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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. 7.

OCT., 1894.

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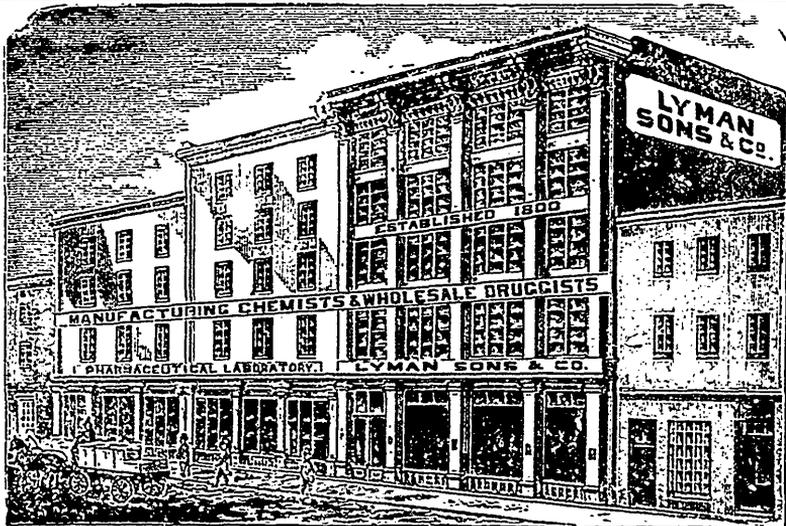
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"LE VIDO" WATER OF BEAUTY.

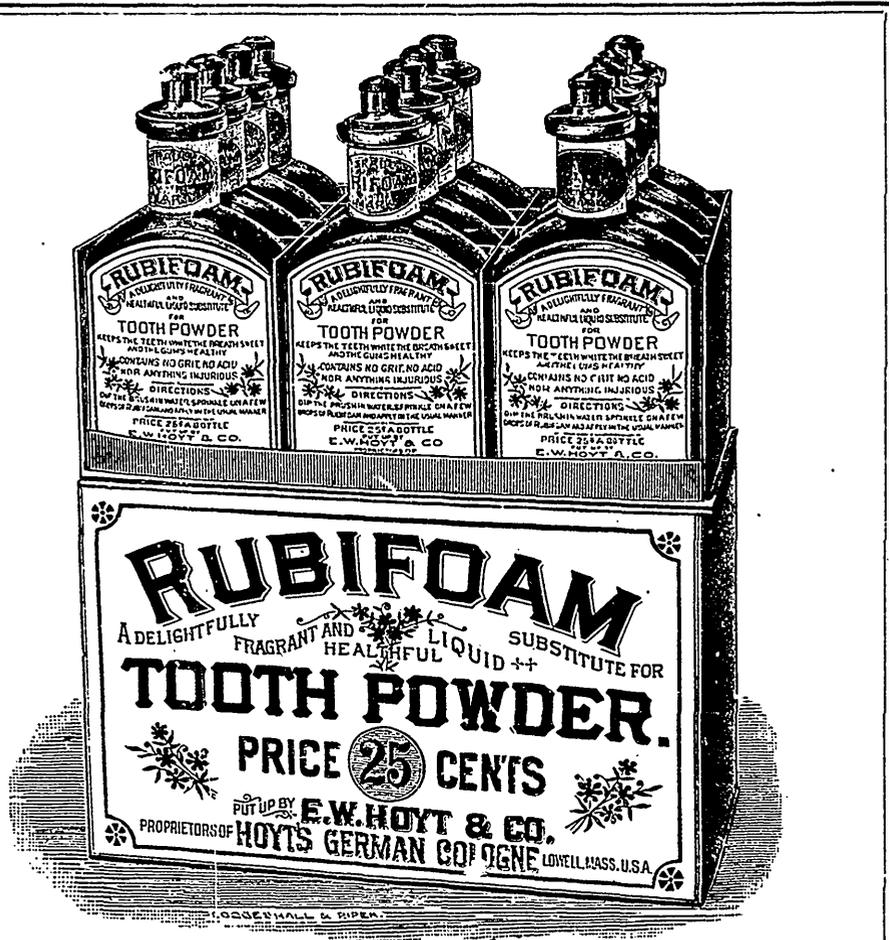
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" PILE OINTMENT.

PENNYROYAL WAFERS.



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



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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.....\$2.10 per doz. •
 " "\$24.00 per gross.

Advertising Novelties will be furnished on application.

MANUFACTURED BY

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

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



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Do PLASTER PARIS.

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GAUZE, DOUBLE CYANIDE, [LISTERS.]

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INHALERS, CELLULOID ORO NASAL.

JUTE, PLAIN BLEACHED

JUTE, CARBOLIZED.

Do ABSORBENT.

Do NAPHTHALIN.

LINT, PLAIN AND BORATED.

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PEAT SILK, WHITE, ON REELS.

SILK, IRON DYED, ALL SIZES.

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OF COD LIVER OIL WITH PEPSIN AND QUININE.

Manufacturers of COMPRESSED TABLETS, TRITURATES and LOZENGES.

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Anchor Medicine Company

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≡ M U N N ' S ≡ GENUINE NON-FREEZING Cod 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.

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STEWART MUNN & CO.,
Board of Trade Building,
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ARE ALL PURE

AND PERFECTLY ADAPTED TO

THE USES FOR WHICH THEY

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

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\$1.00 PER DOZEN.
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FOR SALE BY ALL WHOLESALE DRUGGISTS.

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They allay irritation and produce a soothing effect upon the vocal organs. Public
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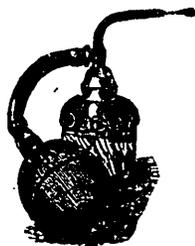
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No. 3-NASAL



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ROBERT GIBSON & SONS

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CARLETON WORKS, ERSKINE STREET, HULME, - - MANCHESTER, ENGLAND.
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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

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OF EVERY DESCRIPTION.

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DIGESTIVE TABLETS,

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For Singers and Public Speakers.

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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.

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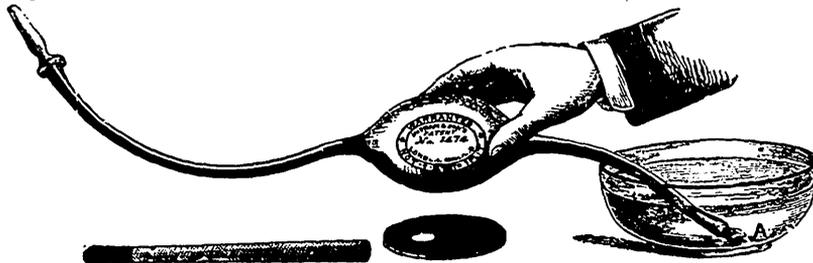
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N.B.—It having come to the notice of Messrs. ROBT. GIBSON & SONS, that some makers are not only closely imitating their label, but are actually putting their goods in Gibson's bottles, Chemists are respectfully informed that every original bottle of 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.

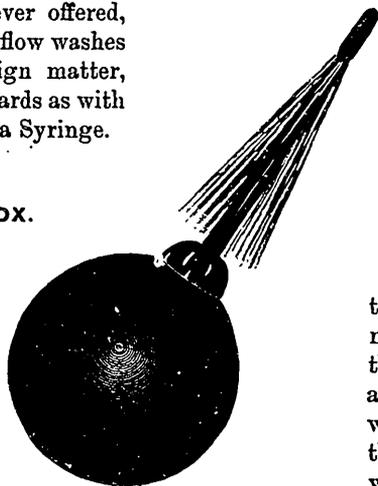
J. G. INGRAM & SON have had 14 years' experience; therefore they do, with the utmost confidence, warrant every Enema of their manufacture bearing the number

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,
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DIRECTIONS.

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

NEW
Ingram's Patent Seamless Collar or Rim Teat,

— **THE BEST** —

Soothing Teat in the World.

PATENTED

No. 22458

Patented in France, No. 220745. April 7th, 1892.



IN ENGLAND

DEC. 23RD, 1891

AMERICAN PATENT APPLIED FOR.

Made in the same sizes as the ordinary Teats, viz:—
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ADVANTAGES:

- 1.—Will not collapse during suction.
- 2.—The Rim (AA) prevents the Teat swelling when in use.
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- 7.—it is made of Absolutely Pure Rubber, Tasteless and Free from Smell.
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The best Soothing Teat in the world.

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Soothing Toys....

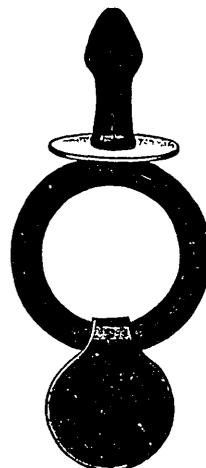


Fig. 31

Fig. 30' In two sizes, Small and Large.

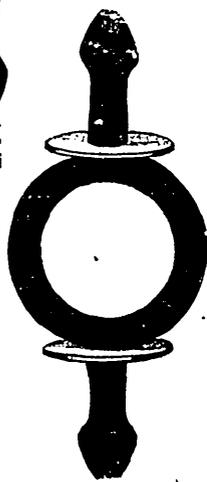


Fig. 32

THE RESPIROREGENERATOR

— OR —

Perfect Inhaler.

Patented in England, 16th August, 1892.

PATENT No. 14518

HEIGHT OF WATER.

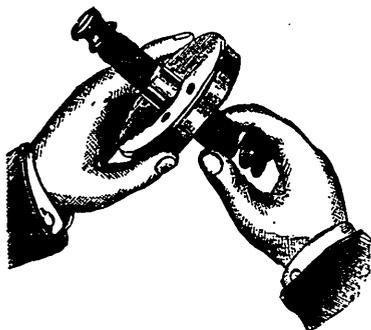


Fig. 1



Fig. 2

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

ADVANTAGES:

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

TO BE OBTAINED OF ALL CHEMISTS AND DRUGGISTS.

"That Excellent Antiseptic"—*Medical Chronicle*.

PACKERS' 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, seborrhoea, 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. LYCNE, Cor. Craig & Bleury Streets, MONTREAL



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**STOPS
TOOTHACHE
INSTANTLY.**



(A SWELL AFFAIR.)

This is not a
Chewing Gum.

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PILKINGTON'S Powdered Lye!

PERFECTLY PURE.

Strongest and best Lye made.
Far Superior to any Solid Lye.

DILLON - & CO.'S BAKING SODA!

BELL BRAND.

Absolutely Pure.

Put up in One Pound Packages.



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

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

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100 and 200 Sticks in a Box.

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AMARYLLIS du JAPON,

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These odors are the perfection in the art of Perfumery and are
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DR. LAVIOLETTE'S
Syrup of Turpentine,

**For Diseases of the Respiratory
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TRADE MARK.
Lints, Absorbent Cotton, Wool Roll Bandages, Antiseptic Dressings.
ROBINSON & SONS, LIMITED.
CHESTERFIELD, ENGLAND, and 55 FANN STREET,
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TONIC COCA WINE

FOR

Fatigue of Mind and Body, Nervousness
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AMBRECHT, NELSON & CO.,
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Meagher's Orange Quinine Wine.

Prepared strictly according to the formula
of the British Pharmacopœa.

For Loss of Appetite, Dyspepsia, Indigestion, Spring
Lassitude, Severe Colds, Neuralgia, General De-
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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.,
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\$6.25 per Case of 1 doz. Bottles.

THE FAMOUS
Lablache Face Powder.
The only Perfect Toilet Powder in the market



Over one million boxes sold every year.
BEN. LEVY & CO., Sole Proprietors, Boston.
Trade supplied by LYMAN, SONS & CO., Montreal.

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Sizes	0	1	2	3	4
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Fine Toilets
AND
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Full assortment, prices on appli-
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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, cubeb, etc. Original bottles contain 40 capsules of 5 minims each—they are value for money and pay to sell.

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

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The true active principle of Farsley, differing from the so-called Apioi.
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LICORICE } Packed in 5 lb. Wood Boxes.

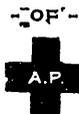
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CATALUNA LICORICE, 100 Sticks in a Box.
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STRICTLY PURE.

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MANUFACTURED BY
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Hard Rubber Trusses, Supporters and Pile Pipes,

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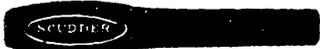
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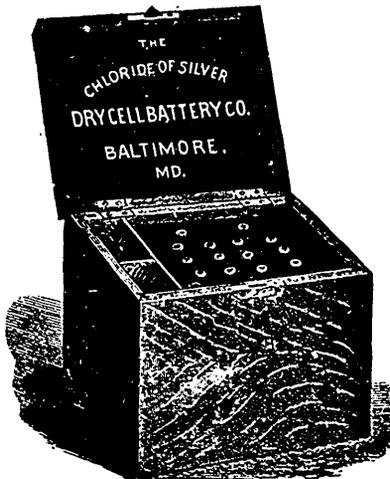
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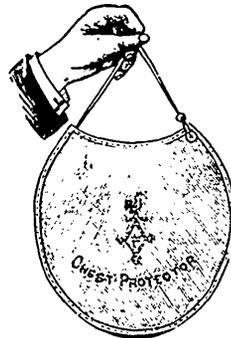
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DICK'S BLOOD PURIFIER is no sham made up to sell only, but is prepared from the best material. One package of Dick's Blood Purifier we confidently believe contains more real medicinal strength and virtue than ten times its weight of any other Powder in the market. It tones up the system, imparts new life and vigor, and is adapted for the cure of worms, loss of appetite, roughness of the hair or coat, stoppage of water and bowels, all coughs and colds, inflammation of the lungs and bowels, recent foundlers, swelling of the glands of the throat, horse distemper, hide bound, botts, scurry, 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

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The importance of it is not in the price, but in the medicine and in the medical advice that goes with it at the price. The medicines are the same as the best physicians use; and the book in the box gives the same advice as the best physicians give.

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Seidlitz Powders, 10c; Jamaica Ginger, 10c; Gingermint, 10c; Soda-Mint, 10c; Pepsin and Soda-Mint, 10c; Chlorate of Potash, 10c; Hydrobromate of Caffeine, 10c; Camphor Ice, 10c; Nosewash, 10c, with a book on catarrh; Cold Cream, 10c; Italian Mint, 10c; For the Breath, 10c; Cocoa Butter, 10c.

There will be twice as many, and books of advice and information with most of them. All sell themselves; they tackle a customer and sell themselves to him; bring him back for more besides.

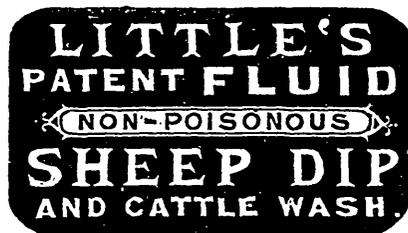
A rational system instead of a patent-medicine system. It ought to take the intelligent trade immediately. A dime is a better coin than a dollar; more of it. Better for you; you can get more of it.

What we are after is to show: (1) what can be done in a drugstore with advertising that costs you nothing and takes up no room: (2) what that will lead to.

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FOR THE DESTRUCTION OF
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Superior to Carbolic Acid for Ulcers, Wounds, Sores, &c.
Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, Glossy and healthy,

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

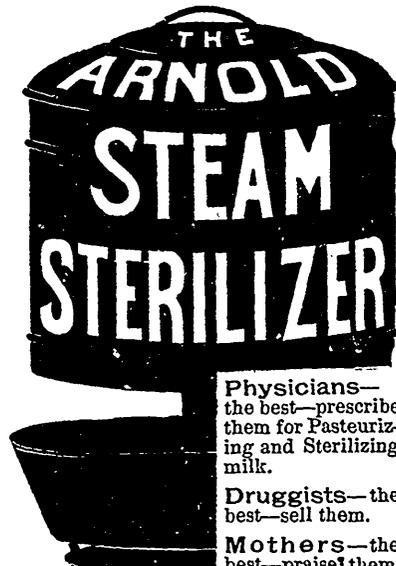
17 Gold, Silver and other Prize Medals have been awarded to "Little's Sheep and Cattle Wash" in all parts of the world.

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

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Druggists—the best—sell them.

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½ lbs. (equal to 50 cups)	3 50	" 0 50
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 - " 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.

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We trust there will be no cutting.

DR. L. A. SMITH & CO.



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OPPOSED TO PAIN


10 Gr.


5 Gr.


3 Gr.


2 Gr.


1 Gr.


5 Gr.


5 Gr.


5 Gr.

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OUR TABLETS WILL HEREAFTER BEAR MONOGRAM AS SHOWN IN EACH FAC-SIMILE ABOVE. -- NONE OTHERS ARE GENUINE --

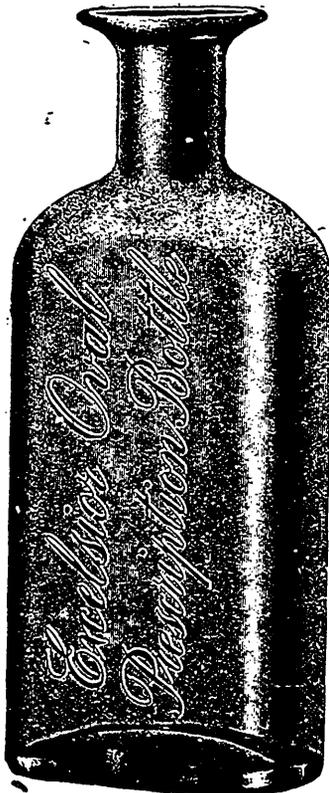
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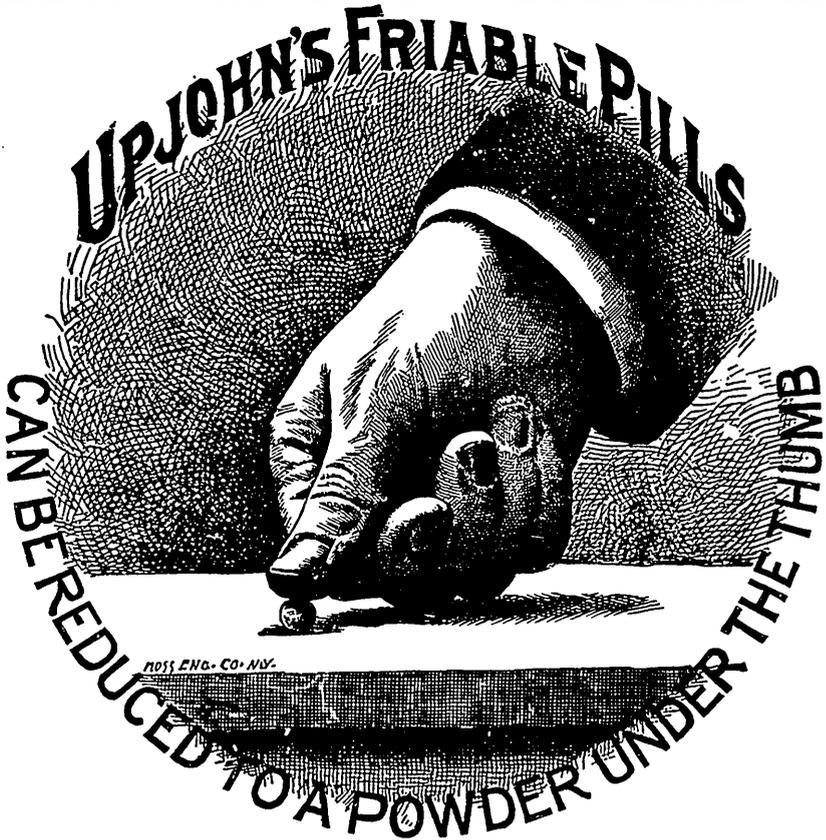
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JOHNSON'S ANODYNE LINIMENT

Established 1810.

ORIGINATED BY AN OLD FAMILY PHYSICIAN.

GENERATION AFTER GENERATION HAVE USED AND BLESSED IT.

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

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

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

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

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

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

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Johnson's Anodyne Liniment,
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EACH INVOICE SUBJECT
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PARSONS' PURGATIVE PILLS	— 1.50	“	“
SHERIDAN'S CONDITION	Small— 1.50	“	“
POWDER.	Large— 8.00	“	“

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

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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.

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MONTREAL PHARMACEUTICAL JOURNAL.

VOL. V—No. 7.

OCTOBER, 1894.

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The Montreal Pharmaceutical Journal.

171 St. James St., Montreal, Canada.

JOSEPH E. MORRISON, Editor.

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MONTREAL PHARMACEUTICAL JOURNAL.

P. O. Box 1144, Montreal.

F. L. BENEDICT, Secretary.

THE Montreal College of Pharmacy has commenced the Session of 94-95 with an attendance of nearly eighty students. Several improvements will be introduced this winter. An oxy-hydrogen projection lantern, for use especially in the materia medica and botany classes, has been received from New York, and a number of Leitz microscopes have been purchased. The present Board is determined to put the college on a good footing, and will leave no stone unturned to do so. Next session Pharmacy, which has always been neglected, will be given its proper position. A class in microscopy will be formed, and students will be divided into junior and senior classes, and every effort made to make the College a first-class one in every respect.

What is Diphtheria Antitoxine?

This is a question frequently asked nowadays, and judging from the letters of enquiry which we have received considerable misapprehension exists concerning it. An antitoxine is the serum of the blood of animals which have been immunized by the injection in gradually increasing quantity of the toxine form-

ed by the disease producing bacterium. A toxine is the product of the action of the bacterium upon the blood, and is the immediate cause of the pathological phenomena characteristic of the disease.

Behring and Kitasato were the first to draw attention to these bodies by their investigations on the antitoxine of tetanus and diphtheria. The results in the application of the first have in some cases produced wonderful effects, but unfortunately the presence of tetanus, in most cases, is only discovered when too late for the remedy to produce any effect, but with diphtheria the disease can be diagnosed almost at its inception, so that the injection of the antitoxine almost invariably produces good results. M. Roux, of Pasteur's laboratory, has devoted much attention to the study of the diphtheria antitoxine, and in an address before the Hygienic Congress, recently held at Buda-Pesth, gave some interesting details of the preparation of this body. The first operation is the preparation of the toxine, which is made by cultivating the diphtheria bacillus in an alkaline peptonized broth, in Fernbach vessels, through which a current of filtered moist air is continually passed. After three weeks, or at most a month, the fluid is sufficiently rich in toxine to be used. It is then filtered through a Chamberland filter, and the clear liquid is kept in well-closed bottles, and preserved from the action of light. An injection of 0.01 cc. of the preparation will kill a guinea pig, weighing 500 gm., in 48 hours.

The next step in the process is the immunization of the animal from which the antitoxine is obtained. This is done by injection of the toxine, at first in very small quantity, gradually increasing till a point is reached at

which the blood of the animal is in such a condition that it destroys any poisonous effect of the toxine. Friedel was the first to use the method by injection of toxine slightly changed by heat. Behring used mixtures of toxine and iodine trichloride. Roux prefers the addition of iodine, as Gram's solution, which is added to the toxine in the proportion of 1 to 3 a few moments before injecting it. A medium-sized rabbit will not be sensibly affected by $\frac{1}{2}$ cc. of this fluid. After several days another injection is given, and this process is continued for some weeks, after which the quantity of toxine is increased and that of iodine decreased till finally pure toxine is injected. During this process the animals must be frequently weighed, and, if found to be decreasing in weight, the treatment must be stopped till they recover their former condition. Dogs, sheep and goats have all been used in the preparation of the diphtheritic antitoxine, but the horse is the most satisfactory as it is the most easily immunized, and yields the largest amount of serum. It is less affected by the toxine than any other animal experimented with. If, according to Behring, the blood of an animal be more antitoxic as its sensibility to the toxine is greater, the horse would be the worst, but Roux and Vaillard have found it quite the contrary in this case and also with tetanus antitoxine. Another reason is that the blood may be obtained in considerable quantities and yields a very limpid serum. Mr. Roux has opened the jugular vein of one horse over twenty times without bad effects. The serum has a preventive power of 50,000, that is a guinea pig will not be affected by the injection of 0.5 cc. of very virulent diphtheria toxine if twelve hours previous the 50,000 parts of its weight of serum has been injected. A mixture of 0.1 cc. of this serum and 1 cc. of toxine will not produce even a swelling at the point of injection.

After a horse is immunized, in order to keep it so, two methods may be employed, either repeated injections of moderate doses of the toxine may be given, or large doses (300 to 500 cc.) may be given at the moment of extracting the blood and then allow it to rest for twenty days, when it is bled again; the first is that preferred by Roux. Antidiphtheritic serum

mixed with toxine and injected into animals entirely destroys the effects of the latter. It is not necessary even that the two be given together, since it has been found that the injection of the antitoxine several hours after that of the toxine destroys its poisonous effects. The dose necessary varies with the weight of the animal, the dose of toxine and the length of time intervening. The serum obtained from the blood of horses can be kept for a considerable period without alteration if preserved in well-filled, perfectly-closed bottles with a small piece of melted camphor. It may also be dried in vacuo for transmission to a distance, and can easily be dissolved in eight or ten times its weight of sterilized water, but this has the inconvenience of producing a slight local tumefaction which is not produced by the natural serum.

The discovery of the effects of tetanus and diphtheritic antitoxine opens up a wonderful field for the labors of bacteriological investigation, but so far these are the only two possessing antidotal properties, as it has been found that in cholera and other diseases of bacterial origin the serum of animals treated with the specific toxines has no preservative effect.

THE AMERICAN PHARMACY FAIR, of which we give a preliminary notice on another page, is the first of its kind. In these days of specialization it is impossible to keep track of the advance of science in all branches, so that although a general idea may be obtained of the whole field, by means of universal exhibitions, these will not be as successful as in the past, and it seems as if each art will have its own special fairs, devoted to showing the advance in its special direction. With the object of bringing together a comprehensive exhibit of pharmaceutical preparations and appliances, including those of allied sciences, Mr. Benj. Johnson, of the *New England Druggist* proposes to hold the first pharmacy Fair in Boston, during May, 1895, and with the energy which is one of his characteristic traits as also of his able coadjutor Mr. D. A. O'Gorman, the general secretary, there is no doubt that it will be a success. Many eminent American pharmacists among whom are Prof. Patch, ex-president of the American Pharmaceutical Assoc.; Henry Canning; Mr. Whitney, of the Mass. State Board of Pharmacy; S. A. D. Sheppard, Prof. Scoville and others have promised their assistance towards making this fair a success.

Proceedings of the American Pharmaceutical Association.

(By our Special Correspondent.)

