought to life and action the long dormant Board of Customs.

The first meeting of the Dominion Board of Customs has been held. Mr. Rider's question could not have been answered, without reflection upon the administration of the Department, but for the sudden calling together of appraisers from all parts of the Dominion to enable the Hon. Mr. Wallace to say "at the present time it is meeting daily." The Board never met before last week. The trade don't want them to meet daily in the

future, but it is hoped the pressure of public opinion brought to bear upon the ministry will ensure periodical meetings in the future. The Controller of Customs deserves perhaps some credit for his answer to Mr. Rider's questions. He was fairly astute in his action, yet it was simply a trick, the calling together of the Board. Giving notice of the questions gave life to the Board, and a literal truth exists in the replies, notwithstanding the fact remains, i.e., no Board existed except in the Statute. No Board meetings were held, and no Board decisions were given before May 21st, eight days ago.

The questions asked by Mr. Rider, and the answers given by Mr. Wallace, who represents the Customs Department in the House of Commons, are reported by Hansard in the following terms:

Mr. Rider asked: 1. "Is there a duly constituted Board of Customs? 2. How often does the said Board meet? 3. Who constitute the Board of Customs; what are their individual duties, and what are the salaries of each of those engaged in that particular service? 4. Has the Board of Customs ever rendered any decisions, and has any of its decisions ever been appealed from?"

Mr. Wallace—"There is a duly constituted Board of Customs. 2. At the present time it is meeting daily. 3. The members of the Board of Customs, their individual duties, and their respective salaries are as follows: I may say that these are the salaries which these gentlemen receive, not as members of the Board of Customs, but, for their other duties as Custom House officers of the Department. For being member of the Board of Customs they receive no additional salary, and no payments are made to them on that account, except for their travelling expenses and necessary disbursements: Thomas J. Waters, Chairman of the Board, also Acting Commissioner of Customs salary, \$2,800; George W. Jessop, Assistant Dominion Appraiser and clerk to the Board salary, \$1,200; Thomas McFarlane, Chief Analyst salary, \$800; James J. Bremner, Customs Inspector of sugar and groceries at Halifax, N. S., salary, \$2,000 Allan McBeath, Appraiser of dry goods at St. John, N. B., salary, \$1,200; J. D. L. Ambrose, Appraiser of drugs, etc., at Montreal, \$1,800; Thomas F. Blackwood, Hardware Appraiser at Toronto, salary, \$1,700; A. R. Milne, Collector of Customs at Victoria, B. C., salary, \$3,000. George H. Young, Inspector of Customs at Winnipeg, salary, \$2,000. All the members of the Board are at present meeting, except the last two Mr. Milne, of Victoria, and Mr. Young, of Winnipeg. 4. Yes, the Board has rendered decisions, and in some cases there have been appeals made therefrom."

It would appear that the question was framed upon the understanding that the members of the Board had in that capacity individual duties and salaries. This does not appear by the answer to be the case, and therefore the answer is scarcely relevant in so far as duties and salaries

are concerned. But the richness of the answer is to be found in the statement that "the present time" the Board "is meeting daily," and further that "the Board has rendered decisions and in some cases there have been appeals made therefrom" A Board that had not met before the 21st could not which absolute regard to good faith on the 28th be said to have rendered many decisions, much less could there have been appeals therefrom in anything more than a merely literal sense. The conclusion is unavoidable that the Board was called in order to make the answer given possible; and, further, to conceal if possible from Parliament the avoidance of an important duty that had been imposed by statute upon the Customs Department.

The pressing question, first after that disingenuously answered by Mr. Wallace, is by what means have these questions of difference between the importers and the department been settled heretofore? And what is to be said of the legality of a course of action that has set aside the express provision of the statute for the settlement of such points of difference, and that has submitted them to the arbitrary disposition of some more or less judicially-minded subordinate of the Minister to whom that appeal which would be the only remedy could be made. The suspicion is certainly not unfounded, and it is upon the face of the situation not unjust, that the great complaints that have been current for years past, and the sense of irritation and injury that has been felt, and the want of confidence in this branch of the Government service that has prevailed very much the result of doing by subservient and often incapable means what ought to have been done under the safeguards and regularity of method provided by the law.

## DANGEROUS INCOMPATIBLES.

A. JORISSEN.

From Journ. de Pharm. de Liege, translated for THE MONTREAL JOURNAL OF PHARMACY.

Under this title the author proposes to review the series of phenomena which may occur when certain remedies are mixed together. Not what may be called therapeutical incompatibles in which the physician, more than the pharmacist, is interested but only those the preparation of which may prove dangerous to the dispenser, but which are prescribed too frequently by physicians, and before going further we will indicate a simple and practical method by which the dangerous character may be shown without risk. A small quantity of each ingredient is heated on a piece of platinum foil, when if the mixture be of an explosive nature it will deflagrate.

Potassium Chlorate—The most interesting member of this category is doubtless potassium chlorate. It is decomposed with violence when treated in the solid state, with concentrated mineral acids; it detonates when triturated

with sulphur, charcoal, powdered metals, starch, sugar, and generally with all organic matter. Following are examples:

1st—In Pills.

Calcium Hypophosphite..	2 gr. 50
Potassium Chlorate.....	4 gr.
Iron Lactate. ....	0 gr. 30

The pharmacist who attempted to prepare this mixture, was so badly injured by the explosion that he was confined to his bed for two weeks. The reaction is strongest when reducing agents are prescribed and as a general rule, this salt should never be dispensed with hypophosphites, nitrites and ferrous salts.

2nd—In Powder.

Potass. Chlorate.....	10
" Salicyl.....	5
Powd Cinchona.....	30
Wood Charcoal .....	50

This is a mixture which will easily decompose with explosion. The dispenser should not only take great precautions in mixing this, but he should also notify the patient of its dangerous character. (We would recommend that such a mixture should not be dispensed at all, as the risks are greater than any possible benefits to be derived from its application. Ed. M. P. J.)

All possible precautions should be taken in preparing such prescriptions, as tooth powders etc., containing potassium chlorate and charcoal, etc. (On page 8 we publish a synopsis of paper on a similar prescription and its explosive character.)

3rd—In gargles. These are frequently prescribed containing this salt, combined with salicylic acid, sodium benzoate, thymol, benzo-phenol, etc., and should be prepared by dissolving the salts separately and mixing the solutions.

These remarks also apply to sodium chlorate, and also to potassium iodate, which are not so frequently prescribed.

Iodine—The association of this element with liquids containing ammonia, causes the formation of nitrogen iodide, a compound which is easily exploded by a shock or heat. Burg-greave has recommended for lumbago, a mixture of tincture of iodine, ammonia, and colodion, in which this compound is formed, and consequently as it is a dangerous mixture it should be dispensed in small quantities only. (We do not quite agree with the writer on this statement, as we have frequently dispensed this mixture and never heard of its exploding. Ed. M. P. J.)

The Permanganates—As regards the precautions to be taken in preparing mixtures and solutions the permanganates are not less interesting than the chlorates. Besides potassium permanganate, the properties of which

are well known, zinc permanganate is used, as recommended by Berkley Hill, in chronic urethritis, in the form of dilute solutions 1 in 4000 in injection.

Chemists know with what rapidity potassium permanganate oxidizes a large number of substances, and daily have proofs of its instability in the presence of organic matter, with which it should never be associated.

This compound should never be triturated with organic or reducing substances, as the same effects will be produced as with potassium chlorate. When the dispenser must mix such bodies it should be done by stirring them gently together. Such a body as glycerine should never be placed in contact with permanganate in powder. If these substances should be prescribed together, the permanganate should first be dissolved in water and the glycerine added to the solution.

Even in dilute solution the permanganates are incompatible with glycerine, volatile and fixed oils, alcohol, ammonium salts, alkaloids, phenol, etc., being rapidly decomposed by these bodies. Potassium permanganate is sometimes prescribed in pill form, in which case the ordinary excipients cannot be used, and recourse must be had to kaolin, with anhydrous lanoline (or vaseline, Ed) which is almost without action on the salt. To prepare this prescription 2 gm. of permanganate in powder are mixed with 2 gm. of kaolin, to which are added 6 gm. or q. s. of levigated kaolin, and the resulting mass is cut into 100 pills.

Chromic acid and potassium bichromate.—These compounds are rich in oxygen and constitute oxidants which are dangerous when associated with certain organic products. The mixing of warm solutions of these compounds with glycerine, volatile oils, alcohol and other organic bodies, may cause explosions or at least very active reactions, either on contact or some time after the mixture has been effected. For this reason these compounds should never be mixed with organic substances.

Nitro-glycerine.—The powerful action of nitro-glycerine on the organism has been known for a long time. It was first used by the homopaths, under the name of glonoine; it has since been prescribed under the name of trinitrine for migraine, neuralgia etc. It is administered at first in very small doses half a drop of 1% solution, gradually increasing the dose to 5 or 10 drops. This dose is very rarely exceeded. According to Hay, it is decomposed in the system with formation of nitrous acid, consequently its action is similar to that of amyl nitrite and sodium nitrite.

As is well known nitro-glycerine is dangerous to handle on account of the ease with which it decomposes, causing violent explosions. This happens when it is suddenly exposed to a temperature of 200° C. or through

the influence of a shock. It sometimes occurs spontaneously when the product is not absolutely pure. Nitro-glycerine should be kept in the form of dilute solutions, ordinarily dissolved in alcohol or oils containing 1 to 10% in small bottles and should be protected from the light. It is unnecessary to remark that mixtures containing nitro-glycerine should not be triturated.

B. Fischer gives the following formula for tablets containing 0 gm. .005 of the active ingredient: A solution of .10 gm. of nitro-glycerine in ether, is mixed with 130 gm. of powdered chocolate and 70 gm. of powdered gum-arabic; after evaporation of the ether a sufficient quantity of water is added to make a mass from which is prepared 200 tablets.

Chloride of Lime.—Mixed with sulphur, the sulphides, volatile oils, this substance may produce violent reactions, and forms mixtures which may explode or take fire very easily. It has a very powerful action on concentrated glycerine, and when necessary to mix these two substances, the chloride of lime should first be mixed with at least its weight of water. It reacts more or less violently with oils and fats, and with most organic bodies. By acting on ammonium chloride, it may give rise to the formation of nitrogen chloride, a body the explosive properties of which are well known.

Nitric Acid.—This body, in certain cases may produce results accompanied by disengagement of heat and gaseous compounds. The following is cited by Hager:

Nitric acid, chloroform, creosote, a. a. 5 gm.

M. D. S.—To cauterise the interior of the hollow teeth.

If this be prepared by mixing together the three ingredients, the heat evolved by the action of the nitric acid on the creosote is sufficient to volatilise the chloroform, and to break the container if placed in a bottle. The acid and creosote should first be carefully mixed and when cool add the chloroform.

Sulphuric acid.—Hager states that mixtures of this body and spirit of turpentine are frequently prescribed in veterinary medicine. As is well known these substances react violently when brought together, the action being feeble at the ordinary temperature at the moment of mixing, but after some time it becomes more violent, and if in a closed vessel may produce an explosion. According to this writer the acid should be mixed with its volume of a fixed oil such as Colza oil, and when the reaction has ceased, the turpentine should be added in small portions mixing well after each addition. The liquid is then allowed to cool and poured into a bottle, after half an hour, the bottle is well shaken, and before corking is allowed to stand for about fifteen minutes.

**PHARMACEUTICAL NOTES.**

**ASSAY OF REMEDIES FURNISHED BY THE ACIDS OF THE AROMATIC SERIES.**—To assay the salts of this series such as sodium or lithium benzoate, salicylate, etc., 20 cgm of the salt is shaken up with 10 c. c. of normal hydrochloric acid and 10 c. c. of ether; the mixture is cooled to 15° C.; it will be found that the ethereal layer will always measure 9.1 c. c. and contains all the acid in solution. 5 c.c. of this solution is then evaporated on the water bath. the residue dissolved in a little alcohol, and the solution saturated with decinormal solution of soda, using phenolphthalein as an indicator, and from the quantity required it is easy to calculate the quantity of pure salt; x representing the quantity found in 5 c.c., the quantity contained in 9.1 c. e. can be found by the following formula :

$$\frac{x \times 9.1}{5}$$

In assaying, betol, salol, or enzonaphthol, this process must be slightly modified as phenol and naphthol which are here combined with the acids are without action on phenolphthalein. 20 gm. are placed in a graduated tube with 10 c.c. of semi-normal soda, and heated on a water bath for 15 to 20 minutes; at the end of this time the ether will be saponified, and the aromatic acid will be found in the solution as a soda salt. The proportion is calculated as in the previous method, only that the volume of the ethereal solution will be found to be 8.5 c.c. instead of 9.1 c.c.—M. Sauvaitre *Bulletin Soc. Pharm. de Nord.*

**SACCHARINE AND POTASSIUM CHLORATE.**—M. Créquy reported at a seance of the Paris Société de Therapeutique that he has been in the habit of prescribing the following tooth powder for his patients who were using iron :

- Sodium bichorate..... 10 gm.
- Potassium chlorate..... 5 "
- Calcined magnesia..... 10 "
- Prepared chalk..... 10 "
- Oil of peppermint..... 11 drops.

and in order to make it more antiseptic, he thought that the addition of one gram of saccharine would have the required effect. The pharmacist to whom the prescription was sent mixed the saccharine and potassium chlorate, the result of which was a violent explosion, the dispenser fortunately escaping any more serious injury than having his hands burnt. M. Créquy thought that physicians and pharmacists should be warned against the dangers of such a mixture.

**STRYCHNINE IN MUSHROOM POISONING** :-- M. Konigsdorfer has obtained excellent

results with strychnine give in 1 milligrammes doses hypodermically.—*Nouv. Rem.*

**THEVENOT**, the well-known French manufacturer of capsules and pearls, died recently at the age of 82 years.

**ADULTERATED POTASSIUM PERMANGANATE.**—M. A. Schlumberger has found this article adulterated with dextrine which had been colored with green malachite, and dried on glass plates. In appearance the adulterant resembles the genuine article, but is quickly discovered on dissolving the suspected article in water which is colored green by it, instead of the characteristic red of the pure permanganate.—*Rev. Chem. Analy. Appl.*

**ACETOGENE** is a white powder which is used on the continent for the preparation of vinegar. Analysis shows that it does not contain acetic acid. Its composition is as follows :

Acid phosphate of calcium.....	13
" " magnesium.....	2
" " soda.....	45
" " ammonium.....	40
	100

**BALSAM TOLU IN THE PREPARATION OF CREOSOTE PILLS**—Six parts of balsam are placed in a capsule and allowed to melt at a gentle heat; while it is semi-liquid 2½ parts of creosote are added and well mixed. The mass is then poured out on a marble slab and allowed to harden. It is then put into a stoppered container for future use. When pills are required an equal quantity of this mass, and balsam tolu in powder with creosote in the same proportions as the foregoing, are mixed together and yield without any other excipient a good pill mass. When other ingredients are required they may be mixed with the powdered balsam before adding it to the mass.—*Jour. de Phar. et de Chem.*

**PHOSPHORUS PILLS :—**

- Phosphorus..... 1 grain.
- Suet..... 500 "

Melt the suet and phosphorus together on a water bath, strain into a mortar and allow to cool. Another method is to mix 1 grm. amorphous phosphorus with 50 gm. of flour and sufficient milk curd to form a mass.

Dissolve the phosphorus in carbon bisulphide using for every 10 gm. phosphorus, 5 gm. carbon bisulphide, when dissolved add 6 gm. powdered licorice and triturate till the carbon bisulphide is evaporated, then add sufficient water to form a pill mass, divide and coat with tolu.



## THE OILS AND OLEO-RESINS OF THE UNITED STATES PHARMACOPŒIA, 1890.

COMPILED BY ALBERT N. DOERSCHUK, KANSAS CITY, MO.

The accompanying tableau of the oils and oleo-resins of the U. S. P. cannot fail to be of value to students and pharmacists generally, as it contains in condensed form all the necessary information concerning these bodies. Anyone desiring copies can obtain them by applying to Dr. H. M. Whelpley, editor *Meyer Bros. Druggist*, St. Louis, Mo., and remitting five cents.

CONCLUDED.

I. Official Latin Title.	Official English Title and synonym.	Origin.	Process.	Yield.	Class.	Sp. Gr. at 15° C.	Chemical Composition.	Medical Properties and Uses.	Adult Dose in C. C.	No. CLASSIFICATIONS.				
										1. Carbo-Hydrogen Oils.	2. Oxygenated Oils.	3. Nitrogenated Oils.	4. Sulfurated Oils.	5. Emphyreumatic Oils.
Oleum Santali.	Oil of Santal. Oil of Santal Wood	Wood of Santalum album. <i>Zin.</i>	Distillation.	1 to 2.5 p.c.	2	0.97 to .978	Santolol, C <sub>15</sub> H <sub>26</sub> O. Santalol, C <sub>15</sub> H <sub>24</sub> O.	In Inflammation & For Ferrugia.	0.9 to 1.25					
" Sassafras.	Oil of Sassafras.	Sassafras.	ditto	1 to 2 to 14 p. c.	2	1.07 to 1.09	Safrene, C <sub>10</sub> H <sub>16</sub> . Safrol or Sassafröl, C <sub>10</sub> H <sub>10</sub> O <sub>2</sub> .	Aromatic. Stim.	0.13 to 0.25					
" Sinapis. Volatile.	Volatile Oil of Mustard.	Black Mustard.	Maceration with water and subsequent distillation	5 p.c.	4	1.018 to 1.027	Sulphocyanate of Allyl, C <sub>3</sub> H <sub>5</sub> CNS. Artificially prepared by treating alcoholic solution of Iodide of Allyl, C <sub>3</sub> H <sub>5</sub> I, with Sulphocyanate of Potassium.	Stimulant. Irritant.	0.005					
" Terabinthine.	Oil of Turpentine.	Turpentine.	Distillation.	17 to 24 p.c.	1	.855 to .87	C <sub>10</sub> H <sub>16</sub>	Stimulant. Vermifuge. Expectorant. Rubefacient.	0.5 to 2.0					
" Terabinthine. Rectified.	Rectified Oil of Turpentine.	Oil of Turpentine.	Agitation with limo water and subsequent distillation.		1	.855 to .865								
" Thymol.	Oil of Thyme.	Leaves and flowering tops of <i>Thymus vulgaris</i> . <i>Linn.</i>	Distillation.	0.4 to 2.5 p.c.	2	.90 to .93	Thymene, C <sub>10</sub> H <sub>16</sub> . Thymol, C <sub>10</sub> H <sub>14</sub> O. Cymene or Cymol, C <sub>10</sub> H <sub>14</sub> .	Antiseptic. Diffusible Stim. In Menstrual Excitement.	0.1 to 1.0					
II. Official Latin Title.	Official English Title and synonym.	Origin.	Process.	Yield.		Sp. Gr. at 15° C.	Chemical Composition.	Medical Properties and Uses.	Adult Dose in C. C.					
Oleum Adipis.	Lard Oil.	Lard.	Expression.			0.91 to .92	Olein, C <sub>37</sub> H <sub>76</sub> (C <sub>18</sub> H <sub>36</sub> O <sub>2</sub> ) <sub>3</sub> . Trace of Stearin.	Emollient. For pharmaceutical purposes.	3.0 to 30.0					
" Amygdaline. Expressum.	Expressed Oil of Almond.	Bitter or sweet Almond.	ditto	Bitter Almond 20-4 p.c. Sweet Almond 50 p.c.	-20	0.915 to .92	Olein, 76 p.c. Mixture of palmitin and stearin, 24 p.c. Adulterated with oil of peach kernel or benne.	Expectorant. Laxative. Alternative. Nutrient.	3.0 to 30.0					
" Gossypii Seminis.	Cotton Seed Oil.	Seed of Gossypium herbaceum and others. <i>Zin.</i>	Expression and subsequent purification.	0 to 5	0 to 5	0.92 to .93	Olein. Palmitin.	Bland neutral-oil. For pharmaceutical purposes.	30.0 to 60.0					
" Lini.	Linseed Oil. Oil of Flaxseed.	Linseed.	Cold Expression.	25 to 27 p.c.	-20	0.93 to .94	Linolein or glyceride of linoleic acid, C <sub>18</sub> H <sub>32</sub> O <sub>2</sub> . Upon resinifying by oxidation it forms Linoxyn, C <sub>32</sub> H <sub>54</sub> O <sub>11</sub> .	Laxative. In burras with Lime water. In piles.	15.0 to 60.0					

Oleum Morrhuæ	Cod Liver Oil, Oleum Jecoris Aselli.	Fresh Livers of Gadus Morrhuæ and others. <i>Linn.</i>	Livers are heated in water when oil is collected and purified.		Clear at 0.92 to 0.95 °C.		Olein, 70 p.c. Gadin, C <sub>37</sub> H <sub>76</sub> O <sub>2</sub> . Oleic and Stearic Acids. Palmitic Acid, 25 p.c. Butyric and Acetic Acids. Glycerine, Iodine, Bromine.	In Rheumatism, impaired digestion, assimilation and nutrition.	2.0 to 10.0
"	Olive Oil.	Ripe fruit of Olea europæa. <i>Linn.</i>	Expression.		0		Olein, 79 p.c. Palmitin, 28 p.c. Glyceride of Palmitic Acid, C <sub>16</sub> H <sub>32</sub> O <sub>2</sub> ; same of [Arachic acid, C <sub>22</sub> H <sub>44</sub> O <sub>2</sub> .]	Nutrient. Laxative. Cathartic. In Cases of Catarrhs, etc.	30.0 to 60.0
"	Phosphoratum.	Expressed oil of Almond and Phosphorus.	Solution.		-20		1 p.c. Solution of phosphorus in oil sweet almond. Phosphorescent in dark.	In nervous exhaustion. Stim.	0.15 to 0.3
"	Ricini.	Seed of Ricinus communis. <i>Linn.</i>	Expression.		-18		Chiefly Ricinoleate of Glyceryl, C <sub>18</sub> H <sub>35</sub> O <sub>2</sub> ; Ricinolein. Palmitin Stearin.	Mild Cathartic.	2.0 to 30.0
"	Seamini.	Seed of Sesamum Sesame. Peel of benne Oil.	ditto		-5		Olein, 76 p.c. Resinous substances. Character of pure olive oil.	Laxative. Externally to soften skin.	2.0 to 30.0
"	Theobrominæ.	Seed of Theobroma Cacao. <i>Linn.</i>	ditto		Melts at 30 to 36° C.		Theobromine, C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub> ; Stearin, Palmitin, Olein. Glyceride of arachic and lauric acids.	In suppositories. Externally.	
"	Tiglii.	Seed of Croton Tiglium. <i>Linn.</i>	ditto		0.97 to .98		Tiglic Acid C <sub>18</sub> H <sub>34</sub> O <sub>2</sub> . Acetic, formic isobutyric and isovaleric acids. Glyceride of stearic, palmitic, myristic, lauric and oleic acids. [Crotonic acid (?) C <sub>11</sub> H <sub>20</sub> O <sub>2</sub> . Schlipplæ]	Diuretic. Purgative. Stimulant.	0.06 to 0.13
III. Official Latin Title.	Official English Title and Synonyme.	Origin.	Process.	Yield.			Chemical Composition.	Medical Properties and Uses.	Adult Dose in C. C.
Oleoresin Aspidii.	Oleoresin of Aspidium.						Filicic Acid, C <sub>14</sub> H <sub>18</sub> O <sub>6</sub> . Really dibutyryl phloroglucin, C <sub>11</sub> H <sub>17</sub> O <sub>3</sub> . Resin. Volatile oil.	Tonicide.	1.5 to 3.7
"	Capsicini.	Capsicum.		12 to 20 p.c.			Capsaicin, C <sub>18</sub> H <sub>31</sub> O <sub>3</sub> . Fixed oil.	Stimulant in Flatulence.	0.015 to 0.06
"	Cubebæ.	Cubeb.	The crude drug is exhausted by percolation with ether, and the percolate is evaporated until no ether remains.				Volatile Oil. Cubebin, C <sub>10</sub> H <sub>16</sub> O <sub>3</sub> . Resin. Cubebic acid, C <sub>13</sub> H <sub>18</sub> O <sub>2</sub> . On standing a very small quantity of Cubebol, C <sub>15</sub> H <sub>24</sub> O <sub>2</sub> separates.	Diuretic Stimulant.	0.3 to 1.9
"	Lupulini.	Lupulin.		37 to 50 p.c.			Valerol, C <sub>11</sub> H <sub>10</sub> O. Lupulinic acid, C <sub>22</sub> H <sub>36</sub> O <sub>2</sub> . Volatile Oil. Tannin. Resin.	Amphodysmic. Sedative Narcotic Tonic.	0.13 to 0.33
"	Piperis.	Pepper.		5 p.c.			Volatile Oil, C <sub>10</sub> H <sub>16</sub> . Acrid resin. Concrete oil. Little piperine, C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> .	Carminative. Stimulant. In languid Stomach.	0.015 to 0.06
Zingiberis	"	Ginger.		5 p.c.			Piperoid of ginger. M. Beral. Volatile oil, C <sub>15</sub> H <sub>24</sub> , 25 p.c. of root. Resin.	Stimulant. Carnifant.	0.06

## DISPENSING METHODS.

Based on suggestions by A. L. DORAN, L.P.S.I.

The man himself, a good compounder, is the fundamental requirement in dispensing. To him, with adequate knowledge and experience, all things are possible. He may make suppositories in a gallipot without shocking our sense of the fitness of things. Nevertheless we cannot afford to despise methods which favor accuracy and facilitate despatch, and certainly of all conveniences of the dispensing-department, its location are among the primary requirements for accurate dispensing. Even if we turn the ideal compounder loose in a "department" rivalling a dog-box in magnitude, we cannot expect great things of him. If the exigencies of space compel the pharmacist to limit his dispensing department to little more than standing room, then by rigid order he may do much to counteract the inconveniences of the confined position. Order in dispensing must be universal, but nowhere is it more necessary than at a confined counter. Some of the ideas in these notes will particularly apply to such a case.

For exemplary purposes we shall run through the stages in compounding a mixture. When the clerical work is done we find we have in hand the prescription labels, envelope, and probably, such requisites as clock-bill, addresses, etc. To take care of them, to prevent them being spirited away, is a trial to the compounder's patience. How is he to do it? This is a good method viz.:—A light pine board, about 6 by 10 inches, having a rubber band slipped across its upper third; this neatly accommodates the lot. This simple little arrangement is a very considerable aid to rapid and clean work, effectually preventing A's labels getting mixed with B's, when more than one are simultaneously at work, and affording a ready means of putting a half finished prescription, with all that pertains to it, to one side in case of interruption.

