

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from:/
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments:/
Commentaires supplémentaires: Irregular pagination. [2], i-xx, [145]-158, xxi-xxii, 159-166, [xxiii]-xxiv, 167-180, xxv-xliv, [2] p.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
								<input checked="" type="checkbox"/>			

L1
67.01
60.62

Fraser Jas. D. B. & Son

MONTREAL Pharmaceutical JOURNAL

ESTABLISHED 1890.

A Monthly Journal of Chemistry, Pharmacy and Materia Medica.
OFFICE OF PUBLICATION 171 ST. JAMES STREET, MONTREAL, CANADA.

Vol. V—No. 5.

AUG., 1894.

Terms: \$1.00 per annum.

SOMETHING NEW

MASON'S

Extract of Herbs,
Ginger Ale Extract,
Hop Extract,
Foamine, Horehound,
Wine Essences.

GRODER'S SYRUP FOR DYSPEPSIA.

ACETORCURA, The Great Remedy for SPINAL COMPLAINTS.

WILSON'S FLY PADS.



CONTREXEVILLE MINERAL WATER SOURCE PAVILLION,
\$12 00 per Case Cash. \$3.50 per doz. 4 months, or 5 per cent. Cash.



The above illustration shows a dozen bottles of

RUBIFOAM

in box set on top of its cover, as it should be shown on dealer's counter or show case. Rubifoam is only put up in one size, retailing for 25 cents.

Price to Dealers.....\$21.00 per doz.
 " "\$24.00 per gross.

Advertising Novelties will be furnished on application.

MANUFACTURED BY

E. W. HOYT & CO., Lowell, Mass., U.S.A.

Proprietors of the Celebrated **HOYT'S GERMAN COLOGNE.**

LYMAN, SONS & CO., Manufacturers' Agents for the Dominion of Canada, MONTREAL, P.Q.

W. A. DYER & CO.

Manufacturing Chemists,

14 & 16 PHILLIPS SQUARE, +

AND

+ 2192 & 2194 ST. CATHERINE ST.,

MONTREAL.

BANDAGES, ROLLER MUSLIN.

BANDAGES, ANTISEPTIC GAUZE

BANDAGES, COTTON.

Do PLASTER PARIS.

Do ABSORBENT.

ALL SIZES.

CATGUT, ASSORTED.

COTTON WOOL, ABSORBENT.

COTTON WOOL, SALICYLATED.

COTTON WOOL, BORATED.

COTTON WOOL, SUBLIMATED.

Drainage Tubes, Rubber and Bone.

GAUZE, ABSORBENT.

GAUZE, IODOFORM.

GAUZE, BORATED.

GAUZE, NAPHTHALIN.

GAUZE, CARBOLIZED.

GAUZE, SUBLIMATED.

GAUZE, EUCALYPTOL.

GAUZE, SALICYLATED.

GAUZE, DOUBLE CYANIDE, [Listers.]

GUTTA PERCHA TISSUE. INHALERS, COGHILL.

INHALERS, CELLULOID ORO NASAL.

JUTE, PLAIN BLEACHED.

JUTE, CARBOLIZED.

Do ABSORBENT.

Do NAPHTHALIN.

LINT, PLAIN AND BORATED.

MACINTOSH CLOTH, OAKUM TARRED.

PEAT SILK, WHITE, ON REELS.

SILK, IRON DYED, ALL SIZES.

SPONGES, GAMGEE'S PLAIN.

SPONGES, GAMGEE'S EUCALYPTOL.

SANITARY TOWELS, LADIES'.

DYER'S JELLY OF CUCUMBER AND ROSES.

DYER'S QUININE AND IRON WINE.

DYER'S ARNICATED TOOTH PASTE.

AGENTS AND MANUFACTURERS FOR THE DOMINION OF CASSWELL, MASSEY & CO.'S EMULSION
OF COD LIVER OIL WITH PEPSIN AND QUININE.

Manufacturers of COMPRESSED TABLETS, TRITURATES and LOZENGES.

THE

Anchor Medicine Company

have opened a branch establishment in Montreal



1626 Notre Dame St.,

under the superintendance of

MR. GUSTAVE PICHE.

≡ M U N N ' S ≡

GENUINE NON-FREEZING

God Liver Oil.

Prepared in Newfoundland under special supervision.

Remains perfectly clear and limpid at 19° below freezing point.

This Oil has a body that is quite absent in Norwegian Oil and has certainly more health giving powers.

SEND FOR SAMPLES

STEWART MUNN & CO.,

Board of Trade Building,

MONTREAL.

Kirk's Soaps

ARE ALL PURE

AND PERFECTLY ADAPTED TO

THE USES FOR WHICH THEY

ARE SOLD.



SWAYNE'S OINTMENT

Gives better satisfaction, has the largest sale of any Ointment in the United States.

It is warranted to cure the worst case of PILES or the most obstinate SKIN DISEASE.

Its merits are being steadily brought before the public by liberal and persistent advertising, and under no circumstances will its proprietors allow legitimate competition to capture its well merited laurels.

CHEMISTS and DRUGGISTS will find SWAYNE'S OINTMENT a valuable addition to their Stock, and our

WHOLESALE AGENTS FOR CANADA,

LYMAN, SONS & CO.
MONTREAL,

Are prepared to furnish the trade either in Dozen, One Gross or Five Gross lots, on the most favorable terms.

—PREPARED ONLY BY—

DR. SWAYNE & SON, 36 South Seventh Street, PHILADELPHIA, U. S. A.

When ordering

Gibbons' Toothache Gum,

Ask your Wholesale Druggist to kindly send you one of our Automatic Easels, free,

J. A. GIBBONS & CO.,
TORONTO, ONT.

WATSON'S Cough + Drops

Are warranted to give **IMMEDIATE RELIEF** to those suffering from
COLD, HOARSENESS, SORE THROAT, Etc.

They allay irritation and produce a soothing effect upon the vocal organs. Public
Speakers and Singers find them of great value in clearing
and strengthening their voices.

None Genuine unless the letters "R. & T. W." are Stamped on each Drop.

R. & T. WATSON, Wholesale Confectioners,
75 FRONT ST. E., - TORONTO.

MILLARD MANUFACTURING CO.

47 SPRAGUE STREET, PROVIDENCE, R.I.

MANUFACTURERS OF

SYRINGES ATOMIZERS,

AND ALSO WORKERS IN WHITE METALS.



No. 2-TOILET.



No. 3-NASAL.



No. 6-LARYNX.

We claim for our Syringes, superiority over all others. They are connected by Elastic Packing instead of Screw Threads, and the connecting pipe can be quickly and easily inserted in socket, where it is firmly held in place, the joints being perfectly tight and remaining so. The valves are secured and cannot be lost. We use the best quality of rubber. Physicians recommend our Syringes as perfect in cleanliness, efficiency and durability.

The advantages of our ATOMIZER over all others is its Continuous Spray. Having but one Atomizing Point, it is less liable to get out of order, and being made of the best material, combined with its simplicity, neatness and durability, make it one of the most PERFECT ATOMIZERS in use.

DRUGGISTS' CONFECTIONERY

ROBERT GIBSON & SONS

Medicated Lozenge Manufacturers,

CARLETON WORKS, ERSKINE STREET, HULME, - - MANCHESTER, ENGLAND.
And 1 GLASSHOUSE YARD, ALDERSGATE STREET, - - LONDON, " "

=====

SUPERIOR BOILED SUGARS

Have gained a high reputation everywhere. They are put up in 1 lb., 2 lb. and 5 lb. bottles. Packed in casks or in 1 doz. cases as required. These sweets are absolutely pure, and we specially recommend

Lime Fruit Tablets,
Everton Toffy,
Mixed Fruit Drops,
Rose Drops.

Acid Drops,
Tip Top Tablets,
Gibson's Cough Drops,
Raspberry Drops.

Lemon Tablets,
Malt Tablets,
Butter Scotch Drops,
Strawberry Drops.

=====

HIGH-CLASS LOZENGES

OF EVERY DESCRIPTION.

Chlorodyne Cough Lozenges, Chlorodyne Jujubes, Peppermint Lozenges

In every variety of size and strength. Curiously strong, and Multum in Parvo Mints give the utmost satisfaction. Medicated Lozenges of Pharmacopœia strength.

DIGESTIVE TABLETS,

Voice and Throat Lozenges,

For Singers and Public Speakers.

=====

ORIGINAL SUGAR WORM CAKES

Have an immense sale, both at home and abroad; will keep in any climate, and give entire satisfaction. Put up in tins containing 3 doz., 6 doz., and 12 doz. cakes.

=====

THROAT HOSPITAL LOZENGES

(As per T. H. Pharmacopœia.)

All Lozenges are sent out in 1 lb., 2 lb. and 4 lb. bottles. (Bottles free.) Proprietary Lozenges carefully prepared, stamped and cut to any size or shape.

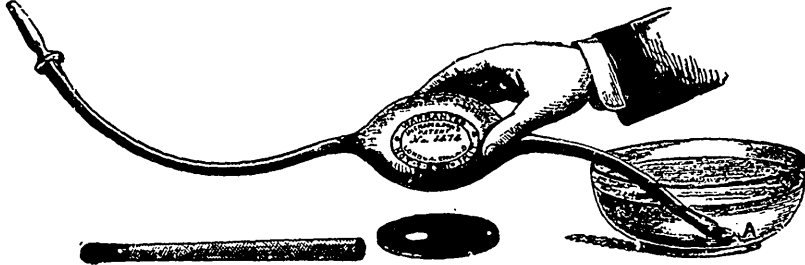
SOLD BY ALL THE BEST WHOLESALE HOUSES IN CANADA.

N.B.—It having come to the notice of Messrs. ROBT. GIBSON & SONS, that some makers are not only closely imitating their label, but are actually putting their goods in Gibson's bottles, Chemists are respectfully informed that every original bottle of Gibson's is capsuled, and moreover, every Drop and Tablet is stamped "Gibson," without this none is genuine.

❖ INGRAM'S 1474 ❖

Imitation is the Highest Form of Flattery.

Owing to the many imitations of our Patent Enema, we are compelled to warn all who wish for a **GENUINE INGRAM'S ENEMA**, to refuse any that does not bear the No. 1474.



It will take [years of practice for fresh hands to make this Enema—it being far more difficult to manufacture than the ordinary Barrel Enema.

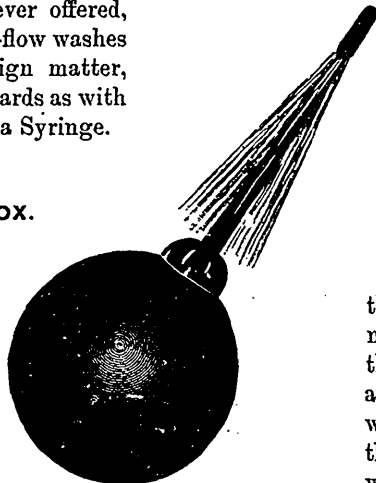
J. G. INGRAM & SON have had 14 years' experience; therefore they do, with the utmost confidence, warrant every Enema of their manufacture bearing the number

❖ 1474 ❖

The New Back-Flow or Reverse-Current Ball Urethra SYRINGE.

Acknowledged to be the most efficient Urethra cleanser ever offered, as the action of the Back-flow washes and drives out all foreign matter, instead of sending it inwards as with the old-fashioned Urethra Syringe.

EACH IN A NEAT BOX.



"Undoubtedly a Syringe of exceptional utility."

J. F. TAYLOR,
M.R.C.S., L.S.A., London.



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. 220745. 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.
- 5.—The Rim or Collar (AA) prevents the Teat slipping out of the mouth.
- 6.—Its soothing properties are unrivalled.
- 7.—It is made of Absolutely Pure Rubber, Tasteless and Free from Smell.
- 8.—Acknowledged to be the Best Teat ever offered to the Public.

NEW
Ingram's Patent
Seamless Collar
or Rim Teat.



The best Soothing Teat in the world.

The above is also made up in the following styles of

Soothing Toys....



Fig. 31

Fig. 30
In two sizes,
Small and Large.

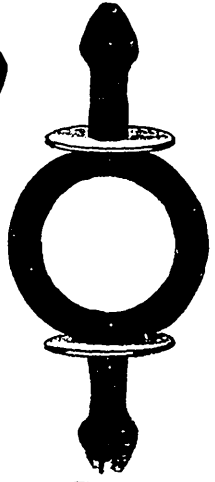


Fig. 32

THE RESPIROREGENERATOR

— OR —

Perfect Inhaler.

Patented in England, 16th August, 1882.

PATENT No. 14518

HEIGHT OF WATER.....

Directions for using the Inhaler.

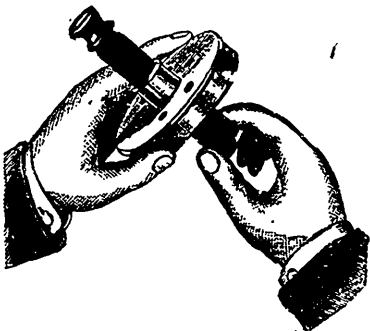


Fig. 1



Fig. 2

1. Take the lid of 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.

"That Excellent Antiseptic"—*Medical Chronicle.*

PACKER'S TAR SOAP

"In which the well-known soothing and healing properties of Pine-tar are skilfully combined with Vegetable Oil and Glycerine."—*Medical Times*, New York.

Lathers freely, soothes while it cleanses, and is unrivalled for

Bathing and Shampooing.

It is excellent for use in the treatment of Dermatic Diseases, such as chafing, eczema, erythema, seborrhœa, herpes, psoriasis, etc., for cleansing ulcers, foul wounds, fetid discharges, bedsores and similar conditions. It is Antiseptic, does not corrode, but leaves the skin smooth and supple.

Invaluable to Travellers. Wards off Contagion.

STEEDMAN'S Soothing Powders,

FOR CHILDREN CUTTING TEETH.

IN USE OVER 50 YEARS.

"JOHN STEEDMAN, Chemist, Walworth,
Surrey," is engraved on the Government
Stamp affixed to each packet

SPECIAL OFFER.

To Druggists outside of the Cities
of MONTREAL and QUEBEC.

Send your Jobber an order for 3 doz. **NERVOL** at 1.75 per dozen, and he will send you a HANDSOME SILK EIGHT STEEL RIB UMBRELLA, one that you will be proud to carry.

Now is the season for Toothache and Neuralgia, and "NERVOL" is the best seller on the market to-day. Unlike other preparations, it never fails to cure by simply applying a little on the cheek outside. You need have no hesitation in recommending it, as it will surely give satisfaction. It is at present extensively advertised in the Province of Quebec and will shortly be well advertised in the other Provinces. It is neatly put up and can be had from all Wholesale Druggists, or from

JOHN T. LYONS, Cor. Craig & Bleury Streets, MONTREAL

PATENTS CAVEATS, TRADE MARKS COPYRIGHTS.

CAN I OBTAIN A PATENT? For a prompt answer and an honest opinion, write to MUNN & CO., who have had nearly fifty years' experience in the patent business. Communications strictly confidential. A Handbook of information concerning Patents and how to obtain them sent free. Also a catalogue of mechanical and scientific books sent free.

Patents taken through Munn & Co. receive special notice in the *Scientific American*, and thus are brought widely before the public without cost to the inventor. This splendid paper, issued weekly, elegantly illustrated, has by far the largest circulation of any scientific work in the world. \$3 a year. Sample copies sent free.

Building Edition, monthly, \$2.50 a year. Single copies, 25 cents. Every number contains beautiful plates, in colors, and photographs of new houses, with plans, enabling builders to show the latest designs and secure contracts. Address
MUNN & CO., NEW YORK, 361 BROADWAY.

DENT'S

Toothache Gum



(A SWELL AFFAIR.)

**STOPS
TOOTHACHE
INSTANTLY.**

This is not a
Chewing Gum.

BEWARE OF IMITATIONS.

Rhum du Saint Père

WHAT excellent brand is a blend of the very best Rums of Martinique. It possesses an unrivalled aroma and is highly appreciated.

LYMAN, SONS & Co.

Agents.

NOW READY THE NEW AND REVISED
EDITION OF

THE NATIONAL DISPENSATORY.

Fifth Edition, Thoroughly Revised, in accordance with the new U. S. Pharmacopoeia 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.

The revised edition of The National Dispensatory not only presents all the information contained in the latest U. S. Pharmacopoeia, but also the Pharmacopoeias of Great Britain, Germany and France have been laid under tribute for all data which might prove of interest or use to the pharmacist. It is accordingly especially rich in Pharmaceutical and Clinical information, with formulas, tables, etc., gathered from all official sources. As an encyclopaedia of the latest therapeutical knowledge, it deals with each official drug, all the new synthetic remedies of value and with the official preparations now so largely in use. Pharmacists will appreciate its systematic descriptions of materia medica, its clear explanations of chemical and pharmaceutical processes and tests, its illustration of important drugs and of the most approved apparatus. Indispensable therapeutical information as to the efficacy of drugs is given through the text, and is placed at instant command in a special Therapeutical Index, which together with the General Index, covers more than one hundred treble-columned pages containing 25,000 references.

In brief, the new edition of The National Dispensatory is the standard for accuracy, the embodiment of completeness without inconvenient bulk, and though the revised edition was only published on February 1st, it has already received the official endorsement as the standard text-book and work of reference for use in The Medical School of Maine, The Mass. College of Pharmacy, College of Pharmacy of the City of New York, The Pittsburgh College of Pharmacy, The Buffalo College of Pharmacy, The Starling Medical College, The School of Pharmacy of University of Michigan, The University of Toronto, The McGill University of Montreal, The Chicago College of Pharmacy, The Rush Medical College, The Chicago Medical College, The School of Pharmacy of the University of Wisconsin, The University of Minn., The University of Iowa, The College of Physicians & Surgeons of Keokuk, Ia., The University Medical College, Kansas City, Tulane University, New Orleans, The Medical College of Alabama, The College of Physicians & Surgeons, Richmond, etc. etc.

From A. D. Blackader, M. D., Professor of Pharmacology & Therapeutics, McGill University, Montreal:

"I beg to express the high appreciation in which I hold this very comprehensive work. For both student and practitioner in medicine, as well as in pharmacy, this book must prove of the greatest value."—February 18th, 1894.

From James MacCallum, M. D., Professor of Materia Medica & Therapeutics, University of Toronto:

"To praise this work is as unnecessary as to attempt to find fault with it is vain."—February 6th, 1894.

FOR SALE BY:

LYMAN SONS & COMPANY, St. Paul St., MONTREAL.

Parfumerie du Monde Elegant.

DELETTREZ

Established 1853. 15 and 17 Rue d'Enghien, PARIS.

**Incomparable Perfumes, Toilet Soaps, Toilet Powders
Hair Tonics, etc.**

**AMARYLLIS du JAPON,
Heliophar d'Arabic,
Peau d'Espagne Royale,
Violettes Blanches de Siberie.**

These odors are the perfection in the art of Perfumery and are put up in artistic style—no finer Holiday Goods attainable.

DR. LAVIOLLETTE'S
Syrup of Turpentine,
 For Diseases of the Respiratory
 and Urinary Organs.

SMALL SIZE.

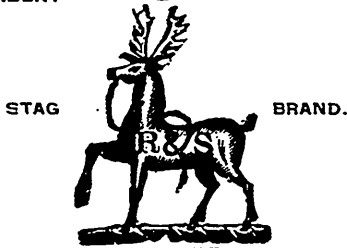
Less than 1 Gross, - - - \$ 2.00 per Doz.
 One Gross or more, - - - 21.00 " Gross.

LARGE SIZE.

Less than 1 Gross, - - - \$ 4.00 per Doz.
 One Gross or more, - - - 42.00 " Gross.

Ten, 4 mos. or 5% discount for cash in 30 days.

ROBINSON'S Surgical Dressings.
 - ABSORBENT -



Lints, Absorbent Cotton, Wool Roll Bandages, Antiseptic Dressings.

ROBINSON & SONS, LIMITED,
 CHESTERFIELD, ENGLAND, and 55 FANNY STREET,
 LONDON, E.C.

ARMBRECHT'S
TONIC @ COCA @ WINE

FOR
 Fatigue of Mind and Body, Nervousness
 and Sleeplessness.

ARMBRECHT, NELSON & CO.,
2 Duke St., Grosvenor Sq., London.
 \$7.50 per Case of 1 doz. Bottles.

Meagher's Orange Quinine Wine.

Prepared strictly according to the formula
 of the British Pharmacopoea.

For Loss of Appetite, Dyspepsia, Indigestion, Spring
 Lassitude, Severe Colds, Neuralgia, General De-
 bility, Malaria, Fever and Ague, etc.

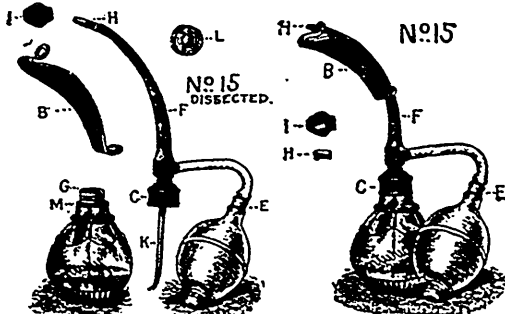
Quinine in this agreeable form is quicker in action and more re-
 liable than when taken in capsules, powders or pills

USUAL DOSE—Half a Wineglassful.

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

ANATOMY OF THE
CENTURY · ATOMIZER
No. 15.

For Spraying either Oil or Water.



- F—5-in. Tapered Throat Tube, screws on bottle G at C.
- B—Tongue Depressor, slips on tube at H. F.
- L—Slip Nasal Cone, fits on tube at H.
- D—Improved Valve Chamber, containing Aluminium Valves.
- L—Washer, fits on bottle at M.
- K—Soft Rubber Feed Tube.
- H—Tip for Spraying Oils.

Aluminum Valves. All Hard Rubber and Glass.
Sprays either Oil or Water. 5-inch Curved Throat Tube.
 Screws Firmly on Bottle.

For Sale by { **LYMAN, SONS & CO.**
LYMAN, KNOX & CO.
EVANS & SONS, LTD

SPONGES

The following lines now on
 hand :

Honeycomb,

Sizes **0 1 2 3 4**
5 6 7 8 9

Fine Toilets

AND

Surgeons

Full assortment, prices on appli-
 cation.



Capsules *Oleum Santal* (Midy) always gives satisfaction in Gonorrhœa and Cystitis. The oil is distilled by Midy's process, from the best freshly-cut Mysore Sandal Wood, and is vastly superior to commercial sandal oil, copaiba, cubebs, etc. Original bottles contain 40 capsules of 5 mins each—they are value for money and pay to sell.

GRIMAULT & CO., Paris,
LYMAN, SONS & CO.,
MONTREAL.

In Amenorrhœe 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.

In Dysmenorrhœa, (congestive and spasmodic) amenable to internal remedies, the suppressed, irregular or painful menstruation is promptly relieved.

APIOLINE

(CHAPOTEAUT.)

The true active principle of Parsley, differing from the so-called Apiol. Dispensed in spherical capsules of 20 centigramme.

Original bottles contain 24 capsules.



Dyspepsia, Can be Cured.

Local Dealers need to know that

“GRODER'S SYRUP
CURES DYSPEPSIA.”

Buy from your regular Wholesaler.



The Enterprising Druggist
always has in Stock ∴ ∴ ∴
a good Supply of ∴ ∴ ∴



SAINT JACOBS OIL

Hamburg Medicines,
—AND—
Diamond Vera Cura.

Send for Fancy Lithographed Cards and attractive
Advertising matter.

Address—

EDWIN A. WILSON,
Sole Representative,
TORONTO, CAN.

Lansing's Glasscine Labels

— FOR —

DRUGGISTS' SHELFWARE.

These Labels are made from thin trans-
parent sheets of Celluloid, and are exactly like
the Glass Labels in finish and appearance, but
are more durable and cheaper.

The only Label Factory in Canada.

SAMPLES & CATALOGUE sent on application

ADDRESS :

LANSING & WOOD,
Lock Box 362 - Windsor, Ont.
Mention this Journal.

LICORICE

HIGHEST AWARDS:

Centennial Exposition, Philadelphia, - 1876
Paris International Exposition, - - 1878
New Orleans Exposition, - - - 1885




STICK } 4, 6, 8, 12, 14 and 16 Sticks to the lb.
LICORICE } Packed in 5 lb. Wood Boxes.

LICORICE LOZENGES { in 5 lb. Tin Cans.
in 5 lb. Glass Bottles.
in Bbls., Bulk.

CATALUNA LICORICE, 100 Sticks in a Box.
POWDERED EXTRACT LICORICE,
POWDERED LICORICE ROOT,
AMMONIACAL GLYCYRRHIZIN, in Scales.

THE MELLOR & RITTENHOUSE CO., - 218 North 22d St., PHILADELPHIA, PA.

STRENGTH.
STRICTLY PURE.

PEROXIDE
- OF -

HYDROGEN

MANUFACTURED BY
A. PEUCHOT,
By a special process, for Medicinal
and Surgical purposes.

Peuchot's Peroxide of Hydrogen has
been recognized by the most eminent Chemists,
Physicians and Surgeons as the purest and
most reliable product on the market. Adopted
in more than twenty Hospitals of New York,
including Belevue Hospital.



IMPORTANT NOTICE.

If the Ozone test is applied to A. Peuchot's Peroxide of
Hydrogen, viz.: Starch and Iodide of Potassium paper, it
will show a blue reaction, much deeper than any similar
preparation.

A. PEUCHOT,
Manufacturing Chemist,
112 114 WOOSTER ST., NEW YORK.
WHOLESALE AGENTS:
Established 1800.
LYMAN, SONS & CO. } **MONTREAL.**
Wholesale Druggists.



STABILITY.
NON-IRRITANT.



TRUSSES.

I. B. SEELEY & Co.

For Twenty Years exclusive Manufacturers of

Hard Rubber Trusses, Supporters and Pile Pipes,

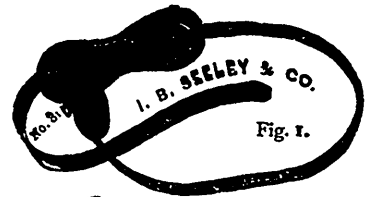
ALSO ALL KINDS OF

Leather and Elastic Trusses.

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

Seeley's Hard Rubber Trusses,

MADE IN EVERY DESIRABLE PATTERN.



Will successfully retain the most difficult form of HERNIA or
RUPTURE with comfort and safety, thereby resulting in a radical
cure. Impervious to moisture, may be used in bathing; and fitting
perfectly to form of body, are worn without inconvenience by the
youngest child, most delicate lady, of the laboring man, entirely
avoiding all sweaty, sour, padded unpleasantness, being light, cool,
cleanly, and always reliable. Endorsed by leading Surgeons, Physicians,
Medical Colleges, both here and in Europe. Over 200,000 applied
in Philadelphia.

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."

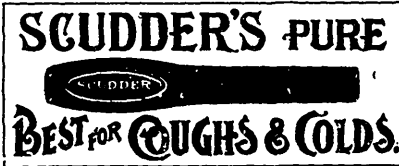
ESTABLISHMENT:

23 S. ELEVENTH STREET,
PHILADELPHIA, U. S. A.

"Mechanical Treatment of Hernia and Illustrated Cata-
logue." Contents: Hernia or rupture delineated; its cause, treat-
ment, and cure. Also Corpulency, Abdominal Weakness, and Vari-
cocele. Book of 88 pages and 180 illustrations. Mailed on application.



All of our goods are manufactured from pure
 Spanish Licorice Paste
 of our own manufacture, and we guarantee the goods to
 be the best made.

LOZENGES  **PELLETTS**

Manufactured by

S. V. & F. P. SCUDDER,

BROOKLYN, N.Y.

Mrs. Winslow's Soothing Syrup

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.

THOS. F. GOODE, Proprietor,

Buffalo Lithia Springs, Va.

TO THE TRADE ONLY
Porter, Teskey & Co.

IMPORTERS OF



**FINE
 FISHING
 TACKLE**

454 & 456 St. James Street, MONTREAL

CANADIAN HEADQUARTERS FOR

Salmon Flies, Lines, Rods & Reels.

Standard Redpath and Forrest Flies.
 Selling Agents for Skinner's Spoon Baits—the best made.
 A full stock of English and American Rods.
 Japanese Poles in all lengths.
 The most complete Stock of Tackle in Canada.

Exclusive Canadian Agents for Hy. Milward & Son's Red-ditch—the oldest and most extensive Tackle makers in the world.

Send for Catalogue.

Mention this Journal when ordering.

25 CTS. **PISO'S CURE FOR** 25 CTS.
 CURES WHERE ALL ELSE FAILS.
 Best Cough Syrup. Tastes Good. Use
 in time. Sold by druggists.
CONSUMPTION

Piso's Remedy for Catarrh is the
 Best, Easiest to Use, and Cheapest.
CATARRH
 Sold by Druggists or sent by mail.
 50c. E. T. Hazeltine, Warren, Pa.

“LUCILLINE.”

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

MANUFACTURED BY

BOSSHARDT & WILSON Co.,

PHILADELPHIA, PA.

Sold by Wholesale Druggists.



VINGENT WOOD,

ST. ANDREWS HOUSE,
 3 ST. ANDREWS STREET,

Holborn Circus,

LONDON, E.C

ESTABLISHED 1840

Cable Address :
 ACME LONDON.

Steam Mills :

NOTTINGHAM AND HERNE HILL, LONDON.

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 medi-
 cated Pine Wool Felt appliances. A sample order re-
 quested.

REGISTERED TRADE MARK **v.w.** “EUREKA.”
 L.

DICK'S UNIVERSAL MEDICINES

FOR
Horses and Cattle.



DICK'S BLOOD PURIFIER is no
 sham made up to sell only, but is pre-
 pared 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, im-
 parts 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,
 side bound, botch, scurvy, loss of cud,
 horn distemper, black tongue, &c., and
 also will backen 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.
- DICK'S OINTMENT, for Cuts, Burns, Bruises, Saddle
 Galls, Sores, Flesh Wounds, Scratches, &c.
- 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

Who has the Best Soda-Water Business in your Town ?

Red Messina Orange and Cherry Ripe do more to decide that question than any other flavors. It takes more than a few flavors to decide that question though.

The main one is : Who has the best ? Best what ? Best everything ; that's the way the popular judgment jumps.

By the way, we have a book that touches on several questions that bear on the main one. We sent you a copy of it a year ago. Do you want another ?

Best Soda-Water business is where the best soda is neatly and pleasantly served. People are judges of that ; they like to go there ; that makes the majority vote ; and the jump to prescriptions, toilet articles, etc., is no jump at all.

Best soda ; best drugs. The freshest soda ; the freshest drugs. That's why you put your fountain near the door.