SECOND DAY—COMMERCIAL SECTION—(Cont'd)

Mr. Main—In reply to what Mr. Whitney has said, I would say that the manufacturers could be trusted to look after themselves, and it was for that reason I moved that a committee be appointed to look after the interests of the drug trade. I am informed—I don't know this personally—that there are some new regulations in Germany in regard to the use of alcohol in preparing medicines, which extends to the retail drug trade. A gentleman in New York informed me of that fact, and I asked him for the details, and he has sent for those regulations. Now it seems to me at various times we have talked about free alcohol for use in the arts, and medicine has crept into the new Tariff Bill, as stated by Mr. Dohme, and the Secretary of the Treasury does not know what to do with it; and I am advised he does not propose to adopt any rules or regulations, but he proposes, as I am informed, to let the matter lay over until the next Congress has assembled, with the idea that the provision for free alcohol will be repealed, throwing the burden for the formation of the rules and regulations upon the trades interested—that is, relying upon those trades for suggestions, with an idea, of course, that the government's interests shall be fully protected, and to allow us free alcohol for use in the arts and in medicine exactly so far as can be done with safety to the government. It seems to me that it would be perfectly proper and in line with the objects of this Commercial Section for us to appoint a strong committee. The suggestion has been made that Dr. Squibb should be one. Dr. Squibb has made a study of this subject of alcohol for use in the arts and manufactures, and a few years ago appeared before the Ways and Means Committee at the time of the Mills Tariff Bill, when that Bill was talked about, and presented some very valuable statistics. Unfortunately, I could not obtain a copy when I left New York, but I was told a copy of his report could only be obtained from the archives of the Ways and Means Committee in Washington, and it has been sent for. But it does seem to me, if it is a possible thing, that we should secure free alcohol for use in medicine, and legitimately we ought to try to do it. We ought, in other words, to look into this matter, and to see what there is in it for the druggists, and if there is nothing in it let it alone. It seems to me a committee should be appointed to look into this matter.

Mr. Hillberg—I have a copy of the official act. It is very brief, and I think it ought to be read, so that all may know just what it refers to. "An act to reduce taxation, and to provide revenue for the Government, and for other purposes." Sec-

tion 61: "Any manufacturer finding it necessary to use alcohol in the arts, or in any medicinal or like compound, may use the same under regulations prescribed by the Secretary of the Treasury, on satisfying the Collector of Inland Revenue of the district wherein he resides that he will comply with such regulations in using the alcohol, shall be entitled to receive a rebate of all tax so paid." I want to call your attention to the words, "That he will comply with such regulations prescribed by the Secretary of the Treasury." Now I hold that it is impossible to prevent the use of alcohol in the United States for medicinal use by simply prescribing certain rules, without doing as they do in Germany, denaturalizing it. Now I believe under this section the Secretary of the Treasury will have the right to prescribe as a rule that alcohol be used in the arts and for medicine, that it shall be methylated or denaturalized, or treated by some other method, which will make it unfit for internal administration. It can be used, then, for the purposes of a solvent—for shellacs, for varnishes, for cements and for re-agents, and for the manufacture of many drugs where the alcohol is regained by distillation. Possibly in the manufacture of solid extracts and in the preparation of alkaloids alcohol of this character could be used, but it should be made of such a character that its use for internal administration would be at once recognized. But, as you know, in Great Britain and in Canada—and Mr. Morrison probably can tell us—they use methylated spirits, and have done so for many years. Now, strange as it may seem, such methylated spirits has been used for internal purposes; and I have been told that in the highlands of Scotland they use methylated spirits for a beverage. The Germans, however, have discovered a sulphur compound which, when added to alcohol, gives it a most offensive, disagreeable odor, which makes it entirely unfit for internal use, but does not impair it in any manner for solvent purposes. It seems to me that free alcohol should be confined solely to the purposes of a solvent, and not to the purposes of internal medicinal administration. Now inasmuch as I believe the Secretary of the Treasury—if the chairman would allow me to make it—to recommend, under this section, the prescribing of such rules and regulations, this is purely a question to be determined, first, if we should take this stand, that alcohol should be free of its use as a solvent and not for internal administration as a medicine. For that reason, I think no good could be done by the appointment of a committee, inasmuch as Mr. Squibb has watched this matter for the wholesale druggists, if they don't take advantage of us. I would approve the appointment of a committee under such circumstances.

Mr. Holtzhauer—Before coming away I talked with the chemist of the concern, and asked him how they expected to do it, and he told me they expected it would be done in exactly the same

manner as lead is shipped into the country. The refinery is made a bonded warehouse, by the appointment of a government officer to superintend the receiving of the lead; and they expected their factory would be made a bonded warehouse by the appointment of a government officer to inspect the alcohol. If that is the case, those who want to get free alcohol will have to do the same thing.

Mr. Sheppard—I want to call attention to the fact that this was Mr. Torbert's idea. He was the chairman of the section for two years, and what he asks us to do can, in my judgment, be done in a different way. I confess to not being very sanguine in regard to it. I think, in justice to the man sending the telegram, and in view of the work he has done for this section, and the absolute certainty that it can do no harm for us to take action in the line of his suggestion, and to appoint this committee. I certainly hope you will appoint it.

Mr. Ebert—One more remark, and I will not say another word. It is this: About four days before I left Chicago, a telegram by the Associated Press was published in one of the papers that James R. Davison, a gentleman connected with the National Wholesale Druggist's Association, whose name I don't remember just now—I know he belonged to the Proprietary Association of the U. S., and they were at Washington counselling with the Treasury department in regard to the matter, so that the small druggist may not use free alcohol for improper purposes, as he is irresponsible; that the irresponsible small druggist need not use alcohol for legitimate purposes—I want to say that there is a committee in Washington to look after our interests, seemingly. Another feature is that if we have a committee that goes there they will meet the committee of manufacturers and wholesale druggists; and, you know, human nature is human nature, and we go there together, and we try to get something that will benefit all of us, and the manufacturer who can pay for the bonded warehouse gets all. All we can do is to help him along. We have helped him once before and we are to help him again. That is the reason why I think we ought not to take any action. If the law is clear, let them apply the law. If we find we are going to be burdened, then we can say we are free agents; but we will not be free under such a law as that.

The Chairman would inform the members that not more than a week ago an article appeared in one of our journals which gave the result of an interview between a lawyer and one of our most eminent pharmacists, where a very different ground was taken. They went to Washington for the purpose of seeing the Secretary of the Treasury, not to pay the tax; they did not want any tax on it. Now that is the other side of the case. That is the only reason why it would be a good thing for this section even at this time. A committee of three would be sufficient to represent, you may

say, the fraternal branches, although apparently somewhat antagonistic. On general principles, the chair would rule that the resolutions would be laid on the table, for the simple reason that we have no data from Washington to predicate any action upon.

A general discussion ensued, which was participated in by Messrs. Goode, Hallberg, Whitney, Ryan, Dadd, Main, Ebert, Nattaus and Remington, and Mr. Morrison, of Montreal, was called upon to give his views, as one familiar with the practical use of free alcohol in arts under the laws of Canada.

Mr. Morrison—It seems to me the members who have spoken so far have failed to grasp the point Professor Hallberg pointed out. As I read the sections of the act, I do not see that the law provides for free alcohol as we use alcohol now. It says, alcohol for use for manufacture or in the arts. To my mind, there can be no question about it, that if the government were to take off the excise duty on alcohol as it is to-day, and allow pure alcohol to be sent out without any excise duty, it would practically mean the ruin of the retail druggist, because it is an utter impossibility for the government to keep track of the alcohol sent out and used by every retail druggist in the country. Consequently, the manufacture of articles containing alcohol would immediately fall into the hands of manufacturers. There can be no question whatever about that. I think, as the act reads, there is at present nothing to prevent the government from adopting a plan in use in Canada and Great Britain—that is, the using of methylated spirit. We have had methylated spirit for quite a number of years,—that is, alcohol containing 10 per cent. of methyl alcohol. Now this methyl alcohol was added for the purpose of preventing its use as a beverage, or in any mixture intended for internal use. It could be used for such purposes as, for instance, making spirits of camphor, or for certain liniments, or for making varnish. Another thing in connection with that was that the alcohol distillers used to prepare this article by using the methyl alcohol obtained from the government, and adding it to the ethyl alcohol, and sending it out in that shape. The government found, even with this 10 per cent. added, it was being used as a beverage, and in order to stop that they withdrew the right to manufacture it from the distillers, and all the methylated spirit used in Canada is manufactured under the immediate supervision of the government, and they now add 25 per cent. of mineral naphtha. That can be used for burning, for making varnish, and for certain liniments. One druggist I know used it in tinctures and in liniment of iodine. The result is he has the reputation of making the strongest tincture of iodine in the place. As you are well aware, iodine forms with methyl alcohol a volatile compound which acts upon

the eyes something like the oil of mustard, and the people have the idea that this man sells awfully strong tincture of iodine. I know of only one who does that. I see nothing to prevent the government adopting that plan. How do we know but that the government is elaborating such a plan as that? If that was adopted, I do not think it would injure the retail druggist; but a free wine spirit would be the ruin of the retail drug trade.

Further discussion ensued on this question, and the original motion was laid on the table. An amendment providing for the appointment of a committee to act or co-operate with the National Wholesale Druggists' Association at the proper time when this question regulating the admission of free alcohol comes up for discussion in Washington. The motion to appoint a committee of three to formulate a resolution bearing on this subject, to be presented to the Committee on Commercial Interests at the next session, was adopted, and Mr. Dohme, Mr. Whitney and Mr. Hallbeg were appointed said committee, with Mr. Hallbeg as chairman.

The section then adjourned.

THIRD DAY.

SCIENTIFIC SECTION.

The meeting was called to order by Prof Sayre, chairman, who delivered his address, as follows:

Gentlemen, and Friends of the American Pharmaceutical Association.—It is customary to allow a few minutes to the chairman of the section to make some remarks at this time, and I shall, with your consent, take the liberty of using the time allotted for this purpose to present somewhat of a semi-pharmaceutical subject, believing that this will be a pleasant and perhaps profitable diversion, and a change from the routine of the hour.

I wish to say, however, before proceeding to the subject in hand, that I have been very much gratified with the help and the cordial endorsement of the members in the work of the committee of this section.

Hearty responses have been received from very many members, and those who were not in a position to contribute personally, expressed their hearty co-operation and interest in the work. I feel that the importance of the scientific side of the Association is felt on the part of every member, whether he be personally interested in the legislation, education or business sides of the organization, and I have felt greatly honored in acting as the representative of this one special department.

I have with me thirty-five papers to be read at this session. Many of these are of necessity lengthy, and, according to the rules and the policy of the

Association, it is necessary, of course, that these papers be presented in the abstract. The writers of many of them have already expressed a desire that they be relieved of the necessity of reading them, and that the reasons for the paper and the information connected with it should be given, which the paper does not contain, believing that the paper itself will be best represented in the pages of the report, without being read at this meeting.

It is my desire that at an early stage of the meeting a special committee be appointed to consider a contribution which I have here from Mr. J. B. Naglevoort, entitled, "Advance Sheets of the Analytical Companion to the U. S. Pharmacopœia, 7th Edition."

This work is offered to the American Pharmaceutical Association at this meeting by the author, who suggests that when the work is complete it be published in a form somewhat similar to the National Formulary, and be distributed to the members of the Association at actual cost. I have looked over the material, and have consulted with the president of the Association, who, with me, has agreed that it would be best to have a few duplicate copies type-written, and that these copies be distributed to the members of the committee who shall be appointed at this meeting, to determine upon the proper disposition of the paper, or rather the work itself, when completed, as to whether the Association shall accept it upon the terms of the author or not.

Certainly, the thanks of the Association are due to the author for his good words which have accompanied this offer, and for the effort that he seems to have put forth in an unselfish way; and I would therefore, suggest that, as I have stated, at an early time the Association appoint a committee of five, or any other number, which shall go over the type-written manuscript and make a report, with recommendations, upon it.

Now, as I have stated, I shall endeavour to entertain the friends gathered at this meeting, in lieu of an address, with the brief treatment of a semi-pharmaceutical subject.

It may be known to some of the members of the Association that I had the pleasure of examining, during the past year, the product produced in New Mexico from the seed of the Trieste Colocynth. A paper upon this subject was published under the head of the "American Grown Colocynth." The paper suggested to some friends of mine that perhaps I was not aware of the fact that the colocynth apple grew wild in the State of Kansas.

At the last meeting of the Kansas Pharmaceutical Association, I was told by one of the visiting members that he had met in his travels a gentleman who had said that the colocynth apple was a native of the western part of the State. This in-

terested the gentleman sufficiently to procure the so-called colocynth, and with this plant he came to me for its identification. I present to you here the root of this plant, for the purpose of showing its marvellous growth.

We have in the open plains, at an altitude of 2,000 feet above the sea, up to the base of the Rocky Mountains, these enormous roots, some presenting odd characteristics not observed in some found in the eastern regions. One of these is the *Cucurbita Perrenis*, Gray, now known as the *Cucurbita Foetidissima*. The common name of the plant is wild pumpkin and moon in the ground, producing a trailing stem, varying triangular, woolly, pubescent leaves, whose blades are six or eight inches in length, the fruit being about the size of an orange, perfectly spherical in shape, yellow when ripe, with greenish longitudinal markings, fibrous internally, as can be seen by inspection. The seeds are generally about two hundred to the apple, about one-third of an inch in length. The root, however, is the most remarkable part of the plant, which I here present to you. It is hollow, the inside of the cavity being covered with a healthy cortex, there being no signs of decay present; around the margin of the cavity are the remains of several stems, showing that in this portion the buds of the annual stem appear. At about two feet from the ground the root bends abruptly, and sends out a couple of branches. The root is fibrous internally almost woody, containing an enormous amount of stored-up nourishment for the rapid development of annual stems, but this store of nourishment is amply protected against the hungry gophers, moles and mice, and other animals, on account of its intense bitterness.

Professor Bessie, writing upon this subject, says that in the struggle for existence those roots only have remained whose bitterness was sufficient to overcome the hunger and thirst of the animals of the plains.

Professor Bessie speaks, in an article on this subject, of another plant which resembles this very much, known as the wild morning glory—the *Ipomoea Leppafolia* Torr.—a beautiful plant, with a bushy head, bearing numerous large purple flowers, closely resembling those of the common cultivated morning glory of the gardens, the stems being numerous and branching, rarely attaining the height of a couple of feet; but the root is also enormous, often approaching the size of the wild pumpkin.

I may state, in closing, that the roots of the wild pumpkin have been found of about seven feet in length and of proportionate diameter.

It may be interesting for the members of the Association to know that the State of Kansas, although a portion of it being of an arid region, can show enormous growth, and the growth itself may be of some possible value medicinally. This subject has not been investigated; but I propose,

during the next year, to ascertain the value of the material, and I shall be very glad to contribute my work to this Association.

Nominations for officers for the ensuing year was next in order, Messrs. Schlotterbeck, Holtzhauer and Kremer being nominated for the chairmanship, and Messrs. Kaufman, Beale and A. R. L. Dohme for the position of secretary.

The first paper read was by Dr. Whelpley, on "*Rhus Toxicodendron*," in which the opinion was expressed that this drug did not entirely lose its poisonous properties when dried.

The discussion was participated in by Messrs. Simpson, Alpers, Lloyd, Payne, Eccles, Baker, and many others, each speaker proposing an infallible remedy for the disagreeable effects produced by the drug.

On motion of Mr. Connor the paper was received, and referred to the committee for publication in the Proceedings.

The Chairman—We will now take up paper No. 15, "*Grain Weight—A Study of Wheat*," by J. U. Lloyd. Professor Lloyd will give us an extract from his paper.

Mr. Lloyd—That, Mr. Chairman, was my intention. I did not intend to read the paper at all, and did not want to occupy the time, as it is made up largely of statistics, which may be used in the future as a work of reference. I have felt like apologising for bringing this paper, as it seemed so foreign to medicine; yet, gentlemen and brother pharmacists, in the time to come, and before very long, we may expect to step into the field, which now seems not to be ours. There are profits to be made, and chances of making a living, outside of medicine proper—profits for experts in the direction of pharmacy where pharmacists now seem not to have a chance or an opportunity. We have chemists and pharmacists in our pork packing establishments, we have them in the arts and industries in all directions, but we have not yet, as far as I know, directed our attention to the staple wheat. In that direction the time will come when the rule-of-thumb estimations of wheat will pass into the hands of the scientists unquestionably. In speaking of this paper, I will call your attention to the fact that this matter was brought out by request. Recently, when in New York, the subject of the grade of wheat arose with some gentlemen connected with pharmacy and myself, and the origin of the weight of wheat was a matter of dispute or a matter of conversation. I agreed, on my return to Cincinnati, to study the matter up, and I did so. After having studied the matter up in the line of the grain weight, it assumed an investigation in an economical sense, and I have tabulated the results in this paper, so far as the grain weight was concerned. I have found that the grain weight was not derived from the conception of any one as to its origin—that the general acceptance of the term grain weight and the standard that made it,

although in a general sense correct, was not true when it was brought down to the test. Our works on pharmacy have stated the grain weight was derived from the weight of the average size of grain of wheat, which in this case is correct. It was derived from the weighing of the grain of wheat in the middle of the ear; but the grain of wheat does not and should not represent the weight of wheat from the middle of the ear, and for a recognized stand they made the grain weight. King Henry III., about six hundred years ago, used the weight of a penny, and made it the standard pennyweight. He said the pennyweight should weigh as much as thirty-two grains taken from the middle of a fair sized head of wheat. Thus the pennyweight of that time; and, so far as I know, the pennyweight was used for the grain weight two hundred years after that. King Henry VIII., in the twelfth year of his reign, said that the pennyweight should be divided into twenty-four parts, and that a twenty-fourth part should constitute the standard grain. Thus, one hundred grains average size should only weigh 75 grains, according to the description of a grain of wheat of the size it was six hundred years ago. I procured wheat in my neighborhood, and weighed the average size of grain, and, after having dried them, found that they did not come to the size of the grain weight. I also procured grains of wheat from other portions of the country, and found that only with a few exceptions could I select an average sized grain that would reach the size of seventy-five grains to a one hundred grains weight. Then I went, as a matter of some importance in an economic sense, into the study of the nature of these wheats, which are fully explained in the paper.

The Chairman—I had the pleasure, two years ago, of attending a meeting of the British Pharmaceutical Conference, and I noticed one feature of the meeting was, after the reading of a paper, to allow the chairman to call upon any member he chose to reply to or follow the paper. I do not propose to do that; but in this case, in order to facilitate our work, I would like to call upon Professor Oldberg for a five minutes' talk upon this paper.

Mr. Oldberg—I do not think the time of the members of this Association ought to be taken up with the details of this subject at this time. It just occurred to me, however, and I mentioned it to the professor, that I had seen somewhere a table of the different kinds of grain that had been used in different countries. I mean not the weight represented by the wheat grains, but I mean the grain weights existing. Therefore, it seems to me it would be hardly profitable to collect any more grain weights, especially as we do not know whether the grain was like the grain we have today—the grain of six hundred years ago.

Mr. Ebert—I would like to ask Mr. Lloyd, when taking the specific gravity of these grains of wheat,

whether he dried them or simply took them at random. Did he bring them to a state of dryness?

Mr. Lloyd—In reply to Mr. Ebert, I would say I took the grains of wheat as I found them in the market; I selected and counted one hundred grains of the average size, placed them side by side, and they were dried in the drying-room.

Mr. Ebert—I want to say, Mr. Chairman this is a point that should be observed with quite a good deal of accuracy. In the matter of grain I have had a great deal of experience individually in regard to the moisture of the different grains, and there are hardly to subject of either wheat or corn that you can obtain unless you dry off the water and determine the moisture that is in the grain, you cannot determine the s. g. of it, or the weight of it, it has to be done in that way. For instance you will find from 11 to 15 per cent; and you will have to analyse each sample you take after it has been carefully dried, and you will find that the variation is so great that it makes a great difference in the weight.

Mr. Lloyd—Allow me to add that not only can I support Mr. Ebert's criticism, you will find a great difference in the same wheat, in the same head, whether from the base, the head or thick of the spoke, this is referred to in the paper and should be the subject of further investigation.

The next paper presented was one on oil of cloves, by Mr. C. T. Fennel.

After the reading of this paper some discussion took place, on the questions involved it, but on account of the heat and the lateness, of the hour the meeting adjourned till Thursday morning.

ASHVILLE, N C., Sept. 6th, 1894.

THURSDAY MORNING.

The Association was called to order by president Patch. The first thing in order being the report of the Secretary of Council.

Mr. Kennedy, Secretary of Council reported that there were 17 gentlemen recommended to membership, and they having complied with the requirements' he moved that they become members of the Association.

Agreed to.

Mr. Kennedy—Then presented the names of 8 gentlemen for membership, stated that the names would be posted in a prominent place.

Their being no further business to come before the Association an adjournment was had.

SECOND SESSION OF THE SCIENTIFIC SECTION.

This session was opened by the Chairman, L. E. Sayre, who stated that the papers would be taken up in the following order: 34, 31, 32, 8, 9, and 13.

I believe the first order of business this morning is the election of officers. The secretary will

please announce the nominations made last evening.

The Secretary then read the following names for chairman :

Mr. Schlotterbeck, Mr. Holtzhauer, Mr. Kraemer.

The following were the nominations for secretary :

Mr. Kaufman, Mr. Beale, Mr. A. L. Dohme.

After some discussion the names of Messrs. Holtzhauer and Dohme for chairman, and G. B. Kaufmann for secretary were the only ones placed in nomination, and the election resulted in Dr. A. R. L. Dohme being elected chairman, and G. B. Kaufman secretary, of the Scientific Section.

The Secretary—The officers for the ensuing year are, for chairman, A. L. Dohme, Baltimore, Md., for secretary, George B. Kaufman, Columbus, Ohio.

The next paper was "Microscopical and Chemical Examination of Cloves," by Henry Kraemer.

The Chairman—This has been a very interesting paper and merits a discussion which might last a good while. It seems to me that the chair must hold to the one point, and that is that the must limit the remarks to 5 minutes.

William Simon, Baltimore, Md.—Mr. Chairman, this paper, it seems to me, to be one of more than usual interest, not so much on account of the work done, but on account of the fact that we have here introduced for the first time a method that has not been applied to any extent in the field of quantitative analysis or estimation. In making this statement I desire not to be misunderstood, knowing well that we have used the microscope in the determination say of the diatoms in infusorial earth, and other matter, and we have used the microscope to determine the weight of the blood corpuscle, but as far as my knowledge goes, no attempts have been made heretofore to use the microscope actually, in what we might call a microbalance in the field of analytical work, and the merit of this paper, I repeat is the opening of this new field to the investigator. I do confess that the results so far are far from absolute exactness, but we should remember that every new method requires the working out, not by an individual but by a number of men and by such hearty cooperation on the part of many, I have no doubt that this method will be one that is applicable not only to the instances mentioned by the author, but may be one which will be used in many fields and widen out the sphere of our labors. We are scientists and so far have not been able by chemical means to make exact quantitative determinations. It may be possible that even in cases where substances are to be presented, for examination by chemical means, the quantity may be determined microscopically and I think that this will refer more especially to amorphous rather than to crystallize precipitates because the the crystal is bound to grow and change in weight, and even in the

amorphous body precipitated the granule varies with the density of the liquid used, but all this has to be investigated, and I for my part think that we ought to be very much indebted to Mr. Kraemer for presenting in this Association an actually new method of investigation, and I hope that many will cooperate with him to make this work a success in the future.

R. G. Eccles, Brooklyn, N. Y.,—I would like to ask whether any attempt to estimate and to determine the difference between the qualities of different growths in different countries has been made, and whether such a determination was made to find out whether the proportion of salts in which he makes the test is uniform.

Mr. Henry Kraemer—It would take me about 10 years to do that. Dr. Eccles apparently don't realize the fact that I have only been working 18 months on this matter. I have thought of this thing, and every spare moment I have possessed myself of and I am thankful for the results I have obtained. I merely want to say that these are comparatively few. I have worked very hard at this subject and have ascertained that there is little difference between any commercial samples I have obtained. There is not much difference in cloves ground, there is very little difference. If you have a comparison to make and you want to make a comparison with the clove, in which you put the starch you will find that you have relations corresponding.

The next series of papers was contributed by students of the Ann Arbor School of pharmacy, and was read by Prof. J. O. Schlotterbeck, and roused considerable discussion, which was participated in by Messrs. Alpers, Dr. Whelpley and others.

The chairman of the committee on J. B. Nagelwort's paper then reported as follows :

We find the paper contains many valuable suggestions that are of great service, but inasmuch as the paper is presented accompanied by a proposition that it shall be published in the style of the national formulary and issued at cost to our membership, involving expense, and also from other considerations outside of the province of the section on scientific papers, we recommend that the paper be referred to the council with the suggestion that the information contained in it be placed by the author at the disposal of the committee on revision of the U. S. Pharmacopœia at an early date. Signed by the committee C.S.N. Hallberg, J. N. Huity, Edgar L. Patch.

The Chairman—You have heard the recommendation of the committee, what is your pleasure? Moved and seconded and adopted that the report of the committee be adopted.

The Chairman—We will now call for the reading of the paper of Mr. Dohme, on the subject of the relation of Hydrastine and berberine to one another, and their mode of combination in the drug.

Mr. T. L. A. Greve—I see that this paper begins with a statement that these two alkaloids were for many years regarded as identical. Now I myself have abstracted two, as early as 1854. In 1862, the hydrastine was obtained in very fine crystals in the laboratory of the William S. Merrill Chemical Company. In this connection it would be proper to raise the question whether berberine and hydrastine is identical with the berberine obtained from the *viburnum vulgare* which to me is doubtful. At the Chicago Fair I went to see the Merck Exhibit, and I wished to see the berberine salts. I was shown what was said to be berberine salts and they appeared to me to be from the *viburnum vulgare*.

were identical with what we call berberine.

Mr. Lyman F. Kebler—The relation of hydrastis to berberine seems to be a very important question, only when you are analysing alkaloidal plants continually, and we would like as much information on this subject as Mr. Dohme can give.

The Chairman—I will ask Mr. Dohme, after giving opportunity for other questions, if there are any other questions or remarks, I would like the writer of the paper to have the opportunity of closing.

Mr. John U. Lloyd—I have stated this that the hydrastine and berberine subject has been completely covered. I believe I am already on record so far as the historical point is concerned. In reference to the extractive matter in hydrastine, berberine so far as being conspicuous active principle did not first appear. The first active principle was called hydrastine, and that was before it was called berberine in the Old Country.

