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See Page 63.

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SULPHITES and BISULPHITES of LIME, MAGNESIA,
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Doré Transparent Glycerine SOAP.

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Size D 1, 2d. Tablets.

In Wood Boxes of 3 dozen each	15/- gross.
" " 6 " "	14/- "
In 6d. Boxes, 3 Tablets in a Box	4/- dozen.

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" " 6 " "	30/- "
In 1/- Boxes, 3 Cakes in a Box	8/- dozen.

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In Wood Boxes, 3 dozen in a Box	46/- gross.
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In 1/6 Boxes, 3 Cakes in a Box	12/- dozen.

BARS, 5/6 and 11/- per Dozen.

(Packed in Boxes of 3 dozen small, or 1½ dozen large size.)

SHAVING STICKS, in neat foil-lined cases, 4/6 & 9/- per doz.) Retail,
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Endorsed by the entire Medical Press and Profession, and in general use in Hospitals, Dispensaries, &c., throughout the World.

Pamphlets containing original articles from distinguished Members of the Medical Profession and Pharmacists, with Prescriptions and Formulas, post free.

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of our Vaseline Preparations:**

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	VASELINE GOLD CREAM	}	Glass Pots, 2 sizes, 8s. and 16s. per dozen; in boxes of 1 dozen and of $\frac{1}{2}$ dozen.	
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For the convenience of Chemists in Dispensing, &c., Vaseline is put up in 1-lb. tins, 2s. 6d., and 5-lb. tins, 2s. 3d. per lb., and the Veterinary Vaseline, in 5-lb. tins, at 9s. per tin—Packages included.

Our Name and Registered Trade Mark is on every label and package.

All the above articles can be obtained of Messrs. MAW, SON & CO., and all Wholesale Houses in London; Messrs. EVANS & Co., of Liverpool; FERRIS & Co., Bristol; HATRICK & Co., NEW APOTHECARIES' Co., and BROWN BROS., Glasgow; MACKAY & Co., Edinburgh; BOILEAU & BOYD, Dublin; CLARKE & McMULLAN, Belfast; and of the Manufacturers.

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NOTICE.—Paraffin adulterations and imitations of Vaseline can be readily distinguished by their odour, taste, and their grainy or crystalline structure, which is very evident to the eye when compared with the jelly-like smoothness of Pure Vaseline.

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BY HAWKER'S PATENT PROCESS.

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TRADE MARK.



A.D. 1715.

The merits of these articles have now become widely known. Prepared by this process Jujubes are rendered less adhesive, much brighter in appearance, and may be kept for long periods without change.

BLACK CURRANT	LICHEN	MIXED FRUITS	PECTORALE	RASPBERRY	TAMARIND
GLYCERINE	LIQUORICE	MAGNUM BONUM	PINE	ROSE	VOICE

2/- per lb., or in tin boxes, 6d. size, 4/-; 1/- size, 8/-.

All the above Tins are neatly wrapped ready for sale. The One-Pound Tins are returnable at 6/- per dozen.

GLYCERINE, VOICE, TAMARIND (and all other) PASTILLES, 2/2 per lb.

Or in 6d., 1s., and 1-lb. tin boxes, 4/4 and 8/6 per dozen.

GUIMAUVE.....2/6 per lb., in 1/- and 1 lb. tin boxes, 8/- per dozen.

DELECTABLE.....2/3 per lb., or in 6d. and 1/- tin boxes, 4/4 and 8/6 per dozen.

CRYSTALLIZED FRUIT PASTILLES.....2/- per lb. | CRYSTALLIZED JUJUBES (Mixed).....1/8 per lb.

A Sample of any of the above Jujubes, &c., sent free by post if desired.

SUPERIOR UPRIGHT SHOW CASES.

The frames are fitted with Glass Shelves, Silvered-glass Backs, and are lettered in Gold, with three Glass Dishes to display three kinds of Jujubes or Pastilles. Price 42/- each. Size, 21 in. high, 10in. broad, and 8 in. deep.

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FOOD.

An Adult's (not an Infant's) Food. The BEST DIET for Invalids.

(Excellent for Nursing Mothers; produces ample supply of good Milk.)

From J. CHANNING PEARCE, M.D.—"Brixton Rise, January 16, 1879.—'James's Daily Food' is very NUTRITIOUS, easily DIGESTED, and has a SALUTARY EFFECT on the biliary secretions."

From Dr. FAIRBANK, Physician to H.R.H. Princess Christian.—"Windsor, December, 1878.—Easily digestible and highly nutritious. It makes excellent puddings and OMELETTES."

From H. C. BARTLETT, Ph.D., F.C.S.—"Laboratory, 39 Duke Street, Grosvenor Square, November 26, 1878.—'James's Daily Food' is composed of the most nutritious Farinas. Possesses special stomachic properties, which render it easy of assimilation, and considerably enhance the dietetic value of its flesh-forming constituents."

From W. EDGAR BUCK, M.A., M.D. (Cantab.), M.R.C.P. (London), M.O.H.—"School of Cookery, Leicester, November 9, 1878.—I have examined 'James's Daily Food,' and find it extremely nutritious, satisfying, and digestible. It makes good puddings. It would be an admirable food for persons of impaired digestion, owing to the judicious admixture of stomachics in it. I should be glad to see Lentils more eaten, as they are an excellent substitute for meat, and your Food is the best preparation of Lentils I have seen."

From WM. STRANGE, M.D., Physician to Wor. General Infirmary and M.O.H.—"1st September, 1878.—A wholesome and GRATEFUL Food. From its composition I should say that it is peculiarly suited to the diet of children and persons of weak digestion. Taken in some quantity, it produces a very mild operation of the bowels, which to many will be a great advantage."

From W. ADAMS, Esq., F.R.C.S.—"London, 31st March, 1878.—More nutritious than any with which I am acquainted; forms, with milk, a perfect food for invalids and children, and all adults, as an evening meal."

Every medical man who has examined and tried it has pronounced it far superior to the Revalenta, or any other preparation of Lentils.

Retail of all best Chemists, in Tins at 10d. and 1s. 6d.

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Agents wanted where there are none. Special and very effective advertising, and a good profit.

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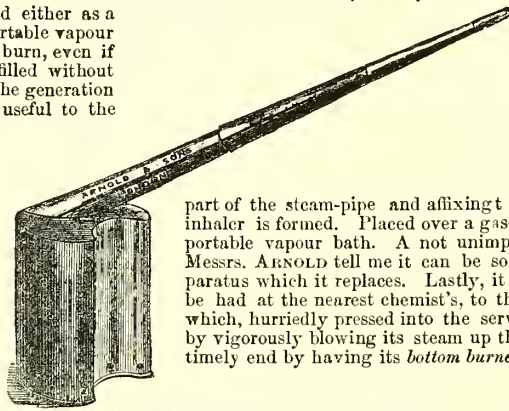
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LETTERS PATENT.

ARNOLD & SONS'

Patent Vaporifer, Bronchitis Kettle, Inhaler, and Portable Vapour Bath combined.
AS SUGGESTED BY W. L. SHEPARD, M.R.C.S., &c.

Extract from the "LANCET," Jan., 1879.

"An apparatus which can be used either as a bronchitis kettle and inhaler, or a portable vapour bath, that cannot get out of order or burn, even if allowed to boil dry, that can be refilled without moving from the fire or stopping the generation of steam, is, I think, likely to be useful to the profession, especially at this season. Such an apparatus, which I propose calling the Vaporifer, has been made for me by Messrs. ARNOLD & SONS, of West Smithfield. The woodcut sufficiently explains its very simple construction. It has no bottom, and when in use stands in any ordinary saucepan, so that, should it boil dry, the worst that can happen will be the spoiling of a sixpenny saucepan, easily replaced. The top of the apparatus is closed, and



on its inner surface, enclosing the orifice of the steam-pipe, is a movable circular chamber, having a perforated bottom, on which any drugs can be placed when it is wished to medicate the vapour. The crescent-shaped front permits of the saucepan being refilled without moving from the fire, and if boiling water be used the steam is generated continuously. By removing part of the steam-pipe and affixing a mouthpiece, a very handy and efficient inhaler is formed. Placed over a gas-stove or spirit-lamp, it can be used as a portable vapour bath. A not unimportant advantage is its trifling cost, as Messrs. ARNOLD tell me it can be sold for less than either of the three apparatus which it replaces. Lastly, it packs in a neat, compact case, and may be had at the nearest chemist's, to the great saving of the family tea-kettle, which, hurriedly pressed into the service, displays a great deal of useless zeal by vigorously blowing its steam up the chimney, and often comes to an untimely end by having its bottom burned out."

Extract of Letter received from J. F. FINCHETTE, Esq., Portland House, Brunswick Square, W., dated Feb. 18, 1879.

'Vaporifer,' all complete, came to hand safely on Saturday last, with thanks, and I consider it a marvel of cheapness and utility, and wish Dr. SHEPARD all success with his invention, which, I feel assured, only needs to be known to be appreciated. I have tried it for each of the purposes for which it is intended, and found it answer completely."

Trade Price, 42s. per doz. Retail Price, 5s. With Lamp, Saucepan, and Stand complete, 63s. per doz. Retail Price, 7s. 6d.

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35 & 36 WEST SMITHFIELD, LONDON, E.C.

F. A. SARG'S SON & CO.'S

CHEMICALLY PURE GLYCERINES

AND

TOILET GLYCERINE ARTICLES.

CHEMICALLY PURE GLYCERINES.

Sarg's Double Distilled Glycerine, Chemically Pure,

30° Beaumé, in Cases of Four 56-lb. Tins each; Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 ½-lb. Bottles, with Registered Label.

Sarg's Double Distilled Glycerine, Chemically Pure,

In ½-lb. and 1-lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandruff and the roughness of the scalp they are so commonly subject to.

Sarg's Distilled Glycerine, Chemically Pure, P.B.,

29° Beaumé, in Cases of Four 56-lb. Tins each.

Crude Glycerine, in Bulk.

TOILET GLYCERINE ARTICLES.

Transparent Glycerine Soap,

In registered Packets of three Tablets, 1s. Warranted to contain 33% of the purest Glycerine. Also in round Tablets, three in a Box; and in oval Tablets in paper.

Liquid Glycerine Soap,

Best preventive against chapped hands, 1s., and unrivalled for imparting softness to them, and rendering them clean and white. See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

Scented Glycerine,

In Bottles at various prices. Either pure or diluted with water, this Glycerine is very successfully used for softening the skin, preserving the complexion, and preventing the very unpleasant roughness of the skin in cold weather.

Glycerine Cream

Is quite unequalled for imparting a fresh and healthy colour to the lips and keeping them from chapping.

Sarg's new Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfectant.

Sold by all Wholesale Chemists and Druggists.

Sole Wholesale Agents for the United Kingdom:

SCHMEDES, ERBSLOH & CO. (IMPORTERS OF CHEMICALS AND DRUGS), 6 CASTLE STREET, FALCON SQUARE, LONDON, E.C.; AND MELBOURNE, AUSTRALIA.

IMPORTANT NOTICE TO THE TRADE, APRIL, 1879.

PRIZE MEDAL,



LONDON, 1862.

PRIZE MEDAL,



PHILADELPHIA, 1876



LOW'S FRENCH EXTRACTS, &c., viz. :

per lb.			per lb.			per lb.		
Ext. Cassie	...	9/6	Ext. Rézéda	...	9/6	Ext. Tubereuse	...	9/6
„ Jasmin	...	9/6	„ Rondeletia	...	8/-	„ Violet	...	15/-
„ Jonquil	...	9/6	„ Rose	...	9/6	„ Verbena	...	8/-
„ Lily of the Valley	...	9/6	„ Rose Geranium	...	9/6	„ White Rose	...	10/6
„ Magnolia	...	9/6	„ Spring Flowers	...	9/6	„ White Lilac	...	9/6
„ Orange Flower	...	9/6	„ Stephanotis	...	9/6	„ Wood Violet	...	13/6
„ Patchouli	...	9/6	„ Sweet Briar	...	9/6	„ Wild Rose	...	9/6
„ Queen of the Alps	...	9/6	„ Tea Rose	...	9/6	„ Ylang Ylang	...	9/6

ARE NOW REDUCED IN PRICE, AS ABOVE.

These Extracts have always had the highest reputation; they are all of our own manufacture, are guaranteed pure and of triple strength, and will compare favourably with any in the trade.

N.B.—Owing to the failure of the VIOLET crop, however, this Extract is advanced in price, and will probably go higher still. Purchasers are warned against the spurious Ext. Violets already in the market.

FAMILY BROWN WINDSOR SOAP,

At 60/- per cwt., Genuine, and sweetly perfumed.

This Soap is recommended to the Trade as the best value that can be obtained. Embossed Squares, 6 to lb., and in 14-lb. Boxes.

CASH DISCOUNT, 10 PER CENT.

R. LOW, SON & HAYDON,

Perfumers, Toilet Soap Makers, and Brush Manufacturers,

330 STRAND (OPPOSITE SOMERSET HOUSE) LONDON.

FLOREVITA,

THE LIFE OF FLOWERS,

FOR STIMULATING AND QUICKENING THE GROWTH OF PLANTS, AND
PRODUCING A RAPID AND HIGH DEVELOPMENT OF BLOSSOM.

This valuable Preparation is the result of several years' exhaustive trials, and it is scarcely possible to speak too confidently of it. Plants of all descriptions, from the best known to the rarest and costliest, develop their blossom and foliage with extraordinary quickness and beauty when the Florvita is applied to them. So also with Fruits and Vegetables, which, under this treatment, reach perfection with great rapidity.

To ladies who take an interest in their flowers, both indoors and out, Florvita particularly recommends itself; for though chemically it represents a very highly concentrated fertiliser, it has not the appearance or character of what is known under the head of "Flower Manures," being a delicate pink powder soluble in water, with a most agreeable bouquet.

From THE GARDENERS' CHRONICLE.