We'll send you some celluloid signs to hang, if you like—models of printing. One reads : " Red Messina Orange, the most refreshing beverage last year, this year, every year." Another : " Chocolate so whether good or not depends on the chocolate."

Neat printing is rare ; a specimen of it won't hurt your trade—we know ; we've tried it. But you don't want the signs unless you have the goods.

Another reason.—A great many Soda-Water people take Chocolate. Red Messina Orange refreshes. So does Cherry Ripe. Chocolate fills. Soluble Powdered Chocolate—that's the name of the proper Chocolate. Does not grease the glasses.

No ; not all alike. One is rough ; another is smooth. One resists preparation ; another yields, is easily made. You can guess which the proper one is.

There are more reasons—let us send you that book again—is it gone ?

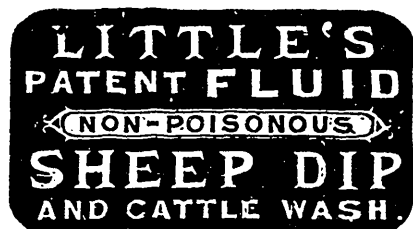
We bottle a lot of the fine fruit juices that make the fortune of drugstores. Red Messina Orange is one of them ; Cherry Ripe another ; hit the popular taste ; there's nothing like hitting the popular taste ; we hit it twenty times over, and that is how we keep your hinges from rusting.

We make the best fruit juices in the Soda-Water world. We want your trade again next year ; that's why we make 'em so good. We will send all who use our goods as many signs as they want ; free. Write for 'em.

Philadelphia	Callowhill and Marshall Streets
New York	17 Platt Street
Boston	15 and 17 India Street
Chicago	59 Lake Street
Pittsburgh	624 Smithfield Street

Hance Brothers & White

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."

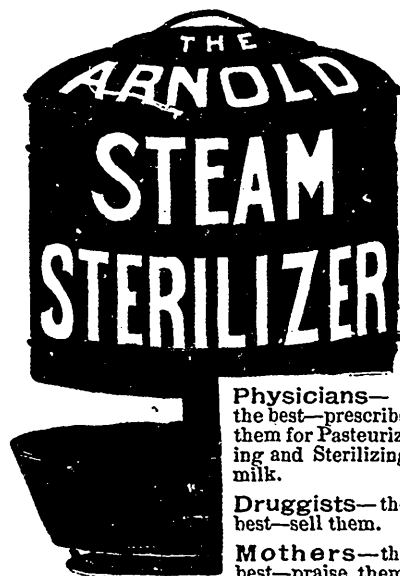
Many Gold, Silver and other Prize Medals have been awarded to "Little's Sheep and Cattle Wash" in all parts of the world.

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 had from Wholesale Druggists in TORONTO, HAMILTON and LONDON



Physicians—the best—prescribe them for Pasteurizing and Sterilizing milk.

Druggists—the best—sell them.

Mothers—the best—praise them.

Babies—all thrive on milk prepared in them.
We sell every kind of apparatus for Physicians, Hospitals and Laboratories.
Correspondence solicited.

Lyman, Sons & Co.,
Agents for Canada. **MONTREAL.**

Dr. Ed. Morin & Cie,
PHARMACIENS EN GROS,
48 RUE ST. PIERRE, - - - - - QUEBEC.
SPECIALITES PHARMACEUTIQUES.

Dr. Ed. Morin's Beechwood Creasote Wine.

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.

Wholesale Price List—1 doz. large bottles, - \$8.00
 1 " small - - - - - 4.25

VIÉL'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.

We advise all bilious persons and those suffering from liver complaints to take Viél's Pills from time to time.

Wholesale Price List—Viél's Syrup, - \$4.25 1 doz.
 Viél'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 4 ½ 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, \$8 per doz.
We trust there will be no cutting.

DR. L. A. SMITH & CO.



MAKE YOUR OWN BEER

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, Horehound, 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 properly 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 rotector 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 dozen,	75c.
" gross,	\$7.50.
" 5 "	6.50 per gross.

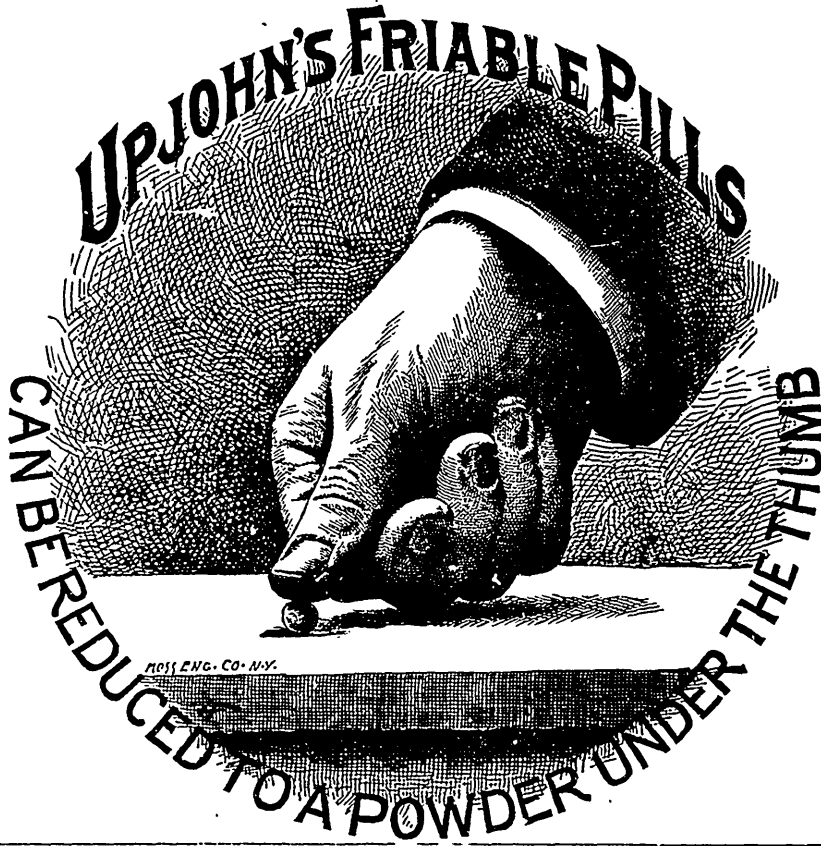
Wholesale from **W. H. Chapman,**

Manufacturing and Dispensing Chemist,

Kindly mention this Journal when ordering.

2637 St. Catherine Street, MONTREAL.

The Upjohn Pill & Granule Co.
KALAMAZOO, Michigan, U.S.



Send for Price Lists
and Samples to
Lyman, Sons & Co.,
MONTREAL.

COUTTS' ACID CURE

72 VICTORIA STREET,
TORONTO.

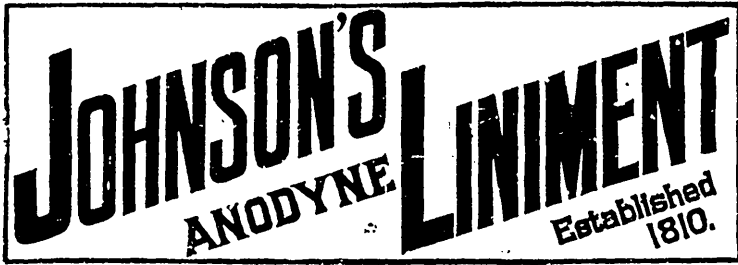
London, Glasgow and Manchester.

ACETOCURA ❊

The most effectual remedy for **Spinal Complaints, Nervous Diseases, Rheumatism, etc.,** should be stocked by every druggist. You will be asked for it and it will pay you to push it.

From all Jobbers
Pamphlets and Advertising Matter Free . . .

COUTTS & SONS.



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.

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.

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. **J. S. JOHNSON & CO., Boston, Mass.**

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:—

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

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. 5.

AUGUST, 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. BENEDICT, Secretary.

EDITORIAL NOTES.

THE British Pharmaceutical conference held its annual meeting at Oxford this month, and some interesting papers were read. We publish some in this month's issue, and hope to be able to give a short *resume* of each paper in our next. Mr. N. H. Martin, of Newcastle, was re-elected president.

THE British Association for the Advancement of Science also held its annual meeting about the same time. The most interesting feature was the announcement by Lord Rayleigh of the discovery of a new element in the atmosphere, distinguished by negative properties. As the newspaper reports are meagre, correct news of the discovery will be awaited with interest.

PROF. SAUNDERS, of the Dominion Experimental Farm, has gone to Baltimore to attend the meeting of the Society for the Promotion of Scientific Farming of which he is president.

DR. SAUNDERS, son of Prof. Saunders, has obtained his degree as Ph. D. at Johns Hopkins University, and has received the appointment of professor of chemistry at the Wisconsin University.

THE American Pharmaceutical Association meets at Asheville, Sept. 3. We hope a good Canadian delegation will attend, as a strong effort will be made to secure the next convention for Montreal. Two of our local pharmacists will contribute papers on subjects of interest to the profession.

Dispensing by Physicians.

IN THE June issue of the "Canada Medical Record," appeared an article on dispensing by physicians, which is marked by a total disregard of the courtesy which should exist between physicians and pharmacists, and of the honesty which should exist between all men. The publication of such articles is the cause of a great deal of the friction which exists between the two professions and is always avoided by journals which really have the interests of the medical profession at heart.

Pharmacists in general are charged with counter-prescribing substitution, etc., etc., which may be true in some cases, but not in the majority, as most pharmacists fully respect the rights of the physicians and at the same time expect that their rights will also be respected.

But our principal reason for drawing attention to this article, which should never have appeared in a respectable medical journal, and which we doubt very much was ever examined by the editors, is the garbled report of a case recently tried in our courts in which a physician of this city brought action against a prominent druggist for defamation of character. The circumstances of the case as related in the "C. M. Record," are entirely at variance with the sworn testimony given at the trial, which

was decided in favor of the pharmacist, and here we might draw attention to the fact that in rendering judgment in the case Judge Taschereau stated that the druggist would have been wanting in his duty to the public if he had acted in any other manner than as he did. All the other statements published in the article in question were shown to be false on the trial. An action for \$5,000 was taken by the physician, "with the unexpected result that he lost the suit and had to pay the costs" as the Record says. The result was the only one possible from the evidence, and we believe that a judge having heard both sides is more competent to decide the question than one who has heard only one side of it, and as for paying the costs, that portion of the story is as truthful as the rest, because the costs had not been paid by the physician up to a few days ago.

The article is on a par with the majority of such things devoted to the defamation of the druggist. It would be better for some physicians and editors to learn the fact that pharmacists have the right to live as well as they, that the majority of pharmacists are as well trained in their profession and as learned as the physician in his, that if they would act as professional men should, that there would not be any trouble with the druggists, if they would remember their duty is diagnosis and prescribing, the druggist's dispensing, and be willing to admit that the latter does know a little about chemistry and materia medica, then matters would run along smoothly. Fortunately the best men of both professions get along well together, it is only the men who are in medicine for the money there is in it who make all the trouble.

The question of physician vs. pharmacist is one which can be settled by a little forbearance, common sense and tolerance, but it cannot be aided by the publication of such articles as that of the "Canada Medical Record," marked as it is with exaggerations and misstatements.

THE NEW DRUGGIST.

There is to-day a multiplicity—perhaps an overplus—of journals devoted to the particular interests of every trade, business and profession. Some of these, however, sometimes reward examination on the part of outsiders. To the student of political economy, for instance, what more interesting illustrations of the peculiar and particular state of mind that may be begotten of protectionism can be found than in the editorial columns of our esteemed contemporary the *Canadian Manufacturer*? But

we lately had the pleasure of looking through a number of journals devoted to the interests of the drug trade, among which not the least creditable in general appearance and tone was the *Montreal Pharmaceutical Journal*, and we were struck by several features which may possess some general interest. Immediate trade questions such as those of the drug market, the handling of stock and the relationships of the druggist to the public and to the medical profession, come in for a good deal of attention; but we were particularly impressed by the intellectual activity displayed along the lines of those sciences, including chemistry, botany and materia medica, which have an immediate connection with the business of the druggist, or the pharmacist, as he now more generally calls himself. To realize that the druggist of to-day has high aims for his profession it is only necessary to examine the curricula of the pharmaceutical colleges, the examination papers of the various boards, the character of the scientific papers read at the meetings of the pharmaceutical societies and, lastly, the admirable means provided for a scientific education in the way of thoroughly equipped laboratories, etc. It is apparent, indeed, that the New Druggist is not satisfied with mere competence to correctly fill a written prescription, important as that may be, but is ambitious of other relationships to the public in which scientific knowledge that he has the inclination and the opportunity to acquire, will be brought into play. It would seem, in fact, that the old title of "chemist and druggist" will in time come to generally include, in reality, professional competence in analytical and all round chemistry. Among other possibilities in this direction it may be pointed out that the farmer would then find the country druggist a useful assistant in the matter of testing the purity or strength of his artificial fertilizers, as well as an efficient adviser on the question of well waters. In the journal above referred to, we noted also the considerable importance attached to the use of the compound microscope in the detection of adulterations in drugs, as in vegetable powders, starches and so forth. For competency in this connection to competency in the examination of foods would not probably be a long step, and by the time that Government is prepared for a more general supervision of the quality of food and food stuffs, it is not unlikely that the trained men for the service may be found among the chemists and druggists of the country. But in any case, the intellectual activity displayed by the New Druggist is in itself of distinct value to himself, apart from pecuniary profit or professional advancement, connected as it is with the liberalizing study of several of the most delightful branches of science.—*Montreal Herald*.

LIQUID AIR.

By J. J. STEWART, B.A. Cantab.,
B.Sc. Lond.

It is a familiar fact to all that some substances can be obtained in the varying forms of solid, liquid, and gas; but many substances come under our notice only when occupying one of these states. When granite is mentioned, we at once think of a hard, solid rock; few people have seen granite in a liquid state. Again, the name *mercury* calls to our mind the well known liquid metal. So there are numerous gases and vapors which are known to us only under this somewhat impalpable and less tangible form. Among the substances familiarly known to us, however, there are a large number which, through the action of heat upon them, can be readily changed into a fluid and then into a vaporous state. Perhaps the best known of all is water, though even this in hot climates is rarely seen in the there uncommon solid form; so that the African chief, who had accepted many statements from his European visitor, utterly refused to believe him when he was told that, owing to the intense cold of some countries, rivers got hard enough to be walked over.

Lately, in many text books of science, gases were divided into two classes—those which could be liquefied by the application of cold or pressure, or both, and those which were *permanent*, or were known to us only in the form of gases. It was suspected by scientific men, especially after the extensive experiments by Faraday who succeeded in liquefying many of the "permanent" gases, that all gases without exception could be changed into the liquid form if they were exposed to a sufficiently great pressure and at the same time cooled down far enough. This surmise has been proved correct only within comparatively late years, and now all gases, including the air we breathe, must be considered as differing from vapors, such as steam, only because at the usual temperatures at which we generally deal with them they are in a condition similar to that which other substances attain when heated to a very high temperature.

I propose to give a short account of the work hitherto done in the liquefaction of gases, commencing with that so ably carried out by that unsurpassed experimenter, Michael Faraday, and going on to refer to the researches, commenced by Raoul Pictet and by Cailletet, in France, who, about the same time (1877), succeeded in liquefying oxygen and even hydrogen. These researches were pursued by Wroblewski and Olzewski, in Russia, and have been continued lately in our own country by Professor Dewar, who, with such striking success, has liquefied air in large quantities, and has even

handed it about in pint bottles for inspection by a large audience.

There are two means open to us of liquefying a vapor. Let us increase the pressure upon it, or lower its temperature, and if we proceed for enough in these operations the vapor will become liquid. A further condition is necessary with the "permanent" gases—we must cool them down below their *critical temperature*. This critical temperature is that above which no amount of pressure applied to the gas will be capable of changing its state into that of a liquid.

Faraday, in his series of experiments, applied the simple but effective means of generating the gas in a strong glass tube, from those compounds which evolved the required gas on heating. In this way the gas, being produced in a limited space, produced a great pressure, under which pressure of its own vapor the gas became a liquid. On breaking the tube, the gas, compelled by pressure to exist as a liquid, would revert to the form natural to it at the temperature of the experiment, and would do this with explosive violence. There was thus always a tendency for the gas to burst the tube and this sometimes occurred during Faraday's experiments. He was careful to wear a mask made from wire gauze or thick glass, but even thus he did not entirely escape injury. Faraday immersed one end of his tube in a freezing mixture while the other was exposed to heat. In this way he succeeded in liquefying a large number of gases, and examined their properties while in this unusual state. Among the gases so treated were the following: carbonic acid, hydrochloric acid, sulphur dioxide, cyanogen, ammonia and chlorine. He carried out his first set of experiments on this subject in the year 1823. Later, in the year 1845, after Thilorier had shown how carbonic acid gas could be obtained in the liquid form on a large scale, and also as a solid, Faraday used the solid carbonic acid mixed with ether, and by means of the cold produced by the evaporation of the mixture he reduced the temperature—100° Cent., and obtained most of the above mentioned gases, and also nitrous oxide, not only in a liquid but also in a solid state. Hydrochloric acid, hydrogen arsenide, ethylene, silicon fluoride, boron fluoride and chlorine he at this time managed to get in the liquid form, but was unable to solidify these substances. The gases hydrogen, oxygen, nitrogen, nitric acid, carbon monoxide, and marsh gas resisted all Faraday's attempts to liquefy them, and it was not until more than thirty years later that these substances were condensed.

Andrew's by his classical researches on the critical point of gases and vapors, and especially by his thorough investigation of the behavior

of carbon dioxide when exposed to great pressure at varying temperatures, paved the way for future work on the liquefaction of gases, and showed that great pressure of itself was not sufficient to cause a gas to turn into a liquid, but that a certain limiting temperature must be passed in cooling down the gas before it can by any amount of pressure be liquefied. Thus above this limiting or critical temperature, which is different for each gas, it may be called truly permanent, while below this temperature the gas is liquefiable if only enough pressure is applied to it, and the gas may then be described as a vapor.

When substances evaporate or change from the liquid to the gaseous state, a large amount of heat disappears or becomes latent, and is used up in separating the molecules of the liquid farther apart and giving them increased energy of motion. On account of this disappearance of heat [during evaporation great degrees of cold may be produced, and it was by this means that Pictet, in 1877, obtained a temperature of -140° Cent., and obtained oxygen in the liquid state. He cooled liquid carbon dioxide by surrounding it with liquid sulphurous acid, kept boiling in a vacuum, and got a still greater degree of cold by then allowing the liquid carbonic acid to evaporate rapidly in an exhausted space. The oxygen was generated in the usual way from potassium chlorate, a salt which splits up and gives off oxygen gas when it is heated; but the gas was produced in a strong iron retort, so that by means of its own pressure alone the gas was compressed by a force several hundred times greater than that of the ordinary pressure of the atmosphere.

The method adopted by M. Pictet is the same in principle as that employed by Faraday. The gas is generated in a closed vessel capable of standing a great pressure, and it is condensed by being simultaneously exposed to a great cold and to the pressure of the gas itself, forced to occupy a very small space. In Pictet's original experiment he obtained a temperature of -130° Cent., at which temperature oxygen is liquefied, when the pressure is raised to 273 atmospheres.

While Pictet was continuing his experiments and endeavoring to liquefy the hitherto permanent gases, the same subject was being investigated by Cailletet, and it was on the same day, Dec. 24th, 1877, that the French Academy was informed of the success of both these experimenters in liquefying oxygen. Cailletet attained his object by exposing the gas to enormous pressure, produced by means of a hydraulic press, while at the same time the temperature was lowered by suddenly allowing the gas to expand. In this way a sudden disappearance of heat takes place, the

heat energy becoming transformed into mechanical motion of the particles of the expanding gas. In Cailletet's apparatus the pressure was produced by a steel piston working in a cylinder, the hydraulic cylinder being filled with water. The gas was contained in a capillary glass tube with small bore and thick walls which could support the strong pressure required. The glass tube containing the gas was connected to the hydraulic pump by means of a flexible metallic tube. Cailletet worked with small quantities of gas, while Pictet, by means of his machinery, was able to obtain relatively large quantities of the various liquefied gases.

The results got were only obtained after years of preparation and endeavor by both experimenters, working quite separately and independently. Cailletet made use of the skill and knowledge obtained by him in the prosecution of his business as an ironmaster at his works at Chatillon-sur-Seine; while Raoul Pictet carried on his experiments in Geneva, where he was engaged as a manufacturer of ice-making machinery.

Cailletet's apparatus is singularly simple and effective, and by it he also obtained liquid hydrogen, which appeared as a mist on the inside of his tube when the great pressure to which the gas was subjected was suddenly relieved, and heat thus suddenly absorbed. Hydrogen was thus liquefied into globules of mist on the glass when the pressure of three hundred atmospheres was suddenly removed, while air previously carefully dried changed into a liquid under a pressure two hundred times that of the atmosphere after it was cooled by means of liquid nitrous oxide. That is what happens in Cailletet's experiment: the gas, first of all cooled on account of its quick expansion, descends in temperature below its critical point, and then becomes liquid under the moderate pressure to which it is then exposed. But as expansion and relief of pressure continues the liquid is soon under too little pressure to remain in this condition, and besides by conduction from surrounding objects heating occurs, so that the liquefied gas soon evaporates and the mist produced is fugitive; this is especially so in the case of hydrogen.

MM. Wroblewski and Olzewski have carried out many experiences, using an apparatus similar to Cailletet's. At -136° Cent. a pressure of twenty atmospheres sufficed to liquefy oxygen, and at the critical temperature of this gas is placed at -112° Cent. that is, it must be cooled *at least* as far as this before liquefaction can take place. The critical temperature of nitrogen is found to be still lower than this, being -147° Cent., or -223° Fah.

On Friday evening, June 26, 1891, at the Royal Institution, the audience saw liquid

oxygen in large quantities freely drawn off from the refrigerating apparatus, and having all the appearance of hot water, with a vaporous cloud above it. In reality the oxygen was boiling at a temperature of -296° Fah. *i.e.*, 328° below freezing point, and the apparent vapor consisted of ice particles produced from the moisture of the surrounding air, cooled from the contact of the chilled gas. On filtering the liquid oxygen, to get rid of the minute particles of solid carbonic acid scattered through it, it was seen to consist of a blue limpid liquid not unlike water. It would naturally be expected that the liquified gas when placed in an open vessel in a room at the ordinary pressure and temperature would with great rapidity, and even violence, hasten to take the gaseous form. But this was not the case; the liquid oxygen evaporated but slowly, and retained its liquid form for a considerable time, although it was only under the usual atmospheric pressure. When a few drops of the liquid were thrown into the water, the effect was like that of plunging red hot iron into a liquid; a fizzling noise was produced, and soon the globules of liquid oxygen were seen each floating about in a little cup of ice formed from the surrounding water. By means of the remarkably cold fluid, alcohol, which remains liquid even in the severest Arctic climate, was quickly frozen into solid lumps; the solidifying temperature for alcohol being -130° Cent.

The effect of cold in rendering sluggish and inert substances which are usually chemically active is strikingly seen in the case of cooled oxygen. At ordinary temperatures oxygen gas has a great affinity for phosphorus, and combines readily with it, producing vigorous combustion with much heat; and light clouds of the solid phosphorous oxide being formed. But a piece of phosphorous when placed in liquid oxygen remains undisturbed; no combination takes place.

By means of liquid oxygen, nitrogen may be liquified. Advantage is taken of the fact that liquid oxygen when placed in vacuo boils at a lower temperature than when under the ordinary pressure. A temperature of -328° Fah. can thus be obtained, at which both nitrogen and atmospheric air can be liquified. During the process of liquefaction of the air the two gases of which it is made up become liquid together, but when the temperature is allowed they evaporate separately. The nitrogen, though more difficult to liquify, comes off as a gas first, leaving almost pure oxygen behind.

Prof. Dewar has solidified air as well as nitrogen by employing powerful pneumatic apparatus. Pure oxygen has itself never been obtained in the solid form. In order to obtain

a succession of lower and lower temperatures, the various liquefied gases are caused to boil in a vacuum. Thus the more easily liquefiable gases are made use of to abstract heat on their evaporation from those more difficult to liquify. When these latter are made to boil in vacuo a still lower temperature is attained, and by successive steps a reading on the thermometer as low as -211° Cent. (or -345° Fah.) has been reached. At these low temperatures experiments of an interesting character have been made on the electrical behavior of metals, and their electrical resistance has been determined.

On boiling successively in vacuo carbonic acid, nitrous oxide and ethylene, using the first to take away by their evaporation heat from the gases which are more difficult to liquify, a temperature of 227° Fah. is reached, at which oxygen can be liquified under a pressure of fifteen hundred pounds per square inch. The rapid evaporation of oxygen in vacuo so quickly removes heat from surrounding substances that air and nitrogen are soon liquified, and these, when treated under powerful air pumps, abstract sufficient heat to allow the production of solid nitrogen. This last experiment was successfully carried out for the first time in public on January 19, 1894.—*Knowledge*,

Iodine Ointment.

BY S. A. MCDONNELL, PH. G.

I had occasion to use some iodine ointment for a prescription a short while ago, and upon removing it from the stock jar I noticed it was dotted throughout with the black specks of iodine. This indicated that it had been imperfectly made (and, by the way, it requires some patience to properly prepare it). Not desiring to throw it out—as it should not be dispensed in that condition—I took what I wanted from the jar and placing it in a convenient water bath, applied heat until it melted and was gratified to observe that the iodine lost itself in the fat, much

“As snowflakes fall on the river
One moment *black* then lost forever.”

Hence, on further experiment, I have concluded that this is the way to make iodine ointment. Just try a little—say

R Iodinegr. IV
Adipisgr. XCVI
Misce

Place the lard on a water bath and apply heat until melted, then drop in the iodine and stir with stick or glass rod, when the iodine will soon be dissolved. The object of the iodide of potassium and water in the official

ointment is to dissolve the iodine—and in the hands of many it is only very imperfectly done; whereas by the above method it is a case of why did I not think of this before? The result is far superior and with much less labor. Of course it is understood that the heat is not high—the lard melts at nearly 35° C. (95° F.) and this low heat does not vaporize the iodine to any more appreciable extent than ordinarily, as it is only slowly volatilized at ordinary temperatures, and it does require 114° C. (237.2° F.) to melt it and give rise to the purple vapors, which would indicate a loss of some portion of the iodine, if not confined in a closed space. The ointment this way prepared is superior, inasmuch as we get rid of the hard crystals of iodide of potassium which remains when the water has evaporated, and the scratching of the tender skin by the rubbing to which it is subjected.—*Proc. Cal. Phar. Soc.*

Anæsthetic Antiseptic Liquid.

DR. MAYET.

The following formula for an antiseptic and anæsthetic liquid for the dressing of wounds, etc., has been communicated by the author to the Society of the Medical Sciences, at Lyons:

Vaseline Oil, sterilized by ebullition	100 parts.
Iodoform	5 "
Cocaine	1 part.
Oleic Acid.....	4 parts.

The last ingredient serves to facilitate the solution of the cocaine in the fatty oil; the alkaloid is dissolved by trituration.

The author uses this mixture chiefly as an anæsthetic in uterine pain. A piece of very fine soft and perfectly aseptic sponge of the size of a walnut is provided with a thread through its centre and imbibed with the liquor in question; it is then placed against the cervix. This tampon advantageously replaces those of cotton, lint, or even gauze, which become deranged, and eventually form hard bodies, illy tolerated by the uterus.

The same mixture is considered an excellent topical application in hystericalgia from any cause, especially, however, that of neuro-pathic persons; it is employed, also, for dressing felons, small contused wounds, furuncles, anthrax and burns.

A LECTURE ON ANATOMY.—Teacher: "How many bones have you in your body, Jimmie?" Jimmie: "Two hundred and nine." Teacher: "But the other pupils have not so many." Jimmie: "Well, they ain't had fish for dinner, like me."

Vaccination in France and England.

The official report on vaccination was the subject of a paper read by M. Hervieux, at a recent meeting of the Academy of Medicine, Paris. He stated that the small-pox epidemic in Paris is now a thing of the past, and compared it with that which he said had prevailed in England since 1891, remaining still unchecked at the commencement of 1894. This, he added, was in spite of the fact that vaccination is compulsory in England, whereas in France it is only so as regards the army. M. Hervieux is of opinion that England has been paralyzed in combating the epidemic by the action of the Anti-Vaccination League, while France has turned to account all the arsenal of prophylactic means of which it disposes. He traced the history of the League in question, and then reviewed the various means by which the small-pox epidemic had been overcome in France, specially mentioning animal vaccine and the conditions under which it should be preferred to human vaccine. He does not favor the variola vaccine of Fisher and Haccius. Re-vaccinations were quoted as the principal cause of the cessation of the epidemic in Paris, but much service was recognized as having been contributed by the municipal processes of disinfections, etc.

The Pasteur Institute.

The latest returns from the Institute show that 417 persons were treated there during the months of April, May and June. Of these, 54 were bitten by animals that experiments showed were suffering from rabies, 210 by those found to be mad by a veterinary examination, while 153 of the victims had been attacked by animals who were only suspected of being rabid. Two patients only, treated at the Institute this year, have succumbed to hydrophobia, while one who was bitten in October last has died from another malady.

ÆRATED MILK, by which is understood milk charged with carbonic acid gas, is being used in Russia in many cases as a substitute for koumyss. It was introduced by Professor Botkin, and has been used successfully by Professor Pasternacki and others in cases of feeble digestion. Dr. Borysoroski states that the best and cheapest method of ærating milk is by means of liquid carbonic acid, which is prepared in St. Petersburg in special factories, and sold in iron bottles, in which it exerts a pressure of about 60 atmospheres, which is certainly considerable, and may possibly give rise to accidents from explosions.—*Monthly Magazine of Pharmacy.*

**A Few Paragraphs on Pharmacy from an
introduction of Liebig's Chemistry
Published in Heidelberg, Ger-
many, 1843.**

TRANSLATION, WITH COMMENTS AND ADDI-
TIONAL HISTORY, BY AMBROSE MUELLER,
PH. G.

When a few months ago I came into possession of a fragment of Geiger's Handbook of Pharmacy, fifth edition, rewritten and revised by Dr. Justus Liebig, professor of the University at Giessen, Hessa, Germany, I thought it might be of value, if only historical, to some pharmacists, to hear some of his views on pharmacy, and I have aimed to give as near a literal translation as possible.

1. Pharmacy (apothecaries' art) is that branch of natural science which treats of the gathering, preparing, preserving and dispensing of drugs and medicines:

2. Natural science in its widest sense embraces all things which are perceived by the senses. It investigates and studies their properties and phenomena. Some branches of natural searching consider things fixed, according to natural characteristics, as form or shape, size, etc. This embodies physiography (generally called natural philosophy), and may be divided into geology, botany, and zoology. Other branches observe the changes of bodies (astronomy, physiology, therapeutics, etc.), but if the causes of these changes are studied, two distinct sub-branches result as physics and chemistry proper. Of these branches pharmacy treats of all which, through any cause, form, or way, have any relation to drugs.