The discussion on Dr. Dohme's paper was continued by Messrs. Ebert, Hallberg, Lloyd

Mr. Lyman F. Kebler, of Philadelphia, then read a very interesting paper on "Analytical Alkaloidal Chemistry," in which he compared the gravimetric, volumetric, and Meyer's method of alkaloidal assays. This paper produced a lengthy discussion taken part in by Messrs. Dohme, Bartley, Hallberg, Caspari Eccles, Eliel and Lloyd.

The next presented was one on "Laboratory Notes," by Prof. Patch, of Boston, which was discussed by Messrs. Hallberg, Thomson and others. This was followed by papers on the behaviour of Ferratin and Albuminate of Iron with artificial Gastric Juice" by J. O. Schlotterbeck, and S. R. Boyce, of Ann Arbor, and one by Wm. Simpson on "The names of Medicinal plants of Commercial value, gathered in North Carolina, their value and relative amount sold in this country," after which the session adjourned.

ASHVILLE, Sept. 6th, 1894

AFTERNOON SESSION.

SECTION OF SCIENTIFIC PAPERS

The section on Scientific papers was opened by Dr. H. M. Whelpley in the chair, the chairman, Dr. L. A. Sayer, not being able to be present.

The minutes of the last session were read and approved.

J. N. Hurty, Indianapolis, Ind., offered the following resolution:

Resolved, that the officers of the Scientific Section be instructed hereafter in all printed papers to have signed thereto simply the name of the contributor.

Question being put on the motion of Mr. Hurty it was agreed to.

A comparison of methods of testing pepsin, by Dr. E. H. Bartley, of Brooklyn, was then read. This interesting paper was the result of a large number of careful experiments in this line, and will be of great value to future investigators.

Dr. Eccles, then read a paper on "Pharmaceutical Bacteriology," which was followed by one on "Additional experiments with *Datura Stramonium*," by A. R. L. Dohme, and one on the "Relative value of two kinds of *Ipecac Root*," by the same author.

Chas. M. Ford, of Denver, then read a criticism of the "Official process for Spirit of Nitrous Ether," followed by "Further notes on *Taraxacum Root*," by Prof. Sayre.

The following papers were then read by title as time would not allow their being read: "A Critique of Criticism on the National Formulary," by L. Stevens, Brooklyn; "Reduced Iron," by A. R. L. Dohme; "A Method for the Estimation of Mono- and Bicarbonate of Sodium," by Prof. W. P. Wenzell; "Alligation in Pharmaceutical calculations," by Prof. T. D. Reed, Montreal; "Powdered Extracts," by C. P. N. Hyllberg; "Some Pharmaceutical uses of Acetone," and "Solubility of Canada Balsam in Alcohol," by J. E. Morrison, Montreal; and "The use of Isobutyl Alcohol for the detection of Morphine and Codeine," by J. B. Nagelvoort, all of which were referred to the committee on publication.

The officers of the section were then installed and after the minutes of the meeting had been read by the secretary the section adjourned.

ASHVILLE, Sept., 7th, 1894.

FIFTH DAY.

MORNING SESSION.

The Convention was called to order by the president, Mr. Patch.

The Secretary of Council read the records of Council partly, and Mr. Sheppard rose to a point of order, that only the propositions for membership should be read at this time. This point of order was sustained by the president, and the nine gentlemen recommended yesterday, were on motion invited to become members of the Association.

The Secretary of Council then presented the names of nine applicants for membership, and

these names were posted in the room. The Convention then adjourned.

The Section on Legislation and Education was then called to order by the chairman, Dr. Eccles.

Dr. Eccles, the chairman, then read his address.

Mr. Whelpley moved that Prof. Kraemer be requested to act as temporary secretary. Agreed to.

On motion of Mr. Bartley, the President's address was referred to the Committee on publication. On motion of Mr. Sheppard, the recommendations contained in the address were referred to a committee.

The Chairman appointed the following committee: Messrs. Alpers, Ford and Bartley.

Mr. Alpers declined and Mr. Sayre was appointed in his place.

The Chairman—The next business is the Report of Committees.

Mr. Sheppard—At the meeting of this Section last year a Committee was appointed upon a resolution offered by Prof. Hallberg. That Committee is now ready to report.

The Report was then read, and on motion was received.

Mr. Sheppard—I shall not delay the proceedings any time, as I want to give away to Mr. Simon. I will say that all the members of the Committee are agreed in pronouncing this the most troublesome question they have ever had to consider in their lives. It seemed to us to grow from day to day throughout the year. We commenced the consideration of it in the beginning of the year and worked earnestly on it for the whole twelve months, and, we believe, gentlemen, that this Report which the Committee has presented to you points the way. We do not expect that you will adopt every one of these resolutions in detail, but we do feel this question should be considered from this broad standpoint. What shall be the position of this Association towards pharmaceutical education, towards the great cause of teaching in the schools, and in what way can we help the great cause of pharmaceutical education? Any one who will take the time to consider it will see that this work is going through a great process of evolution, like hundreds of other classes of work of this kind. That it must be constantly changing; that there is in this great country of ours such varied interests and different lines, that we feel there must of necessity be various methods of instruction among this class of technical education. We can understand that it is impossible to unify all pharmaceutical training, for there must be schools which will teach one branch, and other schools which will lean towards another, and that there is a class of schools in this country, and will be for many years, that will confer the title known as Graduate in Pharmacy, which title, by general consent is supposed to signify

that the man holding it is competent to run a drug store. The title of Pharmaceutical Chemist or of any other that might be conferred would not necessarily mean that.

Now, your Committee holds that this Association, made up very largely of retail apothecaries, is in the position to offer good advice to that class of schools, and believe we can go no further. Many of us who blushed on first reading that resolution as offered last year said "These are exactly my sentiments." I was one of those who thought so. I listened to the reading of the resolution last year, and I immediately said "I am there"—that is certainly what I believe in, but when I came to consider closely and carefully the other idea I became convinced that this Association could not in any way, by any possible twisting of its rights or duties, pass such a resolution as that. We are simply in the position of a good friend to the cause of education. This is a prima facie case by its very existence. This Association is established as the friend of education, and the Committee took the position that this is the only place in the United States where such disinterested advice can be given to the schools, and that the schools may feel that the advice is actually worth something, and your Committee is convinced that this Association has no right to give such advice unless it be of a quality which will be endorsed by at least two-thirds or three-fourths of all those present. It is not a question of the rule of the majority. It is removed entirely from that domain. It is a question of having a thing so good come into this Association that we believe we ought to tell the schools about it, and that we have no right to say to them this is a good thing unless two-thirds or three-fourths of all the members present voting at this Section are willing to endorse it.

Mr. Hallberg—I think we have had a very thorough explanation from each member of the Committee on this question, and it seems to me rather peculiar that each member of the Committee had to stand up and defend this Report as extensively as they have done.

One member finds fault with the original resolution, another finds fault with the entire question, because the Association, he says, ought not to go into details or formulate a general principle to start with. The last member of the Committee desires everything in the way of instruction and all that sort of thing, at length set forth.

The Chairman's address, however, gives considerable light upon the subject in all its features. I believe the best thing we can do at the present time would be to adopt the second resolution, and I therefore, Mr. Chairman, move you that the second resolution be adopted.

The second resolution was then read by Mr. Hallberg, and Mr. Hallberg moved that the resolution be amended so as to read "that this Association invites colleges, schools of pharmacy and State Boards of Pharmacy each to select one representative to be members of a proposed committee together with the members appointed by this Association."

This amendment was seconded by several members.

Mr. Sheppard thought that the committee would be exceedingly unwieldy.

Mr. Ebert moved a substitute—Resolved, "That a Committee of three or five of this Association be appointed, none of whom shall be either teachers or members of Boards of Pharmacy, who shall take into careful consideration the condition of pharmaceutical institutions in this country and make recommendations thereon, and report to this Association at the next Annual Meeting."

I wish to modify that, and simply say that a committee of three or five not including any who are members of this association, whether he is a teacher or not. I do not ask to exclude teachers, but simply that a committee of three be appointed who shall take this matter into consideration.

The substitute of Mr. Ebert was seconded.

The Chairman—There is a paper that has a bearing upon this subject, and the writer requested the privilege of having his paper presented first.

It is a short one, but bears directly on the subject. It is by Prof. Rusby, of New York. Now, I don't want to take action on that request, but will lay it before the house, and if the house chooses Prof. Rusby's paper will be read first.

Prof. Beal, arose to a question of privilege, and asked permission to make a statement and referred to page 275 of the proceedings of the Association, which reads as follows: Ohio, Ohio National, Normal, Scio and Northern Indiana may be regarded as purely business ventures, run in connection with some private teaching institutions.

The statement is objected to, first, that it is a purely business venture; second, that it is connected with a private institution. The institution with which it is connected is a regularly incorporated institution, and has been for thirty years or more, and is under the supervision of the Methodist Episcopal Church of America, and occupies the same relation to that organization which the University of Denver, the Northwestern, of Illinois, and several others occupy, and is not in any sense a private teaching institution, nor is a department connected therewith a private business enterprise, since the revenues received from that department at present go nowhere near paying the expenses. I do not wish to make this a personal matter at all, and I have no doubt that when the paper was written and presented to this institution, but that the author thought he was correct, and

did not intend to misrepresent our school or any other school. If this had been an expression of opinion merely, I would not have called upon this Association to correct it, but it purports to be a statement of fact, and the statement is most decidedly incorrect, inasmuch as this is a prominent publication and goes into all the great libraries of the world, we ask that this statement be corrected, as publicly as it was made. I think it would be simple justice, and there are those here, many of them acquainted with the facts and with our school and can support what I have said.

Prof. Remington moved that the statement of Prof. Beal be placed upon the records of this Association.

Mr. Hallberg—I desire to say that there is a typographical error in the first place in this article, which was corrected in the copy, and was not corrected here. This reads, Ohio, Ohio National, Normal, Scio, and Northern Indiana. Now the word Ohio could mean scarcely anything, but the Ohio State University. Now, that is not included in the table, and it has never been in that class. The error was in printing the paper, where Ohio should belong to Normal, making it read, "Ohio National, Ohio Normal, and Scio," making three institutions in Ohio and in Northern Indiana.

On motion, Prof. Rusby's paper was directed to be read first.

The paper was then read and accepted, and referred to the Committee of Publication.

A paper on query 5. Can a minimum standard of time of attendance and quality of pharmaceutical education, be adopted by American colleges? by Prof. Oscar Oldberg.

Paper read.

The nomination of officers of this section was then taken up.

After the nominations had been made, a paper was read by Prof. Good of St. Louis, after which the section adjourned.

ASHEVILLE, Sept. 7th, 1894, 9 P.M.

SECOND SESSION OF THE LEGISLATION AND EDUCATION.

Dr. Eccles opened the session, and Prof. Hallberg was asked to assume the duties of secretary.

Mr. Simpson offered the following resolution, being similar to the resolutions passed by the International Pharmaceutical Convention which met in Chicago last year:

Resolved that it is the sense of the Association that no person should be admitted as an apprentice in pharmacy unless he shall have given evidence by satisfactorily passing the preliminary examinations, or otherwise, that he possess a general education sufficient for such apprenticeship, and has advanced as the conditions of the practice of pharmacy in the United States permit, and

his terms of apprenticeship in pharmacy should in no case be counted as far as it may antedate such evidence of sufficient preliminary education.

Resolved, that the period of apprenticeship in pharmacy ought not to be less than four years including the time devoted by the apprentice to regular attendance upon the courses of instruction in pharmaceutical schools.

Resolved, that this Association approves of the establishment of a compulsory curriculum of pharmaceutical education and holds that no person should be regarded as a qualified pharmacist who has not pursued to completion a systematic course of instruction in chemistry, pharmacognosy and pharmacy, and that the Secretary send copies of this resolution to each Board of Pharmacy and to the secretaries of Pharmaceutical organizations where they have any pharmaceutical law.

After debate these series of resolutions were adopted.

Mr. Hallberg requested information as to the report of the proceedings of the International Congress.

Mr. Oldberg said that the Committee of the Association had brought in a report at this meeting which the Association adopted and referred to the Council.

A paper was then read entitled "Answers to queries."

Dr. H. M. Whelpley then read a paper in reference to pharmaceutical education.

The papers aroused much discussion, as the subject of pharmaceutical education is a most important one, and most of the professors present had pet ideas to air. Profs. Fennel, Hallberg, Remington, and Messrs. Whitney, Morrison, Mason, Alpers, Schlotterbeck, Bartley, Dohme, Dadd and several others discussed the points raised, after which Mr. Sheppard made the following motion:

Resolved, that this section would request the Association to furnish it more time at future meetings, and three sessions instead of two as at present.

Adopted.

On motion of Mr. Thompson the remaining papers were presented by title, and referred to the Committee on Publication.

The Chairman—We have a large number of reports from various parts of the world, in relation to pharmacy. On motion the reports were received and referred to the Committee on Publication.

Mr. Hallberg moved that a vote of thanks be tendered to the author of this report for his compilation. It is a valuable work of reference. He has given us a report from 200 countries.

Agreed to.

Mr. Payne offered the following resolutions:

Whereas the position of pharmacists as professional men is not properly recognized by the

U. S. Government either in the Navy or Army, that it is therefore,

Resolved, that the President of our Association, appoint a committee consisting of one from each State of the Union, the duty of which committee shall be to procure in each State the support of their Senators and Congressmen, by sub-committee for the passage of an Act giving the pharmacists of the army and navy the same rank and pay as now enjoyed by the assistant surgeons in these two branches of the service.

On motion of Mr. Hallberg, this motion was referred to the Association with the recommendation that we report favorably upon it.

On motion of Mr. Ebert the secretary was instructed to cast the ballot for Prof. Good, of St. Louis, as the next chairman of the Section on Legislation and Education.

Agreed to.

The same motion was passed in regard to the secretary. Prof. Patch and Mr. Sheppard were appointed to conduct the officers to the platform.

On motion of Prof. Patch the section adjourned.

ASHEVILLE, Sept. 8th, 1894.

SIXTH DAY.

The Association was called to order by the President.

The first business in order was the reading of the minutes of Council.

Prof. Ebert moved that those who asked permission may be allowed to publish in their works the National Formulary.

This motion created considerable discussion. Prof. Caspari spoke to the motion and said, that it would popularize the formulary and be of great benefit to the profession at large.

Mr. Mayo stated that the view taken by Prof. Caspari carried with it the idea that we are a commercial body and wanted to do it to make money, when that was not the object, but that the object was to induce its general adoption and that the Association could afford to do it even if there was a small loss.

Mr. Ebert said that the council, if they deemed it wise might ask some financial consideration and made that as an amendment to his motion.

Prof. Remington said that the object of the committee was to secure as far as possible the dissemination of the formulary, to get the book before the doctors of the country and to get them to use it.

Mr. Ebert was then requested to write out his resolution.

Prof. Good offered the following resolution in response to a resolution sent by the A. M. A.

Resolved, that the A. P. A. condemn prescribing and dispensing of proprietary medicine while

the necessity of protecting capital invested in manufacturing galenical medicine is recognized.

Resolved, that the work of formulating our pharmaceutical preparations should be published, but that a technical and scientific character should be given it so that it may appear in professional literature, and that the preparations of Pharmacopœia and National Formulary be free to pharmacists to manufacture and sell.

Resolved that physicians be particularly requested to consult the U. S. P. and National Formulary in making preparations, and that we request that they be made text books in the colleges.

On motion the report of the committee was accepted and adopted.

The report on the communication of the National Medical Association was then read, and on motion was received and adopted.

The report of the committee on the President's address was then received and acted upon. Prof. Caspari in the chair.

The report is as follows:—

Your committee towhom was referred the President's address, after careful consideration, respectfully recommend the adoption of the following suggestions contained therein.

The first recommendation is that this Association publish an observation sheet for the purpose of recording difficulties of practice, etc., (see President's Address.) The same when filled to be forwarded to the chairman of the Scientific Section for comment and presentation at the next meeting of the Association.

Your committee further recommend that the chairman of the Scientific Section be authorized to have 5,000 copies of this observation sheet or such a number as may seem to him to be necessary to carry out this resolution.

Second—The recommendation that the sections on Education, Legislation and on Scientific papers bring to the Association an outline of the course of instruction on Pharmacy as will in their estimation be desirable to teaching colleges to conform to as far as practical.

Your committee suggest the section be requested to prepare this outline for presentation at the next meeting of the Association.

The suggestion of your president in relation to your taking steps towards securing a National Pharmacy commission, and a National Pharmacy Law is not recommended by your committee for adoption for the reason that while the National Law regulating the profession of Pharmacy might be as desirable as a National Law regulating the practice of medicine or National Bankruptcy Law. In reference to the recommendation of your president that this Association establish a scholarship fund of \$1500 annually for the purpose of securing higher education in pharmacy, to suitable candidates, your committee, while in full sympathy with

the feeling that prompted the recommendation and appreciating the ideal of pharmacy calling it forth, feel that the conditions financially throughout the land will not warrant us assuming the responsibility of establishing such a scholarship and therefore cannot recommend its adoption.

On motion the report of the committee was received and adopted.

Mr. Whitney—I ask the indulgence of the Convention upon a matter which should have come before the Section on Commercial interests, but it was not possible to present it to that section.

Whereas, in the past few years, several manufacturing pharmacists have volunteered and made it a specialty to supply physicians with ready made material.

Whereas such a practice is highly detrimental to the advancement of science of medicine as well as the commercial interests of dispensing pharmacists and druggists, therefore, be it

Resolved, that the A. P. A. condemns such practice, and recommends and advocates the withdrawal of practice from all firms engaged in furnishing physicians direct with their manufactured products.

The question being on motion of Mr. Whitney, seconded by Prof. Ryan, it was received and adopted.

SECOND SESSION.

The President called the Association to order and stated that the next business in order would be action upon receiving the applications for membership and approving of the same.

On motion of Secretary Kennedy the applicants were invited to become members.

Agreed to.

After several communication had been acted upon, votes of thanks to the citizens of Asheville, and the officers of the reception committee, the press, manager of the Battery Park Hotel, Kenilworth Inn, and Hot Springs Hotel, and others was unanimously adopted.

The installation of officers for the ensuing year then took place, and after speeches from the new incumbents, the Convention adjourned to meet in Denver, Col., next year.

THE YELLOW COLOUR OF SANTONIN—On exposure to light is, according to Lascar (*Phar. Record*), not due to formation of photosantonin acid, but to a resinous substance which has been named Xanthopsin. This peculiar body is credited with causing all of the dangerous symptoms which are sometimes observed in the administration of santonin, and is, as well, responsible for the peculiar colour which the urine of patients under treatment with santonin assumes. The toxic symptoms induced by this body, whereby vision is distorted, and the patient sees everything as if in a yellow light, are termed Xanthopsia.

The National Wholesale Druggists' Association.

This Association held their Twentieth Annual Convention in the city of New York, October 1st to 6th. The gathering, from all parts of the United States and from Canada, was a most important one. The delegates together with their wives and daughters numbered in all some five hundred. Every State in the Union was represented.

A New York paper makes the statement that this Convention represents a capital interest of about five hundred millions of dollars, the richest, with the exception of the bankers, ever held in the United States.

The business meetings of the N. W. D. A. as well of those of the Manufacturers and Wholesale Dealers in Proprietary Articles were held at Delmonico's, the committee having secured all the accommodation in the building above the Cafe. There were nine business sessions in all—the first for organization on Monday evening, October 1st, at eight o'clock.

Addresses of welcome were delivered by Darwin R. James, representing the N. Y. Board of Trade and Transportation; Thos. Main, Chairman of that Board; and John M. Peters, Chairman of the Entertainment Committee.

The presiding officer of the N. W. D. A. was the president, Mr. Frank A. Faxon of Kansas City; Secretary, Mr. A. B. Merriam, Minneapolis. The meetings of the Proprietary men were presided over by Dr. R. V. Pierce of Buffalo with Mr. Joseph Leeming (an old Montreal boy) as Secretary.

The business meetings were well attended throughout. Many important subjects were discussed. The most interesting being "Free Alcohol for Druggists and Manufacturers," and "The Maintenance of," as well as "The Abuses of the Rebate System."

At the last session of the Legislature at Washington it was enacted that alcohol should be free (under certain conditions) to the druggist and manufacturer for the purpose of manufacturing and compounding medicines, etc. The Secretary of the Treasury, however, declined to promulgate the regulation and put the law in force, for the reason that Congress omitted to vote or provide in any way the necessary money to carry it into effect. "Cutters" formed principally the basis of the discussion upon the rebate plans so largely in vogue with the sellers of proprietary goods.

The entertainment provided by the committee for the visitors lacked nothing of being complete in any respect. Everything seemed to surpass any expectation in the affording of pleasure, in grandeur or in magnificence.

On Tuesday evening, October 2nd, President Faxon's reception at Delmonico's, from 9 to

12 o'clock, was a most enjoyable affair. Some 400 were present. A *recherché* supper was served at 11 o'clock and music and dancing were added to enlivenment of all.

On Wednesday a drive was arranged for the ladies—Central Park, Riverside Park and a luncheon at Claremont. Carriages called at the various hotels for the ladies at 10 o'clock in the morning.

At 8 o'clock the same evening five hundred seats were reserved in Abbey's theatre. This event brought all together. The new opera, "The Devil's Deputy," by the author of "Erminie," afforded a rare treat. The name is faulty in the same respect as the huge cat advertisement is for Charley's Aunt. The deputy was there however and delighted all with his magnificent voice.

On Thursday, carriage drive and inspection of the steamship "Lucania" for the ladies—the "Queen of the Ocean" she will be called until both her records are broken.

The Cunard Company entertained the ladies on board the vessel and the daylight was utilized in driving about the lower part of the city and Brooklyn.

At 6 30 same evening a banquet for members at Delmonico's. The dinner was a great success. Delmonico's ballroom has seldom seen such a gathering of feasters. They overflowed into every other room on the same floor, and they were all crowded at that, and the attendance would have been still more numerous if there had been space enough for all who wanted to come. With the terrapin came a disposition to make vocal music, precipitated by the refrains of "Dixey" and other patriotic measures. Mr. Depew's arrival was the signal for a jig demonstration. Some of the diners waved their napkins aloft, and some, not content with the regular order of proceedings, were for hearing him speak forthwith.

The menus were superb and ponderous tomes, indeed so ponderous that the Committee on Entertainment had to engage themselves to send them home in separate vehicles. Each had a cover of stamped leather, with half-tone portraits of the Association Presidents within. For dessert there was a little souvenir with candies underneath and a pasteboard mortar and pestle above. When it came time for the speeches everybody tried to crowd into the already crowded banquet hall, and the scene was one of great brilliancy.

President Main and ex-President Faxon sat on the platform at the west end of the room with the speakers of the evening on either side of them.

George M. Olcott, the toastmaster, in his introductory remarks referred to the dinner eleven years ago when the N. W. D. A. met last in New York and the fact that it took

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With formulæ containing quinine you will not find upon analysis that some cheaper alkaloid of cinchona was substituted; or where quinine, 2 grains, was specified, you will not find that only a fractional part of that amount was used. With your pills, for example, it will not be possible for you to sum up the total number of grains according to your formula, and then find upon weighing, with excipient, coating and all, that the weight is not more than should be the weight of the active ingredients alone before being incorporated into the mass. We say this advisedly, for in several instances *where we were underbid* we have had such facts directed to our attention.

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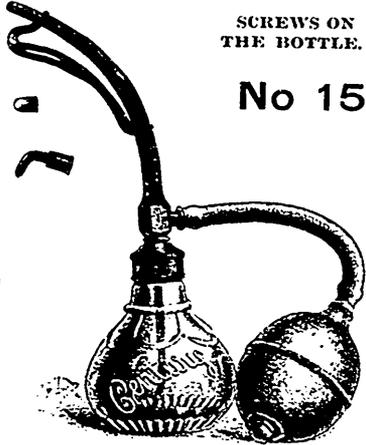
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EXTRACTS DOUBLES ET TRIPLES

eleven years for New York's turn to come again, showed the growth of the country and the splendidly successful organization which has grown up with it. Mr. Olcott proposed the toast "Our Country," whereupon the orchestra struck up and the two tallest men in the trade, Lewis L. Pope, of Cleveland, and W. A. Gilligan, of London, stood on chairs waving the American flag, amid uproarious applause. Thos. F. Main, the present President, was then introduced to respond to the toast of "Our Association."

"The Association," said Mr. Main, "has been founded on principles of business integrity, and to this is due much of its success with the legislative bodies of the country. I am deeply appreciative of the honor you have conferred upon me in my election to-day, feeling sure that your hearty co-operation and assistance goes with it." After the prospects of the future, as represented by Mr. Main, the hard facts of the past came up for a chronicler in Mr. Faxon. Mr. Faxon spoke of his perturbation on Wednesday night when he thought of the speech awaiting him, his vain conversations with Dr. Hood of Lowell, his bafflings with "that tired feeling," and his awakening in the morning with such different feelings from what he intended to have. When he talked of the earlier and less successful days of the Association he was constrained to add that he had it all down on paper, and therefore had to believe it. A deftly turned compliment to the metropolis ended a speech which was undeniably one of the clever things of the evening.

The two presidents were followed by J. Seaver Page who talked about "Trade Organizations" and began by humorously declaring that Mr. Faxon's speech had been rehearsed a week beforehand. If the druggists had pretty generally painted the town red, they had not been neglectful of other hues in the festive potato bug's favorite dietary—paris green. They did not need the brevet "chemist," like their European brethren because over there a druggist was supposed to know everything, and—

"It is not birth or wealth or state,
But git up and git that makes man great."

Mr. Page's speech was heartily appreciated and he closed with some wholesome advice against American hurry and worry.

When Mr. Depew was introduced to speak in reponse to the toast "The City of New York," the entire assemblage rose and cheered. He said he intended to write a book on introductions, since he had so often been made the victim of felicitous ones, like that of Mr. Olcott, who had just presented him. "Mr. Page," he said, "spoke so often and so long on the subject of to-morrow that I thought to-mor-

row would presently arrive. He has trespassed on my domain, besides gracefully slipping over into those of my companions at the board. I have often noticed this discursive quality in those who spend their five minutes, or their thirty-five minutes, as the case, in telling you how unprepared they are to speak at all. (Laughter). Mr. Faxon has told you also about the difficulties of preparing speeches, and, since that pleasure has been denied me, I am left without any excuses. Nothing pleases me so much, however, as to prepare impromptu speeches. (Laughter.) When I was over in England during the last year, among other things, which passed their dividends were the industrials that had been unloaded on the British government. Now, they always have titles over there of some sort to smooth over the feelings of stockholders, and the Bishop and Earl and Member of the House of Commons who were in the directory of Warner's Safe Kidney Cure Company when it was announced that a dividend would not be passed, did not like it very much. It was said that the depression in the States had caused it, and the inference drawn by the London newspapers was that a panic in the United States was a kidney cure in itself. (Loud laughter).