"A boon which amateurs, and lady gardeners especially, will welcome. According to our experience of a small quantity, it is readily dissolved in water, can be applied to plants grown in rooms without the least objection, and well answers its purpose as a fertiliser."

Extract from Report of DR. AUGUSTUS VOELCKER, Professor of Chemistry to the Royal Agricultural Society of England, 7th June, 1878.

"The preparation is readily soluble in water, and perfectly free from all disagreeable smell, and it may be regarded as the concentrated essence of the most valuable manures, deprived of all the disagreeable smelling and useless products of partial decomposition which generally accompany ordinary manures."

"The facility with which it can be applied, and the small quantity required to produce a visible effect upon flowers, render it an elegant and efficacious substitute for liquid manure, guano-water, &c., for use in Greenhouses and in the Flower Garden."

"A preparation so rich in Soluble Phosphates, Salts of Ammonia, Nitrates of Potash and Soda, as your Florvita, I believe, may also be used as a highly concentrated fertiliser for vegetables and every kind of kitchen garden produce."

From THE HORTICULTURAL RECORD.

"The results of our experiments upon plants in small pots made with this material, by contrast with equal numbers similarly treated, but with ordinary water, are truly surprising."

DIRECTIONS FOR USE.—One teaspoonful of the Florvita to be added to each gallon of water used. The plants should be watered with it once or twice a week.

Prepared only by **PRENTICE BROS.**, Chemical Laboratory, STOWMARKET.

Sold in Bottles, 1/- and 2/6 each, and in Jars of 18/- and 36/- each.

Handbills and Circulars can be obtained from the Wholesale Agents—Messrs. BARCLAY & SONS, Messrs. NEWBERRY & SON, Messrs. MAW, SON & THOMPSON—who will also supply a very beautiful Showcard (18 in. by 15 in.) to anyone who would like one for exhibition.

FERRIS & COMPY'S

PURE THYMOL SOAP,

PREPARED FROM

THYMOL, THE NEW ANTISEPTIC AND DISINFECTANT.

THYMOL, a newly-discovered Crystal prepared from Wild Thyme (*Origanum Vulgare*), is pronounced by some of the most eminent Chemists and Physicians in Europe to be far superior to, and stronger than, Carbolic Acid, Coal Tar, or any other of the Antiseptics and Disinfectants hitherto known. It has been shown by the experiments of LEWIN and BUCHOLTZ to be about eight times as powerful as Carbolic Acid.

It has also the very great advantage of being **QUITE HARMLESS**, and possesses the **DELICIOUS and FRAGRANT ODOUR of WILD THYME**.

FERRIS & COMPY'S PURE THYMOL SOAP,

Manufactured by them with their Pure Crystals of Thymol, is confidently recommended as one of the very best and most elegant Soaps ever introduced to the Public.

It is adapted for the **TOILET** as a **SKIN SOAP**, as an **ANTISEPTIC SOAP**, and **FOR GENERAL FAMILY USE**.

An easy test of its effectiveness is, that it at once and completely removes the odour of Tobacco Smoke.

See that each Cake bears our registered Trade Mark.

Sold in Tablets, 6d.; or in Boxes, containing 3 large Tablets, 1s. 6d. per Box.

SOLE MANUFACTURERS—

FERRIS, BOORNE, TOWNSEND & BOUCHER,

Wholesale and Export Druggists and Chemists to the **QUEEN,**

BRISTOL,

And may be procured through all Chemists.

LONDON AGENTS—Messrs. LYNCH & Co., 171A Aldersgate Street, E.C.; Messrs. WM. EDWARDS & SON, 157 Queen Victoria Street, E.C.

OZOKERINE

(REGISTERED).

A new preparation **PERFECT** as a **BASIS** for **OINTMENTS**, of admirable consistency, bland, emollient, antiseptic, and healing.

CANNOT BECOME RANCID.

"Moderate in price, and deserving a careful trial."—BRITISH MEDICAL JOURNAL.

"A valuable and useful substance, and will in all probability be very largely used."—MEDICAL TIMES AND GAZETTE.

"Will take a high position among our other pharmaceutical preparations."—MEDICAL PRESS AND CIRCULAR.

"Likely to prove useful as a dressing for wounds and excoriations."—PRACTITIONER.

OZOKERINE is a clear, pale yellow, very slightly fluorescent body, composed of hydrocarbons akin to Paraffine in their chemical characters. It is produced from Ozokerit, or Earth Wax, by the separation of lighter and denser hydrocarbons, and subsequent purification by processes which remove smell and taste, and yield it in the pleasant form which has already gained for it a preference before other similar bodies.

OZOKERINE has been used with remarkable success as a simple *dressing* for *wounds*, its mild and healing properties rendering it peculiarly grateful to the patient.

OZOKERINE is unsurpassed as an *unguent basis*; *unchangeable* in itself, except by the action of the *most powerful chemical agents*, it preserves other bodies with which it may be incorporated from all tendencies to decomposition. The *superiority* of *Ozokerine* to *lard* in this respect *cannot be over-estimated*.

OZOKERINE, in addition to the above advantages, possesses that of being *moderate in price*, which marks it out as a preparation destined to supersede all other articles hitherto used for similar purposes.

Each Tin is stamped on the lid with the words "FIELD'S OZOKERINE, REGISTERED."

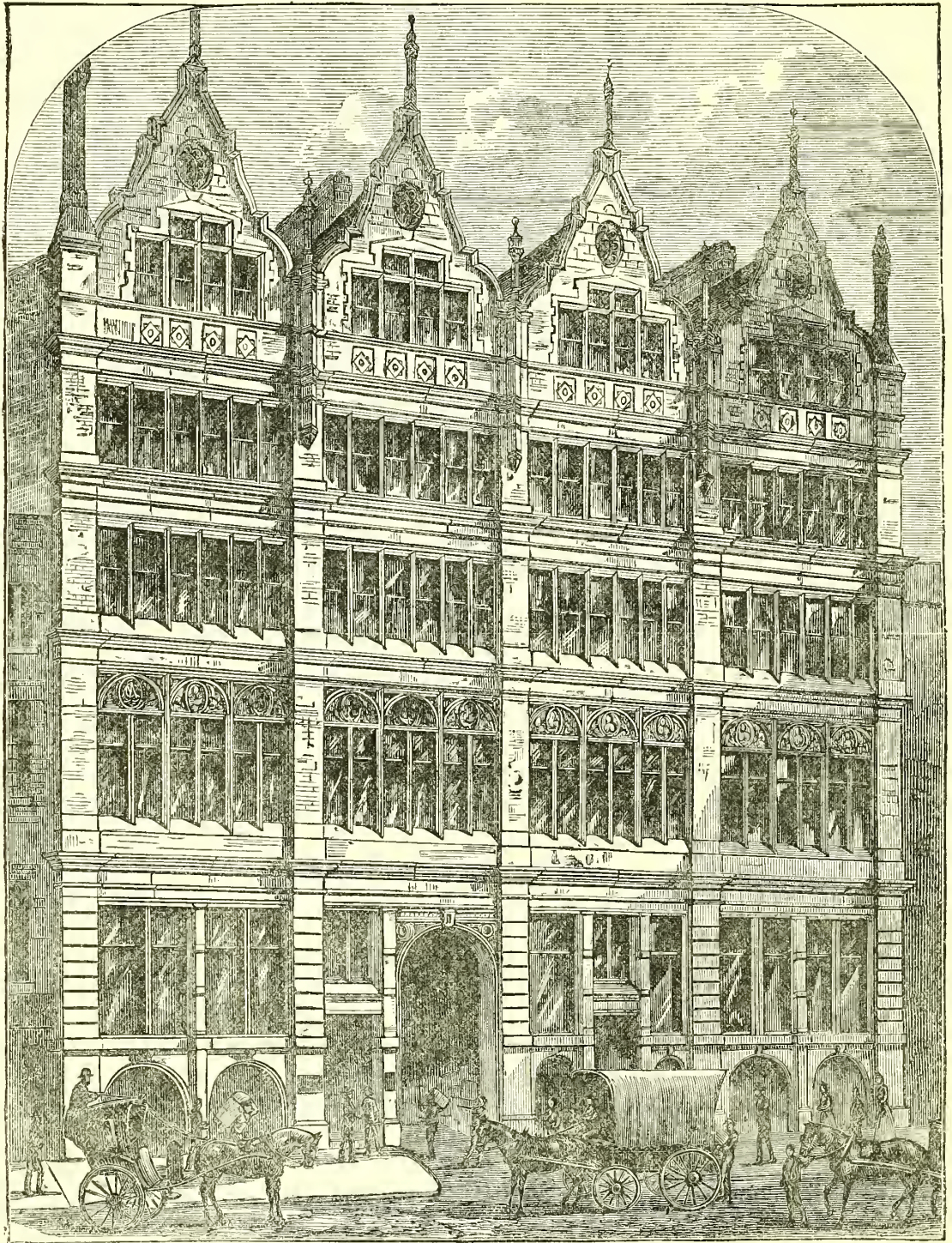
Made only by J. C. & J. FIELD.

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CORBYN, STACEY & COMPANY,

WHOLESALE AND EXPORT DRUGGISTS,

300 HIGH HOLBORN, LONDON.



NEW FRONTAGE TO THE PREMISES OF
S. MAW, SON & THOMPSON,
ALDERSGATE STREET, LONDON.

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NEW

SHOW ROOMS

ARE NOW OPEN,

CONTAINING COMPLETE SAMPLES OF ALL KINDS OF

DRUGGISTS' SUNDRIES,

SURGEONS' INSTRUMENTS, &c.

SURGEONS' INSTRUMENTS, ETC. - - - GROUND FLOOR.

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Open from 9 a.m. to 6 p.m. A Visit is Solicited.

7 TO 12 ALDERSGATE STREET, LONDON.

THE GREATEST SUCCESS EVER ACHIEVED IN GREAT BRITAIN.

A LITTLE more than a year ago an American gentleman came to London for the purpose of introducing a New Patent Medicine.

Without an acquaintance, and without a friend (save a little gold, if that may be called a friend) he made a start, and to-day the sales of his Medicines are more extensive than any other Patent Medicine in the Market.

The following will show with what avidity the article is taken:—

CHAS. BROMLEY, Chemist, Liverpool, has sold at retail, within 4 months, £102 worth.

CHAS. BRITTEN, Chemist, Birmingham, has sold at retail, within 3 months, £79 worth.

R. L. PICKUP, Chemist, Manchester, has sold at retail, within 3 months, £90 worth.

LEVI TODD, Chemist, Preston, has sold, within 4 months, £300 worth.

Messrs. ISMAY & SONS, of Newcastle-on-Tyne, sold £400 worth the first 2 months they were Agents.

The following Letters will show how the Article takes with Retail Chemists that have circulated the Bills:—

MR. CALEB WEEKS, Chemist, of 83 Lower Union Street, Torquay, writes:—"The almanacks (1,000) have been carefully distributed. I have sold of the Curative Syrup nearly five hundred bottles during the last ten weeks."

J. PHILP, Chemist, Wadebridge, writes:—"I have sold several dozen of the Syrup."

J. A. S. DUNLOP, Chemist, Lockerbie, writes:—"As to the result of the distribution, I am selling a lot of your Syrup and Pills, and it will pay you well."

W. DIXON, Cottingham, near Hull, writes:—"I have had the 1,000 almanacks distributed, one being sent to every house here, and to the surrounding neighbourhood, and I must say I have sold more of the Syrup and Pills in this short time than any Patent Medicine I have ever had before. I make no charge for distributing, as I consider this is to our mutual advantage."

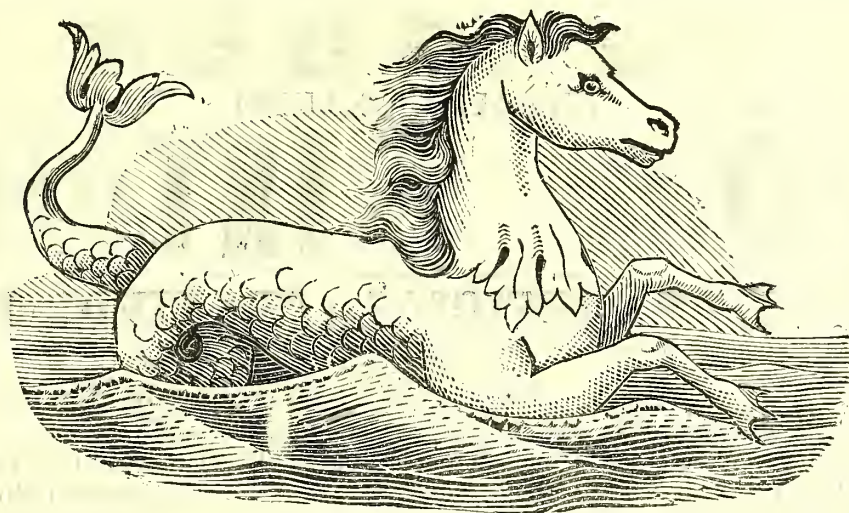
**WHEREVER THE BOOKS
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COPY OF OFFICIAL CERTIFICATE,

ACCORDING TO THE LAST TRADES MARKS' ACT.

TRADE MARKS' REGISTRY OFFICE: LONDON, 4th May, 1878.

FRANCIS JONATHAN CLARKE, Esq.

SIR,—I have to inform you that, pursuant to Rule 21 under the Trade Marks' Registration Act, 1875, the Trade Marks applied for by you in application No. {3,270 and 3,272-3-4-5}, and duly advertised in No. 20 of the Trade Marks' Journal, have been registered in your name in class 3.—I am, sir, your obedient servant,
H. HEADER LACK, Registrar.

Mem.—3,275 is the number of Mr. F. J. Clarke's Trade Mark, "BLOOD MIXTURE."

IN CHANCERY.

LORD CHANCELLOR.

VICE CHANCELLOR MALINS.

1873. C. No. 109.

Between **FRANCIS J. CLARKE, Plaintiff,**

AND

GEORGE CLARKE, Defendant.