3. The number of drugs is at present very large, regardless of the many useless and inactive, which in later years have been excluded from medicine, some, however, without thorough investigation. Many have, again, been introduced, and with every year their number multiplies. The most generally used and known bodies in every day life, as food or in the arts, furnish a vast scope for pharmacy.

4. Pharmacy, as stipulated in paragraph 2, requires a knowledge of systematic zoology, botany, and mineralogy; further, a knowledge of physics and chemistry, which are indispensable in the preparing of pharmaceuticals; and to this must be added the practical ability which can only be acquired by zealous diligence and several years' practice under the guidance of a competent preceptor. Therefore pharmacy must be regarded as a scientific art, as a branch of medicine, the highest timely "good" for preserving health and prolonging life.

5. The importance of his calling requires him to be equipped with the already stated

scientific knowledge and practical ability. The apothecary must be a true, conscientious man of good morals, whose office is a sacred duty, and who will attend to his profession with honesty and willingness. From this we can see that he must at all times keep the best medicines, and never allow himself to act arbitrarily or neglectful, but always discharge his duties punctually and quickly, and charge strictly in accordance with legal taxation [a fixed price which gives him a profit on every ingredient, allows for work, bottle, box, or label, and the writing of same—in short, a profit which, if charged by us, would be considered too high], and, lastly, keep all parts of the apothecary shop perfectly clean and in good order.

The scope of pharmacy from this point of view assures the apothecary an honorable position in the State, and there is no doubt that he, as a scientifically qualified pharmacist, is the physician's equal.

*Pharmacies in the Hands of Physicians—First
or Hippocratical Period to the Time of
Scribonius Largus (43d year A. D.)*

6 Ancient history of pharmacy coincides with that of medicine. Simple and artless, as their customs, were undoubtedly their medicaments, and laborious modes of preparing the same were at that time scarcely thought of. The first physicians prepared their own medicines and provided that the sufferers received them in the most suitable way for administering. Some time later, through extended progress in medicines over to reliable men, who attended to the gathering of drugs and the dispensing of medicines.

The Asklepiads in the temples of Kos prepared inspissated juices, poultices, decoctions, and ointments, a thousand years before the Christian era, and their work must be looked at as the starting point of pharmacy, though scarcely deserving of the name apothecary—many of them defined themselves as unguentarii, seplasiarii, pigmentarii, medicamentarii, pharmacopoli etc.—but rather merchants, dealers in paints, charlatans, and mixers of poisons.

From the temples of Kos and Knidos our first physicians have emanated. They cloaked their art in mythology, but laid a foundation for medical science. The son of Heraklides, known by the name "Hippocrates," deserves the highest place among them, and pharmacy will find its oldest sources in his writings. Several noteworthy men of that period, who occupied themselves with the gathering of drugs, and who zealously devised, planned, and worked out practical processes for preparing medicines for the sick, and who, so to say, opened the way to pharmaceutical learning,

are the following: Diokles of Karystus, Paraxagoras of Kos Chrysippus of Knidos, Theophrastus of Eresos, Nicander of Kolophon, Heras of Kappadocia, etc. In this period the renowned separation in medicine was brought about by the Alexandrian school and resulted in dietetics, surgery, and pharmacy. This separation has undoubtedly had a grave influence on the part of preparing medicines: men who cured with remedies used internally, and besides attended to the mixing of medicines, were called pharmacutists, while the dietetists treated by giving advice as to the proper food and nanner of living, and the surgeons attended to local manual practice only. Wrong is the idea, "that pharmacy must be regarded as a separate profession from this period."

Second or Galencial Period to the Founding of Apothecary Shops in Bagdad 765 A. D.

There is no doubt that in the latter part of the first period quite an extensive collection of formulas for preparing medicines were written in books of that time, but of those we have only fragments. The oldest and most complete which has been preserved is the work of Scribonius Largus, who lived during the reign of Emperor Claudius. His "Compositiones Medicæ" must be regarded as the oldest pharmacopœia, containing strict directions and modes for preparing medicines in accordance with rules observed at that time.

Immortal are the names of some distinguished Greeks and Romans for great services rendered to pharmacy and materia medica, now called Pharmacognosy, and whose names are doubtless in place here, namely: Dioscorides of Anazarba, Cajus Plinius and Claudius Galenus of Pergamos, the latter certainly deserving of the honor of having this period of pharmacy called his.

Pharuacy an Independent Science—Period of the Arabs to the Erection of Pharmacies in Italy in the Eleventh Century A.D.

By the fall of the Roman Empire, through northern nations, art and science were almost entirely lost, and only the Arabs retained their treasure, and, to say, preserved it for better times. Even if the labors and works of the latter are not equal to those of the Greeks and Romans, we still have to thank them for a great deal in chemistry and pharmacy.

They discovered many chemical products, and introduced many new remedies, some of which we use at the present time. In the eighth century the Arabs established the first apothecary shop in Bagdad, and founded pharmacy as an independant science. Also were they the first to encourage and introduce

legal dispensatories—in the ninth century that of Ebn Sahel, and in the twelfth the one of Abu Hassan Hiebatollah Ebn Talmid.

Renowned men of this period, who distinguished themselves by zealous work in pharmacy, are the following: Rhazes of Ray in Irak, Geber of Harran in Mesopotamia, the two Serapions, Mesue of Maridni on the Euphrates, Avicenni of Lokhara, Aben Gnefith, etc.

Constantinean Period to the Erection of Numerous Pharmacies in Germany in the Fifteenth Century.

While chemistry and pharmacy were flourishing in the Orient, the larger portions of Europe dwelt in almost total ignorance on these subject. But a new light was brought into existence by Constantinus of Karthago, who established the first pharmacies in Europe. Salerno was the place where he founded the first ones, which he termed "Stationes," and the apothecaries "Confectionarii." At that time Nicolaus Præpositus of Alexandria wrote a large collection of formulas for the prepaing of medicines, whose work may be regarded as the first European dispensatory. The first strict pharmacy law was instituted by Emperor Frederick II. The so-called apothecaries' art was at that time in its childhood. Ignorance and superstition prevailed throughout the countries, and science could only slowly creep forward. Men of those dark days who earned [noteworthy] laurels for pharmacy are Matthaus Sylvaticus, Johann of Dondis, Saladin of Asculy, and several others, whose works were authoritative at that time, but now are only of historical interest.

Ortolf-Brunfelsian Period to the Spread of the Antiphlogistic System of Chemistry in the Latter Part of the Eighteenth Century.

The end of the fifteenth and the entire sixteenth century were brought into distinction by the rapid progress in all branches of scientific knowledge. Ortolf of Baierland wrote the first German treatise on the Practice of Pharmacy, in 1747, and about the same time a large number of pharmacies were established in the different provinces of Europe, but particularly in Germany. The capital, Augsburg, had its own dispensatory in 1573, which was written by Adolf Occo. And even before that time, in 1538, there existed a legal chart regulating the strengths and taxations of medicines, which was printed by the free city of Lindau. From this time chemistry began to exert more and more influence on pharmacy, and men who at that time, and particularly in in this branch, received praiseworthy mention

are the following: Reimund Lullius, Basilius Valentinus, Theophrastus Paracelsus, who especially introduced many mineral and chemically prepared medicines—in fact, it is to him that pharmaceutical chemistry owes its origin. Thurneisen zum Thurn, Croll, Libaw van Helmont, Majow, Mynsicht, Sylvius, Glauber, one of the most able chemists of his time; Chomel, Stahl, the founder of the phlogistic system; Boerhaave, Cartheuser, Dippel, Geoffroy, Neumann, Boyle, Beguin, Minderer, Hoffmann, Lemery, Zwoelfer, Kunkel, Becher, Marggraf, Lowitz, Scheele, who called so many important discoveries in chemistry into existence, and who together with Priestly discovered our indispensable oxygen; Wiegleb, Westrumb, Meyer, Gren von Crell, Goettling, Hagen, etc., complete the list of eminent and skillful scientists and pharmaceutical chemists. About that time botany awoke out of its long sleep, Otho Brunfels wrote his new German herb book (Herbarium), illustrated with accurately prepared wood-cuts. He was followed by a great many others in furthering and perfecting our science, and botany is undeniably an indispensable companion of pharmacy. Eminent botanists of that time were: Hieronimus Tragus, Mathiolus, Gesner, Cæsalpinus, Clusius, Lobelius, Johann and Caspar Bauhin, Tournefort, Linne, the immortal founder of the Sexual system; Jussieu, the founder of the Natural systems; Haller, Gleditsch, Jaquin, Gaertner, Batsch, etc.

Period of Lavoisrr to the Present Time.

In honor of the founder of the antiphlogistic system we deem it just and suitable to call this period his. The great influence which his system exercised in chemistry is really wonderful, and the projected teaching of his genius revealed several discoveries immediately and shortly afterwards. As a marked epoch for physics, chemistry, and pharmacy, must be regarded "Contact Electricity," discovered by Galvani; the law of proportion (Stoichiometry) worked out by Richter, though first acknowledged after Berzelius had examined and thoroughly tested it. These experiments had an almost magical effect on chemistry, afforded opportunities for new investigations, and threw a clearer light on differentiated ideas—some of which, in facts it changed entirely. By the zealous and laborious work of our scientists of a half a century ago, pharmacy as well as other branches of natural science, has developed rapidly, and now stands at a height which requires a fundamental and most thorough course of study of the sciences. Pharmacy has steadily grown richer in the number of scientists, and their work of scientific researches more and more minute and accurate in all its branches.

Practical pharmacy has made wonderful progress in the past fifty years, and is continually going ahead by the tireless workers and scientists who live for progress only.

Pharmacognosy has as also made surprising advances, and by means of the microscope unveiled a great many characteristics, and in fact opened a new field for the study of the same.

Chemistry, last but not least, has more to offer in this period than any other branch of science:

Firstly, because it builds or constitutes the origin, composition and functions of other branches.

Secondly, researches after researches for the determination of the constitution, properties and purity of elements.

Thirdly, change from the equivalent notation to our molecular, and the readjustment of molecular weight of the elements.

Fourthly, the field of organic chemistry is almost beyond conception to those who have not kept pace with the times; and I have no doubt our forefathers would be blinded with the surprising discoveries and new products of these days. Great men of this age need not be mentioned here, as their names and works appear in different text books. It is true some of our heroes are no longer with us, but their "memory" remains immortal. "We all meet here to-day, on this noble occasion, but no one can tell of next year's congratulations."

The Pharmacopœial Instructions for the Preparation of Tinctures.

By R. H. PARKER, F. C. S.

Read at the British Phar. Conference Meeting, Oxford.

In considering the official directions for the preparation of tinctures, the instruction to "add sufficient spirit to make a pint" does not appear calculated to ensure uniformity of product under variety of manipulation. Thus, if I make a pint of tinct. aurant, following the B.P. instructions, the final addition of 10 or 12 per cent. of menstruum may be required to adjust the volume of the finished product; if operating on six pints I can reduce the final deficiency nearly to 1 per cent, while, if I have to make 10 or more gallons, the difficulty of manipulation may increase the loss to 6 or 7 per cent. If the "making up" be omitted, the product will be of the same strength if 5 ounces or 50 gallons be made at a time, and whether the marc be pressed in a lemon-squeezer or by hydraulic power.

I would, therefore, suggest that in the next issue of the Pharmacopœia, all tinctures and preparations of about one in eight strength be ordered to be prepared by maceration only, without final adjustment of quantity; those of

one in four, or greater strength, "to be prepared by percolation, so that N. fluid ounces of percolate represent the activity of one ounce of drug." The strength of the products would thus be clearly defined, and the pharmacist might be allowed to select his own method of recovering the residue according to the quantity of material dealt with. The "making-up" is already omitted from the directions for preparing tinctures of nuxvomica and cannabisindica.

The formulæ for tinct. zingiberis and tinct. camp. co. might be simplified, the former being prepared by diluting the stronger tincture, and the latter by replacing opium with an equivalent of its tincture.

I think also that the footnote to the liniments of belladonna and aconite should be omitted, as a needless apology, and an aspersion on the manipulative skill of the pharmacist, there being no difficulty in preparing these liniments of one in one strength if required.

Change of color in Lemon and Orange Peel

BY E. G. CLAYTON.

When the orange peel is moistened with strong hydrochloric acid, its color changes from yellow to a rich dark green; lemon rind, similarly treated, retains its hue, or, at most, assumes a dingy, yellowish brown tint. A convenient and simple chemical test, therefore, which will distinguish between small fragments of lemon and orange peel is to touch them with a glass rod previously dipped in hydrochloric acid. The diluted acid will answer the purpose, but the reaction is slower.

A few minutes exposure to hydrochloric acid gas will effect this change in the pigment of orange peel. The color of lemon rind is unaffected.

The shades of green developed by dilute hydrochloric acid are deepest in the cases of Murcia, Denia, and Florida oranges, of moderate intensity with Jaffa and "blood" oranges, and feeble with Valencia and Tangerine oranges. This statement also applies to the reactions with strong hydrochloric acid, excepting that the color of Tangerine orange peel with the strong acid is perhaps more intense than that observed with any of the other varieties of the fruit.

The peel of the lime behaves, with hydrochloric acid, like lemon rind.—*The Analyst*.

DIGESTION WITHOUT DIGESTIVE FERMENTS
—M. A. Dastre has stated in a report to the Academy of Sciences that fresh proteids (fibrin, albumin, etc.) undergo the same series of changes when subjected to the prolonged action of 10-15 per cent solutions of ammonium or sodium chloride (or 1-2 per cent. sodium fluoride), as when acted on by gastric juice.

THE BRITISH PHARMACOPEIA.

The following communication has been sent out from the General Medical Council Office:—

"In connection with the subject of the Imperial extension of the Pharmacopœia, replies to the proposal of the Medical Council to extend the usefulness of the work to the Colonies and India have been received by the Council through the Colonial Office from the Bahamas, Barbadoes, Bermuda, British Honduras, Cape of Good Hope, Cyprus, Jamaica, Malta, Queensland, St. Helena, Sierra Leone, South Australia, Tasmania, Western Australia, Zululand; and replies from other Colonies are expected. A representative from Canada has visited London, and has had an interview with members of the Council on the subject.

"In all cases the proposal of the Council has been accepted. In some of the Colonies neither climatic nor other conditions point to any special adaptations of the Pharmacopœia, but offers are made to collect and forward any desirable information. In others, medical and pharmaceutical committees have been appointed to consider and report upon the matter. In some Colonies the prevailing high temperature leads to requests for ointments of commensurate melting point, for extracts having the minimum of moisture, and for pill masses less liable to become hard. The omission of costly drugs that are without special advantages and can easily be substituted is recommended in some of the communications. Several suggestions concerning individual preparations are made. Most of the valuable indigenous *Materia Medica* seems, as might perhaps be expected, to have already found their way into the British Pharmacopœia."

We wish to draw attention to the above and also to the fact that although notice of the proposed changes had been sent to every little English colony scattered over the globe, none has been sent to any of the Canadian associations or colleges. As stated in the above clipping, "a representative from Canada has visited London, etc." Who was the representative Canadian, and from whom did he receive authority to act as such? We have not heard of any. We think that if the General Medical Council wishes to have the aid of Canadian physicians and pharmacists they should officially notify our societies to that effect. As can be seen from the foregoing communication, such places as Sierra Leone, Zululand, Bahamas, have been requested to aid to the making of the new Pharmacopœia but Canada, the greatest country under the Union Jack has been entirely overlooked.

Why is this thus?

CALIFORNIA BORAX MINES.

Though every now and then reports come from the desert of rich finds of gold and silver, yet the greatest industry of Death Valley and the desert is the mining and working of borax. Twenty years ago borax was first discovered in California, west of the Slate range, seventy-eight miles from Mojave, the discoverer, John W. Searles, forming a company known as the San Bernardino Borax Mining Company, erected works which have been in constant operation ever since,

The borax in the crude state forms a crust over the marsh. This crust is removed, hauled to the works and placed in solution in immense tanks heated by steam. After allowing the solution to settle, it is drawn off in cement vats, where it is allowed to crystallize. This operation is again repeated, when the borax is ready to be sacked and shipped to market. After the removal of the borax from the marsh, crystals of tincal again begin to form, which are worked but once, when they are in a salable condition. In order to facilitate this operation, water from the marsh is pumped into large tanks, in which the tincal forms.

These works are models of mechanical construction, and are the best equipped on the desert. To the uninitiated, borax working is but a repetition of boiling, settling and crystallizing. The fuel use is crude petroleum, which is hauled in huge tanks from Mojave.

The teams used in the transportation of the refined product are curiosities in their way—a wonder to the tenderfoot and a surprise to the teamster. As these wagons are the greatest in existence, carry the heaviest loads and are seen no other place, a description is in order. The hind wheels are seven feet in diameter, front wheels five feet; hubs, eighteen inches in diameter by twenty-two inches in length; tires six inches wide and an inch thick; steel axles, three and one half inches in diameter; bed sixteen feet long, four feet wide and 6 feet deep. Each wagon weighs about 3,000 pounds, and is capable of carrying 20,000 pounds at a load. Two wagons loaded with borax and an oil tank on a third wagon complete the train hauled by the borax team. The team consists of eighteen mules and two horses—twenty animals in all, which are driven by a bell cord, used as a jerk line. A carload (40,000 pounds) of borax is hauled each trip from the works to Mojave, and a tank of oil and two loads are hauled on the return trip.

It takes eight days to make the trip, and in nearly twenty years not a trip has been missed. Stations at which water can be had, and where feed is stored, have been erected for the borax teams to put up. The borax company has

done much to assist in the development of the desert, as water is furnished free of charge at all their stations.

From the borax mine, twelve miles from Daggett, wagons of the same style and teams similar in make up are used by the borax company. Not all the borax of Death Valley and the desert is found in marshes, and all the marshes, while having the same appearance, do not contain borax.

In Furnace Creek canon of the Funeral mountains, and in the Death Valley marsh, borax is found in the shape of cotton balls, while in the San Bernardino Company's marsh none of these are found. The cotton balls are borate of lime and are scientifically known as urexite. On taking them from the ground they can be pulverized easily, but after exposure to the air they become very dry and hard. They become so hard that it is necessary to put them through a crusher.

For months, after the discovery of borax hundreds of prospectors braved the terrors of Death Valley, and many left their bones to bleach in that terrible sink-hole. Borax was searched for in unheard-of localities, but it was only known to exist in marshes and beds of old lakes. It was not until the discovery of silver in the Calico mountains that borax was known to exist in deposits or veins. A miner, more curious than his fellows, had a piece of white looking rock assayed, and made the wonderful discovery that hundreds of prospectors had traveled over a vein of boracic acid more valuable than any marsh then known. This was a set-back to all preconceived notions of borax mining, and the supposed-to-be valueless white rock of the Calico mountains became suddenly valuable. This is only another case of where the values at home were overlooked for the much-talked-of treasures of a far-off land. The deposit at Calico, is owned by the Pacific Coast Borax Company, and the product is shipped to their works at Alameda for reduction.

Another and larger deposit of the same class was found at Monte Blanco, in a branch of Furnace Creek canon, but its great distance from a railroad made the working of it an impossibility.

In Death Valley are the rotting remnants of two borax works—institutions which promised, for a time, to make their owners rich. With a fall in the price of borax and the establishment of more accessible rivals, abandonment was forced upon the owners. The works north of Furnace Creek, which were erected to utilize the product of Winter's discovery, closed in 1888, after a run of five years. The Eagle works, erected at a marsh belonging to a Frenchman named Daunet, have also been closed down for several years.

Throughout all this country, with the exception of Death Valley, may be found the stakes of the railroad surveyor, and several practical routes for a railroad have been found, though none have yet been decided upon. At the time of the discovery of borax in California, the wholesale price was 50 cents a pounds. At present it is worth about 8 cents. Over 20,000 tons are used annually, about one-third of which is produced in the United States.

THE APPENDICITIS FAD.

Popular Errors about Grape Seeds Exploded.

A prominent doctor who has performed a score of successful operations for the removal of that troublesome and inexplicable part of the human anatomy, the vermiform appendix, says that the general impression that appendicitis is caused by the presence in the appendix of a cherry stone or a currant seed or a seed of and kind is entirely erroneous. I have not found a seed in the appendix of a single one of my cases,' he said, 'a small bit of digested matter gets into the little sac, if the neck of it is open far enough to receive it. It may remain there for years and cause no trouble, and then again it may bring on appendicitis almost immediately. Where the patient is in good health, in four cases out of five the operation for the removal of the appendix is successful. There is a great difference in the length of time taken by surgeons to perform this, or in fact, any delicate operation. There is one surgeon in the city who has performed the operation in eighteen minutes, which included the time from the moment the patient was brought in on the operating table until he was ready to be taken out. This is half the time that it requires the majority of skillful surgeons to do it. Of course, speed is not everything.

The appendicitis fad, as the craze among rich people to have their vermiform appendices removed is called, still continues unabated, and there are few surgeons of prominence who are not familiar with the performance of the operation. A story is told of a doctor who is constantly ordering the removal of the vermiform appendix for patients. He was called to see a gentleman one evening who was rather seriously injured. The gentleman when he recognized the doctor, said:—'Oh, it is you; then I must have appendicitis!'

'Doctors who have allowed the appendicitis fad to carry them away have performed the operation upon a great many people whose vermiform appendices were in good condition, and in some case patients having weak consti-

tutions have died because of the needless slit in their abdomens. I am very glad to explode that theory about the grape seeds and other seeds, especially as the grape season is just coming on. People who have heard about appendicitis have given up the luxury of small fruit in fear of appendicitis, and some of the extremely sensitive ones have even been constantly worried lest some seed they had swallowed in the past might give them this disease—which is among the rarest of diseases, anyway.'—*New York World*.

Note on Liquid Apiol.

By LEWIS OUGH, F. C. S.

The use of liquid apiol in capsule and perle form having considerably revived during the last few years, and being called upon to prepare rather large quantities, it has occurred to the writer that a few notes with reference to this substance may be of interest. The information contained in the literature on the subject is somewhat vague and misleading. Squire describes apiol as "a greenish-brown oily liquid obtained from the fruit of *Apium Petroselinum*, with a peculiar odor and disagreeable taste," and then proceeds to say that "from the published papers of MM. Joret and Homelle, who introduced this medicine in 1850-55, it would appear that originally the non volatile oil alone was used, to which the name apiol was alone applied; but from an examination of capsules obtained from them in 1889 we find that the volatile oil is now employed, 95 per cent. being carried over by distillation with water."

The National Dispensatory describes parsley-fruit as containing $\frac{1}{4}$ per cent. of volatile oil and 22 per cent. of fixed oil, and describes an oil of parsley as colorless or yellowish, of s.g. 1.01 to 1.14. The stearopten or camphor contained in this oil has also been named apiol, and may be obtained in white needles, insoluble in water, but readily dissolved with alcohol and ether.

The preparation of (liquid) apiol is then given. Exhaust the fruit with petroleum benzine, evaporation leaves the apiol as a colorless oil, s.g. 1.07, having an acid reaction, pungent taste, and odor of parsley. Other authorities describe liquid apiol as being simply an alcoholic extract of parsley seeds, and from experiments recently made it has been ascertained that an alcoholic extract is identical with the apiol now in the market, and is such as described by Martindale as a green oily liquid with a pungent parsley-like taste, not miscible with water, but readily soluble in alcohol and ether.

The following method gives a good result when dealing with $\frac{1}{2}$ to 1 cwt. of seeds.

The freshly-powdered seeds are thoroughly damped with alcohol (s.g. .838), packed in a percolator, and after standing forty-eight hours percolation is continued with alcohol, $\frac{1}{2}$ gallon being used to every pound of seeds taken. The bulk of alcohol is recovered from the bright green alcoholic liquor by distillation and the remainder driven off in an open vessel by means of a water bath. The residue on cooling deposits a quantity of a waxy-looking solid from which the apiol is readily separated as a dark green oily-looking liquid with a specific gravity of 1.036; the yield being about 7.5 per cent.

The experiments made were conducted in the laboratory of John Richardson & Co., Leicester (Limited), whose courtesy in allowing these notes to be published the writer wishes to acknowledge.—*The Chemist and Druggist.*

EXERCISES FOR STUDENTS.

No. 21.—Calculate the quantities of oil of vitriol, 90%, the smallest and the largest, necessary to act on one short ton of Chili salt-petre, of 84% purity, in the manufacture of acid nitric.

No. 22.—Calculate the Δ of official blue ointment on the following data: Adeps Δ '935, sebum Δ '940, hydr. Δ '135 to 3 decimals.

No. 23.—Required 2 oz. ammon. hypophosph. It will be made from barium hypophosph. and normal ammon. sulph. How much of each will be required?

No. 24.—A perennial herb with thick fibrous roots from a creeping root stalk. The flowerless stems terminated by a large 7-9 lobed leaf peltate; the flowering stems bearing leaves with the stalk fixed near the inner edge. Flowers white, nodding. Sepals 6 fugacious; petals 6-9 obovate; stamens 12-18, the anthers opening by uplifted valves. Ovary ovoid, with a large, thick and sessile stigma, becoming fleshy and edible in fruit. Name this plant. What parts and preparations are found in the shops?

ANSWERS.

No. 15.—Ans. 8 oz. fl. to be diluted to 17 oz. fl.
 $63 : 17 :: 68 : 8 : 18 : 565, \frac{24}{5} \times 18 : 565 = 89 : 116.$
 $\frac{89 : 116}{41 : 96 \text{ P.B.}} = 2\frac{1}{8} \text{ i.e., } 1 \text{ to make } 2\frac{1}{8} \text{ or } 8 = 17.$

No. 16.—Ans. 4'6235 oz.
 $\frac{20 \times 1'275 \times 63}{569} \times \frac{207}{126} = 4'6235.$

No. 17.— $8 \times 1'843 \times '98 \times 2'5 = 36\frac{1}{8}.$
 Ans. Dilute till it weighs $36\frac{1}{8}$ oz.

Our contributed problems permit of more than one answer—40 oz. avd glycerine, Δ 1'25 + 40 oz. ether Δ '72 = $87\frac{1}{2}$ fl. oz., the liquids being unmixed; 40 oz. glycerine + 40 oz. alcohol Δ '82 = 80 fl. oz. (1% contraction); 75 grains No. 1 = 90 minims; 75 grains No. 2 = 83 minims.

W. L.—You have copied the formula incorrectly; but it is not necessary in No. 16, as you will see above.

How Much is a Cubic Centimetre?

T. D. REED, M.D.

As many pharmacies are still unsupplied with graduates of the metric system, students and dispensers require to be familiar with the equivalent value in the measure glasses in use in this country. The calculation of the gramme presents no difficulty, the grain being an universal unit, and $15\frac{1}{2}$ grains per gramme being near enough for prescription purposes.

But for liquids, generally measured, the case is not the same. Consulting the text-books, American, English and French, in common use, a difference is observed, the cubic centimetre being given as 16 minims in one case and 17 in another. This discrepancy arises from two causes—the want of allowance for the effect of temperature, and the fact that minims are variable.

The gramme we know gives the C.C.M. = the volume of pure water at 4° C. in vacuo. A gramme of laudanum, for example, is a fixed weight but a variable measure; a C.C.M. of laudanum a fixed volume but a variable weight. Greater uniformity and accuracy, therefore, are had by weighing; but, for prescriptions, liquids are most often indicated by measure. To get as near as possible to the equivalent of the C.C.M., consider first the English fluid ounce; this is the volume of 437½ grains of pure water. Divide this by the gramme, 15'43235 639 grains (Washington Tables Prototype Standards), and divide the quotient into 480, the minims.

$$\frac{480}{437'5} = 16'9315 \text{ minims.}$$

$$15'43236$$

But the minim glasses have been prepared to represent for each minim $\frac{1}{480}$ of the ounce of water at 62° F. in air; therefore this quantity has to be diminished by the difference of volume due to the difference between the English and French norme of temperature and pressure.

According to Office of Standard Weights and Measures (Washington), the expansion of water, from 4° C. in vacuo to 62° F. in air and 762 m.m. merc., is equal to about $\frac{1}{4}$, per cent. ;

therefore '0338 is to be deducted from 16'9135 = 16'8977.

In the case of United States measure glasses, where the minim is the 480th part of 456

grains— $\frac{480}{456} = 16'2446$. This is to be diminished, for temperature and pressure, also

$\frac{15'43236}{1/5}$ per cent. $16'25 - '033 = 16'22$.

The cubic centimetre, therefore, is equal to British..... 16'9 minims.

United States..... 16'22 "

practically 17 British and 16 United States.

The U. S. P. 1880 gave also 16'22 (omitted in 1890), the calculation evidently having been made as above.

In a prescription in which the liquids are ordered in grammes, the above approximations will do for most tinctures, but for liquids, which vary notably from water in specific gravity, weighing must be practised, as the volume of a gramme may vary one hundred per cent., e.g., ether and chloroform.

Montreal College of Pharmacy.

Spiegler's Test for Albumin in Urine.

(*Therap. Monatshefte*).

This test has proved to be one of the best and most sensitive yet employed. It will show the presence of 1 part of albumin in 350,000. The objection that the precipitation of mucin by addition of acetic acid is not complete, can be met by a control test. The formula for the reagent is as follows: Mercury bichloride, 8 grammes (2 drs); acid tartar, 4 grammes (1 dr.); distilled water 200 grammes ($6\frac{3}{4}$ fl. oz.) glycerin, 20 grammes (4 fl. dr.).

In using the test, the urine is first strongly acidified with acetic acid and filtered, if necessary. Then about 2 c.c. of the reagent are poured into a test-tube, and by means of a pipette this is overlaid, drop by drop, on the side of the tube considerably inclined, by the urine to be examined. Should Albumin be present, there will appear a distinct whitish ring at the line of junction of the two liquids.

Balsam Copaiba Tests.

The following important circular on balsam copaiba has been issued by Stallman & Fulton, of New York:

The arrivals of this article, from direct sources, during the year 1891 amounted to 205,480 pounds; in 1892, 185,280; in 1893, 80,000, and the first four months of 1894 about 27,000.

The consumption has not materially decreased; yet in spite of the greatly diminished

imports the price has not advanced. The cause of this is not far to seek, and we call attention to the fact that hardly any balsam copaiba goes out now into the trade unadulterated, even from some of the most reputable houses, while it is claimed to be pure. These adulterations have of late grown to such an extent that it is time to call a halt; buyers should not only buy of strictly reliable houses, but examine and test every package they receive.