"During the year it is my lot to appear before nearly all the trade organizations of the country, and I have noticed that if they know a good thing when they see it they all come to New York. (Applause). Nothing, however, is more interesting to me than to meet these gentlemen who are indeed the survival of the fittest, and who are in themselves truly the embodiment of whole graveyards of failures. (Laughter). Yankees make fortunes out of the young men who come here with them; Germans get a splendid living out of them; Western men either make fortunes or lose them with them; and the Irish govern them." (Applause and laughter).

The Rev. Dr. E. Walpole Warren, of Holy Trinity church, spoke to the toast "Woman," which he treated with sympathy, tact and good feeling. One of the conclusions which he said he had arrived at after seven years' residence in this, in violation of the Contract Labor law (laughter), was that American women for wit, good dressing, and the "eternal feminine," are the finest in the world." (Applause).

Ex-Secretary Fairchild, on account of illness, was not able to be present, and for his toast, "Sound finance and necessity for business prosperity," ex-Judge Arnoux proved an acceptable substitute.

The last speaker was the first vice-president, J. C. Eliel, of Minneapolis, on the subject of "Amenities in Business Life." Mr. Eliel said in part: "We know that the Romans of old, who had brought the art of dining to a high pitch,

were in the habit of reclining at their banquets. From this, no doubt, comes our modern habit of lying after dinners. (Laughter). I have never before been so closely associated with learned doctors of all kinds, rhetoric, divinity, white lead (laughter), and feel somewhat like the man who fell out of the balloon—not in it. But you took me, gentlemen, like the darky took his wife—for better or worse—and it is your duty to stand by me even if you find me, as he found her, a great deal worse than you ever took me for.

“As to amenities of business life, that brings us face to face with the work done by this association. Thorough organization, mutual benefit, fidelity to the interests of the body as a whole, are the rounds of the ladder that have brought us to this climax of success.” Mr. Eliel's speech was full of good points and delivered with noticeable skill. There was decided enthusiasm when he was presented to the banqueters, with whom he appears to be extremely popular.

On Thursday evening, the ladies were provided for at the Lyceum Theatre, and during the time occupied by the banquet's most serious stage Sothern entertained them—after this the committee conducted them to Delmonico's, where a supper awaited them, and afterwards from the gallery of the banquet hall, opportunity was given them of hearing Mr. Chauncey M. Depew, and other speakers.

On Friday, the last of the series of entertainments took place, a steamboat excursion—they sailed on the steamer “Sandy Hook” from West 22nd street, some 400 in number. J. M. Peters, of the Entertainment Committee, stood at the gang-plank receiving the throng from 9.30 o'clock until 10 or after, and had even to put back to the pier once or twice for belated arrivals. All the delegates who have made themselves more or less famous in the recent convention were on board, with plenty of wives, cousins, sisters and children. The 7th Regiment Band, established in the after saloon, was kept busy playing pieces by request for all imaginable tastes. On deck still other guests were bestowing their attention upon the picturesque harbor views. Without or within, everybody was having a good time.

The Sandy Hook steamed down the Battery and up the East River, under the dizzy heights of the Brooklyn Bridge. Abreast of the Navy Yark she slowed down a moment to afford the inlanders a sight of the white beauties at the wharves. Thence she proceeded down through the Narrows, well into the lower bay, till the Atlantic billows began to make themselves rather too obvious, and the more timid of the women besought good Captain Martin to navigate in stiller waters, with that the Sandy Hook headed up the Hudson and never stopped

till she got past Tarrytown. Meanwhile, Delmonico had appeared a luncheon of six courses for all the picnickers, and diverted their attention successfully from the Palisades to lobsters.

After luncheon, President T. P. Main called an informal meeting to order, and M. N. Kline offered resolutions in beautiful language thanking the Committee on Entertainment. On all sides one heard their praises sung, particularly by the wives and daughters and sisters, who, if they had the holding of conventions, declared they would have them in New York every year. J. C. Eliel, of Minneapolis, was deputed to answer in the Committee's behalf. Then there was a demand for J. Seaver Page, who responded in a graceful speech. Mr. Merriam had resolutions expressing appreciation of the attention which the press had shown the Convention. Other speakers were Brent Good, J. M. Peters, A. B. Scott and R. V. Pierce. The Convention thereupon adjourned, the president to appoint a time for formal closing.

The following officers for the ensuing year were installed: Thos. F. Main, N. Y., President; Vice-presidents—Theo. F. Myers, St. Louis; W. J. Walker, Albany; D. D. Phillips, Fred L. Carter, Boston; J. D. Price, Columbus; Secretary, A. B. Merriam, (re-elected); Treasurer, S. M. Strong (re-elected). Board of Control, C. F. Weller, Omaha, chairman; M. C. Peter, Louisville; F. A. Faxon, Kansas City; E. Waldo Cutter, Boston; B. F. Fairchild, New York.

The Canadian delegates present were the following: Henry Miles, of the firm of Lyman Sons & Co., Montreal; Charles Lyman, of the firm of Lyman, Knox & Co., Montreal; A. B. Evans, of Evans & Sons, Limited, Montreal; Geo. T. Fulford, Brockville; Frank Simson, Simson Brothers & Co., Halifax, N.S.; H. Barker, T. B. Barker & Sons, St. John, N.B.

The next meeting of the N. W. D. A. will be held at Denver, September, 1895. The Committee of Entertainment labored most arduously for the pleasure of all, and the great success of the gathering was largely due to their masterly and untiring efforts. The meeting was the largest in attendance in the annals of the organization, everything in connection with it was upon a scale of magnificence unprecedented, and it is indeed doubtful if any convention was ever held affording to all universal pleasure. The comments upon every feature of the meeting, without exception, were those of satisfaction. One and all carried away with them beautiful mementoes of the occasion, and heart and mind will long retain the most pleasant recollections of this great meeting and of the magnificent courtesies of their New York brethren.

The following comment upon the Rev. E. Walpole Warren's speech appeared in the N. Y. Sun:—

"The Rev. E. Walpole Warren in speaking to the toast of 'Woman' at the Druggists' Banquet last night, said: "The American women are handsomer, better-dressed, and more intelligent than those of any nation on earth." Mr. Warren belongs to the nation of which poets sing that

' There's no such gem, and there's no such pearl,
As a bright and beautiful English girl.'

yet he has to admit the truth about the article as we grow it here. if Mr. Gilbert came to New York and took a walk up the avenue any afternoon he would modify his insular enthusiasm. It is sad to think that some persons tried to keep the Rev. Mr. Warren out of this country, as a contract laborer. It was worth while to let him in, if there had been no other result than this testimony to a cheerful and delightful fact. Long may his topmost branches wave over Forty-second street."

The following is a complete list of visiting delegates and their quarters while in the city:

At the Imperial Hotel—F. H. Chapin, T. Sissons Co., Hartford; W. E. Farnsworth, Hartford; Charles S. Baker, Chicago; Charles C. Hinchman, Detroit; Frederick D. Perry, of Powers & Wightman, Philadelphia; James McCord, Lacrosse, Wis.; Horace S. Fowle, of Seth W. Fowle & Son, Boston; E. H. Nelson, of Nelson, Baker & Co., Detroit; J. C. Eliel, of the Lyman-Eliel Drug Co., Minneapolis; Edward C. Frisbie, of Talcott, Frisbie & Co., Hartford.

Holland House—Edward H. Hance, of Hance Bros. & White, Philadelphia; H. C. Clark, of Farrand, Williams & Clark, Detroit; H. B. Gilpin, of Gilpin, Langdon & Co., Baltimore; H. Osgood, of Lee & Osgood, Norwich, Conn.; J. B. Purcell, of Purcell, Ladd & Co., Richmond, Va.; John W. Perkins, Portland, Me.

The Brunswick—Richard M. Shoemaker, of Robert Shoemaker & Co., and Frederick E. Mason, of J. H. Zeilin & Co., of Philadelphia; Frank C. Simson, of Simson Brothers Co., Halifax, N. S.; G. G. Minor, of Ownes & Minor Drug Co., Richmond, Va.; E. Post, of John Wyeth & Brothers, Philadelphia; H. S. Dolaney, of the Charles A. Vogeler Co., Baltimore; B. E. Veatch, of Stanford's Vina Vineyard, California; E. R. Dawley, of Hunt's Remedy Co., Providence, R. I.; Andrew B. Rogers, Jr., of Rogers & Pyatt, New York.

The Waldorf—Adolph W. Miller, of Archambash & Miller, Philadelphia; Charles H. Pettit, of Robinson Pettit Co., Louisville; Alonzo Lilly, Jr., of Lilly, Rogers & Co., Baltimore; Thomas I. Delano, Jr., of Doliber-

Geodate Co., Boston; George A. Neuman, of the Fig Syrup Co., Louisville.

Grand Hotel—Henry Wells and Edward Wells, of Wells, Richardson Co., Burlington, Vt.

Fifth Avenue—F. B. Shedd, of E. W. Hoyt & Co. Lowell, Mass; Charles C. Goodwin, of George C. Goodwin & Co., Boston; E. Waldo Cutter, of Cutter Brothers & Co., Boston; Mr. E. A. Bigelow, of J. C. Ayer Co., Lowell, Mass.; Richard B. Miller, of Collins Brothers Drug Co., St. Louis.

Other delegates present and their temporary domiciles were as follows: J. M. Battle, of Battle Co. Chemical Corporation, St. Louis, with friends at Newark; H. N. Coxe, Schuylkill Haven, Hotel Metropole; A. R. Olney, of Olney & McDaid, Clinton, Iowa, Gilsey House; C. I. Hood, Lowell, Mass.; A. C. Robertson, of the George A. Kelly Company, Pittsburg, No. 209 135th street; Fred L. Carter, of Carter & Kilham, with friends; D. M. Cowan, of Plimpton, Cowan & Co., Buffalo, Nos. 50 and 52 East Swan street; Thomas C. Peek, of H. L. Lamar & Sons, Macon, Ga., also the Lamar & Rankin Drug Co, Atlanta, Ga., the Weisgen; William R. Warner, Philadelphia, Hotel Metropole; Henry Miles, of Lyman, Sons & Co, Montreal, Hotel Martin; Charles Lyman, Montreal, No. 152 West Seventy-eighth street; Henry W. Goodwin, Boston, Broadway Central; Alonzo G. Fisher, Chicago; George Vallois, representing Dodge & Olcott, of New York, at Grasse, France, with friends; G. T. Fulford, of Dr. Williams Medicine Co., of Schenectady, N. Y., Hotel Savoy; Charles S. Kirk, & Co., Chicago, with friends; H. D. Martiu, of the Mallinckrodt Chemical Works, St Louis, Barrett House; Clarence G. Stone, Mellin's Food Co., Boston, with friends; Thomas Doliber, of Doliber-Goodale Co., Boston, Windsor Hotel; Edward J. Schall, Meyers Brothers Drug Co, St. Louis, Barrett House; James F. Cowee, of John L. Thompson Sons & Co., Troy, N. Y., New York Hotel; James Vernor, Detroit, Mich., and Arthur Bassett, of the Detroit Pharnacal Co., Hotel Coleman; Frank S. Hereth of the Searle & Hereth Co., Chicago, No. 6 Lafayette avenue, Brooklyn.

Many years ago the profits on American ginseng were so great as to produce an over supply that nearly put an end to the tariff. In some of the lake states, in 1860, the gathering of ginseng for the Chinese market became a regular mania, people leaving their homes and camping out for weeks in the hills of Michigan, Wisconsin and Minnesota, in search of the root. Their operations were prosecuted with such vigor as to almost exterminate the species in that part of the country.—*Pop. Sc. News.*

PHARMACEUTICAL NOTES. ¶

COMMERCIAL SUB-NITRATE OF BISMUTH.—Many pharmacists have the idea that the light form of this salt is purer than the heavy, believing that its lightness is due to its freedom from lead. P. Carles, in the *Journ. de Pharm. de Bord.*, gives the results of a systematic investigation of both forms and finds both free from lead, that the lighter contains a larger percentage of bismuth and is always contaminated with carbonate due to alkalization of the precipitating water, for which reason, it is a less active medication in gastrointestinal diseases than the heavy form. He closes his article with the following paragraph "As for pharmacists, we hope they will not forget that in order to obtain the full virtues of the normal or heavy sub-nitrate it must be administered in a state of very fine division, and it is for this reason, that a quantity of bismuth sub-nitrate given well rubbed up in a mucilaginous mixture is much more active than the same weight given in its ordinary condition in a little water or in cachet.

OXIDE OF ZINC WITH GELATINE is prepared by liquifying at a moderate heat 10 parts of white gelatine in 40 parts of water, then add 10 parts of zinc oxide well triturated with 40 parts of glycerine, on cooling a white gelatinous mass is obtained which is easily liquefied on a water bath before application.

CRYSTASE.—A German chemist claims to have discovered a new compound which has the remarkable property of solidifying under the influence of heat and becomes liquid at a temperature below 32° F. and to which he has given this name. It is obtained by mixing equal parts of carbolic acid, camphor and saponine to which is added a slightly smaller quantity of spirits of turpentine.

REACTION OF SAFFRANINE WITH SPUTUM.—Zenoni claims that the following may be useful in the diagnosis of pneumonia and bronchitis. It is based on the fact that mucine is colored yellow by saffranine, while albumen is colored red. In the sputum of bronchitis, mucine predominates while in pneumonia the proportion of albumen is the greater. A thin layer of the sputum is placed on a cover glass, which is then placed for fifteen minutes in absolute alcohol, which fixes it on the glass; the preparation is then placed in a half saturated solution of saffranine, after which it is examined on a white surface. If it be colored yellow mucus predominates and is an indication of the presence of bronchitis, while if colored red, pneumonia is indicated.

PRESERVITAS.—According to Dr. A. Lam, chemist to city of Rotterdam, this preparation which is used for preserving meat and butter is composed of sodium biborate and chloride, carbolin, a liquid used for the same purpose is a solution of about 1½ per cent. of formaldehyde.

TANNIGEN or acetyltannin, is a yellow powder, tasteless, odorless, and very slightly hygroscopic, insoluble in cold water and dilute acids, slightly soluble in hot water and ether and easily in alcohol, dilute solutions of soda, lime and borax. On boiling or by prolonged action of these solutions it is converted into acetic and gallic acids, with salts of iron it gives the color reaction of tannin. It is used in chronic and tuberculous diarrhoeas, .20 to .50 g.m. daily without any bad results, also as an astringent in nasal catarrh.

MIGRAININE is said to contain :

Antipyrine.....	85
Caffeine.....	9
Citric Acid.....	6

Phar. Zeitsc. fur Russl.

A serious accident occurred in the Research Laboratory of the British Pharmaceutical Society, by which Messrs. Luxmoore & Jewett were injured. A flask in which a solution of hydroxylamine was being fractionated exploded from being overheated.

ACTION OF IODOFORM ON CALOMEL.—A mixture of equal parts of these bodies when first prepared is of a bright yellow color, but after some time becomes transformed into a red crystalline mass, in which microscopical examination does not show either of the original ingredients. This change is due, according to Schweissinger, (*Phar. Central.*) to a complete change of the mixture into mercuric iodide or a mixture of chloroiodide and iodide of mercury, with formation of chloroform as shown by the odor on opening the bottle.

TUSSOL.—A patented preparation, said to be cyanide of antipyrine is recommended for croup, it is given in doses of 0.05 to 0.10 gm. three or four times a day for children of one year old, gradually increased according to age.

REACTION OF SALOPHEN.—Ten centigrams of salophen boiled with 10cc. of 10 per cent solution of soda, turns blue, on increasing the heat it becomes reddish yellow and on cooling again becomes blue.—*Boll. Chim. and Pharm.*

AN IMPROVED INFUSION JAR.—Wm. C. Alpers, in his interesting and instructive serial article, "The Pharmacist at Work," now running in *Merck's Journal* describes an efficient infusion jar, as follows:—

"Let me first show you my infusion apparatus. It consists of five parts. The first is a cylindrical graduate holding one pint. The second is a wooden cover with a hole in the centre. The third is a hollow glass cylinder two inches deep, fitting into the graduate,—its lower end covered by a piece of so-called cheese-cloth, which is firmly tied around it; its upper end supported at two points by a string, to which a stick is attached, transversely perforated, at intervals of half an inch, with small holes and of such a size that it will slide through the hole in the cover. The fourth part is

a circular plate of glass fitting into the cylinder. The fifth is a wooden pin, fitting into any of the perforations of the stick. Now, let us see how it works. Six fluid ounces of infusion are required. I pour six ounces of water into the graduate.

After weighing the desired quantity, he put it on the cloth of the small cylinder and covered it with the circular piece of glass.

"This piece of glass," he said, "is here used for keeping the quassia chips, *under water*,—thereby insuring a more thorough exhaustion of the drug. I now slip the wooden rod through the hole in the cover, let the cover rest on the graduate, and by means of the rod, arrange the small vessel in such a way that the water will just cover the drug. Finally, I put this little wooden peg through that hole in the rod which is next above the cover, to hold the rod in position. The rest explains itself. After the apparatus has thus stood the required length of time, we lift the inner part out of the graduate and the clear infusion is ready, no straining or filtering being necessary.

"How did you get that small cylinder?" asked the Junior.

The proprietor replied: "I took a small cylindrical ointment-jar; and, after heating the bottom by means of a blow pipe, plunged it suddenly into cold water. We have learned, before, that the result must be the cracking of glass. If the manipulation is skillfully executed, the bottom will thereby come off the little jar neatly and cleanly. In constructing this apparatus commercially, I would substitute a *glass colander* in place of the cylinder, so that the cheese-cloth might be omitted; and also enlarge the diameter of the graduate to four inches; for in the case of a bulky drug, like buchu leaves, our colander is rather small.

Phamphlets Received.

COLORADO PHARMACY LAW, from the State Board of Pharmacy, C. M. Ford, Denver, Pres.; F. H. Arcularius, Colorado Springs, Secretary; Chas. H. Wells, Pueblo, Treasurer.

BULLETIN No. 29, COMMERCIAL FERTILIZERS AND CHEMICALS. Dr. George F. Payne, State Chemist, Atlanta, Georgia.

PROCEEDINGS OF THE GEORGIA PHARMACEUTICAL ASSOCIATION 1894. John P. Turner, Columbus, President; H. H. Arrington, Secretary.

PROCEEDINGS OF THE KENTUCKY PHARMACEUTICAL ASSOCIATION 1894. C. J. Clarke, Paris, President; J. W. Gayle, Frankfort, Secretary.

MEDICINE AND PHARMACY. Presidential address by N. H. Martin F.L.S., F.R.M.S. to the British Pharmaceutical Conference, for which we are indebted to the author. We hope in our next to be able to comment upon some of the points raised in this address.

MARTIN-BARLOW.

A pretty wedding took place in the Church of St. James the Apostle on Wednesday afternoon Oct 3rd, the contracting parties being Mr. Stanley John Martin and Miss Alice Louise (Dolly), daughter of Mr. J. T. Barlow, of Peel street. As both are well known young people of the city a large number witnessed the interesting ceremony, which was performed by the Rev. Canon Ellegood. The bridesmaids were, Miss Maud Barlow, sister of the bride; Miss Miss Dotsie Mackenzie, her cousin, and Miss Edith Wilson, niece. The two latter carried big shepherd's crooks covered with flowers. Mr. J. T. Barlow, jr., brother of the bride, acted as "best man" and Mr. F. W. and W. Barlow as ushers. The happy couple left during the evening for New York and were followed by the numerous good wishes of their many friends. The presents were on an extensive scale and very useful as well as beautiful. Mr. Martin has been for a number of years with the firm of Lyman Sons & Co., Montreal and for some time has occupied the position of Manager of the City Department in that extensive establishment. The firm presented him with a check evidencing their consideration and his fellow employees also availed themselves of the occasion of his marriage to testify their regard and appreciation in a substantial manner.

WE TAKE the following from the last issue of the *Canadian Pharmaceutical Journal*.

"Mr. Jos. E. Morrison, of Quebec, has been elected to the chair of the third vice-president of the American Pharmaceutical Association. Mr. Morrison has always taken an active part in pharmaceutical affairs in his own province, and carries with him a large amount of experience in this line. We can congratulate Mr. Morrison on his connection with the association, and that body may also be deemed fortunate in the selection of one of its chief officers."

We are grateful to Doctor Shuttleworth for the expression of the regard in which we are held by him, but he is slightly in error, as regards the place of residence, we have been in Montreal for over a year and have tried to fill the editorial chair of this Journal, since then, and hope to continue at it for some time to come.

JOURNAL NOTES

ST JOHN, N.B.—Geo. A. Moore, druggist of this city, has been confined to his room during the past five weeks, from an internal gathering in the ear, and is now suffering a relapse, but hope to see him shortly attending to business.

EXERCISES FOR STUDENTS.

No. 28.—One pint of acidulated water, containing only Sulphuric and Nitric acids has total acidity equal to $31\frac{1}{4}$ grains Na. HO per ounce, and precipitates 52.2 grains Bar. Nit. per oz. Find the quantities of acids present.

No. 29.—Having samples of Opium, *a* and *b*, which lose by drying (*a*) 10 per cent. and (*b*) 20 per cent, and containing in the moist state, (*a*) $13\frac{1}{2}$ per cent, (*b*) 6 per cent. Morphia. How shall I with these make 10 pints Tinct. Opii P. B. ?

No. 30.—A metallic globe weighing 37 grs., consists of two hemispheres of a single but different metal in each. The globe weighs 32 grains in official glycerine, and 33.4 grains in another P. B. liquid. Find the latter liquid, also the metals, of which the globe consists, and their weights.

ANSWERS.

No. 25.—1 oz. 65 %; 7 oz. 73 %; 8 oz. 78 %—thus $.65 + 5.11 + 6.24 = 12$ oz. Resin, the quantity that should be in one pound.

No. 26.—Assume $a + b + c = 3.66$
 " $3a + 4b + 5c = 14.56$
 and $3(a + b + c) = 10.98$
 then $b + 2c = 3.58$, and it is evident that $b = 10.8$ and $c = 125$.

Answer:—Syrupus Δ 1.33; Acid Phos. D. Δ 1.08; and Glycerine Δ 1.25.

No. 27.—Ag, C, H, O, containing 56.34 % of Silver.

W. L.—Card received.

THE GRAIN WEIGHT.

A STUDY OF WHEAT.*

Read at the forty second annual meeting of the American Pharmaceutical Association, Asheville, N. C.
 Contributed by the author.

By J. U. LLOYD.

Historical.—The cereal *Triticum sativum* is the most valuable of food producing plants, its seed, under the name of "wheat," being the principal bread-stuff of civilized nations. The plant is accepted by some to have been a grass that originated in the Mediterranean country, but this impression seems largely to be based on conjecture, and its

*As a study of the grain weight in its connection with the grain of wheat, perhaps this paper is sufficient. As a study of wheat in an economic sense, many gaps should be filled. For example, England, New Zealand and Australia should each be averaged in an equal number of specimens to those of other countries. And now I desire to express my thanks to my friend, Dr Sigmund Wildbott, who, with painstaking care, assisted in the detail work of the investigation, and to whose patience I am largely indebted for the completeness of this paper.—L.

origin as a food plant is probably lost in the darkness of antiquity.

Scripture mentions the plant, and by some persons its origin has been ascribed to ancient Egypt. China is said to have introduced wheat 2,700 years before Christ. These points are records of general history and pass comparatively unaltered through ordinary literature.

Standard modern dictionaries inform us that the weight of the fruit of this plant is the basis that 600 years ago in England was used to establish the grain weight. Most authorities make the same general statement to the effect that a pulp grain of wheat was used as the standard employed to establish the grain, but Prof. Remington ("Remington's Pharmacy") gives the matter a historical record better than any other pharmacy work consulted, and with which, in a general way, my own researches agree.

As the statements of authorities as a rule coincide with that of Webster, it may be taken as typical, to wit:—"Grain.—The unit of the English system of weights, so-called because considered equal to the average of grains taken from the middle of the ears of wheat." This would lead us to believe that a grain in weight should be the counterpart of an average grain of wheat.

Concerning the origin of the grain weight, C. W. Pasley, "Measures, Weights and Moneys," London, 1834, p. 8, says;—"those days of feudal ignorance, in which the standard of English lineal measure was referred to the average length of a barleycorn, and the standard of weight to the average weight of a dry grain, of wheat from the middle of the ear," which might also lead to the inference that our present grain weight represented the weight of an averaged grain of wheat at the time of standardization.

But careful preliminary weighing, which I had made of good samples of wheat, convinced me that an inference drawn to that effect would be erroneous and that modern grains of wheat, do not average a grain in weight. It is exceptional for a single abnormally large wheat grain to weigh a grain.

Giving the literature on the subject some further study, in order to find an explanation of the inconsistency mentioned, I arrived at the fact, that while the grain weight actually represented the weight of average grains of wheat about 600 years ago, this standard was changed 200 years afterwards.

Johnson's Universal Cyclopædia, 1893, gives the following summary of that fact in the definition of the word "Grain": *Grain*.—A Statute of Henry III. (in the year 1266) enacted that 32 grains of wheat from the middle of the ear, well dried, should weigh a pennyweight, of which 20 should go to the ounce; but finally in the 12th year of Henry VII., the pennyweight came to be divided into 24 grains."

Thus it is seen that 32 standard grains of wheat were used 600 years ago to establish the *pennyweight*, which then became the *unit* of weight. This pennyweight, about 200 years afterwards, was divided into 24 parts, and thus produced the number of grain weights (24) that now (providing no other charges were made in the standard) make a pennyweight. Hence one pennyweight (or 24 grains in weight) should now balance 32 grains of wheat, if wheat still conforms in size and weight to the standard taken as an average of wheat in the year 1266. In order to conform to the standard employed by the statute of Henry VII., 100 grains of wheat should only weigh 75 grains.