We next want a nice bottle, spotlessly clean and unchipped. Does it hold the correct number of ounces? Most probably we shall find it wanting in this respect; indeed, the marvel is how the glass-blower manages to get so good an average. Two drachms either way is a fair margin of error in a 5 oz. or 8 oz. bottle. Unfortunately, however, it is not uncommon to find excess or deficit in these sizes to the amount of  $\frac{1}{2}$  oz. With this knowledge it is impossible for the good compounder to pursue the old slovenly method of putting the ingredients in the bottle and filling up symmetrically with our trusty friend aq. font. For such dispensing there is no excuse, and Nemesis, in the shape of a customer possessed of a measuring glass and an inquiring disposition, may at any moment assert him-

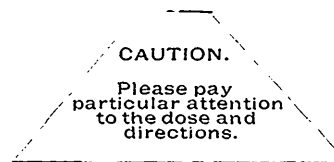
self. If we are to be loyal to *ad uncias*, the mixture must first be made to the stated volume. Here the stoppered mixer comes in, and it is impossible to overrate its advantages at the dispensing counter. It has a wide mouth, ample and graduated body and is the very thing for making crystals resolve themselves in the aqueous adjuvant that accompanies the salt. We can add straight to the mixer the quatum of syrup, glycerine, or mucilage required, without messing a measure or leaving a portion of the thick fluid in it. If filtration or straining is required, there is nothing easier than to do that straight from the mixer, through a funnel, into the dispensing bottle. Of course, for some mixtures, such as bismuth, the dispenser will ensure that he transfers the preparation equally from mixer to bottle.

From this we naturally come to the question of parts and the directions to the patient. Should he trust to the moulded markings on the bottle, or to the printed paper slip, or should the calibrations be done by the dispenser's own measurement? Better than all is it to put the prescriber's direction on the dispensing label, and to attach underneath it a second label in the following terms:—

NOTE.  
One-third part  
of this medicine  
is equal to two  
tablets, supplied  
by medicine  
measure.

A Procter's measure meets the wants of the poorest. Before quitting the subject of labels it is worth considering what the dispenser can do in the case of exceedingly potent medicines

which he cannot label "Poison" or even suggest anything of the kind verbally. In such cases the scarlet lettered label shown below for the shoulder of the bottle has been found satisfactory.



The methods of measuring and weighing need not be discussed here except to say

that for measuring minims the graduated syringe-pipette is invaluable. How does the good compounder divide powders? For small powders this question must be considered in the light of the considerable loss often occasioned by the adhering of certain stuffs to the scale-pan. For quantities not greatly exceeding 5 grs. the hand and eye of the trained dispenser are at last equal—if not superior—to the balance in point of accuracy, while in point of time superior.

The quality of cork, the method of applying caps (please always tie them with a loop which the customer will be tempted to undo, otherwise the string is sure to be left on the neck), and the kind and quality of wrapping

paper are matters which receive careful attention from the good compounder. He is careful, too, in his methods of using them. Who can bear to see the baggy cap with ragged edges kept down with monstrous frequent coils of twine?

And—last straw—when this batch is hidden under a loose wrapper of wrinkled paper hall marked with liberal dabs of wax, to which the envelope is attached in so free and easy a fashion as to threaten dissolution of partnership in the near future, it is time for the perpetrator to give attention to his dispensing methods.

## PERFUMES AND THEIR MANUFACTURE.

BY W. J. KING.

Much has been written in the past on the subject of perfumes. Articles on perfume-making have occasionally appeared in periodicals, but though in some instances written with manifest talent, the want of technical knowledge on the part of the writers considerably impairs their value.

Without recapitulating facts which may be found in all the old authors on botany, chemistry and pharmacy, I may state at once the mode of operation adopted by the practical perfumer in preparing the various extracts and essences used in his calling.

The processes are divided into four distinct operations: expression, distillation, maceration and absorption.

**EXPRESSION** is employed only where the plant is very prolific in its essential oil—as, for example, in the outer peel of the orange, bergamot, lemon and a few others. In these cases the parts of the plant containing the odoriferous substance are put into a press and by mechanical force squeezed to exhaustion; this process is mainly used in Sicily, where the above-named essential oils are produced. Olive oil is also made by this process.

**DISTILLATION.**—The part of the plant containing the odoriferous principle is placed in a copper still, varying in capacity from twenty gallons to three hundred gallons, and covered with water; this water is made to boil, and mingled with the steam is the volatile oil. As the steam passes through the worm of the still it is condensed, and the liquid which thus runs out, on standing for a time separates into two parts—oil and water—when the essential oil, being lighter than water (as a rule) floats, and is skimmed off. It is by this process that oils of neroli, geranium, patchouli, cloves, peppermint, etc., are produced.

**MACERATION** is conducted for manufacturing what is called pomade. A certain quantity of purified beef suet, mixed with purified lard, is put into a can, melted by steam or water bath; the flowers required for the desired odor are

put into the liquid fat and allowed to remain from twelve to twenty four hours. The fat has a particular affinity or attraction for the odor of the flowers, and thus, as it were, draws it out of them, and itself becomes, by their aid, highly perfumed. This fat is strained from the spent flowers, and fresh flowers are added until the pomade is of the required strength. Various strengths are noted by the French manufacturers, as No. 12, 24, 36, etc., the numerals indicating the amount of fragrance possessed by them. The maceration process is employed in making the violet, rose, reseda, orange and cassia pomades.

**ABSORPTION, or *Enfleurage*.**—Of all the processes for procuring the perfume of flowers, this is the most delicate to manipulate; the most important to the perfumer, it is likewise one of the least understood.

The odors of some flowers are so delicate and volatile that the heat required in the previously named process would greatly alter if not entirely destroy them; this process is, therefore, conducted in cold.

Square frames are used, about three inches deep, with a glass set in, exactly like a window sash; over both sides of the glass is spread a thin layer of fat, about a quarter of an inch thick; on this the flowers are sprinkled, completely covering it, and are left there from twelve to forty-eight hours. As the frames are filled, they are piled one over the other so that the flowers are enclosed, so to speak, in a box of which the floor and roof are formed of fat. The flowers are changed as long as the plants continue to bloom, which now and then exceeds two or three months. By this process jasmine, tuberose and jonquil pomades are made.

It is surprising from what a variety of materials the delicate extracts and perfumes are made. The flora of every country, and even the sea, contributes each its share; and chemistry! where would the perfumer be without the wonderful products given us in the last twelve years?

Though many of the finest perfumes come from the East Indies, Ceylon, Mexico, and Peru, the south of Europe is the only real garden of utility to the perfumer. Grasse is the principal seat of the art.

Some idea of the extent of the perfumery industry may be gleaned from the amount of flowers consumed last year by the perfumers of Grasse (in the manufacture of essential oils, pomades, etc.): 200 tons of violets, 35 tons of jonquils, 1,200 tons of orange flowers, 1,173 tons of roses, 30 tons of mignonette flowers, 181 tons of jasmine, 90 tons of tuberose, 25 tons of cassia, besides rosemary, mint, lemon, citron, thyme, lavender, and other odorous plants in large proportions.

The little country of Bulgaria, of which no

mention has yet been made, plays a powerful part in the perfume industry. The cultivation of roses for the purpose of extracting the precious aroma known as otto of rose, is not only the oldest and most attractive occupation, but almost exclusively Bulgarian.

There are at present about 5,500 acres of rose gardens in the entire rose district, which produce annually from 17,000,000 to 21,000,000 pounds of flowers. A rose garden of an acre yields under the most favorable circumstances from 4,000 to 4,500 pounds of roses, out of which amount is extracted from 20 to 25 ounces of otto of rose. It takes generally from 180 to 200 pounds of roses to make one ounce of otto.

The total amount of otto of rose, produced annually in the whole district varies, according to the seasons, from 60,000 to 100,000 ounces. In 1892 the whole crop amounted to about 60,000 ounces; in 1893 the crop was about 80,000 ounces. Bulgaria is not the only country which produces this precious essential oil. France distils a limited quantity, and a product entirely different from the Turkish. Germany has also started rose gardens with the promise of pushing the Bulgarians hard in the near future.

Besides pomades and essential oils, there are gums, resins, musk, vanilla, tonquin, civet, etc., etc., and the wonderful synthetic products of modern chemistry.

We will now follow these products, made by the different processes, to the American perfumer, for it is in this way we receive our raw material. It seems almost needless to say, after all that has been said, that one must be quite well versed and experienced to be able to select the raw material. It frequently happens to so-called perfumers who possess nothing but a mere book knowledge of the art—which they claim is sufficient—that after an article has been worked up and put upon the market it does not permanently retain its rich, flowery odor; such a mishap is due partly, not entirely, to the choice of raw material, and partly to lack of knowledge how properly to manipulate it. The pomades are of the consistency of lard, and herein is stored the fine and fragrant odor of the flower. Now begins the work of again taking this odor, so carefully and laboriously preserved, out of the fat, converting it into liquid form, and preparing it for use. To obtain this result, the pomade is "washed," as it is termed. To do this, a copper retort is employed, the shaft of which is furnished with small wings for working up the pomade and constantly agitating with spirit, which will effect the separation of the perfume from the grease and dissolve it in the spirit, the latter having a greater power of absorption. After remaining several days in this state the liquid is separated from the fat,

and under the influence of excessive cold the grease (which has remained suspended in solution) is precipitated. Having prepared the extracts, as they are called, the art of the perfumer is again called upon to combine these different odors, (rose, jasmine, tuberose, cassia, violet, etc.) with various essential oils and other agents, such as ambergris, musk, civet, etc., etc., to imitate the perfume of any natural flower.

In briefly describing the various modes in use for extracting the aroma from plants and flowers, I have steered clear of giving antiquated formulæ such as the following, which was printed in an Eastern journal, as a representation of the celebrated Mary Stuart perfume:

Ext. ambergris (1 dr. to 1 pt.)	2 ounces.
Ext. vanilla (6 dr. to 1 pt.)	4 ounces.
Ext. jasmine	6 ounces.
Ext. musk (1 dr. to 1 pt.)	4 ounces.
Ext. rose	16 ounces.
Oil bergamot	2 ounces.
Deodorized alcohol	4 pints.

Good perfumes are abundant, but with the best recipes in the world, druggists would be unable to equal the production of our laboratories, wanting the necessary utensils and not knowing the *modus operandi*, which is not easily acquired. Perfumers are not fond of giving to rivals their practical experience, for then, indeed, "Othello's occupation" would be gone.—*Bulletin of Pharmacy.*

Mr. Michael Cartrighe, of the well-known London firm of Dinneford & Co., has again been re-elected President of the Pharmaceutical Association of Great Britain, and Mr. W. Gowen Cross, of Shrewsbury, was re-elected Vice-President.

Mr. Jas. H. Parke, son of Mr. Parke, of Parke, Daris & Co., of Detroit, who mysteriously disappeared in the month of April, has been found at Meridian, Miss., and has been taken charge of by his friends.

Mr. Alexis Auctil, who recently went to Manchester, N. H., has successfully passed the registration examination of the Massachusetts State Board of Pharmacy.

Barker (who has brought out some of his best Burgundy as a treat for his Uncle Wayback)—Well, Uncle Silas, how do you like that? Pretty good stuff, eh?

Wayback—Fust rate, my boy. I allus wondered what that red suff in them drug store winders was.

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1000 . . . . .	\$ 3.50	\$ .30
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2000 . . . . .	7.00	.50
2500 . . . . .	8.75	.65
3000 . . . . .	10.50	.75
4000 . . . . .	14.00	.95
5000 . . . . .	17.50	1.20
6000 . . . . .	21.00	1.40
10000 . . . . .	35.00	2.25
15000 . . . . .	52.50	3.95

## SOLUBILITY.

All are perfectly soluble.

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Practically free from peptone, they are not affected by atmospheric influences and will keep indefinitely.

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EXTRACTS DOUBLES ET TRIPLES

## MECCA BALSAM AND MYRRH.

(From a report of the Pharmaceutical Society of Berlin.)

The southwestern districts of Arabia and the northeastern corner of Africa are characterized by the production of trees yielding aromatic exudations. G. Schweinfurth observes that, although the shrub yielding mecca balsam, *Commiphora opobalsamum*, Eogl. is widely distributed over the coast territory of Arabia, the adjacent islands and southern Nubia—the balsam is collected only in the valleys near Mecca; the plants producing olibanum and myrrh prefer low mountains, 3,000 to 5,000 feet high, and rocky soil. *C. opobalsamum* averages about fifteen feet in height possesses a yellow papery exfoliating bark, and produces long, thin, grayish black twigs, from the ends of which a small quantity of balsam exudes. Although not an eye witness of its collection, Schweinfurth thinks the balsam must be obtained by crushing and boiling the ends of the twigs, or by pouring boiling water over them. Collection by exudation is out of the question, as only a few centimeters toward the ends of the twigs contain much sap, appear varnishy, and yield when incised minute drops of bright green fluid possessing the characteristic odor of mecca balsam. This is the substance referred to in the Bible under the name of myrrh, an error attributable probably to the similarity of the old Hebrew word "mar" with the late Arabic designation "mor" for the gum resin myrrh. It appears never to have been collected in large quantity; according to information from the principal spice merchants in Cairo, at the present time only a few kilogrammes are annually brought to the market.

Myrrh, according to Schweinfurth, can be yielded only by *C. abyssinica* or *C. Schimperi*, and is probably obtained principally from the former, which is widely distributed, and in certain districts abundant. A. Defflers actually collected myrrh from this plant, which was pointed out to him in the Fadhli district east of Aden: the source of the myrrh brought thence in large quantities into commerce, and a specimen of this myrrh was presented by Schweinfurth to the Pharmaceutical Society of Berlin. The tree is a small one, seldom exceeding 30 feet in height, with a yellow or brown shining or papery exfoliating bark. When incised the bark yields abundance of yellowish milky fluid, which solidifies to myrrh. The plant also occurs in northern Abyssinia, but not in such abundance as to offer sufficient inducement to collect the gum resin; the drug comes probably from the northern districts of Yemen and the mountains of Assir. *Balsamodendron myrrha* (*Hemprichia myrrha*, Nees, Schwf.) yields no myrrh; the plant is completely odorless, and

yields no trace of resin when branch or stem is incised. Hemprich noted on his specimen that possibly this species yield myrrh, but the evidence to that effect was insufficient, Nees v. Esenbeck described the plant however, as the source of Arabian myrrh, hence the error, *C. schimperi* grows in Yemen, and produces abundance of gum resin closely resembling myrrh. It is also found in Abyssinia, where, however, little or no myrrh is collected from it.—*American Druggist*.

## PROFESSOR DEWAR ON THE SOLIDS AND LIQUID STATES OF MATTER.

Professor Dewar's second lecture, on May 10th, delivered at the Royal Institution, attracted equally as much attention as the previous discourse. Mendelejeff, the celebrated Russian chemist, whose name is so intimately connected with the periodic system of classification of the elements, was included among the audience. A series of brilliant experiments were performed. Ice was shown viscous enough to be drawn into wire. Some very striking experiments were next made to show that liquids on passing into the solid state either take a crystalline, snow like form, or at once become a transparent mass like ice. To explain the facility with which low temperatures are produced by means of liquid air, Professor Dewar proceeded first to liquify the atmosphere of the room, and finally to freeze it into a snow white solid. The apparatus employed was substantially a simple test-tube inserted into a wider tube containing a large volume of liquid air. The liquid air outside was first caused to boil by connecting its receptacle with a powerful air pump. The effect of the absorption of heat by the vaporisation of the liquid air was to lower the temperature of the inner tube, so that the air within commenced to fall to the bottom in drops. When sufficient of the air of the room had been liquified, an air-pump was applied to the test-tube also, and the inner liquid was caused to boil. In a few seconds so much heat was absorbed by the process that the inner liquid solidified into a mass, and was shown to the audience as solid air. The lecturer took some of the liquid air on a sponge, and dabbed it on a card covered with brilliant scarlet iodide of mercury. The colour instantly faded to a pale yellow, but recovered itself as soon as the chill passed off. Next various liquids, contained in glass tubes were submerged under liquid air. Methyl alcohol passed into a crystalline snowy state; am. alcohol, on the other hand, became a glassy solid. Bisulphide of carbon passed into crystals, and some iodine dissolved in it lost its purple tinge and became a faint pink. The next lecture is to deal with the behaviour of metals at low temperatures.—*British and Colonial Druggist*.



## EXECUTIVE BOARD OF THE MONTREAL COLLEGE OF PHARMACY.

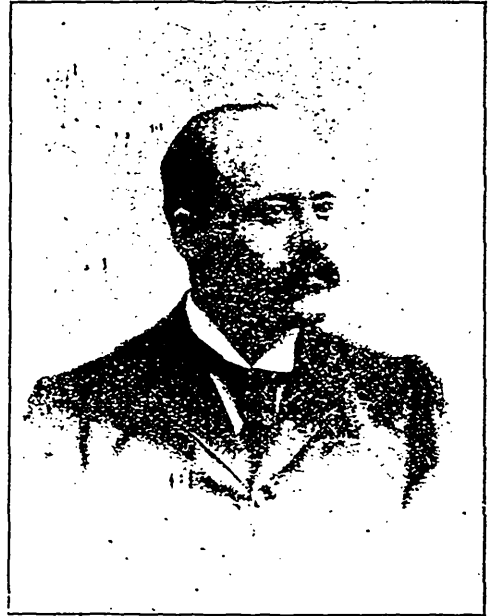


J. E. TREMBLE.

J. E. Tremble was born in St. Mary's, Ont., and served his apprenticeship with Mr. S. Fraleigh. He then attended the lectures at the Ontario College of Pharmacy, and obtained the diploma and also the Avison Materia Medica medal. After serving some time with W. Saunders & Co., of London, he came to Montreal and entered the employ of J. A. Nicolle, the well-known pharmacist of St. Catherine and Bleury streets, with whom he remained for five years. He then embarked in business on his own account at the corner of St. Catherine and Mountain streets, where he has since remained, having, by attention to business, built up a constantly increasing trade.

Mr. Tremble was elected on the Board in May, 1892, and has since been an active, energetic member.

J. E. Morrison was born in Waterford, Ireland, in 1862, and came to this country with his parents when three or four years of age. After leaving the Quebec High School he put in his four years' apprenticeship and attended the lectures at Laval University. After taking a trip to the United States and clerking in pharmacies in Troy, N.Y., and Crookston Minn., he returned to Quebec and started in business on his own account, which he carried on for nine years, during which time he built

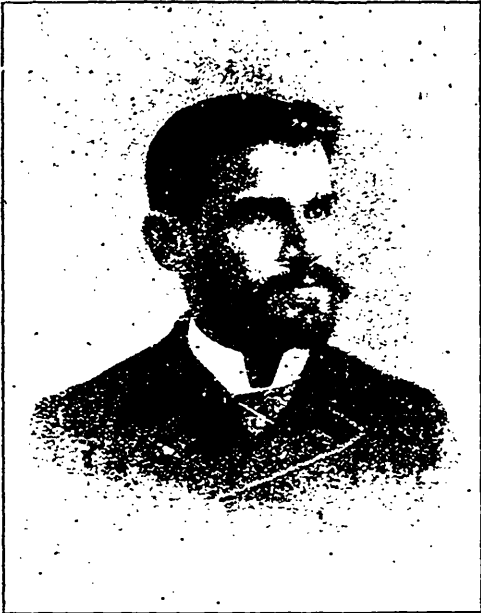


J. E. MORRISON.

up the largest dispensing trade in Quebec. He then sold out to take charge of the laboratory of Messrs. Lyman Sons & Co., the well-known manufacturing chemists of Montreal, where he is still employed, and since coming to Montreal has been editor of this journal.

Mr. Morrison has always taken great interest in pharmaceutical matters, and has been an active member of the Provincial Association since 1882. He was appointed one of the preliminary examiners for the Quebec district in 1887, which position he retained till his appointment as Examiner in Chemistry on the General Examination Board in 1890, from which he resigned on coming to Montreal in 1893. He was also first vice-president of the Provincial Association from 1890 to 1892, and has been a member of the College Board since May, 1893. Mr. Morrison is also a member of the American Pharmaceutical Association and of the British Pharmaceutical Conference, and was one of the Quebec delegates to the International Pharmaceutical Congress held in Chicago in 1893, and while residing in Quebec was a member of the various literary and historical societies of the Ancient Capital.

In Switzerland a humbug medicine is sold guaranteed to hasten the gestation of cows. Analysis proves the powder to be mainly borax.



A. J. LAURENCE.

A. J. Laurence was born in Montreal in 1868, and in 1884 graduated from the Plateau Academy, after which he was for three years in the employ of Messrs Kerry, Watson & Co. He also served some time with Dr. Laporte, and then entered the service of Mr. S. Lachance, with whom he remained for four years, during which he passed his examination as licentiate in 1890. In 1891 he was elected member of the College Board, to which he has been elected every year since.

Mr. Laurence in May, 1892, started in business at the corner of St. Denis and Ontario streets, where he has one of the neatest pharmacies in the city. Mr. Laurence is a thoroughly competent pharmacist in every sense of the word, and has built up an extensive dispensing trade, to which he pays particular attention.

Joseph Contant was born in Montreal, October 1st, 1848. After following the classical course at the Jesuit's College here, he entered as apprentice with Messrs Picault & Son in May, 1856, and remained continuously in the same store as apprentice, clerk, and proprietor, which in these days of shifting around from one store to another is a good indication of the stability and steadfastness of character which have always been characteristic of Mr. Contant, and which have won for him the esteem of his brother pharmacists, as is evidenced by repeated re-elections as President of the Provincial Association. Mr. Contant, in 1885, on



JOSEPH CONTANT.

the death of Dr. P. E. Picault, bought out the store from the estate, and has since carried on business alone under the style of "Picault & Contant."

Mr. Contant has been a member of the Association since its foundation, and was president from 1887 to 1891, and was again re-elected for 1893. He has also served several years on the College Board, and has been prominently identified with many of the benevolent societies of this city and has served terms as president in two of them. He was also one of the founders of the *Chambre du Commerce*, on the council of which he has served since its formation.

RESEARCH OF PEPTONE IN URINE.—50 c.c. of the urine are mixed with 5 c. c. of hydrochloric acid, and then with phospho-tungstic acid and heated. A resinous precipitate forms, from which the liquid is decanted, and is washed with two lots of distilled water, and dissolved in a mixture of 8 c.c. water and 5 c.c. soda lye sp gr 1.16. The solution is then heated till a slight grayish precipitate forms; it is then cooled and a solution of cupric sulphate 1 or 2% is added drop by drop. If peptone be present the liquid becomes of a fine red color, which is even more manifest after filtration. The method will show the presence of .015% of peptone. Urine containing mucine or albumen should first be freed from these bodies before testing for peptone.—*Apotheker Zeitung-Rep. de Pharm.*

## ENGLISH PHARMACEUTICAL NOTES.

(By our London Correspondent.)

Again the Privy Council in their wisdom, or otherwise, have declined to accept the suggestion that carbolic acid should be placed in the poison schedule. Despite the fact that annually the number of suicides by means of this agent steadily increases, it is maintained that its limitation to chemists' shops would materially interfere with its free use as a valuable disinfectant. The fallacy that underlies this argument is apparent to Canadians and even the suspicion that its sale would be affected—in these days when the non poisonous substitutes for carbolic are rapidly replacing it—is absurd. It is not too much to assert that this third unsuccessful attempt on the part of the Pharmaceutical Society has been defeated owing to the political strength of several of the principal manufacturers.

Chemists are groaning over the increased spirit tax to which the Chancellor of the Exchequer is determined to enforce. One satisfactory feature, however, of the present situation is that druggists are realizing more fully the unjust incidence of an increased and increasing duty on spirit. The trade journals have pointed out in no uncertain manner the unfair manner in which pharmacists are regularly treated by each successive increase. Thus, the brewer and distiller can easily neutralize the higher duty by brewing a lower gravity of beer or diluting sufficiently his spirits. The pharmacist has no such alternative as the Food and Drugs Act looks too sharply after him. Nor would it be equally well for him if he could. Further, as the larger part of chemists' sales are in ounces, there is no possible way to recoup an increase of 2 cents or 4 cents a pound on tinctures, according to their preparation from proof or rectified spirit, which is the wholesale druggists' extra charge. Consequently the higher rate is in most instances a sheer loss to the pharmacist, which in the aggregate and on the year's sale is considerable. Although there is very little hope of any relief, it is eminently satisfactory to find pharmacists determined to make members of Parliament and officials to understand how unfairly they are hit by each increase in a duty aimed at the publicans and brewers.

The Pharmaceutical Society as a democratic body electing its council by universal suffrage amongst its members and associates is preparing a bill for Parliament to reform its constitution still further. Hitherto since the date of examinations, 1868, membership of the Society is only open to those who passed the Major examination as pharmaceutical chemists. The Minor examination which gives the successful candidate the title of chemist

and druggist, only allows him to be elected as an associate. It is now suggested that the minor examination shall enable the candidate to be elected a member—this is a prudent recognition of the popularity of the qualifying examination and of the vast preponderance of minor men to major. This recognition, however, is not quite complete and consequently it is not accepted with the enthusiasm that was expected. It is proposed to extend the number of chemist and druggist members who may sit upon the Council to 10, whilst 14 seats are reserved for pharmaceutical chemists. The minor men are raising opposition to this limitation by demanding unrestricted enjoyment in the number of seats they may occupy. The net result will probably be that a reform, which was generally conceived with the idea of consolidating the ranks of pharmacy by embracing all those in business, will be withdrawn.

A word or two concerning our examinations, which have been entirely remodelled within the last three years, may be of interest. First of all it must be regretted that the preliminary examination remains to-day exactly as it did 26 years ago. Students are required to know a smattering of latin, a little English grammar and some simple arithmetic. In this respect the examination is far below the requirements of nearly every other country and of the colonies. The second examination is the minimum legal qualification for opening a pharmacy and selling poisons. This is the minor examination. It occupies two days and the fee is \$25 00. The first day is devoted to practical pharmacy and analytical chemistry. In the former, dispensing is included and has been extended from the ordinary filling of prescriptions by requiring the candidate to make some of the ingredients ordered in the prescription. Thus a candidate recently has to make syrup of iodide of iron, a decoction and a B. P. ointment, besides making a dozen pills, silver coating the same, and an emulsion of castor oil. This usually occupies about 2 hours. After an hour for refreshments practical chemistry has to be tackled. Here the candidate gets some analytical work, such as recognition of alkaloids, salts, etc., also some quantitative estimation, usually volumetric but sometimes assay processes.

Finally some simple physical examination is required such as taking specific gravities, melting-points, etc. The examination is thoroughly practical as the candidate has often to make his own volumetric standard solutions, etc., and write a detailed report. The remainder of the examination is taken on another day, should the candidate have succeeded so far. It is nearly all *viva voce* and occupies about three hours. There are separate examiners in each of the subjects and

candidates sit beside the examiners at their tables on which specimens are placed. In pharmacy, the examination is confined largely to the B. P., and is intended to ascertain the candidate's knowledge of processes and methods. Particular attention is frequently devoted to proper excipients for difficult pill masses, bases for ointments, etc. Chemistry is rather indefinite and questions wander over organic and inorganic regions, but although the scope is wide no vast amount of learning is required. Pharmacopoeial chemicals necessarily are treated prominently and the various gases are frequently enquired about. Formulæ and simple arithmetic calculations are often demanded. Prescription reading comprises the rendering into full latin and English of some dozen abbreviated prescriptions. Doses, particularly of poisonous medicines, are especially asked and calculations of the quantity of active ingredient in a teaspoonful or tablespoonful of liquor, tincture, etc. Botany now includes an elementary acquaintance with histology and the microscope. Recognition of slides containing pollen, medullary rays, tissue, wood fibre, etc., is expected. A number of the common garden and field plants are also displayed and their names, natural orders and peculiarities, demanded. *Materia medica* embraces the recognition of any of the drugs used in medicine and the knowledge of their habitat, active principles, natural orders, adulterations, etc. At the conclusion the candidate is informed of the result of the examination and on the following day receives his diploma. The description of the Major examination hall and rooms will follow next month.