The principal adulterant is gurjun balsam (E. I. Wood Oil), which has been imported here of late from England to an alarming extent. Among other adulterants are mineral oil, castor oil, etc. Gurjun balsam can readily be detected by holding the suspected sample in the sun or a strong light; the presence of gurjun balsam is indicated by a greenish violet tinge.

Hager's test is as follows: To 4 cc. of a mixture of one part pure sulphuric acid and 25 parts pure acetic ether, add 4 drops of the balsam to be tested; after a few minutes the mixture will assume a violet hue, if a large percentage of gurjun balsam be present, and on standing for about 12 hours will change to a dark brown to black color; in small admixtures of gurjun the violet tinge will not be pronounced, but on standing for above named length of time will also partake of a dark brown color.

Paraffine oil, liquid paraffine or vaseline oil can be detected by the following test, devised by the Ledoux Chemical Laboratory of New York, viz: Put 30 drops of the balsam in a test tube, adding 3 to 4 times their volume of 95 per cent. alcohol, shake well together, then hold the tube suspended in boiling water until the contents begin to boil; if paraffine oil is present, it will appear separated from the mixture at the bottom of the vial, the balsam being held in a clear or milky solution by the alcohol.

Pure balsam copaiba of all varieties excepting Para, mixed with an equal volume of aqua ammonia, will make a clear transparent solution and will more readily do so when heated; if gurjun balsam, Venice turpentine or castor oil is present in the copaiba, the mixture, after standing for, say 12 hours, will remain either wholly or partly cloudy. It is necessary to take ammonia water, the same results not being obtained with stronger ammonia. Owing to the large percentage of oil copaiba which is present in Para balsam, the above test is not applicable to this grade. We believe other tests can be devised, and we invite further investigation. Considerable quantities of balsam copaiba, especially the Para kind, have frequently been deprived of most of the oil of copaiba by distillation and put on the market again as pure balsam, but really defective in quality.

THE DIFFERENCE.

Pressed Herbs as usually found upon the market and supplied the Retail Trade on UNSPECIFIED orders.

- 1.—*Packages not always full weight.*
- 2.—*Style of package in many instances unattractive.*
- 3.—*Admixture with inert portions of the plant.*
- 4.—*Herbs depending for their activity upon a volatile constituent often put up in packages with no precautions against deterioration.*
- 5.—*Prices the same as for superior goods.*

Pressed Herbs from the Laboratory of PARKE, DAVIS & CO., supplied by all Jobbers when "P., D. & Co." is specified.

- 1.—*Every package guaranteed full weight.*
- 2.—*Attractive in style, and convenient in shape.*
- 3.—*Entire freedom from admixture with undesirable portions of the plant.*
- 4.—*Herbs depending for their activity upon a volatile constituent put up in IMPERVIOUS PAPER whereby their strength is retained unimpaired for a long time.*
- 5.—*Prices do not exceed those of inferior goods.*

COMPARE THESE PRICES WITH YOUR INVOICES ON FILE.

Yellow Dock Root, 27c.	Sage, Italian, - 24c.	Dandelion Root, 27c.
Thyme, - - - 26c.	Tansy, - - - 24c.	Black Cohosh, - 16c.
Boneset, - - 22c.	Peppermint, - 26c.	Witch Hazel Bark, 20c.
Catnep, - - - 22c.	Horehound, - 26c.	Stramonium Lvs., 25c.

We guarantee the quality of our Pressed Herbs to be absolutely the best that can possibly be produced. Our prices are not in advance of those charged for inferior herbs. Will you not, therefore, in future specify P., D. & Co., and reject all substitutes?



DECORATED TIN PRESSED-HERB CANS

Look nice on the Shelves, protect the Herbs from Vermin, protect them from Light, are provided with INTERCHANGEABLE LABELS, and may be placed on end or side to suit the shelving.

DIMENSIONS: HEIGHT, 9 IN.; WIDTH, 4½ IN. — 3¼ IN.

These Cans we furnish at Manufacturer's Price, 25 Cents Each, Net, F. O. B.

PARKE, DAVIS & CO.,
WALKERVILLE, ONT.,
DETROIT, NEW YORK, KANSAS CITY, U. S. A.,
and LONDON, ENG.

PAMPHLET

FREE

The New Medical System :

ELECTRO HOMŒOPATHYSend for
Specimen Copy of
"MODERN MEDICINE"
1d. Monthly.**COUNT MATTEI'S REMEDIES**

Have obtained world-wide celebrity on account of the many and marvellous cures which they have effected, including cases of Asthma, Cancer, Cholera, Eczema, Glandular Swellings, Hay Fever, Indigestion, Insomnia, Piles, Rheumatism, Rupture, Tumours, Varicose Veins, Worms, etc., and many other diseases.

Among those who have used them and have derived benefit from them are the Emperor and Empress of Austria and their son Prince Ludwig, the Duchess of Argyll, H.E. Lady Paget, Mrs. Talbot Coke (of "Hearth and Home"), W. T. Stead, Esq. (of "The Review of Reviews").

For medical Testimonies respecting their value see the following works: "The Electro-Homœopathic Remedies," by R. M. Theobald, M.A., M.R.C.S.; "The Cancer Controversy," by Samuel Kennedy, Esq., L.R.C.S.L.R.C.P., formerly M.R.C.S.E.; "The Mattei Remedies," by A. Stoddard Kennedy, Esq., and "The Principles of Electro-Homœopathy," revised by C. Stirling Saunder, L.R.C.P. Also the Pamphlets and Articles by Prof. Pascucci, M.D., Dr. Ackworth, Dr. Clement Conti, Dr. Coli, Dr. Pusreck of Chicago, Dr. Montaniri, etc

SOLD LARGELY IN THE UNITED STATES, INDIA, AUSTRALIA, NEW ZEALAND, ETC.

Agents wanted in all parts of Canada. Apply to

A. J. L. GLIDDON, Manager of the Central Depot for the United Kingdom and the Colonies,

Count Mattei's

New Book

"THE NEW SCIENCE,"
1s.

18 PALL MALL EAST,

LONDON, S.W., - ENGLAND.

Samples of Remedies,—
GLOBULES, 1s.
ELECTRICITIES, 2s.
OINTMENTS, 2s.

PARIS EXPOSITION 1889 .. HORS-CONCOURS

* MEMBRE DU JURY *

GELLÉ FRÈRES

PARFUMEURS CHIMISTES,

6, Avenue de l'Opera, PARIS

PARFUMERIE PARIS-CAPRICEPARFUMERIE REGINAPARFUMERIE A LA GLYCERINEEXTRACTS DOUBLES ET TRIPLES

ARTIFICIAL PERFUMES.

Almost all the natural perfumes are of vegetable origin, and are derived from the treatment of flowers and fruits. In this way are obtained the aromatic essential oils of rose, mint, anise, santal, thyme, cloves, etc., and the perfumes of the violet, iris and jasmine. Musk is the only important perfume that is of animal origin.

For a long time, now, the odor of fruits has been imitated with the aldehydes and ethers of fatty acids, such as the acetates, valerianates, benzoates, salicylates, and butyrates of methyl, ethyl and amyl, which, mixed in definite proportions, recall the odor of strawberries, raspberries, apples, pears, etc. The following are two examples of such mixtures:

PERFUME OF THE PINEAPPLE.

Chloroform.....	10.0 Gm.
Aldehyde	10.0
Butyrate of ethyl.....	50.0
Butyrate of amyl.....	100.0
Glycerin	30.0
Alcohol, 100°	1 liter.

PERFUME OF THE APPLE.

Chloroform.....	10.0 Gm.
Nitric ether.	10.0
Aldehyde	20.0
Acetate of ethyl	10.0
Valerianate of amyl	100.0
Glycerin	40.0
Alcohol, 100°	1 liter.

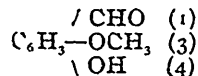
The aroma of rum and cognac and the bouquet of wines have also been reproduced artificially. We shall not dwell upon the danger that accompanies the use of these products in a large quantity when they are mixed with beverages and alimentary substances. We shall occupy ourselves here more particularly with products like those we find in nature, such as vanillin, or with perfumes such as musk and the odor of violet, which are designed, not for alimentation, but for perfumery properly so-called.

Among the aromatic products employed as perfumes we may first mention methylsalicylic ether, which reproduces the oil of wintergreen (*Gaultheria procumbens*). The oil of bitter almonds, too, has been frequently replaced by nitrobenzene, which is prepared in large quantities by manufactories of coloring materials. Nitrobenzene, as regards composition, is absolutely different from the oil of bitter almonds, but it resembles it in odor. Benzaldehyde, likewise, has replaced the oil of bitter almonds in certain cases.

Such substances possess but a secondary importance; but vanillin, on the contrary, which reproduces the odoriferous principle of

the vanilla bean, is the object of an extensive and very prosperous manufacture. The first process that gave rise to it was elaborated in 1874 by Messrs. Tiemann and Haarmaan. In studying coniferine, these scientists found that it was formed of a glucoside which, under the influence of a special ferment (emulsin), split up into glucose and coniferic acid. This latter, through oxidation, gives vanillin. The coniferine itself, oxidized with a mixture of sulphuric acid and bichromate, furnishes vanillin. It was by this process that it was first manufactured. The method of purification was very simple. Like aldehyde, vanilla possesses the property of forming an insoluble bisulphite combination, which was separated from the mass and afterwards decomposed.

Chemically, vanillin is methylprotocatechic aldehyde:



The figures to the right of the atomic groupings represent the relative positions in the benzenic nucleus. They are of considerable importance, since isovanillin, which is constituted by exactly the same groupings, but differently placed, has no odor. After the formula of vanillin became known, an endeavour was made to employ the neighboring bodies, to add the groupings that were wanting, and to properly place them with respect to each other. A host of methods was proposed to this effect, in making use of eugenol (De Laire and Tiemann), which was oxidized by permanganate; of eugenol and bromide of methylene (De Boissieu), and of guaiacol and pyrocatechin (Tiemann and Reimer). Vanillin is even found in certain natural products, such as the benzoin of Siam, crude beet sugar, asa-fœtida and opium. A certain number of these processes are employed industrially.

Piperonal or heliotropin is closely connected with vanillin. It is, in fact, the methylenic ether of protocatechic aldehyde. In order to prepare it, piperic acid is oxidized by permanganate, but it can also be obtained by means of safrol. It is found in the oils of saffras and shikima, and can also be obtained from the oil of camphor. Coumarin is the anhydride of ortho-oxybenzoic acid. It has been obtained synthetically by Perkin by causing acetic anhydride to react upon the sodium salt of salicylic aldehyde. It is especially extracted from natural products, such as the Tonka bean and the "vanilla plant" (*Liatris odoratissima*) of the United States.

Spirit of turpentine has likewise yielded a perfume, the terpineol of De Laire. To this effect, one can either dehydrate terpene or treat spirit of turpentine directly. This per-

fume is known under the name of lily-of-the-valley or lilac.

We now come to the two most recent discoveries—viz., the perfume of musk and that of the violet. Natural musk is the product of a secretion of the musk deer, a ruminant mammal that inhabits certain regions of Asia. The perfume is found in a sac, which usually contains from 14 to 20 grammes of it. It is also found, but in much smaller or even minimum quantity, in other animals, such as the civet, the musk-rat, the badger and the marten. Certain plants, too, often possess the odor of musk. This product is of the highest importance, since it is the base of all artificial perfumes, which sometimes contain considerable quantities of it.

The first process of preparation of a product having the odor of musk was discovered by Messrs Schaafer and Haffeld, who heated a mixture of dimethyl-benzene, isobutylic alcohol and chloride of zinc, which they afterwards broke up and nitrated. The truly industrial discovery of an artificial musk dates back to 1889, and was made by Mr. Baur, on the occasion of some researches upon the oil of resin.

In order to prepare the Baur musk, chloride of isobutyl is made to react upon toluene (methyl-benzene) in the presence of chloride of aluminium. We thus obtain isobutyl-toluene, which, under the influence of nitric acid, is converted into trinitro-isobutyl-toluene, which is the somewhat cumbersome chemical name of commercial musk.

There exists, theoretically, a host of analogues and homologues of this musk. A certain number of them have been prepared from xylene, cymene, and the diphenyl and xylyl methanes. A large number of such products possess the characteristic odor of musk.

A no less important discovery is that made a year ago by Mr. Tiemann, who reproduced synthetically the perfume of the violet (called ionine), after a series of researches of the greatest interest from a scientific standpoint.

In order to prepare this perfume, we start from citral, which is itself derived from the oil of lemon, or from the oxidation of the alcohols of the formula $C_{15}H_{26}O$ that we find in certain essential oils—geraniol, linalol, auranteol and lavenderol. The citral is shaken with acetone and barytes, and pseudo-ionine is thus formed. The body is odorless, and in order to render it odorous it is necessary to convert it into ionone, a product which is very closely related, but which is cyclic, while the pseudo-derivative is of the open chain series. A long series of similar products can be made with other acetones, and these have been studied with the greatest care by Messrs De Laire and Tiemann.

Messrs. Tiemann and Kruger, on treating orris root with appropriate solutions, have separated various products, and, among others, ionone, which is the odorous principle of this root, and it was in the wake of these experiments that the synthesis of ionine was made, these two bodies being, in fact, isomeric, and, consequently, very closely related.—*Le Genie Civil (Scientific American)*.

HOME MADE EXTRACT OF BEEF.

BY JACOB PRICE M.D.

West Chester, Pa.

A reliable and palatable extract of beef, that can be quickly prepared, and at less cost than most of the preparations of this class upon the market, is an important desideratum. I have found such an extract made in the following manner very satisfactory. It is somewhat in the line of Liebig's original formula.

Take of official hydrochloric acid, $f\text{3i}$; essence of pepsin (Fairchild's. I have commonly used), $f\text{3ij}$, and mix them. Of this mixture three teaspoonfuls are to be added to one pound of finely minced lean beef and placed in a quart jar, which is to be nearly filled with cold water. The jar should be tightly covered, the mixture well shaken, and the shaking repeated every half hour. It must be kept cool—in hot weather on ice. After two hours it will be ready for use.

The amount ordinarily taken at one time would be about $f\text{3ij}$. This should be salted to taste, and five drops of tincture of capsicum added. Where there is much objection to the taste, a little Burgundy wine may be added.

These directions may appear to some to include an amount of unnecessary detail, but in the preparation of such an extract, as in most other matters in medicine and surgery, it is careful attention to detail that alone insures success. Frequently it is necessary to especially emphasize the instructions as to shaking, and the avoidance of boiling or in any way heating the preparation. The beef should be allowed to remain in the jar till all is used that can be taken up with a spoon; then considerably more of the extract can be obtained by turning the beef out into a strong linen towel and twisting it firmly.

Such a concentrated, partly digested food is particularly indicated in cases of gastric catarrh, and in other conditions, acute or chronic, attended with deficiency of the normal secretions of the stomach. I also depend very much upon it in cases of typhoid fever and pneumonia. It is more readily assimilated than any other article of food that I know of.—*Phil. Poly. Jour.*

ENGLISH PHARMACEUTICAL NOTES.

(By our London Correspondent.)

The season of the year suggests an agricultural topic for this letter. Mitcham, with its ancient industry in the cultivation of lavender and peppermint, still retains some of its glory, and at this time is seen at its best. The work of harvesting the crops and distilling is now in full swing, and a short description of a recent visit may be of interest.

My readers will remember that Mitcham oils are official in the Pharmacopœia, although it is stated that in the next edition a little more latitude will be allowed, provided pure oil is used. Besides Mitcham, a small quantity of both lavender and peppermint is produced at Hitchin, in Hertfordshire; but probably only five per cent. of the English oil is produced outside the Mitcham district. The area all round Mitcham for miles is devoted to market gardening, and many of the most successful herb growers are these same market gardeners. The plants are placed in the ground in rows in the months of October or November, old plants being taken up and divided into two or three portions for this purpose. Care is taken to plant them about a foot apart. Hoeing and weeding are necessary through the early spring months, and about the end of July the crop is gathered. This year, owing to the wet, the peppermint and lavender have both run up to a good height, fully 3 feet, and in some cases 4 feet. Consequently the mowing has been done by reaping machine instead of by hand. This only applies to mint of two or three years' cultivation, as the first year's crop is too low. A good deal of the lavender is collected into bundles and sent into Covent Garden, where it always fetches a good price at the commencement of the season. But the mint is made into piles, like hay, dried for a day, and then conveyed in fibre mats to the distillery. Some of the growers make a point, in the case of lavender, of separating the flowers from the stalk, and M. Lelasseur, the proprietor of the business of John Jackson & Co., assures me that the superiority of the oil is very marked. Few pharmacists are aware that there are two varieties of peppermint, black and white, so called from a slightly better colour in the stalks and leaves of the white. The flower in each case, however, is purple. But white peppermint has a distinct reputation of its own, although, to the ordinary Philistine, no superiority in the oil is recognizable. The yield of oil is at least 30 per cent. less than that from the black variety, so the price is always some \$2.50 to \$3 dearer. The principal consumers are the highest class perfumers and confectioners. After harvesting, the lavender fields are ploughed over and freely manured, and crops succeed each year with very little

attention except thinning, weeding, etc., for four years, after which the plants are worthless. They are either taken from the ground and burnt, or ploughed deeply in, and potatoes, etc., planted.

Perhaps the most interesting part is the distillation of the oil. This is conducted in enormous copper stills of some 2,000 gallons capacity built over furnaces, from which they receive their heat direct. The condensing worm is usually tin, and, like the stills, very old and massive. It is encased in a wooden vat, through which cold water circulates. A curious feature is the out-let of the worm as it is placed in a cage, capable of being locked,—the reason of this being that small growers bring their own herb and have it distilled at so much a load. They are allowed to lock up the receiver, and so are quite sure of obtaining their full yield of oil.

The yield of oil varies considerably, as may be expected, according to the season. An average fair yield is from 9 lbs to 10 lbs. of oil to a ton of herb. The yield of oil from lavender flowers is slightly higher, being nearer 12 lbs. of oil per ton. It is a curious fact that the freshly-drawn oil of peppermint has quite an unpleasant smell, which can only be described as of green herbs. It is pungent, but not at all strong of peppermint, which characteristic odor is developed after a few weeks. At Messrs. Jackson's Mitcham factory special stills are also in use, besides the old-fashioned kind. In the new stills the oil is fractionally distilled, and a cleaner and purer product is claimed to be produced. Some of the residue left in the still was shown me, and seemed to be like yellow resin, quite without odor or taste.

Besides lavender and peppermint, chamomile and rosemary are cultivated in Mitcham for their oils. The chamomile plants have to be renewed yearly, and during March or April the plants are divided and spread out for the crop. It is harvested in August, when the flowers are distilled with a little of the herb.

We are threatened with 40 new drug stores! This is the somewhat tall order which Parkes' Drug Stores, Limited, have set themselves to execute, if the public will only kindly assist. Perhaps the irony of the situation is accentuated by the discovery, which many chemists must for some years have suspected, that the prime mover and originator is a firm calling themselves wholesale manufacturing chemists. Under the name of Parkes' Drug Store, Messrs. Lorimer & Co. appear to have been for the past two years trading as a cutting establishment, at the same time as they appealed to druggists for support as wholesalers. At their principal establishment in the suburbs of London they claim to have turned over

\$40,000 per annum, with a gross profit of 27 per cent. and a net profit of 11 per cent. In the prospectus of the limited company they announce the 40 stores, and special stress is laid upon the West-end establishment, which is to be shortly opened. The fittings are most ornate, and no expense has been spared. There is a surgical instrument room, with a female attendant for ladies. A dark room is provided for the use of photographic customers; and a director gravely assured a press representative that they would have a skilled analyst to perform urine analysis, sputum examination, etc.

The last meeting of the Chemical Society was held at the Royal Institution, to listen to Professor Dewar upon his latest researches. Phosphorescence or Fluorescence, closely allied if not identical phenomena, was the subject. Many articles which would appear to be most unlikely illustrations of phosphorescence were shown to be brilliant examples when placed in an atmosphere of 180 C., and exposed for a second to the electric light. Gelatine and celluloid bodies were shown; and numerous other organic bodies, such as ivory, india-rubber, white of egg, etc., formed splendid examples. As a general rule, the more complex the molecular formula of a body, the more probable that it would exhibit phosphorescence. Pure water is only feebly affected, but traces of organic matter render it strongly phosphorescent. On the other hand, pure oxygen is phosphorescent, but a trace of organic matter, such as ether or alcohol, in the air around, is sufficient to destroy its power. No other gas has similar property; and as oxone is produced it is evidently some molecular change in the oxygen. It is generally admitted that Professor Dewar is on the eve of still further important discoveries that may profoundly affect our knowledge of molecular constitution and the composition of bodies.

DOSES FOR PHARMACISTS.*

BY H. N. WHELPLEY, PH.G., M.D.

The calling of the pharmacist is in responsibility on a parity with its ancient, honorable and sacred history. His duties as a servant of the public are many, and their number does not seem to diminish with the advance of time and tread of new inventions. It is not my purpose to remind you of the individual amenable duties or write an essay on the vocation of the compounder of prescriptions. What I crave is your attention to but one feature of

the pharmacist's life. It is one which renders his vocation at once grave and responsible. I refer to the fact that a druggist must compound prescriptions containing, and sell over the counter medicines constituting, agents potent to the extent of taking human lives. What adds to the seriousness of the occupation is the innocence of the customer and patient, who is in no position to judge of the nature or power of the substances handled. The confident customer, trusting the knowledge of his physician and assured of the ability of the pharmacist, will take a prescription containing half grain doses of strychnine with the frankness of a friend eating at a social dinner. So it is with the customer who calls for oxalic acid when he wants tartaric acid. To him

"A rose
By any other name would smell as sweet,"

and 'oxalic' does not startle his caution unless the pharmacist mentions the dose and lethal action of the poison.

How important it is then that a pharmacist have at his wits' end the dose of each remedy! True, the list of remedy is too long for mortal memory, but those doses not in mind must be within ready access to the prescription case and dispensing counter. Never guess at a dose; if in doubt, look it up, and see to it that reference books are always convenient for this purpose.

The word "dose," is a short combination of letters coming from the Greek *di domi*, to give." In our minds and practice must be associated not only the idea of giving, but also that of the "amount" given. It is of this quantity that constitutes a dose, and the conditions that increase or decrease the amount to be taken, that I propose to speak.

From the dogmatic manner in which doses are stated in text and reference books we are led to believe that a dose is a dose and that we can depend on the size with mathematical exactness. Far be this from the physiological and therapeutical truth.

The dose of a medicine is the amount of the substance which exists in the blood or comes in contact with and acts upon the tissues at one time. This is the true meaning of the word when considered from the standpoint of pharmacodynamics. A more common definition, and one that applies to the every-day use of the word, would be that "a dose is the quantity of a medicine required to produce a given effect and is usually given at one time." A still more common application of the word is to consider the amount of a remedy given at one time to be a "dose." Thus it is considered by the laity. The pharmacist, however, should consider the dose as the amount required to produce an effect. This leads him to read the directions on the prescription and

*Read before the Missouri State Pharmaceutical Association, at Excelsior Springs, June, 1894.

see how often as well as how much is to be taken.

The size of the dose is regulated not only by the frequency of the administration, but by several other conditions worthy of our consideration

The weight of the patient should be taken into account, for the result of the action of a remedy is in proportion to the weight of healthy tissue with which it comes in contact. Thus, one grain of medicine will, other conditions being equal, produce the effect on a person weighing one hundred pounds that will result from a two-grain dose on a two-hundred-pound individual. Patients with dropsy, tumors or excessive fat are not amenable to this rule. The average man weighs 143 and a woman 121 pounds. Women require smaller doses than men, not only on account of their being less in weight but also from a greater susceptibility to the action of medicine.

The method of administration effects the size of the dose. We give but one-half or one-quarter as much hypodermatically as by mouth, while enemata require about twice the ordinary dose. It has been found that different tissues of the body take up medicine with varying rapidity, and the serous membranes are most active, intercellular tissue next, and mucous membranes next. The size of doses should be in the ratio of this absorption. Liquid preparation are readily absorbed when compared to powders and pills. This calls for smaller doses of tinctures and fluid extracts than of powder or pills of the same remedy.

Familiarity breeds contempt for the power of medicine, as is evidenced by the excessive doses of morphine that an *habitué* will take without serious results. Race has its peculiarities, and only about half the ordinary dose is required by the Indians, Chinese, negroes, and other dark and yellow races. Some claim that blonde Anglo-Saxons require larger doses than the brunettes.

The dose of the same remedy varies greatly with the object for which it is administered. Thus, ipecac in large doses is an emetic, while smaller doses will cure obstinate vomiting due so depression. The effect on dose of the age, purity and strength in the active principle of drugs requires no more than mere mention to pharmacists.

New remedies are sometimes given in doses that time and experience revise by either increasing or decreasing the size.

The minim and drop are sometimes used as equal measures when designating doses. The drop, unless made under proper conditions of temperature, size of container, nature of orifice from which drop is passed, quantity of liquid in container, and rapidity of dropping, will

vary greatly with the same liquid. The relative size of drops of different liquids is shown by tables to be found in most standard works of reference.

The age of the patient plays such an important part in the regulation of the size of the dose that many rules have been devised to estimate the approximate dose in relation to age. Perhaps Dr. Young's is as safe and generally used as any. It is as follows:

Add 12 to the age of the child, and divide the age by this sum. The quotient is the fraction of an adult dose to be administered. This: a child two years old would require (2 plus 12 equals 14; 2 divided by 14 equals) one-seventh. If the adult dose was seven grains the dose for a child of two years would be about one grain.

Old age again calls for smaller doses, but the requirement is not as generally respected as in childhood.

A table of doses is given below which will assist in determining the amount for different ages:

Age.	Dose.
One month	1/20 3 grs. 0.200
Three months.....	1/15 4 " 0.250
Six months	1/10 6 " 0.400
Nine months.....	1/9 7 " 0.450
One year	1/7 9 " 0.550
Two years	1/6 10 " 0.650
Three years.....	1/5 12 " 0.750
Four years	3/4 15 " 0.950
Five to six years.....	1/3 20 " 1.250
Seven to eight years.	1/2 30 " 1.000
Ten to twelve years.	2/3 40 " 2.500
Thirteen to fifteen yrs	3/4 45 " 3.000
Eighteen to twenty yrs	5/6 50 " 3.260
Twenty to fifty years	1 drach. 4.000
Fifty years.....	5/6 50 grs. 3.250
Sixty to seventy years	3/4 45 " 3.000
Eighty to ninety yrs.	2/3 40 " 2.500
One hundred years..	1/2 30 " 2.000

Aside from these influences on the size of the dose the physician must keep in mind the condition of the stomach, personal idiosyncrasy, temperature, temperament, climate, season, time of day, effects of disease, city or country patient, passions under which the patient may be laboring, and many other controlling conditions.

I have endeavored to illustrate that no "rule of thumb" can be applied to dosage, so at best our posological tables are suggestive rather than dictatorial. It is unfortunate that we have no absolute guide, but such is the fate of the professional man. Study, consideration and the exercise of judgement are required.

Although my paper may have shaken your faith in dose tables, I trust it has increased your interest in pharmacology.

Notes on Practical Pharmacy.*

By JOSEPH W. ENGLAND PH. G.

"C. C." COUGH MIXTURE.—Under this name a cough mixture is very largely used in the phthisical wards of the Philadelphia Hospital. It has, in each fluid drachm, the following: Codeinesulphate, one-eighth grain; diluted hydrocyanic acid, two minims; spirit of chloroform and mucilage of acacia, each fifteen minims, and syrup of wild cherry, a sufficient quantity to make one fluid drachm. Dose, one fluid drachm.

DISTILLED EXTRACT OF WITCH HAZEL.—The writer has been informed, on good authority, that the percentage of alcohol in commercial distilled extract of witch hazel is not necessarily an index of its value, for the reason that some dealers buy the cheaper aqueous distillate from the distiller and add alcohol. The only proper product is had by distilling the fresh twigs with a mixture of alcohol and water, whereby a greater quantity of volatile oil is brought into solution than by distillation with water alone.

SYRUP OF WILD CHERRY.—In making this syrup, more especially in summer season, when fermentation takes place readily, it is advisable to add some of the sugar to the percolate as soon as possible to prevent change. The Pharmacopoeial formula of 1870 contained no glycerin, that of 1880 ordered five per cent, and that of 1890 fifteen per cent. by volume. This last increase seems excessive. The greater the percentage of glycerin the greater the amount of tannin extracted, up to a certain point. It is a question whether this increased astringency in the syrup is therapeutically desirable.

BLAUD'S PILLS (IMPROVED).—The usual formula for this much-used, unofficial ferruginous preparation of ferrous sulphate, potassium carbonate, tragacanth and glycerin, can be much simplified and made to yield a more permanent product by using the following formula: Potassium carbonate, one-third grain; potassium sulphate, two grains, and mass of iron carbonate, three grains in each pill. Little or no excipient is required. The pills flatten somewhat on keeping and are best dispensed in gelatin capsules. They are small in size and do not become hard and reddish-brown on fracture as do those made by the old formula.

OINTMENT OF AMMONIATED MERCURY.—This ointment is most difficult to make by the official process and secure entire freedom from "grit." The best method is, for example, to finely powder in a mortar 48 grains of the mercury compound and beat it into a smooth paste with 12 grains of glycerin, and make the

official ointment from this as wanted, by admixing one drachm with seven drachms of cerate.

In this connection criticism may be made against the use of alcohol, as in the 1880 Revision, or olive oil, as in the 1890 Revision, to render veratrine smooth in making veratrine ointment. As small quantity of glycerin is better. Glycerin is also of superior utility in softening extract of belladonna prior to making it into ointment; the Pharmacopoeia specifies diluted alcohol.

MUCILAGE OF SASSAFRAS PITH.—This mucilage is best made by beating the pith in a Wedgewood or porcelain mortar, with a small quantity of *sterilized* water until it gets pasty, expressing through cheesecloth, returning residue to mortar, adding more of the water and continuing as before. In this way, in a short time, a dense and syrup-like mucilage may be had, very different in physical appearance from the watery product gotten by following the official directions of simple maceration in *water* for three hours and straining.

As this preparation is used as an emollient in inflammatory conditions of the eye ball and mucous membranes, it is obvious that the greater the percentage of mucilage in solution the more soothing it will be. In these days of asepsis, the use of *water* in making the official mucilage is an unpardonable sin in the eyes of oculists. Sterilized water, *i.e.*, water or distilled water boiled and cooled, only should be employed. The hour's time in making the preparation is far too long, when it can be better done in a few minutes.