Comparison of Different Wheats.—We have thus (if no subsequent change was made) a well established standard concerning the weight of wheat 600 years ago, and an average of the wheat of the world now should show us the effect that time and cultivation have had on the size of the fruit. It is not enough for this purpose to take the product of a single state, or of one country; a broad average should be made of the wheats of the world. This seed, like other plants, is affected by drought and climatic influences, and yet, an average of the wheat products of the principal wheat-yielding lands of civilization might give us a record that may be accepted as indicating either that the grain, so far as size is concerned, is being improved or is retrograding. The English grain weight has probably remained intact since its second standardization,* and if any change has occurred, it is to be looked for in the weight of the seed of the wheat. According to the statute of King Henry III. (already cited), the standard grains are "well dried," and in the determinations made herein, well-dried is taken to have meant air-dried. We are told by the Century Dictionary that such countries as yield a surplus of wheat are the United States, Canada, Russia, Hungary, India, Australia, Egypt, Roumania and Turkey. In addition to specimens from most of these countries I procured also specimens from New Zealand, England and several South American States. These specimens are taken from commercial lots, and are averages of such as are sold in large amounts in the grain market, all of the crop 1893,† except Rosario, 1892.

Here I may add that most of the American as well as the foreign specimens were procured by Messrs. Smith, Hammond & Co., of Baltimore, to whom I was introduced through the courtesy of Messrs. Gale Bros., Cincinnati, O., and that Mr.

* "Fortunately, one unit common to troy, apothecaries' and averdupois weight has been saved—namely, the *grain*."—*Remington's Pharmacy*, p. 35

† Weighings were made the second week in August, 1894. A loss of 6.77 per cent. resulted in dry wheat out of the field after five days' exposure to a temperature of 138° F. in a drying-room.

Albert McCullough, of the firm of J. M. McCullough's Sons, of Cincinnati, cabled to London for Egyptian wheat,‡ and collected the Ohio and Wisconsin samples. To these gentlemen my thanks are herein extended; but for their aid the research would have been impracticable.

On comparing the samples it is seen that they can be divided into classes; one, "red wheat," hard, compact, horny, elongated, usually slender, and of a red-brown, often dark, nearly amber color; the other, "white wheat," of larger grain, more plump, of usually chalky (starchy) fracture and of a yellowish white color.

Since I found no record concerning the variety of English wheat that furnished the standard of the grain weight, it is unnecessary for us to separate the two classes, and hence, in this part of the paper I shall average them all.

One hundred grains were selected from each specimen, care being taken to select full, plump, perfect seeds of a uniform, large size. By comparing the wheat in the heads of wheat in our Ohio wheat fields, it was shown that by this method a close average could be made of the size of the middle grains of wheat of the head.

The result was as follows:

TABLE I.

ONE HUNDRED WHEAT GRAINS, OF UNIFORM SIZE WEIGHED AS FOLLOWS:

*84.190	grains, No. 1 Club, Bombay, India.
*79.118	" No. 1, Bombay, India.
*78.128	" Choice, Bombay, India.
*77.890	" Chili.
*77.878	" New Zealand, White.
77.378	" England, Red.
*74.430	" California, Choice.
*72.083	" New Choice, Bombay, India.
69.973	" New Zealand, Red.
*67.836	" Australia.
*66.593	" Chili.
*64.838	" England, White.
*60.343	" California, No. 1.
*56.857	" Kurrachee, Soft, White, India.
*56.638	" Baltic, Russia.
55.318	" Barletta, South America.
54.918	" Calcutta, India.
*54.390	" California, Blue Stem.
*54.668	" Kurrachee, White, India.
54.190	" Rosario, Argentine, 1893, South America.
54.164	" Kurrachee, Red, India.
53.698	" Patagonia, South America.
53.613	" Ohio, Poole, Winter.
53.423	" Azima, Russia.
51.983	" Azima, Odessa, Fine.
51.853	" Baltimore, Red, Winter.
51.431	" Entre Rios, South America.
*51.403	" Ohio, White, Winter.

‡ The Egyptian wheat did not come to hand in time to be included in this paper.

49'543	grains	Black Sea, Ghirka, Russia.
49'268	"	Ghirka, Fine.
47'828	"	†Chicago, Spring.
47'404	"	Wisconsin, Spring.
46'693	"	Duluth, Hard.
46'133	"	Black Sea, Azima, Russia.
46'078	"	River Plate, South America.
*45'658	"	Washington State.
43'908	"	Manitoba, Spring, Hard.
43'753	"	Rosario (Argentine,) 1892, S. A.
42'923	"	Odessa, Azima, Russia.
42'783	"	Ghirka, Fine, Russia.
40'478	"	Duluth, Spring.
37'448	"	Ghirka, Russia.

* Denotes white wheat, and it is obvious from this table that white wheat heads this list, as far as size of grain is concerned.

† Northwest probably.

It would be erroneous, however, to base a commercial valuation of wheat (outside of appearance) solely upon the weight of the grain, and the second part of the paper will demonstrate some additional considerations that lead us to modify the results of such a valuation.

From the foregoing list the following tables are abstracted:

I.—AVERAGE WEIGHT OF WHEAT FROM EACH COUNTRY.

	GRAINS.
Australia and New Zealand.....	71'895
England.....	71'108
India.....	66'765
South America.....	56'119
United States and Canada.....	51'541
Russia.....	47'795

Total average.....60'870

II.—AVERAGE WEIGHT OF THE HEAVIEST SAMPLE FROM EACH COUNTRY.

	GRAINS.
India.....	84'190
South America.....	77'890
Australia and New Zealand.....	77'878
England.....	77'378
United States and Canada.....	74'430
Russia.....	56'638

Total average.....74'734

Summary.—(1) Accepting that the standard grain weight was created from grains taken from the middle of a selected head of wheat, it is shown that from bulk lots of wheat that appear in most of the markets of the world, an average of the heaviest samples will yield a grain as heavy as was the grain of the original standard.

(2) The general average of all the samples is below the standard grain weight, being 60'870, when it should be 75.000.

(3) With two exceptions (England and New Zealand) white wheat headed the list as far as size of grain is concerned.

(4) Warm countries seem to yield the largest grain, and also contributed the greatest proportion of white wheat according to these samples. Thus, India furnished one specimen of red wheat out of eight considered, and supplied three specimens to head the list in comparative weight, while Russia furnished but one specimen of white wheat (which, however, came from the Baltic Provinces) out of nine samples, and averaged last in the list (see table 1)

Standard modern dictionaries and other authorities inform us that the grain weight was established in England 600 years ago, from the weight of carefully selected wheat grains' (Webster, Pasley).

From these statements an inference might be drawn, as though the average weight grain should equal a grain in weight. Experience shows, however, that it is exceptional for a grain of wheat to weigh as much as a grain.

This seeming contradiction is readily explained by the historical fact, viz.: that by statute of King Henry III. (1260), it was enacted that 32 grains of wheat, from the middle of the ear, well-dried, should weigh a pennyweight; and that in 1497, by statute of King Henry VII., this standard was changed, inasmuch as the same pennyweight was then divided into 24 grains. (See Johnson's Cyclopædia).

Thus, until 1497, 32 average grains of wheat weighed 32 grains, providing grain-weights were then employed; but after the enactment of Henry VII., the 32 grains of wheat weighed but 24 reconstructed grains. Since then the grain standard, so far as I can determine, has suffered no further change; 100 average grains of wheat should therefore weigh 75 grains.

In comparing with one another the weights of forty-two separate lots, each of 100 grains, from specimens of wheat from different countries (Australia, England, India, Russia, South America, United States and Canada), the general average in the weight of wheats from all the before-mentioned countries (see Table I.), was found to be far below the grain standard, it being only 60'87 grains. However, the average of the heaviest of the specimens, one from each country, came very close to that of the original standard, viz: 74'734, instead of 75 grains.

This would seem to show that cultivation and climatic conditions, during a period of 600 years, have exercised but little, if any, influence on the weight of selected wheat.

The exports of liquorice root from Damascus were 475 tons in 1891. It goes to North America and to France.

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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.

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PHARMACY FAIR.

First of its kind ever Attempted in America.

Preliminary arrangements have been perfected for the American Pharmacy Fair, which is to be held in Mechanic's Hall, Boston, May, 1895. Everything serves to indicate that it will be a grand success.

This exposition will be the first of its kind ever attempted in America, being for the purpose of educational advantages to the public and the pharmaceutical trade. It will be of the highest possible quality in each and all of its numerous departments.

Its projector is Mr. Benjamin Johnson, publishers of the New England Druggist, an experienced manager of such exhibitions, whose many successes have made his name a synonym for success. Nearly every article and product in the daily trade of the up-to-date retail druggist will be on exhibition.

The undertaking is endorsed and practically supported by some of the foremost of American pharmacists, and there is no room for doubt that, with the forces behind it—the good will and interest the project has already engaged in various quarters, and the vigorous promotion and careful management it will receive—the enterprise must result as successfully as its most enthusiastic supporters now predict.

Nothing of the kind has ever been attempted in America, and this in itself will make it of special interest. Such an exhibition is bound to work for the benefit of exhibitors, the trade and the public alike.

Just what things will be therein exhibited no newspaper article can tell—it would be far easier to name the things which do not come within the scope of such an exhibition.

It will certainly be filled with object lessons for the public, designed to call the attention to chemical and pharmaceutical operations or curiosities, which certainly merit much more attention than they receive. The pharmacist is looked upon as something more than a mere tradesman. In a certain sense a shroud of mystery envelopes him and his vocation.

To intelligent people this means that the pharmacist possesses unusual knowledge and skill, while to the less intellectual it fosters a feeling akin to superstition.

To both classes a demonstration of knowledge and skill increases a feeling of curiosity or wonderment, and brings admiration for the unfamiliar powers.

Everyone knows that oftentimes the commonest and most familiar articles or operations of pharmacy are of the most interest to the public. At a recent exhibition of pharmaceutical drugs and preparations it was noted that special interest was displayed in the com-

mon drugs by some citizens who chanced to come in.

There will also be numerous displays of curiosities of chemistry or physics, such as the lead tree growth of crystals, color reactions, freezing operations, rare salts or chemicals, etc.

The exhibition will be formally opened in Mechanic's Hall, Boston, next May, and it will be highly indorsed and practically supported by some of the leading pharmacists, and others of the various allied professions and lines of business.

Already several of the leading professional State and national associations have formally signified their indorsements, and on the list of active members of the management will be found names eminent and well-known to the reading public. Mr Benjamin Johnson will be permanent chairman and general manager, and Mr. D. A. O'Gorman will be the permanent secretary of the exhibition.

In the management they will have the cooperation and assistance of many men whose names alone will be a tower of strength with the general public, as well as in professional circles. Among the gentlemen who have authorized the use of their names in this connection are Prof. Edgar L. Patch of Stoneham and Boston, the distinguished president of the American Pharmaceutical Association; Mr Henry Canning of Boston, president of the Interstate Retail Druggists' League; Mr. J. Allen Rice of Milford, Mass., ex-president of the Massachusetts State Pharmaceutical Association; Mr. H. M. Whitney of Lawrence, chairman of the State Board of Registration in Pharmacy; Dr. Wm. F. Sawyer of Boston, president of the Massachusetts College of Pharmacy; G. W. Cobb of Boston and Newton, president of the New England Retail Druggists' Union; N. W. Stiles of Boston, president of the Apothecaries' Guild of Boston and vicinity; S. A. D. Sheppard of Boston, treasurer of the American Pharmaceutical Association; William C. Durkee of Boston, vic-president of the Massachusetts State Pharmaceutical Association; F. H. Butler of Lowell, secretary of the State Board of Registration in Pharmacy, and ex-president of the Massachusetts Pharmaceutical Association, Dr. Charles C. Williams of Boston, secretary of the Massachusetts College of Pharmacy, and Prof. Wm L. Scoville of Boston, Professor of Applied Pharmacy and director of the Pharmaceutical Laboratory at the Massachusetts College of Pharmacy.

It is expected that the Fair will be opened on or about the 1st of May, 1895, and that it will remain open for three weeks at least.

Assurances have already been received from various quarters of sufficiently large and varied exhibits to make the exhibition a success. It would require a good sized catalogue to simply

name over these. A few of the lines of exhibits may be indicated briefly.

It should be understood first of all that this exhibition will be composed of exhibits from the manufacturing pharmacists and the wholesale concerns which supply the retail traders with the multifarious articles which are ordinarily displayed in the well-arranged drug stores of the land.

Show cases will be devoted to exhibits of the methods of chemical teaching, showing the work of students in chemical bibliography, with apparatus illustrating the "position" of atoms in the molecule, and a set of students' apparatus. There will be a quantitative exhibit of the constituents of foods and medicines, articles of this class being presented in certain quantities by weight, and each important constituent which is chemically free in the article being shown as a separate preparation in the average natural proportion in which it exists in the article.

It is also expected that the great exhibit made by Harvard University at the World's Fair last year will be secured for this fair, containing as it did samples of over 200 new compounds, as well as 50 old substances specially investigated in the chemical laboratory. The case which was then exhibited, it will be remembered, attracted wide-spread attention, containing, as it did, many compounds rare enough to be considered as chemical curiosities, and all who visit the fair will be well repaid by a careful inspection of its contents.

There will be exhibits of the thousand and one things which may be found in any well appointed drug store.

Interesting exhibits are promised, also, of infants' and invalids' health foods of various kinds.

Special days will be devoted to different lines of effort, and extensions will be arranged for nurses, for physicians, and associations of various kinds.

Mr. H. M. Whitney, the well-known head of the State Board of Registration in Pharmacy, said to the writer.

"Such an exhibition as is set forth cannot fail to be of great value and interest to the public, especially, as giving them a clearer conception and idea of the source, appearance and use of the various remedies, the simples and the combinations, conveying to the general mind facts which can in no other way be grasped, and will tend to educate the public to a better appreciation of the necessity of educated, skilled pharmacists, who will the better protect them from the hazard of irresponsible, uneducated pharmacists."—*Boston Journal*.

An Irish chemist is advertising in a Belfast newspaper that he keeps "natural mineral waters by the best makers always in stock."

THE ASAFOETIDA PLANTS.

By E. M. HOLMES, F.L.S.

From the *Pharmaceutical Journal and Transactions*.

Up to the present time several plants yielding a milky juice, having the odor of asafoetida, have been discovered in various countries, extending from Turkestan and Kashmir to the north-west of Persia; but with the exception of Kaempfer, who in 1687, observed its collection in the neighborhood of Disgun, in the province of Laristan, or Berlew who witnessed the collection of an asafoetida in the neighborhood of Candahar in 1857, and Wood, who, in his journey to the source of the Oxus, found it to be produced in the mountains around Saigon, no one has actually seen the drug collected, and in neither place has the plant yielding it been identified with absolute certainty. It seems, however, that it may be possible by a process of emmination to ascertain which of the plants do not yield the commercial article, and thus the plants which actually do yield it may be determined.

Dr. J. E. T. Aitchison, who hopes to determine the source of several of the fetid gum resins concerning which much uncertainty still prevails, has just forwarded his first contribution towards that end. In a letter received from him, from Kashmir, he says that he has come upon ferula narthex, Boiss., at the very locality, he believes, where Falconer originally found the plant in 1838, since which time no one has found it, so far as he is aware. This is the plant that has twice flowered at Edinburgh, and once at Kew, and is still in cultivation in various botanic gardens. It was noticed by Mr. W. R. Laurence, F.C.S., on his official tour through Jammu and Kashmir in 1893, when it was in flower, between Astor and twenty miles north, near Doian. Dr. Aitchison has obtained, through this gentleman, roots and stems with the remains of leaves and flowers, in very bad condition so far as botanical specimens go, but sufficient for the identification of the species. He states that "the people at Astor do not in any way collect the gum resin asafoetida, but people passing through Astor on the road from Kashmir to Gilgit collect the leaves and young flowering shoots and employ them in place of other vegetables. Those who use them are usually Hazaras or Afghans; they, of course, consider this to be the plant of their own country (*f. foetida*, Regel), from which the commercial product of their country is produced. As far as Laurence knows, and from all the information I have heretofore been able to collect, no asafoetida of any sort is collected anywhere in Kashmir territory, and any that may possibly pass through Kashmir to India must be collected somewhere in Afghan.

istan proper, and come into Kashmir via the western and northern routes."

Dr. Aitchison has also been able to clear up another doubtful point. In the Flora of British India, *Ferula foetidissima*, Regel, is given as a synonym of *Ferula Jaeschkeana*, Vatke. Some years ago I pointed out that although the two plants are as like each other in foliage as are *Ferula foetida* and *Dorema ammoniacum*, yet that *F. Jaeschkeana*, Vatke, at all events in the dried state, had not the slightest odor of *asafoetida*, and could not possibly be identical with *Ferula foetidissima*, Regel. Dr. Aitchison now writes that *Ferula Jaeschkeana* is plentiful all around Gulmerg (8,600 feet) near Srinuggur, in Kashmer, and that "any one who had never seen the plant in a living state and examined its milky juice, would never for a moment consider that *asafoetida* or any alliaceous gum resin could be obtained from it. The juice is strongly celery-scented and pleasant to a European's sense of odors, and in no way resembles that of the *asafoetida*-producing *ferulas*. From Jaeschke's oral description to me of the nauseous odor of one of his *umbelliferae* I still expect some one to find an *asafoetida*-producing *ferula* in Lahul."

It is, therefore, evident that although there may be a number of plants capable of yielding an *asafoetida*, the drug is only collected in certain localities, and not from all the species capable of yielding it.

THE MICROSCOPE IN PHARMACY.

BY LOUIS ROMINGER.

Read at the 17th Annual Meeting of the Kentucky Pharm. Association.

Pharmacy as a vocation may be divided into two classes. In the one instance, the pharmacist regards his calling as belonging to the nobler professions; in the other, the practice of pharmacy has been brought to a level with a trade calling, the truly professional portion of it being subordinated to the mercantile aspect.

In order that pharmacy may keep her rank among the nobler professions, she must keep pace with the onward movement of science. While our Pharmaceutical Associations—State and National—and State laws are doing much in elevating pharmacy toward the high position she should have, we must look to the pharmaceutical colleges to raise the educational requirements for entrance and graduation.

That pharmacy is a profession, we know from her direct relation to the several sciences; the greater the scientific requirements in pharmacy, the higher will be her rank as a profession; the greater the pharmacist's intellectual enlightenment, the higher will be his position in the

social world. His relation to science actually identifies him with specific social functions, as it is a common thing that the druggist is called upon by the public to enlighten them with the results of such scientific research as they need. The pharmacy is the place where they will be furnished with just as much information as they seek—they need as much light as they can get, and for the most part have no other hall of science at which to apply.

Every evidence that he can give that he knows a great deal is decidedly helpful in the highest degree to his business success, while a due regard of modesty must of course be observed.

Every pharmacist should be acquainted with nature's resources—this would lead to scientific investigations and study of the properties and usefulness of the materials she furnishes. The branch of Natural History that applies to pharmacy will naturally occupy the attention of the pharmacist most—his opportunities for scientific researches in the vegetable and animal kingdoms are unlimited and in direct harmony with his calling.

The pharmacist of to-day should at least be able to ascertain the purity of the drugs and chemicals carried in stock by him. This necessarily demands a thorough knowledge of the physical and anatomical properties and characteristics of the crude material. In the study of this material many of the external characteristics are indistinct to the unaided eye. These, however, may be clearly distinguished by the aid of a simple microscope or lens; the study of the anatomy or inner structure of the tissues must be made with the compound microscope—an instrument of higher magnifying power.

Probably no one instrument has so revolutionized science and contributed so much to progress and a knowledge of the works of nature as the microscope. The great advancements made in structural anatomy of organisms which our knowledge has made in the last decade of years we owe largely to the microscopical researches made by pharmacists and botanists.

The simple microscope—commonly known as a magnifier or pocket lens—magnifies with either a single lens or a combination of several lenses acting as one, while the compound microscope has two or more lens separated by a convenient distance from each other and acting separately.

The microscopic characters by which drugs derived from the vegetable kingdom may be identified are based upon their anatomical characteristics—that is, the microscopic structure of their tissues. This embraces the peculiarity of the cells with relation to size, shape, and markings—their position in the plant, and their contents, such as starch, chlorophyll,

oil, rosin, crystals, etc. When once familiar with these in the respective drugs, we will have no difficulty in identifying them even when the drug is in powdered form, as but few lose their identity, no matter to what degree of fineness they have been reduced.

Thus we have a means, by the aid of a microscope, of testing our drugs as to purity. Being thoroughly familiar with the pure article under the microscope, we can readily distinguish the genuine from the spurious.

The keeping of a drug stock in good condition requires care and precaution, and a frequent application of the microscope to determine the presence of moulds, mites, beetles, larvæ, etc., so apt to be present among the roots, barks, and seeds, rendering them worthless. Then come the little beings, the bacteria, ever ready to do destructive work and disturb the pharmacist's equanimity. These little micro organisms are the smallest objects revealed by the microscope, yet endowed with a power to which even man succumbs.

Bacteria are the direct cause of fermentation and putrefication; to them is ascribed the deterioration of aqueous solutions of alkaloids and vegetable acids, infusions, aromatic waters, etc.

By virtue of his profession, the educated pharmacist should be the chemist and analyst of the people; thus he would be called upon to make microscopical examinations of urine, sputum, animal tissues, stomach contents, water, etc.

These examinations may not only result in a gain—from a pecuniary standpoint—but necessarily terminate in a gain of confidence as to his capacity in his profession, as well as esteem and friendship—all of which are most essential to success in business.

These only illustrate some of the uses to which the microscope may be put by the pharmacist, which multiply as one becomes proficient in the use of the same—but as an instrument of scientific research and as a means of pleasure and recreative research.

The microscope is a delicate instrument, and its use must be learned. The faculty of seeing with it must be acquired; this requires some perseverance if we wish to attain the accurate vision here indispensable; through experimental training alone will we be able to discover the presence of objects that were in the early part of our work entirely overlooked.

There is hardly a substance that we could prepare for microscopical examination but it would reveal something new and of interest. This excites a curiosity which only lasts for a short time before something offering particularly interesting peculiarities will be found and will turn our investigations into a certain one of the manifold branches of microscopy.

Pharmaceutical Association of the Province of Quebec.

PRELIMINARY EXAMINATIONS.

The next preliminary examinations for candidates entering the study of pharmacy will be held in the Montreal College of Pharmacy, 595 Lagauchetiere Street, Montreal, and Laval University, Quebec, on Thursday, January 3rd, 1895.

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

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

The council of the association having instructed the registrar to strictly enforce the ten days' notice rule, no application will be accepted after the 24th day of December, 1894.

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

E. MUIR, *Sec.-Registrar*

595 Lagauchetiere St., Montreal.

NUCLEIN THERAPY.

Dr. Victor C. Vaughan concludes after many experiments that nuclein is a germ-destroying substance. By repeated trials with the nuclein he finally was able to cure guinea pigs that had been inoculated with tuberculous germs. Farther, the same nuclein injected into guinea pigs rendered them non-susceptible to the action of pneumonia germs. Nuclein has been used in tuberculosis in human beings with the result of curing cases in the primary stages of the disease, of delaying the disease when further advanced, and of having no effect in advanced stages. The difficulties in preparing nuclein for this purpose have been many, and the results obtained by the use of the remedy are improved in proportion to the perfection of the process of manufacture. The general method of preparation is to dissolve the nuclein from the rest of the cell by a strong alkali; after acidulating this solution the nuclein is precipitated with alcohol; then, after repeatedly washing this precipitate with acid alcohol, it is dissolved in a solution of chemical salts similar to that found in the blood. In practice this solution is injected under the skin or in the muscular substance. It is believed that the nucleins not only destroy disease germs, but also act as a food or stimulant to those organs in the body which normally furnish nuclein to resist invading germs.—*Druggists' Circular*.

The Names of Medicinal Plants of Commercial Value that are gathered in North Carolina: Their Value, and Relative Amount Sold in this Country and Exported.

BY WILLIAM SIMPSON, RALEIGH, N. C.

Read at a meeting of the American Pharmaceutical Association, held at Asheville, N. C., September, 1894.

North Carolina has been facetiously termed a strip of land between two States, and if we wish to know something of its products, by reference to the geographies of the country, we learn that it is celebrated for its tar, pitch and turpentine. It is with a view of bringing more prominently to the notice of the members of the American Pharmaceutical Association the wonderful resources of North Carolina that I have accepted the query proposed.

North Carolina, from its position in the Union, being about midway between the North and South Atlantic States, is blessed with a climate that partakes of the extremes of neither, and presents the only instance where the influence of latitude is compensated for by that of longitude. Beginning at its eastern boundary, where its shores are washed by the tempered waters of the Gulf Stream, we have the palmetto, the live oak, and the sugar cane; and proceeding westward, we attain an altitude of 6,700 feet, the highest point east of the Rocky Mountains, where we find the fir, the hemlock, the balsam and white pine, thus representing all the varieties of soil and climate, from Florida to Canada. Indeed, it may possibly be a matter of surprise to many of you to know that were North Carolina wheeled about so as to occupy a position directly north and south, it would extend across the States of Virginia, Pennsylvania and New York, and over Lake Ontario into Canada.

The gradual increase in elevation from east to west secures to the State a variety of climatic influence that would be gained by twenty degrees of latitude.

North Carolina has been a favorite field with the most distinguished botanists. From Bartram, who made his tour in 1776, the elder and younger Michaux, from 1787 to 1802, down to the later botanical explorers, Dr. de Schweinitz, Nuttall, Dr. Gray, Mr. Cary, who explored the higher ranges of our mountains in 1841, and our own Dr. Curtis—all agree that nowhere on the American continent are trees to be found of such beauty, value and variety, as in North Carolina. Many of the trees and shrubs now familiar to European ornamental and economic uses were introduced from this State, among which are the locust (*Robinia pseudacacia*), the tulip tree (*Liriodendron*), the rose locust (*Robinia hispida*), the rhododendron in its various forms, the ivy (*Kalmia latifolia*); and many others, confirming what

Dr. Curtis has said, that "in all the elements which render forest scenery attractive, no portion of the United States presents them in happier combination, in greater perfection, or in larger extent than do the mountains of North Carolina," and he might have said the same of the State at large, for no portion of it is deficient either in the number or variety of its species, or in the size and value of its trees.

In order to realize the extent to which this richness of forest development is concentrated within the area of this State, it is only necessary to call attention to the distribution of a few kinds which are dominant and characteristic. Of species found in the United States, east of the Rocky Mountains, there are Oaks 22, and 19 in N. C.; Pines 8, and 8 in N. C.; Spruces 5, and 4 in N. C.; Elms 5, and 3 in N. C.; Maples 5, and all in N. C.; Walnuts 2, and both in N. C.; Hickories 8, and 6 in N. C.; Magnolias 7, and 7 in N. C. As to the first and most important group of the list, attention is called to the fact that there are more species of oaks in North Carolina than in all the States north of us, and only one less than in all the Southern States east of the Mississippi.