CAUTION.

WHEREAS, the Vice-Chancellor, Sir Richard Malins, on the 21st day of July, 1873, upon the application of Francis J. Clarke, of High Street, in the City of Lincoln, Chemist, the plaintiff in the above suit, awarded a perpetual Injunction, restraining the defendant, George Clarke, of Manchester, his servants and agents, from using the words "Blood Purifying Mixture," or any other imitation or colourable imitation of the Plaintiff's Trade Mark, "BLOOD MIXTURE," in or upon any bottles offered for sale by or for the defendant, or on any labels, handbills, or advertisements printed, used, or issued by or for the defendant, and from in any other way representing any medicine, compounded by or for him, to be "Blood Mixture," and from doing any act or thing to induce the belief that medicine compounded by or for the defendant, is "Blood Mixture," or a medicine compounded by the plaintiff.

And it was Ordered, that the defendant, at the request of the plaintiff, and in the presence of some person to be appointed by him for that purpose, destroy all wrappers, handbills, bottles, advertisements, and circulars in the defendant's possession, or under his control, containing the plaintiff's said trade mark, or any colourable imitation thereof.

ALL PERSONS ARE THEREFORE CAUTIONED against purchasing, selling, exposing for sale, or otherwise dealing in any medicine purporting to be "Blood Mixture," not compounded by the plaintiff, Francis J. Clarke, in bottles or wrappers, or with other accompaniments bearing facsimiles or fraudulent or colourable imitations of those invented and used by the plaintiff, the said Francis J. Clarke. Retail dealers, as well as manufacturers, are equally liable.

Dated this 28th day of July, 1873.

H. K. HEBB, Plaintiff's Solicitor, LINCOLN.

CAUTION.—PUBLIC APOLOGY.

CLARKE'S WORLD-FAMED BLOOD MIXTURE.

I, CHARLES MONTAGUE CLARKE, do hereby acknowledge that I, under the SPURIOUS title of Doctor of Medicine, have illegally infringed and pirated your Trade Mark, "BLOOD MIXTURE," and copied your advertisements, labels, handbills, and "Caution," with intent to deceive the public.

And I, GEORGE HERBERT CLARKE, of 130 SHOREDITCH, LONDON, do hereby acknowledge that I, under the title of Pharmaceutical Chemist, have prepared and sold for the said Charles Montague Clarke a certain compound called Blood Renovator.

Now we, the said Charles Montague Clarke and George Herbert Clarke, do hereby, in consideration of your consenting to offer no evidence against the said George Herbert Clarke on a TRUE BILL FOUND AGAINST HIM, under the Merchandise Marks Act, by the Grand Jury of the Middlesex Sessions, on the 6th day of October instant, undertake and agree to discontinue such practices, and to hand over to your Solicitor forthwith all wrappers, handbills, advertisements, circulars, and bottles containing the stuff, in our power or control, relating to the said spurious compound called "Blood Renovator," and we humbly apologise for having resorted to such practices,

CHARLES MONTAGUE CLARKE.
GEORGE HERBERT CLARKE.

SIGNED by the said Charles Montague Clarke and George Herbert Clarke, on the 13th of October, 1874, in the presence of
HENRY BULL, Clerk to Mr. J. SEYMOUR SALAMAN, 12 King Street, Cheapside, Solicitor to the Trade Mark Protection Society.
To Mr. F. J. CLARKE, Lincoln, Proprietor of Clarke's World-Famed Blood Mixture.

CAUTION.—Mr. CLARKE will take immediate proceedings against all persons pirating his Trade Mark—"BLOOD MIXTURE" (fully protected under the Trade Marks' Registration Act of 1875), Labels, Wrappers, Bills, or Advertisements, or in any way infringing his rights.

TO THE MEDICAL PROFESSION.

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- SECOND:** **MALTINE** being a non-alcoholic or unfermented malt extract, and prepared at a low temperature, it contains far more of the invaluable starch-converting Diastase than any alcoholic malt extract can possibly contain, while its concentrated condition prevents the Diastase from being spoiled by keeping. In **MALTINE** this innocuous but all powerful medicinal agent, Diastase, is thus placed at the disposal of medical practitioners and the public in its best possible condition.
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This combination is specially indicated in Anæmia and Chlorosis, and in all cases of defective nutrition where Iron is deficient in the system.

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In this preparation **MALTINE** is combined with the most valuable Alternatives known, such as Iodides, Bromides, and Chlorides, and will fully meet the requirements of the practitioners in Syphilis, Scrofula, and all depraved conditions of the blood.

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ELECTION OF COUNCIL FOR 1879.

*To the Members and Associates in Business of the
Pharmaceutical Society of Great Britain.*

GENTLEMEN,

Having again been nominated for Election as a Member of your Council, I return my best thanks to those gentlemen who supported me on the last occasion, and again solicit their votes and influence.

I am conversant with the requirements of the Trade in general, having had upwards of thirty-one years' experience both in town and country businesses, and have been a member of your Society for nearly twenty-two years.

I do not pledge myself to adopt any particular course of action, but if elected shall endeavour to support and promote those measures which I consider will prove most conducive to the interests of the whole body, both in a material and social point of view.

The detailed work of the Council is necessarily transacted by its several Committees, and obviously members of the Council residing at a distance from London are unable to attend such Committees frequently, as a reference to the "Attendance of Members of Council" will show.

Being a resident in London, I should, if elected, be prepared to give the necessary time to Committees, as well as to the Council meetings.

Again soliciting your votes and influence,

I remain, Gentlemen,

Your obedient servant,

EDWARD NORTHWAY BUTT (Jolley & Co.),
13 Curzon Street, Mayfair, W.

PHARMACEUTICAL COUNCIL.

To the Editor of THE CHEMIST AND DRUGGIST.

SIR,—Though I approve of new Candidates for the Council, as it is at present elected, expressing their views on Pharmaceutical matters in printed addresses, I do not deem it needful for existing Members to do so. Their views in this matter should be so well known to the members of the Pharmaceutical Society as to render their publication anew unnecessary.

This has hitherto been the rule with myself, and I only deviate from it on this occasion for one purpose, namely, to express regret at my inability to induce my fellow councillors to move for such an alteration in our bye-laws as would admit of the Council being elected by districts over the country, instead of imperially, as at present.

Were this done, there would be a possibility of the electors having such a personal knowledge of the various Candidates as would form a satisfactory substitute for election addresses.

I am, &c.,

DANIEL FRAZER.

TO THE ELECTORS

OF THE

PHARMACEUTICAL SOCIETY.

GENTLEMEN,—In accordance with the suggestion that those who accept nomination for Membership of the Council should publish their views on some of the leading points affecting the practice of Pharmacy, I submit the following:—

Whilst desirous of maintaining the professional status of our body, I am thoroughly alive to the fact that TRADE INTERESTS should not be neglected.

Being an advocate of Moderate Reform, I would, if elected, give my support to any well-devised measure calculated to protect our interests against certain encroachments of Co-operative Societies and other unregistered bodies or persons, by securing to us the exclusive sale of Poisons—whether in the form of Patent Medicines or otherwise.

I would maintain the ancient right of Chemists to recommend simple remedies in simple cases, and would oppose to the utmost any vexatious proceedings on the part of the Apothecaries' Company to prevent this. Some better definitions of the limits to which such counter prescribing might justly be carried seems to me to be very desirable.

I feel assured that much good would result from the joint action of the Pharmaceutical Council and the Executive of the Trade Association in matters affecting the common interests of the Trade; and I would, therefore, use my earnest endeavours to promote such an understanding as would lead to the more perfect accomplishment of the objects aimed at by both bodies.

Trusting to be favoured with your support,

I am, Gentlemen, faithfully yours,

CHARLES SYMES,

Pharmaceutical Chemist.

LIVERPOOL: April, 1879.

ELECTION OF COUNCIL OF PHARMACEUTICAL SOCIETY.

BROTHER CHEMISTS & ELECTORS,

In allowing myself to be nominated for the Council I have been actuated by a desire to see the Trade interest as well represented as the Educational and the Benevolent.

Former Councils have been chiefly composed of gentlemen who were either Wholesale Druggists or Chemists owning superior dispensing establishments at the West-end of London or fashionable inland towns and watering places; hitherto the rank and file forming the bulk of trade have been all but unrepresented.

I may claim for myself the merit of having at the various annual meetings drawn the attention of the Council to the unfairness of unqualified Store-owners being allowed to violate the Pharmacy Act and compete *unlawfully* with the *examined Chemist*.

The necessity for a more popular Council to co-operate with such clear-sighted, able gentlemen as Messrs. Churchill, Greenish, Hampson, and others was well exemplified in the Shepperley case, for, had it not been for the untiring exertions of the Birmingham Trade Association, the niggardly policy of the Pharmaceutical Council would have forfeited our *law-protected* Counter-prescribing, without which it would be impossible to conduct an ordinary retail trade.

Individually, I am desirous to have this new Council draft a Bill for application to the High Court of Parliament, giving power to restrain Grocers, Drapers, Oilmen, and other unqualified persons from trading as they now do, in eleven-twelfths of the drugs, medicines, and nostrums that are consumed, to the exclusion of the highly-trained and educated Pharmaceutical Chemist. The fairness of this is obvious, when we consider that our own sons are not legally qualified until such time as we have spent at least one hundred pounds in training them for their important responsibilities.

If elected I pledge myself to attend *all* the Council meetings and use my tongue and unit of interest at the Board in defending all Trade interests and privileges, whether they are jeopardized by Parliamentary legislation, professional defence associations, or the apathetic indifference of the Council itself.

In conclusion I solicit as a favour that you will record your votes in the interest of myself and other liberal gentlemen, who have the time and ability to represent, and when requisite the courage to defend, your rights and privileges to the uttermost.

To act as the Delegate of the Trade is the ambition of

Yours faithfully,

ROBERT OWEN FITCH,

200 Well Street, South Hackney, E.

Middlesex.

TO THE MEMBERS OF THE PHARMACEUTICAL SOCIETY.

GENTLEMEN,—As a Candidate for a Seat on the Council of the Pharmaceutical Society, of which I am a Member, and having been actively engaged in the business for nearly twenty years, by which I have been enabled to acquire a knowledge of, and to thoroughly understand and appreciate, the wishes, interests, and requirements of our trade, I venture to solicit the honour of your suffrage and support at the ensuing election.

While admitting and endorsing the action of the Council as judicious and correct in promoting and establishing a thorough and defined system of teaching and educating the young members and students of the trade seeking admission to our ranks, I in no degree forget or ignore the importance of maintaining the primary interests of the trade, which, should I be elected to a seat on your Council, I should ever strenuously and jealously watch and labour to preserve.

With regard to the Admission of Ladies into the Society, I consider that question one of such grave importance in every point of view that I must hesitate to pronounce an opinion until after more mature consideration, and having carefully weighed and discussed the subject with, and ascertained the views of, members of the trade generally, then I should conscientiously feel prepared to vote on this unsettled question.

I consider the greatest obstacle or enemy with which we have at the present juncture to contend, to be the now widely-spreading system of Co-operative Stores, which, if allowed to continue unchecked and unrestrained by the interposition of legislative enactment, will, I cannot doubt, shortly create a revulsion, prostration, and chaos, in every branch of trade, the consequences of which it must be difficult to realise.

In connection with this subject, I feel that I do not present myself to your notice or ask for your votes as an utter stranger, because I am proud to be able to refer you to the publicity my name and endeavours have acquired in opposition to the system which has been aptly characterised in the columns of *Touchstone* (April 5, 1879) as “a dangerous sore or cancer that requires removal, a social vampire preying on the vitals of a hitherto healthy people, country, and state.” I know that by “Co-operation” our interests are imperilled, and I feel that it is incumbent on the Council, as trustees of our trade welfare, to step to the fore and to discharge its duty in protecting our threatened status.

I have taken a prominent part in the action of the Delegates from the various local governing bodies in London and, indeed, throughout the country, with whom my name has become inseparably associated in obtaining a Select Committee of the House of Commons to fully sift and consider this question, with a view to a fair and equitable adjustment of the evil. For my opinions on the subject, I beg to refer you to the *Daily Telegraph*, January 21, 1879, to the leading daily papers of February 4, and to *Touchstone* of March 15 last.

In conclusion I will mention that, as I shall be called upon to give evidence before the Select Committee, I consider that as a Member of the Council, I shall better and more effectually discharge that duty, and possess more weight and consideration than would be accorded to me as a private chemist.

I would respectfully urge on the Council the necessity of the Society and the public uniting to arrest and combat the unjust and aggressive monopoly which is day by day assuming a more critical and dangerous aspect to our already threatened interests and welfare.

I have the honour to be, Gentlemen,
Your faithful Servant,

H. N. BOWMAN SPINK.

3 Marsham Street, Westminster, April 7, 1879.

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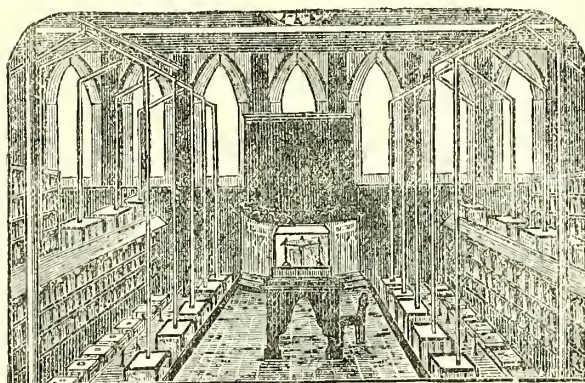
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68 Minor Candidates examined, 28 failed, the following 40 passed.

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5 Students presented themselves, all passed.

Gravill, Edward Day
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Jackson, Joseph John
Palmer, Chas. Edward
Smith, James William

MINORS.