HOPK'S CAMPHOR MIXTURE. This old preparation has been gradually increasing in use, and is recognised by the National Formulary, under the name of *Mistura Camphora Acida*, which authority follows the formula of Ellis (Griffith's Formulary, 1866, p. 160) in using *nitric* acid. The original formula of Hope, however, specified *nitrous* acid. The formula we have used for years is: Fuming nitrous acid, 2 fluid drachms; tincture of opium, 80 minims, and camphor water, 1 pint. Parrish's Pharmacy (1884) refers to the mixture as follows:

"This formula was originally made public after twenty-six years' experience of its use in dysentery, by Thos. Hope, Esq. surgeon, Chatham, in the Edinburgh Medical and Surgical Journal, January, 1824. Dr. Hope was in the habit of directing *nitrous* acid, *not* nitric, which he says he has "not found to produce any good effect." I have been careful to follow his formula literally, and have for the purpose prepared nitrous acid by the process given on p. 200: though nitrous acid passes into nitric acid by contact with water, this reaction does *not* occur in the presence of an excess of nitric:

*Read before the Pennsylvania Pharmaceutical Association.

acid. Few remedies have a more general and widespread reputation than this; it is now frequently prescribed, more than eighty years after its virtues were originally discovered."

The nitrous acid used is known in commerce as fuming nitrous acid or fuming nitric acid, holding in solution nitrous acid fumes, which latter may be wholly removed by boiling, or largely by simple and continued exposure to air; so that the commercial product varies considerably in strength of absolute nitrous acid.

Remington's Pharmacy (1885), p. 1027, specifies nitrous acid in the formula for this mixture, as does also the National Dispensatory of 1884 (p. 75) and 1894 (p. 76). Hope's Camphor Mixture is still largely used, at least with us, in summer dysenteries, and if Mr. Hope's contention as to the necessity of using only *nitrous* acid, *never* nitric is correct, then the National Formulary decidedly errs in following the formula of Ellis and specifying the latter.

The objection sometimes raised as to the difficulty of securing good fuming nitrous acid can be met. The pharmacist can easily make his own nitrous acid, extemporaneously, from sodium nitrite and nitric acid, using quantities sufficient to yield the amount of acid in the formula, which is small. Messrs. Rosengarten & Sons state that sodium nitrite of the new official strength (97.6 per cent.) is readily obtainable.

MEDICATED WATERS—In the making of medicated waters—save those prepared by distillation or direct solution—the new Pharmacopœia directs precipitated calcium phosphate as the distributing medium in about the same proportion as that directed for magnesium carbonate in the 1870 issue. As was pointed out by the writer ten years ago (A. J. P., 1884, p. 65), in advocating the use of precipitated calcium phosphate for this purpose, it is essential in order to properly distribute the oil, that the lime compound be used in *double* the quantity of magnesium carbonate usually employed, on account of its much less bulk. The official quantity of the lime compound should be 8 gm. to the 1,000 cc. of the medicated water, and not 4 gm. as directed.

It is best to add, as the Pharmacopœia directs *all* the water, to the admixed lime compound and oil before filtration. The practice of some pharmacists adding only a *part* of water, throwing on a filter and then adding further water from time to time, to the contents of the filter until the required amount has filtered through, cannot result in as strong a solution as if the oil had been brought in intimate contact with all water at once.

There is one detail whereby the official process can be greatly improved, and that is by using in place of the distilled water *hot boiled*

water *i.e.*, water boiled and cooled to a point just short of boiling. In following this practice, the writer adds the water to the admixed lime compound and oil, places it in a proper vessel, covers tightly and filters after it has stood for some hours, preferably over night.

The use of hot, boiled water has a number of very decided advantages. These are a maximum solution of the oil and an increased pungency of the water. Boiled water is far more germ proof than the usual distilled water of commerce, which is believed to be, in some cases at least, simply condensed steam water.

Criticism may be made against the use of nearly boiling water for making aromatic waters, on the ground of loss of volatile oil, but practical experience will show that this loss is more apparent than real, that the amount of volatile oil lost by volatilization is insignificant in comparison with the greatly increased amount brought into solution.

Synopsis of a Paper on French Pharmacists and Pharmacy.

Read before the Three Towns and District Chemists' Association, on July 11th.
By C. J. PARK, M.P.S.

The author, after having paid a well-deserved compliment to the hon. secretary for the energy, persistency and diplomatic way he set about obtaining papers from the members, proceeded to explain that there were two grades of *pharmaciens* recognized in France as in England; and that they were easily distinguished by the simple titles of first and second class, the author regarded this as possessing an advantage over the English titles of pharmaceutical chemist and chemist and druggist. He pointed out that the *pharmacien*, first class, could purchase or open a pharmacy in any part of France, whilst the *pharmacien* second-class was restricted to a certain degree in this respect.

Elèves, or assistants, were required to have passed certain standards at the Lycée or schools before they could be registered as *Elèves en Pharmacie* and commence their studies at one of the schools of pharmacy.

All these schools, situated in different parts of France, and generally associated with a school of medicine, with the exception of one at Lille, were under the control of the State, who appointed the professors, fixed fees, etc. Certain only of these schools had the power of granting diplomas of the first class. Students had to be 25 years of age before presenting themselves for examination, and were required to have been six years engaged in pharmacy, and to have followed the course at one of the schools for three years.

The fees for the two examinations were respectfully 200 and 900 francs. Students are furnished with registers, which are signed up each year by the professors and duly appointed authorities, and any change of school or situation has to be duly noted therein. The subjects taught at the schools are:—Natural history, botany, physics, theoretical and practical chemistry, and toxicology.

Assistants not qualified, and not attending a school of pharmacy, are not exempted from military service, but have to serve in the army in any way they may be questioned.

French chemists are only allowed to have one shop, and are not allowed to have a pharmacy in conjunction with unqualified persons. It is illegal for a medical man, in conjunction with a *pharmacien*, to give gratuitous advice and reap a benefit from prescriptions.

Pharmaciens have the sole right of compounding and retailing medicines destined for the use of the human subject either for internal or external use. Medical men, situated in rural districts where there is no chemist, are allowed to dispense medicines, but if they visit a patient where there is an established chemist, they are not entitled to send medicines. Hospitals and religious communities can compound medicines for their inmates. Secret medicines are strictly illegal, the formulæ of all specialities have to be submitted to a board appointed by the State, and approved of before being allowed to be placed before the public.

The French pharmacies open generally at 7 a.m. and close at 10 p.m., all the year round, Sundays included, and some one is supposed to be present at all hours for cases of necessity. Their sales are confined strictly to drugs, chemicals and mineral water, and it would be considered *infra dig.* to handle the variety of toilet articles, etc., which is often an important part of the business of their English *confreres*.

The social status of the French *pharmacien* is higher than in England, and if serving in the army he ranks as a commissioned officer the same as a surgeon.

The chief poisonous drugs and chemicals are required by law to be kept in a locked cupboard in the pharmacy, and the pharmacies are visited at least once a year by officers appointed, who examine scales, poison cupboard, register of poisons sold and prescription book, and stock; they are empowered to confiscate anything faulty, if found, and the owner is fined in that case.

The Codex, which corresponds to our B.P., is hardly up to the date of modern pharmacy, and contains many substances which might very well be eliminated. The French compilers of this work, like our own, being evidently very conservative in their ideas.

Prescriptions are written in the mother tongue, and the weights and measures used are the metric system. The directions are frequently in consequence omitted to be written on the label, and simply marked mixture, lotion, (or whatever it may be), *selon l'ordonnance*, according to prescription.

All substances are weighed—not an un-mixed advantage considering the different specific gravities of the substances employed.

Wines and syrups are largely used as vehicles in dispensing; cachets are largely used. Suppositories are generally about 30 grs., of a conical shape, resembling an ordinary wooden vent plug. Dosimetric granules, resembling homœopathic pilules, are largely prescribed. These are generally used when prescribing potent medicines, such as strychnine, digitalis, arsenic, etc. Small gelatine capsules, termed "perles," are in frequent use, containing ether, chloroform, turpentine, creasote, apiol, etc. Liniments are largely prescribed, and alcohol, being of a low price they can be used freely without entailing a large expense to the patient.

Bains, or preparations for medical baths, are also generally in demand; also ointments known technically as *pommades*.

The author of the paper strongly recommends young English assistants *after*, certainly not before, having passed their examinations, to endeavor to pass 18 months or more in a continental pharmacy, as tending to give many pleasant recollections in later life, and to broaden their views of life generally, and of pharmacy in particular.—*Brit. and Col. Drug.*

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.

ODOURLESS IODOFORM.—According to *Lucas Champonniere*, the penetrating odour of Iodoform can be successfully masked in the following combination:—

Iodoform	}	Equal parts.
Powdered benzoin		
“ cinchona		
Mag. Carbonas		

made up with a little eucalyphis oil.

Women's Medical Journal.

M. P. P.

MALTO PEPTONIZED PORTER.

FOR INVALIDS, CONSUMPTIVES AND DYSPEPTICS.

THIS combination containing the finest quality of **Porter**, together with **Pepsin** (the digestive power of 10,000 grains of albumen to the bottle) **Extract of Malt** and **Dandelion**, appeals to the understanding of this profession as being well adapted to a numerous class of cases. In no single instance has it been rejected by the most delicate stomach. It is especially adapted to the following cases :

- a. *Convalescence from acute diseases such as Typhoid Fever, Cholera, etc.*
- b. *In Atonic Dyspepsia its effects have been most marvellous, enabling patients to take all kinds of food with comfort that would not otherwise be retained by the stomach.*
- c. *In persons of Consumptive tendencies it has been found to be a most perfect substitute for Cod Liver Oil, the extract of Malt supplying the fat-producing elements necessary to the supply of wasted tissue, besides the tonic and stimulating effects.*
- d. *In the treatment of cases of unnatural craving for Alcoholic Stimulants, or Alcoholism, it has been found to answer admirably in allaying the irritation, vomiting, and consequent desire for stimulants of an unhealthy nature.*
- e. *It is especially adapted for administration to Nursing Mothers.*
- f. *In wasting diseases of Children.*
- g. *Where there is sleeplessness from flatulence, over-taxed brain and nervous system.*

Samples can be obtained free by the Profession, on application to

The Malto Peptonized Porter Company, Limited,
TRURO, NOVA SCOTIA.



(France) Hydromineral Establishment of (Vosges)

CONTREXÉVILLE



Source du

PAVILLON

The only one under the protection of the French Government

DIURETIC - TONIC - DIGESTIBLE

Queen of mineral Waters for :


GOUT GRAVEL DIABETES

DISEASES OF THE BLADDER

LIVER COMPLAINTS

ASK
for the Source


PAVILLON



.. TANGLEFOOT ..

SEALED

STICKY FLY PAPER



CAN BE HAD OF THE FOLLOWING JOBBERS IN CANADA:


MONTREAL—
Evans & Sons. Ltd.
Lyman, Sons & Co.
Lyman, Knox & Co.
Kerry, Watson & Co.

QUEBEC—
W. Brunet & Co.
Edmond Giroux & Co.
Dr. Ed. Morin & Co.

TORONTO—
Lyman Bros. & Co.
Northrop, Lyman & Co.
Elliot & Co.

HALIFAX—
Brown & Webb
Forsyth Sutcliffe & Co.
Simson Bros. & Co.

HAMILTON—
J. Winer & Co.
Archdale, Wilson & Co.



Each Double Sheet of TANGLEFOOT is separately Sealed
... with our ...

PATENT WAX BORDER,

AND REMAINS IN PERFECT CONDITION UNTIL USED.

AVOID: Complaints, Annoyance, and Loss, by handling Tanglefoot

PRICES FOR EASTERN PROVINCES OF CANADA,

55 cents per box. \$5.00 per case.
in five case lots, \$4.75 per case.

LONDON—
Jas. A. Kennedy & Co.
London Drug Co.

KINGSTON—
Henry Skinner & Co.

BELLEVILLE—
L. W. Yeomans & Co.

PRESCOTT—
T. W. Chamberlin & Co.

WINNIPEG—
E. D. Martin & Co.
Bole, Wynne & Co.

VICTORIA—
Moore & Co.
Langley & Co.

VANCOUVER—
H. McDowell & Co.

NEW WESTMINSTER—
D. S. Curtis & Co.

NANAIMO—
E. Fimbury & Co.

• SYRUP OF FIGS •

The above is the trade name of the liquid laxative remedy manufactured by the CALIFORNIA FIG SYRUP COMPANY, of San Francisco, Cal., Louisville, Ky, New York, N.Y., U. S. A., and has been registered in the Canadian Patent Office.

SYRUP OF FIGS sells well and gives general satisfaction. It will be extensively advertised in Canada during the coming Winter and Spring.

We offer it to the trade at \$6.00 per dozen, and it retails at 75 cents per bottle.

The remedy is a combination of the medicinal principles of plants known to be most beneficial for the purposes intended, and it is very pleasant to the taste, and gentle, yet effective in cleansing the system, dispelling colds, headaches and fevers, and permanently curing habitual constipation.

Your orders respectfully solicited.

Yours truly,

California Fig Syrup Co.,

San Francisco, Cal.

Louiseville, Ky.

New York, N.Y.

PHARMACEUTICAL NOTES.

NEW TEST FOR MORPHINE.—Mr. Lamal describes at a meeting of the Belgian Academy of Medicine, a new color reaction of Morphine. 2 to 10 drops of the solution to be tested, and an equal quantity of a solution made by dissolving 30 centigrams of uranium acetate and 20 centigrams of sodium acetate in 100 cc. of distilled water, are placed in a porcelain capsule and evaporated to dryness on a water bath, if the solution contains morphine, the residue consists of concentric rings of a brownish red, or hyacinth red. Mr. Lamal has tried this reagent on many other alkaloids, but the residues obtained were colorless or only slightly colored by traces of uranium.

AROMATIC COD LIVER OIL.

	Parts.
Cod Liver Oil	1,000
Lemon Oil	5
Oil of Neroli No. 00.	2
English Peppermint Oil	1
Vanillin	0.1
Coumarin	0.01

Dissolve the last two ingredients in the ethereal oils by the aid of a gentle heat and mix the solution with the cod liver oil.

IODO-FERRATED COD LIVER OIL.

	Parts.
Iron, in fine powder	2
Iodine	4
Ether	10
Cod Liver Oil to make	1000

Rub the iron, iodine, ether, and 40 parts of cod liver oil together until a black mixture results, then add sufficient cod liver oil to make 1000 parts by weight.—*Dieterich's Manual.*

At a general meeting of the members of the Royal Institution on July 2, the offer of Mr. Ludwig Mond, of the firm of Brunner, Mond & Co., to endow a "Faraday-Davy Research Laboratory" in connection with the Royal Institution, was accepted. Mr. Mond, last year, bought the large freehold house, No. 20 Albemarle Street, contiguous to the buildings of the Royal Institution, and formerly the residence of the Earl of Albemarle. This house he was resolved to convey in fee simple to the Royal Institution. He further proposes to defray the whole expense of converting it from its present uses into a laboratory of chemical and physical research, and of equipping it with everything needful for conducting scientific research upon a large scale. In addition, he proposes to endow the new laboratory, first, with an income sufficient to defray all the expenses of rates, taxes, and maintenance; and, secondly, with a further, and of course much larger, income, sufficient to pay the salaries and incidental expenses of a trained scientific

staff, and generally to carry on the work of an institution of this kind in an adequate and business-like manner. It is intended that the new laboratories shall afford opportunities for students to carry on investigations in chemical and physical science. The laboratory is to be free to all persons, without distinction of sex or nationality, who, in the opinion of the managers of the Royal Institution, are fully qualified to undertake scientific investigation, preference being naturally given to those who have actually done original work. The laboratories will be fitted up with all the conveniences they can possibly require, for Mr. Mond, who has had much experience of continental research laboratories, is determined that the new premises shall be in no way inferior to the existing establishments of the kind. The managers of the Royal Institution have accepted the posts of honorary directors of the new laboratories. The premises are next door to the Royal Institution, and close to the classic spot where Davy first isolated potassium and sodium. The trust which Mr. Mond has handed the Council, and through them to the nation, is estimated at upwards of 100,000*l.*

—*Chem. and Drug.*

THYROID EXTRACT.—Take the fresh thyroid glands of the calf or sheep carefully free from fat and membranous tissue, chop fine and macerate for 24 hours in twice its weight of glycerine, then express and to the liquid add alcohol as long as a precipitate is produced, which is then washed with alcohol drain and moist magma mixed well with infusorial earth, the alcohol allowed to evaporate. The percentage of extract present may be determined by deducting the weight of the infusorial earth added from that of the finished product.

ON PICEINE, A GLUCOSIDE OF THE LEAVES OF PINUS PICEA.—Mr. Tanret—Piceine, hydrated or anhydrous, crystallises in prismatic silky needles, soluble in one part of boiling water and in 50 parts at 15°, in 20 parts of alcohol at 70°, 68 parts at 90°, and 534 parts of absolute alcohol in the cold (15°), 33 parts of absolute boiling alcohol, and 123 parts of acetic acid at 15°. It is insoluble in ether and chloroform. Piceine is læo-rotatory: $\alpha_D = -84^\circ$ in solution in water and $\alpha_D = -78^\circ$ in solution in alcohol at 70°. Anhydrous piceine melts at 194°. Under the action of emulsine piceine fixes a mol. of water and is split up into glucose, $C_6H_{12}O_6$, and piceol, $C_8H_8O_2$. Piceine is neither precipitated by tannin nor by basic lead acetate. Piceol behaves as a monatomic phenol.

INFLUENCE OF BORIC ACID ON THE SOLUBILITY OF CERTAIN PHENOLS. Mr. Bernin (Bul. de Pharm. de Lyon) has found that boric acid increased the solubility of thymol, phenol, sa-

lacylic acid to a considerable extent. The solubility of thymol in distilled water which is about 1 in 800 is more than doubled in the presence of boric acid, 3 gm. dissolving easily in a litre of boric solution. For phenol, its solubility is doubled, but it is more particularly on salicylic acid that the solvent power is most marked, while distilled water does not entirely dissolve 1 gm. per litre, with boric solution 8.75 gm. can be dissolved.

Antiseptic Powder.

DR. A. PICK (*N. Y. Med. Jour.*)

The following formula has given the author very satisfactory results in all cases where iodoform is ordinarily employed:

Corrosive Sublimate..... $\frac{1}{5}$ grn.
Boric Acid 1 ounce.
Tannic Acid.... 10 grains.
Milk Sugar.... sufficient for 2 ounces.

one fifth grain of corrosive sublimate, in this mixture, gives a 1:5000 trituration of bichloride and $\frac{1}{2}$ grain, one of 1:3000.

The sublimate should be mixed very gradually and thoroughly with the milk sugar,—the other ingredients being slowly added one by one, in order to obtain a uniform distribution of the bichloride.

The author states that this powder is more reliable than any iodoform preparation and has no odor. The tannic acid may be omitted, if its desiccating or styptic action is not wanted.

Science among Codfish.

Artificial propagation and rearing of osseous or salt-water fish is a science which is yet, comparatively speaking, new, but which, according as knowledge advances and new discoveries are made, promises, when aided by proper legislation and protection, to be a most effective means of maintaining and increasing our food supply.

The progress science is making and has made during the last decade, and the vast amount of knowledge gained in a comparatively short period respecting the life, habits and food of various species of fish, as well as of the physical condition of the element in which they live, is remarkable, considering the difficulties under which such work has to be carried on.

Not only is knowledge being gained in the artificial propagation of fish, which is increasing the supply of available material, but the very fish themselves, after having grown large enough to become of mercantile value, are subjected to new modes of science, that turns out articles of merchandise that were thrown away as valueless till of very recent date.

Newfoundland is leading the van to a great

extent in these scientific methods, both in the propagation of fish and the manufacture of articles from them.

The fish hatchery on Dildo Island, in Trinity Bay, has, during the past four years, planted over 423,000,000 of young codfish, which were able to swim about and take care of themselves before they were given their liberty in that large bay.

It was often stated by many that these codfish would swim off in the broad Atlantic and never be heard of again; but a curious phenomena presents itself, and proves that Newfoundland is a most desirable spot for fish culture. The cold Arctic current which sweeps past the mouth of this large bay, besides bringing an inexhaustible supply of food to the fish, also acts like a fence in preventing them from migrating, as the temperature on the outside is too low for codfish to live in, and of course turns them back to the warmer strata and shoals on the inside.

The local fishermen are the ones that are best qualified to decide on the benefits accruing from this hatchery.

The oldest men say that not since they were boys have they seen such immense quantities of codfish as have appeared there this year on grounds that they thought were depleted, and the fish are mostly of small size, being one, two and three years old.

So much for the success of the propagation of codfish. Now let us turn to see what use is made of the codfish after the fishermen catch it.

If we proceed to Harbor Grace, where the most improved styles are now in vogue, we will see vessels landing thousands of quintals of the finest codfish, drawn only a few days before from the depths of the ocean, and which, after a few days handling, are turned out again in assorted boxes, 5, 10, 20 and 40 lbs., labelled "Pure Boneless Codfish."

But what becomes of the bones and skins which are separated from the fish in the preparation of making this well-known household article?

We have only to turn in another direction, and we see large ovens employed in drying and parching these bones, while at a short distance are crushers worked by steam, grinding the bones to a powder; and finally fish fertilizer, that contains about double the essential ingredients of the ordinary fertilizer, is turned out, ready for sale on the market. A mixture of this bone-dust and water is guaranteed to make flowers bloom all the year round.

We pass along to another factory, and here are vats and tanks, with codfish skins soaking in water, in preparation for making Munn's Liquid Fish Glue, that rivals everythng known in the adhesive line. Here we see

large boilers steaming as the glue is being boiled and strained, and put up thin for mucilage, or in thicker form for heavy work.

This is not all that can be utilized from the codfish. The tongues are extracted, packed fresh in tins, similar to oysters, and prove a great luxury.

The Newfoundland manufacturers were not satisfied when they saw the Norwegians taking a higher standard than theirs, but they set to work, and found out all the secrets of the Norwegian non-freezing process, and now, in recent experiments, it has been demonstrated that Newfoundland oil, when properly manufactured, stood the cold test at 19° below freezing point without showing a sign of any change, while samples of Norwegian, said to be non-freezing, began to turn at the freezing point, and at 14° below were perfectly thick.

Another advantage which Newfoundland oil has, and which needs time to demonstrate, is that it digests more easily, even on the most delicate stomach, than any Norwegian. This has undoubtedly been proved in hospitals, both in Paris, Halifax and Boston, by well-known and leading physicians.

Again, it is an undisputed fact that Newfoundland codfish are the finest in the world; and there is every reason for saying that, with proper care and attention, the articles produced from this fish must be superior to those put up from inferior fish.

The firm of Munn & Co. have taken the lead, in many respects, in more fully utilizing the codfish, and at great risk and enormous expense have sent Newfoundland oil as a result (far that alone will interest our druggist readers) to the markets of the world, equal in every way, and superior as to cold test, to any cod liver oil ever furnished by the Norwegian factories. It takes time for a knowledge of the quality of this oil to become known; but it would seem as if the days must be really numbered for the trade to pay 50 cents per gallon more for oil from Norway than for an equally good article, at any rate, from Newfoundland.

Waterborne Typhoid Fever.

The remarkable epidemic of enteric fever which has been running its course in Paris during the past six weeks seems likely to be full of interest from an etiological point of view. For some years there had been a notable diminution in the prevalence of this disease, when suddenly, in the middle of February, at a time of year when typhoid is not especially common, and when the general mortality was below the normal, an outbreak occurred which quickly ran up the number of those in hospital to a considerable figure. We gather that from

January 1st to Feb. 18th not more than an average of 11 cases of typhoid fever a week entered the Paris hospitals, when suddenly the numbers rose to 237 in the last week of February, and 217 in the first week in March. Or, putting the matter another way, while on February 21st there were 79 patients under treatment, on March 13th there was 588. Since March 9th, the number of fresh cases has been decreasing. Here we have a sudden break such as is characteristic of waterborne typhoid. The sources of supply are, then, of great interest, and especially the relation of the areas of distribution of the different waters to the intensity of the epidemic. Paris is supplied with drinking water, *eau de source*, from the sources—Dhuys, the Vanne, and the Avre, and in many of the different districts served by these sources shows that the part of Paris supplied by the Dhuys is but little affected by the epidemic, also that served by the Avre, while that of the Vanne has been specially attacked. For each 1000 inhabitants the mortality is in the Vanne district 0.46, in the Avre 0.20, in the Dhuys 0.16, showing a large preponderance of epidemic on the Vanne supplied district. On further inquiry into the incidence of this outbreak of fever, we note the following important facts: 1. The onset of the epidemic was sudden and unforeseen, recalling rather at attack of acute poisoning than the gradual spread of an ordinary epidemic. 2. The typhoid fever remained exclusively confined to the *enceinte* of Paris and to the garrison within the walls. 3. The barracks supplied with Vanne water were alone attacked; those supplied with water from Dhuys, the Marne, and even the Seine have furnished no case of typhoid fever. Under these circumstances it is a matter of great interest to hear at Sens, a town situated on the Yonne, near the point where it receives the Vanne, 70 miles or so above Paris, an epidemic of typhoid fever was in progress at the same time. We shall await with much curiosity the report of the Commission which has proceeded to Sens to investigate the affair. For both Paris and Sens are supplied with Vanne water.—*Brit. Med. Journal*.

Nature reports the results of Dr. Alessi's experiments upon the effects of sewer gas on typhoid fever. The rats, rabbits and guinea pigs used when exposed to the inhalations of sewer gas became so predisposed to infection that a small dose of an almost harmless cultivation of typhoid germs killed them. The animals not so exposed rallied from the same, and even far larger doses. Long continued exposure to the sewer gas was apparently much less dangerous than a short exposure. They evidently became used to the gas, so that effect was less pronounced.—*Popular Science*.

Correspondence.

Transportation Committee of the American Pharmaceutical Association.

To the Editor of THE MONTREAL PHARMACEUTICAL JOURNAL.

SIR,—Thomas F. Main, chairman of the committee, having resigned, President Patch has appointed in his stead as chairman Caswell A. Mayo, 37 College place, New York city. The committee is actively engaged in perfecting their arrangements as regards rates. An uniform rate of one and one-third fares has been promised from some sections, and will probably be granted from all over the United States. To obtain advantage of these rates, it will be necessary for persons attending the meeting to pay full fare going, and obtain a receipt for the ticket at the full rate from the ticket office at which it is purchased on an Association certificate. This receipt, when countersigned by the secretary of the association at the meeting, will enable the delegate to purchase a return trip ticket for one-third the regular rate. In some sections it may happen that the regular summer excursion rate will be less than one and one-third fares, in which case the delegates will probably be advised by the local members of the transportation committee to purchase regular excursion tickets. Details of the arrangements have not yet been completed, but will soon be published.

The names of the committee are as follows: Caswell A. Mayo, chairman, New York city; Harry Sharp, Atlanta, Ga.; S. A. D. Sheppard, Boston, Mass.; A. E. Ebert, Chicago, Ill.; W. J. M. Gordon, Cincinnati, Ohio; Charles M. Ford, Denver, Col.; A. K. Finlay, New Orleans, La.; M. W. Alexander, St. Louis, Mo.; William M. Searby, San Francisco, Cal.

Yours very truly,

CASWELL A. MAYO,
Chairman.

EUCALYPTUS OIL. The influenza epidemic has exercised a considerable effect upon the consumption of this oil and, a few months back, provoked a lively trade in this article. Since about two months, however, we have again to record a general decline.

In order to meet the sharp competition of the Australian product, the distillers in Southern France and Algeria have been compelled to make concessions in price to preserve their outlet for the distillates of the globulus variety. This oil, when deprived of its low-

boiling fractions and well rectified, has a eucalyptol percentage of from 60 to 70, and is undoubtedly the best quality of eucalyptus oil obtainable in commerce.

Another fact which tends to diminish the direct consumption of many kinds of eucalyptus oil is this, that, owing to its cheapness pure eucalyptol is being employed more and more. This alone ought to be used wherever there is a question of precise scientific therapeutics.

A new kind of eucalyptus oil, said to be distilled from the leaves of *Eucalyptus Risdonia*, has been imported into London. Samples sent to us showed it to have a sp. gr. of 0.915 and an optical rotation, in a 100 mm tube, of 4°49'. This oil has a very pleasant, mild odour, and is moderately rich in eucalyptol, in addition to which, however, it also contains phellandrene.

College Announcements Received.

Thirty-fifth Annual Annoucement of the Chicago College of Pharmacy. Hon. Emil Thiele, Ph.G., president; W. B. Day, actuary.

Catalogue of the School of Pharmacy, University of Kansas. Lucius Elmer Sayre, Ph.G., dean; E. F. Engel, secretary, Lawrence, Kan.

Ontario College of Pharmacy. Chas. F. Heebner, Ph.D. (Tor.), Ph.G., dean; Isaac T. Lewis, registrar, Gerrard street East, Toronto.

Massachusetts College of Pharmacy. Twenty-eighth Annual Catalogue. Chas. G. Williams, Ph.G., M.D., actuary, Boston.

Philadelphia College of Pharmacy. Seventy-fourth Annual Annoucement. Chas. Bullock, Ph.M., president; Thos. W. Wiegand, actuary.

JOURNAL NOTES.

SOURIS, P.E.I.

On the morning of August 2nd, Mr. T. M. Doyle, druggist, of Souris, P. E. I., died suddenly, his death being attributed to an overdose of some fatal drug. He came to Souris last spring from Halifax, but was formerly a resident of Charlottetown. He was thirty years of age, and leaves a wife and one child.

NOVA SCOTIA.

On Tuesday, 7th August, the Nova Scotia Pharmaceutical Society elected the following gentlemen as officers for the ensuing year: J. B. Hattie, president; George Sterns, vice-president; A. H. Buckley, secretary; W. H. Hamilton, registrar; L. J. Mylius, treasurer.

W. C. Sutherland, formerly of River John, has opened out a branch store in Stellarton, N. S.

Trouble and Loss in Storing Stock.

BY PROF. E. L. PATCH, BOSTON.

Presented to the Mass. State Pharmaceutical Association, Worcester, June 26, 1894.

In our previous paper on "Deliquescence, Efflorescence and Change," we called attention to many changes in salts or chemical compounds inflicting loss upon the pharmacists, and in this we give brief mention of the loss of chemical solutions, galenical solutions and drugs from natural causes, that are so well known as often times not to be considered.

We will arrange these changes under the headings—1st. Changes produced by Cold. 2nd. By Heat. 3rd. By Age. 4th. By Exposure.

1st. CHANGES PRODUCED BY COLD.—Our common light wines in winter are often injured by freezing, from exposure in transit or careless storage. Beef, iron and wine, coca wine and other of our medicinal wines may become unsightly from this cause.

Many of our syrups being nearly saturated solutions, if exposed to cold during transportation from one point to another, or in storing, will crystallize and lead to unjust complaints.

Floral waters and antiseptic solutions become turbid and are sometimes hastily condemned when a normal room temperature would restore them to their standard condition.