Perhaps it would not be amiss here to state that North Carolina enjoys the peculiar distinction of being the only State in the Union that fills completely every blank in the returns, as sent out by the Department of Agriculture at Washington.

Of the 182 official galenic drugs of the U. S. Pharmacopœia, 94 are of foreign growth, and of the balance, indigenous to the United States; all but one are found in North Carolina.

Glancing over a price-list of one of the largest of our fluid extract manufacturers, comprising 328 varieties of drugs, foreign and domestic, I find that of the latter more than 90 per cent. are indigenous to North Carolina.

I think that I am within the bounds of truth when I say that the firm doing the largest business as herbalists in the world is in North Carolina. The amount of business done by them may be illustrated by the following extract taken from their order book, covering one month's sales: 50,000 pounds Mandrake, 5,000 pounds Black Cohosh, 12,000 pounds Wild Cherry Bark, 8,000 pounds Red Clover Blossoms, 12,000 pounds Pennyroyal, 9,000 pounds Catnip, 8,000 pounds Stramonium leaves, 8,000 pounds Witch hazel, 8,000 pounds Yellow Dock, 6,500 pounds *Stillingia*, 8,000 pounds Unicorn Root, etc.

They have taken a single order from one firm for as much as half a million pounds of drugs. Beginning in a small way some thirty years ago, this firm has gradually increased its business until they now employ more than three

hundred agencies, and ship millions of pounds of drugs, consisting of more than 2,300 varieties. There are other smaller concerns in the State doing a less amount of business, confined to about one hundred varieties.

Ginseng is one of the most valued of the indigenous drugs of our State, commanding as high \$3 to \$4 per lb. Therapeutically, it is of no value, except in the eyes of the Chinese, by whom it is greatly esteemed, and to whom it is all sent. Efforts to cultivate it have proved unremunerative; but so eager are the collectors to obtain it that it is frequently dug before the seeds are fully matured, necessitating the passing of a law by our Legislature preventing its collection before September.

Altogether, the shipment of indigenous drugs runs up into million of pounds annually.

To my regret I have been unable to procure accurate information concerning the money value of the native drugs shipped from this State. The firms to which I applied either could not furnish it, or, for reasons best known to themselves, did not care to do so. I have therefore had to omit a reply to that part of the query, also to that part in regard to exports.

During the last two years of the "late unpleasantness," when the ports of the Southern States were blockaded, and medicines of all kinds were difficult, if not possible, to be obtained, resort was had to our native materia medica, and well did it stand us in stead.

The climate of North Carolina is that happy mean between heat and cold, drought and moisture, arctic sterility and tropical exuberance, in which energies are stimulated by the bracing breath of a tempered atmosphere, cool enough to enspire physical activity, and warm enough to secure abundant returns to the tiller of the field whose labor is carried on under the happy conditions of a genial air, a friendly sun and a responsive soil.

In the sanitary department of the Census Reports it is stated that one or two of the three most healthful localities in the United States are found in the mountain regions of western North Carolina. There pulmonary consumption has never been known to originate. This feature has given the climate a celebrity for its remedial agency in such diseases; and has called invalids to resort to the State from all parts of the Union, finding in many instances decided benefit or perfect cure.

It may be of interest to note that for spring the average temperature of the State is 57° F., for summer 77° F., for autumn 59° F., and for winter 41° F. Taking typical localities in each section as points of comparison, we find the mean annual temperature of Raleigh, in the middle section, to be 60° F., its summer temperature 76° F., and its winter temperature

44° F., while Florence, Italy, has respectively the temperatures: 59° F., 75° F. and 44° F. In the eastern section, Beaufort, on the coast, shows as the mean 62° F., 78° F. and 46° F., while Genoa, Italy, has 61° F., 73° F. and 47° F. In the mountain section, Asheville shows mean temperatures for the year, 54° F., 71° F. and 38° F., which may be compared with Venice, Italy, which has 55° F., 73° F. and 38° F.

Should one not be satisfied with the conditions of temperature mentioned, and wish to avoid frost, there is within the mountains of North Carolina a thermal belt in which frost is unknown.

This frostless area is found on both sides of the mountains. The most of such regions is on Tyron Mountain in Polk County, and so sharply defined are the lines of exemption that it stands out a horizontal belt of verdure between areas above and below of blasted flower and foliage. Within this exempted area fruits never fail, and though at the height of 1,500 to 2,000 feet above sea level, frost never appears.

I am indebted for many of the forgoing statements to the Hand Book of North Carolina, published by our Agricultural Experiment Station, also to the State Board of Agriculture, for its courtesy in permitting me to exhibit to the Association a collection of native drugs comprising four hundred and twenty-five varieties, which form the exhibit of Messrs. Wallace Brothers, of Statesville, N. C., at the Columbian Exposition at Chicago, and which was afterwards donated by them to the State.

My acknowledgments are also due to Prof. Gerald McCarthy, of the Botanical Division of the North Carolina Agricultural Experiment Station, for a copy of Dr. M. A. Curtis' catalogue of the indigenous and naturalized plants of the State—a very rare book, comprising nearly five thousand species; also for a copy of Wood and McCarthy's "Wilmington Flora," consisting of more than twelve hundred varieties.

I take the liberty of adding the following extract from a letter of Prof. McCarthy's, which may possibly interest some member of the Association, viz: "If any of your confreres should read a practical paper on drug farming, as distinguished from mere gathering of wild spontaneous growth, I believe Director Battle would agree to try the most promising plants as experimental crops and publish the results."

My thanks are also due to Messrs. Wallace Brothers, of Statesville, N. C., and to the National Sumac and Herb Co., of Henderson, N. C., for assistance, by which I am enabled to present a partial list of native drugs handled by them.

The author here concludes his paper with a list of over six hundred plants offered by the above firms.

ENGLISH PHARMACEUTICAL NOTES.

(By our London (correspondent))

President Martin, in his address to the British Pharmaceutical Conference, made a palpable hit with the bogus preparation "Skinnaline" supposed to contain the essence of skin, in the effective proportion of three grains to the pound! It is whispered, in circles supposed to know, that this was the President's dig at Messrs. Burroughs, Wellcome & Co., who push lanoline so vigorously in this country, that they may fairly claim to "rub it in."

Although Mr. Martin's strictures were in several instances unfair, and, from him particularly ungenerous, yet the undeniable fact remains that almost every day some new synthetical remedy is foisted upon the too credulous medical profession. It is a well-known fact that Germany possesses almost a monopoly in this line, partly due to the advanced state of its chemical researches, and also to the dual arrangements which obtain between the manufacturers and the clinical professors. In this country only some of the younger practitioners can be relied upon as sufficiently enthusiastic to give a new remedy a trial; but in Germany the understanding is complete between manufacturer and physician, so that no difficulty is experienced and a more or less complimentary report may apparently be counted upon.

I do not by any means wish to decry research or the introduction of legitimate pharmaceutical novelties. But it would surely be better if a standing committee of medical men, including hospital physicians as well as general practitioners, were to examine the claims of these preparations as soon as they are introduced and determine their advantages, if any, over remedies previously in use. In this way, physicians would be saved the disappointment of relying upon a remedy which may be quite useless for the purpose required. The patient may be saved unnecessary suffering, and the pharmacist from adding another doubtful "stayer" to his over-loaded shelves. Such a committee was started by the Editor of the *British Medical Journal*, some time ago, to report upon the respective advantages and drawbacks of phenacetine, antifebrin and antipyrin. Although it started rather late in the day, as many reports have been published from time to time since these remedies were introduced, they very accurately summarize the relative importance and objectionable features of the trio, and the information cannot fail to be valuable to the student and young practitioner.

Amongst the newer remedies, guaiacol has distinctly grown in favor during the year and chiefly at the expenses of creosote. The latter is still largely employed in veterinary practice but in medical practice it is giving way. The production of crystalized guaiacol was an important improvement as it indicated a far purer product than was at first employed. Indeed the difference is so great, that the dose of the liquified absolute guaiacol is about one-third that of the commercial article. The great objections to its use internally, its pungent burning taste and unpleasant odor, have been overcome to a large extent, by giving it in gelatine capsules or perles, the guaiacol being mixed with almond oil, before enclosing it in capsules. The carbonate of guaiacol has also grown in favor, but its high price owing to the method of preparation being patented prevents its more general use. Several remarkable cases of phthisis having been successfully treated with guaiacol have been recorded. It is also a powerful antipyretic, reducing the temperature very rapidly when merely painted on the skin, and so allowed to be absorbed. In one of the London hospitals the amount of guaiacol used in 1892, was only six ounces, whilst this year over 14 lbs. have already been consumed.

Scopolamine hydrobromate is receiving some enquiry from our leading ophthalmic surgeons. A recent report by one of the doctors who receive grants in aid of special research, from the British Medical Association, clearly confirms Koberts claim that in certain affections of the eye it is superior to atropine. Its principle advantage is that it causes less irritation, yet is more powerful than atropine in dilating the pupil. Where any inflammatory condition of the eye exists, it is considerably superior to atropine, which is contra-indicated. It is employed as an eye drop in the proportion of $\frac{1}{2}$ to 1 grain per fluid ounce of water.

A recent opportunity of seeing over a London wholesale chemist's laboratory having occurred, some remarks may be of interest. I have been fortunate enough to see over a good many laboratories and manufacturing premises, during the last few years, and the difference between London and provincial, is very marked. London wholesalers carry very little stocks, compared with their country rivals. Even in drugs their supply is very much smaller and many of them do not pretend to stock sundries, patents or apparatus and instruments. The country wholesale druggist generally buys stocks to last him six months, if possible, as carriage is an expensive item. London druggists claim to buy on the market fresh as required, whilst the best sundry houses are all within easy reach. In the lab-

oratories there is a further marked difference. London firms have to utilize every inch of space; pans appear in such close proximity than one wonders if the contents do not often boil over into the next adjoining it. The walls are utilized, and tanks are situated overhead and reached by iron steps. Of course the reason for all this overcrowding is the heavy rental city firms have to pay. Again in London, the laboratory is very frequently situated at the top of the building, so that fumes, etc., may pass away without inconvenience, and steam not effect the other parts of the house. In the country, where space is not so much of an object, the laboratory very frequently adjoins the main building and has a high glass roof, which admits light and is also built to carry off the fumes without affecting the warehouse.

I never enter a laboratory without noticing some new apparatus or appliance. In this respect the wholesale is far in advance of the retail trade. In fact few retailers think of supplementing their meager stock of apparatus for more modern appliances, although the saving in time would soon recoup the outlay.

It is probably an indisputable fact that the number of London retail druggists who have anything of the nature of a tablet machine on the premises might be counted on the fingers. And yet small machines can be had from \$2.50 upwards, capable of turning out small requirements in compressed goods, and an apprentice might be more profitably employed in making these instead of cleaning the windows. The space at my disposal will not allow of my attempting to fully describe a London warehouse in this letter, so must be reserved for my next.

A remarkable illustration of the plagiarism of Germany manufacturers has just come under my notice. The wholesale price list of Herr Joh. Diede Bieber of Hamburg, is almost a word for word copy of the list of Messrs. Burgoyne, Burbidges, Cyriax and Farries, of London. The type and headings are exact imitations, and some of the remarks are slightly altered, so as to escape the charge of copying. Thus in Messrs. Burgoyne's list the acids are described: "prepared with great care in vacuo at a low temperature and of uniform strength." This is converted by Dr. Bieber, into "These are prepared at a low temperature in vacuo with all care and the strength is uniform." In some of his attempts at variations our Teutonic neighbor has coined some words; *Opake* is probably a phonetic way of spelling *opaque*, whilst *cullen* is an improvement on *cut*, Messrs. Coleman, of mustard fame, will be surprised at being called *Colmann*. Another feature in the list is the slavish manner in which the prices have been followed. But perhaps the most glaring in-

accuracy is the page headed "English Tinctures." On this matter Mr. Bieber states that he was the first in Germany to manufacture tinctures and alcoholic preparations, on the large scale for England, and consequently he evidently considers himself entitled to describe his products as English. I am glad to admit that Mr. Bieber has not imitated Messrs. Burgoyne's specialties except in one instance, or at all events he does not include them in this distinctively precious list.

The usual September editions of the trade journals, dealing with the education of pharmacists, indicates again the extraordinary position of the highest honor which the Pharmaceutical Society can bestow. The Research Fellowship of the Society is the highest dignity here at present in pharmacy, and one journal suggests that it must have been devised for the benefit of the single recipient. It clearly shows the absurdity of such a high sounding title, when the conditions are such, that only one pharmacist should have applied for the distinction, since its foundation three years ago. An ordinary individual would imagine, that it would be gladly conferred upon any pharmacist who has made a distinct contribution to our knowledge of drugs or chemistry. But the sapient powers who devised it, thought better to hedge it round with a divinity only to be obtained in the Research Laboratory of the Society. Consequently we are witnesses to day, of the spectacle of Mr. Thos Dymond, being the only Research Fellow of the Society, upon whom it was conferred, when he proved that minute traces of hyoscyamine are contained in extract of lettuce and ordinary lettuces! And this occurs in a society that contains a Gerrard, Naylor, Paul, Proctor, Groves, Martindale, and many other younger men like Farr and Wright who have made names that will be remembered.

General complaint is being made regarding the exceptional dulness in trade. Market variations are very slight and in most instances have a downward tendency. Mercurials have advanced slightly. The biggest drop is in phenacetine, rival makers of which have reduced prices considerably. Quinine, opium and other leading lines are unsalable except in jobbing lots at unchanged rates. Owing to the war, products from China such as oil of cassia, musk and rhubarb are moving upward.

EUPATORIN—The active principle of *Eupatorium perfoliatum* is a yellow, microcrystalline powder, containing no nitrogen. It dissolves in dilute nitric acid, forming a light brown solution, which, when allowed to evaporate spontaneously, furnishes beautiful prisms and six-sided plates. These crystals of the *nitrate*, when deprived of their water of crystallisation, give numbers, on analysis, which indicate the formula, $C_{20}H_{23}O_8HNO_3$.

Address to the Chemical Section of the British Association.

By Prof. H. B. DIXON, M.A., F.R.S., President of the Section.

(Continued from page 205.)

The origin of this Oxford Society has been well told by Dr. Wallis, one of its founders:—

"About the year 1645, while I lived in Bondon (at a time when, by our civil wars, academic studies, were much interrupted at both Universities), besides the conversation of eminent divines, I had the opportunity of being acquainted with divers worthy persons inquisitive into natural philosophy, and particularly of what has been called experimental philosophy. We did by agreements meet weekly in London to treat and discourse of such affairs; of which number were Dr. John Wilkins, Dr. Jonathan Goddard, Dr. Ent, Dr. Merret, Mr. Samuel Foster, then professor of Astronomy in Gresham College, and Mr. Theodore Haak, and many others.

"These meetings we held sometimes at Dr. Goddard's lodgings, on occasion of his keeping an operator at his house for grinding glasses for telescopes and microscopes; sometimes at a convenient place in Cheapside, and sometimes at Gresham College. Our business was (precluding matters of theology and State affairs) to discourse and consider of philosophical inquiries.....About the year 1648, some of our company being removed to Oxford (first Dr. Wilkins, then I, and soon after Dr. Goddard), our company divided. Those in London continued to meet there as before and those of us at Oxford, with Dr. Seth Ward (since Bishop of Salisbury), Dr. Ralph Bathurst, president of Trinity College, Dr. Petty, Dr. Willis (an eminent physician in Oxford), and divers others, continued such meetings in Oxford, and brought those studies into fashion there, meeting first at Dr. Petty's lodgings (in an apothecarie's house), because of the convenience of inspecting drugs, and, after his removal, at the lodgings of Dr. Wilkins, then Warden of Wadham College, and, after his removal, at the lodgings of the Honorable Mr Robert Boyle, then resident for divers years in Oxford."

Robert Boyle, the youngest child of the great Earl of Cork, was born in Lismore in 1626. His mother died when he was a child. Always delicate, he was sent at twelve years of age with a tutor to the Continent; he remained abroad for six years. He studied chiefly at Geneva and at Florence, where he read the works of Galileo. Returning to England, in 1645, he busied himself with chemistry at Stalbridge, a manor in Dorsetshire left him by his father. On his visits to London he became one of the member of

the "Invisible College," the germ of the Royal Society. "Vulcan has so bewitched me," he writes at the age of twenty-three, "as to make me fancy my laboratory a kind of elysium."

Drawn to Oxford in 1654, Boyle spent here the most active years of his life in experimental research. Of Boyle's scientific writings much has been said in extravagant praise and much in ridicule. Boerhaave wrote:—"To him we owe the secrets of fire, air, water, animals, vegetables, and fossils." This phrase is not more grotesque than that of a recent writer, who says, "Boyle's name is identified with no great discovery." Dr. Johnson has very justly remarked, in a number of the *Rambler*:—"It is well known how much of our philosophy is derived from Boyle's discoveries, yet very few have read the details of his experiments. His name is indeed revered, but his works are neglected." It is, indeed, hard to read through one of Boyle's papers, even in the abridged form. Though clear, they are discursive. The writer cannot rid himself entirely of the essences and qualities of the alchemists; and it is only when we compare these records with the works of Van Helmont, his immediate predecessor, that we recognize the enormous advance that has been made by Boyle. I must pass over his physical work on the elasticity of the air. It must suffice to say that he established by most careful experiment the law which is known by his name—that the volume of a given mass of air varies inversely as the pressure upon it. He determined the density of the air, and pointed out that bodies altered in weight according to the varying buoyancy of the atmosphere. One of his most important chemical papers—certainly the one most frequently cited—is "The Sceptical Chemist," published anonymously in 1661. I will attempt the briefest account of it. The opening words of the dialogue strike the keynote of the whole:—

"Notwithstanding the subtle reasonings of the Peri-patetics and the pretty experiments of the Chemists, I am so diffident as to think that, if neither can produce more cogent arguments than are usually given, a man may reasonably doubt as to the number of those material ingredients of mixed bodies which some call elements and others principles." He proceeds, through the mouth of one of the supposed disputants, to attack the doctrine of the three elements, the *tria prima* of the alchemists sulphur, mercury, and salt. "There are some bodies," he says, "from which it has not yet been made to appear that any degree of fire can separate either salt, or sulphur, or mercury, much less all the three. Gold is the most obvious instance. It may be heated for months in a furnace without losing weight or altering in character, and yet one of its

supposed constituents is volatile and another combustible. Neither can water or solvents separate any of the three principles from gold; the metal may be *added to*, and so brought into solution and into crystalline compounds, but the gold particles are present all the time; and, the metal may be reduced to the same weight of yellow, ponderous, malleable substance it was before its mixture." He points out the confusion which earlier chemists had made between calcination in the open air and distillation in retorts he shows that in compounds, *eg.*, copper nitrate, the particles retain their nature, although disguised, in the combination, for the nitric acid may be separated by heat, the copper by precipitation, but the sceptical chemist, though pouring ridicule on the *tria prima*, could not but admit the power of water to produce organic substances. He quoted Van Helmont's famous experiment of growing a shoot of willow in baked birch moistened with distilled water, and he repeats the experiments in various forms. Ignorant of the existence of carbonic acid in the air (discovered a century later by Black), he is driven to conclude that the plant is fashioned out of the pure water. But he rejects the doctrine—as old as Thales and as modern as Van Helmont—that water is the foundation of all things. M. de Rochas had published a remarkable experiment on water. By artificial heat, by graduations of coagulations and congelations, he had turned it into earth which produced animals vegetables and minerals. The minerals began to grow and increase, and were composed of much salt, little sulphur, and less mercury; the animals moved and ate, and were composed of much sulphur, little mercury, and less salt. "I have some suspicions," says Boyle, "concerning this strange relation; though as for the generation of living creatures, both vegetable and sensitive, it need not seem incredible, since we find that our common water, which is often impregnated with a variety of seeds, long kept in a quiet place, will putrefy, and then, too, produce moss and little worms according to the nature of the seeds that were lurking in it."

I will give two short quotations from the "Sceptical Chemist," which show the author at his best and at his worst. In the first he is discussing the nature of chemical combination between elementary particles: "There are clusters wherein the particles stick not so close together, but they may meet with corpuscles of another denomination, disposed to be more closely united with some of them than they were among themselves; and in such case two corpuscles thus combining, losing that shape, size, or motion upon whose account they exhibited such a determinate quality, each of them really ceases to be a corpuscle of the

same denomination as it was before; and from that coalition of these there may result a new body, as really one as either of the corpuscles before they were confounded If you dissolve minium in good spirit of vinegar and crystallise the solution, you shall not only have a saccharine salt exceedingly different from both its ingredients, but the union is so strict that the spirit of vinegar seems to be destroyed,for there is no sourness at all, but an admirable sweetness to be tasted in the concretion." In this passage we can distinctly see the germ of the modern theory of chemical affinity uniting atoms into chemical compounds. In the second quotation Boyle is arguing that fire is not only an analyser of mixtures, but compounds the ingredients of bodies after a manner; mercury, for instance, may be turned into a liquid, from which the mercury cannot be reduced again, and consequently is more than a 'disguise' of it. "Two friends of mine," he says, "both of them persons of unsuspected credit, have solemnly assured me that after many trials they made to reduce mercury into water, they once, by several cobobations, reduced a pound of quicksilver into almost a pound of water, and this without the addition of any substance, but only by urging the mercury with a fire skilfully managed. Hence it appears that by means of fire we may obtain from a mixed body what did not pre-exist therein." Boyle has sometimes been charged with credulity, and chemists who know how mercury has a way of disappearing without leaving even its weight of water behind, will smile to hear that the persons of unsuspected credit responsible for this experiment were "the one a physician, the other a distinguished mathematician."

To be continued

Pharmaceutical Bacteriology.

ROBERT G. ECCLES, PH G., M D.

Read at the 42nd meeting of the American Pharmaceutical Association.

The impression prevails that medical men alone should interest themselves in bacteria. It is assumed that the subject contains nothing of interest to pharmacists. It requires no prophet to foresee that this attitude is not likely to be maintained very much longer. The indications are that pharmaceutical bacteriological laboratories are a certainty of the future and that they may exceed in vastness and importance those now conducted by the medical profession. As yet we have only hints of what is in store for us. Here and there a rift in the cloud that obscures the future from our vision lets through an illuminating beam of light.

It is said in Holy Writ that "that which hath been is now and that which is to be hath already been." In the vast laboratory of nature long before man synthesized a single remedy or combined, secundum artum, a single pair of synergistic remedies, plants had done the same. Yes, and more, it can now be maintained with a formidable array of evidence that the aim of such combination was precisely that of the pharmacist and physician when a remedy is compounded for a patient. In both cases the overcoming of pathological disease germs was the ultimate result and object aimed at, if there was any aim. The resins, the essential oils, the tannins, the alkaloids the glucosides, the bitter principals are all so many bacteria killers or inhibitors devised by plants or produced by the direct action of bacteria themselves that in the economy of nature serve to give immunity to plants against the ravages of other organisms. As if quinine was not enough to shield the cinchonine and other synergists. With morphine is combined codeine, narceine and a host of other alkaloids having analagous effects. The life history of these plants casts a flood of light on this subject and if we had anything like a perfect geological history of any genus there can be but little doubt that it would fully confirm all we are able to infer from the immediate data at our command. In the Cinchonas we have more material on which to base an inference in this respect than any other. Their habitat is a region of perpetual fog and drizzle. For months a ray of sunshine scarcely if ever reaches them. The region is utterly unfit for human habitation and intermittent and remittent fevers are the penalty paid for a temporary residence near them. Now the fact so thoroughly established that plants are as frequently the victims of the parasitism of micro organisms as are animals, placed beside the fact that their home is such an ideal one for micro-organisms would naturally lead us to think that if these trees owe their immunity to some chemical secreted by them we should be able to discover it. Now let us add the further fact that quinine and these other alkaloids they secrete, are powerful antiseptics and do destroy just such germs either out of or within the body and the conviction begins to grow upon us that something like a purpose is manifested in this arrangement. But on reasoning farther we learn more. These alkaloids are always found in the very part of the plant where the attack of the germs would be most likely to occur and when occurring would prove most injurious to the tree. Why is there not a good supply of these alkaloid in the wood or in the corky layer of the bark? Why are they in the very part of the bark where *a priori* we would expect them to do the most good? Now let us add another fact.

The yield of these alkaloids is always greatest the greater the damage from such invasion. The season of maximum for and drizzle is the season of maximum yields of alkaloids and especially of quinine, the most powerful one. What is quite remarkable, too, in this connection is the fact that the Cinchona tree seems to have the power of anticipating the bacterial invasion by the very method that we would be likely to use in anticipating it. The increase of alkaloids evidently occurs prior to the invasion of the germs and following the advent of the conditions which make their invasion possible. The cutting off of their sunshine by fog is their signal for an increased supply of alkaloids and especially of quinine. In India where Cinchonas are now cultivated and where fogs are not so common they cover the bark of the trees with cotton and shield them from direct sunlight to increase their production. The dark, warm and damp forests where heavy growths of pine abound, would surely prove miasmatic but for the good office of the pines themselves. They load the air with germ destroying terpenes, the oxidation of which gives forth a rich supply of ozone. These vestiges of the primitive world tell us of their struggle against disease germs and survival by virtue of this protection.