24 Students presented themselves,
20 passed, 4 failed.

Adams, Benjamin
Bence, Frederick Hubert
Botwood, Charles Walker
Brunt, Edwin
Brunt, George Henry
Compigné, Eugène
Cory, Francis Albert
Gibbs, Robert Darton
Hamilton, Edmund Harry
Hobson, George William
Kelly, Francis Charles
Laxon, Matthew
Lyle, William
Mann, George Frederick
Mann, Samuel William
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Stone, Samuel
Williams, Thomas Roberts
Williamson, William
Wimpenny, John McMillan

Total 20.

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7 passed.

Goodall, Wm. Anthony
Minshall, Rose Combes
Pain, Edwin
Pocock, Wm. Fredk. Henry
Smith, Joseph
Stacey, Peter
Stuart, Charles Edward

MINORS.

44 Students presented themselves,
20 passed, 24 failed.

Arnfield, John Cash
Brandsma, Dirk Gerhard
Cherrington, Geo. Widdowson
Dowdeswell, Jonathan
Everett, Wm. John Hugo
Francis, Frederick Charles
Frost, Frederick Philip
Hartley, John
Howard, George William
Howse, Charles Turk
Knight, Ramsey
Lawton, John Dyson
Lomax, Allan Edward
McCrindle, Thomas
Padley, William
Pisani, Orestes V.
Phillips, Alfred James
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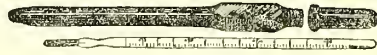
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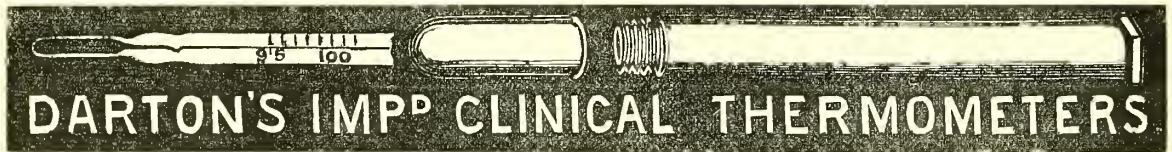
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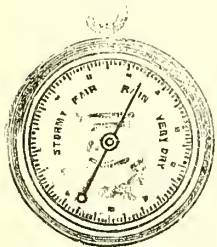
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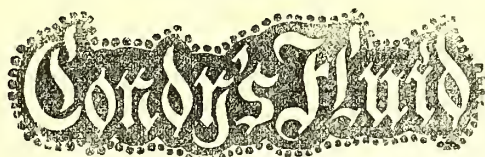
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SODA v. POTASH.

A TRADE DIALOGUE.

SCENE: THE SHOP OF A CHEMIST.

SPEAKERS { The Chemist.
A Partner in the late firm of Bollmann Condy & Co.

Chemist.—I see it is stated with much emphasis, in an advertisement, by one of the Partners in the late firm of Bollmann Condy & Co., that "**Condy's Fluid is not, and never was, composed of Permanganate of Potash.**" The article being patented the specification ought to determine that point; and you, having been also a Partner in the late firm, must of course be acquainted with its terms. How was the invention described?

Partner.—You are quite right. Not only was there a Patent, but the word "Patent" has always been put in the title on the labels, so that the correct name of the article is not Condy's Fluid, but "Condy's Patent Fluid." The Patent was for the use of Manganate and Permanganate of Potash or Soda as purifying and disinfecting agents.

Chemist.—The Patent, then, was for both the Potash and the Soda salts. It has been asserted that when the invention was put in operation, and Condy's Fluid brought out Permanganate of Soda alone was used.

Partner.—At that time, the Permanganates not being commercial products, it was necessary to begin by preparing the salt to be employed. Soda being much cheaper than Potash, and it being a matter of entire indifference, so far as the chemical efficacy was concerned, which was chosen, the preference was naturally given to Soda.

Chemist.—Potash, it seems to me, however, would produce a better article, because the Potash salt being crystallizable (whereas the Soda salt is not) yields a product of greater purity, permitting of uniformity in the strength of the solution. But cheapness, as you say, must have been the chief consideration, especially at the time when the Permanganates were looked upon somewhat as chemical curiosities.

Partner.—True. It would no doubt have been better to use the Potash salt, but its greater cost was considered an obstacle.

Anyhow, Soda was the base chosen. Crude Manganate of Soda was first made, and to it, in solution, Sulphuric Acid was added in quantity sufficient to convert the Manganate into Permanganate; Hydrated Oxide of Manganese was thrown down, and the supernatant liquor, consisting of solution of Permanganate of Soda and Glauber's Salt, was then bottled and sold as Condy's Fluid.

Chemist.—Quite so; that is what I suspected on having observed that many of the Bollmann bottles were partially filled with crystals of Glauber's Salt. If I am not mistaken, however, some compensating advantages have lately been claimed for the presence of this impurity; it has been said to impart antiseptic properties to the Fluid, but I should think that the effects of a drachm or two of Glauber's Salt in a painful of dilute Permanganate solution must be quite infinitesimal.

Partner.—At all events, the superiority of the Potash salt was so obvious, that Chemists and Pharmacists, by common accord, seem to have taken it for granted that it had been preferred to the other substances mentioned in the patent; for you will find it stated in most works on Chemistry, Pharmacy, and Materia Medica that Condy's Fluid is a solution of Permanganate of Potash.

Chemist.—Yes; and, for my part, I cannot understand how any maker of Condy's Fluid can expect to enhance the reputation of his article by the avowal that it is prepared from a substance having the disadvantages I have pointed out.

Partner.—But it is asserted that Soda is a rare and expensive material compared with Potash, and no doubt that was once the case; but it was a very long time ago, and would take us back to the age of the "mineral chameleon."

Chemist.—For my part, I am quite satisfied with the present age, and mean to stick to the improved Potash preparation of the Condy's Fluid Company.

THE CONDY'S FLUID CASE.—Condy v. Mitchell. FINAL DEFEAT of MR. H. BOLLMANN CONDY. FAILURE AND EXPOSURE OF THE "TRAP TO CATCH CHEMISTS."

(Précis of Report in "The Chemist and Druggist," December 15th, 1877.)

COURT OF APPEAL, LINCOLN'S INN, Nov. 27, 1877.

LORD JUSTICE JAMES (without needing to hear defendant's counsel) said—That such a suit should have been instituted at all was very remarkable; but that, after the learned Vice-Chancellor's judgment, this appeal should have been brought on was particularly strange. Dr. Mitchell had obtained his right by payment of a substantial money consideration, and CONDY'S FLUID AND CONDY'S OZONISED WATER WERE AS MUCH HIS PROPERTY AS THE PLAINTIFF'S. Having that right, Dr. Mitchell was entitled to set up the Condy's Fluid Company.

LORD JUSTICE BAGGALLAY was of the same opinion. The style of the partnership had been "Bollmann Condy & Co.," and the plaintiff set up in his own name of "H. Bollmann Condy." It was not necessary to consider whether he might have been restrained from so doing; but he came into court with a very bad grace. To get evidence HE HAD RESORTED TO WHAT WAS, IN FACT, A TRAP TO CATCH CHEMISTS.

LORD JUSTICE THESIGER was also of that opinion; and especially as to the character of the plaintiff's evidence. A good deal of it seemed to him not admissible at all.

LORD JUSTICE JAMES: APPEAL DISMISSED WITH COSTS.

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CHESHIRE.—A Select Family and Dispensing Business; elegantly fitted shop, good house, large garden; a gentleman accustomed to high class Pharmacy would find this a first class opportunity. Address, L. B., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

TO BE SOLD IMMEDIATELY; a Genuine Family Retail, Dispensing, Prescribing, and Proprietary Business; in present hands 11 years; satisfactory reasons for leaving. For further particulars apply to Hugh Edgson, Chemist, 32 Sherwood Street, Nottingham.

FOR DISPOSAL, in Worcestershire, a genuine Retail and Prescribing Business; returns, £600, increasing; 7 years' unexpired lease; strictest investigation allowed. For full particulars, apply "Veritas," Wyleys & Co., Coventry.

FOR DISPOSAL, incoming about £70, an old-established Drug Trade, situate in the centre of the new Staffordshire Coalfield; no opposition within two miles; shop well fitted, good house and garden. Apply, 831, Wyleys & Co., Coventry.

DENTAL PRACTICE on South Coast; takings £350 per annum. The goodwill, together with lease, all necessary instruments, fittings and furniture, to be sold for £400. Full particulars, apply to C. W., 47 Hempsted Street, Ashford, Kent.

WHOLESALE DRUGGIST SUNDRY BUSINESS; in a large central town; very little opposition; capital opportunity to one or two capitalists. Address, with real name and reference, to M., Office of CHEMIST AND DRUGGIST, 44A Cannon Street, London, E.C.

FOR DISPOSAL.—A Small Good-class Business; best part of Notting Hill; good dispensing and valuable proprietary articles attached; an excellent opening for a beginner; first reasonable offer entertained, as proprietor is taking a large concern. Particulars of L. S., The Limes, Uxbridge Road, Hanwell, W.

TO BE DISPOSED OF immediately, a well-established Drug and Stationery Business in the main thoroughfare of an important seaport town of South Wales; large house; convenient premises; lease granted; excellent opportunity. C. D., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street, London.

£200.—A BARGAIN.—A Branch doing over £300 by a Youth; twice principal; the vendor wishes those about to purchase to inspect this before doing so; rent £20; mahogany fittings; plate-glass windows; corner position. Apply, J. Barlow, Blackheath, near Dudley.

A GOOD and well established Chemist Business (no heavy trade) for Sale, in a main thoroughfare in the West of London; long lease; proprietor retiring from the business; price £2,000; one-third can remain by arrangement. Apply to C. B. A., care of Messrs. T. F. Bristow & Co., Bishopsgate Avenue, Bishopsgate Street, City, E.C.

FOR SALE.—A Genuine Neat Compact Double-fronted Pharmacy, about 12 miles from London; established over 2 years; returns £6 to £7 a week; gradually increasing, and capable of doing a good-class business; price 200 guineas; satisfactory reasons for disposal. Address A. B., care of Messrs. Davcy, Druggists, Park Street, Southwark.

FOR IMMEDIATE DISPOSAL, in a Residential Town in the North of England, a Dispensing, Prescribing, and Retail Business, situate in a main thoroughfare; premises well adapted for the business, and can be leased or purchased if desired; price for modern, well-fitted shop and stock, £350. Address, "Galen," care of Barron, Harveys & Co., Giltspur Street, E.C.

FOR IMMEDIATE DISPOSAL (with Lease), the old-established Retail Business of F. I. Clarke, 214 High Street, Lincoln, situate in the most central part of the city; returns, about £2,000 per annum, and capable of great extension; an excellent opportunity for an energetic man. References, Messrs. Maw & Co. and Barclay & Sons, London; Clarke & Co., York. Full particulars upon application to the owner.

FOR DISPOSAL, a Mixed Chemist's Country Business, which has been successfully carried on by the present proprietor and owner of the property for 11 years; incoming, including house and premises, stock, fixtures, and goodwill, about £1,000. Satisfactory reasons for relinquishing the above, and full particulars may be obtained of Messrs. Stone & Son, Wholesale Druggists, Exeter.

EMPLOYERS WANTING ASSISTANTS.

Advertisements are inserted under this Heading at a charge of 4s. 6d. for 7 lines and under; every additional line, 6d., payable in advance.

A SOBER, STEADY MAN, to Manage a Branch in a seaport town in Wales; must speak Welsh. "Cymro," Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

WANTED, shortly, an Assistant or an Improver, by William Darling, Homoeopathic and Pharmaceutical Chemist, 126 Oxford Street, Manchester.

PUPIL WANTED, by a Dentist (diplomaed), indoors or outdoors; good teaching and practice is offered from private practice, two appointments, and a considerable quantity of work executed for several dentists. L. D. S. Ed., 26 Denbigh Street, near Victoria Station.

WANTED, at a First-rate Chemist's in MILAN, a Competent Assistant; a little knowledge of the French language absolutely necessary; travelling expenses paid and good salary. Apply to Mr. Majorier, 16 Coleman Street, London.

AN ASSISTANT for a good-class Retail and Dispensing Business, with Minor qualification preferred. Apply, stating age, experience, salary required, with references, to J. Williams, Pharmaceutical Chemist, Aldershot.

ASSISTANTS WANTING SITUATIONS.

Assistants Wanting Situations have the liberty of inserting advertisements of 12 words for 1s.; every additional 3, 4, or 6 words, 6d., payable in advance.

Please note that replies to Advertisements ordered to be addressed to Post Offices are liable to be forwarded to the Dead-Letter Office.

WANTED, a situation as Improver; indoors; 3 years in trade; good character. W. Pletcher, 7 Field Street, Grimsby.

AS DISPENSER or Assistant; London preferred. E. F. B., 97 Leighton Road, N.W.

GENTLEMAN with 20 years' experience in Drug Trade, calling upon Chemists in Scotland, wants Commission. A, B, C, Post Office, Dysart.

A YOUTH, 5 ft. 9 in., requires a Situation (in house); 8 months' experience; passed Preliminary; South Coast preferred. A. J. Pratt, Eastgate, Chichester.

AS JUNIOR or Improver; aged 19; height, 5 ft. 10 in.; passed Preliminary examination. Address, "Alpha," Market Lavington, near Devizes, Wilts.

DISPENSER to a Surgeon or Public Institution; aged 23; good references given. Apply, X. Y. Z., care of Mr. G. Thonger, Pharmaceutical Chemist, Harborne, Birmingham.

SITUATION WANTED by a German, aged 24, as Assistant or Clerk; speaks English; good reference from present employer. T. L., care of Mr. Johnson, Chemist, Godalming, Surrey.

AN EFFICIENT Business Man requires a re-engagement (out-door), as Senior, Manager, or Dispenser and Book-keeper to a Surgeon, 24 Nursery Road, Brixton, London, S.W.

TEMPORARY MANAGER; by day, week, or month; 5s. day; references on application. "Alpha," Registered, Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

A S TEMPORARY for one month or less; ten years' experience; aged 25; salary 25s. per week, and third-class expenses; references by return. Minor, 2 Portland Place, Gosport.