Some of our elixirs are subject to this change. Elixir triple phosphates is a notable example. We have known it to become very unsightly from this cause.

Elixir calisaya, from the bark, becomes turbid from cold as does aromatic spirit of ammonia, soap liniment and many colognes. Tincture citrochloride of iron that has been made by the N. F. and contains an excess of saline matter precipitates on being subjected to a temperature lower than that in which it was prepared.

Many solutions of salts, as solution of citrate of magnesium, are decomposed by excessive cold.

Face lotions, face creams, etc., mixtures of chalk, bismuth, etc., with perfumed waters, or emulsions of fixed oils or fats may be injured by freezing, or, in the latter class, decomposed by low temperatures.

Emulsions of cod liver oil are sometimes split and badly granulated by exposure to low temperatures.

The thickening and partial solidification of some of the fixed oils by cold is well known; yet we recall the return to a wholesale house of a five gallon can of oil that had been exposed for a few hours to a temperature of 10° F. below zero because it was not limpid enough to suit the purchaser when it first entered the

store. He was a trained pharmacist, but temporarily a thoughtless one.

2nd. CHANGES PRODUCED BY HEAT—A very common experience is the injury of aromatic drugs by exposure in paper packages on upper shelves of a store-room where the temperature is often excessively high

Drugs containing fixed oils are sometimes similarly stored, the oil is absorbed by the packages, is oxidized and the rancidity imparted to the entire mass. Ground flaxseed is a familiar example

Again, wine of coca, beef, iron and wine, and similar preparations are placed in a window, exposed to the sun. The corks dry, the alcohol is volatilized, the product ultimately soured and decomposed, the formula condemned, and yet the entire fault is careless storage. You have all seen windows filled with goods of this class without protection from the sun's rays, although a moment's thought would convince one of the impropriety, and observation would show how soon the alcohol strength can be reduced from 20 or more per cent. to less than 14 per cent.

The heat may induce precipitation without reducing the alcohol strength abnormally.

Tinctures and fluid extracts in show bottles upon upper shelves become very much overheated, especially by combined heat of furnace and gas light in a close store of a winter's evening. The alcohol volatilizes to the upper part of the bottle, lifts the stopper and escapes, weakens the alcohol strength and causes precipitation. We have known tightly stoppered bottles to break under the pressure induced.

Pills and tablets of salol, salol and phenacetine and other salol combinations are softened and made unsalable by exposure to an elevated temperature.

We have known a druggist to complain of these products becoming adhesive, citrate of iron and quinine pills bursting and many extract pills spirting. Examination showed that they were stored on the upper shelf of a prescription case in a poorly ventilated corner and in close proximity to the gas lamp.

Pills containing large quantities of extracts are liable to change on long keeping unless they have been hardened by use of an excess of gum in making the pill.

Pills of extract of cascara, pills consisting largely of aloes, ergotin, ext. damiana, ext. gentian, ext. hyoscyamus, copaiba, etc., require long drying before coating or special care in massing and careful storage to prevent loss of shape and softening.

The oxidation and darkening of ferrous iron preparations is too familiar to call for extended notice. So also is the gradual decomposition of syrup of hydriodic acid.

Ointments containing oil of cade or oil of tar change from a light brown to a very dark color. Ointments containing iodine darken, while those containing iodoform change more radically. Syrups of the hypophosphites change and give an acid reaction and are often wrongfully condemned. They sometimes decompose with the formation of fungus growth. This is quite different from the first change referred to.

Syrup of lactophosphate of lime and other lactophosphates in solution cause trouble in the same way unless special care is used.

The darkening of syrup of phosphates of iron, quinine and strychnine with the precipitation of basic phosphate of iron combined with strychnine and quinine is familiar to every druggist of experience.

Elixir pepsin and bismuth and elixir pepsin, bismuth and strychnine sometimes precipitate on standing. It may be caused by loss of ammonia in the ammonia-citrate of bismuth or by gradual reaction.

Elixir calisaya from the bark must be substituted by that made from alkaloids if all precipitation is to be avoided.

Coca wine, if containing five to ten per cent. of leaf, always precipitates on standing, and requires filtration to keep it clear.

Basham's mixture, sol. acetate of iron and tincture acetate of iron all precipitate from the gradual formation of basic acetate of iron, or oxyacetate. Ten per cent. oleate of mercury reduces, and metallic mercury precipitates.

Oleate of morphine changes a very deep brown color. Solution of subacetate of lead and lime water each become unsightly from formation of carbonate from occasional exposure to the air. Solutions of potassa and soda absorb carbonic acid and change from hydrates to carbonates. Many granular effervescent salts lose their effervescence, darken in color, and become less soluble.

Lozenges containing much sugar and extractive absorb moisture and becomes soft and porous. Some, like guaiac lozenges, change from brown to green in color.

Cacao butter suppositories require care in keeping. The change in color of those containing extracts and those containing iodoform, etc., are familiar to you all.

Nearly all recognize the change in flavor and aroma brought about by aging liquors, as whisky, brandy, wines, etc.; they also know that colognes and other perfume extracts are much changed by storing, but forget that fluid extracts and elixirs undergo the same modifications in taste and color, by similar treatment. Practical experimentation will convince anyone of this.

4th. CHANGES PRODUCED BY EXPOSURE.—There are reduction and decompositions

brought about by exposure to the sunlight, decomposition and darkening by oxidation, decomposition and precipitation from evaporation. The decomposition of the volatile oils with development of ozone and formation of resins is familiar to all.

The changes in chemical salts by efflorescence, deliquescence and decomposition and the changes in chemical solutions from exposure have been previously referred to in detail.

Pills of valerianate of iron, or the valerianates of iron, quinine and zinc, of salicylic acid, of iodide of iron, protochloride of iron and nitrate of silver are liable to change.

Collodion is often rendered too viscid for use by the evaporation of the ether solvent, which should be replaced before dispensing.

Ointments. Common lard being a mixture of solid stearin and liquid olein, is easily separated and made granular by a slight elevation of temperature and subsequent cooling.

The pharmacist learns that lard oil, the olein of the lard, can be separated from it by simple pressure, and that it varies as it is cold pressed or warm pressed, yet he queries when his lard or his ointments made from it become granular on storing. It is supposed to liquify at 100° to 104° F., and this permits zinc oxide and many other heavy insoluble medicaments to precipitate, while extracts may separate out.

The U. S. P. 1890 suggests the addition of 50 per cent. or more of white wax in summer time to obviate this trouble, but in winter the product would be too firm in some sections of the country.

Belladonna Ointment	
Chrysarobin	"
Stramonium	"
Iodine	"
Iodoform	"
Iodide of Lead	"
Iodide of Potass	"
Nutgall	"
Zinc Oxide	"

have caused trouble on account of the alternate fusing and cooling of the lard base. The hard white masses observed in the ointment consist of separated stearin. Where these ointments are sent out to the patient in porous boxes, permitting the absorption of the olein, the product constantly changes, and all the more readily becomes rancid from oxidation over the large surface exposed.

Iodoform is decomposed by elevated temperatures. Sugar-coated pills and lozenges may likewise be impaired by over heating, causing the mass to stain the coating unless it is first subcoated.

3rd. CHANGES PRODUCED BY AGE.—These are either the formation of precipitates, the change in color, or the formation of decomposition products.

In many fluid extracts, precipitation must, inevitably occur if the preparation is made with a menstruum of full strength, or one capable of removing all the soluble principles of the drug employed. This is due, in part, to the alteration in the character of the solvent as it passes through the mass of drug operated upon. It is influenced by the temperature of extraction in comparison with the temperature of storage, and is also the result of changes in the character of extractive, but little understood. These latter may be oxidation changes, reduction changes or reaction changes. Familiar examples are the precipitates occurring in

Fl. Extract of	Buckthorn Bark,
" " "	Chestnut Leaves,
" " "	Kola nut,
" " "	Marigold,
" " "	Pareira brava,
" " "	Queen of the Meadow,
" " "	Senega,
" " "	W. Cherry, B'k, 1880, 1890,
" " "	Broom,
" " "	Ipecac, 1890,
" " "	Malt,
" " "	Licorice Root,
" " "	Sarsaparilla,
" " "	Uva Ursi,
" " "	Witch Hazel leaves,
Tincture of	Belladonna,
" "	Galls,
" "	Marigold and others.

Parallel changes are the gelatinizing of fl. ext. kino, tincture kino, fl. ext. marigold, fl. ext. gravel plant, fl. ext. cinnamon, etc.

The pharmacist is aware that he finds it necessary to filter the contents of his shelf bottles, that his tinct. Cinchona, tinct. rhubarb, tinct. gentian comp., etc., shall be clear, bright and free from deposit, but expects that he can purchase these products and the more concentrated fluid extracts and have them kept indefinitely. Sober judgment should convince him that the produce must vary in drug strength or menstruum from the standard, or be stored until long precipitation has brought about the desired result, if he is furnished such products.

Marked changes in color are still less understood and often lost sight of. We instance the change in color of syrup of garlic from its colorless fresh condition to a black color on standing. We have known this to make serious difference in a prescription dispensed at different stores, and have known a pharmacist to declare that it never was colorless.

Fl. ext. malt is another example. When freshly made it is a pale amber color, but gradually changes to a very deep, rich, brown color,

We once heard of a professor of chemistry who informed his class that the dark fluid extracts were colored by overheating during evaporation and should be rejected. If he has been observing he may now know that a fluid extract made by reprecipitation and not subject to heat will inevitably grow dark colored. It was simply a case where a wrong conclusion and false instruction came from insufficient knowledge.

THE DRUGGISTS' BOGIE MAN.

BY CHAS. M. TROPFMANN, PH. G.

Night succeeds the day, and day succeeds the night; the earth is round, and gravity causes water to seek the lowest level; but I am not going to hire a hall to inflict upon you the proofs of the earth's rotundity, nor a dissertation upon gravity, nor the reasons for the alternations of day and night. I do wish, however, even at the risk of being tedious, to rehearse and rehash a fact which is just as much of a chestnut as either of these mentioned and upon which our opinions are equally unanimous, and a circumstance, too, which all of us equally deplore. I allude to the woeful scrawl which a great many physicians make on their prescription blanks, blindly and wildly conjecturing in their innocence that they are characters which really convey a meaning which some one else will be able to decipher and understand. I tell you the man that must read prescriptions is a small potatoe and few in a hill, and is very often made to feel it most keenly. The reckless haste which allows the physician to send forth an illegible prescription is really a very serious fault and one which is as exasperating to the druggist as it is dangerous to the life of the one for whom the prescription is written. Illegibility is a bad enough defect in anyone nowadays; in the man with a college training, even such as is obtained in a medical college, it is somewhat inexcusable; but when that same man's indifference to every one but himself permits him to send forth his unintelligible scrawls, where the health and welfare, and even the life of others is at stake, then it becomes a most serious and unpardonable fault indeed. If he is not afraid of his own judgement, skill and learning, why does he not take a little pains to make his meaning clear, or has he really such an exalted opinion of our—the druggists'—skill, penetration and cleverness in reading occult and cabalistic mysteries that he need only think his thoughts over a piece of paper and make any kind of mark thereon, and we, the compounders, will at once fathom his idea and put the prescription up correctly? Possibly he has. But the sequel seldom bears the notion out, for the very next morning he'll be

around to make a kick, and he can kick—and a howl—and he can howl, because you dispensed syrup of anything instead of syrup of about the same thing, when he had distinctly marked what he wanted with a scrawl that looked more like a tangled fishline than it did like the name of any pharmaceutical preparation. It is claimed by some that this habit of writing in a scrawling, and all but undecipherable hand, is a piece of affection often practiced by newly fledged M. Ds. to hide the fact that they are mere tyros at the business, and to make the public believe that they are thoroughly versed in the minutest details and mysteries of their profession. If this be so, they exhibit in this practice one disqualification for the profession which ought to offset all the qualifications, the possession of which they claim by virtue of a duly signed and sealed diploma. It no doubt often is due to haste, but can there be any excuse for jeopardizing health and life for the sake of saving one or two minutes of time? It is impossible too, that some doctors really cannot write better than they do. A physician told me not many months ago, after I had criticized his writing, that he once wrote a contract for a society of which he had been chosen the physician, and that for some some error it was returned to him for correction, and that he was puzzled himself, as he could not read his own writing any more—and for such men we risk our reputation. Another M. D. told me once when I spoke of his penmanship that if I got stuck I should give anything.

However, it matters very little from what causes the doctors of whom we complain write so very illegibly. The fact remains that a great many do so, and that it often leads to serious results. Scarcely a week passes but we hear of some more or less serious mistake on the part of some compounder, which can be directly traced to the bad caligraphy of the prescriber, and then, will the careless prescriber protect you? No, he will not. He will assert that it was written as plain as it possibly could have been, and that you could not make it out, and of course you are not a fit person to prepare his prescriptions. Should one of those scribbled recipes reach you, and you should not be able to communicate with the scribbling doctor either by telephone or message, and you are compelled to give the prescription the benefit of the doubt, and you prepare something, not that which the doctor intended, then the doctor will kick, instead of protecting you, but will he do it? No, a thousand times no; and though you have been located forty or fifty years in that neighborhood and possess the confidence and respect of everybody, and prepared what you thought was right and it was wrong then you

might as well sell out or move away, as the entire neighborhood will say, "he has made a mistake in making a prescription." It is difficult to say how this practice can be stopped; but if we can do nothing more I think it is proper that we at least enter a protest. It would be difficult enough to decipher most of these hieroglyphics even if the names of the preparations prescribed were written out in full, but the importance of distinct caligraphy, even to the most skilled and experienced pharmacist in order to avoid mistakes, becomes still more apparent in view of the arbitrary manner in which almost all doctors abbreviate the names of drugs and pharmaceutical preparations. It is really astounding what liberties they take in the matter of abbreviations. The doctor seems to forget that the names of many drugs even if written out in full are very similar, and when it comes to seeing them abbreviated in this peculiar and arbitrary manner, they become absolutely indistinguishable. Then add to this the perplexities hurled at us by the foreign doctor—the French, German, Italian, and Russian, or what not, who has not yet familiarized himself with the nomenclature of the U. S. P. druggist and our cup of misery is about to overflow. I repeat, the American who must read prescriptions is a small potatoe and few in a hill.

Another item is the careless way of writing the directions—such an important matter, too. I present here a sample of one, and only after inquiry from the doctor by telephone was I enabled to write the directions—and such has frequently been the case—or are we to cover up the careless writing by saying, "As directed"—although we frequently have to make use of that phrase—and I do say, right here, a physician should never use the phrase, "As directed," but give the fullest instructions possible; but nevertheless such is the case. We might be able to decipher the prescription, but by all means let the directions be plain. Should it not be, and you inquire from your customer what directions the doctor gave, doubts will at once be raised of your ability and fright infused into their minds, and probably the doctor seen, and you are the poor innocent creature who will catch fits. Is it not so? Before my closing argument, permit me, just for a matter of facts, to present to you the signatures of many of our most prominent M.D's. I go so far as to bring six separate signatures by the same doctor, and had these several signatures been attached to checks five of them would have been refused by the paying teller. Had you ever to step out from behind your *sanctum sanctorum* and ask—for no other reason than to affix it to the label—the doctor's name, and when asked why, you had to say the doctor either forgot

to sign it, or it was so badly written that you could not make it out—and if you could not read the thoughts in your customer's mind, you could easily imagine them. Why should a physician do that? Why should he abbreviate his signature? It is as necessary as the names of the ingredients. Look at these signatures, and I am willing to wager that if those signatures be placed before the most intelligent professor at Oxford, Frankfort or Berkeley, and be their special branch the Hebrew, Greek or Chinese language or Egyptain, Aztec, Malay, or other hieroglyphics, they would not be able to decipher 10 per cent. True, most of these signatures were druggists become familiar with; but alas, we cannot be familiar with them all, and that is the very reason why each doctor should endeavor to write his name in full and in plain letters. I admire the lady doctor in this regard; if nothing is plain in her recipe, the signature is positively so.

I do not intend to criticize and individual doctor, nor ridicule him in any way; I am far from that. But it is a necessity for him to write plainly and carefully if he wishes to avoid mistakes.—*Prov. Cal. Phar. Society.*

THE PRACTICAL USE OF THE METRIC SYSTEM.

By JOHN E. GROFF, Ph. G., R. I. Hospital,
Providence, R. I.

It is difficult to sum up all the advantages coming from the use of a system in which the measures of length, capacity, gravity and expanse are all directly related to one another, and from any given one of which, all the others may be derived. Such advantages *do* exist, however, and are constantly making themselves manifest to those individuals using the system.

More difficult than the summing up of those advantages by those persons who know them, is the task of unlearning the *old* systems by those who would learn the new.

There is a large class who, for various reasons, know little or nothing of the metric system and its practical use. Many, calling themselves good, hard-headed business men, without disparaging the system in any way, will leave it alone until fairly driven into contact with it, *unless* they see money in it. They have neither the time nor the inclination for a thing that does not pay. In endeavoring to give a few hints concerning metric weights and measures and their practical use, it will be taken for granted that the reader has, or will, inform himself as to the origin of the unit of the system, and is at least aware of the exist-

ence of tables of weights and measures, and of the terms expressive of their multiples and subdivisions.

In the U. S. Pharmacopœia of 1890 we find that the terms gramme (abbreviated Gm.) and cubic centimeter (abbreviated Cc.) are the only terms used. Furthermore we find by reference to the table that there are a number of terms beside those just mentioned, which are *not* used in the Pharmacopœia. Let us consider *why* so many terms are given and so few used. In our system of money we have mills, cents, dollars, eagles and double eagles. A stock broker makes or breaks fortunes on the rise or fall in value of one *mill* per bushel of wheat. But although he owes so much to a *mill* per bushel, he never speaks of a mill by name. He says the tenth of a cent. Similarly he never speaks of eagles or double eagles, but applies the name dollar and numbers them by tens, hundreds and thousands. Just as in our monetary system we commonly discard the use of the terms mill, eagle and double eagle as being unnecessary and burdensome, so with the terms of the metric system, we reserve just those which are necessary to express such quantities as we ordinarily handle, rejecting, as liable to confuse, all the others.

If we were coal dealers we should find kilogrammes useful. If milk dealers, liters would be our measures, but as dispensing pharmacists, grammes and cubic centimeters are all we need. Ordinarily a physician writes for drams of solids and drams of fluids. The solids are weighed, the fluids measured. The *sign* used in both instances is the same, viz., $\bar{3}$ i. So also in the metric system, the cubic centimeter being the fluid measure of one gramme by *weight* of water, the same decimally written figure stands for either, as the case may be. Thus, by quinine— $\bar{1}$. and water— $\bar{1}$. we are to understand that one gramme of quinine is to be *weighed* and one cubic centimeter of water is to be *measured*. Grammes, then, and cubic centimeters are represented by the same figures. A. B. Taylor, of Philadelphia, in Oldberg's unofficial Pharmacopœia, suggested long ago, as a great help, the use of the terms grammes and *fluid* grammes, the same as we say *drachms* and *fluid* drachms.

In the fractional parts of grammes and cubic centimeters we also throw out as many terms as possible. We say milli-grammes or millicubic centimeters.

In writing a prescription on the plan adopted in this country, of *weighing* solids and *measuring* fluids, abbreviations of the terms become unnecessary.

Morphine sulphate..... 1
Water.....30
M. ft. sol. Dose, 5 M.

Here we understand one gramme of morphine sulphate is to be *weighed* and thirty fluid grammes or cubic centimeters of water are to be *measured*. It is as easy, surely, to weigh one gramme as it is to reduce it to grains and weigh them, and it is as easy to measure thirty fluid grammes or cubic centimeters as it is to reduce them to fluid drams and measure them, for the adoption of the system as the official standard should be followed by all those calling themselves good pharmacists supplying themselves with weights and measuring glasses to correspond. As soon as he has done this one great stumbling block has been removed, and he has no more *reducing* to do. There are two other difficulties. One is the trouble in learning to *think* in the new system; this is overcome by practice. The other is one which is likely to present itself to us for a long time to come, if not always, and that is that the common people who *take* the medicines will be directed to take them by drops, by teaspoonfuls, by tablespoonfuls, etc., etc. By *thinking* in the new system I mean that ability to tell by experience, how much we want. We say we want an ounce, or a pound or a pint of anything, because we are familiar with the bulk represented by those names. So in dosing, we understand that one grain is a certain small quantity and that 1/100 of a grain is a *very* small quantity, but when we are asked for a dose of one hundred and twenty milligrammes of quinine in thirty cubic-centimeters of whiskey, the figures have a dangerously big sound to the ear, for we are unfamiliar with them. There are two good ways to overcome this first difficulty. We *must* learn by heart a few comparative figures and then we must make use of some price list printed in the new system. Those of Squibb and Merck perhaps, one containing a price list at so much per Kilo, etc., and the other giving the doses in both systems, are two as good as can at present be obtained. I have found the following table of figures very helpful:

- 65 (Sixty-five milli-grammes) = 1 grain, about.
- 065 (Sixty-five milli-cubic centimeters) = 1 minim, about.
- 1. (One gramme) = 15 grains, about.
- 1. (One fluid gramme or one cubic centimeter) = 15 minims, about.
- 4. (Four grammes) (of 15 grains each) = 3 i, about.
- 4. (Four fluid grammes or 4 fluid centimeters of 15 minims each) = f 3 i, about.
- 30. (Thirty grammes) of 15 grains each = 3 i, about.
- 30. (Thirty fluid grammes or 30 cubic centimeters of 15 m. each) = f 3 i, about.

- 500. (500 grammes of 15 grains each) = 1 lb. Avoir., about.
- 500. (500 fluid grammes or 500 cubic centimeters of 15 m. each) = 1 pint, about.
- 1000. (1000 grammes or 1 kilogramme) = 2 lbs. Avoir., about.
- 1000. (1000 fluid grammes or cubic centimeters or one liter) = 2 pints, about.

It will be noticed that the figures are not exact equivalents, nor is it necessary. That is not the object. When that great pioneer in good pharmacy, Dr. E. R. Squibb, labels some of his preparations as containing *about* so-and-so, there is no inaccuracy implied. It is an honest acknowledgment that the nearest *practical* approach to perfection has been made. So with these equivalent figures; they are sufficiently near for all practical purposes. As an illustration, I take the following figures from two works in wide circulation and of recognized authority.* One gives approximate and the other accurate figures. One says morphine sulphate may be given in doses of one-eighth to one-fourth of a grain, or '008 to '016 (eight to sixteen milligrammes). The other says from one-twelfth to one-half grain, or '0054 to '0324 (five and four-tenths to thirty-two and four-tenths milligrammes). This latter would be something like saying from one-twelfth and four-tenths of a twelfth to one-half and four-tenths of a half grain for a dose.

See, too, how easy the fractional parts of a grain become:—

1 grain being the same as '065 (65 milligrammes); 1/4 grain is one-quarter of '065, which is '016 (16 milligrammes); 1/8 grain is one-eighth of '065, which is '008 (8 milligrammes); 1/16 grain is one-sixteenth of '065, which is '004 (4 milligrammes); 1/32 grain is one thirty-second of '065, which is '002 (2 milligrammes); 1/64 grain is one-sixty-fourth of '065, which is '001 (1 milligramme). So one-third of a grain would be '020 (20 milligrammes), and one-fifth of a grain would be '012 (12 milligrammes).

'001 (one milligramme) is the smallest metric weight which has a name. It is equivalent to one-sixty-fourth of a grain, and is as small a quantity as we ordinarily use. Occasionally, however, we do run across substances given in smaller doses than that even. In such cases we speak of them as fractional parts of a milligramme, and write them decimally, leaving the decimal point to be understood.

For instance, atropia is dosed at .0006 to .0012—which we read 6/10,000 to 12/10,000 milli-

* Remington's Pharmacy and Pharmaceutical Era Key
© U. S. P.

grammes. $\frac{6}{10}$ of a milligramme is $\frac{6}{10}$ of $\frac{1}{64}$ of a grain or $\frac{6}{640}$ or $\frac{3}{320}$ of a grain.

Duboisine is given in doses of from .0002 to .0004—two-tenths to $\frac{1}{10}$ of a milligramme. Two-tenths of a milligramme is $\frac{2}{10}$ or $\frac{1}{5}$ of $\frac{1}{64}$ or $\frac{1}{320}$. Four-tenths twice that much, etc.

Remembering by a not *very* great effort the above approximate figures; frequently consulting some price list printed in the metric system; granted a desire to be up to date on all the requirements which go to make up a ready pharmacist, and I know from experience that it will take but a short time for anyone to become practically familiar with the seeming puzzles of this system of weights and measures. I append several examples. The first one showing the necessity of being able to reduce from one system to the other owing to the dosing by teaspoonfuls:

Quinine sulphate, 4. = 60 grains; Strychnine sulphate, 0.30 = $\frac{1}{2}$ grain; Diluted sulphuric acid, 4. = 60 ℥; Distilled water to make 120. = 30 fl. 3. Dose: teaspoonful = fl. drachm.

Just as in adding up figures in a ledger we use lines in place of decimal points to insure a regular column, so in writing the metric figures lines are preferable to dots.

The equivalents are given at the right.

In reading the prescription we say 4 grammes of quinine sulphate, 30 milligrammes of strychnine sulphate, 4 fluid grammes or cubic centimeters of diluted sulphuric acid and 120 fluid grammes or cubic centimeters of distilled water.

The dose is one fluid drachm, which is 4 cubic centimeters. There are as many doses in the whole mixture as 4 cc. are contained in 120 cc. which are 30 doses. Then $\frac{1}{30}$ of 4 grammes of quinine is $\frac{1}{30}$ of 4 grains or 2 grains $\frac{1}{30}$ of 30 milligrammes of strychnia is 1 milligramme, which is about $\frac{1}{64}$ of a grain. The prescription is a safe one.

As an illustration of the uncertainty in the mind of a person not thoroughly familiar with the system, caused by the great difference in the figures standing for the same quantities, take the formula for opium pills:

Powdered opium..... 6.5 = 100 gr.
Soap..... 2. = 30 gr.

Make 100 pills.

Here is an opportunity to show one of the reasons for discarding the use of the *terms* deci and centi, in figuring. To obtain one-one-hundredth of 6.5 is easy enough, but to read 6.5 as six grammes and five deci-grammes, or as six grammes and one-half, and then obtain one-one-hundredth of it is not so easy. But we read it sixty-five hundred mille-

grammes, and one-one-hundredth of that number is sixty-five milligrammes 0.65, or one grain to each pill. But the figure 0.65 is very different from the figure 1 grain, and at first it is difficult to believe both are the same.

After all it comes to this: A careful reading of the subject as given in any of our standard books, a continual endeavor to *think* in the system, daily practice with the pencil, and in conversation with fellow-clerks about the store, are the ways leading to familiarity with the subject.—*American Druggist*.

CAMPHOR.

In our last report we called attention to the growing competition of the Formosa (Chinese) product in the camphor market. This variety has now become the one by which the course of the Japanese market itself is regulated, in spite of the strenuous opposition of the Japanese dealers. The exports from Hong-Kong (the chief emporium of Formosa camphor), have multiplied almost tenfold in the course of the last few years. In well-informed quarters the shipments from that port during the year 1893 are estimated at 30,000 piculs at least.

The following figures show that this increase has been at the expense of the Japanese trade:—

CAMPHOR EXPORTS FROM JAPAN.	
in 1893.....	23 821 Piculs
against	
in 1892.....	28,720 Piculs
in 1891.....	43,905 Piculs

The subjoined table shows the exports and price-fluctuations, for each month of the past year:—

CAMPHOR EXPORTS FROM HIOGO IN 1893.		
Month.	Quantity in Piculs (of 133¼ lbs.)	Price fluctuations in \$ per Picul
January	2125	56.— to 47.50
February	1090	47.50 " 56.25
March.....	2760	53.50 " 49.—
April.....	3713	49.50 " 46.25
May.....	2580	46.25 " 45.—
June	1832½	44.90 " 52.—
July.....	2275	52.— " 57.50
August.....	987½	55.— " 55.50
September	1745	52.50 " 53.75
October.....	1175	53.60 " 55.50
November	1300	55.50 " 55.75
December.....	1538	51.— " 48.—
Total 23,821 Piculs.		

The Japanese will no doubt be compelled to to regulate their quotations in accordance with those of the Chinese, otherwise the trade

in the drug may undergo further displacement of a character which must seriously affect the Japanese share of it.

The quotations of both varieties have declined about 35 per cent from the highest point reached by them about the middle of last year. The refiners owing to the continuous loss which they have suffered, have become distrustful of the article, and have for some time adopted a waiting policy. In view of the speculative nature of the business it is impossible to say when the decline will touch bottom.

According to recent information from Japan the manufacture of refined camphor is being pursued there with the utmost energy. Three refineries are already in active operation in the country, viz:—

1. That of Sumitomo, with a capacity of production of 40,000 lbs. monthly. This factory turns out 2 lbs. tablets and 1 oz. blocks.

2. Fuso-kunni refinery, which produces about 10,000 lbs. monthly in tablets of 2 lbs., 8 oz., 4 oz., 1 oz., and $\frac{1}{2}$ oz., and of 50, 25 and 10 gr.

3. The Japan Camphor Co., with a capacity of production of 10,000 lbs. monthly.

The first two are Japanese companies, the third an American concern.

During the year 1893, the two Japanese refineries exported about 183,000 lbs. to Europe and India.

We continue, as before, to manufacture a technically pure camphorin powder-form. This is sold in minimum lots of one case containing 25 or 50 kilos.—*Shimmel's Report.*

Gazogene Powders.

THREE PINT CHARGE.

Sodium bicarbonate.....	420 grs.
Acid tartaric.....	340 "

FIVE PINT CHARGE.

Sodium bicarbonate.....	640 grs.
Acid tartaric.....	520 "

EIGHT PINT CHARGE.

Sodium bicarbonate.....	1,280 grs.
Acid tartaric.....	1,040 "

PURIFICATION OF DRINKING WATER.—One part of peroxide of hydrogen added per thousand parts of water, *i.e.*, rather more than one drachm to the gallon is stated to effectually destroy cholera and thypnoid germs, etc. (*Ibid.*)

Bacilli in the Air.

I ask a glass of water or of claret or of beer;
I go to kiss a pretty maid—she turns away
with fear;
I eat some lemon jelly that's been standing on
the sill,
And they tell me all are loaded—that they're
warranted to kill.
I'm not much up in science, but I know a
thing or two;
I know that if I do not eat or drink or kiss a
few
Of those fashionable, dreaded germs I certainly
will die.
For I'd have to give up breathing to escape
the bacilli
Bacteria, bacteria! I'm not afraid of you—
The world will roll around the sun for all that
you can do;
So on pound notes, and papers and on kisses
and on food
Just hand me common bacilli—I'm not a
science dude.
And what's the use of living if you cannot eat
or drink,
If pretty girls and banker's notes and even
printer's ink
And country fairs and pencils are only other
terms
For the rapid transit system of the scientific
germs?