It seems a rather singular fact that when plants or animals do not produce destructive agents by which to vanquish bacteria they are sure sooner or later to bring into existence a product destructive to themselves. When we pause to think "that the mill cannot grind with the water that is past" nor the fire to burn with the carbon dioxide produced, we see it is a universal fact in nature. The germ that runs sugar down into alcohol soon perishes in that alcohol. Following it comes the vinegar germ, giving us acetic acid in abundance to stop its own activity. Next follow one by one other germs to carry the changes farther and farther down the hill, till in every instance they work their own destruction, or at least cessation of activity. Each of these products, final to some definite species of germ, is an antiseptic to that germ when it becomes pathogenic. It took us a long time to learn that all our alcohol, wines and liquors were the products of germs. Even when "Mother of Vinegar" was handed from house to house and manufacturer to manufacturer they did not for centuries suspect that they were handling germs. Many druggists do not yet know that Ergot is a product of a disease germ. It is only lately that we have discovered that we owe our nitric acid, saltpetre, sweet spirits of nitre and all other nitrates and nitrites to the useful labors of humble bacteria. Much of our ammonia, some of our beuzoic, hippuric and butyric acid we owe to their kind offices. As

our knowledge of micro-organisms widens our respect for their pharmaceutical and chemical skill increases. Within a year Dr. Carl Welmer has reported the fact that he has isolated a species that converts sugar into citric acid so that 11 pounds of sugar will produce six pounds of crystalized acid. The cost of such conversion is so trifling that it is scarcely worth considering. A discovery like this will work little short of a revolution. Sugar is cheap and the acid is bound soon to be sold for little if any more than the price of the cheapest sugar. Of course we will have to wait till the patents run out for such a consummation. When we pause to consider the fact that in the plant world the cells build up the countless numbers of organic compounds from simple carbonic acid, water and nitrogen compounds, and when we further consider that the bacteria are isolated cells capable of duplicating much of or all such work, we can gain some idea of the possibilities that lie before us. We have to supply them with the raw material for their food and without price they will do the therest. We only need to isolate the special kinds in relatively pure cultures and set them to work. When mixed, one kind undoes the work of another, so that no useful results occur. Prof. Conn of Wesleyan University, has lately isolated the special bacterium that produces the essential ether to which is due the rich flavor of our highest quality of butter. Following his directions the butter maker can now at will produce a ripened cream possessing the highest, richest aroma of prime butter. If we have successfully produced one such product who can say where the end is? The highly prized aromas of wines and liquors, the rich flavor of fruits and flowers may all be within our power to produce in the same manner. If we can call these pigmy workers to our aid in making alcohol, acetic and citric acid why not other acids, other alcohols and other organic compounds. We have found that through the magic of their power certain leguminous plants are able to draw from the atmospheric nitrogen their necessary supplies of that refractory gas. May we not utilize their services in a similar manner? Will not our pharmaceutical chemists of the future supply these same bacteria with what the leguminous plants provide them and on a vast scale procure our nitrates, nitrites, ammonia and ammonium compounds, at the same time giving to the farmers all they need to enrich the soil of their farms. All the rich mines of Golconda never contained such wealth as is promised in this direction. Man first learned of the winds as his foes but whe he harnessed them they became his friends. At a later date he gained power over fire and in the conquest found he had a mighty agent to do his bidding.

Still later and the lightning that he so long dreaded as the bolts of heaven came within his grasp, and we are beginning to realize the majesty of such a victor. Now he has just begun his conquest of the most direct force he has ever had to fight, the microbes, and if our vision is not distorted, he will find here a power second to none of the rest in the benefits it can bestow upon him.

Pharmaceutical Association of the N.W.T.

The annual meeting of the Council of the Pharmaceutical Association of the N. W. T. was held in Mossejaw, on Aug. 7th, 1894.

Present:—W. W. Bole, president, Moosejaw; J. G. Templeton, vice-president, Calgary; Robt. Martin and W. G. Pettingell, registrars, Regina.

The examiners report showed that two candidates presented themselves for examination during the year and were successful.

The annual reported stated that there were 54 names on the register and increase from last year of 10; names removed on account of death, 2.

The receipts during the year were \$227.50; expenditure, \$126.00, leaving a balance in the bank, of \$426.73.

The committee on Diploma and Poison Books reported that same would be ready in a short time; and sent to the members

Mr. A. D. Ferguson, Wolseley, was appointed examiner; in place of Wm. Brydon, deceased.

A motion was passed that in the opinion of this council a Canadian Pharmacopœia is not only premature but also unnecessary.

Mr Juo Dawson and Chas. H. Black, were appointed auditors.

The meeting adjourned to meet at Calgary, at the call of the president.

W. G. PETTINGELL,
Recording Secretary.

THE Winnipeg, Man., wholesale drug firms of E. D. Martin & Co. and Bole, Wynne & Co. have notified their customers by circular of their intention to amalgamate on the 1st January next, under the name of Martin, Bole, Wynne & Co. The officers of the company will be E. D. Martin, president; D. W. Bole, vice-president and treasurer; J. B. Wynne, manager, and L. W. Leithead, chemist,

M. H. McDOWELL, of Vancouver, B. C., spent a short time in Montreal, during this month. He went to Vancouver eight years ago, since which time he has built up about the largest drug business in that city. The increased jobbing trade done has induced him to form a joint stock company, under the name of H. McDowell & Co., (Limited).

GINSENG, THE CHINESE PANACEA.

By A. C. STOCKING

The Jesuit missionaries who penetrated the mountainous regions of Tartary, early in the eighteenth century, found many curious things to interest them in the intervals between praying and teaching. They were especially interested in a certain root, to which the natives ascribed almost miraculous curative properties.

It was the Tartars' panacea. By itself they believed it capable of healing any disease, and no medicine possessed any virtue, in their eyes, unless this root formed one of its constituents. Almost at the same time that the Jesuits in Tartary were discussing the alleged powers of this vegetable another member of the order, following the vocation at the opposite side of the world, made the discovery that the root was not alone indigenous to the Tartars' mountains. Father Laitau, a Canadian Jesuit priest, found it, in 1718, in the territory over which he presided, although its virtues, real or imagined, were apparently unknown to the natives. His discovery, however, became of the highest importance, in a commercial if not in a therapeutic sense, in later years.

The Chinese, who probably learned of the root and imbibed their faith in its supposed wonderful properties during their invasion of the Tartars' country in the thirteenth century, if not at an earlier date, gave to it the title of "Ginseng," which means literally "strong back." They, of all nations, are to-day, as they have been for generations, the largest consumers of the peculiar root, not only collecting it in the wild state and cultivating it as a precious crop in their own country, but importing immense quantities from Corea, Japan and America. To the Chinese it is a whole pharmacopœia possessing all the virtues of every known medicament, and they place a high value on it, particularly, as a curative agent in dyspepsia, vomiting and nervous disorders. They carry it about with them, chewing it whenever they feel the need of a stimulant, but its chief consumption is in the form of an infusion. The Chinese ginseng differs slightly in appearance from the American root, in being somewhat larger, and possibly possessing properties not found in the latter, but each is almost identical with the other in shape, and a description of the American variety, to which botanists have applied the name *Aralia Quinquifolia*, will answer for both. It is a species of Panax, belonging, as its name implies, to the natural order Araliacæ. The root is perennial, sending up annually a smooth, round stem, terminating in branches, which bear compound leaves of five leaflets and yellowish green or white flowers. The American root, like the Chinese ginseng, or *Aralia Panax*, bears a slight resemblance to the body of a man, with head and legs.

Externally it is of a light brown color, the interior being white. It has a faint, sweetish odor, and its taste is sweet and slightly aromatic. Its component parts are starch, gum, albumen, resin and a sweet principle, "panaquilon" (from Panax, a derivative of panacea).

Chemical examination has failed to substantiate any of the claims made for ginseng by the Chinese, and but for the export trade with that people it is highly questionable whether the root would have any commercial value in this country. All that European and American therapeutists are willing to concede is that it may possibly have some value as a mild stomachic. From colonial times the gathering and preparing of the root for market has formed an important industry in certain parts of America. It is found in Canada and thence as far south as Georgia, flourishing only in the cool woods of hilly countries. The method of gathering is a process of extermination, for the root is dug up as soon as the shoots appear above ground in the early spring, and the plant has no opportunity to grow, much less to nature and bear seeds. So complete has this work of extermination threatened to become in some sections, that governmental regulation of the gathering appears to be needed. In North Carolina there is an unwritten law, more or less regarded, prohibiting the digging of the root until the plant has reached maturity. In Canada stringent laws on the subject have been passed. The young root, containing more of the juices, is heavier and more saleable, and, therefore, the temptation to evade laws, written or unwritten, for the preservation of the plant is too great to be generally resisted. As a result New York state, which formerly furnished the best ginseng, now supplies only a moderate quantity of fine root while the most prized grades come from Canada. The ginseng industry in the United States is of considerably less importance than it was a few years ago, when the annual exportations to China averaged 500,000 pounds. The average now is about 300,000 pounds.

The American ginseng is rated as third quality by the Chinese, who place the product of their own country first, and the Korean ginseng second. Japan also produces a variety of the root which is of much inferior quality to any of the others, and is chiefly used in China for purposes of adulteration. The best Chinese ginseng comes from the province of Manchuria, the seat of government of the Chinese empire, and is raised and gathered under imperial protection. This grade ranges in price from \$40 to \$200 per pound, and can be used only by the wealthy. The Korean root costs \$15 to \$35 per pound and the average cost of American ginseng is \$3 per pound, some particularly fine roots occasionally selling for

\$8 per pound. The Japanese is worth from \$1 to \$5 per pound. Stories have been told of fabulous prices paid for pieces of the root bearing a striking resemblance to the human form, as it is upon this fancied likeness that the Chinese faith in its miraculous powers is believed to be pinned. It has been said that several thousand dollars have been paid for a root, in which the head, body, arms, and legs were well defined, but as the root seldom has more than two extremities, we must accept this statement with all others of a similiar character with a good deal of allowance. There are, however, well authenticated instances of the payment of as high as \$200 to \$400, in China, for old roots resembling the body of a man with head and legs, supposed to be one or two centuries old.

In China ginseng is hawked about the streets by peddlers, much after the manner of sellers of vegetables on this side of the world, while in every apothecary's shop it is conspicuously displayed, it being the main financial reliance of the Mongolian vendor of drugs—*Pop.Sc. News.*

TRADE NOTES.

Our readers will notice on page ten, the advertisement of the "Century" Atomizer. This, after a year and a half of constant experiment and a number of thorough tests in the leading hospitals, has been placed upon the market to the great benefit of the medical profession. It can be used as a nasal or throat atomizer, and will spray both water and oil. The bulbs and tubing are of the best quality, the valves of pure aluminum, and they are tested three times before being boxed for shipment.

To Prevent Substitution.

We imagine that Mr. Frank A. Ruf lies awake nights studying how to get the best of counterfeiters. So many disasters have occurred by substituting other drugs for Antikamnia, that one would think druggists would fear to practice the substitution business. When an article has a large sale, then a lot of dispensers undertake to make an extra cent by defrauding their patrons. In order that the physician may be assured that his patients are getting the genuine Antikamnia, Mr. Ruf has ordered in all old stock that is on the market and is replacing it with new. Physicians are now all advised to see to it that they procure, or their druggists procure, only that preparation which bears the seal. As now put on the market, each tablet has imprinted on it a monogram. The latest is "Antikamnia and Codeine Tablets," composed of $\frac{3}{4}$ gr Antikamnia and $\frac{1}{2}$ gr Codeine. All druggists having unbroken packages of the old style should send them at once to the Antikamnia Chemical Company,

St. Louis, and exchange them for new goods free of charge.

THIS winter's improvements at O. & W. Thum Co's Tanglefoot factory, will be a complete new box and case-making plant, the business having outgrown the present facilities of this department.

The new outfit will be equipped with the latest improved machinery and will turn out boxes and cases in keeping with the other good qualities of Tanglefoot. It will be housed in the ground floor of a new annex, the upper floor of which will be utilized for much needed office room.

HANCE BROTHERS & WHITE say:—"Our ten cent boxes and bottles of family medicines sell themselves as if seen; they are made so.

"The dozen box contains a card to stand up and be seen. It says 'I am good for headache, or frog in your throat, or constipation, diarrhoea or cramps, or indigestion, or wounds, or malarial troubles, or sore mouth, or worms, or catarrh, or inflammation of the eyes, or foul breath, or piles, or a cold; a lot of such common disorders; I do no harm; and I cost ten cents.'

"A score of them standing together say: 'We are good for these simple aches and disorders for which a family treats itself without calling a doctor. We help you to help yourselves, if you can; if you can't, we tell you to call the doctor; and we cost you ten cents.' These speaking cards have good manners and pleasant voices; they seem to tell the truth; and they do; your customers find they do.

"Was there ever a better combination? Good medicines that the people want; information about the use of them; they sell themselves and bring your customers back for more.

"Now turn to the goodness and rightness of them.

"They are the very medicines the best physicians are giving their patients; and the advice is the very advice the best physicians are giving their patients.

"The scheme is right; the system is right; it works right for buyer and seller; it brings them together and keeps them together; makes money for both; but health is more than money.

"A dime is a beautiful coin for business. A dime is just right for these medicines, little enough for the buyer and big enough for the seller. Little and often make good business.

"You will find a list of our ten cent goods in 'SELF-SELLING MERCHANDISE,' a copy of which we sent you. Let us send you an assorted gross, with plenty of advertising matter, \$7.

"If you use our goods, we will send you a liberal amount of printed matter to advertise the same upon your advising us by postal as to which of our goods you have in stock."

PRICES CURRENT.

OCTOBER, 1894.

Acetum cantharides	lb	\$0 60	
" colchici-corm	lb	50	
" ipecao	lb	40	
" opii	lb	1 20	
" scilla	lb	12	
Acetanilid	lb	90	oz. 15
Acid. acetic glac.	lb	50	demi 15 00 ea.
" " fort P.B.	lb	15	carbony 11
" benzoic German	oz	15	lb 1.75
" " " ozs. Hwds	25	Bulk 20	
" boracic	lb	14	pulv. 16
" butyric conc.	oz	30	lb 3.75
" camphoris	oz	60	
" carbolic No. 5 Cal. .	gl	1 50	
" " common	gl	90	
" " cryst.	lb	30	10 lbs 25
" " No 1 Calverts. lb	2 25		
" " " No. 2 " " lb	1 40		
" " " " " " "			10 lb tins 1.10 lb
" chromic.	oz	10	lb 1.00
" chrysophanic.	oz	30	
" citric.	lb	50	10 lb. 45
" " pulv.	lb	55	
" gallic	oz	10	lb 1.25
" hydro-bromic dil ..	lb	45	
" hydrochloric.	lb	5	carbony 2½
" " C.P. s.g. 1.19. lb	25	Wins. 20	
" hydrocyanic P B doz.	90	in 1 oz. 10c per oz.	
" " Scheele's doz.	1 00	do 10c do	
" hypophosphor.	lb	1 10	
" hydrofluoric (in patent			¼ lb bottles .50 ea.
ceresine bottles)			1 lb " 1.25
" lactic dilutam.	lb	1 15	
" " conc. pur.	lb	2 50	
" nitric.	lb	15	Wins. 12 carb 8½
" " C.P. s.g. 1.40. lb	30	Wins. 25	
" oleic pur.	lb	45	
" osmic	gm	1 75	
" oxalic	lb	12	50 lb 10
" perchloric.	oz	35	
" phos. dilut.	lb	17	Whr. qt. 14
" " cons S.G. 1.5. lb	50		
" " glac. pur stick. lb	1 20		
" " syr s.g. 1.750 lb	50	Whr. 45	
" picric.	lb	75	
" pyrogallic Schering's oz	35	8 oz. 30	
" " Merck's. oz	33	8 oz. 28	
" pyroligneous.	lb	10	gall 50
" salicylic.	lb	1 50	
" sulphuric	lb	5	carbony 2½
" " C.P. s.g. 1.84. lb	25	Wins. 20	
" " pur Eng.	20	Wins. 18	
" " aromat.	lb	65	
" sulphuros.	lb	12	
" tannic.	lb	80	5 lb 75
" tartaric pulv.	lb	35	10 lbs 30
" valerianic.	oz	40	
Aconitina exot.	gr	4	60 gn. 3
Adeps benzoatus.	lb	35	
Æther S. G. 735.	lb	40	Whr. qt. 35
" acetic	lb	55	do 50
" butyric.	oz	15	lb 1.50
" chloric.	lb	65	Whr. qt. 60
" Anæsthetic tir 500 gms	1 50	each.	
" " 250 " "	80	" Squibbs	
" " 100 " "	40	" "	
" " " " " "			1 lb tins 1.00 each
" " L. S. & Co	½	lb tins 0.55 "	
	¼	lb tins 0.80 "	
Alcohol brl.	cash	3 85	10 gall 4.15 5 gall
			4.20 1 4.25 in a/c

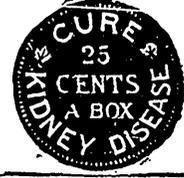
DR. CHASE'S

THE ORIGINAL KIDNEY PILL



KIDNEY=LIVER

THE ONLY KIDNEY-LIVER PILLS



PILLS

T. Dawson, Manager Standard Bank, Bradford, Ont., says, Chase's Kidney-Liver Pills are a grand medicine for the Kidneys and Liver.

W. F. CARRIER, 115 McCaul St., Toronto, representing Montreal Star, says, Chase's Pills act like magic for the relief of head-ache, bilious attack and constipation. Sold everywhere, or by mail on receipt of price, to EDMANSON, BATES & CO.

45 LOMBARD ST. TORONTO, ONT.



PETERMAN'S ROACH FOOD

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

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

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

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

The Great South American Nerve 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 absolut.....lb	1 00	Wr. 90	
" methylated.....gal	2 00	5 gals 1.90	Brl. 1.70
Aloes Barb opt.....lb	30	10 lb 25	cash
" pulv.....lb	35	do 32	
" Cape.....lb	15	10 lbs 13	
" Cape pulv.....lb	25	do 23	
" Socotrina.....lb	60	do 55	
" pulv.....lb	70	do 65	
Aloin.....oz	30		
Alumen lump.....lb	3	brl 1 1/2	
" pulv.....lb	4	brl 2 1/4	
" chrom.....lb	15		
" exsiccet.....lb	20		
Alumol.....oz	50	each	
Ammonii benzoas, from gum.oz	25	lb 3 00	
" bromid.....oz	65		
" carb.....lb	15		
" kegs.....lb	11		
" pulv.....lb	20		
" resub.....lb	55	c. b.	
" chlorid.....lb	12	100 lb 10 1/2	
" gran.....lb	12	100 lb 11	
" pulv.....lb	13		
" pur.....lb	25		
" hydrosulph sol..lb	40		
" hypophosph.....oz	25	lb 3.00	
" iodid.....oz	45	lb 5.50	
" molybdas.....oz	25		
" monocarb.....oz	35		
" nitras gran.....lb	32	25 lb 30	
" crist.....lb	35	25 lb 30	
" oxalas pur.....lb	75		
" phosph.....lb	1 25		
" salicylat.....oz	40	lb 4.75	
" sulphas com.....lb	9	pur 25	
" valerian.....oz	40		
Amygdala amara.....lb	50		
Amyl nitras.....oz	15		
" nitrite.....oz	15		
" valerian.....oz	35		
Amylum pulv.....lb	9	cwt. 3	
Annatto Hispan opt.....lb	50		
" Fullwood 1/2 oz & 1/2 oz lb	1 00		
Antim crocus pulv.....lb	20		
" nigrum pulv.....lb	12	50 lb 10	
" oxid.....lb	65		
" sulphurat precip.....lb	50		
" tartarat pulv.....lb	45	10 lb 42	
Antikamnia.....oz	1 30		
Antipyrin Knorrs'.....oz	1 10	5oz 1.05 10-25oz 1.00	
" Swiss.....oz	85	10 oza. 30	
".....lb	12 50		
Apiol green.....oz	65		
Apomorph hydroch.....gr	2	5 and 10 grain tubes.	
Aqua anethi.....lb	10		
" anisi.....lb	10		
" aurantii flor trip.....lb	25	Win qt 20	
" camph.....lb	10		
" carui.....lb	10		
" cassia.....lb	10		
" cinnam.....lb	20		
" destillata.....gl	12	carboy 10	
" floridae.....gl	5 00		
" lauro-cerasi.....lb	25	Whr qt 20	
" menthae pip.....lb	10		
" rose.....lb	25	Whr qt 20	
" sambuci flor.....lb	25		
Argenti chloridum.....oz	2 50		
" iodide.....oz	2 50		
" nitras cryst. L. B. & Co.oz	85	3.50 lb cash	
" fus (4 to oz)oz	1 00		
" oxidum.....oz	2 40		
Aristol.....oz cartoons	1 85		
Arsenicum alb. pulv.....lb	10		
" rub.....lb	15		
Arsenici bromid.....oz	40		
" iodid.....oz	60		

Bird Bread

THE WONDER OF THE AGE.

PATENTED 1891.

SAY! do you know that in every roc. packet of Cottam's choice imported, re-cleaned and well-mixed Bird Seed, a sc. 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. forget that one pound of Cottam's choice imported Bird Seed and a sc. Cake of Bird Bread can be got for roc., or Bird Bread without Seed at sc. 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' Wine of God 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.

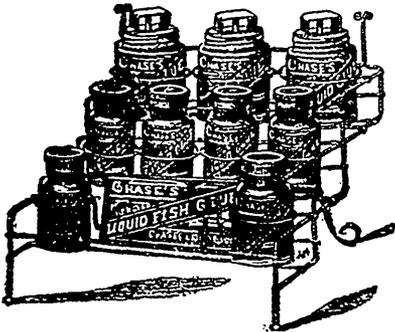
Each fluid ounce of the Wine contains four grains of Peptonate of Iron, the most readily assimilated and most valuable of all forms of Iron, it being partially predigested and free from styptic properties.

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

Sold by all prominent Wholesale Drug-houses.

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

Always Ready Without Heating.



SMALL PACKAGES FOR FAMILY USE.

ASSORTED CASES.

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

GILMOUR & CO.,

Or from the trade.

MONTREAL.



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

FOR

Body and Brain.

Since 30 years all Eminent Physicians Recommend

VIN MARIANI

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

**NOURISHES,
FORTIFIES,
REFRESHES.**

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

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

**PALATABLE AS
CHOICEST
OLD WINES**

LAWRENCE A. WILSON & O.,

Solo Agents.

28 & 30 Hospital St., MONTREAL

STANDARD PREPARATIONS.

Mrs. Winslow's Soothing Syrup

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

Brown's Bronchial Trochès

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 I. 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 invaluable 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 Cleansing and Preserving the Teeth and air rifying the Breath. Used daily it prevents trouble from bad teeth and soft gums. Retail price, 25 cents a bottle. Prepared by JOHN I. BROWN & SONS. THE CURTIS & BROWN MFG CO., 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.

Always Clean.

Price \$1.00 Doz.
Fittings can be applied separately.

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

SIZES & QUANTITIES	
100 (8) GRS	DRY POWDER FULL MASS
100 (10) GRS	DRY POWDER FULL MASS
100 (12) GRS	DRY POWDER FULL MASS
100 (15) GRS	DRY POWDER FULL MASS
100 (20) GRS	DRY POWDER FULL MASS
100 (25) GRS	DRY POWDER FULL MASS
100 (30) GRS	DRY POWDER FULL MASS
100 (40) GRS	DRY POWDER FULL MASS
100 (50) GRS	DRY POWDER FULL MASS
100 (60) GRS	DRY POWDER FULL MASS
100 (75) GRS	DRY POWDER FULL MASS
100 (100) GRS	DRY POWDER FULL MASS

OUR CAPSULES ARE TRANSPARENT, ELEGANT IN APPEARANCE, AND UNDETERIORATED BY MANUFACTURE OF THE FINEST & BEST MATERIALS. SAMPLES FREE.

MADE BY THE CANADIAN CAPSULE CO TORONTO

Oreta præcip	lb	10	keg 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	
Cyperi 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 4
" sulph recryst.....	lb	25	
Cuprum scales.....	lb	40	
Curare.....	grain	6	
Currie powder.....	lb	35	
Cusao	oz.	10	
Damiana.....	lb	40	
Daturine, pure xtls.....	gr	10	
Dextrine, white.....	lb	10	50 lb 8
" yellow.....	lb	8	" 7
Diapente.....	lb	30	
Diastase.....	oz	1 25	
Digitalina.....	oz	50	each
Diuretin "Knoll".....	oz	1 75	
Dolichos pruriens pubes....	oz	60	
Dubosin, pure Amp 5 gr. tube		60	each
" sulphate.....	gr	12	
Eikonogon.....	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, 5gr. tube gr		10	each
Ethyl, Benzoate.....	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
Europhen	oz	2 00	
Eralgine	oz	1 25	
Extract. acon. (rad alco.)..	oz	35	lb 4.80
" aloes barb.....	lb	75	
" " pulv.....	oz	10	lb 1.25
" " socot.....	"	10	lb 1.25
" anthemides.....	"	20	lb 2.50
" belladon ang.....	"	25	lb 3.50
" " pulv.....	"	25	lb 2.50
" " aqueos.....	oz	15	lb 1.50
" Belladon alcoh.....	oz	25	lb 3.00
" calumb.....	oz	25	lb 3.25
" cannabis indica.....	oz	25	lb 3.00
" cascara sagrada.....	oz	25	lb 3.50
" cinchonæ flav.....	oz	25	lb 3.50
" colchici.....	oz	20	lb 2.60
" " acet.....	oz	15	lb 2.00
" 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
" copaibæ 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	0 75	
" " pulv.....	lb	0 75	
" hellebor nig.....	oz	25	
" hæmatoxyli.....	lb	80	
" hyoscyam.....	oz	20	lb 2.5, 0
" hyoscyam aques.....	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 antiseptic. Can be readily formed into Bandages, Pads, Tampons or any desired form of dressing

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

ADVANTAGES OVER LINT.

Greater absorbancy.

Tears Readily

No loose Fibres to stick to Wounds
or Clothing.

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

Notwithstanding these advantages Lintos is no 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 : $\frac{1}{5}$ -lb. Bottles, per dozen, \$4.80
each - 1.80

For Sale by the Wholesale Drug Trade.

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

.... POUR

Injections Hypodermiques,

—PRÉPARÉS PAR—

J. MOUSNIER, DE SCEAUX, FRANCE.

Pharmacien de l'école Supérieure de Pharmacie de Paris.

Eucalyptol, Eucalyptol Gaiacolé, Eucalyptol Gaiacolé et Iodoformé, Eucalyptol Créosoté, Eucalyptol Iodoformé, Eucalyptol à l'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 Testiculaire.

Substance Grise.