The market in drugs and chemicals has been very quiet and fluctuations are hardly noticeable. Borax and boric acid have been reduced, owing to the accumulation of stocks and breaking up of the combination. Sulphur, on the other hand, has advanced as the troubles in Sicily are not over. Chirata is easier and Senega root is lower. Oil of lemons and essence of bergamot are offered at exceptionally low rates. Opium shows very little disposition to decline, in spite of the stoppage of American demands. Quinine is a shade firmer. Cod Liver Oil is still dear, although rates are somewhat nominal.

CODEINE SALTS.—Phosphate of codeine contains 76% of codeine; it is soluble in 4 parts of water, and is the best for hypodermic injections. Hydrochlorate contains 80% of base, and is soluble in 20 parts of cold water and one part of hot water. The sulphate contains 76% and dissolves in 35 to 40 parts of cold water.—*Runds für Pharm.* April 14, 1894.

## TUBERCULIN AND BOVINE TUBERCULOSIS.

BY E. A. DE SCHWEINITZ, Ph. D.

Bio-chemic Laboratory, Bureau of Animal Industry, Washington, D.C.

In the *Scientific American Supplement* for April 28, 1894, Mr. H. G. Wolcott, New York State Commissioner of Health, has an article on bovine tuberculosis, in which he makes the statement that the department in Washington has the formula for the manufacture of tuberculin, but that this and the imported tuberculin do not give the same febrile reaction. This statement is misleading and deserves correction, because it is not warranted by facts.

About three years ago I began the preparation of tuberculin for use in diagnosing disease in cattle, following in general the method as indicated by Koch in his early articles on the subject, modified by some slight changes which were advantageous to the work. Before making any extensive use of this tuberculin, comparative tests were made with the Koch imported article, with results which showed the tuberculin as manufactured here to be equally reliable. These experiments were carefully conducted, and the comparative results upon a herd in which all the animals were eventually killed will shortly be published by the bureau. All the tuberculin prepared in this bureau has been either made by me personally or under my direct supervision, and none has been sent out for use from this laboratory unless its strength and reliability had been first tested upon tuberculous guinea pigs and tuberculous cattle.

At the request of the State Board of Health of New York, two small lots of tuberculin of known reliability were forwarded to them for use. What disposition was made of this material I do not know, as the board failed to make any report upon its use. When the tuberculin left my hands it was reliable in every way. During the three months beginning January 1, 1894, tuberculin has been sent to twenty four States, in quantities sufficient to test about two thousand five hundred animals. Some of the parties have used the Koch tuberculin at the same time, and in no instance have any unsatisfactory reports reached this office. As Mr. Wolcott states, tuberculin can be reliable in *skilled* hands only, which means, not only the hands of one who has used tuberculin a number of times, but one who is thoroughly familiar with the literature on the subject. This is considerable and covers a number of experiments, both in this country and abroad,

which indicate many idiosyncrasies, both in animals and reactions.

The earliest results with tuberculin showed that there was always a difference in the rise of temperature between the first and second injections on the same animal, that if the first temperature was high, the second would often be lower by several degrees, or in some instances the second injection would give no reaction. Again it would occasionally happen that the first injection would cause only a slight rise of temperature, while the second would give a very marked rise. These results were irrespective of the tuberculin. The interval of time between the first and second injection with the tuberculin, in order that the second injection can be considered at all reliable, should be at least one month, and even after this time the second injection will occasionally be unreliable.

In certain cases, too, the tuberculin possesses some undoubted curative properties, and these and other facts, as well as the idiosyncrasies of the animals, must be taken into account in drawing conclusions.

The value of tuberculin as a diagnostic agent is undoubted, and by its use it will be possible eventually, if not to entirely eradicate, at any rate to control and limit the disease among cattle, and thus indirectly in man.

The active principle of tuberculin is sometimes incorrectly called a ptomaine, and statements are often made that nothing is known of its true nature. Ptomaines is a name given to a class of substances that are like the vegetable alkaloids in their constitution and many of their properties, and this name was first used to indicate the alkaloidal substances that were derived from the putrefaction of animal matter. A number of different germs produce alkaloidal substances and in that sense ptomaines, but these are not the only products.

The active principle of tuberculin, however, has been proved to be not a ptomaine, but a substance belonging to the albuminoids, probably the nucleo-albumens. The same appears to be true for the active principle that is produced by the glanders bacillus, the diphtheria, tetanus, hog cholera, swine plague and other germs. Our knowledge at present does not give us a clear insight into the nature of these albuminoids, but is sufficient to exclude the substances from the ptomaines proper, unless the word is used to signify bacterial poisons in general.

The Bureau of Animal Industry, under the direction of Dr. A. E. Salmon, furnishes to State boards of health and experiment stations a tuberculin reliable in every respect.

By its aid national legislation and State cooperation can do much to rid the country of one of the most dangerous of diseases for animals and man.—*Scientific American Sup.*

## Pharmaceutical Association of the Province of Quebec.

### PRELIMINARY EXAMINATIONS.

The next preliminary examination for candidates entering the study of pharmacy will be held in the Montreal College of Pharmacy, 595 Lagauchetierre street, Montreal, and Laval University, Quebec, on Thursday, July 5th, 1894, at 2 p.m.

Candidates must give notice to the registrar in writing, of their intention to present themselves at *least ten days* before the date fixed for the examination.

A printed form of application must be obtained from the registrar, which must be duly signed by the applicant.

The council of the association having instructed the registrar to strictly enforce the ten days' notice rule, no application will be accepted after the 25th day of June, 1894.

These preliminary examinations are held on the first Thursday in the month of January, April, July and October in each year.

E. MUIR, *Sec.-Registrar*,  
595 Lagauchetiere st., Montreal.

### The Uses of Animal Extracts.

Between such organs as, for example, the brain and the thyroid gland, there are many and great differences. One of these difference is all-important: The thyroid gland is a secretory organ, the brain is not. Without entering into a discussion of the exact nature of the process, concerning which the evidence is not clear, it is sufficient to know that clinical and experimental observations are at one in demonstrating that the thyroid gland manufactures some substance which, by its function in the economy, prevents the occurrence of the symptom complex termed *myxœdema* or *cachexia strumipriva*. The principle is exactly the same as that upon which we administer pepsin or pancreatin in digestive disorders; the body failing to furnish a certain substance which is necessary to the proper nutrition of all the organs, we supply that lack by administering a similar substance obtained from animals.

It will be observed, moreover, that whatever it may be that is accomplished by administering thyroid extract, it is not the cure of the disease of the thyroid gland. No one, surely, expects to cure disease of the peptic glands by giving pepsin, or disease of the pancreas by giving pancreatin. Cure can only be obtained by measures which will secure natural reproduction of the missing secretions.

The brain, so far as we know, secretes nothing physical; so far as we know, there is no symptom or symptom complex which can be attributed to defect in any supposed secretory function

of the brain. Consequently, there is nothing in the whole nosology which, on theoretic grounds, the administration of brain extract could be expected to remedy. Similarly the heart, so far as we know, secretes nothing, and there is no symptom or symptom-complex which can be attributed to default of supposed secretory function on the part of the heart. Equally, therefore, there is no ground for the administration of heart extract to remedy disorders caused by disease of that organ. For, let us remember, the thyroid extract does not cure thyroid disease, the thymus extract does not cure disease of the thymus, the pancreatic extract does not cure disease of the pancreas; and to expect brain extract to cure brain disease, or heart extract to cure heart disease, is on a par with the science of the Obi-doctor and the practice of the lizard-giving Chinaman.—S SOLIS-COHEN, M.D., in *Polyclinic*.

### Palatable Castor Oil.

By A. E. HISS, Ph. G., Chicago, Ill.

Some time ago many American journals were reprinting a formula devised by N. Pretzker of this city for a palatable form for the administration of castor oil. His formula directs the use of one-half ounce of egg yolk, three and one-half ounces of castor oil, one and one-half ounce milk and two drops oil of bitter almonds. Upon trying formula with No. 1 castor oil I failed to obtain a product in which the taste and the odor of the nauseous oil were disguised; in fact, the emulsion was almost as disagreeable as the plain oil. Upon further experimentation I found the following to be almost everything that could be desired, the taste and odor of the oil being entirely covered, the mixture proving almost as pleasant a drink as could be devised.

Castor oil.....	2¾ fl. ounces.
Egg yolk .....	½ fl. ounce.
Syrup.....	¾ fl. ounce.
Oil of cassia.....	20 drops.

The egg yolk should be thoroughly beaten in an emulsion mortar, the two oils incorporated gradually until emulsified, finally adding the syrup. The volatile oil and the syrup with the emulsificant completely disguise the taste and odor of the castor oil. Such an emulsion contains 70 per cent. of the oil. In addition to assisting to disguise the taste, the cassia oil serves the further purpose of preventing griping. The amount indicated may not be sufficient for all individuals, and may be increased to thirty drops, or, perhaps, even more. The dose of such a mixture is from one-half to two ounces. It acts in most cases with exceeding rapidity, very often within less than an hour. It would, therefore, be an excellent cathartic in cases of poisoning, where

as is well known, briskness of action is required. No doubt, the fineness of division of the oil assists its cathartic action. No addition of milk is necessary to this mixture, though it may be advisable, in administering it to children, when they are not to know that a medicine is being given.—*Phar. Era*.

### A PRACTICAL METHOD FOR THE PREPARATION OF PHOSPHO-GLYCERATE OF LIME.

L. PORTES AND G. PRINIER.

From Repertoire de Pharmacie, translated for THE MONTREAL PHARMACEUTICAL JOURNAL.

Phospho glyceric acid, which was discovered by Pelouze in 1840, by acting on glycerine with anhydrous or glacial phosphoric acid, was also obtained about the same time by Gobley by decomposing the lecithine of eggs by acids. Since, Lehman has proved its presence in diseased nervous matter, and more recently Thudichum and Kingzett prepared it by boiling cephaline ( $C_{44}H_{72}N_2PhO_{11}$ ) with baryta water.

But, however interesting these methods of preparing it may be from the physiological and purely chemical standpoints, they are of no value commercially now that the phospho-glycerates may be called upon to perform an important part in modern therapeutics.

Having been interested for a long time in the question of phosphated milk, which is furnished by cows undergoing super-phosphated feeding, and finding in the course of our analytical work on the subject that this milk contained but little more calcium phosphate than the ordinary, we determined to try the glycerophosphates and consequently to study the mode of preparation.

The first attempts, following the method of Pelouze, although it demonstrated the difficulties of obtaining the calcium salt on a commercial scale, as the cost would be about 200 fr. per kilo, furnished sufficient to institute a series of experiments which were very satisfactory in results, and having foreseen, from these, that phospho-glycerate of calcium was the only therapeutical agent which could replace the phosphorus wasted in the system, and after many trials in the hospitals of Paris—trials which have since been confirmed by physicians in other parts of the world,—we determined to find a more expeditious and less costly method of preparation. This process, which is as follows, yields a pure article at a moderate cost.

Take 3 kilos of phosphoric acid, 60%, 3 kilos 600 gms. of glycerine, sp. gr. 1.24, mix together and keep at a temperature of 100 to 110°C. for six days, agitating three or four times daily. It commences to color and emit

fumes on the second day; the fifth day it will have turned brown and ceased to fume; on the seventh day it is allowed to cool and is then viscous and transparent. After cooling the free acid is neutralized by a mixture of 500 gms calcium carbonate in 2 kilos. of water, and then allowed to settle for two or three hours. when more of the chalk mixture is added and the process repeated till all the acid is saturated, which generally takes about two days. The mixture is then filtered and the filtrate exactly neutralized with milk of lime, filtered again and then precipitated by means of 90° alcohol.

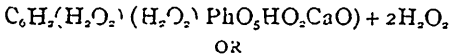
The precipitate which forms settles very rapidly; after about an hour the supernatant fluid is decanted, the precipitate is washed and drained. It is then redissolved in cold water, filtered and evaporated at a low temperature.

The salt thus obtained is a white, crystalline powder, soluble in 15 parts cold water, almost insoluble in boiling water, insoluble in alcohol, and giving with ammonium molybdate only a slight phosphoric acid reaction, calcined and dissolved in nitric acid, it produced on the contrary an abundant characteristic precipitate.

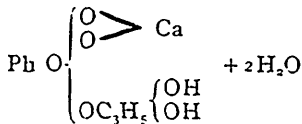
After drying at 110° C. analysis of three samples taken from lots prepared at different times gave the following figures:

	No 1.	No. 2.	No. 3.
Lime.....	23.18	23.29	23.50
Phosphoric acid.	27.85	28.01	28.83

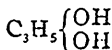
The formula,  $C_3H_7Ca Ph O_6$ , established by Pelouze for a salt dried at 170°, would require 26.66% of lime and 33.80% of phosphoric acid. The formula,  $C_3H_7Ca Ph O_6$ , requires 22.76% of lime and 28.86% of phosphoric acid, figures closely approximating those found by us. Phospho-glycerate of calcium obtained by our process, and such as will be utilized in commerce, will have the formula  $C_3H_7Ca Ph O_6 \cdot 2H_2O$ , or  $C_6H_{12}O_6 (PhO_5HO_2CaO) + 2H_2O$ , following which the constitutional form would be:



A dicalcic phosphorine, with 2 molecules of water, or



that is to say, phosphoric acid in which 2 atoms of H of the acid hydroxyl are replaced by one of calcium, and the other acid H is replaced by the glyceric radical:



and two molecules of water.

**EXERCISES FOR STUDENTS.**

No. 15.—A druggist has a lot of aq ammon. which he finds by testing, 100 minims=68.8 grains oxalic acid. How shall he dilute it to produce liq. ammon. B.P.?

No. 16.—How much of the element lead is contained in one pint (Imperial) of ext. saturni? Liq. plumbi subac P.B.

No. 17.—How shall we dilute 8 fl. oz. plumbi of official oil of vitrol to make it into acid of 40%?

**ANSWERS.**

No. 9.—33 1/3%. The readiest way to solve this is to adopt the formula given in 'Galloway's First Step,' thus:

$$\frac{1.35 - '931}{13.5 - '931} \times \frac{13.5}{1.35} \times 100 = 33.33.$$

No. 10.—Ans. 14 times. 2 oz. is removed the first time, and each subsequent removal is 1/20 less than the previous one, by reason of the dilution. By trial, the number of times necessary to make 20 oz. is soon found. A student familiar with the use of logarithms would consider this a progression, and solve it thus:

$$\frac{\text{Log } 2}{\text{Log } 95} = N = 13 \frac{1}{2}.$$

No. 11.—Rosa Blanda.

W. Lyman, correct for 9 and 10.

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## WHAT IS AT PRESENT KNOWN OF TUBERCULOSIS AND THE MEANS OF PREVENTING ITS CONTAGION.

The following circular, published in French and English, has been issued by the Board of Health of the Province of Quebec for free distribution. Copies may be had by applying to the Secretary at No. 76 St. Gabriel street, Montreal:

Tuberculosis is best known to the public during the last period of the disease, that is to say, the period of softening and breaking down of tuberculous tissue. It is commonly called consumption.

That the lung is not the only organ liable to become tuberculous is abundantly demonstrated by the numerous cases of tubercular meningitis, tuberculosis of the bowels, of the bones and joints, while scrofula is merely another manifestation of tuberculosis.

### FREQUENCY OF TUBERCULOSIS IN MAN.

Of all diseases tuberculosis is that which claims most human victims. Statistics show that it causes one-sixth of all deaths throughout the civilized world. 15,795 deaths were registered in the Province of Quebec during the last six months of the year 1893, and 1,256, or about 8 per cent., were shown to be caused by tuberculosis.

### PROPAGATION OF TUBERCULOSIS.

Tuberculosis is a germ disease and is consequently contagious. Its germ or microbe may be transmitted, 1st by heredity, 2nd by inhalation of air containing these germs, 3rd by means of contaminated food (especially the milk and meat of tuberculous animals), 4th by absorption through a wound (inoculation.)

#### *Heredity.*

Until recently it was believed that most consumptives owed their disease to heredity, and when the father and mother proved to be above suspicion, there was no hesitation whatever in enquiring about the preceding generation.

At the present time, without denying the possibility of the germ of tuberculosis being sometimes transmitted by heredity, tuberculosis has been found in the still born child, heredity has no longer the same importance, and only a very limited number of cases of the disease is now credited to it.

"Modern science," says Reus, "does not deny the numerous facts by which the influence of heredity evidently shows itself, but explains them in quite a different manner to what was done formerly. What tuberculous parents transmit to their child is not, in most cases at least, tuberculosis itself, but a feeble constitution, forming a most favorable soil to receive the microbe of tuberculosis, unable to resist its attack, and presenting for its future growth the best breeding ground possible.

Although the parents do not transmit this microbe to their child with their blood, they unfortunately spread it in their neighborhood as they are phthisical, so that their child is in most favorable circumstances to receive and communicate it in the same manner to its brothers and sisters, who in their turn die, not by hereditary, but by infection.

#### *2. Inhalation of Air Containing the Germs.*

The breath of consumptives is not in itself infectious, but it is otherwise with regard to their sputum, which, once dried, liberates a great number of microbes or germs, which like other fine particles of dust, pass into the atmosphere and contaminate it. In this polluted air, predisposed persons become unconsciously infected with tuberculosis.

This mode of transmission of tuberculosis is by far the most frequent and to it is now attributed most of the cases formerly ascribed to heredity. The frequency of this mode of infection is easily explained. Consumption not being a disease which necessitates remaining indoors, tuberculous patients infect with their sputum their dwelling and the places which they visit. They thus become ambulating sources of infection polluting everything in the way—streets, public gardens, tramways, theaters and even churches. According to Billings, the city of New York must have permanently within its limits 11,000 of these ambulating cases. Adapting his figures to Montreal and Quebec, the number of consumptives would be about 1,600 and 500 respectively for the two cities. If, as Bollinger says, the daily expectoration of one patient may contain as much as twenty millions of germs, one can easily imagine the amount of danger continually contributed by tuberculous individuals whom neither hygienic considerations nor good breeding prevent them from spitting on the floor or ground wherever they happen to be and who thus spread infection right and left. (1.)

#### *3. Ingestion of Contaminated Food.*

*Milk, cream or butter from a tuberculous cow contains and may transmit the germ of the disease.* It is now demonstrated that the transmission may take place without any tubercular lesion in the udder, which was formerly regarded as an essential condition. Such transmission by milk explains the frequency of tuberculosis amongst children.

*The meat from a tuberculous animal may also transmit the germ of the disease,* and it does not seem to be demonstrated that only the parts which are tubercular are dangerous.

(1) On this subject, Armingaud says:—Neither the presence of a consumptive nor his contact are dangerous, it is neither his person nor his breath that are noxious, and we can talk during long hours with him, live with him for years, and nurse him most attentively without serious danger provided certain precautions are taken, the most important of which is to collect his sputum and not to wait until it is dried and carried into the air as dust before destroying it.

The frequency of tuberculosis amongst animals is not the same in all countries. Of 1058 cattle examined in Germany by Kopp, 738 were found to be tuberculous. Amongst the animals slaughtered at the abattoirs of Berlin, during the two years 1887-88, 4,300 were tuberculous. Osler estimates the proportion of tuberculous cattle in the Eastern States of the American Union at from 10 to 15 per cent. Of 13 heifers apparently in very good health examined by Saunders & Robertson of the experimental farm of the Department of Agriculture at Ottawa, five were found to be tuberculous.

#### 4. *Inoculation.*

The germ of tuberculosis may be absorbed through a wound, especially after an operation or an autopsy, though this seldom occurs.

#### PREDISPOSING CAUSES OF TUBERCULOSIS.

As is the case with any other infectious disease all who become in contact with the germs of tuberculosis do not take the disease, unless they are predisposed to it and therefore in a specially susceptible condition.

The following are acknowledged as predisposing causes:

1st heredity; the most important. Without always transmitting the infectious germ (heredity of seed) tuberculous parents often produce children with feeble constitutions (heredity of soil) who thus fall easy victims to the germs of tuberculosis.

2nd. certain diseases, such as diabetes, measles, whooping cough, typhoid fever, bronchitis and bronco-pneumonia. Thus the statement that "a case of typhoid fever has turned into consumption" has some truth in it, as the feebleness that follows typhoid fever favors the absorption of the tuberculosis germ.

3rd. Living in unsanitary, over-crowded, ill-ventilated and damp dwellings. It has been frequently observed that, after draining a city, the death rate of tuberculosis has been considerably reduced.

4th. Professions and trades which require a daily attendance in overcrowded ill-ventilated rooms; especially occupations which require a sedentary life, fatiguing positions, etc., as in the case of tailors.

5th. The attendance in work-shops where the air is always dusty or in work-shops where the air is very warm or where steam escapes. The dusty atmosphere of the former and the issuing from the hot and steamed air of the second often cause bronchial or pulmonary affections which predispose the lung to absorption of the germ of tuberculosis, probably by denuding it of its epithelium (Dieulafoy).

6th. Mal-nutrition from insufficient or unhealthy food; excesses, exhaustion from repeat-

ed pregnancies, prolonged lactations, anxiety, mental and physical overwork, &c.

#### HAVE WE ANY MEANS OF DIMINISHING THE DESTRUCTION CAUSED BY TUBERCULOSIS, AND OF PREVENTING ITS CONTAGION?

Certainly we have, especially when, as is now the case, we know that heredity has but a secondary importance in the propagation of this disease and that when contagion occurs it is usually only because individuals of feeble constitution (whether hereditary or acquired) cannot resist at a given moment the influence of the germs which constantly surround them.

The measures to be taken to prevent the development or the contagion of tuberculosis consist: 1st in combatting predispositions in whatever form they exist. 2nd, in limiting the number of contagious foci constantly created by consumptives 3rd, in preventing the use of food capable of reproducing the disease.

#### 1. *Hygienic Treatment of Children Born of Tuberculous Parents.*

This must begin at birth. If it is the mother who is tuberculous, she must not nurse the child. If possible, the child should be brought up in the country, and better still, if possible, near the sea, or at least make long stays in the country, as the dangers of contagion are less frequent there than in cities. Any sign of feebleness such as rachitis, anæmia, enlarged glands, &c., should receive due attention. Diseases of the respiratory tract should be most carefully attended to, as they may directly prepare the soil preferred by the tuberculous germ. Later the person should be advised to choose a profession that will make him lead an outdoor life and he must as much as possible be kept away from dusty workshops or those in which there is a high temperature, and in general from overcrowded and ill-ventilated workshops.

#### 2. *How to prevent or Lessen the Infection of the Healthy by the Sick.*

As, practically, (1) it is only by the dust of his dried sputum that the tuberculous patient may transmit the disease, it follows that if his sputum or the things contaminated by it are destroyed or disinfected before they have had time to dry the patient ceases to be a source of infection, to those who come in contact with him. This disinfection must be a persistent one, that is to say it must be done not only in the home of the patient, but also at any place he visits.

1. The excreta of a tuberculosis patient may contain the germs of tuberculosis if the patient swallowed his sputum or if the intestine itself be in a state of tuberculous ulceration. For this reason all linen or clothing which have been thus contaminated must be well boiled.

TO BE CONTINUED.

## CHEMISTRY IN RELATION TO PHARMACO-THERAPEUTICS AND MATERIA MEDICA.\*

By PROF. B. J. STOKVIS, of Amsterdam University.

### THE TERM AND SCOPE OF PHARMACO-THERAPEUTICS.

"THERAPY" or "therapeutics," by which terms we understand the art of serving the cause of humanity by assuaging human suffering and healing human ill, avails itself of every means in its power to arrive at these ends; *elle prend son bien ou elle le trouve*. And the art of therapeutics, like all of us here assembled at this Eleventh International Medical Congress, has discovered that always lead to Rome. To Rome therapeutics has come, now in the guise of electricity, now as a water cure, now as psychical influence, so that we here are able to review, as they defile like armies before us, electro-therapy, pneumo-therapy, hydro-therapy, hypnosis, and psychic suggestion, and compare their merits as healing agents as placing themselves at our orders to combat disease and put death to flight. But most ancient of all the branches of medical art is that which makes use of drugs; and in the hands of the inexperienced drugs can cause death (*Papuanæia*—the use of medicines or poisons), so that the science and art of the introduction of medicaments into the human body with the view of healing it carry with due right the appropriate title of "Pharmacotherapeutics." And at one time, pharmacotherapeutics was the most important branch of the healing art, though in our days it has declined and occupies but a second, or perhaps, I should say, third place; operative surgery, proud of its victories, and as admired as admirable, full of vigor and sap, has distanced the ancient branch. And again, we see hygiene, young, fresh, lovely, and assured beforehand of all suffrages, taking its place in the front of all medical science, confident in the future success of its attempts to render the arts of healing superfluous by preventing the malady. Why, then it may be asked, do I essay to interest you in an art which seems to be growing old under our eyes; whose past, it is true, is very honorable, but whose future hardly seems to promise the triumphs that have fallen to the lot of surgery and of hygiene. My reply is simple—because we shall not be able to dispense with this essential branch of our art; because, as much in external as internal medication, we must for the present make use of pharmaco-therapeutics.