A S MANAGER of a Branch Business or Senior Assistant (out-door); married; qualified by years of experience in town and country; good references. Address, T. Moss, Pickering, Yorkshire.

A CHEMIST'S Temporary Manager is open to make arrangements for the coming season. Address, Chemists' Manager, 20 Dean Street, Westminster, Bristol.

MANAGER of a Branch, Assistant-Manager of a Branch, Assistant to a Chemist, or Dispenser to a Surgeon in the evening (registered); aged 30; moderate salary; references, &c. W. T. Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street, London, E.C.

MISCELLANEOUS.

WANTED TO PURCHASE.

A WELL-ESTABLISHED PATENT MEDICINE or PROPRIETARY ARTICLE. Must be one generally known. Particulars to L. D. H., care of Wright, Layman & Umney, 50 Southwark Street, S.E.

BEST SEIDLITZ POWDERS.

JAMES C. CHUBB

Supplies the above, loose, at 7/- per gross; and in boxes at 8/-, 9/-, and 10/- per doz., through the Wholesale Houses, or from 29 OLD STREET, LONDON, E.C.; and will forward list of articles packed by him on application.

THE ANTI-RUST.

For Preserving from Rust, Polished Steel, Iron, or Gun Metal. In Tins 1s. each. Wholesale, 8s. doz.

THE MARBLE RENOVATOR.

For Cleaning Marble Chimney Pieces, Washstands, Sinks, &c. May be had of Messrs. Barclay & Sons, Farringdon Street; Crowden & Garrod, Falcon Square, London; and of all Birmingham and Sheffield Factors.

SOLE MAKERS—

CUBLEY & PRESTON, SHEFFIELD.

TO DENTISTS AND CHEMISTS.—Every description of Artificial Teeth made at greatly reduced charges. Best work and best materials only.

An Upper or Lower Set, inclusive of Teeth Rubber, &c., £1 1s.
Ditto, ditto, on Platina, £2 2s.

Send for Price List.

Twenty years' experience in mechanical work.

LESSONS GIVEN IN MECHANICAL DENTISTRY.

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MECHANICAL DENTISTRY.

ENTWISLE BROS., 17 SHAW STREET, LIVERPOOL,

Will send full scale of charges for Mechanical Work, Plate and Vulcanite, on application.

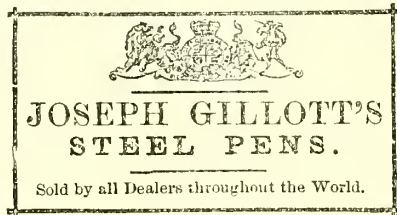
TO MINOR STUDENTS.—The ingredients of all the B. P. compound pills, powders, and tinctures, in capital mnemonic rhyme. Perfectly original. Cannot fail to make a lasting impression on the mind of the student. Ex.—*Pl. Ferri Iodide*—

Iron wire and Iodine first we take,
Add Aqua Dist. and Agitate;
Then strain, and to the product add
Puly, Saccharum, Glycerhige Rad.

Where opium is present its relative proportion is likewise embodied in the rhymes. The whole for 30 stamps. Address, Herbert Tanner, Bicester, Oxon.

NOTICE.—On and after MAY 1st, 1879, the WHOLESALE PRICES of Wrangham's Pills and Hardy's American Cough Pills WILL BE ADVANCED as follows:—

7½d. size to 6/9; 1½ size to 12/-; and 2/9 size to 30/- per doz.; subject to 10 per cent. discount to retail Chemists and 20 per cent. to wholesale dealers.



HIGGINSON'S ENEMAS.

BEST QUALITY, with Elastic Vagina Pipe and Shield, and Bone Rectum Pipe, in Slide Cedar Boxes, per doz. 28s.

Sample to any City Drug House for enclosure 34 stamps, or quarter dozen P.O.O. for 7s.

JOHN CENTRETON,
204 CITY ROAD, LONDON, E.C.

METHYLATED SPIRIT.

LICENSED MAKERS,

A. & J. WARREN,

Wholesale & Export Druggists, Importers of Olive Oil, &c.,

BRISTOL.

The finest New Oil is now to hand, and is offered advantageously. Quarter-casks, Hogsheads, and Pipes.

Moscow Exhibition, 1872, Gold Medal, SOLE award.

Amsterdam Exhibition, 1869, Highest Award.

Havre Exhibition, 1868, ONLY First-class Medal (Silver) Awarded.

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THE PATENT PLUMBAGO CRUCIBLE CO.

(Sole Manufacturers of MORGAN'S PATENT CRUCIBLES),

BATTERSEA WORKS, LONDON, S.W.

THESE Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin, 1865; New Zealand, 1865; and Oporto, 1866. They have been in use for many years in the various Government departments of England, France, Germany, &c., and have been adopted by most of the large Founders, Engineers, Railway Companies, and Refiners at Home and Abroad. The capabilities which have now for so many years distinguished

MORGAN'S PATENT CRUCIBLES

are the following:—Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and other ordinary metals, is 40 to 50 pourings; in some cases over 100 have been obtained. They never crack, and heat more rapidly than any other kind. One annealing only required. Change of temperature has no effect. They can, when hot from the furnace, be dipped in cold water with safety. The saving of labour and metal is very great. In Steel Melting the Saving of Fuel has been demonstrated to amount to a ton and a half to every ton of Steel fused. For Zinc they last longer than iron pots, and save the great loss which arises from mixture with iron. Those for Malleable Cast Iron show an average working of several days, doing each day nearly double the work of any other Crucible.

As these Crucibles last longer than others, it follows that the Saving of Metal must be great, because to each worn Crucible a quantity of metal adheres. In fact, comparing Morgan's Patent with other Crucibles, the Saving of Metal, Time, and Fuel, alone is more than equivalent to their Cost.

SOLE MANUFACTURERS:

THE PATENT PLUMBAGO CRUCIBLE COMPANY, BATTERSEA WORKS, LONDON, S.W.

“GOLDEN STAR” Trade Mark.  Registered. **STAR**
BAY LEAF WATER.

The Only True and Genuine. Unrivalled in Richness and Delicacy.

Put up in an Attractive Form, and commands a Ready Sale.

The above quality has never before been offered in the English market. Its immense sale has heretofore been confined to America and West Indies. It is offered with the positive assurance that it is unequalled, and a successful rival with all other fine Toilet Waters.

SUPPLIED BY ALL WHOLESALE DEALERS.

Distillers' Agency: 114 and 116 Southampton Row, LONDON, England.

“PERFECTION”



MRS. S. A. ALLEN'S
World's
Hair Restorer

Never fails to restore Grey Hair to its youthful colour, imparting to it new life, growth, and lustrous beauty. Its action is certain and thorough, quickly banishing greyness. It is not a Dye. It ever proves itself the natural strengthener of the Hair. Its Superiority and Excellence are established.

The **GENUINE** only in **PINK WRAPPERS** Sold by all Chemists & Perfumers

Principal Depot: 114 & 116 Southampton Row, LONDON, England.

CIGARETTE SMOKERS

—may we say of both sexes—should ask for “Allen’s.” “It is no figure of speech to say” that the daintily-made rolls contain less paper than tobacco, and that the latter is pure and unadulterated American. Whether the smoker indulges in “The Richmond Gem,” with or without mouth-pieces—the latter for choice—“The Pet” Cigarettes, or “Napoleon’s” genuine Perique, his experience will be entirely satisfactory. The Tobacco is of the most exquisite quality. In fine, both as regards flavour and construction, Messrs. J. F. Allen & Co.’s Cigarettes thoroughly deserve recommendation. All Tobacconists supply them.—*View The Illustrated Sporting and Dramatic News*, June 15, 1878.

TO PIPE SMOKERS.

A CORRESPONDENT writes:—“The ‘RICHMOND GEM MIXTURE’ is delicious and remarkably well compounded; this Mixture should only be smoked indoors, it is far too good to be wasted ‘on the desert air.’

“The ‘RICHMOND GEM CURLY CUT’ is also excellent, and it is difficult to choose between this and the above, but I think the turn is just in favour of the ‘Mixture;’ this is also almost too delicate a flavour for out-of-door use to enjoy it as one ought.

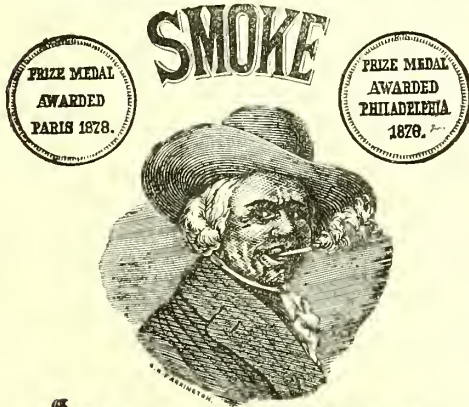
“The ‘IMPERIAL BIRD’S EYE’ is a pleasant, clean-smoking, fragrant Tobacco, capital for Yachting, Fishing, Shooting, or in fact any other out-of-door use.

“I observe one thing with all these Tobaccos, they do not cake, or go hard in the pipe, however tightly filled, and they burn to the very last grain; nor do they clog the pipe as other Tobaccos do, requiring frequent scraping; the absence of Nitre, besides saving the burning of the tongue and parching the throat, so usual with other Tobaccos, affords the luxury of a dry pipe to the last, there is no ‘wobbling’ to be heard a yard off.”

TO EXPORTERS OF TOBACCO.

Richmond, Virginia, July 1, 1878.

“We beg to inform you that we have appointed Messrs. HENRY K. TERRY & Co. Sole Agents for Great Britain for the sale of our Tobaccos and Cigarettes. We have also given them the entire charge of our London Export and Shipping Trade, and take leave to refer you to them for quotations. Messrs. H. K. TERRY & Co. have been acting as our Agents since the first introduction of our goods in Great Britain, and our experience of their business transactions hitherto gives us perfect confidence that their appointment will be attended with the most satisfactory results, both to you and us, in the future. Thanking you for your liberal patronage in the past, and respectfully soliciting its continuance, we remain, your obedient servants,
“J. F. ALLEN & CO.”



“Richmond Gem”
CIGARETTES.
SMOKING TOBACCOS.

since the first introduction of our goods in Great Britain, and our experience of their business transactions hitherto gives us perfect confidence that their appointment will be attended with the most satisfactory results, both to you and us, in the future. Thanking you for your liberal patronage in the past, and respectfully soliciting its continuance, we remain, your obedient servants,

J. F. ALLEN & CO.’S TOBACCOS AND CIGARETTES (the Name and Trade Mark upon every Package) are sold by all first-class Establishments throughout the UNITED KINGDOM, INDIA, and the COLONIES.

Messrs. TREACHER & CO., Limited, Agents for Bombay, Byculla, and Poona; Messrs. WATSON & SUMMERS, Agents for Calcutta; Messrs. OAKES & CO., Agents for Madras; Messrs. DREYFUS & CO., Port Elizabeth; Mr. THEODOR DREYFUS, King William’s Town, Wholesale Agents for the Cape Colony.

Sole Consignees: H. K. TERRY & CO., Great Russell Street, London.

EXPORT PRICE LIST FORWARDED TO THE TRADE UPON REQUEST.

SPECIAL TRADE NOTICE.

JOHN DAY'S CELEBRATED GAME PASTE,

FOR GAME, GEESE, TURKEYS, AND DOMESTIC FOWLS.

Retail in 6d. Packets, and in Tins, at 1s. 3d., 2s. 6d., and 5s. each.



May be recommended with confidence by all Chemists for the prevention and cure of the Gapes, Roup, Weak Chicks, &c. The most valuable remedy and health-preserver known. Tested over thirty years with a large sale.

SOLE PROPRIETORS—

T. SIMPSON & SON, Chemists,
STOWMARKET, SUFFOLK.

MAY BE OBTAINED OF ALL THE LEADING WHOLESALE HOUSES.

SEASON NOW COMMENCED.

BILLS, &c., ON APPLICATION.

SIDDALL'S CELEBRATED BEETLE POWDER!!

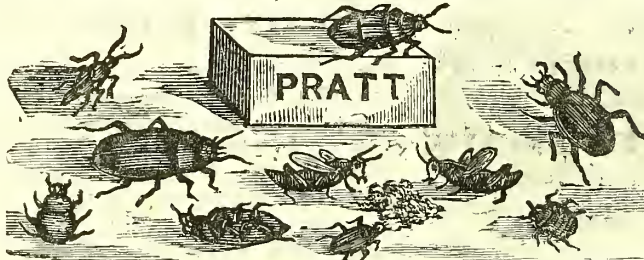
NO ADVANCE IN PRICE, BUT CHEAPER THAN EVER !!

Death to Beetles!!

Death to Cockroaches!!

Death to Crickets!!

3d., 6d., and 1s. packets.



Death to Black Clocks!!

Death to Bugs!!

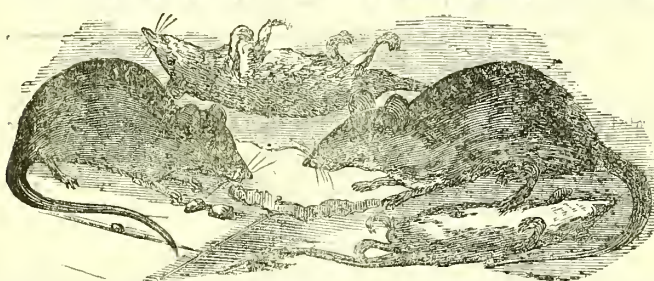
Death to Fleas!!

3d., 6d., and 1s. packets.

Has been established for more than Thirty Years, and is an excellent and most satisfactory Insecticide for the destruction of household pests—such as Black Clocks, Beetles, Crickets, Fleas, &c.

Sole Proprietor—HENRY J. PRATT (late SIDDALL), Pharmaceutical Chemist, YORK.

BATTLE'S VERMIN KILLER.