—*Bulletin of Pharmacy.*

THE PHARMACEUTICAL ASSOCIATION and the Montreal College of Pharmacy are sending a joint invitation to the American Pharmaceutical Association to hold their '95 convention in Montreal.

MR. J. E. MORRISON, Editor of the MONTREAL PHARMACEUTICAL JOURNAL, will represent it at the Asheville Convention of the A. P. A., and has also been appointed delegate of the Quebec Association and the Montreal College of Pharmacy.

AN APPLICATION FOR TOOTHACHE.—Chloralis hyd, gr. xxx.; Glycerini, ʒ ss.; Acid, carbolic, ʒ ss. A small piece of cotton-wool to be dipped in the solution, and placed in the cavity of the aching tooth.—B. H. BRØDNEX, in *Medical Press.*

WANTED.—Situation, by Graduate of Ontario; nine years' experience; strictly temperate; good stock-keeper, dispenser and salesman. Address: "Drugs," Box 310, Windsor, Ont.

The Secret of Chocolate.

Hance Brothers & White say: "Chocolate syrup made be made from first-rate breakfast chocolate. But the flavor of common chocolate is too poor for soda water; the time taken to separate the greasy cocoa-butter is prohibitory; besides, it costs more, not less. And if you use the finest Dutch cocoa, the cost is several times as much with no advantage in flavor over ours. Our chocolate is as fine as the finest; and costs just half as much. Packed in attractive, handy screw-cap canisters; 1 lb. can, 50c; 5 lb. can, \$2.50; 10 lb. can, \$4.25.

"We have given away the secret of fine chocolate; same as in everything else; the best raw materials manufactured for quality. Our fruit juices excel all others; expect the same of our chocolate.

"The secret of soda is plenty of ice, thin glasses, daintiness, courtesy; red Messina orange, cherry ripe, chocolate, pineapple and a lot more—all made for quality.

"If you have our merry cherry ripe you want our merry picture cards. Write for 'em. If you haven't cherry ripe you won't be merry till you have it. Everybody likes merry cherry ripe. When you get it be sure to get the merry cards."

If you want to know more about the secret of chocolate, write to Hance Brothers & White.

Have you their "Help at Your Soda Fountain." If not, they will send it to you on receipt of your postal.

Antirabic Vaccinations at the Pasteur Institute.

In the *Annales de l'Institut Pasteur* of March 25th, Mr. Henri Pottevin gives statistics of the antirabic inoculations performed in the Pasteur Institute of Paris during 1893. The total number of persons who went through the complete course of treatment was 1,648. Of these, 6 died of hydrophobia, in 2 of whom the first symptoms of the disease showed themselves less than fifteen days after the last inoculation and should therefore, according to Mr. Pasteur's contention, be excluded from the list of cases in which the treatment failed; this leaves a total of 4 deaths among 1,648 treated, a mortality of 0.24. Three persons were seized with hydrophobia during the inoculations; a fourth, who, in spite of all remonstrances, insisted on discontinuing the treatment, also died. As the treatment in these four cases was incomplete, they are not included either in the number of cases treated or in the deaths after inoculation. The statistics for previous years are as follows:—1886: total number of persons treated, 2,671, with 25 deaths, a mortality of 0.24 per cent.; 1887: total 1,770, 14 deaths, or

0.79 per cent.; 1888: total 1,622, 9 deaths, or 0.55 per cent.; 1889: total 1,830, 7 deaths, or 0.38 per cent.; 1890: total 1,540, 5 deaths, or 0.32 per cent.; 1891: total 1,559, 4 deaths, or 0.25 per cent.; 1892: total 1,790, with 4 deaths, or 0.22 per cent. The figures with those above given for 1893, make up a total of 14,430 persons treated during the last eight years with 72 deaths, being an average death rate of 0.50 per cent. Of the 1648 persons, treated in 1893, 1,470 were French and 178 foreigners. Among the latter the largest contingent (43) came from Spain; Greece stands second with 35; then comes England with 23 and Belgium with 22; Egypt furnishes 18 patients, British India 14, Switzerland and Holland 9 each, Portugal 6, Germany and Turkey 2 each, and Austria the United States, Brazil, Russia and Morocco, 1 each.—*Brit. Med. Journal.*

Copra Oil for Suppositories.

Copra oil is the name given an oil of high melting point which seems to consist of coconut oil freed probably by expression, from the liquid portions of the oil. It melts at 30.3°C. and congeals at 28°C (cacao butter melts 31 to 32° and congeals at about 23 C.) Copra oil is recommended as a succedaneum for cacao butter for making suppositories. It contracts considerably on congealing and thus is easily taken out of the moulds. Experiment showed that suppositories of copra oil were solid within ten minutes after being poured into the mould and had a polished surface whereas 50 minutes were required for solidifying the cacao butter suppositories. The method of making suppositories is the same with both oils. Copra oil will, it is said, take up 50 per cent of water. Copra is the name of the cut and dried coconuts imported from the South Sea Islands.—*Am. Drug.*

A Prominent Quebecker Dead.

One of the oldest and most conspicuous figures in Quebec public life, in the person of Dr. Riniere, M.P.P., was removed by the hand of death, at the age of seventy-six years. The deceased, who was a staunch Liberal, represented Quebec Centre in the Local Legislature from 1874 until the last general elections when he was defeated by Mr. Chateaufvert, and retired to private life, since which he has been ailing with the illness that finally carried him off. He was also a member of the City Council for nearly thirty years, sitting as alderman for St. John's ward, and filling the useful position of chairman of the civic health committee.

TRADE NOTES.

In Typhoid Fever.

Dr. Joseph D. Rush, reports favorably in *Virginia Medical Monthly*, two cases of typhoid fever, where results were obtained from the exhibition of Antikamnia and Salol.

1st. Female, aet. 24, married. Fever at end of seventh day reached 105° F. Calomel, sodium and quinia having failed, then gave R Antikamnia.

Salol.....aa. ʒ ss

M.—Make into twelve capsules. Sig.

—one every three hours.

This treatment for twelve days, secured convalescence. Alcoholic baths to the spinal column once a day, the diet being boiled milk and tea.

2nd. Male, aet. 13. Temp. 105°, same treatment, same result.

He concludes that salol as an internal antiseptic combined with the antipyretic qualities of antikamnia, promises all that can be desired in the treatment of low and continued fevers with bowel complications.

"Antikamnia and Salol Tablets" are put up in exactly the dosage as given above, each tablet containing 2½ gr. Antikamnia and 2½ gr. Salol, by The Antikamnia Chemical Co., St. Louis, Mo., which please specify.

NEW!

The center support is a new device put in the bottom of every tangle foot holder. It is a simple mechanism calculated to raise and support the center of the sheet of fly paper in the holder. A sheet thus raised will catch flies much faster than if it lies flat. The support can be lowered readily when desired to place the holders in piles.

Ten holders are placed in every case (one in each box) and are intended for presenting with every first liberal sale of tanglefoot from the box.

Every time you sell a case of tanglefoot, you have an opportunity to please ten customers by giving them gratis, just what they care for when buying fly paper. The careful dealer takes advantage of this.

The holders are protected by letters patent.

OUR readers will notice the advertisement of Messrs. Coutts & Sons, London, Glasgow and Manchester, in our columns.

As their acid cure is a well known remedy, having the endorsement of prominent prominent professional and civic magnates all over the world, we have no hesitation in introducing Acetocura to our readers. We have obtained a brief explanation of the method by which their remedy achieves its remarkable

curative results and have pleasure in submitting this:—We have no doubt that "Acetocura and Spinal System of Treatment" will be warmly welcomed throughout Canada.

The beneficial action of Acetocura in disease arises from two effects of the treatment. First, the acid, by virtue of its chemical affinity to the waste matter in the body combines with this and carries it off in gaseous vapour and greasy waste thus loading the capillaries and reducing congestion, thereby relieving the whole system. Secondly, as a stimulant, bringing an adequate supply of arterial blood to the nerve-centres in the brain and spinal cord, giving these healthy and renewed activity. *The reason for rubbing until a flush or smarting or both is produced on the skin, is that these effects prove that the pure life-giving blood has been brought to the nerve-centres and the skin. Congestion has been relieved and prolonging the rubbing for the time is unwise, as further application only makes the skin tender, and might possibly render the regular daily treatment, so necessary to the curative process impracticable.*

This succinct statement explains the action of Acetocura. We refer all interested in the treatment, and every druggist should be thoroughly acquainted with the rationale of an old established system of treatment like the Acid Cure, to the pamphlet issued by the firm who are sending a quantity as advertising matter to every druggist in Canada.

Now that Messrs Coutts have opened a branch establishment in Canada we may expect the Acid Cure to make a home here and achieve a ready and steady sale. It will no doubt be taken up by the medical profession and become as popular here as it is in the Old Country and Australia, as well as other parts of the world.

PHARMACEUTICAL NOTES.

CHRYSAROBIN VS. CHRYSOPHANIC ACID.—G. B. Schmidt states that these are not identical and criticises the synonymous use of the terms by the Pharmacopœia. Chrysophanic acid is described by Anouard as golden yellow klinorhombic prisms, melting at 162° C., nearly tasteless, insoluble in water, soluble in 224 parts of boiling 81 per cent. alcohol, or in 1125 parts of 30 per cent. alcohol. Soluble in acetic acid, chloroform and benzol, and readily soluble in alkaline solution to which it imparts a dark red color; with sulphuric acid it gives a red color, and with melted caustic potash a blue color. These reactions distinguishes it from chysarobin, which gives a yellow color with sulphuric acid and a brownish color with caustic potash.—(*Phar. Jour. and Trans.*)—N. E. Drug.

PRICES CURRENT.

JULY, 1894.

Acetum cantharideslb	\$0 60	
“ colchici cornlb	50	
“ ipecaclb	40	
“ opiilb	1 20	
“ scillælb	12	
Acetanilidlb	90	oz. 15
Acid. acetic glac.lb	50	demi 16 00 ea.
“ “ fort P.B.lb	15	carboy 11
“ benzoic Germanoz	15	lb 1.75
“ “ “ ozs. Hwds	25	Bulk 20
“ boraciclb	18	pulv. 20
“ butyric conc.oz	30	lb 3.75
“ camphorisoz	60	
“ carbolic No. 5 Cal.gl	1 50	
“ “ commongl	90	
“ “ cryst.lb	40	10 lbs 35
“ “ No 1 Calverts lb	2 25	
“ “ No.2 “ lb	1 40	
“ “ “ “		10 lb tins 1.10 lb
“ chromicoz	10	lb 1.00
“ chrysophanicoz	30	
“ citriclb	60	10 lb. 50
“ “ pulv.lb	65	
“ gallicoz	10	lb 1.25
“ hydro-bromic dillb	45	
“ hydrochloriclb	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		½ lb bottles .50 ea.
ceresine bottles)}		1 lb “ 1.25
“ iactic dilutumlb	1 15	
“ “ conc. pur.lb	2 75	
“ nitriclb	15	Wins. 12 carb
“ “ C.P. s.g.1.40. lb	30	Wins. 25
“ oleic pur.lb	45	
“ osmicgm	1 75	
“ oxaliclb	12	50 lb 10
“ perchloricoz	35	
“ phos. dilut.lb	17	Whr. qt. 14
“ “ cone S.G. 1.5. lb	50	
“ “ glac. pur stick. lb	1 20	
“ “ syr s.g. 1.750 lb	50	Whr. 45
“ picriclb	75	
“ pyrogallic Schering's oz	35	8 oz. 30
“ “ Merck's.oz	33	8 oz. 28
“ pyroligneouslb	10	gall 50
“ salicyliclb	1 50	
“ sulphuriclb	5	carboy 2½
“ “ C.P. s.g.1.84. lb	25	Wins. 20
“ “ pur Eng	20	Wins. 18
“ “ aromat.lb	65	
“ sulphuroslb	12	
“ tanniclb	80	5 lb 75
“ tartaric pulvlb	35	10 lbs 30
“ valerianicoz	40	
Aconitina exot.gr	4	60 gn. 3
Adeps benzoatuslb	35	
Æther S. G. 735lb	40	Whr. qt. 35
“ aceticlb	55	do 50
“ butyricoz	15	lb 1.50
“ chloriclb	65	Whr. qt. 30
“ 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.



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.

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.

Price \$8.20 per doz. less 5 p.c.

The Great South American Rheumatic Cure

for Rheumatism and Neuralgia absolutely cures in from one to three days.

Price \$6.10 per doz. less 5 p.c.

The Great South American Kidney Cure

relieves Distressing Kidney and Bladder Diseases in six hours, and speedily effects a cure.

Price \$8.20 per doz. less 5 p.c.

Alcohol absolutlb	1 00	Wr. 9"	
" methylatedgal	2 00	5 gals 1 90	Br. 1.70
Aloes Barb opt.lb	30	10 lb 25	cash
" pulvlb	35	do 32	
" Capelb	15	10 lbs 13	
" Cape pulvlb	25	do 23	
" Socotrinalb	60	do 55	
" pulvlb	70	do 65	
Aloinoz	30		
Alumen lumplb	3	brl 1 $\frac{1}{2}$	
" pulvlb	4	brl 2 $\frac{1}{4}$	
" chromlb	15		
" exsicclb	20		
Alumol25 gm	50	each	
Ammonii benzoas, from gum oz	25	lb 3 00	
" bromidlb	65		
" carblb	15		
" kegslb	11		
" pulvlb	20		
" resublb	55	c. b.	
" chloridlb	12	100 lb 10 $\frac{1}{2}$	
" granlb	12	100 lb 1 $\frac{1}{2}$	
" pulvlb	13		
" purlb	25		
" hydrosulph sollb	40		
" hypophosphoz	25	lb 3 00	
" iodidoz	45	lb 5.50	
" molybdasoz	25		
" monocarblb	35		
" nitras granlb	3 $\frac{1}{2}$	25 lb 30	
" cristlb	35	25 lb 30	
" oxalas purlb	75		
" phosphlb	1 25		
" salicylatoz	40	lb 4.75	
" sulphas comlb	9	pur 25	
" valerianoz	40		
Amygdala amaralb	50		
Amyl nitrasoz	15		
" nitriteoz	15		
" valerianoz	35		
Amylum pulvlb	9	wt. 8	
Annatto Hispan optlb	10		
" Fullwood $\frac{1}{2}$ oz & 1 oz lb	1 00		
Antim crocus pulvlb	20		
" nigrum pulvlb	12	50 lb 10	
" oxidlb	65		
" sulphurat preciplb	50		
" tartarat pulvlb	45	10 lb 42	
Antikamniaoz	1 30		
Antipyrin Knorrs'oz	1 10	5oz 1.05 10-25oz 1.00	
" Swissoz	1 00	5 ozs. .95 10-25oz 90	
"lb	12 75		
Apiol greenoz	65		
Apomorph hydrochgr	2	5 and 10 grain tubes.	
Aqua anethilb	10		
" anisilb	10		
" aurantii flor triplb	25	Win qt 20	
" camphlb	10		
" caruilb	10		
" cassialb	10		
" cinnamlb	20		
" destillatagl	12	carboy 10	
" floridaegl	5 00		
" lauro cerasilb	25	Whr qt 20	
" mentha piplb	10		
" roselb	25	Whr qt 20	
" sambuci florlb	25		
Argenti chloridumoz	2 50		
" iodideoz	2 50		
" nitras cryst. L. B & Co. oz	85	3.50 lb cash	
" fus (4 to oz) oz	1 00		
" oxidumoz	2 40		
Aristoloz cartons	1 85		
Arsenicum alb. pulvlb	10		
" rublb	15		
Arsenic bromidoz	40		
" iodidoz	60		

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, Canada.

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 any properties.

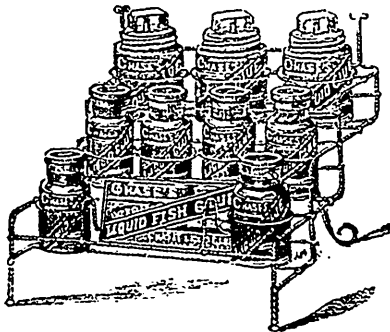
Stearns's Wine may be used in all cases where Cod Liver Oil and Iron are indicated, and furthermore it is devoid of all the objectionable features hitherto attending the administration of Cod Liver Oil in any form.

Sold by all prominent
Wholesale Drug-houses.

FREDERICK STEARNS & CO.
[MANUFACTURERS, PHARMACISTS,
DETROIT, MICH., WINDSOR, Ont.
AND NEW YORK CITY.

Arsenici tersulph pulv.....lb	25		Cantharides Chinese..... lb	—	pulv. 75
Asphaltum exot. lb	15	100 lbs 12	Cantharidine.....grain	8	
Atropina pure.....dr	80	oz. 4 00	Cap papav. alb.....100	1 00	
Atropinæ sulphas.....dr	80	oz 4 00	Carbo animalis pur pulv...lb	12	
Auri chloridum (15 gr).....doz	4 00	3 doz 3.75, 6 doz 3.10	“ ligni.....lb	6	
“ “ L B & Co.doz	4.25		“ ligni pulv.....lb	10	brls 5.50 each
Baccæ aurantii.....lb	25		Carbon bisulphidum.....“	20	Whr qt 15 drums
“ capsici.....lb	25	pulv. 30	Carbamine.....oz	40	lb 5 25
“ cassiæ.....lb	35	pulv. 40	Caryophyllum, Zanzibar...lb	18	22 Pulv.
“ cubebæ.....lb	60		“ Amboya....lb	25	
“ “ pulv.....lb	65		“ Penang....lb	50	
“ juniper.....lb	8	10 lb 7	Cassia fistula.....lb	30	
“ juniper pulv.....lb	12	10 lb 11	Castoreum.....oz	1 40	
“ xanthoxylon.....lb	50		Celloidine Schesing's.....oz	1 20	
“ 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	40	Winch. 35	“ “lb	18	50 lb 13
“ copaibæ.....lb	75	Whr. qt. 70	“ flav opt.....lb	40	secs 35
“ peruvian.....oz	25	lb 3.60	“ “ lithographers.....lb	60	
“ tolu.....lb	60		Cerii oxalas.....oz	10	lb 1.20
Barii carb pu.....lb	35		Cetaceum.....lb	55	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	10 lb 80 Whr. qt 65
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	90	5 lb 85
Beberinæ hydroch.....dr	50		“ “ blue label..lb	90	
Beberinæ sulphas.....oz	90		“ Merck 1 s.....lb	65	
Benzine refined.....gal	40		“ “ 28-lb tins...lb	55	
Benzoyl Guaiacol.....oz	2 00		Cinchonidin sulph.....oz	15	Hds. 20
Bismuthi Benzoas.....oz	1 00		Cinchoninæ murias Hds....oz	18	
“ carb.....lb	2 75		“ sulphas “.....oz	18	
“ citras.....oz	20		Civet.....dr	1 00	
“ et ammon-cit.....oz	35	lb 4.50	Cocaine hydrochlor crys...oz	6 50	Merck's 7.00
“ salicylas.....oz	25		“ phenate.....qt	10	
“ sulgallas.....oz	35		Cocculus Indicus.....lb	10	pulv 20
“ subiodid.....oz	50		Coccus cacti S. G.....lb	40	pulv 45
“ subnitras.....lb	1 90		Codeina pure.....dr	90	oz 6 50
“ valerian.....oz	50		“ Phosphate.....dr.	1 25	
Bismuthum (metal).....lb	3 25		“ Sulph.....dr.	90	oz 6.00
Bole armen.....lb	6		Colchici corm.....lb	30	
Borax.....lb	11	keg 9	Colloidium.....lb	65	
“ pulv.....lb	12	do 10	“ vesicans, P. B....lb	2 25	
Bromine.....oz	20		“ flexile.....lb	65	
Bromoform.....oz	30		Colocynthis Turc select....lb	60	pulv 35
Cadmium.....oz	15	lb 1.80	Confectio rosæ Gallic.....lb	50	
Cadmii bromid.....oz	20	lb 2.25	“ sennæ.....lb	40	
“ iodid.....oz	45		Cortex aurantii Ang.....lb	70	
“ sulphas.....oz	20		“ “ coml.....lb	15	
Caffeina pur.....oz	25	lb 3 50	“ “ opt ¼ s.....lb	20	
“ citras.....oz	25		“ canellæ.....lb	20	pulv 25
Calamina præparata.....lb	7		“ cascara sagrada.....lb	25	
Calci bromid.....oz	20	lb 2.25	“ cascariilæ.....lb	25	
“ carb. præcip.....lb	25	V. Creta precip.	“ cassiæ.....lb	13	pulv 18, 25lb box 16
“ chlorid. cryst.....lb	25		“ cinchov flav.....lb	90	pulv. 1.00
“ “ fustum pure..lb	30		“ “ coml.....lb	30	pulv. 35
“ “ fused crude..lb	15		“ “ rjb quill.....“	60	pulv. 70
“ hypophosphis.....lb	1 40		“ granat fruct.....lb	20	
“ iodid.....oz	50		“ “ radices.....“	60	
“ lactophosph.....oz	15	lb 9 00	“ limonis ang opt.....“	65	
“ nitras.....lb	75		“ “ com.....“	16	
“ phosphas præcip.....lb	20		“ mezerei.....“	25	
“ sulphas.....lb	4		“ myricæ (bayberry)....“	20	
“ sulpho-carbolas.....lb	2 50		“ pruni virginianæ.....“	15	20 lbs 12
“ sulphid.....lb	50		“ quillaiæ.....“	15	grd. 20 pulv. 25
“ sulphis.....lb	18	pulv. 20	“ sassafras.....“	15	pulv. 22
Calx chlorinata.....lb	5	keg 4 brl. 3	“ ulmi.....“	16	pulv. 16 grd 14
“ “ in packets 1 lb	7 ½	8 ½	Creolin, Pearson's.....“	60	litrs bot. 1 10 each.
Camphora Ang. Hyd's.....lb	60		Creosot. Ang (Morson's)....oz	20	lb 2.00
“ “ ozs.....lb	65		“ (Beechwood) Merck's lb	1 50	Whr. 1 35
“ “ flowers,lb	80		“ (Beechwood) French lb	2 75	
“ Dutch.....lb	55		“ white, from coal tar..lb	75	
“ “ ozs.....lb	60		“ Carb.....oz	1 00	
Camphor monobromid.....oz	20		Creta gallic.....lb	18	
Cantharides Russian.....lb	1 40	pulv. 1 50	“ “.....lb	5	bgs. 3 ½

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.,

MONTREAL.

Or from the trade.



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.,

10 Agence, 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 all pain, cures all Wind Colic, and is the best remedy for Diarrhoea. Retail price 25cts a Bottle. THE ANGLO-AMERICAN DRUG CO., Proprietors, 217 Fulton Street NEW YORK, N.Y.

Brown's Bronchial Troches

As 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 L. BROWN & SONS, Proprietors, 185 Summer 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., L'd, Proprietors, 217 Fulton Street, NEW YORK, N.Y.

Brown's Household Panacea.

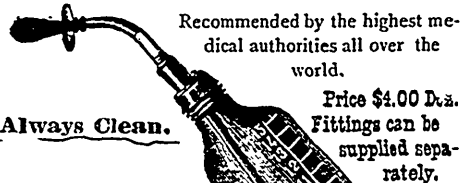
Unequaled for relieving pain—both internal and external. Stronger than any similar preparation and invariable as a household remedy for speedily relieving aches and pains. Retail price, 25 cents a bottle. THE CURTIS & BROWN MFG CO., L'd, Limited, 217 Fulton Street, NEW YORK, N.Y.

Brown's Camphorated Saponaceous Dentifrice.

A superior and most agreeable article for Cleaning and Preserving the Teeth and purifying the Breath. Used daily it prevents trouble from bad teeth and soft gums. Retail price, 25 cents a bottle. Prepared by JOHN L. BROWN & SONS. THE CURTIS & BROWN MFG CO., L'd, 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.

Price \$1.00 Dca.
Fittings can be supplied separately.

Always Clean.

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

FOR SALE BY ALL WHOLESALE DRUGGISTS.

THE CANADIAN CAPSULE CO TORONTO

For General Excellence in MANUFACTURE OF

Crystaline Gelatine Capsules

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

MANE BY THE CANADIAN CAPSULE CO TORONTO

TRADE MARK

SIZES & QUANTITIES

NO 00	6 GRS	DRY POWDER
NO 0	10 GRS	FILL MASS
NO 1	15 GRS	DRY POWDER
NO 2	20 GRS	FILL MASS
NO 3	25 GRS	DRY POWDER
NO 4	30 GRS	FILL MASS
NO 5	35 GRS	DRY POWDER
NO 6	40 GRS	FILL MASS
NO 7	45 GRS	DRY POWDER
NO 8	50 GRS	FILL MASS

Creta præcip	lb	10	5 kg 8
" præparata	lb	5	50 lbs 4
Crocus stigmat 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	
Cuprum scales.....	lb	40	
Curare.....	grain	6	
Currie powder.....	lb	35	
Cuaso "	oz.	10	
Damiana.....	lb	40	
Daturine, pure xtls	gr	10	
Dextrine, white.....	lb	10	50 lb 8
" yellow.....	lb	9	" 7
Diapente.....	lb	30	
Diatase.....	oz	1	25
Digitaline.....	½ oz	50	each
Diuretin "Knoll"	oz	1	75
Dolichos pruriens pubes.....	oz	60	
Dubosin, pure Amp 5 gr. tube		60	each
" sulphate	gr	12	
Eikonogen.....	25 gm. tins	40	each
Elaterium.....	dr	35	
Ergota.....	lb	90	pulv. 1.00
Ergotinum Bonjean.....	oz	75	
Ergotine Bonjean Gen. 30 gm		2	00
Eserine sulph 5 or 10gr. tube.gr		10	
" salicylate, 5 gr. tube gr		10	each
Ethyl, Benzate.....	oz	40	
" Bromide	oz	35	
" Butyric.....	oz	15	
" Chloride	tubes	35	each
" Iodid.....	oz	75	
" Oenanthylate.....	oz	1	00
" Succinate.....	oz	60	
" Valerian.....	oz	50	
Eucalyptol.....	oz	25	lb 3.00
Europen	oz	2	00
Exalgine	oz	1	25
Extract. accon. (rad aloo.)... 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 2.50
" " acet.....	oz	15	lb 2.00
" colocynth co.....	oz	25	lb 3.00
" " pulv.....	oz	20	lb 2.50
" conii P.B.....	oz	20	lb 2.00
" conii pulv.....	oz	20	lb 2.50
" copalibæ resin	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	3	75
" " pulv.....	lb	0	75
" hellebor nig.....	oz	25	
" hematoxyli.....	lb	30	
" hyoscyam.....	oz	20	lb 2.5. 0
" hyoscyam aqnos	oz	10	lb 1.00

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 anti-septic. Can be readily formed into Bandages, Pads, Tampons or any desired form of dressing

Is a substitute for
GAUZE,
COTTON,
BANDAGES,
NAPKINS,
SPONGES,
TOWELS,
etc., etc

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 Lint.

Order from your 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 : 1-lb. Bottles. per dozen, \$4.80
 : 5- " 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 SÈVRES, FRANCE.

Pharmacien de l'école Supérieure de Pharmacie de Paris.