### THE PRIME IMPORTANCE OF CHEMISTRY.

The substances that we employ in medicine

are composed of chemical bodies, or are, perchance, pure chemical bodies, and to understand their physiological action we must have recourse to biology and chemistry; while to appreciate their application in disease it is necessary to study pathology and therapeutics. Chemistry, in its wide sense, enables us to understand the composition, the structure, and what I would term the affinities of a substance, as it is chemistry that enables us to analyze by tests, and to construct and reconstruct by synthesis. The relations between chemistry on the one hand and pharmaco-therapeutics and materia medica on the other are so intimate, so indissoluble, and so obvious that it almost seems to me superfluous to trouble you with their consideration. However, you will not mind, I hope, if I take the liberty of submitting to you a few points which may not be new, but which at any rate have the merit of being *apropos*, and may by thought upon them make us better appreciate chemistry. To pile stones on the top of each other is not to construct an edifice. Without a definite plan, without a general view—that is, a comprehensive conception of the whole constructive scheme—there can be no scientific edifice durably reared. Therefore, it would not be sufficient to constitute pharmaco-therapeutics a science to say that if it has arisen without preconceived ideas, it is founded upon observations extending from the most ancient date with regard to the effects produced by the administration of certain substances to the sick; nor is it sufficient to claim that pharmaco-therapeutics has availed itself of experiments on healthy man and on animals, and has taken into consideration physiological results and the fruits of clinical study. A sound basis of operation from which to inquire into the use of medical substances is required. We must know, if we would satisfy the claims of science, the mode of action of these substances, and understand how it comes about that they possess the power to produce or remove functional troubles. And it is here that chemistry comes to our aid—chemistry in general, chemistry in its largest sense. I in no way lose sight of the incomparable services of biological chemistry and physiological experiment. Who of us would overlook the assiduous and successful work of Coppola, Gracosa, Pellacano, Albertoni, and of all that young Italian school that is now marching victoriously along the route traced out for them by Fraser and Brown? The method of action of medical substances has been and will be rendered more clear and comprehensible by their researches; but this is not enough. The conscientious striver after truth will always find himself face to face with one problem, a problem in the solution of which lie concealed—an inextricable secret so far—the true phenomena of life. We recognize this;

\* An address delivered at the Eleventh International Medical Congress, at Rome, 1894; from the *Lancet*.

for everywhere, where we are powerless to comprehend the action of medical substances upon the living organism as being due to their own inherent properties we do not hesitate to call to our assistance the unknown properties of living protoplasm, and attribute the phenomena to them; but it is chemistry that should tell us that we must not be discouraged by the enigma of life. Enigma there is doubtless, but let us recall that Lavoisier first named life "a chemical function," and that—once given that the creature lives—from that it obeys neither more nor less than death or material nature the good laws of chemistry.

#### VITAL PHENOMENA AND THEIR MEANING.

The familiar phrases "living force" or "vital phenomena" serve us to designate the outward expressions of condensed energy in dead material, being borrowed from the manifestations of life. In dead material, we are all aware, force can appear as thermal energy, as electricity, as light, or as mechanical expression, and we can go back along this line of transformations and see all the changes unmake themselves. In living protoplasm—considered as the unit of the psychic and reproductive functions—the essential phenomena are the same. There is the same change of *roles*, the same production of warmth, electricity, mechanical energy, and chemical energy. We know that the living cell "reacts," as we please to term it, to variations of temperature, electricity, light, and energy, chemical and mechanical; but this irritability in the cell, this aptitude of the cell to change one form of energy for another, resembles the transformations that take place in dead material, as the stimulants of the living cell, without which the vital phenomena do not appear, are just the different forms of energy which arrive to it from its environment, and which it changes into chemical energy.\* For life the cell must have warmth and moisture. Take away the moisture or lower the temperature to the necessary point, and life becomes latent or disappears. In dead nature the same takes place. We are all familiar with the admirable experiments of Professor Pictet, bearing upon this point. He proved by them beyond dispute that chemical energy disappeared and reappeared in accordance with the temperature to which certain substances were submitted, and that water is every whit as indispensable as a proper temperature for the maintenance of the phenomena of life. Certain it is that life is a chemical function, but the point is, Is not the chemical function a sort of life? Did not the father of medicine show a wonderful insight in counting water and fire among the

four elements of which the universe is composed?

Now if we examine closer the special problems which fall within the scope of pharmacotherapeutics, if we examine the results which follow the introduction of drugs—healing or poisonous—into the organism of man and animals, it must appear that we can never learn how to solve the problems without looking for their explanation in these "vital elements," as I may term them. The manifestations of their agency in the behavior of living organism have so characteristic an imprint that even Claude Bernard himself did not hesitate to place chemical and purely physical action in the comparative background. I will give examples of my meaning. How are we to understand the fact that the ingestion of infinitesimal quantities of certain substances which pass through the organism without causing in it the least change can provoke such disordered chemical actions as to occasion death? How are we to understand the fact that different parts of the organism seem to be able to distinguish the substances, the one from the other? We must admit special elective functions proper to the life of the cells. How are we to understand the facts that nothing but a change in the quantity of their dosage, the duration of their administration, and the method of their application suffices to make of certain toxic substances stimulants or paralyzants? How are we to understand the fact that insoluble substances like arsenic, cannabis indica, and lead can defy that well known axiom, *Corpora non agunt nisi soluta*, and manifest therapeutic and toxic action? We must admit the presence and agency of some unknown power within the living cell. How, again, are we to understand the therapeutic power exhibited by solutions of iodine and bromine which have apparently been diluted to the deprivation of all chemical action, unless we attribute to the living cell the power of liberating the iodine and the bromine from such dilute solutions? Thanks to my compatriot and dear colleague at the University of Amsterdam, Professor Van't Hoff, thanks to the admirable work of Arrhenius and of Ostwald, thanks to congresses of physicians and chemists, light seems to me to be about to be shed upon all these dark places in pharmacotherapeutics. And it has not been Mahomet who has gone to the mountain, but the mountains which have come to him. In other words, the study of the chemical affinities of dead matter has revealed to us the secrets of the living cell.

#### THE APPEARANCE OF "VITAL PHENOMENA" IN CERTAIN CHEMICAL SOLUTIONS.

We have been accustomed to regard the neutral solution of sugar or of some neutral

\*It must be remembered that all of this is qualified by Professor Stokvis' original reservation, "Once given that the creature lives."

alkaline salt in water as an inert liquid deprived of all molecular power. We know today that such a solution must be held to possess the same kinetic power as if the substance dissolved were present in the gaseous state. Placed in contact with other solutions it will exercise pressure according to the laws that Avogadro and Dalton have discovered for gas. It will exercise an osmotic pressure in direct proportion to its molecular weights. But this is not all. We have to remember the electrolytic phenomena of such solutions by which their kinetic power may be rendered enormous. This conception of the molecular properties of solutions is of the highest importance both in biology and pharmacotherapeutics. It is not by accident that life is so closely leagued, as it were, to water. It is not by accident that living organisms contain without exception more water than solid properties, that they contain much more of it in proportion than any other terrestrial object of palpable and visible formation. It is not by accident that the youngest and most energetic organisms, those in which life is the most intense, are distinguished by containing the most water, while the tissues in which life is ready to expire have the least. Life has been compared to a torch. From a chemical point of view life is not only a torch—it may also be compared to a river. It is an ocean in which the molecules of the chemical substances there constantly dissolve, constantly develop chemical, electrical thermal and mechanical energy, an energy whose seat is the living cell.

From all of this it follows as an absolute necessity that the chemical actions which constitute vital phenomena become stimulated, troubled, or altogether upset from the moment that we introduce into the system some new complicated substances in solution, whose molecular forces are now added to those of the cellular system. We are only embarrassed what example to choose when we seek in organic and inorganic chemistries proof of this point. I only wish to name one to you which seems to me conclusive. By warming pure chlorate of potassium we obtain pure oxygen, but the presence of the smallest quantity of chloride of potassium is sufficient to change part of oxygen into ozone. In giving rise to this development of ozone the chloride of potassium remains itself completely unaltered but, what is more remarkable yet, this chloride of potassium itself has, like peroxide of manganese—which acts in an identical manner—the property of destroying ozone.

We find, then, here, as M. Brunck, to whom belongs the honor of having discovered the reactions, has said, a most remarkable phenomenon. We see a chemical substance, without itself appearing to undergo the least

appreciable molecular change, favors the formation of a new chemical body, which, on the other hand, it has the power to destroy the moment that is formed. There is, in fact, in the domain of organic chemistry, with no question of fermentation, a catalytic force, in considering which we have to make for dead nature a complete pendant of that which we should scarcely consider characteristic for therapeutic actions—the phenomena of excitement and paralysis, manifested by the slightest possible quantities of one and the same substance which itself remains unaltered! And speaking always with these phenomena before our eyes, and looking on the cell as a colloid or membranous mass containing several substances, organic and inorganic, at the same time dissolved in water, there is no longer any reason to be astonished that slight changes in the quantity of one substance or the other, or that the presence in one body that is absent in the other, suffice perfectly to change the chemical affinity of the cells, as well as to differentiate them in such a manner that each of them seems to be endowed with an elective affinity peculiar to itself. As for the manifestation of therapeutic and toxic action by bodies considered to be insoluble, of which Nageli in a posthumous work has made so profound a study, they are also capable of the simplest interpretation. The insolubility of these bodies is not absolute, but only relative. If we throw, for example, metallic copper into water, and wait for some days, we shall find that a certain proportion of the copper has dissolved, *i. e.*, one part to seventy-seven million parts of water. The copper dissolves in this manner without the least intervention of any living organism. In the same way it is not the vital function of the human organism which makes arsenic, cannabis indica, and lead display active properties when introduced in a metallic state under the skin. It is the mass of water which is the agent (for the human body may be regarded as a jug of water containing forty-five liters) and the temperature.

The view that regards the solution of salts as mediums in which the chemical molecules are perpetually striving to assert their individuality has contributed, on the other hand in the most efficacious manner to elucidate the action of some of the drugs that are most in use. I have particularly in my eye now the purgative and diuretic salts, the chlorates, iodides and bromides, whose therapeutic effects are obtained upon doses that may be called massive when comparing them with the infinitesimal doses of which we have just spoken. Since my dear and honored colleague of the University of Amsterdam, Prof. Hugo de Vries, discovered the law of iso-tonic solutions, and since the admirable work of

Prof. Hofmeister, of Prague, and his pupils, the effects of purgative and diuretic salts have been recognized to depend uniquely upon their pure chemico-physical properties. On the other hand, we owe to the zeal and perseverance of Prof. Hofmeister, of Prague, again a series of very beautiful researches on the inhibition of salt solutions by tablets of pure agar-agar gelatine, which demonstrate to proof that all that we have hitherto considered the elective affinity of the living cell can be explained in the most natural manner in the world by its colloid condition and chemical constitution. Add to this that the quickness of chemical action, according to the interesting chemical researches of Vladivarsky is in no way impaired by the colloid state of the medium in which the substances are placed, and you will easily arrive at a conception of the immense progress that pharmaco-therapeutics has made by the energy of physical chemistry. Among the salts that I have named, the iodides and bromides are also to be found. Their therapeutic effects are, I need not say, altogether specific. What is more natural than the belief that we ought to attribute the results to the iodine and bromine themselves; and we all know that some long time ago, my colleague at the University of Bonn, Prof. Binz, has been able to demonstrate that it is the living cell which frees the iodine and bromide from solution. The fact is not, however, proved to universal satisfaction.

I should never finish my task if I tried to place before you all the points of the new view on the action of drugs, poisonous and otherwise, whose pharmaco-therapeutics are traceable to the theories of modern chemistry. Let us glance only at the catalytic fermentative actions which take place everywhere in live protoplasm, and which without doubt play a preponderating role in the therapeutic effects of drugs. These can no longer be considered the appanage of the living cell. They also take place in dead matter.

#### CHEMISTRY IN RELATION TO MATERIA MEDICA.

If I now stop theorizing, it is not from fear lest any one in this Areopagus of science should say: To what practical good does all this tend? Evidently it is not to-day or to-morrow that the art of medicine will profit by chemistry. But all these new ideas have rendered necessary new methods of investigation; and a new track is now being traced by human genius, along which there is much to discover; and from the moment that the new physical methods shall have been applied to the study of drugs (all honor to M. Dreser, who has here taken the initiative in his investigation into diuresis) medical art will profit and will find in chemistry a sure and trusty guide in its effort to serve humanity.

In speaking of chemistry in its relation to materia medica I do not employ the words *materia medica* in the sense in which Dioscorides used them. I employ them in their strictest and primitive sense to mean the collection of drugs and medicaments in use in our days—our *thesaurus medicaminum*. *Materia medica* recruits from botany, zoology, and above all from chemistry; but its immense progress of late is due to chemistry. The active principles of almost all our drugs are now known to us. They have been isolated, prepared and elaborated; the chemical constitution of their active principles is no longer a secret. We know that sugar and glucosides and aromatic oils belong to chemical groups, and are as well defined as the alkaloids derived from pyridine or chinoline. Every day the number of contumelious substances—substances which do not wish to reveal to us their secrets—grows less. Chemistry has revealed to us the presence of more than twenty alkaloids in opium, and of more than six in quinine; and it will soon be extremely difficult to name the drug, of animal or vegetable origin, in which there have not been found one or several active principles. And, going from victory to victory, chemistry has also succeeded in producing a great number of alkaloids by the synthetic manner. These have not been the exceptional lucky strokes (*coups de main exceptionnels*.) No constitution and composition of other bodies that chemistry has not yet reproduced for us is already familiar to the chemist who can transform morphia into codeia and *vice-versa*, and worthless cupreine into effective quinine. We may predict with every confidence that the manufacture by synthesis of all the known alkaloids is only a question of time for chemistry. But the triumphal march of chemistry does not stop here; it has constructed for us new alkaloids endowed with therapeutic effects of great value. It has furnished us, *inter alia*, with apomorphine and apocolaine.

It would be unequaled ingratitude to fail to recognize the imperishable services that chemistry has rendered to materia medica in endowing it with the alkaloids and the pure active principles because there a few black clouds on the horizon. That there are such I do not deny, but they are not wholly the fault of chemistry. Is the gunsmith responsible for the accidents that a new fire-arm may cause in the hands of a client who does not know how to use the weapon properly? Surely not. Why did not the purchaser take the trouble to understand the structure of the gun? Why was he not more careful? Why did he pay no attention to warnings? Why did he behave like a happy child, with nothing more important to do than to display his new acquisition to all the world and to put it to the test with the innocence of youth? On the other hand,

should not the gunsmith help to avoid such disasters by explaining matters to the purchaser? And if he is not himself sufficiently informed and does not thoroughly understand the mechanism of the weapon, should he have offered it for sale? Either party may be to blame. What I want to convey by my parable is this: by a very pardonable illusion, to which the many physicians and some chemists have given way, it has become generally believed that the active principles of drugs, when chemistry can furnish them for us in a crystallized state, are purely chemical bodies, and that identity of name guarantees identity of chemical composition. This illusion is rapidly being dispelled, but, alas! not without having done harm to physicians and their patients. As far as the chemical purity of crystalline products is concerned, it is to-day a secret of Polichinello that crystallized quinine contains cinchonidine, that atropine contains hyoscyanine and atropamine, and that pilocarpine contains jaborandine. As much in organic as in inorganic chemistry we come across this phenomenon of mixed crystallization. The crystallization of substances is no guarantee of their chemical purity. These facts are sufficient to condemn entirely the new therapeutic system that M. Burggraeve has wished to inaugurate under the name of "dosimetric medicine." Dosimetric medicine is doubly on the wrong track—first, in assuming the chemical purity of active crystallized principle of which it exclusively makes use, and secondly, in enunciating the therapeutic heresy that the administration of a single active principle is worth much more than the administration of the drug from which the active principle has been derived. I do not hesitate to describe this dosimetric profession of faith as a heresy. The drugs that are most used are admirably made compositions in which different principles, working for or against each other, are found together. Their therapeutic effect on the system is altogether different from the effect that would be obtained by adding and subtracting the therapeutic effects of each ingredient. Recent pharmaceutical researches have conclusively demonstrated this fact. I do not wish to say too much against domestic medicine. I think it has been, on the whole, inoffensive. Alas! I cannot say as much of the unreasonable faith which leads persons to believe that similarity of name and of active principle in crystalline form will produce chemical and pharmaceutical identity. *Ingentem, regina, jubes renovare dolorem.* We all know the grievous results that may be caused by giving aconitine or digitalin derived from different sources. Here again the progress of chemistry promises improvement. The animal organism is most sensitive to stimulus, and modern chemistry has so many methods of stimulus at its disposal that the task will not be too

arduous. It is a question which interests all civilized countries, which is brought forward at all medical and pharmaceutical international congresses, and which is in most urgent need of a satisfactory solution.

#### THE VAGARIES OF MODERN PHARMACY.

The services rendered by chemistry to therapeutics is not an exhausted subject. Certainly our predecessors already possessed a goodly medicinal treasury, but it seems very insignificant when compared with what we now utilize. Chemistry has loaded materia medica and pharmacology with wealth; it is the mother of new remedies, and we are proud of its aid; it has given us our anæsthetics, hypnotics, and antipyretics. These groups of remedies enable us to give relief in many cases where our forefathers were quite helpless. To them chloroform, ether, carbolic acid, iodiform, creosote, chloral, the salicylates, antipyrin, were all alike unknown. But here, again, and more so than with respect to the alkaloids, there are shades in the picture.

Chemists and chemical manufacturers add more and more to our store of remedies day by day without stint or truce, without heeding the great despairing physician already overstocked with drugs. We are tempted to cry out for mercy. This is no exaggeration, for these new chemical products are all forced upon the same therapeutic market under the most attractive names, and all proclaimed aloud with the noise of the most perfect advertising machinery. This is now done to an extent that, in my opinion, is detrimental to the interests of therapeutics. I am not speaking of quack remedies, the *ovieta* of our day, of those secret specifics which the medical man views with wholesome horror, to which, and to whose use, the old adage, *Trompeurs, trompes, trompettes*, can be so well applied. I am speaking of genuine well-known products; for, unfortunately, modern and industrial chemistry, in manufacturing and placing at the disposal of doctors these drugs, does not at all object to their being purchased by the general public. If this is not so, why do their proprietors select for their names the fascinating names that act as veritable flags to attract the public—for instance, anti-nervine, anti-phthisine, anti-rheumatic, anti-dysenterine, and most expressive of all, migrainine. I fully appreciate the difficulty of finding new names for these new products, and can understand that the manufacturer should shrink from giving them the names derived from their chemical composition, for these, generally speaking, could only be pronounced with linguistic gymnastics and intolerable strain upon our memory. I must, with great regret, note that we have departed from the ancient method, which taught us to denominate new products according to their



origin, and we have followed freely a course that I cannot blame too severely—that of seeking for euphonious names, pompously proclaiming the therapeutic use and effect of the rugs designated by them.

It is not sufficient nowadays to have a good remedy—say agathine—we must be assured of its superlative excellence, hence aristol. Do you want to prescribe for a patient who is “out of sorts,” you have euphorine; for a lack of appetite, you have orexine. You desire to procure sleep for him: you have hypnol, hypnon, somnal, or somniferine. You wish to lower a febrile temperature: do not let the emergency trouble you, for you have antipyrine, antifebrine, antithermine, thermomine, thermofugine, pyrodine, and thermidine. You want to assuage pain? *En bien*, you have awaiting your orders analgesine, analgeine, exalgine, exodyne, and neurodyne. Or you desire to stimulate urinary secretions, you have diuretine, pheduretine, and uropheine. To check the formation of pus there is a remedy termed pyoktonine; and to combat spasms antispasmine. I do not wish to exhaust your patience and I will spare you the enumeration of the antiseptics, the disinfectants, the microbidines *e tutti quanto*. Ten years exactly have elapsed since my honored colleague, Prof. Rossbach, of Jena, published an article full of wit and sound sense in ridicule and blame of these tendencies of modern therapeutics, and in those days we had not the long lists of antiseptic and antipyretic remedies. Nor was it then imagined that the essential extracts of the organs of animals, of which the late Prof. Brown Sequard and M. C. Paul were the earliest to explain the therapeutic value, would find a place in *materia medica*, nor cultures of microbes. It was not foreseen that we should have to chronicle in 1894 the sale not only of sequardine, but also of veritable bacterial products such as tuberculine, tuberculocidine, antituberculine, antitoxine, &c. &c. How shall we check the fury of this flood? There seems no reason why it should ever come to an end.

### The Increased Strength of U.S.P. Tinctures.

The danger which notoriously attends the use of preparations of calabar bean, justifies a word of warning with respect to the strength of the Tincture of Physostigma as established in the U.S.P. of 1890. Every pharmacist will find it well worth his while to refer to page 1633 of the National Dispensatory, and note that the present official tincture is very much stronger than that of 1880, representing about 68½ grains of the drug in each fluid ounce, against 38 grains formerly. This marked increase of potency might, if ignored, lead to serious results.

It should likewise be borne in mind that

Tincture Gelsemium is one seventh stronger than formerly.

Tincture Stramonium is approximately twice as strong as in the U.S.P. 1880.

A number of tinctures have undergone changes in potency; but the latter in some instances are inappreciable, and in others the change has involved reduction of strength—as in Tincture Indian Cannabis, Tincture Musk Tincture Veratum Viride.—*Bulletin of Pharmacy*.

### THE SOURCES AND APPLICATIONS OF BORAX.

By E. L. FLEMING.

Borax is a white, crystalline substance, peculiar to the mineral kingdom; it is a very mild alkali, of a pleasant sweetish taste, and is not injurious to the human system; it is freely soluble in water; its solution acts as a solvent for resins, albumens, fatty acids and certain organic bodies that are not soluble in water alone; but it does not appear to attack fibres, membranes, tissue, or skin. In the crystalline state or in solution, it is very easily decomposed by such acids as tartaric acid or acetic acid; but in its calcined or anhydrous state, when fused, the boracic acid it contains acts as a more powerful acid than even sulphuric acid. Borax in the crystalline state contains 47¼ per cent of its weight of water, to which it tenaciously adheres at the ordinary temperature of the atmosphere, time seeming to have very little effect upon its character. At the boiling point of water it slowly parts with nearly the whole of this water, and if the process be conducted quickly, at a still higher temperature, the borax swells to several times its size, becoming a body of a light and porous nature, which may be crushed to a compact powder. At a higher temperature than 450° Fahr. it melts to a clear glass, which remains transparent on cooling. Though the applications of borax are not generally known, as a fact this interesting and valuable salt will be seen to be utilised in different ways by several industries.

For goldsmiths a special grade of borax is prepared, called jeweller's borax, in pieces as solid and free from cracks as possible, so that when rubbed on a slate with water it is not liable to fall to pieces, but will gradually wear away until too small to handle conveniently, when the small pieces are put on one side, to be used as a flux in melting or collecting.

An enamelled coating for cast iron and steel as well as copper is made by fusing on the metal a mixture of quartz, feldspar, clay and borax, and then covering it with a glaze containing borax. It is thus extensively used in the manufacture of enamelled iron mantel-pieces, made to represent the rarest marbles,

and in the great variety of enamelled signs and hollow ware. Borax is also used in conjunction with infusorial earth for lining fireproof safes, for being a salt that contains nearly 50 per cent of its weight of water of crystallisation, with which it parts at a high temperature in the event of fire, the steam arising from the heated borax permeates the books and papers in the safe, and prevents their being burnt. For this purpose it is superior to alum, which is an acid salt, and has a tendency to corrode the iron. At a red heat the boracic acid in borax readily dissolves, and unites with metallic oxides, forming a fusible glass, which property renders borax of great use in conjunction with other fluxes, for certain mineral and metallurgical processes.

In brazing copper it is used for cleansing the parts to be joined, on account of the property it possesses of dissolving the oxides that form a film upon the metal. It is very extensively used in the manufacture of copper pipes and for other purposes.

In welding iron and steel together it answers the same purpose. Machinists and others use the crystal for chilling the iron to the right temperature, for the purpose of case hardening or tempering different portions of machinery or implements to the desired degree.

Borax has recently been applied with considerable success to the manufacture of optical glass at Jena. This glass has very high refractive properties, and has been very successfully applied to the manufacture of lenses for microscopes and for photography.

Borax is now used in glazing china and earthenware so extensively all over the world that the consumption in these industries, at the present time, exceeds any of the others. The principle adopted is to form a fusible glass of borax and other materials, and fuse it on to the baked earthenware. Many formulæ have been published of the composition of this frit, but almost every large firm have their own formula.

In the manufacture of Parisian cement the borax is added for the purpose of enabling cement, when set and moulded, to take a polish.

In the chemical industries, it is used in the manufacturer of soap, colours, drysaltery and cosmetics; also in photography and timber preserving.

There are many kinds of borax soap. From all accounts its use in this industry arose from the fact that the linen of Holland and Belgium became celebrated on account of its superior whiteness, in the cleansing of which borax was used as a soap powder; and hence we find that dry soap, soft soap, and toilet soaps are now made with it.

In the manufacture of colours borax is used,

and in the preparation of borate of chromium, a pale green powder, and borate of copper, a darker green. These are used as substitutes for arsenical green in painting and dyeing.

In drysaltery it is used in the shape of borate of lead and borate of manganese. Both these products are used in the manufacture of varnish (as driers). The borate of lead is used for the palest varnishes, and the borate of manganese in other varnishes.

As a cosmetic, it enters in the composition of many preparations for the hair, the face and the hands.

Photographers use it in the toning bath to govern the action of chloride of gold, which is dissolved in conjunction with it.

In the preservation of timber it is used for dissolving the albuminous resinous matter, or the sap, which readily decays, leaving only the tough fibre.

Borax dissolves casein, forming a substance which can be used as a mucilage.

In silk it serves for dissolving the glutinous matter adhering to raw silk.

In calico printing it is used for fixing certain colours as a mordant.

Laces, muslin, tulle and other light fabric steeped in a solution of borax are rendered fireproof.

Hat manufacturers use borax for dissolving shellac to form a stiffening for felt hats made of wool. A weak solution of borax is used after the felt body is proofed, to wash from the surface any excess of stiffening not required upon the face of the felt.

Candle wicks are prepared with a solution of borax. Its use is to cause the wick to curve in burning, and at the same time to vitrify the ash. It also prevents the wicks from burning too rapidly, and obviates the necessity for snuffers.

In leather industries it is used in curing and preparing skins, by leather dressers and leather dyers.

It is used as a mordant in dyeing leather with aniline colours. And also in polishing, a little borax in the blacking or coloring is added to enable the iron used in polishing to pass freely over the leather. It prevents the iron sticking and increases the glaze.

Pork packers use powdered borax for sprinkling over hams and bacon. Thousands of tons of meat are thus annually preserved in America.

Fish curers use a mixture of boracic acid, alum, and salt for keeping herrings fresh. The principle seat of this industry, so far, has been at Hangoesund, near Stavenger, in Norway.

Having thus practically demonstrated its usefulness, let us turn our attention to the sources from whence it comes. England has

no borax fields or mines, and at present the the material either in the manufactured state or that from which it can be manufactured, comes from Tibet, Italy, Chili, California and Asia Minor. Tibet is the most ancient source, and under the name of "tincal" borax is brought from the neighbourhood of Yamudokcho to Calcutta, from which port the source or origin is distant between 400 and 500 miles almost direct north. At the present time there is a railroad communication as far as Darjeeling, or a distance of 300 miles.

There is also a borax refinery at Jagadhri, 37 miles south-east of Umballa, in Northern India, all the borax which is exported from India being brought from the Trans-Himalayan region.

The manufacture of borax, as far as England is concerned, divides itself into two classes—the manufacture of borax from boracic acid and that from sesquiborate of lime and double borate of lime and soda.

The mere refining or recrystallising of crude borax requires no skill at all. The manufacture of borax from boracic acid imported from Italy involves several processes. The sulphates of ammonia and magnesia have first to be washed out of the crystallised acid, and this is effected by reason of their superior solubility. The boracic acid is then boiled in large iron pans, with the requisite amount of carbonate of soda, the impurities allowed to subside, and the clear liquor run into large iron vats to crystallise. This first borax is not pure enough for commerce, and requires a second crystallisation.