{ Mice eat it readily, and Die on the spot.

Has an immense Sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs.—Parties troubled with vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—Thousands might be published.

From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubting its efficacy; to-day he called in to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STURDY, Flemington Mills.—I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets.— Leeds, November 6th 187.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.— THOMAS S. CROSLAND.—Mr. Stead.

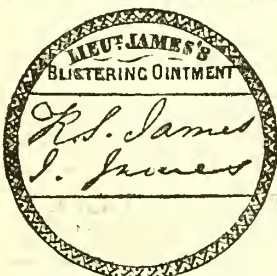
Sold in Packets, 3d., 6d., and 1s. each.

SOLE PROPRIETOR:

Mr. J. R. BATTLE, Chemist, Lincoln, England.

No Chemist or Storekeeper should be without a supply.

ESTABLISHED 1833.
HORSES.—LIEUT. JAMES'S BLISTER.



CAUTION.

The annexed Label is at the top of every Pot of the ORIGINAL and only GENUINE BLISTER.

The Messrs. Barclay & Sons, 95 Farringdon Street, London, and Messrs. Raines & Co., Edinburgh, Liverpool, and York, are now and have been Agents 45 years.

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COLONIAL AGENTS:—MELBOURNE and WELLINGTON: Felton, Grimwade & Co.; SYDNEY, BRISBANE, and LAUNCESTON: Elliott Bros. & Co.; DUNFEDIN and AUCKLAND: Kempthorne, Prosser & Co.; CALCUTTA: Smith, Stanistreet & Co.

R. S. JAMES, 31 Years Sole Manufacturer, STANFORD, FARINGDON, BERKS. Advertis'd in "Bell's Life" 45 years. Beware of a Spurious Imitation.

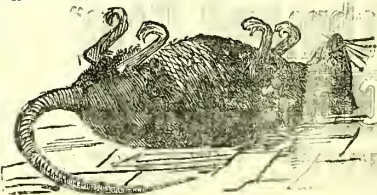
100 Rats destroyed for a Shilling by
BARBER'S PHOSPHOR PASTE.

WRAPPED WHOLLY FOR THE COUNTER.

You would never sell any other if you were desirous of pleasing your Customers.

CATS AND DOGS WON'T EAT IT.

Kills Rats, Beetles, &c.
THE DEAD VERMIN DRY UP WITHOUT SMELL.



Guaranteed the best destroying Paste in the world.

3d., 6d., 1s., 2s. 6d., and 5s. Tins. Also

BARBER'S VERMIN KILLER.

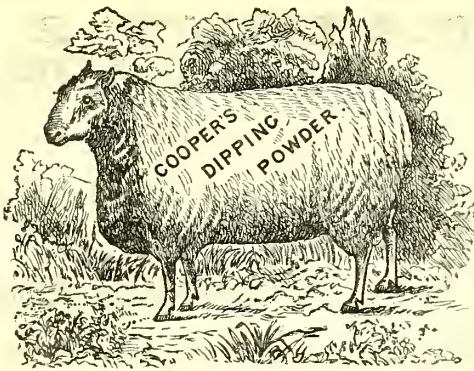
Kills Mice upon the spot. In packets, 3d., 6d., and 1s.

Testimonial from Her Majesty's Ratcatcher.

"Hampton, Middlesex, May 25th, 1870.—I have been more than forty years employed at Hampton Court Palace, the Royal Stables, and other buildings in and around the Royal Parks, for the destruction of rats, mice, and other vermin, and after trying all the rat poisons which I have heard of, I now use BARBER'S PHOSPHOR PASTE and VERMIN KILLER, with which alone I am able to keep these ancient palaces and national works free from vermin. (Signed) CHARLES SHONES."

WORKS, SALISBURY: ESTABLISHED 1848.

Special Quotations to Shippers. Supplied by all the London Wholesale Houses.



COOPER'S SHEEP DIPPING POWDER

Is soluble in Cold Water, and should be used in preference to any other Dip,
FOR TICKS, FLY, SCAB, AND FOR ALL OTHER SHEEP DIPPING PURPOSES.

This Dip has been in use upwards of 35 years, and has never been equalled by any other; it is of uniform strength, does not stain the wool, and is equally good as a Summer or Winter Dip. It is especially recommended for Dipping Lambs, and as a certain Cure for Scab.

In Packets to Retail at 1s. 4d. each, for 20 Sheep.

Counter Bills and Directions in English, Spanish, Dutch, &c., may be had free on application.

Terms and all particulars may be had of the Proprietor,

WILLIAM COOPER, M.R.C.V.S., Chemical Works, Berkhamsted, Herts.

THE ORIGINAL "LUDDINGTON'S OILS," THE CELEBRATED HORSE, SHEEP, AND CATTLE MEDICINE

(REGISTERED).
 Unrivalled as a Safe, Effectual, and Speedy Remedy for Colic, Gripes, and Gravel in Horses; Diarrhoea or Scour in Calves, Foals, Sheep, or Lambs; and is invaluable in cases of DIFFICULT LAMBING, FOALING, AND CALVING, it being a sure Preventive of Inflammation and Paining. Sold by all Chemists, in Bottles, 2s. 6d., 5s., and 10s. each. Sole Manufacturers and Exporters (for the Proprietor),

TOMLINSON & HAYWARD, LINCOLN, ENGLAND.
BEWARE OF SPURIOUS IMITATIONS.

THE "GLYCERINE DIP," FOR SHEEP AND LAMBS.

A Certain Preventive and Cure of Scab, Destructive to Ticks, Lice, and all Parasites infesting the Skins of Sheep, Cattle, and other Animals. Its Emollient and Stimulating Properties greatly Promote the Growth of the Wool, and being a Powerful Disinfectant it arrests the spread of Contagious Diseases. Sold by Agents in every Market Town. Price 6d. per pound. Sole Manufacturers and Exporters (for Hardwicke, Guerin, & Co.),

TOMLINSON & HAYWARD, LINCOLN, ENGLAND.

CHURNING MADE EASY!

TOMLINSON & CO.'S BUTTER POWDER,

Brings the Butter Quickly, Removes all Unpleasant flavour of Turnips, Cake, Mangolds, Wild Garlic, Dead Leaves, &c.; Increases the Quantity and Improves the Quality of Butter, so that Farmers and Dairymen may insure Good, Firm, and Sweet Butter all the Year round. Sold in Boxes, 3d., 6d., 1s., 2s. 6d., and 7s. 6d. each, by Chemists and Grocers. Sole Manufacturers,

TOMLINSON & HAYWARD LINCOLN.

Established 1857.]

BISHOP'S GRANULAR

EFFERVESCENT CITRATE OF MAGNESIA

This perfectly white and delicately clean Preparation,

Prepared with Salts obtained from Pure Fruit Juices of Lemons and Grapes,

Is the most delicious of all the effervescent drinks which have been offered to the public since Mr. ALFRED BISHOP first invented this combination in 1857. It may be taken with perfect safety all the year round, and, besides being a most refreshing beverage, it cools the blood and acts as a mild aperient. It is now prescribed by thousands of physicians as the pleasantest and most efficient aid to **PERFECT HEALTH**; and an imitation of the product has been introduced into the British Pharmacopoeia by the General Medical Council.

It is the best and purest draught which can be taken as a morning restorative, while for delicate persons and young children it is invaluable as an alternative. It ensures a regular action of the skin and of all the organs of the body, and thus invigorates the system instead of exhausting it, as is the case with more violent medicines.

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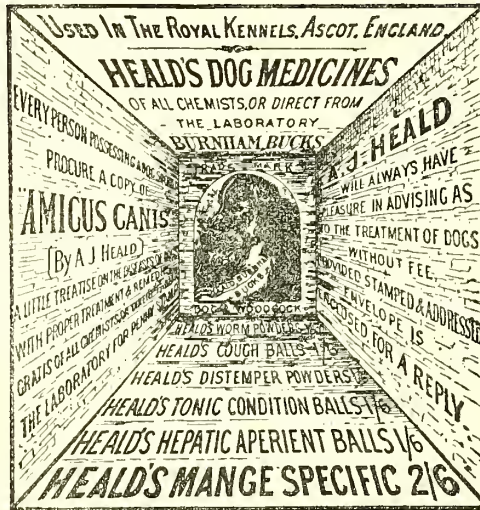
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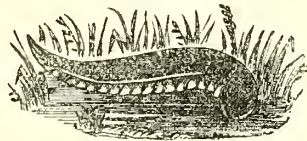


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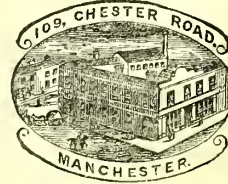
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April 15, 1879.

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All Advertisements intended for insertion in the current Month must be sent to the PUBLISHER OF THE CHEMIST AND DRUGGIST on or before the 12th, except Employers' and Assistants' Advertisements, which can be received up to 10 A.M. on the morning previous to publication.

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BOURNE & TAYLOR,

Wholesale and Export Druggists' Sundriesmen,
35 CASTLE STREET, HOLBORN, LONDON, E.C.

BOURNE & TAYLOR'S FEEDING BOTTLES. The "PET."

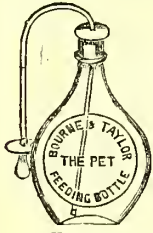


FIG. 1.

- FIG. 1.—Upright Green Glass, with Wood Top Cork per doz. 3/6
 ,, 2.—Bent Neck Green Glass, with Wood Top Cork or Porcelain Cap 3/6
 Ditto, ditto, Flint Glass 3/9
 As FIG. 2, Shilling size, best Flint Bottle, with Tube and Bottle Brushes, Regulator,
 &c. per doz. 7/

Any of the above with Black or Brown Fittings, at 6/ per gross extra.

Special Quotations for 12 doz. 6d., or 6 doz. 1/.

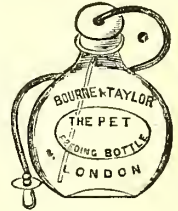
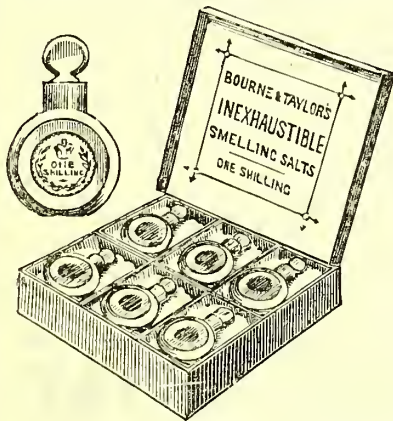


FIG. 2.

INEXHAUSTIBLE SMELLING-BOTTLE.



Very saleable.
Per doz., 7/6.

WATCH-SHAPE SMELLING BOTTLES

In great variety.

Plain Cut, per doz.,
6/ and 7/.

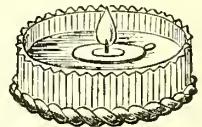
Rich Cut, per doz.,
12/, 14/, 16/, & 20/.

Rich Cut, Silver
Capped, per doz.,
30/ and 48/.

N.B.—A Special Cheap
Rich Cut Watch,
per doz., 7/ and 8/.

B. & T.'s FLOATING NIGHT LIGHTS

Give a better light and burn longer than any others yet introduced. Mothers will find them very useful in keeping warm the Infants' Food as long as required. They are invaluable for the sick-room, as they give no smell, and are perfectly safe and economical.



Boxes, 4/ and 8/ per doz. Glasses for burning the Oil,
7/ per doz.

B. & T.'s MUSICAL TEETHING PAD

Is a combination of Gum Ring, Baby's Rattle, and Teething Pad. By blowing through the two holes it forms a whistle; and by placing the finger and thumb over the holes, and pressing the ball, it makes a musical sound. Will amuse a child for hours.



One dozen on a Show Card. Per dozen, 4/.

HIGGINSON'S ENEMAS.

- | | |
|--|--|
| Black Rubber, in Paper Case... .. per doz. 32/ | Green Rubber, with Disconnecting Mount ... per doz. 37/ |
| Green Rubber, in Cedar 35/ | The Perfect Enema, with Screw Pipes (Disconnecting) ,, 48/ |
- Special Quotations for Large Orders.

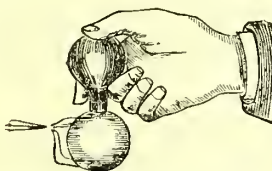


FIG. 1. Per doz., 18/.

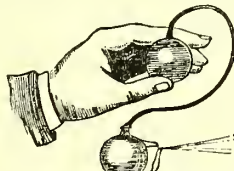


FIG. 2. Per doz., 20/.

B. & T.'s PERFUME SPRAY PRODUCER

Is the simplest and best apparatus for perfuming apartments, and for disinfecting sick-rooms by means of Carbolic Acid, &c. It is also used for the destruction of Insects on Rose and Fruit Trees, &c. It is made in two forms:—one as FIG. 1, with an Indiarubber Ball attached to the glass vessel, and the other as FIG. 2, with Indiarubber Ball and long Tube. 2/6 each.

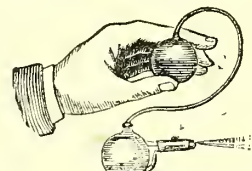


FIG. 4. Per doz., 27/.

B. & T.'S SPRAY PRODUCER FOR THE THROAT

Is made similar to Perfume Sprays, and can be used for the same purpose. It has a long Glass Tube for the mouth. These are highly recommended for Throat Diseases by the most eminent Physicians. 3/6 each.

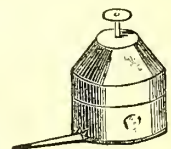
B. & T.'s BEETLE POWDER

Kills Blackbeetles, Cockroaches, Crickets, and other offensive vermin, with the utmost despatch. Sold in Tin Dredgers, at 3d. each. Three doz. in a Show Box. Per doz., 2/.