Eucalyptol, Eucalyptol Gaiacolé, Eucalyptol Gaiacolé et
 Iodoformé, Eucalyptol Créosoté, Eucalyptol Iodoformé,
 Eucalyptol à l'Hélénine, 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 hyoseyam pulv.....oz	25		Ferri sulphhs, pur.....lb	7	1 lb 6
“ “ exot.....oz	15	lb 1.50	“ sulphid.....lb	15	
“ ignatia amara.....oz	60		“ valerian.....oz	25	
“ ipecac acetic.....oz	1	50	Ferrum dialyzatum.....lb	40	
“ jaborandi.....oz	60		“ redactum.....lb	75	
“ jalapa.....oz	25	lb 3.50	“ tartaratum.....lb	80	10 lb 75
“ “ pulv.....oz	35		Flor. anthem. opt. French..lb	35	
“ krameria.....oz	25	lb 3.50	“ “ Roman.....lb	30	
“ lactuca.....oz	20	lb 2.20	“ “ German.....lb	30	
“ logwood.....lb	11	(15 & 30 lb boxes)	“ arnica.....lb	25	
“ logwood 1 lb pkts..lb	15	(30 lb boxes)	“ lavand.....lb	15	pulv. 25
“ “ ½ lb pkts..lb	16	“	“ rosa gall.....lb	1	75
“ “ ¼ lb pkts..lb	17	“	“ “ white.....lb	75	
“ “ asst. pkts..lb	16½	“	Folia aconiti.....lb	25	pulv. 40
“ lupuli.....oz	25	lb 3.00	“ belladon.....lb	25	pulv. 35
“ malt.....oz	25		“ buchu.....lb	20	
“ mezerei aether.....oz	60		“ coca green.....lb	50	
“ nucis vomic.....oz	40	lb 5.40	“ conii.....lb	20	pulv. 35
“ “ pulv.....oz	40		“ digitalis.....lb	20	pulv. 35
“ opii.....oz	90	lb 13.50	“ eucalypti glob.....lb	18	
“ “ pulv.....oz	1	00	“ hyosey. exot.....lb	25	powd. 40
“ “ liquid.....lb	1	25	“ jaborandi.....lb	90	
“ papaveris.....oz	16	lb 2.25	“ matico.....lb	40	
“ physostigmatis.....oz	2	00	“ pulegii.....lb	20	
“ podophylli.....oz	25	lb 3 00	“ sennæ alex.....lb	60	
“ quassia.....oz	20	lb 2.40	“ “ tenny.....lb	20	15, bale 16, 12.
“ rhamni frang.....oz	50	lb 5.00	“ “ “ pulv.....lb	25	
“ ramni pulv.....oz	40		“ uvæ ursi.....lb	12	
“ sarsæ jam.....oz	30	lb 4.00	Fruct. anethi.....lb	30	
“ rhei E. I.....oz	2½	lb 3.50	“ anisi German.....lb	15	
“ sarsæ jam co.....oz	28	lb 3.25	“ “ pulv.....lb	20	
“ sarsæ hond co.....oz	20	lb 2.75	“ “ Star.....lb	45	
“ stramonii fol.....oz	20	lb 2.50	“ capsici.....lb	27	10 lbs 25
“ stramonii pulv.....oz	25	lb 3.00	“ “ pulv.....lb	30	“ 28
“ taraxaci.....lb	50		“ carni.....lb	12	“ 11
“ valerian.....oz	15	lb 2.00	“ “ canad.....lb	11	“ 10
“ veratri viride.....oz	45		“ carui pulv.....lb	18	
Faba physostigmatis.....lb	50		“ conii.....lb	30	
“ tonca para.....lb	1	00	“ coriandri.....lb	10	bag 7½
“ “ surinam.....lb	1	75	“ “ pulv.....lb	18	
“ “ angostina.....lb	2	75	“ fœniculi.....lb	15	pulv 20
“ vanille, short.....lb	3	00	Fuller's earth.....lb	4	100 lb 3
“ “ medium.....lb	5	00	“ “ pulv.....lb	6	100 lb 5
“ “ 7½ in.....lb	6	50	Gadual.....oz	40	
Fehling's solution.....lb	1	00	Gallæ cœrulæ.....lb	28	bag 25
Fel bovinum purificat.....oz	20	2.00 lb	“ “ pulv.....lb	30	grd 28
Ferri ammon chlorid.....lb	80		Gasoline, 76°.....gal	60	
“ “ persulph(iron alum) lb	40		Gelatine, black label.....lb	35	10 lb 30
“ “ protosulph.....lb	25		“ bronze label.....lb	40	“ 35
“ “ tartaras.....lb	75		“ silver “.....lb	45	“ 40
“ arsenias.....oz	15	lb 1.60	“ gold “.....lb	60	“ 55
“ bromidum.....oz	20	lb 2.00	“ pink gold label..lb	75	
“ carb. precip.....lb	15		Glue, black.....lb	12	
“ carbonas sacch.....lb	30		“ amber.....lb	15	
“ citras soluble.....lb	65		“ white.....lb	20	
“ et ammonii citras.....lb	70		“ cooper's.....lb	39	
“ et quin. cit., 4%.....oz	15		Glycerine (double dest)1260deg lb.	20	6 lb tin 15 case 14
“ “ “.....lb	1	75	Glycerine Price's.....lb	70	W. qt. 65
“ “ 10%.....oz	20		Grana paradisi.....lb	20	
“ “ “.....lb	2	50	“ “ pulv.....lb	30	
“ “ P. B.....oz	22		Guaiaicol.....oz	80	
“ “ “.....lb	2	75	“ benzoate.....oz	1	50
“ “ Hd's.....oz	25		“ carb.....oz	1	75
“ “ amorph.....oz	15		Guarana pulv.....lb	3	00
“ “ “.....lb	1	75	Gum acacia turc elect.....lb	65	
“ “ et strych. cit., oz	35		“ “ med.....lb	50	
“ “ “ Hd's, oz.	40		“ “ sorts.....lb	35	
“ et strychn. citras 1%.....oz	15	10 oz 13 lb 1.75	“ “ pulv.....lb	75	
“ hypophosphis.....oz	20	lb 2.50	“ ammon in gutta.....lb	50	
“ iodide.....oz	40		“ asafœtid. opt.....lb	45	sec. 35
“ lactas.....lb	75		“ “ pulv.....lb	40	
“ perschlorid.....lb	35		“ benzoin opt.....lb	75	
“ phosphas.....lb	85		“ catechu nig.....lb	12	20 lb 11 pulv 25
“ pyrophosph.....lb	80		“ catechu pallid cubes..lb	16	10 lb 15
“ succinate.....oz	35		“ copal.....lb	1	00
“ sulphas commercl.....lb	2	brl 90 gross	“ damar.....lb	30	
“ sulphhs exsic.....lb	9		“ elemi.....lb	45	

SHIRLEY'S No. 42 MENTHOL CONE

admittedly the best selling 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 "
41c 1/ " " 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 aconr 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 " 2/5 "	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 & CO., Board of Trade Building, **MONTREAL.**



The trade supplied with free samples and other advertising matter prepaid by addressing . . .

D. DENSMORE & CO.,

271 QUEEN ST., EAST,

TORONTO, Ont.

Gum euphorb. pulv..... lb	40	
“ galban opt..... lb	3 50	
“ gambogia..... lb	1 05	pulv 1 20
“ gnaiaei..... lb	65	Sec. 40 pulv 50
“ juniper..... lb	45	
“ kino..... lb	1 50	pulv 1 60
“ mastiche select..... lb	1 00	
“ myrrh. turc opt..... lb	70	
“ “ “ sorts..... lb	45	pulv 65
“ olibani..... lb	25	
“ sang. dracenis..... 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
“ storax liquid.....	50	
“ “ dry..... lb	50	
“ thus..... lb	15	
“ tragacanth Ribbons..... lb	90	
“ “ Alleppo opt lb	75	
“ tragacanth Alleppo No. 2. lb	60	
“ “ pulv. opt. lb	90	
Gun cotton.....	70	1 oz box
Hæmogallol, 10 gm. vials....	50	each
Hgæmol “ “ “.....	35	“
Homatropine Hydrobrom..... gr	30	
Humulus lupulus..... lb	20	assorted 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	
“ “ a la vapeur lb	1 50	
“ sulph flav..... lb	1 50	
“ “ alb..... lb	90	
“ “ c sulph..... lb	1 00	
“ tannas..... oz	35	
“ ammon..... lb	1 20	
“ c. creta..... lb	60	
“ oleas..... 5% lb	55	
“ “ “ 10% lb	65	
“ “ “ 20% lb	80	
Hydrargyrum..... lb	80	10 lb 70
Hydrastine alcaloid C.P..... dr	50	
“ hydrochlor C.P. gr	90	oz. 6 00
Hydrastinine mur..... gramme	1 25	
Hydrochinone..... oz	35	lb 4.50
Hydrogen peroxid, Peuchot's. 1 lb		doz 8 00
“ “ “ “ ½ lb		“ 6.00
“ “ “ “ ¼ lb		“ 4.50
“ “ Coml..... lb	35	
Hyoscine, hydrobrom, 5 gr. tub. 1	75	each
Eyoscyamine..... gr	25	sulph gr 35
Hypnal..... dr	40	
Hypnon, pure..... oz	1 50	
Ichthyoc. inc. Brazil..... lb	2 40	
“ “ “ oz packets	1 80	dozen (Grid'ey's
“ “ Russian..... lb	5 00	
Ichthyol, Merck's..... oz	40	½ lb 5.50 lb
		½ lb 5.25 lb
		½ 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



PENNYROYAL WAFERS

33 1/3 % PROFIT.

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.

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

THE ● ● ● ● ● ●

Royal
Canadian
Perfumes.



Attractive Lines for the
XMAS TRADE.



Our travellers will visit you shortly with a full line of the
above

Do not buy elsewhere until you have seen them.

LYMAN, SONS & CO.,


MONTREAL.

Iodum resub.....oz	40	lb 5.25
Jalapin ang.....oz	1 00	lb 13.50
Kaussia.....lb	60	
Koussou.....oz	10	
Kava Kava.....lb	90	
Lactopeptin ozs.....doz	8 50	
" ½ lbs.....lb	10 50	
Lactucarium ang.....oz	70	
Lanolin.....lb	85	
Lapis calam. præp.....lb	7	
Lapis pumicis select.....lb	8	ordinary 6
" " pulv.....lb	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 16 1-5 lb	35	25 lbs 30
" Y & S. stick.....lb	35	
" Pellets Y. & S.....lb	40	
" " 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	
Liquor ammon. acet conc.....lb	35	
" ammon fort s. g. 880lb	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	"
Lupulinam.....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	
" " " bots	65	
Magnesii carb levis 1 oz 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

Maltopapsin ½ lb bots..... lb	5 85	
" " bots..... doz	6 85	
Maltose xtls.....oz	1 50	
Mangan chlorid.....lb	50	
Magaense hyphospdite.....oz	30	
" 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	55	lb 8.00
Morphinæ acetæ.....oz	1 70	10 ozs. 1 60
" hydrochloras.....oz	1 70	" 1.60
" sulphas.....oz	1 80	" 1.70
Moschus, in grain..... dram.	5 50	4.50 3.50
Myrtol.....oz	1 00	
Naphtha mineral.....lb	50	
Naphtha vegetable.....lb	60	
Naphthaline resublimed.....lb	30	
Naphthol Beta.....oz	10	lb 1 .40
" Bengoate.....oz	40	
Nickel sulph. crys.....lb	75	
" ammon. sulp.....lb	35	
Nux. zereca select.....lb	20	pulv 35
" kola.....lb	50	
" myristicæ (limes).....lb	90	pulv 1.00
" " opt. (unlimes) lb	1 00	
" vomica.....lb	12	pulv 25
Olio Resin Capsici.....oz	85	
" Cubeb.....oz	50	
Ol. absinth.....oz	30	lb 4.00
" amygd. dulc.....lb	50	Whr. qt. 45
" essent. sine acid.....oz	50	
" 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	
" cassiæ.....lb	1 50	
" cedri opt.....lb	75	Whr. qt 70
" chaulmoogra.....oz	20	
" cinnamomi ver.....oz	1 70	
" citronellæ.....lb	80	bot. 70 lb
" cocoanut.....lb	15	
" cognac.....oz	1 75	
" cologne.....oz	60	
" conii.....spruce.....lb	70	Whr. qt. 65
" copaibæ.....lb	1 25	
" coriandri.....oz	70	
" crotonis.....oz	10	bot. 1.20 lb
" cubebæ.....oz	40	
" cymini.....oz	50	
" erigerontis.....lb	3 25	
" eucalypti.....lb	1 25	
" feniculus dulc.....lb	1 50	
" gaulther.....oz	25	lb 3.00
" " synthetic.....lb	2 00	
" geranii rox.....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	
" lavend exot.....lb	3 50	sec 2.50 1.50
" limonis super.....lb	2 00	copper 1.50
" 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	

WILSON'S FLY PADS Always give satisfaction.

NO OTHER FLY POISON has ever had such a sale in Canada.



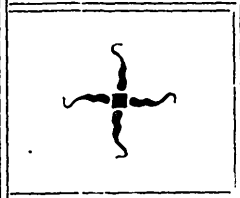
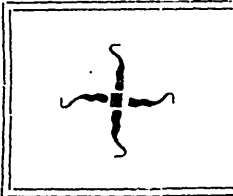
**FLIES
10 CENTS
PER BUSHEL**

READ THIS

Dear Sir, St. Marys, August 3rd, 1892.
The following may be of use to you: "A customer of mine, who keeps a butcher shop in this town, bought a 10 cent package of your Fly Pads from me and in ten days killed over A BUSHEL MEASURE OF FLIES." Yours truly,
F. G. SANDERSON.

IT WOULD TAKE OVER
300 SHEETS OF STICKY PAPER
TO HOLD THIS BUSHEL OF FLIES

WILSON'S
FLY PADS
SOLD BY ALL DRUGGISTS



No other FLY POISON kills Flies in such quantities.
Beware of cheap imitations.

WILSON'S FLY PADS AFFORD RETAILERS A LARGE PROFIT.

SOLD BY ALL WHOLESALE DRUGGISTS. —————

Ol. menth viridoz	25	lb 3.50
" morrhuae Norweggl	1 50	
" " Nfld. by Norweg. process } " myrbanelb	1 00	kegs 18 gals 90
" myristicaeoz	30	Whr. qt. 25
" neatsfoot, palegl	1 10	bot. 25
" neroli, opt.oz	4 00	
" olivæ sublime saladgl	2 50	
" olive sublime salad 1 gal	original tins incl. 2.50 each.	
" " greengl	1 40	brl. 1.20
" " " optgl	1 50	brl. 1.35
" " yellowgl	1 40	brl. 1.15
" " yellow optgl	1 50	brl. 1.25
" " (Salad American) gl	1 00	brl. 85
" origanilb	35	
" " Sec.lb	50	Winch 45
" palmae selectlb	15	
" patchouli opt.oz	75	
" petit. granoz	75	Sec. 45
" picislb	12	Whr. qt. 10
" pimentaoz	25	lb 3.20
" pini silvestrislb	1 50	
" palegii hed.lb	2 25	
" rapiigl	1 00	
" rhodiioz	80	
" ricini E. I.lb	11	case 8 tins 9
" " Gal water palelb	12	brls 8 1/2
" " Virginlb	15	tins 13
" " Ital.lb	20	tins 18
" rosmarini exot.lb	70	W. qt. 65
" rutaoz	25	
" sabinaelb	1 30	
" sambuci vir.lb	30	
" santali ang.oz	50	lb 7.50
" " " W.I.oz	40	lb 5.00
" sassafraslb	70	Whr. qt. 65
" sem. santon.oz	25	lb 3.20
" sesamegl.	1 35	cask 1.25
" sinapis essent.oz	65	lb 8.50
" sperm.gl.	2 00	
" spikelb	25	
" succin. rectlb	65	Whr. qt. 60
" tanacetii optoz	30	lb. 4.25
" terebinthinaelb	50	
" terebinthinae coml.gl.	65	
" theobromatislb	55	(tablets)
" valerianoz	1 00	
" verbenaeoz	10	bot. 9
" vinioz	25	lb 3.50
" ylang-ylangoz	7 00	
Opium Turc.lb	4 00	
" " pulv.oz	40	lb 5.25
Oz sepiælb	25	select 40 pulv 35
Otto rosæ comb.oz	6 50	
" virginoz	9 00	opt 11.00
Panc'reatine, Morson'soz	1 00	
" Merck'soz	50	
" absoluteoz	75	
Papoidoz	3 25	
Paraffinum durumlb	20	50 lb 15
Parald hydeoz	20	lb 2.25
Paris Green100 lb irons	14	
" " 25 lb "	15	
" " 1 lb tins	18	
Pellaterine Tannategm	45	
Pepsinlb	225	
" pur. sol pulv. Merck'slb	3 00	
" Merck's scaleslb	5 00	
" ang. coml.oz	30	lb 3.50
" Boudault'soz	1 20	
" medicinal Morson'soz	85	
" porci Morson'soz	2 25	
" saccharoz	25	lb 3.50
" Jensen's scales "oz	1 25	
" Armour'soz	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. LYMAN, 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.	CARTER'S LITTLE LIVER PILLS.
—o—	
SMALL DOSE.	
—o—	
SMALL PRICE.	
A POSITIVE CURE FOR SICK HEADACHE.	

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.**



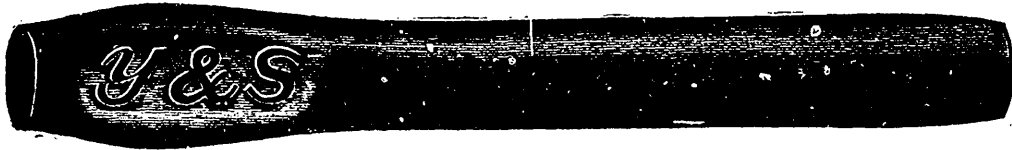
Successors to

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 Barbados..... lb	15				
Petroleum, see Lucilline					
Phenacetine Bayer..... oz	35	lb 4.75			
Phenocol..... gm	25				
" Hydroch..... 25 gms	1 50				
Phenolphthalein..... oz	1 00				
Phosphorous... 11 lb tins.. lb	85	1 lb bots 1.00			
Pil. hydrarg..... lb	70				
Pilocarpin Hydrochlor..... gr	20	5 or 10 qr tubes			
" nitras..... gr	20	5 or 10 qr. tubes			
Pipe clay..... lb	5	100 lb 4			
Piperina..... oz	1 00				
Piperazin Bayer, 1/2 oz bottle..	3 50				
" tablets... 10x16 gr	2 00	each			
Piper alba..... lb	20	pulv 22			
" cayenne..... lb	25	10 lb 20			
" nigrum..... lb	17	pulv 18 25 lb 15			
Pix Burgaud bladders..... lb	10	20 lb 9			
Platinum Bichlor..... oz	8 00				
" " 10% solut oz	1 25				
" Foil..... grm	60				
" Wire..... gum	45				
Plumbi acetat 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 7 1/2 (litharge)			
" rub..... lb	8	keg 8 (red lead)			
Podophyllin resin..... oz	35				
Potassa caustica sticks..... lb	55				
" sulphurata..... lb	35				
Potassii acetat..... lb	45	gran 50			
" bicarbonas..... lb	16				
" " pulv..... lb	17				
" bichromas..... lb	15	keg 12 1/2			
" binoxalas..... lb	28	10 1/2 22			
" " pulv..... lb	25	10 lb 23			
" bitart..... lb	30	keg 24 brl 28			
" bromid..... lb	60	5 lb 55			
" carbonas..... lb	14	10 lb 12			
" carbonas pearl ashes lb	10	100 lb 9			
" chloras..... lb	26	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	12	(Gran) 10 keg 7 1/2			
" " C. P. Mercks.. lb	30				
" oza'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				
" tartas..... lb	80				
Potassium..... oz	2 00	dr 40			
Propylamine..... oz	75				
Pulv. aloes c. canella..... lb	40				
" antimionialis P. L..... lb	60				
" catechu comp..... lb	70				
" cinnam comp..... lb	75				
" cretae aromat P. B..... lb	1 20				
" " " c. opio P B lb	1 50				
" " comp Ph. Sd..... lb	50				
" " comp c. opio .. lb	75				
Pulv. cretae c. camph..... lb	25	10 lb 20			
" glycyrrh comp..... lb	30				
" ipecac comp..... lb	1 49				
" 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			
Pyoktannin..... 25gms	1 25				
Pyridin Puriss..... oz	25				
Quassine, 1/2 oz vials..... oz	4 00				
Quininae bisulph..... oz	50				
" bromid..... oz	75				
" citras..... oz	80				
" hydrobrom..... oz	90				
" hydrochlor..... oz	85				
" hypophos..... oz	1 50				
" iodid..... oz	1 00				
" phosphas..... oz	75				
" salicylas..... oz	65				
" sulph German..... oz	40	100oz tin 29 25 oz 30			
" " Howards..... oz	45	100 oz 40			
" " " 4 oz	40				
" sulphocarbolas..... oz	1 50				
" tannate..... oz	50				
" valerian..... oz	85				
Rad aconiti..... lb	20				
" contus..... lb	25	pulv 30			
" anchusae..... lb	20				
" angelicae..... lb	30	pulv 35			
" arctii (burdock)..... lb	15				
" belladon..... lb	18	contus. 30			
" calam. aromat..... lb	30				
" calumb..... lb	20	pulv. 20			
" curcumae 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				
" glycyrrh decort..... } lb	25	10 lb 22			
" " incis..... }					
" " dec't pulv..... lb	60				
" " bundles..... lb	12				
" " small bundles					
" super..... lb	18				
" " grd..... lb	13	brl. 11			
" helleb alb..... lb	12				
" " " pulv..... lb	13	keg 14 br. 13			
" ipecac..... lb	2 00				
" " pulv..... lb	2 25				
" iridis Florentine..... lb	50				
" " pulv..... lb	60				
" jalapae..... lb	45				
" " pulv..... lb	55				
" krameriae opt..... lb	30				
" pareira 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				
" sanguinaria..... lb	14	pulv 16			
" sarsae Hond..... lb	45	incis 50			
" sarsae Jam..... lb	70	" 75			
" " Mex'can..... lb	18	20 lb 16			
" scillaesicc..... lb	12				
" " pulv..... lb	30				
" senega..... 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	40
“ “ pulv....lb	50
“ zingib. Afric. u. b....lb	16 20 lb 15 bag 13
“ “ pu'v...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
Resorein 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
Sal prunellæ glob.....lb	20
Salicinum.....oz	20 lb 2.75
Salipyrine.....50 gms	2 50 each
Salol.....oz	30 lb 3.75
Salophen Bay.....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
“ Greer opt....lb	55
Scammonia resin pulv....lb	3 75
Scoparii cacumin.....lb	25
Secale Cornut.....lb	75
Seidlitz Mixture hds.....lb	22
Sem. canary.....lb	5 bag 3½
“ cardam.....lb	1 75 1.50 & 1.00
“ cardam decort.....lb	1 00
“ pulv.....lb	1 50
“ celery.....lb	30
“ chenopodii.....lb	25
“ colchici.....lb	55 pulv. 65
“ cydoniæ.....lb	50
“ cymini.....lb	20 pulv. 25
“ fenugraci.....lb	5
“ pulv.....lb	7 ground 6 brl 5
“ hemp.....lb	5 bag 3¼
“ hyoscyam.....lb	80
“ jambul.....oz	20
“ lini sifted.....lb	4 brl. 3½
“ lini crushed.....lb	5 brl. 4
“ “ No. 2....lb	4½ brl. 3½
“ “ No. 3....lb	4 brl. 3½
“ lobelia inflata.....lb	50 pulv 55
“ maw.....lb	15 10 lb 14
“ millet.....lb	5 bag 3½
“ pumpkin.....lb	25
“ rapii.....lb	8 bag 7
“ santonica.....lb	18 pulv. 23
“ sinapis alb.....lb	10
“ staphisagria.....lb	35
“ stramonii.....lb	25
Soda caustica stick.....lb	45
“ caustica cake.....lb	40
Sodo crystals.....lb	2 brl 1.25 per 100 lbs
“ tartarata.....lb	28
Sodii acetas pura.....lb	25
“ arsenias.....oz	10 lb 1.20
“ benzoas.....oz	15 lb 1 50
“ bicarb. pulv Morson's lb	10
“ “ lb Hd's....	18 14 lb 15



YOU CAN GET

A BEAUTIFUL GLASS JAR FREE by buying the equivalent of five boxes of

PEPSIN TUTTI FRUTTI.

The Gum is packed in it and makes a fine display. It is a handsome article. It is square with bevel corners and ground-in stopper, capacity 4 pounds. GET ONE.

ADAMS & SONS CO.,

11 & 13 JARVIS ST., TORONTO, ONT.

Lithographic Cards representing Glass Jar sent on application

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 " 8.50 gros r lb. Bottles, 2.37 lb.

Comp. Sy. Hypophosphites, ^{PER DOZ.} \$8.50 ^{3 PINTS} \$3.17

Tasteless prep'n Cod Liver Oil, 8.50 3.17

Syrup Hydriodic Acid 8.50

Hypno-Bromic Co. (True Hypnotic)

r 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, ^{Per Doz. Boxes, (Adult Size)} \$4.00

^{Per Doz. Boxes, (Children's Size)} 2.75

Glycerine Suppositories, ^{Per Doz. Boxes, (Adult Size)} 3.17

^(In a new and original Package) ^{Per Doz. Boxes, (Children's Size)} 3.17

White Pine Com., 5 pt. bottles 2.65

Per dozen 0.85

PREPARED SOLELY BY

HENRY K. WAMPOLE & CO.,

Manufacturing Pharmacists, PHILADELPHIA, U.S.A.

CANADIAN BRANCH: 6 & 38 LOMBARD ST., TORONTO

Highest Awards

PARFUMERIE

At all Exhibitions

ED. PINAUD,

7 Boulevard d Strasbourg,
PARIS.

ED. PINAUD'S latest Exquisite Perfumes:

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.

WALTER BAKER & CO'S

Soluble

52525252255225

Chocolate.

252592525252525252525252

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.

WALTER BAKER & CO.,

Dorchester, Mass., U.A.

BRANCH HOUSE:

6, HOSPITAL STREET, MONTREAL.

"THE BEST OF AMERICAN"

PLANTEN'S CAPSULES,

H. PLANTEN & SON,

ESTABLISHED 1838.

... 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.

Planten's Sandals

ARE CELEBRATED THE WORLD OVER

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

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

Send for formula list of over 250 kinds.

Sold by all Druggists.

Beware of Substitution.

Sodii bicarb pulv. coml.	lb	4	keg 2 75
" bisulphis.	lb	25	
" bisulphas pure.	lb	30	
" bromid.	lb	65	
" carb. recryst.	lb	15	
" carbo'as pur.	lb	3 50	
" chlorate xtls.	lb	50	
" ctr-s	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
" potass tait pulv.	lb	25	
" salicylas 1 lb. boxes	lb	1 75	5 lb bulk 1.60
" silicas xtls.	lb	15	
" " solut conc.	lb	10	
" sulphas.	lb	3	brl. 1½ Hds 5 [brl. 4.
" " exsicc. pulv.	lb	15	
" " pur recryst.	lb	30	
" sulphid.	lb	60	
" sulphis.	lb	7	pulv. 8
" sulpho carboas.	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	60	
" nitro glycerin 1%.	lb	1 75	
Somatose—Bayer, 2 oz tins.	oz	70	
Sparteïn sulph.	oz	37	ea. 1 oz. 1 75
Spice pickling.	lb	40	
Spt. ætheris comp.	lb	60	
" " nit S. G. 845.	lb	65	Whr. qt. 60
" ammon. arom.	lb	60	" 55
" " foetid.	lb	85	
" camphor.	lb	70	" 65
" chlorof. S. G. 871.	lb	70	" 65
" cinnam.	lb	2 00	
" mentha pip.	lb	1 10	
" methylated.	gl.	2 09	Brl. 1.75 cash
" myristice.	lb	90	
" rectificatus 65 o/p.	gl	4 25	5 gl. 4.20 in a/c.
" " "	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 ¼ oz bots
Styrax liquid.	lb	50	25 extra
Succus conii.	lb	75	
Succus limæ fruct W. I.	gl	90	brl. 80
" rhamni.	lb	25	
" scoparii.	lb	70	
" taraxaci.	lb	65	
Sulphona—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 2½
" vivum.	lb	6	10 lbs 5
Sulphuris iodid.	oz	40	
Susquia, ½ cz bottles.	oz	5 00	
Tamarindus, W. I.	lb	14	10 lb 12
Tapioca flake	lb	8	
" pearl.	lb	8	
Terebenc.	lb	65	
Terebinth canadensis.	lb	45	
" chian.	oz	35	
" Yeget.	lb	15	

Terpine Hydrat	oz	20	
Terpinol.	oz	30	
Terra Japonica (Gambier).	lb	10	
Thallin Sulphate pure	drm	40	
Thiol liquid.	oz	2 00	gm. tins 1 25
Thymol.	oz	40	
Trional-Bayer.	oz	1 25	
Tripoli.	doz.	90	
Triticum repens.	lb	20	
Troch. acid carbolice G's T. H.	lb	75	
" " tannic	lb	1 25	
" aconite.	lb	90	
" bath pipe	lb	45	
" black currant, Gibsons	lb	90	
" boracic acid	lb	90	
" bronchial P D & Co.	lb	5	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	
" kramarie T. H.	lb	1 25	
" lactuse.	lb	1 25	
" licorice (pipe).	lb	35	
" mentha pip C.S. Gibsons	lb	65	11b bottles 75
" mentha pip [XXX].	lb	50	
" morphine.	lb	1 00	
" " et ipecac.	lb	1 00	
" mosch Gibson's	lb	80	
" opii.	lb	75	
" paregoric.	lb	70	
" pontefract.	lb	30	
" potass. chlor.	lb	50	Tablets 60
" pyrethri T. H.	lb	90	
" rose Gibson	lb	80	
" sedative T. H.	lb	90	
" tolu.	lb	70	
" tussi [cough].	bot	1 20	Gibson's
" " "	lb	50	[Preston's]
" " " Watsons. tin	tin	1 25	each
" vermifuge.	lb	50	worm
" voice [jujubes].	lb	85	
Uranii acetat.	oz	60	
" nitras	oz	60	
Urethane	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	3 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
Xylol	lb	60	
Zirci acetat.	lb	45	
" bromid.	oz	25	
" carb.	lb	35	
" chlorid. sticks.	oz	15	½ lb 45, lb 75, bt. free
" iodid.	oz	60	
" oleas.	lb	1 20	
" oxidum Howard's P R	lb	70	
" oxidum 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 granulatam.	lb	30	
Zinci sesquiodol	oz	1 50	

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.	
" " "HYDROBROMATE"	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.	

PIPERAZIN.

5 grs. in each drachm.

LITHIA SALICYLATE	5 grs.	} in 1 dr.
NUX VOMICA	1-12 gr.	
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).		

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

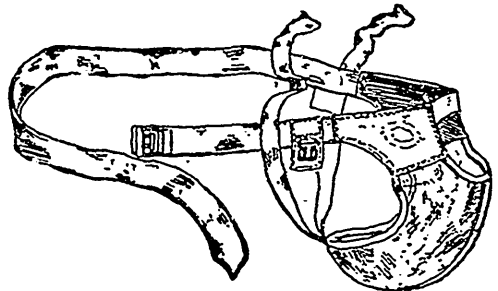
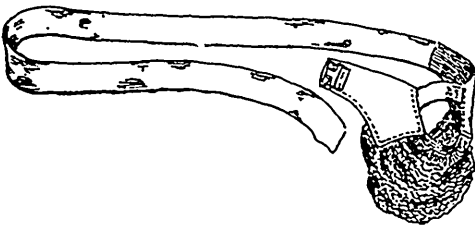


None genuine without this Trade Mark.

ALFRED BISHOP & Sons, Limited.,

"SPECKS FIELDS," 48 Spelman Street,
LONDON, Eng.

Suspensory Bandages



The Ware Manufacturing Co.,

CAMDEN, NEW JERSEY, U. S. A.

WRITE FOR PRICE LIST.

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

THOS. L. PATON, Agent,
MONTREAL.

BEST POLISH IN THE WORLD.



DO NOT BE DECEIVED

with Pastes, Enamels, and Paints which stain the hands, injure the iron, and burn red. The Rising Sun Stove Polish is Brilliant, Odorless, and Durable. Each package contains six ounces; when moistened will make several boxes of Paste Polish.

WAS AN ANNUAL SALE OF 3,000 TONS.



CANADIAN AGENTS:
LYMAN, SONS & CO.,
DEARBORN & CO.,
St. John, N.B.
Montreal.



BOVININE

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 aboring 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.

The Bovinine Co.,
NEW YORK CHICAGO BOSTON.
LYMAN, SONS & CO., Sole Agents for Canada, **MONTREAL.**

HIGHEST AWARD AT CHICAGO EXHIBITION

ABSOLUTE PURITY GUARANTEED BY USING

→ T. & H. SMITH'S ←

CHLOROFORM PURE

*

[Answering all Recognized Purity Tests]

*

MORPHINE & SALTS

AND OTHER FINE CHEMICALS.

From all Wholesale Houses Throughout Canada

T. & H. SMITH & CO.,

MANUFACTURING CHEMISTS,

Edinburgh, Scotland, and 12 Worship St., London, England



S. MAW, SON & THOMPSON'S

BEST QUALITY

TOOTH BRUSHES

Each bearing TRADE MARK and Warranted.

May be had either direct, or through any of the leading Wholesale Houses in the trade.

No Charge for Stamping Name and Address of Customer
when not less than One Gross are Ordered.

For Patterns see Book of Illustrations
pages 246 to 254.

Quarterly Price-Current and Book of Illustrations containing nearly 5000 Engravings of Surgeons Instruments and Druggists' Sundries of all kinds, may be had on application, enclosing business card, forwarded *post free* to all parts of the world.

S. MAW, SON & THOMPSON, 7 to 12 Aldersgate St., LONDON, ENGLAND.