The impure borax liquors are boiled down, and upon reaching a strength of 60° Twad., or 1.300 specific gravity, are allowed to recrystallise and throw down a further crop of borax. Before the mixture reaches a temperature of 80° Fahr. it is drawn off into other vats to allow the sulphate of soda to crystallise out, and, finally, the liquor is raised to the boiling point, and concentrated, in order to get rid of the common salt.

Borax manufactured from boracic acid is liable to be tinged with various colors, such as black, green or yellow, on account of impurities contained in the acid or the soda ash, and which are due to the presence of sulphides or oxides of iron. In order to overcome this difficulty the borax is bleached when in a state of solution.

The manufacture of borax from boracite, colmanite, or ulexite presents a new feature that does not appear in the manufacture from boracic acid, and that is, that when any of these minerals are reduced to a state of the finest powder, and boiled with carbonate of soda, what is known as borate of soda, as well as baborate of soda, is formed.

The baborate of soda or borax crystallises out

out in the ordinary way, but the borate of soda remains as a thick syrupy liquor, which has to be decomposed either with carbonic acid, boracic acid, or bicarbonate of soda. If this is not done, loss is apt to occur, and the full strength of the mineral is not obtained.

With such abundant supplies of borate of lime throughout the world, it becomes a question of transporting the boracic acid it contains in as concentrated a form as possible, especially in those regions where the quality is but poor, and, therefore, many plans have been devised. One of the simplest is what is known as the sulphurous acid process, and this is to be preferred to others on account of the small quantity required to extract the boracic acid.

The process consists in burning sulphur, and injecting the sulphurous vapours into the decomposing vessel, where the borate of lime is kept in a state of agitation and suspension in water.

Only one ton of sulphur is required to produce five tons of acid, and the saving effected in cost of transportation, where it takes two or even three tons of borate of lime to produce a ton of boracic acid, requires no recommendation.

Various estimates have been made of the consumption of borax throughout the world, and one of the methods of ascertaining this is by referring to the productions of the different countries and converting the different materials in their equivalent of borax. We thus find the production to be as follows:

	Tons.
Asia Minor ... ..	8,000
Thibet .. .. .	2,000
Italy... .. .	3,000
United States ... ..	6,000
Chili and Bolivia ... ..	3,000
Total ... ..	22,000

As the American and Asia Minor supply has been developed within the last twenty years, it will be seen that the uses of borax, to the extent of 14,000 tons per annum, have increased during that period, or nearly 300 per cent, and it may be taken for certain that its uses will still further extend—*Chemical Trade Journal*.

### Neroli Oil.

During the whole of the season the price of this article has remained unchanged. The climatic conditions prevailing during April are decisive of the result of the flower harvest, which takes place in May.

It is reported that during the whole of the present year the sale of neroli oil has dragged heavily, and it is, therefore, thought that considerable stocks will be carried over into the coming season.

## THE PHARMACEUTICAL ASSOCIATION OF THE PROVINCE OF QUEBEC.

The annual meeting took place at Quebec on the 12th inst. Quite a large number of Montreal members were in attendance many of them having other members of their families with them. The proceedings opened with the reading of the minutes of the last annual meeting, after which the registrar read the report of the Council and financial statement, both of which were very satisfactory, especially the latter which showed a balance of \$2619.45.

### TWENTY-FOURTH ANNUAL REPORT OF THE PHARMACEUTICAL ASSOCIATION OF THE PROVINCE OF QUEBEC.—REPORT OF COUNCIL.

Your Council in retiring from the duties of the year, desire to place before the members of the Association an account of their stewardship, with the feeling, that whatever may have been their shortcomings, (if any) they have done the best they could for the interest of the Association and its members as a whole. The meetings of your Council, as provided by By-law, were regularly and well attended. At the first meeting of the new Council held on the 6th day of July, 1893, the officers of the Association and also the board of examiners and auditors were duly elected. At this meeting a communication from the American Pharmaceutical Association and the International Pharmaceutical Congress was presented, requesting your Council to name delegates, to both of these meetings, to be held in Chicago in August last, when it was unanimously resolved that the registrar be authorized to attend these meetings in his official capacity, and as representing the Pharmaceutical Association of the Province of Quebec. There were also present at these meetings as delegates, the following members of the Association namely:—Messrs. Lachance, Morrison and Carriere, and your Council are pleased to state, that your delegates were all well received by the officers and members of both of these associations, some of your delegates having received appointments in both bodies, and during the meetings served on several committees.

In accordance with the recommendation of the last meeting, acted upon by your Council at its first meeting, a bonus of one hundred dollars was voted to the secretary-registrar for his assiduous and untiring interest in the welfare and working of the Association.

Your Council have considered it advisable to make a change in the composition of the Board of Preliminary Examiners, have appointed two professional gentlemen, (one French and one English) who now compose the Board of Preliminary Examiners, and

whose duties are to prepare the examination questions and examine the candidates written answers, their report on the result being final. In addition to these two gentlemen, one of the Quebec members of the Association acts as supervisor for the city and district of Quebec his duties being to take charge of the candidates in Quebec, and to refer their written answers to the examiners. By this change the Association saves money and better satisfaction is given, than under the former system.

Your Council beg to draw the attention of the members of the Association, to the fact, that the circular issued by the registrar, some time ago, calling upon them to comply with the Pharmacy Act with regard to the employment of clerks and apprentices, has, with few exceptions been ignored. As this circular sets forth the clauses of the act referring to such employment, and shows the responsibility which is incurred, by both employers and employees, it is hoped, that a general compliance with the requirements of the act in this respect, will in future be made, otherwise it will be the duty of the registrar, to enforce the law, against those who may contravene these regulations.

Your council regret to state, that the action, mentioned in the last annual report, which had been taken in the Circuit Court in Montreal, against Euclide Mathieu, for illegally associating himself with a licentiate in pharmacy, carrying on the drug business in the City of Montreal, was not successful, as, contrary to their expectations, judgement has been rendered against the Association. An appeal would have been taken in this case, to a higher court, as your Council did not agree with the judgement, but unfortunately no appeal can be taken from judgements given in this court.

In the case of the Association versus Watters of Quebec, which has been for some time in appeal, your Council regret to say that they have been unable to obtain any official report from the Attornies of the Association in Quebec, although written to on the subject several times. Your Council, through the registrar took legal proceedings, against Dr. Prime of Knowlton, for illegally allowing his apprentice, during his (the doctor's) absence from the store, to dispense a physician's prescription and sell one of the poisons mentioned in schedule A of the Pharmacy Act, contrary to provisions of said Act. and judgement for twenty-five dollars with cost was rendered in favor of the Association. Action was also taken against Ernest Prevost for illegally carrying on a drug business, he being only an apprentice, and judgement for twenty-five dollars and cost was given in favor of the Association.

Your Council having considered it advisable

that Legislation should be procured, with a view of amending clause 4052 and clause 4035A of the Pharmacy Act, approached the Legislature at its last session, with a short bill, containing two clauses, the first defining what should be the interpretation of the words, wholesale dealer in drugs, etc., in article 4052, and the other asking for power to extend the provisions of article 4035A, so that it would be made to apply to certain other cities and towns of the Province as well as Montreal and Quebec, but they regret to have to report, that this bill had to be withdrawn, for reasons which your Council consider sufficiently important.

Your Council regret to report the deaths during the year of the following members, namely:—Mr. R. W. Webb, Montreal; Dr. J. B. Valiquette, Farnham, and Dr. J. H. L. St. Germain, St Hyacinthe.

The regular board of examiners held their semi-annual examinations as follows: In Quebec on the 17th and 18th of October, 1893, when eight candidates for the major and eight for the minor examinations presented themselves; of these four major and five minor candidates were successful. In Montreal, on the 17th to 19th April, 1894, when twenty-one major and twenty-three minor candidates presented themselves, and of these nine major and six minor candidates were successful.

The preliminary board of examiners held their quarterly examinations in Montreal and Quebec on the first Thursday of July, October, January and April last, when 150 candidates presented themselves; of these only twenty-nine were successful. The registrar reports on his registers in good standing the names of 197 licentiates of pharmacy, 60 certified clerks, 153 certified apprentices, and 18 physicians licensed under the provisions of Article 4035A of the Pharmacy Act.

The treasurer's financial statement will be laid before you, showing a balance of cash on hand, April 30th, 1894, of \$2,619 95. The registrar's books and treasurer's financial statement have been duly audited, by the auditors appointed by the council, and by them signed and certified as correct.

All of which is respectfully submitted.

P.S.—Since the adoption of the draft of the annual report at the special meeting of the council, held on the 5th inst., the following letter has been received:

QUEBEC, 7th June, 1894.

E. MUIR, Esq., Secretary Pharmaceutical Association, Montreal:

RE WATTERS & MORIN.

DEAR SIR,—In this matter judgment has been rendered dismissing the appeal. Judge Blanchet, who has given the judgment, is of opinion, after consulting the other judges of

the Court of Queen's Bench, that the judgment should be reversed on its merits, deciding therefore that Walters' partnership was illegal. Unfortunately he and the other judges are of opinion that the appeal given by the Federal Statute only applies to cases taken under the authority of acts passed by the Parliament of Canada, so that no appeal exists, neither to a judge in chambers nor to the court itself, unless specially provided for in said acts. "The Pharmacy Act" has no such special provisions, and the appeal had therefore to be quashed on that ground.

Yours, &c.,

CASGRAIN, ANGERS & LAVERY.

It was then moved by Mr. S. Lachance, and seconded by Mr. P. F. Rinfret, that the reports and financial statements be adopted and published in French and English.

The President then read his annual address.

#### PRESIDENT ADDRESS.

GENTLEMEN,—The report which the Registrar has just read gives you an idea of the work of your council during the year which terminated on the 30th of April. As you will have remarked there has been nothing extraordinary to report, and I could hardly hope to interest you by going over it again. I will content myself in consequence by drawing your attention to the a few points of interest.

#### PRELIMINARY EDUCATION.

The young men who present themselves at the preliminary examination, find the examiner too strict, and the question too difficult of solution. Nevertheless, you have only to examine the questions set before them on the last two or three occasions, to convince yourselves that they are practical ones, and should not be found difficult by students who have just left college. It is important, however, that pharmacy students should be well educated so that they may inspire the public with the confidence which they should have in the pharmacist, and keep abreast of the students of other professions. Our system of examination and education was highly appreciated and endorsed by the International Pharmaceutical Congress at its meeting in Chicago. Two of our delegates having been elected to office on different committees, amongst others that on education.

#### LAW SUITS.

Nothing would give me greater pleasure than to announce that no law suits had been instituted during the past year, but unfortunately I cannot do so. The Council having been elected to protect the interests of the members of the Association, sentiment must be put aside, and action must be taken against those who contravene the law. We hope that

the next Council will not be put to the necessity of going before the courts.

Before terminating this address I wish to thank the members of the council for their assiduity in attending the meetings and the interest they have taken in the well being of the Association. I also offer my thanks to the Registrar who this year as heretofore, has shown himself careful of our interests, and vigilant, and zealous in his work. As for myself my task has not been a difficult one, and for that I am thankful, as I would not have been able to devote the necessary time if it had been otherwise, in what I have had to do, I have tried to satisfy everyone, always with due regard to the general interests of the pharmacists of this Province.

After which the President appointed Messrs. J. E. Tremble and J. Emile Roy as scrutineers who immediately proceeded to count the ballots for the members of the council. While this was being done a resolution proposed by Mr. A. Larue and seconded by Mr. A. Robert concerning the formation of a Dominion Association was presented, and caused considerable discussion, which was participated in by Messrs. D. Watson, Williams, Lachance, Morin, Morrison, Robert and others, and was finally referred to the council for consideration.

The following motions were then put and carried.

1. Moved by J. E. Morrison, second by S. Lachance, that the thanks of the Association be given to the authorities of Laval University for their kindness in placing one of their Lecture Halls at our disposal for the holding of the 24th annual meeting of the Pharmaceutical Association of the Province of Quebec.

2. Moved by R. W. Williams, seconded by P. Mathie, that the members of this Association assembled at their annual meeting desire to express their deep regret and sympathy with the families of the following members who have died during the year, viz: R. W. Webb, of Montreal, Dr. J. B. Valiquette, of Farnham, and Dr. J. H. L. St Germain, of St Hyacinthe, and that that a copy of this resolution be sent to their respective families.

3. Moved by R. McNichols, seconded by Trefflé Delisle, that the thanks of this association be tendered to the press for their gratuitous insertion of reports, etc., which have appeared in their respective journals. Carried.

4. Moved by L. A. Bernard, seconded by A. Robert, that the thanks of this association be tendered to the R. & O. Navigation Co., for their continued concessions to the members of this association in granting reduced fares from Montreal and return.

5. Moved by P. F. Rinfret, seconded by Jas. Douglas Webb, that the thanks of this association be given to the retiring members of the

council, for their valuable services during the past year.

6. Moved by R. McNichols, seconded by L. A. Bernard, that Mr. Jos. Contant, the President do now leave the chair and that Mr. Williams, first vice president, take his place as presiding chairman.

7. Moved by P. F. Rinfret, seconded by David Watson, that the thanks of this Association be tendered to Mr. Jos. Contant, for the valuable services rendered by him as President during the past year, and for the able manner in which he has presided at this meeting.

The scrutineers then brought in the following report:

We, the undersigned scrutineers appointed at the annual meeting of the Pharmaceutical Association of the Province of Quebec, having opened the ballots papers handed us and counted the same, find that 135 voting papers were received, of which 2 were rejected, the erasures being in pencil, and we find the following to have received the numbers of votes opposite their names and hereby declared them elected as members of the council for 1894-95.

Jos Contant	135
H. R. Gray	117
D. Watson	105
S. Lachance	102
W. H. Chapman	84
W. A. Dyer	76

(Signed),

J. E. TREMBLE,  
J. EMILE ROY.

The President then announced that the following gentlemen would form the council for the year 1894-95.

R. W. Williams, Alex. Munson, A. D. Mann, R. Carriere, A. La Rue, C. E. Scarff, Jos. Contant, H. R. Gray, D. Watson, S. Lachance, W. H. Chapman, W. A. Dyer.

Moved by Dr. Ed. Morin, seconded by G. H. Brunet that the thanks of this Association be tendered to the scrutineers for their arduous labor in counting the ballot papers.

There being no further business the meeting adjourned.

### Journal Notes.

ST. JOHN, N. B.

On the night of the 3rd of June a destructive fire occurred, whereby Messrs. Parker Bros., druggists, were burned out. Stock was damaged to the extent of \$2,500; fully covered by insurance. Messrs. Parker Bros. removed to Prince William street, nearly opposite the Post Office.

The Philadelphia College of Pharmacy has decided on requiring all graduates to follow the three years course instead of two as heretofore.

### Montreal Druggists' Association.

A largely attended meeting of this society was held in the Montreal College of Pharmacy on Tuesday, June 5th. The principal business was the election of officers for the coming year, with the result that the following gentlemen were elected:

President—Mr. S. Lachance.  
 Vice President—W. H. Chapman.  
 Treasurer—A. D. Mann.  
 Secretary—A. J. Laurence.  
 Executive Council—Messrs. Jos. Contant, H. R. Gray and B. E. McGale.

Members are reminded that their annual subscription of \$1 is now due, and are requested to remit the amount to Mr. A. J. Laurence, Secretary.

### Winnipeg News.

Mr. J. C. Gordon will shortly have one of the finest pharmacies west of Montreal. The building, which is of brick with stone foundations, is now completed and the goods are being placed in position. The fittings, which are of oak, are of exceptionally handsome design, with show cases, etc., to match. The arrangements and apparatus of the dispensing department and the laboratory are of the most modern design, calculated to increase the accuracy and despatch so necessary in these departments of a busy retail pharmacy. The building is altogether a credit to the enterprise of the owner who, no doubt, will be vastly better placed to handle his increasing business. THE JOURNAL wishes success to J. C. Gordon.

### Antikamnia Substitution.

That an unwarranted substitution of one remedy for another is practised by some druggists there seems to be no question. That this is morally wrong, is equally true, but that it is frequently a crime in the eyes of the law, and as such is punishable, seems to have been lost sight of by some of those who may practice it.

But the fact that such have enjoyed immunity from prosecution is no guarantee that they can continue their speculation, even on a small scale, without detection and its consequences.

Frank A. Ruff, of the Antikamnia Chemical Company, has recently been in New York and Chicago, and states that he has made arrangements for a thorough system of investigation throughout the country, and that council has been employed to prosecute, both civilly and criminally, all who persist in furnishing a substitute as and for antikamnia.

The Antikamnia Company proposes doing this without vindictiveness, and indeed, with none but the most friendly feeling to the druggist. Even where a druggist has allowed

himself to be persuaded into the practice, their first step will be to confer with him in the interest of mutual protection. Following that, they propose, if necessary, notifying every physician in the city of the name and address of the offender, with the recommendation to avoid him if honest goods are desired. The substitute obtained by the investigators, together with the name of the dispenser, will be shown to the physician, thus protecting the honest druggist. The more flagrant cases will be given to their attorney for proceedings in law.

Mr. Ruf said in regard to the matter: "We are simply determined that the honest druggist shall be protected; that the physician and patient shall be protected, and lastly, that our own interests shall not be trampled upon."—*Druggist's Circular.*

Customer: "Have you any spongia usta?"  
 Sarcastic pharmacist: "No, all the sponges we usta have are sold"—CHEM. AND DRUG.

According to the Budget report there are 6,470 medical students in France, 3,634 in Paris and 2,836 in the provincial schools. There are 1,097 pharmacy students in Paris and 916 in the provinces.

"Why is valerian antidoting" is one of the questions which appears on the query list of one of the State Pharmaceutical Associations. The secretary has since explained that it should be "antedating." What's the meaning of it anyhow?

Another query which we notice in another list is, "Does pharmacy present any advantages for men over that of women." We can guess what is required, but questions should be stated so that guessing would not be needed.

Messrs. Schweitzer and Lungwitz of New York recommend phospho-molybdic acid as a test for impurities in lard. A solution of pure lard in ether or chloroform gives no coloration with the reagent, while cotton seed oil is shown by the blue tint produced.

An item on the use of sodium salicylate to increase the solubility of exalgine is going the rounds of the continental press, as follows:

Exalgine..... 1 gm.  
 Sod. Salicylate..... 3 "  
 Distilled water ..... 10. "  
 Dissolve by heating.

The editor of "Repertoire de Pharmacie" says that the exalgine is dissolved but on the solution being cooled to the normal temperature part of the exalgine again crystallizes out.

**PRICES CURRENT.**

JUNE, 1894.

Acetum cantharides.....lb	\$0 60	
" colchici corn..... lb	50	
" ipecac.....lb	40	
" opii.....lb	1 20	
" scillæ..... lb	12	
Acetanilid.....lb	90 oz. 15	
Acid. acetic glac..... lb	50	
" " fort..... lb	15 carboy 14	
" benzoic German.....oz	15 lb 1.75	
" " " ozs. Hwds	25 Bulk 20	
" boracic.....lb	18 pulv. 20	
" butyric conc.....oz	30 lb 3.75	
" camphoris.....oz	60	
" carbolic No. 5 Cal..gl	1 50	
" " common.....gl	90	
" " cryst.....lb	40 10 lbs 35	
" " No 1 Calverts.lb	2 25	
" " No.2 " lb	1 40	
" " " " "	10 lb tins 1.10 lb	
" chromic.....oz	10 lb 1.00	
" chrysophanic.....oz	30	
" citric.....lb	65	
" " pulv.....lb	70	
" gallic.....oz	10 lb 1.25	
" hydro bromic dil....lb	45	
" hydrochloric.....lb	5 carboy 2½	
" " C.P.s.g.1.19.lb	25 Wins. 20	
" hydrocyanic P B.. doz.	90 in 1 oz. 10c per oz.	
" " Scheele's doz.	1 00 do 10c do	
" hypophosphor..... lb	1 10	
" hydrofluoric (in patent	} ¼ lb bottles .50 ea.	
ceresine bottles).....		1 lb " 1.25
" lactic dilutum.....lb	1 15	
" " conc. pur.....lb	2 75	
" nitric.....lb	15 Wins. 12 carboy 8½	
" " C.P.s.g.1.40.lb	30 Wins 25	
" oleic pur.....lb	45	
" osmic.....gm	1 75	
" oxalic.....lb	12 50lb 10	
" perchloric.....oz	35	
" phos. dilut.....lb	17 Whr. qt. 14	
" " cone S.G. 1.5.lb	50	
" " glac. pur stick lb	1 20	
" " syr.g...1.750 lb	55	
" picric.....lb	75	
" pyrogallic Schering's oz	40 8 oz 35	
" pyroligneous.....lb	10 gall 50	
" salicylic.....lb	2 00	
" sulphuric.....lb	5 carb. y 2½	
" " C.P.s.g.1.84.'b	25 Wins. 20	
" " pur Eng.....	20 Wins. 18	
" " aromat.....lb	65	
" sulphuros.....lb	12	
" tannic.....lb	80 5 lb 75	
" tartaric pulv..... lb	40 10 lbs 38	
" valerianic.....oz	40	
Aconitina exot.....gr	4 60 gn. 3	
Adeps benzoatus.....lb	35	
Ether S. G. 735.....lb	40 Whr. qt. 35	
" acetic.....lb	55 do 50	
" butyric.....oz	15 lb 1.50	
" chloric.....lb	65 Whr. qt. 60	
" Anæsthetic tin 500 gms	1 50 each. }	
" " 250 " "	80 " Squibbs	
" " 100 " "	40 " }	
" " L. S. & Co	} 1 lb tins 1.00 each	
" " " "		½ lb tins 0.55 "
" " " "		¼ lb tins 0.30 "
Alcohol brl.....cash	3 85 { 10 gall 4 15 5 gall	
	{ 4.20 1 4.25 in a/c	

**Membray's**  
**Kidney and**  
**Liver Cure.**

THIS preparation has jumped to the front by virtue of its indisputable merit.

Stocked by all leading Wholesale Drug and Patent Medicine Dealers in Canada.

Testimonials furnished on application.

**Membray Medicine Co.**  
*of Peterborough, (Ltd.)*

PETERBOROUGH, - - CANADA.



**PETERMAN'S**  
**ROACH FOOD**

FATAL TO COCKROACHES AND WATER BUGS.  
"NOT A POISON"

It attracts Cockroaches and Water Bugs, as a food they devour it and are destroyed, dried up to shell leaving no offensive smell.

... Kept in stock by all Wholesale Druggists ...

**EWING, HERRON & CO., MONTREAL**  
Sole Manufacturing Agents for the Dominion.

**WIGHT'S**  
**Corn / Wart Cure**

The best, the oldest, the most reliable remedy for **Corns, Warts and Bunions** again on the market. A sure and infallible cure. Hundreds of certificates to prove its efficacy. Every druggist should have a little stock on hand in anticipation of the demand, as I am making contracts with every newspaper.

PRICE.—25c and 50c a bottle.  
1 doz., \$1.65; gross, \$18.00.

**J. H. NAULT, Prop.,**  
2449 Notre Dame Street, MONTREAL.



Alcohol absolut.....lb	1	00	Wr. 90
“ methylated.....gal	2	00	Brl. 1 75 cash
Aloes Barb opt.....lb	30	10	lb 25
“ pulv.....lb	35	do	32
Aloes Cape.....lb	15	10 1/2	lbs 13
Aloes Cape pulv.....lb	25	do	23
Aloes Socotrina.....lb	60	do	55
“ pulv.....lb	70	do	65
A'oin.....oz	30		
Alumen lump.....lb	3	brl 1 1/2	
“ pulv.....lb	4	brl 2 1/4	
“ chrom.....lb	15		
“ exsiccata.....lb	20		
Alumol.....25 gm	50	each	
Ammonii benzoas, from gum oz	25	lb 3 00	
“ bromid.....lb	65		
“ carb.....lb	15		
“ kegs.....lb	11		
“ pulv.....lb	20		
“ resub.....lb	55	c. b.	
“ chlorid.....lb	12	100 lb 10 1/2	
“ gran.....lb	12	100 lb 11	
“ pulv.....lb	13		
“ pur.....lb	25		
“ hydrosulph sol.....lb	40		
“ hypophosph.....oz	25	lb 3.00	
“ iodid.....oz	45	lb 5.50	
“ molybdas.....oz	25		
“ monocarb.....lb	35		
“ nitras gran.....lb	32	25 lb 30	
“ crist.....lb	35	25 lb 30	
“ oxalas pur.....lb	75		
“ phosph.....lb	1 25		
“ salicylat.....oz	40	lb 4.75	
“ sulphas com.....lb	9	pur 25	
“ valerian.....oz	40		
Amygdala amara.....lb	50		
Amyl nitras.....oz	15		
“ nitrite.....oz	15		
“ valerian.....oz	35		
Amylum pulv.....lb	9	cwt. 8	
Anatto Hispan opt.....lb	50		
“ Fullwood 1/2 oz & 1/2 oz lb	1 00		
Antim crocus pulv.....lb	20		
“ nigrum pulv.....lb	12	50 lb 10	
“ oxid.....lb	65		
“ sulphurat precip.....lb	50		
“ tartarat pulv.....lb	45	10 lb 42	
Antikamnia.....oz	1 30		
Antipyrin Kuorrs.....oz	1 10	5oz 1.05 10-25oz 1.00	
“ Swiss.....oz	1 00	5 ozs. .95 10-25oz 90	
“.....lb	12 75		
Apiol green.....oz	65		
Apomorph hydroch.....gr	2	5 and 10 grain tubes.	
Aqua anethi.....lb	10		
“ anisi.....lb	10		
“ aurantii flor trip.....lb	25	Win qt 20	
“ camph.....lb	10		
“ carui.....lb	10		
“ cassia.....lb	10		
“ cinnam.....lb	20		
“ destillata.....gl	12	carboy 10	
“ florida.....gl	5 00		
“ lauro-cerasi.....lb	25	Whr qt 20	
“ menthae pip.....lb	16		
“ rosee.....lb	25	Whr qt 20	
“ sambuci flor.....lb	25		
Argenti chloridum.....oz	2 50		
“ iodide.....oz	2 50		
“ nitras cryst. L. B. & Co.oz	85	9.50 lb cash	
“ fus (4 to oz)oz	1 00		
“ oxidum.....oz	2 40		
Aristol.....oz cartons	1 85		
Arsenicum alb. pulv.....lb	10		
“ rub.....lb	15		

# BIRD BREAD

## THE WONDER OF THE AGE,

Patented 1891.

Say ! do you know that in every 10c. packet of Cottam's choice imported, re-cleaned and well-mixed Bird Seed, a 5c. Cake of Bird Bread Bird Invigorator or.....

### SONG RESTORER

is positively given away? No bird should be without this excellent preparation, especially during sickness, moulting or incubation, as it improves the vocal organs, increases song,.....

### MAKES BRILLIANT PLUMAGE,

eradicates disease, promotes the healthy operation of the gizzard, strengthens and sharpens the beak, gives tone and vigor to the whole system, and is strongly recommended for BIRDS TROUBLED WITH MITES.