B. & T.'s INSECT POWDER

Destroys Flies, Fleas, Bugs, Moths, and all other offensive and destructive insects which vex and annoy both peer and peasant. In Bottles, at 6d. and 1/ each; also in Bottles with Perforated Tops, for convenient application, price 6d.; and in Tin Apparatus, with Piston Blower and long Tube, for crevices in walls and bedsteads, and other haunts of insects, price 1/. Price per doz., 4/ and 8/.

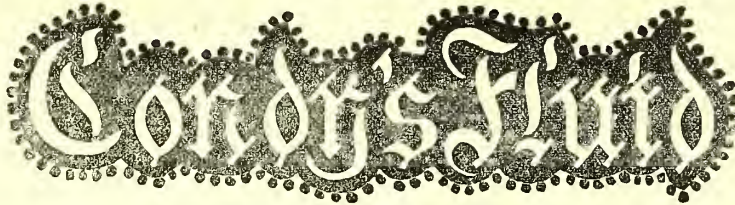


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SILVER MEDAL.



THE CHEAPEST



BRONZE MEDAL



OF ALL

IS SUPPLIED BY

R. CONDY & COMPANY,

OF 8 STATIONERS' HALL COURT, LONDON, E.C.

STILL FURTHER REDUCED PRICES.

Condy's Fluid, red	1s. size, 4s. per dozen net.
" " " " " " " " " " " "	2s. " 8s. " "
" " " " " " " " " " " "	4s. " 16s. " "
Condy's Ozonised Water	2s. " 8s. " "
" " " " " " " " " " " "	3/6 " 16s. " "

All Wholesale Houses supply our Genuine Articles at our Reduced Prices.

Order R. CONDY & COMPANY'S articles, and insist upon being charged our reduced prices.

DR. NICHOLS' SANITARY SOAP.

Since its introduction a year ago, the sale of this Soap has been extraordinary. It simply needs a trial.

Sold to the Public in 6d. and 4d. Tablets. Price to the Trade, 48s. and 32s. per Gross.

Proprietors—FRANKS & CO., 14 LITTLE TOWER STREET, LONDON.

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SPECIALITIES—

CHLORIDE LIME in packets, 3 oz., 8s. per gross. Will keep in perfect condition for 12 months. PULV. LEM. LINI., our own Grinding and Warranted Pure, 21s. per cwt. EPSOM SALTS, in 1 oz. packets, 13s. per cwt. BRUNSWICK BLACK, 4s. 6d. per gall. ULTRAMARINE (Lime Blue), in packets, 28s. per cwt.

SPECIAL QUOTATIONS TO LARGE BUYERS.

EWENS' CLARIFIED LARD, MARROW, SUETS, AND OILS.

JAMES EWEN & Sons are induced to give further publicity to these articles, the continued demand by all who have used them being satisfactory proof "that where purity of basis" in ointments, &c., is required, they are most desirable.

By their method of purifying, the fats are not chemically altered, but simply divested of all particles tending to decomposition, they are consequently available for the most delicate preparations.

Adeps. Benz. B. P. and Pharm. Lard (*vide* P. J. Vol. I., No. 8). Direct, "for Cash only," from

JAMES EWEN & SONS' CLARIFIED FAT WORKS,
5 HATFIELD STREET, STAMFORD STREET, S.E.;

Or through any of the Wholesale Houses, with their usual credit, at a small advance.

CAUTION.—See that each package bears their label with name and weight.

1/6 JUDSON'S 1/6

GOLD PAINT.

{ 1 Bottle Gold Powder	} 12s. per dozen sets. Six sets on a card, or each set in card box.
{ 1 " Mixing Liquid	
{ 1 Mixing Bowl	
{ 1 Brush	
{ 1 Bottle Gold Paint	} 10s. 6d. per doz. sets. Six sets on a card, or each set in card box.
{ 1 " Mixing Liquid	

For regilding picture and glass frames.
For gilding lamp stands and gas-fittings.
For renewing ormolu ornaments.
For illuminating on paper, silk, or leather.
For artistic cabinet work.
And for a thousand useful and domestic purposes.

The Special Attention of the
Trade is called to

BENZINE COLLAS,

Which is acknowledged on all hands to be the most reliable Preparation for Removing Grease, Oil, Tar, Wax, or Paint, from every description of Wearing Apparel or Household Stuffs. It neither injures the Colour or Texture nor leaves any odour or stain. It is neatly got up, and is a most saleable Article.

Observe the Word "COLLAS"
on label and cap.

1,000 HANDBILLS, with NAME and
ADDRESS,

Will be printed for any Chemist who gives an order for

ONE POUND'S WORTH OF BENZINE
COLLAS,

AT THE FOLLOWING PRICES, VIZ.:—

6d., 4s. 1s., 8s. 1s. 6d., 13s. 6d.

SUBJECT TO DISCOUNT.

Special Quotations to Shippers and Large Buyers
on application to

JOHN SANGER & SONS,
252 OXFORD STREET,
LONDON, W.

EPILEPTIC FITS.

TAYLOR'S
ANTI-EPILEPTIC MEDICINE.

NOTICE TO CHEMISTS.

Epilepsy being considered incurable by most medical men, we would call your special attention to this medicine, which has proved a cure in many cases, and in none failed to give relief. If, therefore, you know any one in your town who suffers, and will kindly interest yourself in the matter,

MESSRS. W. LAMBERT & CO.,
1a VERE STREET, LONDON, W.,

Will forward you a **SAMPLE BOTTLE FREE** to any London House; and your future recommendations, when you have proved its efficacy, will be esteemed. A few descriptive handbills can be sent with it, for your distribution, if desired.

MARTIN'S SEWING MACHINE OIL,

For Cleaning and Oiling Sewing Machines,
Prepared expressly for Sewing Machines.

It keeps them in good order and makes them work easy. Will last longer than any other Oil, and does not dry or corrode.

A little of this upon the working parts will clear away the clogged oil and dirt caused by using common oils.

ALSO,

LAMBERT'S BICYCLE OIL,
Equally useful for Bicycles and Light Machinery.

Both are sold in Bottles, 6d. each; wholesale, 4s.
Subject to usual discount.

Special Quotations to Shippers and Large Buyers.

LAMBERT & CO., 1a Vere St., Oxford St., W.

DR. SCOTT'S BILIOUS & LIVER PILLS,

Which have been in use upwards of 70 years, are a medicine that can be safely recommended by all Medicine Vendors as a mild and effectual aperient for both sexes. They never cause griping. They are useful for all Bilious and Liver Complaints, Indigestion, Wind, Spasms, Foul Breath, Nervous Depression, Irritability, Lassitude, Loss of Appetite, Dyspepsia, Heartburn, Sour Eructations, Lowness of Spirits, &c.

Handbills, with Name and Address, can be had, either for counter use or house to house distribution, on application to the
Proprietors,

MESSRS. W. LAMBERT & CO.,
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EAU DE COLOGNE

OF THE MOST ANCIENT DISTILLER,

JOHANN MARIA FARINA,

Opposite the Julichs Place, COLOGNE.

ESTABLISHED A.D. 1709.

PRIZE MEDALS:—LONDON, 1851 AND 1862; OPORTO, 1865; PARIS, 1867.

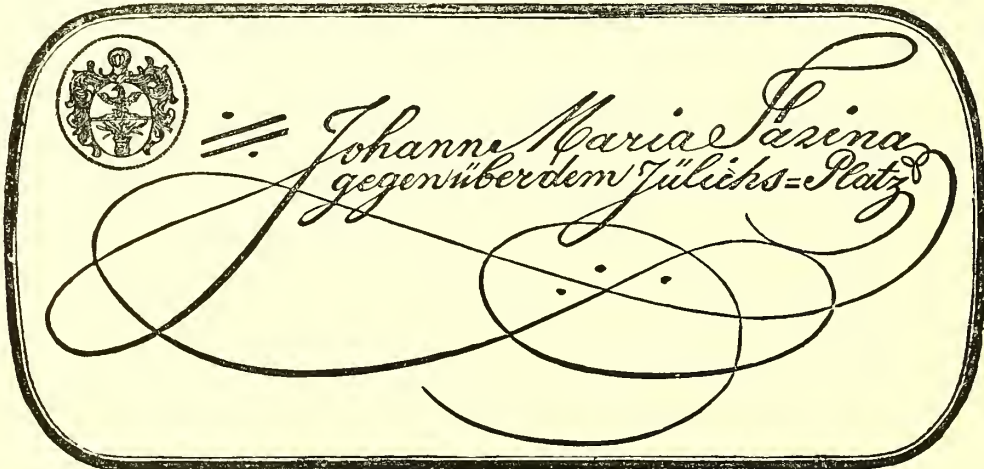
By appointment, Sole Purveyor to Her Most Gracious Majesty Victoria, Queen of Great Britain & Ireland; Their Royal Highnesses the Prince and Princess of Wales; William, King of Prussia;



Albert II., King of Saxony; Alexander II., Emperor of Russia; Francis Joseph, Emperor of Austria; Lewis, King of Portugal; H.R.H. Frederick William, Crown Prince of Prussia.

In consequence of increasing inquiries from the Colonies for my Eau de Cologne, the only genuine, I beg to submit my Price Current.

At the same time I beg to call special attention to the following facsimile of my Trade Mark, for the protection of which I have instituted thirteen suits in the High Court of Chancery, all of which have been decided in my favour.



All similar Labels being more or less imitations of the same, I shall proceed as before against all persons selling or exposing for sale any such imitations.

I only prepare one quality of Eau de Cologne. This quality never varies in the slightest degree, and there has not been the smallest change in the manufacture since the year 1709, when it was invented by my ancestor.

Orders equal to at least 12 dozen short bottles will be promptly executed at 12s. 6d. per dozen, against my bill drawn at three months from the date of invoice, delivered free on board the export ship, at Rotterdam, Antwerp, Hamburg, or Bremen, no charge being made for the case and packing, but insurance charged extra. 7½ per cent. discount is allowed for orders equal to at least 100 dozen, but on no smaller quantities.

I may add that, as I do not draw on the Colonies, all Orders must be accompanied by a credit on some London House, or permission to draw on same at three months.

The Goods can also be shipped in transit through London at a very small additional expense, full particulars of which may be obtained of my Sole Agents for Great Britain and Ireland:—

MESSRS. J. & R. McCracken,

No. 38 Queen Street, Cannon Street, London, E.C.

The following are the sizes of my bottles:—

No. 1. Long Green Flasks	} as per figure plate	12 bottles	} to one dozen.
" 2. Short White Bottles		...	...	...	...	12 "
" 3. Double ditto		...	...	...	...	6 "
" 4. Wickered Bottles (small)		...	...	...	...	8 "
" 5. ditto (medium)		...	...	...	...	4 "
" 6. ditto (large)		...	...	...	...	2 "

JOHANN MARIA FARINA,

Opposite the Jülich's Place.

SPONGES.

IN ORIGINAL PACKAGES.

Cases Free. Quotations subject to usual Terms.

No.	Description.					Price per Case.			Number of Pieces per Case.	
						£	s.	d.		
1	Honeycomb,	Selected quality	...	...	...	assorted sizes	10	18	0	70
2	"	Fine	"	...	...	"	8	12	0	65
3	"	Good	"	...	...	"	6	18	0	65
4	"	Second	"	...	...	"	4	18	0	65
5	"	Third	"	...	...	"	3	12	0	70
6	"	Rough, for Stable use	...	...	...	"	2	10	0	100
7	"	Choice quality	...	...	...	large bath sizes	6	14	0	18
8	"	Fine	"	...	...	"	4	15	0	18
9	"	Good	"	...	...	"	2	17	0	18
10	"	Common	"	...	...	"	1	18	0	18
11	"	First	"	...	...	small	3	10	0	200
12	"	Second	"	...	...	"	1	16	0	200
13	Turkey, Cups,	First	"	...	...	bath sizes	14	15	0	40
14	"	Second	"	...	...	"	11	10	0	40
15	"	First	"	assorted	...	Toilet sizes	17	18	0	70
16	"	Good	"	"	...	"	14	15	0	70
17	"	Second	"	"	...	"	10	18	0	70
18	"	Useful pieces	"	"	...	"	7	7	0	70
19	"	First quality,	small	...	...	Nursery sizes	9	18	0	190
20	"	Second	"	...	...	"	7	15	0	180
21	"	Solid,	First	"	assorted	...	10	17	0	150
22	"	"	Good	"	"	...	5	6	0	100
23	"	"	First	"	small	...	7	17	0	200
24	"	"	Second	"	"	...	3	18	0	170
25	"	Brown,	Fine	"	"	...	3	17	0	175

SELECTED SPONGES.

Honeycomb,...	...	...	...	...	per lb.	6/0, 8/0, 10/0, 12/0 and 0	15	0
"	Small	...	...	...	per lb.	4/0 and 0	6	0
Turkey, Cup,	for the Bath, from 3 to 6 to the lb.	...	...	...	per lb.	30/0, 38/0 and 2	5	0
"	"	for the Toilet, from 8 to 18 to the lb.	...	...	"	30/0, 35/0 and 2	0	0
"	"	"	fine, from 8 to 18 to the lb.	...	"	45/0, 50/0 and 3	0	0
"	"	for the Nursery, from 25 to 40 to the lb.	...	...	"	20/0, 25/0 and 1	10	0
"	Eye	...	...	...	"	12/0, 16/0 and 1	0	0
"	Solid,	for the Nursery, from 25 to 40 to the lb.	...	...	"	12/0, 16/0 and 1	0	0
"	"	for the Toilet, from 6 to 18 to the lb.	...	...	per lb.	12/0, 16/0, 20/0 and 1	5	0
"	Rough, suitable for Slates, &c.	...	...	...	per lb.	4/0, 6/0 and 0	8	0
"	Carriage	...	...	...	per lb.	8/0, 12/0, 16/0 and 1	0	0
"	"	brown	...	...	per lb.	4/0, 6/0 and 0	8	0

S. MAW, SON & THOMPSON,
7 to 12 ALDERSGATE STREET, LONDON.

C. J. KING,
HUMAN HAIR MERCHANT,
HAIRDRESSERS' SUNDRYMAN,
 And Importer of Perfumery & Fancy Goods,
 5, 6, & 7 HOLBORN BARS,
 LONDON, E.C.