Extract hyoscyam pulv.....oz	25		erri sulphurpur.....lb	7	10 lb 6
“ “ exot.....oz	15	lb 1.50	“ sulphid.....lb	15	
“ ignatia amara.....oz	60		“ valerian.....oz	25	
“ ipacac acetic.....oz	1	50	Ferrum dialysatum.....lb	40	
“ jaborandi.....oz	60		“ redactum.....lb	75	
“ jalape.....oz	25	lb 3.50	“ tartaratum.....lb	80	10 lb 75
“ “ pulv.....oz	85		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 & 80 lb boxes)	“ arnicæ.....lb	25	
“ logwood 1 lb pkts..lb	15	(80 lb boxes)	“ lavand.....lb	15	pulv. 25
“ “ ¼ lb pkts..lb	18	“	“ roseæ gall.....lb	1	75
“ “ ½ 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.....lb	25		“ buchur.....lb	20	
“ mezerei æther.....oz	60		“ cocæ 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	“ hyoscy. 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	“ pulegi.....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	
“ sarasæ jam.....oz	30	lb 4.00	Fruct. anethi.....lb	30	
“ rhei E. I.....oz	21	lb 3.50	“ anisi German.....lb	15	
“ sarasæ jam co.....oz	28	lb 3.25	“ “ pulv.....lb	20	
“ sarasæ 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		“ carui.....lb	12	“ 11
“ valerian.....oz	15	lb 2.00	“ “ canad.....lb	11	“ 10
“ veratri viride.....oz	45		“ carui pulv.....lb	18	
Fabæ physostigmatis.....lb	50		“ conii.....lb	30	
“ tonca para.....lb	1	00	“ oorlandri.....lb	10	bag 7½
“ “ surinam.....lb	1	75	“ “ pulv.....lb	18	
“ “ angostina.....lb	2	75	“ feniculi.....lb	15	pulv 20
“ vanilla, 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	Gadol.....oz	40	
Fehling's solution.....lb	1	00	Gallæ coarule.....lb	28	bag 25
Fel bovinum purificat.....oz	20	2.00 lb	“ “ pulv.....lb	30	grd 28
Ferri ammon chlorid.....lb	60		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	56 lb tin 15 case 14
“ “lb	1	75	Glycerine Price's.....lb	70	W. qt 65
“ “ 10%.....oz	18		Grana paradisi.....lb	20	
“ “lb	2	50	“ “ pulv.....lb	30	
“ “ P. B.....oz	20		Guaiacol.....oz	80	
“ “lb	2	75	“ benzoate.....oz	1	50
“ “ Hd's.....oz	25		“ carb.....oz	1	75
“ “ amorph.....oz	15		Guerana pulv.....lb	3	00
“ “lb	1	75	Gum acacia, No 1.....lb	60	
“ et strych. cit., oz	35		“ “ “ 2.....lb	40	
“ “ Hd's, oz.	40		“ “ “ 3.....lb	35	
“ et strychn. citras 1%.....oz	15	10 oz 18 lb 1.75	“ “ “ 4.....lb	30	
“ hypophosphis.....oz	20	lb 2.50	“ “ “ 5.....lb	25	
“ iodide.....oz	40		“ “ pulv.....lb	65	
“ lactas.....lb	75		“ ammon in guttæ.....lb	50	
“ perchlorid.....lb	35		“ asafotid. opt.....lb	45	sec: 35
“ phosphas.....lb	35		“ “ pulv.....lb	40	
“ pyrophosph.....lb	30		“ benzoin opt.....lb	75	
“ succinate.....oz	35		“ catechu nig.....lb	12	20 lb 11 pulv 25
“ sulphas commercl.....lb	2	bri 90 gross	“ catechu pallid cubes..lb	16	10 lb 15
“ sulphas exsic.....lb	9		“ copal.....lb	1	00

Gum damar.....lb	30	
“ elemi.....lb	45	
“ euphorb. pulv.....lb	40	
“ galban opt.....lb	3 50	
“ gambogia.....lb	1 00	pulv 1 20
“ guaiaci.....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	
“ aang. draconis.....lb	45	reed 90
“ “ pulv.....lb	75	
“ scammon. aleppo } lb	6 50	
“ opt. (pulv) } lb	3 75	
“ scammon resin.....lb	40	
“ seedlac.....lb	40	
“ shellac, orange.....lb	40	
“ “ bleached.....lb	40	50 lb 85
“ sprace.....lb	30	10 lb 25
“ storax liquid.....lb	50	
“ “ dry.....lb	50	
“ thus.....lb	15	
“ tragacanth Ribbons.....lb	90	
“ “ Aleppo opt.lb	65	
“ “ Aleppo No.2.lb	50	
“ “ pulv. opt.lb	90	
Gun cotton.....lb	70	1 oz box
Hæmogallol, 10 gm. vials....	50	each
Hæmol “ “ “.....	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	
“ oless.....5°/lb	55	
“ “.....10°/lb	65	
“ “.....20°/lb	80	
Hydrargyrum.....lb	80	10 lb 70
Hydrastine alcaloid C.P.....dr	50	
“ hydrochlor C.P.dr	90	oz. 6.00
Hydrastinine mur. Marck's 15 grain tubes.....	90	oz. 22.00
Hydrochinone.....oz	35	lb 4.50
Hydrogen peroxid, Peuchot's.lb		doz. 8.00
“ “ “ ½lb		“ 6.00
“ “ “ ¼lb		“ 4.50
“ “ Coml.....lb	35	
Hyoscine, hydrobrom, 5 gr. tub.1	75	each
Hyoscyamine.....gr	25	sulph gr 35
Hypnal.....dr	40	
Hypnon, pure.....oz	1 50	
Isingless Brasil.....lb	3 25	
“ Gridley's oz.....doz	1 80	
“ Russian.....lb	5 09	
Ichthyol, Merck's.....oz	40	½lb 6.00 lb ½lb 5.75 lb 1lb 5.50 lb
Indigo Madras opt.....lb	75	sec 65
“ “ pulv.....lb	90	
“ PASTE.....lb	20	
Insect powder Dalmatian...lb	35	25 lb 28 56 lb 25
“ “ Persian.....lb	30	25 lb 21 56 lb 20
Iodoformum.....oz	40	lb 5.90
“ præcip.....oz	40	lb 5.90



**WAFERS
PENNYROYAL**

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.

MONGENAI, BOIVIN & CO.,

Sole Agents for Canada, **MONTREAL.**

Special Offers



“ Zoo ” Floating Bath Soap

Australian Wool Lung Protectors

Chamois “ “

“ **Jackets**

“B.T.H.” Atomiser^A_D Vaporizer No. 2

With Hard Rubber Fittings, for producing a fine vapor from all kinds of oils

Canary Seed

Hemp “  To arrive in about a week.

**ORDER GOODS LIABLE TO BE DAMAGED BY FROST
IMMEDIATELY AND SAVE EXPRESS CHARGES.**



LYMAN, SONS & CO.,

 **MONTREAL.**

Iodol.....oz	1	40	
Iodum crude.....oz	30	lb 4.50	
" resub.....oz	40	lb 5.25	
Iodum resub.....oz	40	lb 5.25	
Jalapin ang.....oz	1	00	lb 13.50
Kamala.....lb	60		
Kouso.....oz	10		
Kava Kava.....lb	90		
Lactopeptin ozs.....doz	8	50	
" 1/2 lbs.....lb	10	50	
Lactucarium ang.....oz	70		
Lanolin.....lb	85		
Lapis calam. prosp.....lb	7		
Lapis pumicis select.....lb	6	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 161-5 lb	35	25 lbs 30	
" Y. & S. stick.....lb	35		
" Pellats Y. & S.....lb	40		
" " M. & R.....lb	40		
Liquor 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	
" potasse.....lb	7		
" santal flav comp.....lb	1	50	
" sodii chlor.....lb	16		
" strychaine.....lb	50	Whr. qt. 45	
Lithii bromid.....oz	25		
" carbonas.....oz	25	lb 3.20	
" citrus.....oz	20	lb 2.75	
" hippurate.....oz	1	50	
" iodid.....oz	50		
" salicylat.....oz	30		
Litmus.....lb	60		
Lucilline.....1 lb tins	20	each	
" 5 lb "	90	"	
" 10 lb "	1	60 "	
" 25 lb tubs	13	lb.	
" 50 lb tubs	12	"	
Lupulinum.....lb	60		
Lycopodium.....lb	80		
Lysol.....1/2 kilo bottles	1	00 each	
Macis.....lb	75	pulv 85	
Madder compound.....lb	10	carboy 9	
" Dutch.....lb	12	brl 10	
Magnes citr. gran. Bishop.....lb	80	7 lb 75	
" " Lyman.....lb	35		
" calciné1 lb tins	50		
" " " " bots	65		
Magnesi 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	
Maltopepsin 1/2 lb bots.....lb	6	85	
" bots.....doz	6	35	
Maltose xtls.....oz	1	50	
Mangan chlorid.....lb	50		
Maganese hyphospdite.....oz	30		
" oxyd. nigr.....lb	10	brl. 7 1/2	
" sulph. pur.....lb	60		
Manna flak select.....lb	1	50	
Maranta Bermuda.....lb	45	10 lb 42	
" Jamaica.....lb	15		
Mel. canadensis.....lb	15	10 lb 14	
Menthol.....oz	55	lb 8.00	
Morphina acetat.....oz	1	70	10 ozs. 1.60
" hydrochloras.....oz	1	70	" 1.60
" sulphas.....oz	1	80	" 1.70
Moschus, in grain.....gram.	5	50	4.50 3.50
Myrtol.....oz	1	00	
Naphtha mineral.....lb	50		
Naphtha vegetable.....lb	60		
Naphtaline resublimed.....lb	30		
Naphthol Beta.....oz	10	lb 1.40	
" " Bengoate.....oz	40		
Nickel sulph cryst.....lb	75		
" ammon. sulp.....lb	30		
Nux. areca select.....lb	20	pulv 35	
" kola.....lb	50		
" myristica (limed).....lb	90	pulv 1.00	
" " opt.(unlimed)lb	1	00	
" vomica.....lb	12	pulv 25	
Olio Resin Capsici.....oz	85		
" Cubeb.....oz	50		
Ol. absinth.....oz	30	lb 4.00	
" amugd. dulc.....lb	45	Whr. qt. 40	
" " essent. sine acid			
pruss.....oz	50		
" anethi Ang.....oz	35	lb 4.50	
" anisi.....lb	2	75	Whr. qt. 2.50
" anthem Ang.....oz	2	00	
" aurantii.....lb	2	00	
" bergam super.....lb	3	00	
" buchu.....oz	3	00	
" cadi.....lb	35	Whr. qt. 30	
" cajuputi.....oz	10	lb 1.00	
" carni.....lb	2	50	
" caryoph.....lb	1	00	
" cassia.....lb	1	50	
" cedri opt.....lb	65	Whr. qt 70	
" chaulmoogra.....oz	60		
" cinnamomi ver.....oz	1	70	
" citronella.....lb	80	bot. 70 lb	
" cocoonut.....lb	15		
" cognac.....oz	1	75	
" cologne.....oz	60		
" conil.....spruce.....lb	70	Whr. qt. 65	
" copaiba.....lb	1	25	
" coriandri.....oz	70		
" crotonis.....oz	12	bot. 1.50 lb	
" cubeb.....oz	30	3.50 lb	
" cymini.....oz	50		
" erigerontis.....lb	3	25	
" eucalypti.....lb	1	25	
" fenicules 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 4.50	
" lavand ang.....oz	2	00	
" lavand exot.....lb	3	50	sec 2.50 1.50
" limonis super.....lb	1	50	copper 1.25
" macis.....oz	25	lb 3.50	
" menth. pip. Amer.....lb	3	50	Whr. qt. 3.25
" " " 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 Sirs, St. Marys, August 3rd, 1892.
 The following may be of use to you: "A customer of mine, who keeps a butcher chop 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 virid.....oz	25	lb 3.50
" morrhuaNorweg.....gl	1 30	brl. 1.20
" " Munn's Nfld. by } Norweg. process }	95	kegs 18 gals 85
" myrbane.....lb	35	Whr. qt. 30
" myristica.....oz	30	bot. 25
" neatsfoot, pale.....gl	1 00	
" neroli, opt.....oz	3 00	
" olivæ sublime salad .gl	2 50	
" olive sublime salad 1 gal	original tins incl. 2.50 each.	
" " green.....gl	1 40	brl. 1.20
" " opt.....gl	1 50	brl. 1.35
" " yellow.....gl	1 40	brl. 1.15
" " opt.....gl	1 50	brl. 1.25
" " (Salad American)gl	90	brl. 80
" origani.....lb	85	
" " Sec.....lb	50	Winch 45
" palma select.....lb	15	
" patchouli opt.....oz	75	
" petit. gran.....oz	75	Sec 45
" picis.....lb	12	Whr. qt. 10
" pimentæ.....oz	25	lb 3.20
" pini silvestris.....lb	1 50	
" palegii hed.....lb	2 00	
" rapii.....gl	1 00	
" rhodii.....oz	80	
" ricini E. I.....lb	11	case 7½ tins 8
" " Gal water pale..lb	12	brls 7½
" " Virgin.....lb	15	tins 12
" " Ital.....lb	20	tins 17
" rosmarini exot.....lb	70	W. qt. 65
" ruta.....oz	25	
" sabina.....lb	1 30	
" sambuci vir.....lb	30	
" santali ang.....oz	50	lb 7.50.
" " " W.I.....oz	40	lb 4.00
" sassafras.....lb	65	Whr. qt. 60
" sem. santon.....oz	25	lb 3.20
" sesame.....gl.	1 35	case 1.25
" sinapis essent.....oz	65	lb 8.50
" sperm.....gl.	1 60	
" epike.....lb	25	
" succin. rect.....lb	65	Whr. qt. 60
" tanaceti opt.....oz	25	lb. 3.50
" terebinthinæ.....lb	50	
" terebinthinæ coml.....gl.	65	
" theobromatis.....lb	55	(tablets)
" valerian.....oz	1 00	
" verbena.....oz	10	bot. 9
" vini.....oz	25	lb 3.50
" ylang-ylang.....oz	7 00	
Opium Turc.....lb	4 00	
" " pulv.....oz	40	lb 5.00
Os sepiæ.....lb	25	select 40 pulv 35
Otto rosæ coml.oz	6 50	
" " virgin.....oz	9 00	opt 11.00
Panc'reatine, Morson's.....oz	1 00	
" " Merck's.....oz	50	
" " absolute.....oz	75	
Papoid.....oz	3 25	
Paraffinum durum.....lb	15	50 lb 13
Paradehyde.....oz	20	lb 2.00
Paris Green.....100 lb irons	14	
" " 25 lb "	15	
" " 1 lb tins	18	
Pelleterine Tannate.....gm	45	
Pelsin.....lb	225	
p pur. sol pulv. Merck's..lb	3 00	
" Merck's scales.....lb	5 00	
" ang. coml.....oz	30	lb 3.50
" Boudault's.....oz	1 20	
" medicinal Morson's.....oz	85	
" porci Morson's.....oz	2 25	
" sacchar.....oz	25	lb 3.50
" Jensen's scales ".....oz	1 25	
" Armour's.....oz	90	lb 12.00

TURKISH DYES.

.... Seventy-four Colors
.... Fast Shades

BRAYLEY, SONS & CO.
MONTREAL,

Rheumatism Quickly Cured

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

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

WALTER BAKER & CO'S

Solable

525252525252525

Chocolate.

25252525252525252525

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 preparation.

Samples furnished to Druggists on application.

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

WALTER BAKER & CO.,

Dorchester, Mass., U.S

BRANCH HOUSE:

6, HOSPITAL STREET,

MONTREAL

**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.

Green Mountain : : : : :

Pills, Salve,
Balm, Syrup.

<p>GEORGE TUCKER'S GREEN MOUNTAIN SALVE HAS NO EQUAL FOR RHEUMATIC PAINS, & WEAKNESS OF THE SIDES & BACK. LADIES FRIEND.</p>	<p>ARRAPAHOO OR GEORGE TUCKER'S GREEN MOUNTAIN BALM. THE WELL KNOWN INTERNAL-EXTERNAL REMEDY</p>	<p>GEORGE TUCKER'S BOTANIC SYRUP WARRANTED TO CURE COLDS INFLUENZA AND WHOOPING COUGHS.</p>
<p>\$5000 REWARD FOR BETTER PATENT MEDICINES SOLD BY ALL RESPECTABLE DRUGGISTS AND GROCERS SOLE AGENTS</p>	<p>THE SAFEST, SUREST AND MOST SPEEDY RELIEF FOR ALL NERVOUS AND INFLAMMATORY AGUES AND PAINS. IT HAS NO EQUAL ITS ACTION UPON THE NERVES IS REALLY ASTONISHING; IT STOPS PAINS AS IF BY MAGIC IT SHOULD BE IN EVERY FAMILY FOR IT IS TRULY A DOCTOR IN YOUR HOUSE IT GIVES IMMEDIATE RELIEF. TRY IT. DIRECTIONS ON EACH BOX</p>	<p>THOUSANDS OF PERSONS SUFFERING FROM VARIOUS DISEASES. IMMEDIATELY HAVE RECOURSE TO GEO. TUCKER'S INDIAN REMEDIES</p>
<p>LYMAN, SONS & CO. WHOLESALE DRUGGISTS 315 PAUL STREET MONTREAL</p>		<p>429 CRAIG STREET MONTREAL.</p>

Chocolate
Worm Bonbons.

— Preparations. —

SIMPLE BUT SURE.

SOMERVILLES'

M. F. COUGH

**C. H. E. W. I. N. G
G. U. M,**

Five Cents per Bar.

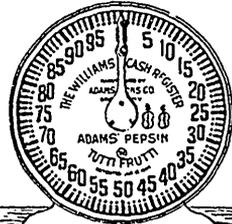
Twenty Bars on a Handsome Standing Card.

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	18	25 lb 16
“ “ pulv....lb	20	25 lb 18
“ “ Jam. u. b.....lb	20	brl. 18
“ “ bleached. lb	25	10 lb 24
“ “ pulv opt. lb	30	10 lb 28
“ “ sec. lb	25	
Resin flav.....lb	4	
“ pulv.....lb	5	50 lb 4
Resorcin xtls.....oz	25	lb 3.00
“ resublim.....oz	50	
Rhizoma arnicæ.....lb	30	contus 40
“ cimicifugæ.....lb	15	
“ podophylli.....lb	14	
“ serpentariæ.....lb	55	pulv. 90
“ valerianæ.....lb	15	pulv. 22
Rouge—Jewellers.....lb	75	
Rubidium chloride.....gm	40	
Saccharine..... dram	20	oz 1.20
Sacch. lactis pulv.....lb	25	
Sago perlat. parv.....lb	8	bag 4
Sal prunellæ glob.lb	20	
Salicinum.....oz	20	lb 2.60
Salipyrine.....50 gms	2 50	each
Salol.....oz	30	lb 3.75
Salophen Bayer.....oz	1 50	
Santoninum.....oz	20	lb 2.50
Sapo Castile Alb Contis...lb	18	box 15
“ “ Shell.....lb	12	“ 10
“ “ Virgin.....lb	12	“ 10
“ “ “ cakes box, 5 00		
“ “ Mottled opt....lb	12	box 11
“ “ com. lb	10	“ 9
“ “ cakes gross 4 75		
“ mollis ang.....lb	10	20 lb 8
“ German Green. lb	35	
“ Green opt.....lb	55	
Scammonia resin pulv....lb	3 75	
Scopari cacumin.....lb	25	
Secale Cornut.....lb	75	
Seidlitz Mixture hds.....lb	22	
Sem. canary.....lb	5	bag 3¼
“ cardam.....lb	1 25	1.00 & 75
“ 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
“ fenugræci.....lb	5	
“ pulv.....lb	7	ground 6 brl 5
“ hemp.....lb	5	bag 3¼
“ hyoscyam.....lb	60	
“ 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
“ lobeliæ inflatæ.....lb	50	pulv 55
“ maw.....lb	15	10 lb 14
“ millet.....lb	8	bag 3½
“ pumpkin.....lb	25	
“ rapii.....lb	7	
“ santonicæ.....lb	18	pulv. 28
“ sinapis alb.....lb	10	
“ staphisagriæ.....lb	35	
“ stramonii.....lb	25	
Soda caustica stick.....lb	45	
“ caustica cake.....lb	40	
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	
“ “ lbHd's....	16	14 lb 15



WHAT YOU WANT.

ADAMS' TUTTI-FRUTTI

Cash Register.

A substantial and reliable article.
Send for descriptive Circular.

ADAMS & SONS CO.,

11 & 13 JARVIS ST., TORONTO, ONT.

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

Granular Effervescent Bromo-Pyrine,

Large size, \$9.00 doz. Small size, \$2.25 doz.
Medium " 4.75 " Sample " 8.50 gros

1 lb. Bottles, 2.37 lb.

Comp.Sy. Hypophosphites, PER DOZ. 5 PINTS \$8.50 \$3.17

Tasteless prep'n Cod Liver Oil, 8.50 3.17

Syrup Hydriodic Acid 8.50

Hypno-Bromic Co. (True Hypnotic)

1 lb. Bottles, \$25.67 Doz

½ " " 12.64 "

¼ " " 7.37 "

Tasteless preparation Cascara Bark,

12 oz. Bottles, \$7.00 Doz.

Asparoline Compound..... 8.50 "

Alvinine Suppositories, Per Doz. Boxes, (Adult Size) \$4.00

(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 Fine Com., 5 pt. bottles 2.65

Per dozen 6.85

PREPARED SOLELY BY

HENRY K. WAMPOLE & CO.,

Manufacturing Pharmacists

PHILADELPHIA, U.S.A.

CANADIAN BRANCH:

36 & 38 LOMBARD ST., TORONTO

Highest Awards

PARFUMERIE

At all Exhibitions

ED. PINAUD,

7 Boulevard de 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.*

SPECIAL

PAUL
PROT & CO.

55 Rue St. Anne, PARIS,
FRANCE,

Desire to draw the attention of all BUYERS of
PERFUME to the celebrated and well-
known make of the establishment,
"LUBIN,"
the
Proprietors.

TRADE

B
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OF



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NOTICE.

Sodii bicarb pulv. coml. . . lb	4	keg 2.75			
" bisulphis. lb	25				
" bisulphas pure lb	30				
" bromid. lb	65				
" carb. recryst. lb	15				
" carboles pur lb	3 50				
" chlorate xtls. lb	50				
" citras lb	1 00				
" hypophosphis. lb	1 40				
" hypsulphis. lb	5	keg 112 lbs. 2.75			
" iodid. oz	40	lb 5.50			
" nitras pur. lb	25	coml. 8			
" oxalas. lb	50				
" phosph pur. lb	15	pn'v 25			
" potass tait pulv. . . . lb	25				
" salicylas 1 lb boxes. . .	1 60	5 lb bulk 1.50			
" silicas xtls. lb	15				
" " solut conc. lb	10				
" sulphas. lb	3	brl. 1 1/2 Hds 5 [brl. 4.			
" " exsicc. pulv. . . . lb	15				
" " pur recryst. . . . lb	30				
" sulphid. lb	60				
" sulphis. lb	7	pulv. 8			
" sulpho carboles. . . . 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. 1/2 oz	30	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 00	Br. 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 85			
" sulph. oz	1 20	in 1/2 oz bots }			
Styrax liquid. lb	50	25 extra }			
Succus conii. lb	75				
Succus limæ fruct W. I. . . . gl	90	brl. 80			
" rhamnii. lb	25				
" scoparii. lb	70				
" taraxaci. lb	65				
Sulphonal—Bayer. oz	35	lb 4.50			
Sulphur Lac. lb	12	10 lb 11			
" præcip (B. P.) lb	20	10 lb 18			
" rotund. lb	3	brl 2			
" sublim. lb	4	bag 110 lbs 2 1/2			
" vivum. lb	6	10 lbs 5			
Sulphuris iodid. oz	40				
Svapnia, 1/2 oz bottles. . . . oz	5 00				
Tamarindus, W. I. lb	14	10 lb 12			
Tapioca flake lb	6				
" pearl lb	6				
Terebens. lb	65				
Terebinth canadensis. . . . lb	45				
" chian. oz	35				
" Venet. lb	15				
Terpine Hydrat oz	20				
Terpinol oz	30				
Terra Japonica (Gambier). . lb	10				
Thallin Sulphate pure drgm	40				
Thiol liquid. oz	60	100 gm. tins 1 25			
Thymol. oz	40				
Triental-Bayer. oz	1 25				
Tripoli doz	90				
Triticum repens. lb	20				
Troch. acid carbolio G's T. H. lb	75				
" " tannic lb	1 25				
" aconite lb	90				
" bath pipe lb	45				
" black currant, Gibsons lb	90				
" boracic acid . . . T. H. lb	90				
" " rouchial P D & Co.		5 lb can 1.75 each			
" cachou dwf bouquet. lb	52				
" " floral gems. . . . lb	52				
" camphor lb	75				
" capsici Gibson's lb	65	Domestic 35			
" catechu lb	80				
" chlorodyne. lb	65	Gibson's 90			
" coltsfoot lb	40				
" cubeb T. H. lb	90				
" gelatine lb	60				
" glycerin [jujubes]. . . . lb	75				
" guaiaci T. H. lb	1 10				
" ipecac lb	75				
" kramarie T. H. lb	1 25				
" lactuse, . . . T. H. . . . lb	1 25				
" licorice (pipe) lb	35				
" mentha pip. C.S. Gibson's lb	65	1 lb 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	1 25	each			
" vermifuge. lb	50	worm			
" voice [jujubes]. . . . lb	85				
Uranii acetat. oz	75				
" 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			
" " xericam [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				
Zinci acetat. lb	45				
" bromid. oz	25				
" carb. lb	35				
" chlorid. sticks. oz	15	1/2 lb 45, lb 75, bt. free			
" iodid. oz	60				
" oleas. lb	1 20				
" oxidum Howard's P.B 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 granulatum. lb	30				
Zinci sœoidol 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 CARR. (form. Bland's)	2 grs.	} in 1 dr.
IRON and ARSENIC	4 grs. & 3 mns.	
LITHIA CITRATE	5 grs.	} in 1 dr.
LITHIA BENZOATE	5 grs.	
LITHIA SALICYLATE with	5 grs.	} in 1 dr.
SODIUM BROMIDE	5 grs.	

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

Lists free on application



None genuine without this Trade Mark.

PIPERAZIN.

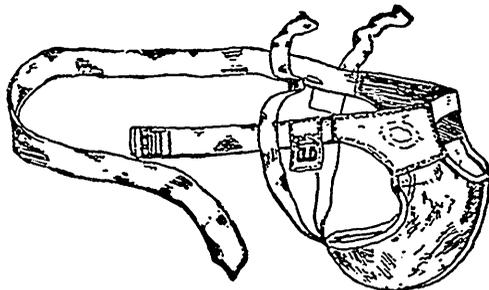
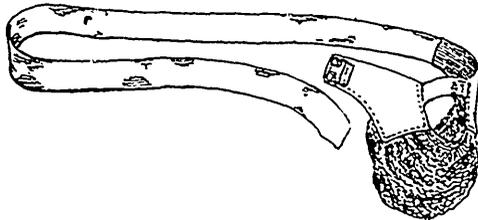
5 grs. in each drachm.

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

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 fits into 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 “ “ | 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.

HAS AN ANNUAL SALE OF 3,000 TONS.



6 & 10 CENT TIN BOXES
MANUFACTURED BY MORSE BROS. PROP'S
RISING SUN POLISH
CANTON, MASS. U.S.A.

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 oz. 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, 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.