Don't forget that one pound of Cottam's choice imported Bird Seed and a 5c. Cake of Bird Bread can be got for 10c., or Bird Bread without Seed at 5c. per cake, through druggists, grocers and seedsmen. If you really desire healthy birds, with choice song, and brilliant plumage, use

### "COTTAM'S BIRD SEED,"

which has been awarded first prizes and diplomas, and is the result of many years' study of and experience with birds. Send 30 cents in stamps and we will send you post paid six cakes of Patent Bird Bread.

## BART. COTTAM,

Manufacturer and Patentee,  
London, Can.

## STEARNS'S

# Wine of Cod Liver Oil

WITH PEPTONATE OF IRON.



An entirely new and original preparation which contains 25% of pure Cod Liver Oil, as represented by its active medicinal constituents, Morrhaine, Butylamine, Amylamine Iodine, Bromine and Phosphorus.

Modern investigation has proven that the value of Cod Liver Oil as a medicinal agent is not due simply to the fact of its being an oil, but to the valuable active principles which it contains, as noted above.

Each fluid ounce of the Wine contains four grains of Peptonate of Iron, the most readily assimilated and most valuable of all forms of Iron, it being partially predigested and free from atypic properties.

Stearns's Wine may be used in all cases where Cod Liver Oil and Iron are indicated, and furthermore it is devoid of all the objectionable features hitherto attending the administration of Cod Liver Oil in any form.

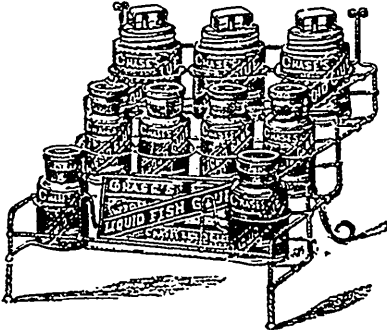
Sold by all prominent Wholesale Drug-houses.

## FREDERICK STEARNS & CO.

[ MANUFACTURING PHARMACISTS,  
DETROIT, MICH., & WINDSOR, Ont.  
AND NEW YORK CITY.

Arsenici bromid.....oz	40			Camphor monobromid....oz	20		
“ iodid.....oz	60			Cantharides Russian.....lb	1 40	pulv. 1 50	
“ tersulph pulv.....lb	25			“ Chinese.....lb	—	do 75	
Asphaltum exot.....lb	15	100 lbs 12		Cantharidine.....grain	8		
Atropina pure.....dr	1 00			Cap papav. alb.....100	1 00		
Atropina sulphas.....dr	80	oz 4 00		Carbo animalis pur pulv...lb	12		
Auri chloridum (15 gr)....doz	3 60	400 3 Doz	3.75	Carbo ligni.....lb	6		
Baccæ aurantii.....lb	25			Carbo ligni pulv.....lb	10	brls 5 50 each	
“ capsici.....lb	25	pulv. 30		Carbon bisulphidum.....“	20	Whrqt 15 drums 12	
“ cassia.....lb	35	pulv. 40		Curmine.....oz	40	lb 5 25	
“ cubebæ.....lb	60			Caryophyllum, Zanzibar...lb	18	22 Pulv.	
“ pulv.....lb	65			Caryophyllum, Amboya...lb	25		
“ juniper.....lb	8	10 lb 7		“ Penang.....lb	10		
“ juniper pulv.....lb	12	10 lb 11		Cassia fistula.....lb	30		
“ xanthoxylon.....lb	50			Castoreum.....oz	1 40		
“ pimentæ.....lb	12			Cera alba.....lb	65	sec 45	
“ pulv.....lb	14	25 lb boxes 13		“ “ paraffin, opt.....lb	25	50 lb 20	
Balsam canad.....lb	45	Winch. 40		“ “ .....lb	18	50 lb 13	
“ copaibæ.....lb	75	Whr. qt. 70		“ flav opt.....lb	40	secs 85	
“ peruvian.....oz	20	lb 2.00		“ lithographers.....lb	10		
“ tolu.....lb	60			Cetii oxalas.....oz	10	lb 1.20	
arii carb pu.....lb	35			Cetaceum.....lb	65	10 lb 50	
“ chlorid pur.....lb	25			Cetrar Iceland.....lb	16		
“ hypophos.....oz	25			Chirata Incis.....lb	45		
“ nitras exsic.....lb	20			Chloralamid.....oz.	35		
“ nitrate C. P.....lb	35			Chlorodyne Lyman's.....lb	2 00		
“ sulphate pur.....lb	50			Chloral Hydrate recryst...lb	1 10		
“ sulphide “.....oz	10			Chlorof pure Smiths 1 lb g.s. bs. lb	90	Whr. qt 80	
Bath Pipe.....lb	40			“ D. F. & Co's pur.....lb	1 80	5 lb 1.75	
Bay rum St. D.....gal	3 75	sec. 2.75		“ “ meth.....lb	85	5 lb 80	
Beberinæ hydroch.....dr	60			“ “ blue label.....lb	1 00	2lb. botrlc 9°c lb.	
Beberinæ sulphas.....oz	90			“ Merck 1 s.....lb	65		
Benzine refined.....gal	40			“ “ 28-lb tins.....lb	55		
Benzoyl Guainacol.....oz	2 00			Cinchonidin sulph.....oz	15	Hds. 20	
Bismuthi carb.....lb	3 00			Cinchouinæ murias Hds.....oz	18		
“ citras.....oz	20			“ sulphas “.....oz	18		
“ et ammon-cit.....oz	35	lb 4.50		Cocaine hydrochlor crys...oz	6 50	Merck's 7 25	
“ salicylas.....oz	35			Cocculus Indicus.....lb	10	pulv 20	
“ sulgallas.....oz	35			Coccus cacti S. G.....lb	40	pulv 45	
“ subiodid.....oz	50			Codeina pure.....dr.	90	oz 6.00	
“ subnitras.....lb	2 25			“ Phosphate.....dr.	1 25		
“ valerian.....oz	50			“ Sulph.....dr.	90	oz 6.00	
Bismuthum (metal).....lb	3 25			Colchici corm.....lb	30		
Bole armen.....lb	6			Collodium.....lb	65		
Borax.....lb	11	keg 9		“ vesicans, P. B.....lb	2 25		
“ pulv.....lb	12	do 10		“ flexile.....“	65		
Bromine.....oz	20			Colocynthis Turc select.....lb	60	pulv 85	
Bromoform.....oz	40			Confectio rosæ Gallic.....lb	50		
Cadmium.....oz	10	lb 1.20		“ sennæ.....lb	40		
Cadmii bromid.....oz	20	lb 2.25		Cortex aurantii Ang.....lb	70		
“ iodid.....oz	45			“ “ coml.....lb	15		
“ sulphas.....oz	20			“ “ opt. ½ s.....lb	20		
Caffeina pur.....oz	25			“ canellæ.....lb	20	pulv 25	
“ citras.....oz	25			“ cascara sagrada.....lb	25		
Calamina præparata.....lb	7			“ cascarilla.....lb	25		
Calci bromid.....oz	20	lb 2.25		“ cassia.....lb	13	pulv 18, 25 lb box 16	
“ carb. præcip.....lb	10	V. Creta præcip.		“ cinchop flav.....lb	90	pulv. 1.00	
“ chlorid. crys.....lb	25			“ “ coml.....lb	30	pulv. 35	
“ “ fustum pure.....lb	30			“ “ rjb quill.....“	60	pulv. 70	
“ “ fused crude.....lb	15			“ granat fruct.....“	20		
“ hypophosphis.....lb	1 40			“ “ radices.....“	60		
“ iodid.....oz	50			“ limonis ang opt.....“	65		
“ lactophosph.....oz	15	lb 2.00		“ “ com.....“	16		
“ nitras.....lb	75			“ mezerei.....“	25		
“ phosphas præcip.....lb	20			“ myricæ (bayberry).....“	20		
“ sulphas.....lb	4	1 3		“ pruni virginianæ.....“	15	20 lbs 12	
“ sulpho-carbolas.....lb	2 50			“ quillaiæ.....“	15	grd. 20 pulv. 25	
“ sulphid.....lb	50			“ sassafras.....“	15	pulv. 22	
“ sulphis.....lb	18	pulv. 20		“ ulmi.....“	16	pulv. 16 grd 14	
Calx chlorinata.....lb	5	keg 4 brl. 3		Creolin, Pearson's.....“	60	litra bot. 1 10 each.	
“ “ in packets 1 lb 7, ½ 8, ¼ 9				Creosot. Ang (Morson's).....oz	20	lb 2.25	
Camphora Ang. Hd's.....lb	65			“ (Beechwood) Merck's lb	2 00		
“ “ ozs.....lb	70			“ “ French lb	2 75		
“ “ flowers, lb	80			“ white, from coal tar lb	75		
“ Dutch.....lb	60			Creosote Carb.....oz	1 25		
“ “ ozs.....lb	65			Creta gallic.....lb	18		
				“ “.....lb	5 bgs. 3½		

# Always Ready Without Heating.



SMALL PACKAGES FOR FAMILY USE.

ASSORTED CASES.

Each case contains a wire stand for the display of Glue on the counter, for which there is no charge. But stands are only given with assorted cases. Send for list to

**GILMOUR & CO.,**

Or from the trade.

MONTREAL.



Please observe Bottle and Label, to avoid errors. For Sale at Drug Grocery and Wine Dealers.

## FOR Body and Brain.

Since 30 years all Eminent Physicians Recommend

## VIN MARIANI

The original French Coca Wine - most popularly used tonic-stimulant in Hospitals, Public and Religious Institutions everywhere.

**NOURISHES,  
FORTIFIES,  
REFRESHES.**

Strengthens entire system; most agreeable, effective and Lasting renovator of the vital forces.

Every test strictly on its own merits, will prove its exceptional reputation.

**PALATABLE AS  
CHOICEST  
OLD WINES.**

**LAWRENCE A. WILSON & CO.,**

Sole Agents.

28 & 30 Hospital St., MONTREAL

## STANDARD PREPARATIONS.

### Mrs. Winslow's Soothing Syrup

Has been used for over fifty years by millions of mothers for their children while Teething, with perfect success. It soothes the child, softens the gums, allays a pain, cures all Wind Colic, and is the best remedy for Diarrhoea. Retail price, 25 cents a Bottle. THE ANGLO-AMERICAN DRUG CO., Proprietors. 217 Fulton Street, NEW YORK, N.Y.

### Brown's Bronchial Troches

A simple yet effective remedy for Coughs, Colds and Bronchial Affections, stand first in public favor and confidence. They are absolutely unrivalled for the alleviation of all throat irritations caused by cold and are everywhere known as an old and reliable article. Sold only in boxes. Retail price, 25 cents, 50 cents and \$1.00. JOHN I. BROWN & SONS, Proprietors, 185 Sumner Street, BOSTON, MASS.

### Brown's Vermifuge Comfits or Worm Lozenges.

This valuable combination, although effectual in destroying Worms, can do no possible injury to the most delicate child. Successfully used by physicians and found to be absolutely sure in eradicating Worms. Retail price, 25 cents a box. THE CURTIS & BROWN MFG CO., Ltd, Proprietors, 217 Fulton Street, NEW YORK, N.Y.

### Brown's Household Panacea.

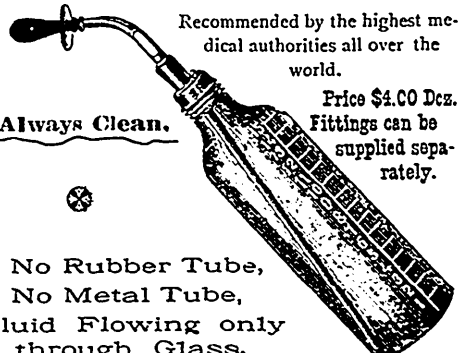
Unequaled for relieving pain—both internal and external. Stronger than any similar preparation and invaluable as a household remedy for speedily relieving aches and pains. Retail price, 25 cents a bottle. THE CURTIS & BROWN MFG CO., Ltd, Limited, 217 Fulton Street, NEW YORK, N.Y.

### Brown's Camphorated Saponaceous Dentifrice.

A superior and most agreeable article for Cleansing and Preserving the Teeth and Refreshing the Breath. Used daily it prevents trouble from bad teeth and soft gums. Retail price, 25 cents a bottle. Prepared by JOHN I. BROWN & SONS. THE CURTIS & BROWN MFG CO., Ltd, Proprietors, 217 Fulton Street, NEW YORK, N.Y.

Patented in Canada and  
the United States.

## The Triumph Feeding Bottle



Recommended by the highest medical authorities all over the world.

Always Clean.

Price \$4.00 Doz. Fittings can be supplied separately.

No Rubber Tube,  
No Metal Tube,  
Fluid Flowing only  
through Glass.

FOR SALE BY ALL WHOLESALE DRUGGISTS.

**THE CANADIAN CAPSULE CO**

For General Excellence in  
SIZES & QUANTITIES

700	2 GRS. DRY POWDER
500	1 1/2 GRS. DRY POWDER
400	1 GRS. DRY POWDER
300	3/4 GRS. DRY POWDER
200	1/2 GRS. DRY POWDER
150	3/8 GRS. DRY POWDER
100	1/4 GRS. DRY POWDER
75	3/16 GRS. DRY POWDER
50	1/8 GRS. DRY POWDER
25	1/16 GRS. DRY POWDER

**Crystal Capsules**

OUR CAPSULES ARE TRANSPARENT, ELEGANT IN APPEARANCE, AND UNDEVELOPED. MANUFACTURED OF THE FINEST & BEST MATERIALS. SAMPLES FREE.

MANUFACTURED BY THE CANADIAN CAPSULE CO TORONTO

Creta p̄ncip.....	lb	10	keg 8
Creta p̄parata ....	lb	5	50 lbs 4
Crocus stignat amer.....	lb	65	
“ “ Valent.....	oz.	80	Alicante 65c oz.
Croton chloral-hydrate.....	oz	45	
Cudbear.....	lb	20	
Cupri ammonio-sulphas ..	lb	1 00	
“ chloridum pur.....	lb	60	
“ nitras pur .....	lb	60	
“ oxidum nigr. pur.....	lb	1 75	
“ “ coml.....	lb	50	
“ sulph.....	lb	7	keg 5 brl 4½
“ sulph recryst.....	lb	25	
Cnprum scales.....	lb	40	
Curare.....	grain	6	
Currie powder.....	lb	35	
Cusso “.....	oz	10	
Damiana.....	lb	40	
Daturine, pure xtls.....	gr	10	
Dextrine, white.....	lb	10	50 lb 8
“ yellow.....	lb	9	“ 7
Diapente.....	lb	30	
Diastase.....	oz	1 25	
Digitaline.....	oz	50	each
Diuretin “Knoll”.....	oz	1 75	
Dolichos pruriens pubes.....	oz	60	
Duboisin, pure Amp 5 gr. tube	oz	6	each
“ sulphate.....	gr	12	
Eikonogen.....	25 gm. tins	4½	each
Elaterium.....	dr	35	
Ergota.....	lb	90	pulv. 1.00
Ergotinum Bonjean.....	oz	75	
Ergotine Bonjean Gen. 30 gm	oz	2 00	
Eserine sulph 5 or 10gr. tube gr	oz	10	
Ethyl, Benzate.....	oz	40	
“ Bromide.....	oz	35	
“ Butyric.....	oz	15	
“ Chloride.....	tubes	35	each
“ Iodid.....	oz	75	
“ Cēnanthylate.....	oz	1 00	
“ Succinate.....	oz	60	
“ Valerian.....	oz	50	
Eucahyptol.....	oz	25	lb 3 50
Europen.....	oz	2 00	
Exalgine.....	oz	1 25	
Extract. acon. (rad alco.)..	oz	35	lb 4.80
“ aloes barb.....	lb	75	
“ “ pulv.....	oz	10	lb 1.25
“ “ socot.....	“	10	lb 1.25
“ anthemides.....	“	20	lb 2.50
“ belladon ang.....	“	25	lb 3.50
“ “ pulv.....	“	25	lb 2.50
“ “ aqueos.....	oz	15	lb 1.50
“ Belladon alcoh.....	oz	25	lb 3.00
“ calumb.....	oz	25	lb 3 25
“ cannabis indicæ.....	oz	25	lb 3.00
“ cascara sagrada.....	oz	25	lb 3.50
“ cinchonæ flav.....	oz	25	lb 3.50
“ colchici.....	oz	20	lb 2.60
“ “ acet.....	oz	15	lb 2 00
“ colocyath co.....	oz	25	lb 3.00
“ “ pulv.....	oz	20	lb 2.50
“ conii.....	oz	10	lb 1.00
“ conii pulv.....	oz	20	lb 2 50
“ copaiabæ resia.....	oz	15	lb 1.50
“ digitalis.....	oz	20	lb 2.50
“ “ pulv.....	oz	30	lb 3.50
“ ergotæ pulv.....	oz	60	
“ gentianæ.....	lb	45	
“ filicis maris ether.....	oz	25	
“ hamamelis dest.....	gr	1 25	
“ glycyrrh mol.....	lb	0 75	
“ “ pulv.....	lb	0 75	
“ hellebor nig.....	oz	25	
“ hæmatoxyli.....	lb	30	
“ hyoscyam.....	oz	20	lb 2.5. 0

# LINTOS

Prepared by

JOHNSON & JOHNSON, - - NEW YORK.

## AN IMPROVED LINT,

MORE ABSORBENT. MORE EASILY APPLIED.

Lintos is a new absorbent fabric made of Absorbent Cotton felted into thin sheets. Every fibre thoroughly cleansed, sterilized and antiseptic. Can be readily formed into Bandages, Pads, Tampons or any desired form of dressing

Is a substitute for  
GAUZE,  
COTTON,  
BANDAGES,  
NAPKINS,  
SPONGE,  
TOWELS,  
&c., &c.

### ADVANTAGES OVER LINT.

Greater absorbancy. Tears Readily

No loose Fibres to stick to Wounds  
or Clothing.

Covers 50 per cent more surface than same weight of Lint.

Notwithstanding these advantages Lintos is not higher in price than ordinary Lin.

Order from you: Wholesaler.

Price by single pound 55c. per lb. net.

Sample and Literature on application to

THOS. LEEMING & Co.,

MONTREAL.

Sole Agents for JOHNSON & JOHNSON

**TO DRUGGISTS** 

WE RESPECTFULLY CALL ATTENTION TO OUR SPECIALTY

**Gibson's Golden Malt Tablets**

. . . This is a confection of the highest standard, and rapidly growing in favor on account of the recognized purity, great excellence, and delicious flavor. It is an article druggists can safely recommend . . . . .

Price :  $\frac{1}{5}$ -lb. Bottles, per dozen, \$4.80  
each - 1.80

For Sale by the Wholesale Drug Trade.

**GIBSON MALT TABLET CO.,****TORONTO.****PRODUITS SPECIAUX**

. . . . POUR . . . .

**Injections Hypodermiques,**

—PRÉPARÉS PAR—

**J. MOUSNIER, DE SCEAUX, FRANCE.**

Pharmacien de l'école Supérieure de Pharmacie de Paris.

Eucalyptol, Eucalyptol Gaiacolé, Eucalyptol Gaiacolé et  
Iodoformé, Eucalyptol Créosoté, Eucalyptol Iodoformé,  
Eucalyptol à l'Héliné, Eucalyptol Phosphoré,  
Phosphate de Soude, Ergotinine, Hypophosphite  
de Strychnine, Quinine, Chlorure double de fer  
et de Quinine, Salicylate de fer, Sparteine,  
Menthol, etc., etc.

Injections Sequardiennes.

Suc Te ticulaire.

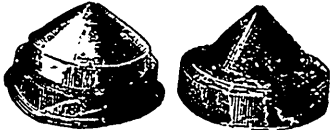
Substance Grise.

Extract hyoscyam aquos . . .oz	10	lb 1.00
“ “ pulv . . . . .oz	25	
“ “ exot . . . . .oz	15	lb 1.50
“ ignatia amara . . . . .oz	60	
“ ipecac acetic . . . . .oz	1 50	
“ jaborandi . . . . .oz	60	
“ jalapæ . . . . .oz	25	lb 3.50
“ “ pulv . . . . .oz	35	
“ krameria . . . . .oz	25	lb 3.50
“ lactucæ . . . . .oz	20	lb 2.20
“ logwood . . . . .lb	11	(15 & 30 lb boxes)
“ logwood 1 lb pkts. .lb	15	(30 lb boxes)
“ “ ½ lb pkts. .lb	16	“
“ “ ¼ lb pkts. .lb	17	“
“ “ asst. pkts. .lb	16½	“
“ lupuli . . . . .oz	25	lb 3.00
“ malt . . . . .lb	25	
“ mezerei æther . . . . .oz	60	
“ nucis vomic . . . . .oz	40	lb 5.40
“ “ pulv . . . . .oz	40	
“ opii . . . . .oz	90	lb 13.50
“ opii pulv . . . . .oz	1 00	
“ “ liquid . . . . .lb	1 25	
“ papaveris . . . . .oz	16	lb 2.25
“ physostigmatis . . . . .oz	2 00	
“ podophylli . . . . .oz	25	lb 3.00
“ quassia . . . . .oz	20	lb 2.40
“ rhamni frang . . . . .oz	50	lb 5.00
“ ramni pulv . . . . .oz	40	
“ sarsæ jam . . . . .oz	30	lb 4.00
“ rhei E. I. . . . .oz	2½	lb 3.50
“ sarsæ jam co . . . . .oz	28	lb 3.25
“ sarsæ hond co . . . . .oz	20	lb 2.75
“ stramonii fol . . . . .oz	20	lb 2.50
“ stramonii pulv . . . . .oz	25	lb 3.00
“ taraxaci . . . . .lb	50	
“ valerian . . . . .oz	15	lb 2.00
“ veratri viride . . . . .oz	45	
Fabæ physostigmatis . . . . .lb	50	
“ tonca para . . . . .lb	1 00	
“ “ surinam . . . . .lb	1 75	
“ “ angostina . . . . .lb	2 75	
“ vanillæ short . . . . .lb	3 00	
“ “ medium . . . . .lb	5 00	
“ “ 7½ in . . . . .lb	6 50	
Fehling's solution . . . . .lb	1 00	
Fel bovinum purificat . . . . .oz	20	2.00 lb
Ferri ammon chlorid . . . . .lb	60	
“ “ persulph(iron alum) lb	40	
“ “ protosulph . . . . .lb	25	
“ “ tartaras . . . . .lb	75	
“ arsenias . . . . .oz	15	lb 1.60
“ bromidum . . . . .oz	20	lb 2.00
“ carb. precip . . . . .lb	15	
“ carbonas sacch . . . . .lb	30	
“ citras soluble . . . . .lb	65	
“ et ammonii citras . . . . .lb	70	
“ et quin. cit. 4% . . . . .oz	15	
“ “ . . . . .lb	1 75	
“ “ 10% . . . . .oz	20	
“ “ . . . . .lb	2 50	
“ “ P. B. . . . .oz	22	
“ “ . . . . .lb	2 75	
“ “ Hd's . . . . .oz	25	
“ “ amorph. . . . .oz	15	
“ “ . . . . .lb	1 75	
“ “ et strychn. cit. . . . .oz	35	
“ “ Hd's . . . . .oz	40	
“ et strychn. citras 1% . . . . .oz	15	10 oz 13 lb 1.75
“ hypophosphis . . . . .oz	20	lb 2.50
“ iodide . . . . .oz	40	
“ lactas . . . . .lb	75	
“ perchlorid . . . . .lb	35	
“ phosphas . . . . .lb	85	
“ pyrophosph . . . . .lb	80	
“ succinate . . . . .oz	35	

Ferri sulphas commerc . . . . .lb	2	brl 90 gross
“ “ exsic . . . . .lb	9	
“ “ pur . . . . .lb	7	10 lb 6
“ sulphid . . . . .lb	15	
“ valerian . . . . .oz	25	
Ferrum dialyzatum . . . . .lb	40	
“ redactum . . . . .lb	75	
“ tartaratum . . . . .lb	30	10 lb 75
Flor. anthem. opt, French . . . . .lb	35	
“ “ Roman . . . . .lb	30	
“ “ German . . . . .lb	30	
“ arnicæ . . . . .lb	25	
“ lavand . . . . .lb	15	pulv 25
“ rosæ gall . . . . .lb	1 76	
“ “ white . . . . .lb	76	
Folia aconiti . . . . .lb	25	pulv. 40
“ belladon . . . . .lb	25	pulv. 35
“ buchu . . . . .lb	20	
“ cocæ green . . . . .lb	75	
“ conii . . . . .lb	20	pulv. 35
“ digitalis . . . . .lb	20	pulv. 35
“ eucalypti glob . . . . .lb	18	
“ hyosey. exot . . . . .lb	25	powd. 40
“ jaborandl . . . . .lb	90	
“ maticæ . . . . .lb	40	
“ pulegii . . . . .lb	20	
“ sennæ alex . . . . .lb	60	
“ “ tenny . . . . .lb	20	15, bale 16, 12.
“ “ pulv . . . . .lb	25	
“ uvæ ursi . . . . .lb	12	
Fruct. anethi . . . . .lb	30	
“ anisi German . . . . .lb	15	
“ “ pulv . . . . .lb	20	
“ “ Star . . . . .lb	45	
“ capsici . . . . .lb	27	10 lbs 25
“ “ pulv . . . . .lb	30	“ 28
“ carni . . . . .lb	12	“ 11
“ “ canad . . . . .lb	11	“ 10
“ carni pulv . . . . .lb	18	
“ conii . . . . .lb	30	
“ coriandri . . . . .lb	10	bag 7½
“ “ pulv . . . . .lb	18	
“ fœniculi . . . . .lb	15	pulv 20
Fuller's earth . . . . .lb	4	100 lb 3
“ “ pulv . . . . .lb	6	100 lb 5
Gallæ cranulæ . . . . .lb	28	bag 25
“ cœrulæ pulv . . . . .lb	30	grd 28
Gasoline, 76° . . . . .gal	60	
Gelatine, black label . . . . .lb	35	10 lb 30
“ bronze label . . . . .lb	40	“ 35
“ silver “ . . . . .lb	45	“ 40
“ gold “ . . . . .lb	60	“ 55
“ pink gold label . . . . .lb	75	
Glue, black . . . . .lb	12	
“ amber . . . . .lb	15	
“ white . . . . .lb	20	
“ cooper's . . . . .lb	39	
Glycerine (double dest) 1260 deg . . . . .lb	20	6 lb tin 16 case 15
Glycerine Price's . . . . .lb	70	W. qt. 65
Grana paradisi . . . . .lb	20	
“ “ pulv . . . . .lb	30	
Guaiacol . . . . .oz	30	
“ carb . . . . .oz	1 75	
Guarana pulv . . . . .lb	3 00	
Gum acacia turc elect . . . . .lb	65	
“ “ med . . . . .lb	50	
“ “ sorts . . . . .lb	35	
“ “ pulv . . . . .lb	75	
“ ammon in guttæ . . . . .lb	50	
“ asafetid. opt . . . . .lb	45	sec. 35
“ “ pulv . . . . .lb	40	
“ benzoin opt . . . . .lb	75	
“ catechu nig . . . . .lb	12	20 lb 11 pulv 25
“ catechu pallid cubes . . . . .lb	16	10 lb 15
“ copal . . . . .lb	75	
“ damar . . . . .lb	30	

# SHIRLEY'S No. 42 MENTHOL CONE.

admittedly the best smelling in the world.



The case is of celluloid pink lettered in aluminum, and the cone takes off with the lid. Nothing to equal it, has ever been brought out.

Sells in London..... @ 3/9 doz  
 also, No. 41, 6d flat celluloid. .... 3/9 "  
 41c1/ " " ..... 6/9 "

We can supply Menthol Cones to retail from 1d upwards, and give a few leading shapes.

No. 110P. 1d pedestal, 7/6 gro.	No. 8P. 6d acorn boxwood	3/8
114P. 2d " 14 "	111 1/ " "	5/-
107F. 3d " 1/10 doz.	112 6d Flat..	3/3
	17 F 1/ " "	5/6
109 4d " 2/6 "	6d Roller Pattern..	3/6
113R. 6d reversib 3/3 "	4d " "	..2/6
9CR 1/ " 5/	The Roller is unbreakable.	

All above prices are those obtained in England.

**SHIRLEY BROTHERS,**  
 105 Whitecross St., E.C. LONDON, ENG.

**Father Matthew Remedy,  
 Dr. Sey's Remedy,  
 Audette's Hair Promoter,  
 Indigenous Bitters,  
 Persian Lotion**

— AND **Capilline,**  
 For Sale by all Druggists.

## S. LACHANCE

Proprietor,  
 MONTREAL.

Laboratory for the United States :

ROUSE'S POINT, N.Y.

# MUNN'S LIQUID GLUE

IS WARRANTED TO MEND LEATHER, WOOD CROCKERY GLASSWARE ETC.. AND IS PRONOUNCED BY ALL AS THE STRONGEST, CHEAPEST AND BEST.

MUNN'S Glue is packed in 1 oz. and 2 oz. bottles, Cans, Pails and Bottles.

**STEWART MUNN & C<sup>o</sup>** Esq of Trade Building, **MONTREAL.**

Celebrated Brand of  
 Cognac Brandy o o o o o o o o

# FAUSTIN FRERES,

o o o o o o o o As shipped in all the  
 Markets of the World.

**THE BEST VALUE IN BRANDY  
 SUPPLIED FOR THE PRICE!!!**

Agents ——— **LYMAN. SONS & Co.** ——— **MONTREAL**

Gum elemi.....	lb	45		
" euphorb. pulv.....	lb	40		
" galban opt.....	lb	3 50		
" gambogia.....	lb	1 05	pulv 1 20	
" guaiaci.....	lb	63	Sec. 40 pulv 50	
" juniper.....	lb	45		
" kino.....	lb	1 10	pulv 1 20	
" mastiche select.....	lb	1 25		
" myrrh. ture opt.....	lb	70		
" " " sorts.....	lb	45	pulv 65	
" olibani.....	lb	25		
" sang. dracnis.....	lb	45	reed 90	
" " pulv.....	lb	75		
" scammon. aleppo	}	lb 6 50		
" opt. (pulv)				
" scammon resin.....	lb	3 75		
" seedlac.....	lb	40		
" shellac, orange.....	lb	40		
" " bleached.....	lb	40	50 lb 35	
" spruce.....	lb	30	10 lb 25	
" sterax liquid.....		50		
" " dry.....	lb	50		
" thus.....	lb	15		
" tragacanth Ribbons.....	lb	90		
" " Aleppo opt.....	lb	75		
" tragacanth Aleppo No.2.....	lb	60		
" " pulv. opt.....	lb	90		
Gum cotton.....		70	1 oz box	
Hæmogallol, 10 gm. vials.....		30	each	
Hæmol " " ".....		35	"	
Homatropine Hydrobrom. gr		30		
Humulus lupulus.....	gr	20	essorted packages	
Hydrarg. bicianid.....	oz	30		
" " bisulphate.....	lb	90		
" " iodid rubr.....	oz	40	lb 4.50	
" " virid.....	oz	25	lb 3.50	
" " oxyd. flav.....	lb	1 50		
" " rubr.....	lb	1 10		
" " perchlor.....	lb	90	pulv. 1.00	
" " subchlor.....	lb	1 00		
" " sulph flav.....	lb	1 50		
" " alb.....	lb	30		
" " c sulph.....	lb	1 00		
" " tannes.....	oz	35		
" " ammon.....	lb	1 20		
" " c. creta.....	lb	63		
" " oleas.....	.5% lb	55		
" " ".....	.10% lb	65		
" " ".....	.20% lb	80		
Hydrargyrum.....	lb	30	10 lb 70	
Hydrastine alcaloid C.P.....	dr	50		
" " hydrochlor C.P.....	dr	50		
Hydrastinine mur.....	gramme	1 25		
Hydrochinone.....	oz	35	lb 4.50	
Hydrogen peroxid, Peuchot's.....	lb		doz 8 00	
" " ".....	½ lb		" 6 00	
" " ".....	¼ lb		" 4.50	
Hydrogen Perox. Coml.....	lb	35		
Hyoscine, hydrobrom, 5 gr tub.....	lb	1 75	each	
Hyosciamine.....	gr	25	sulph gr 35	
Hypnon, pure.....	oz	1 50		
Ichthyoc. inc. Brazil.....	lb	2 40		
" " ".....	oz packets	2 25	dozen	
" " Russian.....	lb	5 25		
Ichthyol, Merck's.....	oz	40	} ¼ lb 5.50 lb ½ lb 5.25 lb 1 lb 5 00 lb	
Indigo Madras opt.....	lb	75		sec 65
" " pulv.....	lb	90		
" " Paste.....	lb	20		
Insect powder Dalmatian.....	lb	35	25 lb 26 56 lb 25	
" " Persian.....	lb	30	25 lb 21 56 lb 20	
Iodoformum.....	oz	40	lb 5.90	
" " præcip.....	oz	40	lb 5.90	
Iodol.....	oz	1 40		
Iodum crude.....	oz	30	lb 4.50	



**WAFERS**  
**PENNYROYAL**  
33 1/3 %  
P=OFIT.

**6** YEARS in Canada and United States, and sales largely due to their merit. Often imitated. Costs you \$8.00 per dozen. We desire to establish and advertise local druggists as agents; quick sales and profit thus insured to such agencies. Get this advantage for yourself by writing to the **SOLE MANUFACTURERS, EUREKA CHEMICAL CO., DETROIT.** No duty to pay.

COUNT OF  
**St. Michel Wine,**

The world renown TONIC.  
*Prescribed by the most eminent Doctors.*  
... Over 25,000 certificates states its success to cure ...

**WEAKNESS, DEBILITY, POVERTY OF BLOOD, DYSPEPSIA, INSOMNIA, LOSS OF APPETITE. CHRONIC DIARRHOEA and BLOOD DISEASES.**

A WINEGLASSFUL TAKEN DAILY IS SUFFICIENT TO RESTORE HEALTH.

**PRICE, large bottle, \$1.00.**

**MONGENAI, BOIVIN & CO.,**  
Sole Agents for Canada, MONTREAL.



# SPECIAL OFFERS



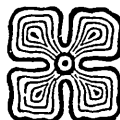
**Bismuth Subnit** Arriving in a few days.

**Acid Carbolic**

**Acid Tartaric**

**Acid Citric**

**Bismuth Salicylas**



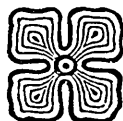
**Bismuth Subgallate**

**Borax**

**Boracic Acid**

**Canary, Hemp & Millet  
Seeds**

**Kirk's Soaps**



---

**LYMAN, SONS & CO.,  
MONTREAL.**

Iodumresub .....	oz	40	lb 5.25
Jalapin ang.....	oz	1 00	lb 13.50
Kamala .....	lb	60	
Kousso.....	oz	10	
Kava Kava.....	lb	90	
Lactopeptin ozs.....	doz	8 50	
"	½ lbs.	10 50	
Lactucarium ang.....	oz	70	
Lanolin .....	lb	85	
Lapis calam. præp.....	lb	7	
Lapis pumicis select. ....	lb	8	ordinary 6
"	" pulv.....	7	100 lb 5
Leptandrin .....	oz	45	Keiths 50
Lichen Hibern opt.....	lb	20	Sec 15
Licorice Corig.....	lb	35	
"	Solazzi .....	lb	45
"	Zuvia .....	lb	30
"	Windsor, 4,8 or 161.5 lb	35	25 lbs 30
"	Y. & S. stick.....	lb	35
"	Pellets Y. & S.....	lb	40
Licorice Pellets M. & R.....	lb	40	
Lignum guaiaci rass.....	lb	7	
"	quassia incis.....	lb	10 50 lb 9
"	sant flav. grd.....	lb	65 Rub 10
Liniment aconiti.....	lb	90	Whr. qt. 80
"	belladon.....	lb	95 " 85
"	camph .....	lb	55
"	camph comp.....	lb	60 Whr. qt. 55
"	iodi.....	lb	1 50
"	opii.....	lb	90
"	saponis co.....	lb	45
"	" c pot iod.....	lb	90
"	terebinth.....	lb	30
Liquorammon. acet conc ..	lb	35	
"	ammon fort s. g. 880 lb	12	12 Whr. qts. 10
"	antim. chlor.....	lb	22 W. qt. 20
"	arsenicallis.....	lb	10 pt., Whr. qt. 8
"	arsenii et hyd. iod. . lb	25	W. qt. 20 (Donovans)
"	Ferri Acet .....	lb	35
"	" " Ft .....	lb	60
"	" perchlor fort.....	lb	12 Whr. qt. 11
"	" pernit.....	lb	14
"	" persulph.....	lb	25
"	plumbi subacet.....	lb	12 Whr. qt. 10
"	potassæ.....	lb	7
"	santal flav comp.....	lb	1 50
"	sodii chlor.....	lb	16
"	strychnine.....	lb	50 Whr. qt. 45
Lithii bromid.....	oz	25	
"	carbonas.....	oz	25 lb 3.20
"	citras.....	oz	20 lb 2.75
"	hippurate.....	oz	1 50
"	iodid.....	oz	50
"	salicylat.....	oz	30
Litmus.....	lb	60	
Lucilline .....	1 lb tins	20	each
"	" .....	5 lb "	90 "
"	" .....	10 lb "	1 60 "
"	" .....	25 lb tubs	13 lb.
"	" .....	50 lb tubs	12 "
Lupulinum.....	lb	60	
Lycopodium.....	lb	80	
Lysol.....	½ kilo bottles	75	each
Macis.....	lb	1 20	pulv 1.30
Madder compound.....	lb	10	carboy 9
"	Dutch .....	lb	12 brl 10
Magnes citr. gran. Bishop. lb		80	7 lb 75
"	" " Lyman. lb	35	
"	calcined ....	1 lb tins	50
"	" .....	lbs	65
Magnesi carb levis 1 os pkt lb		22	10 lb 20
"	" " 2 " lb	20	" 18
"	" " " powd.....	lb	25 1 lb tins
"	chloride .....	lb	30
"	sulphas.....	lb	3 Brl. 1.50
Magnesium, wire or ribbon .oz		75	Powder 50

Maltopepsin ½ lb bots....	lb	5 85	
"	bots.....	doz	6 35
Mangan chlorid.....	lb	50	
"	oxyd. nigr.....	lb	10 brl. 7½
"	sulph. pur.....	lb	60
Manna flak select.....	lb	1 75	
Maranta Bermuda.....	lb	45	10 lb 42
"	Jamaica .....	lb	15
Mel. canadensis.....	lb	15	10 lb 14
Menthol.....	oz	50	lb 7.50
Morphinæ acetat.....	oz	2 00	10 ozs. 1 90
"	hydrochloras.....	oz	2 00 " 1.90
"	sulphas.....	oz	2 10 " 2.20
Moschus, in grain.....	dram.	5 50	4.50 3.50
Myrtol.....	oz	1 00	
Naphtha mineral .....	lb	50	
Naphtha vegetable .....	lb	60	
Napthaline resublimed.....	lb	30	
Naphthol Beta.....	oz	10	lb 1 .40
"	Bengoate.....	oz	40
Nickel sulph cryst.....	lb	75	
"	ammon. sulph.....	lb	35
Nux. areca select.....	lb	20	pulv 35
"	kola.....	lb	50
"	myristicæ (limed).....	lb	90 pulv 1.00
"	" opt.(unlimed)lb	1 00	
"	romica.....	lb	12 pulv 25
Olio Resin Capsici.....	oz	35	
"	Cubeb .....	oz	50
Ol. absinth.....	oz	40	lb 4.75
"	amygd. dulc.....	lb	50 Whr. qt. 45
"	" essent. sine acid		
"	pruss.....	oz	50
"	anethi Ang.....	oz	35 lb 4.50
"	anisi.....	lb	2 75. Whr. qt. 2.50
"	anthem Ang.....	oz	2 00
"	aurantii.....	lb	2 50 Winch. 2 25
"	bergam super.....	lb	3 00
"	buchu.....	oz	3 00
"	cadi.....	lb	35 Whr. qt. 30
"	cajeputi.....	oz	10 lb 1.00
"	carui.....	lb	2 50
"	caryoph .....	lb	1 25
"	casia.....	lb	1 50
"	cedri opt .....	lb	75 Whr. qt 70
"	chaulmoogra.....	oz	20
"	cinnamomi ver.....	oz	1 70
"	citronellæ.....	lb	80 bot. 70 lb
"	cocosnut.....	lb	15
"	cognac.....	oz	1 75
"	Cologne.....	oz	60
"	conii.....	spruce lb	70 Whr. qt. 65
"	copaiba.....	lb	1 25
"	coriandri.....	oz	70
"	crotonis.....	oz	10 bot. 1.20 lb
"	crubæ.....	oz	40
"	cumini.....	oz	40
"	erigerontis.....	lb	3 25
"	eucalypti.....	lb	1 25
"	fœniculæ dulc.....	lb	1 50
"	gaulther.....	oz	25 lb 3.00
"	" synthetic.....	lb	2 00
"	geranii roas.....	oz	50
"	" super.....	oz	1 00
"	juniperi bacc.....	oz	15 lb 2.00
"	" lig.....	lb	60 Whr. qt. 55
"	lauri.....	lb	40
"	lauri essent Bay.....	oz	40 lb 5.00
"	lavand ang.....	oz	2 00
"	" exot.....	lb	3 50 sec 2.50 1.50
"	limonis super.....	lb	2 00 copper 1.75
"	macis.....	oz	25 lb 3.50
"	menth. pip. Amer.....	lb	4 00 Whr. qt. 3.75
"	" " English.....	oz	1 00 lb 14.00
"	" " Japan.....	lb	4 00

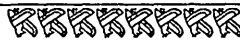
**We · Pay · Express · Charges**  
**TO THE RETAIL TRADE OF CANADA.**



**PRICE LIST**

—OF—

**T. A. Slocum & Co's Remedies.**

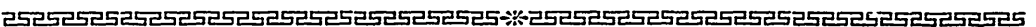


. . . Having found in the past that some retailers have been unable to procure small supplies of all our remedies from their Wholesaler, we offer to supply such cases in future direct, and to **prepay charges** on all **cash** orders of \$3.00 and over. Goods can be obtained from any Wholesale Druggist or direct.

**TERMS, CASH ; 5 per cent. DISCOUNT.**

	Dozen.	Sold at		Dozen.	Sold at
Dr. Slocum's Psychine, large.....	\$28 00	\$3 00	Dr. Slocum's Compound Pennyroyal Tea ..	\$ 2 00	\$ 25
Dr. Slocum's Psychine, small.....	14 00	1 50	Dr. Slocum's Worm Wafers.....	2 00	25
Dr. Slocum's Oxygenized Emulsion, large..	7 50	1 00	Dr. Clark's Catarrh Cure.....	4 00	50
Dr. Slocum's Oxygenized Emulsion, small..	3 00	35	Dr. Clark's Pile Ointment.....	7 50	1 00
Dr. Slocum's Coltsfoot Expectorant. ....	7 50	1 00	Dr. Clark's Regulative Pills.....	4 00	50
Dr. Slocum's Celery and Quinine Bitters...	4 00	50	Dr. Clark's Lightning Liniment.....	2 00	25
Dr. Slocum's Regulative Pills.....	4 00	50	Peach Bloom Skin Food.....	7 50	1 00
Dr. Slocum's Magnetic Plasters .....	2 00	25	Dr. James' Horehound Expectorant. ....	2 00	25
Dr. Slocum's Iron Blood Pills.....	2 00	25	Abrusine Corn Solvent.....	2 00	25

All orders receive prompt attention. Remit by Post Office Order, Express Order or Registered Letter. Postage stamps taken for amounts less than \$1.00,



Address all Monies and Letters to

**T. A. SLOCUM & CO.,**

186 Adelaide Street, West, TORONTO, CANADA

Ol. menth vivid . . . . .oz	25	lb 3.50
" m. r. h. u. e. Norweg . . . . .gl	1	50
" " Nfld by Nor- w. g. process } . . . . .	1	00 kegs 18 ga's 90
" myrtane . . . . .lb	30	Whr. qt. 25
" myristicæ . . . . .oz	30	bot. 25
" uentifoot, pale . . . . .gl	1	10
" neroli opt. . . . .oz	4	00
" olive sublime salad . . . . .gl	2	50
" olive sublime salad 1 gal	original	tins incl 2.50 each
" " green . . . . .gl	1	40 brl. 1.20
" " " opt . . . . .gl	1	50 brl. 1.35
" " yellow . . . . .gl	1	40 brl. 1.15
" " yellow opt . . . . .gl	1	50 brl. 1.25
" " (Salad American) gl	1	00 brl. 90
" origani . . . . .lb	85	
" " Sec. . . . .lb	50	Winch 45
" palmæ select . . . . .lb	15	
" patchouli opt. . . . .oz	1	25
" petit. gran . . . . .oz	75	Sec 45
" picis . . . . .lb	12	Whr. qt. 10
" pimentæ . . . . .oz	25	lb 3.20
" pini silvestris . . . . .lb	1	50
" pulegii hed . . . . .lb	2	25
" rapii . . . . .gl	1	00
" rhodii . . . . .oz	80	
" ricini E. I. . . . .lb	11	case 8 tins 9
" " Gal water pale . . . . .lb	12	brls 8 1/2
" " Virgin . . . . .lb	15	tins 13
" " Ital. . . . .lb	20	tins 18
" rosmarini exot . . . . .lb	70	W. qt. 65
" rutæ . . . . .oz	25	
" sabinæ . . . . .lb	1	30
" sambuci vir. . . . .lb	30	
" santali ang. . . . .oz	50	lb 7.50
" " W. I. . . . .oz	40	lb 5.00
" sassifras . . . . .lb	70	Whr. qt. 65
" sem santon . . . . .oz	25	lb 3.20
" sesame . . . . .gl	1	35 cask 1.25
" sinapis essent. . . . .oz	65	lb 8.50
" sperm. . . . .gl	2	00
" opike . . . . .lb	25	
" succin. rect . . . . .lb	65	Whr. qt. 60
" tanacetii opt . . . . .oz	30	lb. 4 25
" terobinthinæ . . . . .lb	50	
" " coml. . . . .gl	65	
" theobromatis . . . . .lb	55	(tablets)
" valerian . . . . .oz	1	00
" verbenæ . . . . .oz	10	bot. 9
" vini . . . . .oz	25	lb 3.50
" ylang-ylang . . . . .oz	7	00
Opium Turc. . . . .lb	4	50
" " pulv. . . . .oz	40	lb 5.50
Os sepim. . . . .lb	25	select 40 pulv 35
Otto rosæ Doupsi . . . . .oz	7	00
" virgin. . . . .oz	9	00 opt 11.00
Panc'reatine, Morson's . . . . .oz	1	00
" Merck's . . . . .oz	50	
Papoid . . . . .oz	3	25
Paraffinum durum . . . . .lb	20	50 lb 15
Paral hyde . . . . .oz	20	lb 2.25
Paris Green . . . . .100 lb irons	14	
" " 25 lb "	15	
" " 1 lb tins	18	
Pellaterine Tannate . . . . .gm	45	
Pepsin . . . . .lb	225	
" pur. sol pulv. Merck's . . . . .lb	3	00
" Merck's scales . . . . .lb	5	00
" ang. coml. . . . .oz	30	lb 3.50
" Boudault's . . . . .oz	1	20
" medicinal Morson's . . . . .oz	85	
" porci Morson's . . . . .oz	2	25
" sacchar. . . . .oz	25	lb 3.50
" Jensen's scales " . . . . .oz	1	25
" Armour's . . . . .oz	90	lb 12.00

# TURKISH DYES.

. . . . Seventy-four Colors . . . .  
. . . . Fast shades . . . . .

**BRAYLEY, SONS & CO.**  
MONTREAL,

## Rheumatism Quickly Cured

—BY—  
**DR. NELATON'S POWDER.**  
Sent free by mail on receipt of \$1.

**LAVIOLETTE & NELSON,**  
Dispensing Chemists,  
Corner Notre Dame and St. Gabriel Sts.,  
MONTREAL.

# BOTT'S MALT PREPARATIONS.

## Pure Malt Stout and Wine of Malt

Recommended strongly by prominent  
Physicians all over the Country.

FOR SALE BY ALL DRUGGISTS.

Obtainable Wholesale from Messrs. **L. YMAN, SONS & CO.**  
at the following prices:

**Pure Malt Stout, \$1.60** per doz  
**Wine of Malt, \$2.60** "

**WALTER R. WOHAM & SONS,**  
Agents.

**IMPORTANT INFORMATION FOR  
RETAIL DRUGGISTS.**

**"CARTER vs. CARR."**

This is a case of the Carter Medicine Co. or to use a title more familiar, "The Carter's Little Liver-Pill Co." against the man named Carr, who was putting up Carr's Little Liver Pills.

It can be readily seen, that from the similarity of names, it was easy to deceive a purchaser, and substitute these for "Carter's Little Liver-Pills," and this he was doing.

The Court granted a perpetual injunction—with costs.

The proprietors of the Carter's Little Liver Pills desire by this notice to reach the retail druggists of Canada, and most respectfully call their attention to the importance of this decision.

A good man may be guilty of an unlawful act simply because he is not aware that his act is unlawful, and hence we are trying to inform you that

**SUBSTITUTION IS UNLAWFUL.**

Do not be guilty of it.

It is nothing more than fair that we should have the business which we have made. Give us "fair play." But at the same time we wish it distinctly understood that we shall protect our rights, and in this determination, we are quite sure every fair-minded retail druggist will uphold us.

Yours very respectfully,

**CARTER MEDICINE CO.**  
Murray Street,  
NEW YORK.

SMALL PILL.	<b>CARTER'S LITTLE LIVER PILLS.</b>
—o—	
SMALL DOSE.	
—o—	
SMALL PRICE.	
<b>A POSITIVE CURE FOR SICK HEADACHE.</b>	

**J. M. FORTIER'S  
Cigars**

Are the Leading  
Sellers in the Dominion!



TO GAIN AND RETAIN CUSTOM, DEALERS  
SHOULD KEEP UP THEIR STOCK OF THE  
CELEBRATED.....

**"Creme de la Creme"**

**"Pete" "Mirosa"**

**La "Sonadora"**



**J. M. FORTIER,** Dealer in High Grade Raw Leaf Tobacco,  
Creme de la Creme Cigar Co.,  
141 to 153 ST. MAURICE STREET, MONTREAL.

**THE  
HEARLE  
M'FG' CO.**



Successors to

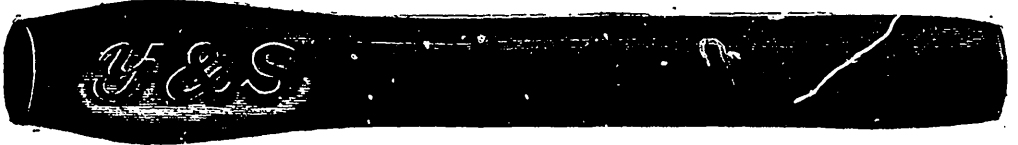
**J. G. HEARLE,**

**TOILET SOAP MAKERS,**  
**84 St. Urbain Street,**  
**MONTREAL.**

WE are pleased to announce to the  
Drug Trade of Canada that our  
well known make of TOILET SOAPS can  
now be had from all the leading whole-  
sale houses.

Petrol Barbadiens.....	lb	15	
Petroleum, see Lucilline			
Phenacetine Bayer.....	oz	40	lb 6.00
Phenocol.....	gm	25	
"    Hydroch.....	25 grs	1	50
Phenolphthalein.....	oz	1	00
Phosphorus... 11 lb tins..	lb	85	1 lb bots 1.00
Pil. hydrang.....	lb	70	
Pilocarpin Hydrochlor.....	gr	20	5 or 10 tubes
"    nitras.....	gr	20	5 or 10 tubes
Pipe clay.....	lb	5	100 lb 4
Piperinæ.....	oz	1	00
Piperazin Bayer, ½ oz bottle.	oz	3	75
"    tablets... 10x16 gr		2	40 each
Piper alba.....	lb	2	pulv 22
"    Cayenne.....	lb	25	10 lb 20
"    nigrum.....	lb	17	pulv 19 25 lb 17
Pix Burgund bladders.....	lb	10	20 lb 9
Platinum Bichlor.....	oz	8	00
"    "    10% solut	oz	1	25
"    Foil.....	grm	60	
"    Wire.....		45	
Plumbi acetas brown.....	lb	10	50 lb 9
"    "    Xtls.....	lb	12	50 lb 10
"    "    C. P.....	lb	25	
"    iodid.....	oz	35	lb 4.50
"    nitras coml.....	lb	16	
"    oleas.....	lb	1	00
"    oxyd pulv.....	lb.	9	keg 7½ (litharge)
"    "    rub.....	lb	8	keg 6 (red lead)
Podophyllin resin.....	oz	35	
Potassa caustica sticks.....	lb	55	
"    sulphurata.....	lb	35	
Potassii acetas.....	lb	45	gran 50
"    "    bicarbonas.....	lb	16	
"    "    pulv.....	lb	17	
"    "    bichromas.....	lb	15	keg 12½
"    "    binoxalas.....	lb	23	10 lb 22
"    "    pulv.....	lb	25	10 lb 23
"    "    bitart.....	lb	30	keg 24 brl 23
"    "    bromid.....	lb	60	5 lb 55
"    "    carbonas.....	lb	14	10 lb 12
"    "    carbonas pearl ashes	lb	10	100 lb 9
"    "    chloras.....	lb	25	keg 24
"    "    pulv.....	lb	27	keg 25
"    "    chlorid. pur.....	lb	30	
"    "    chromas.....	lb	50	
"    "    citras neutral.....	lb	70	
"    "    cyanid. C. P.....	lb	1	00
"    "    gold plater..	lb	75	
"    "    fused.....	lb	45	
"    "    hypophosph.....	lb	1	50
"    "    iodid.....	lb	4	00 5 lbs \$3 75
"    "    nitras.....	lb	10	112 lb keg 7
"    "    nitras pulv.....	lb	11	(Gran) 10 keg 7½
"    "    "    C. P. Mercks..	lb	30	
"    "    "    oxa'as, neutral.....	lb	25	
"    "    "    permangan pur.....	lb	35	10 lb 30
"    "    "    pruss. flav.....	lb	35	
"    "    "    rubr.....	lb	75	
"    "    silicas.....	lb	30	
"    "    "    Liq.....	lb	20	
"    "    sulphas.....	lb	12	pulv 13
"    "    sulpho-cyanid.....	oz	15	
"    "    sulphocarb.....	lb	1	90
"    "    sulphuret.....	lb	35	
"    "    tartras.....	lb	80	
Potassium.....	oz	3	00
Propylamine.....	oz	75	
Pulv aloes c. canella.....	lb	40	
"    antimonialis P. L.....	lb	60	
"    catechu comp.....	lb	70	
"    cinnam comp.....	lb	75	
"    cretæ aromat.....	lb	1	20
"    "    "    c. opið.....	lb	1	50
"    "    "    comp.....	lb	50	

Pulv cretæ comp c. opið ..	lb	75	
"    cretæ c. camph.....	lb	25	10 lb 20
"    glycyrrh comp.....	lb	30	
"    ipecac comp.....	lb	1	40
"    jalap comp.....	lb	75	
"    kino comp.....	lb	1	25
"    rhei comp.....	lb	75	
"    sapo cast.....	lb	25	
"    "    alb.....	lb	35	
"    scammon comp.....	oz	30	
"    seidlitz Howards.....	lb	25	7 & 14 lb
Pyok tannin.....	25gms	1	25
Pyridin Puriss.....	oz	1	20
Quassine, ½ oz vials.....	oz	4	00
Quininae bisulph.....	oz	50	
"    bromid.....	oz	75	
"    citras.....	oz	80	
"    hydrobrom.....	oz	1	00
"    hydrochlor.....	oz	60	
"    hypophos.....	oz	1	50
"    iodid.....	oz	1	00
"    phosphas.....	oz	75	
"    salicylas.....	oz	65	
"    sulph German.....	oz	40	100oz tin 27 25 oz 28
"    "    Howards.....	oz	45	100 oz 40
"    "    "    "    4 oz		40	
"    "    sulphocarbo'as.....	oz	1	50
"    "    tannate.....	oz	50	
"    "    valerian.....	oz	75	
Rad aconiti.....	lb	20	
"    "    contus.....	lb	25	pulv 30
"    "    anchusæ.....	lb	20	
"    "    angelicæ.....	lb	30	pulv 35
"    "    arctii (burdock).....	lb	15	
"    "    belladon.....	lb	18	contus. 30
"    "    calam. aromat.....	lb	30	
"    "    calumb.....	lb	20	pulv. 20
"    "    curcumæ Madras.....	lb	10	" 12
"    "    galangal minor.....	lb	15	
"    "    "    pulv.....	lb	25	
"    "    gentian, select.....	lb	10	
"    "    "    ground.....	lb	12	
"    "    "    pulv.....	lb	15	
"    "    ginseng.....	lb	4	50
"    "    g'ycyrrh decort.....	lb	25	10 lb 22
"    "    "    incis.....	lb	60	
"    "    "    dec't pulv.....	lb	60	
"    "    "    sicut.....	lb	10	bundles 12
"    "    "    grd.....	lb	12	brl. 11
"    "    helleb alb.....	lb	12	
"    "    "    pulv.....	lb	16	keg 14 br. 13
"    "    ipecac.....	lb	2	00
"    "    "    pulv.....	lb	2	25
"    "    irisid Florentine.....	lb	50	
"    "    "    pulv.....	lb	60	
"    "    jalapæ.....	lb	45	
"    "    "    pulv.....	lb	55	
"    "    krameris opt.....	lb	30	
"    "    pareiras brava.....	lb	40	
"    "    pyrethri.....	lb	35	
"    "    rhei E. I. opt.....	lb	1	25 cubes 1.00
"    "    "    sec.....	lb	75	
"    "    "    elect opt.....	lb	2	25 fingers 1.50
"    "    "    pulv elect opt.....	lb	2	50
"    "    "    E. I. opt.....	lb	1	25
"    "    "    sec.....	lb	80	
"    "    sanguinatis.....	lb	14	pulv 16
"    "    sarsæ Hond.....	lb	45	incis 50
"    "    sarsæ Jam.....	lb	70	" 75
"    "    "    Mexican.....	lb	18	20 lb 16
"    "    scil'as sicc.....	lb	12	
"    "    "    pulv.....	lb	30	
"    "    senegæ.....	lb	65	
"    "    spigelia.....	lb	45	pulv 65
"    "    sumbul.....	lb	90	
"    "    taraxac sicc.....	lb	18	10 lb 15



PURE CALABRIA "Y. & S." LICORICE,

4, 6, 8, 12 and 16 to pound.

"Acme" Licorice Pellets, in 5-pound Tin Cans

Tar, Licorice and Tolu Wafers, in 5-pound Tin Cans.

Licorice "Y. & S." Lozenges,

In 5-pound Tin Cans and 5-pound Glass Jars.

"Purity," Pure Penny-Licorice

100 and 200 Sticks in a Box.

Ringed Licorice, 17 Sticks to a lb.

MANUFACTURED

EXCLUSIVELY BY

**YOUNG & SMYLLIE,**

*Where did you see this Advertisement?*

BROOKLYN, NEW YORK.

**SIMPLE BUT SURE.**

**SOMERVILLES'**

*M. F. COUGH*

**C·H·E·W·I·N·G  
G·U·M,**

Five Cents per Bar.

Twenty Bars on a Handsome Standing Card.

The Wholesale Trade have it.

Price 65 cents per Card.

C. R. SOMERVILLE, LONDON, ONT.

Rad tormentillæ.....lb	25	
“ “ pulv.....lb	85	
“ zingib. Afric. u. b.....lb	16	20 lb 15 bag 13
“ “ pulv.....lb	18	30 lb 16
“ “ Jam. u. b.....lb	25	brl 23
“ “ “ bleached.....lb	30	10 lb 28
“ “ “ pulv opt.....lb	30	10 lb 28
“ “ “ sec.....lb	25	
Resin flav.....lb	4	
“ “ pulv.....lb	5	50 lb 4
Resorcin xtls.....oz	25	lb 3.00
“ resublim.....oz	50	
Rhizoma arnicæ.....lb	30	contus 40
“ cimicifugæ.....lb	15	
“ podophylli.....lb	14	
“ serpentariæ.....lb	55	pulv. 90
“ valerianæ.....lb	15	pulv. 22
Rouge—Jewellers.....lb	75	
Rubidium chloride..... gm	40	
Saccharine..... dram	20	oz 1.20
Sacch. lactis pulv.....lb	30	
Sago perlat. parv.....lb	6	bag 5½
Sat prunellæ glob.....lb	20	
Salicinum.....oz	20	lb 2 75
Salipyrine.....50 gms	2 50	each
Salol.....oz	40	lb 5 50
Salophen Bayer.....oz	1 50	
Santoninum.....oz	20	lb 2.75
Sapo Castile Alb Contis.....lb	16	box 15
“ “ “ Shell.....lb	12	“ 10
“ “ “ Virgin.....lb	12	“ 10
“ “ “ cakes box, 5 00		
“ “ Mottled opt.....lb	12	box 11
“ “ “ com.....lb	10	“ 9
“ “ “ cakes gross	4 75	
“ mollis ang.....lb	10	20 lb 8
“ “ German Green.....lb	35	
“ “ Green opt.....lb	55	
Scammonie resin pulv.....lb	3 75	
Scoparii cacumin.....lb	25	
Secale Cornut.....lb	75	
Sem canary.....lb	5	bag 3¾
“ cardam.....lb	1 75	1.50 & 1.00
“ cardam decort.....lb	1 00	
“ “ pulv.....lb	1 50	
“ celery.....lb	25	
“ chenepodii.....lb	25	
“ colchici.....lb	55	pulv. 65
“ cydoniæ.....lb	50	
“ cymini.....lb	20	pulv 25
“ fœnugræci.....lb	5	
“ “ pulv.....lb	7	ground 6 brl 5
“ hemp.....lb	5	bag 4½
“ hyoscyam.....lb	60	
“ jambul.....oz	15	
“ lini sifted.....lb	4	brl. 3½
“ lini crushed.....lb	5	brl. 4
“ “ “ No. 2.....lb	4½	brl 3½
“ “ “ No. 3.....lb	4	brl 3½
“ lobeliæ inflatæ.....lb	50	pulv 55
“ maw.....lb	15	10 lb 14
“ millet.....lb	6	keg 5
“ pumpkin.....lb	25	
“ rapii.....lb	8	bag 7
“ santonicæ.....lb	18	pulv. 28
“ sinapis alb.....lb	10	
“ staphisagriæ.....lb	35	
“ stramonii.....lb	25	
Soda caustica stick.....lb	45	
“ caustica cake.....lb	40	
“ crystals.....lb	2	brl 1.25 per 100 lbs
“ tartarata.....lb	28	
Sodii acetat pura.....lb	25	
“ arsenias.....oz	10	lb 1.20
“ benzoas.....oz	15	lb 1 50
“ bicarb. pulv Morson's.....lb	10	
“ “ “ Hd's.....lb	16	14 lb 15
“ “ pulv. coml.....lb	4	keg 2 75



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It is decorated with the new Hanger-Signs for

Tutti • Frutti.

SEND FOR FREE SPECIMEN WHILE THEY LAST.



ADAMS & SONS CO.,

11 & 13 Jarvis St,

TORONTO, Ont.

**WAMPOLE'S** Now in stock at all Wholesale Druggists.

Granular Effervescent Bromo-Pyrine,

Large size, \$9.00 doz. Small size, \$2.25 doz.

(Trade Mark) Medium " 4.75 " Sample " 3.50 gross  
1 lb. Bottles, 2.37 lb.

Comp.Sy. Hypophosphites, <sup>PER DOZ.</sup> \$8.50 <sup>5 PINTS</sup> \$3.17

Tasteless prep'n Cod Liver Oil, 8.50 3.17

Syrup Hydriodic Acid ..... 8.50

Hypno-Bromic Co. (True Hypnotic)

1 lb. Bottles, \$25.67 Doz.

½ " " 12.64 "

¼ " " 7.37 "

Tasteless preparation Cascara Bark,

12 oz. Bottles, \$7.00 Doz.

Asparoline Compound ..... 8.50 "

Alvinine Suppositories, <sup>Per Doz. Boxes,</sup> .. \$4.00

<sup>Per Doz. Boxes,</sup> .. 2.75

Glycerine Suppositories, <sup>Per Doz. Boxes,</sup> .. 3.17

(In a new and original Package) <sup>Per Doz. Boxes,</sup> .. 3.17

White Pine Com, 5 pt. bottles .. 2.65

Per dozen ..... 6.85

PREPARED SOLELY BY

**HENRY K. WAMPOLE & CO.,**

Manufacturing Pharmacists,

**PHILADELPHIA, U.S.A.**

CANADIAN BRANCH:

**6 & 38 LOMBARD ST., TORONTO**



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PAQUITA-LILY,  
AURORA-TULIP,  
ACACIA DE FRANCE,  
FRENCH PANSY,  
VIOLETTE  
DE PARME.



FOR SALE BY  
LYMAN, SONS & CO.

THE GENUINE

## EAU DE COLOGNE,

Distilled strictly according to the original recipe of the  
Inventor, is manufactured by

**Johann Maria Farina Julich Place No. 4,**  
Cologne o/ Rhine.

Patented Purveyor to H. R. H. the Prince of Wales, and to  
several other Imperial and Royal Courts.

This EAU DE COLOGNE was distinguished with prize-medals  
and diplomas at the Exhibitions of all nations in London  
1851, New York 1853, London 1862, Oporto 1865,  
Cordova 1871, Vienna 1873, Santiago (Chili)  
1875, Philadelphia 1876, Cape Town 1877,  
Sydney 1879, Melbourne 1880, Boston  
1883, Calcutta 1884, Adelaide 1887,  
Melbourne 1888-89, and at  
Kingston (Jamaica) 1891.

I beg all consumers wishing to obtain the *genuine*  
*Eau de Cologne*, distilled strictly according to the  
original recipe of the inventor, my ancestor, to pay  
special attention to my firm:

**Johann Maria Farina Julich Place No. 4**

Patent Purveyor to H. R. H. the Prince of Wales, and  
to several other Imperial and Royal Courts.

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Soluble

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Chocolate.

2525252525252525

THIS is a preparation for the special use of Druggists  
and others in making Hot or Cold Soda. It forms  
the basis for a delicious, refreshing, nourishing, and  
strengthening drink.

It is perfectly soluble. It is absolutely pure. It is  
easily made. It possesses the full strength and natural flavor  
of the cocoa-bean. No chemicals are used in its prepara-  
tion.

Samples furnished to Druggists on application.

The trade is supplied with one, four, or ten  
pound decorated canisters. . . . .

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... NEW YORK ...

Manufacturers of Highest Grades  
SOLUBLE HARD & ELASTIC SOFT CAPSULES

Improved French Pearls and Globules.

SOME SPECIALTIES:

SANDALWOOD, ERIGERON, CREASOTE, TEREBENE,  
COMPOUND SANDAL, IODIDE ETHYL, WINTER-  
GREEN, APIOL, MALE FERN, ETC.

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ARE CELEBRATED THE WORLD OVER

Empty Capsules—Powders, 8 sizes; Liquids, 8 sizes; Rec-  
tal, 3 sizes; Vaginal, 9 sizes; Horcas and  
Cattle, 6 sizes; Veterinary Rectal, 3 sizes.

Capsules for Mechanical Purposes.  
Special Recipes Capsuled.  
New kinds constantly added.

Send for form and list of over 250 kinds.

Sold by all Druggists.

Beware of Substitution.

Sodii bisulphis.....lb	25	
" bisulphas pure.....lb	30	
" bromid.....lb	65	
" carb. recryst.....lb	15	
" carbo'as pur.....lb	3 50	
" chlorate xtls.....lb	50	
" c r. n .....lb	1 00	
" hypophosphis.....lb	1 40	
" hyposulphis.....lb	5	keg 112 lbs. 3.00
" iodid.....oz	40	lb 5.50
" nitras pur.....lb	25	coml. 8
" oxalas.....lb	50	
" phosph pur.....lb	15	pulv 25
" salicylas.....lb	2 00	
" silicas xtls.....lb	15	
" solut conc.....lb	10	
" sulphas.....lb	3	brl. 1 1/2 Hds 5 [brl. 4.
" " exsicc. pulv.....lb	15	
" " pur recryst.....lb	30	
" sulphid.....lb	60	
" sulpho.....lb	7	pulv. 8
" sulpho carbo'as.....lb	1 10	
" valerian.....oz	50	
Sodium.....oz	40	
" molybdate.....oz	40	
" succinate.....oz	35	
Sol. acid osmic 1%.....oz	1 50	
" cocain 4%.....oz	70	
" nitro glycerin 1%.....lb	1 75	
Somatose—Bayer, 2 oz tins.oz	70	
Sozoiolod of Zinc.....oz	1 50	
Sparteïn sulph.....dr	40	
Spice pickling.....lb	40	
Spt. ætheris comp.....lb	60	
" " nit S. G. 845.....lb	65	Whr. qt. 60
" ammon. arom.....lb	60	" 55
" " fœtid.....lb	85	
" camphor.....lb	70	" 65
" chlorof. S. G. 871.....lb	70	" 65
" cinnam.....lb	2 00	
" menthæ pip.....lb	1 10	
" methylated.....gl.	2 00	Brl. 1.75 cash
" myristicæ.....lb	90	
" rectificatus 65 o/p.....gl	4 25	5 gl. 4 20 in a/c.
" " " 65.....Brl	3 85	cash.
" vini gall.....gl	4 75	opt. 6.50
Spongia usta.....lb	2 50	
Stanni chlorid. crist.....lb	40	
" oxid (putty-powder).lb	50	
Stannum gran.....lb	50	
Stearin.....lb	15	
Strontii nitras exsicc.....lb	20	10 lb 18
" chloridum xtls.....lb	30	
Strychnina cryst.....oz	1 00	10 oz 90
" sulph.....oz	1 20	in 1/2 oz hots }
Styrax liquid.....lb	50	25 extra }
Succus conii.....lb	75	
Succus limæ fract W. I.....gl	90	brl. 80
" rhamni.....lb	25	
" scoparii.....lb	70	
" taraxaci.....lb	65	
Sulphonal—Bayer.....oz	35	lb 4.50
Sulphur Lac.....oz	12	10 lb 11
" præcip (B. P.).....lb	20	10 lb 18
" rotund.....lb	3	brl 2
" sublim.....lb	4	bag 110 lbs 2 1/2
" vivum.....lb	6	10 lbs 5
Sulphuris iodid.....oz	40	
Svajnia, 1/2 oz bottles.....oz	5 00	
Tamarindus, W. I.....lb	14	10 lb 12
Tapioca flake.....lb	3	
" pearl.....lb	8	
Terebenc.....lb	75	
Terebinth canadensis.....lb	45	
" chian.....oz	35	
" Venet.....lb	15	

Terpine Hydrat.....oz	20	
Terpinol.....oz	30	
Terra Japonica (Gambier).lb	10	
Thallin Sulphate-pure.....dr	40	
Thiol liquid.....oz	50	
Thymol.....oz	40	
Trional-Bayer.....oz	1 25	
Tripoli.....doz.	90	
Triticum repens.....lb	20	
Troch acid carbo'ic G's T.H.lb	75	
" " tannic.....lb	1 25	
" aconite.....lb	90	
" Bath pipe.....lb	45	
" black currant, Gibsons lb	90	
" boracic acid . . T. H. lb	90	
" Bronchial P. D. & Co.....	5 lb can 1 75 each	
" cachou dwf bouquet.lb	52	
" " floral gems.....lb	52	
" camphor.....lb	75	
" capsici Gibson's.....lb	65	Domestic 35
" catechu.....lb	80	
" chlorodyne.....lb	65	Gibson's 90
" coltsfoot.....lb	40	
" cubeb T. H.....lb	90	
" gelatine.....lb	60	
" glycerin [jujubes].....lb	75	
" guaiaci T. H.....lb	1 10	
" ipecac.....lb	75	
" kramariae T. H.....lb	1 25	
" lactusæ.....T. H.....lb	1 25	
" licorice (pipe).....lb	35	
" mentha pip C.S Gibsons lb	65	11b bottles 75
" mentha pip [XXX].lb	50	
" morphinæ.....lb	1 00	
" " et ipecac.....lb	1 00	
" mosch Gibson's.....lb	80	
" opii.....lb	75	
" paregoric.....lb	70	
" pontefract.....lb	30	
" potass. ch'or.....lb	50	Tablets 60
" pyrethri T. H.....lb	90	
" roseæ Gibson.....lb	80	
" sedative T. H.....lb	90	
" tolu.....lb	70	
" tussi [cough].....bot	1 20	Gibson's
" " ".....lb	50	[Preston's]
" " " Watsons.tin	1 25	each
" vermifuge.....lb	50	worm
" voice [jujubes].....lb	85	
Uranii acetat.....oz	60	
" nitras.....oz	60	
Uretbane.....oz	60	
Veratrina.....oz	1 75	
Verdigris.....lb	35	powd 40
Vinum rubrum [port].....gl	3 00	qr. cask 2.90
" " opt.....gl	3 50	" 3.25
" " xericum [sherry]gl	1 75	" 1.65
" " opt.....gl	5 00	" 2.75
" " " fine.....gl	3 50	" 3.25
Witch Hazel extract.....gl	1 50	5gals 1.25
Whiting.....lb	1	brl 60c per 100 lb
Zinci acetat.....lb	45	
" bromid.....oz	25	
" carb.....lb	35	
" chlorid. sticks.....oz	15	1/2 lb 45, lb 75, bt. free
" iodid.....oz	60	
" oleas.....lb	1 20	
" oxidum Howard's P N lb	70	
" " Coml.....lb	15	10 lb 12
" phosphas pur.....lb	1 25	
" phosphid.....oz	60	
" sulphas com.....lb	6	10 lbs 5
" " pur Merck's.....lb	10	10 lbs 9c
" sulphocarb.....oz	10	lb 1.00
" valerian.....oz	30	b 4.00
Zincum granulatum.....lb	30	

# BISHOP'S

ORIGINAL  
**GRANULAR**  
**EFFERVESCENT**  
**PREPARATIONS.**

Highest Awards Paris Exhibition 1889, Chicago Exhibition 1893.

We beg to call the attention of the Medical profession to the fact that we were the original inventors and makers of Granular Effervescent Preparations, and that for more than thirty years we have given our sole attention to perfecting this one class of articles. In these preparations, which are universally admitted to be the finest in the market, the most scrupulous care and attention are given by us to ensure uniformity, and we guarantee that they may be absolutely relied on. As the Profession naturally wish to obtain the best preparations for their patients, they will make certain of doing so, if, when prescribing, they specially mention BISHOP'S, as by that means they will not only secure the best article in the market, but be certain that the materials used are of the finest quality and always kept up to the highest standard. LIST FREE.

## ANTIPYRIN.

5 and 10 grs. in each drachm.

ANTIPYRIN with	2½ grs.	} in 1 dr.
SODA SALICYLATE	2½ grs.	
ANTIPYRIN with	5 grs.	} in 1 dr.
CAFFEINE CITRATE	1 gr.	
ANTIFEBRIN	5 and 10 grs.	} in 1 dr.
CAFFEINE CITRATE	1, 3 & 5 grs.	
"HYDROBOMATE"	1, 3 & 5 grs.	} in 1 dr.
EXALGINE	1, 2 & 5 grs.	
IRON CARB. (form. Blaud's)	2 grs.	} in 1 dr.
IRON and ARSENIC	4 grs. & 3 mns.	
LITHIA CITRATE	5 grs.	} in 1 dr.
LITHIA BENZOATE	5 grs.	
LITHIA SALICYLATE with	5 grs.	} in 1 dr.
SODIUM BROMIDE	5 grs.	

"VICHY" and other Mineral Water Salts.  
And all other Granular Effervescent Preparations.  
May be obtained of all Chemists and Importers.

Lists free on application

## PIPERAZIN.

5 grs. in each drachm.

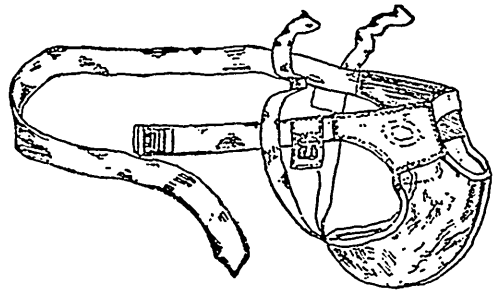
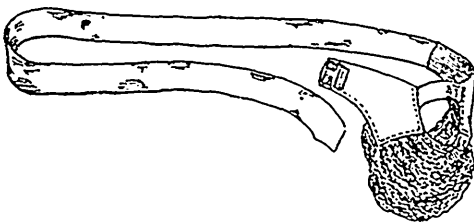
LITHIA SALICYLATE	5 grs.	} in 1 dr.
NUX VOMICA	1-12 grs.	
PHENACETIN	5 grs.	} in 1 dr.
PHENACETIN with	5 grs.	
QUININE	1 gr.	} in 1 dr.
PHENACETIN with	3 grs.	
SODA SALICYLATE	3 grs.	} in 1 dr.
POTASH CITRATE	10 grs.	
SODA BICARBONATE	10 grs.	} in 1 dr.
SODA SALICYLATE	5 & 10 grs.	
SODA SULPHATE	10 grs.	} in 1 dr.
SODIUM BROMIDE	10 grs.	
MAGNESIA CITRATE (the original BISHOP'S)		

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None genuine without this Trade Mark.

# Suspensory Bandages

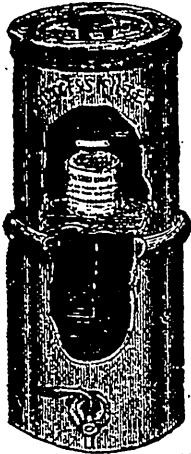


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*Our Goods are carried in stock by LYMAN, SONS & Co.*



This cut shows a sectional view of the

## Stoneware Filter

Styles 1 and 2,

Set up ready for use. There are two crocks, each of four gallons capacity—an upper one holding the Filter Block as shown, and a lower one, which can be used as a water cooler, if desired.

This block is four inches in diameter by the same in height, and is hollowed out on inside. This fits on a metal tube, which fastens by means of the nut, shown in separate cut, to bottom of Filter Jar. Block can be lifted off tube, cleaned and replaced in two minutes, and with no trouble at all. Water passes from outside of block, through the walls, into the hollow chamber and from thence, by means of the Drip Tube, into the lower receptacle.

### PRICE LIST.

All Best Glazed Stoneware, Matches Mahogany: Rosewood or Walnut Furniture.

- |        |   |        |
|--------|---|--------|
| No. 1. | Family or Office size, as shown, 4 gallon capacity, | \$5 00 |
| No. 2. | " " " 2 blocks, 6 " " "                             | 7 50   |
| No. 3. | Hotel or Restaurant size, 3 blocks, 8 " " "         | 10 00  |

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**MONTREAL.**

BEST POLISH IN THE WORLD.



DO NOT BE DECEIVED

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**LYMAN, SONS & CO.,**  
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A CONDENSED FOOD

Prescribed by more than 25,000 physicians during the present year. It will sustain and nourish babies, children, invalids and aged people when all else fails.

Creates new and vitalized blood faster than any other food preparation in the world. For overworked and insufficiently nourished people; over-taxed professional and laboring men

Builds up the system after severe illness when recovery is slow and the appetite poor.

Nursing mothers, teething infants and puny children thrive surprisingly by its use, a change for the better being perceptible often within 24 hours.

It is the only thing that will permanently cure nervous prostration, dyspepsia, cholera infantum and excessive irritability of the stomach from any cause.

Read the remarkable testimonial from Col. Fred. Grant, regarding the prolongation of his father's life by the use of Bovinine:

"During the last four months of his sickness, the principal food of my father, Gen. Grant, was Bovinine and milk and it was the use of this incomparable food alone that enabled him to finish the second volume of his personal memoirs. October 1st, 1885. FRED. D. GRANT."

Send for pamphlet containing testimonials from a large number of the leading physicians of the country. Put up in 6 and 12 oz. size, at 60 cts. and \$1.00 per bottle. 12 ozs. contains the strength of 10 pounds of beef.

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NEW YORK CHICAGO BOSTON.  
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ABSOLUTE PURITY GUARANTEED BY USING

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CHLOROFORM PURE \*

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