TRADE MARK.

TRADE MARK.

COMBS, BRUSHES, MIRRORS, CUTLERY.
 FRENCH PERFUMERY—*EP.* PINAUD'S and DEMARSON, CHETELAL & CO.

PATENTEE OF THE
IVORIDE DRESSING COMBS.
 THESE COMBS BEAR THE NEAREST RESEMBLANCE TO IVORY.

GOLDEN HAIR.

G. DOREZ'S

GOLDEN
For the

TRADE MARK.



TRADE MARK.

AUREOLUS.

FLUID
Hair.

GOLDEN HAIR.

This preparation produces one of the most beautiful and fashionable tints that have been conveyed to the Human Hair. It converts Hair of any colour to tints varying from the richest auburn to the most brilliant golden or sunny hue. It is perfectly harmless and free from smell. In all instances it has given the greatest satisfaction; and is, as a genuine and profitable article, recommended to the Trade. Pamphlets and Handsome Show Cards.

5s. size, price 30s. per dozen.

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AMERICAN BAY RHUM.

TRIPLE DISTILLED. The only true Universal & Genuine Article.
 Distilled from the leaves of the Bay Tree (*Myrciactris*).
 THIS ARTICLE COMMANDS A READY SALE.

This delicate Spirit has acquired a great popularity in America and the West Indies. It is an indispensable Eau de Toilet for the Nursery and Bath, and is an effective remedy for Headache, Nervousness, and Rheumatic Pains. It also alleviates irritation of the skin after shaving or from change of temperature, and removes all impurities from the skin.

ENGLISH LAVENDER WATER. Much admired for its lasting fragrance.

LIME JUICE
 AND
GLYCERINE.

This valuable toilet preparation for the Hair is highly recommended on account of its nutritive and restorative properties.

Attractively put up in Round Shouldered White Glass Bottles.

3 ozs.	4 ozs.	6 ozs.	8 ozs.
2s. 9d.	3s. 6d.	5s. 3d.	7s. per doz.

C. J. KING, 5, 6, & 7 HOLBORN BARS, LONDON, E.C.

GEORGE PATTISON'S

LIST OF

BATH GLOVES,

&c., &c.

Turco Sponge Gloves	No. 1 (best white)	4/0 per doz. pairs
Turco Sponge Gloves	No. 2 (best white, large, with red binding).....	4/8 " "
Turco Sponge Gloves	No. 3 C quality (thin white)	3/0 " "
Turco Sponge Gloves	No. 4 C quality (thin white, large, with red binding)	4/0 " "
Baden Sponge Gloves.....	Or Turkish No. 1 (best white, extra stout quality, large).....	5/0 " "
Baden Sponge Gloves.....	Or Turkish No. 2 (best white, extra stout quality, medium and small)	4/6 " "
Oriental Sponge Gloves.....	(Very superior stout white, with red stripes).....	6/8 " "
Cleopatra Sponge Gloves	(Fine quality white, with red stripes)	5/4 " "
German Sponge Gloves	(Grey or unbleached white, soft and spongy).....	5/0 " "
Baden Flesh Gloves, or Calefacio	No. 1 (best soft brown).....	6/0 " "
Baden Flesh Gloves, or Calefacio	No. 2 (hard brown)	6/0 " "
Baden Flesh Gloves	C quality (soft brown)	5/4 " "
Paragon Bath Gloves.....	(Soft brown, with red and white stripes).....	7/0 " "
Union Bath Gloves	(One side stout white, and the other side best soft brown)	7/0 " "
Brighton Bath Gloves	(White honeycomb)	5/0 " "
Roman Bath Gloves	(Stout grey elastic honeycomb).....	6/0 " "
Sponge Washing Pads	(Various sorts)	6/0 per dozen.
Bath Belts or Straps.....	(Various sorts)	8/0 to 11/0 " "

ORIGINAL MANUFACTURER:
GEORGE PATTISON, 139 St. John Street Road, **LONDON, E.C.**
Sole Proprietor of the "LUNG PROTECTOR" (Registered).

SUPPLIED BY ALL WHOLESALE HOUSES, SUBJECT TO THEIR USUAL TERMS.

H. ERHARDT & CO., 9 BOND COURT, WALBROOK, LONDON, E.C.,
Manufacturers of Parchment, Skins, White Splits, { For Tying over Jars
and Capping Bottles.



Also Agents for CHEMICALLY PURE TINFOIL, as thin as 90 square feet to the lb.
MIXED & LEAD FOIL & FOIL PAPER. COLOURED CAPPING & FANCY PAPERS.
Samples and Prices post free on application.

WHITE AND SOUND TEETH.

JEWSBURY AND BROWN'S

ORIENTAL TOOTH PASTE.



This old-established and increasingly favourite Dentifrice has been Forty Years before the Public
 It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

JEWSBURY and BROWN,
CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed.
 Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered.

Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

ESTABLISHED A.D. 1815

PHOENIX **GENUINE INDELIBLE** **MARKING INK**

THE LEADING &
STANDARD ARTICLE

PREPARED ONLY BY THE WIDOW OF THE LATE
JOHN MURPHY
CHEMIST AT THE ORIGINAL ESTABLISHMENT
11, NILE STREET, EAST ROAD, HOXTON N.

NO OTHER ADDRESS — BEWARE OF WORTHLESS IMITATIONS.

NITROUS OXIDE GAS.

GEO. BARTH & CO.,

Manufacturers of Liquid Nitrous Oxide Gas and Anæsthetic Apparatus, &c.

AN ILLUSTRATED PRICE LIST SENT FREE ON APPLICATION.

26 DUKE STREET, BLOOMSBURY, LONDON, W.C.

GERRARD & JOHNSON,
MEDICAL SHOP FITTERS AND SHOW CASE MAKERS,
22 CLOUDESLEY ROAD, ISLINGTON, N.

CHEMISTS' SHOPS FITTED ENTIRELY.—ESTIMATES AND DESIGNS SUPPLIED.

W. S. YATES,

Chemists' Shop Fitter, Shop Front Builder,
and Glass Show Case Maker.

PLANS AND ESTIMATES SUPPLIED FOR WORK IN ANY PART
OF THE KINGDOM.

9 CAMDEN STREET, LIVERPOOL.

PURE LEICESTERSHIRE LEAF LARD, especially prepared for Pharmaceutical use, in 10-lb. air-tight tins, 6d. per lb.; also in 1, 2 and 3 cwt. casks, 42s. per cwt.; slightly tinged lard for sheep and cattle ointment, 37s. per cwt.; finest lard oil, 3s. 9d. per gallon; fine neatfoot oil, 4s. per gallon; Cooper's "Excelsior" machine oil, 2s. 7d. per gallon; an excellent lubricant for light machinery, 2s. per gallon; dark lubricant, 1s. 10d. per gallon. The Trade only supplied. Apply, J. Cooper, Lard and Oil Merchant, Church Gate, Leicester.

HANDSOME CHEMIST'S SHOP FITTED COMPLETE

WITH ALL NEW GOODS,
INCLUDING GLASS SHOW CASES,
GOLD-LABELLED SHOP BOTTLES, JARS, &c.,
For £75.

Retail and Dispensing Counters, Shop Drawers, Window Enclosures, Wall and Counter Bent, Flat, and Upright Show Cases, Dispensing Screens, Show and Soda-water Stands, Sponge and Cigar Cases, Tea and Coffee Bins, Window Carboys, Speeie Jars, Labelled Shop Bottles and Jars, Store Bottles and Boxes, Tea, Coffee, and Sugar Mills, Tea, Coffee, and Store Canisters, Oil and Treacle Cisterns, and every description of new and secondhand Shop Fixtures, Office Furniture, and Utensils required by the various Home and Colonial Trades. Three extra Show Rooms have just been added, to which an inspection is invited.

LLOYD RAYNER,

WHOLESALE AND EXPORT MANUFACTURER OF

MEDICAL AND GENERAL SHOP FITTINGS,
EXHIBITION AND COUNTER SHOW CASES,
SHOP FRONT BUILDER,
FIXTURE DEALER, AND MEDICAL LABELLER.

SHOW ROOMS AND OFFICES:

333 Kingsland Road.

FACTORIES:

2 Downham Road, Kingsland, and Whitmore Road,
Hoxton, London, N.

OLD BOOK COVERS, &c., MADE NEW.
MIRACILINE.

Original Patent Leather & Cloth Restorer.
MAKES OLD BINDINGS LOOK NEW.

Every person their own bookbinder. Full and simple directions.

MIRACILINE.

All who value their Books should try it. This will restore all Leather and Cloth on Books, Desks, Dressing Cases, Office and Library Tables, &c., as when new.

MIRACILINE.

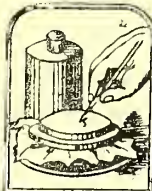
Sold by all Stationers, Fancy Dealers, &c., throughout the United Kingdom, in Gd., 1s., and 2s. Cd. Bottles; or post free for 8, 13, or 30 stamps, from the Sole Proprietors—

BRIEN & CO., 53 TABERNACLE WALK, FINSBURY SQUARE, LONDON, E.C.
To be had Wholesale of Messrs. Mathier & Son, Farringdon Road; Barclay & Sons, 45 Farringdon Street; Edwards, 157 Queen Victoria Street; Maw, Son & Thompson, 7 to 12 Aldersgate Street; Millard & Sons, 40 Charterhouse Square, E.C.; Sutton, Bow Church Yard; Sanger & Sons, 150 and 252 Oxford Street; and all Wholesale Houses.

AFTER READING THIS SEND FOR A BOTTLE.

Office and Library Tables made as new.

Leather Sofas, Chairs, & Bags made as new.

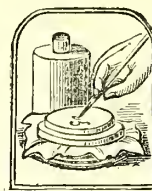


GREAT REDUCTION OF PRICES.

6d. and 1s. PEDESTALS, Glass Cases included.

20 per cent. off £100 Orders.

10 " " " £50 " "



CAUTION I AM DETERMINED TO PREVENT IN ALL CASES EVERY COLOURABLE IMITATION TO PROTECT MY RIGHTS & PROPERTY

WRIT OF INJUNCTION GRANTED NOV. 28, 1877.

COMMON PLEAS DIVISION,
JAN. 15.
(Sittings before Lord Coleridge and
Justices Grove and Dentman.)
HICKISSON v. ASHTON.
Defendant moved for a NEW
TRIAL.
Application REFUSED.

This action, which was brought for the alleged infringement of the Plaintiff's Trade Mark, was tried at the last sittings at Guildhall, before Mr. Baron Cleasby, when the verdict was for the Plaintiff with damages.

The PLAINTIFF was the HUSBAND of the DAUGHTER of the late JOHN BOND, the PROPRIETOR of BOND'S CRYSTAL PALACE MARKING INK. The Defendant was a Druggist, and he had sold a Marking Ink manufactured by a Mr. Murphy, and the Plaintiff complained that the Labels on Murphy's Ink were an infringement on his Labels. A TRADE MARK is not only a SYMBOL or CHARACTER, but the general appearance of a label, whereby the public would be deceived.

Their Lordships this morning, after consulting Mr. Baron Cleasby on the matter, refused the rule, that learned Judge having expressed his satisfaction with the verdict.—RULE REFUSED. Vide daily papers.

ANOTHER GOLD MEDAL AWARDED, PARIS ACADEMIE,

For Merit and Superiority of Finish, 2nd Award.

PRIZE MEDAL, PARIS, 1878, 2ND AWARD.

3 Gold and several Silver and Bronze Medals.
Hon. Mention, Paris, 1878.

PRIZE MEDAL AND GRAND DIPLOMA,
8 Medals.] PHILADELPHIA EXHIBITION, 1876 [7 Diplomas.
PURVEYOR TO THE LORDS COMMISSIONERS OF THE ADMIRALTY.

CAUTION.—The only GOLD Medal Marking Ink, Gold and Silver Medals and Diploma, Silver Medal and Diploma, London. Prize Medal, Lyons, Certificate of Merit, signed Albert Edward, Prince of Wales; and Dublin Diploma, Marking Ink Maker under Royal Warrant to Her Majesty the Queen and Court of Holland.

GOLD MEDAL, SOUTH AFRICA, 1877.

HONOURABLE MENTION and ESPECIAL NOTICE from the FRENCH PRESIDENT and H.R.H. the PRINCE OF WALES, Paris Exhibition, 1878.

HONOURABLE MENTION and DIPLOMA awarded by the JURORS, 1878.

SECOND GOLD MEDAL awarded by the PARIS ACADEMY, 1878, for Merit and Superiority of Production.

J. HICKISSON, Proprietor of the Daughter of the late John Bond's Crystal Palace Marking Ink, 75 Southgate Road, London.

BOND'S MARKING INK. CAUTION to Wholesale and Retail Vendors.—TAKE NOTICE that on Nov. 26th, 1877, IN AN ACTION "HICKISSON & ANOTHER against MURPHY" JUDGMENT was given for PLAINTIFFS, WITH DAMAGES AND COSTS, AND A PERPETUAL INJUNCTION GRANTED RESTRAINING the said MRS. MURPHY and her AGENTS FROM USING the word "BOND" upon any labels or pedestals manufactured by or for her, OR FROM IN ANY WAY REPRESENTING THE INK MANUFACTURED BY HER TO BE BOND'S MARKING INK.

GRANTED NOV. 28, 1877.

WRIT OF INJUNCTION

- 6d. Bottles in Round Blue Cases (Grand Show Card enclosed with each Packet of one dozen) ... 30s.
- 1s. Do. do. do. (Handsome Show Card enclosed with each dozen) ... 60s.
- 6d. Round Blue Wrapper upon Show Card of one dozen ... 30s.

Where are the Thousand and One would-be Makers that have expended and entirely lost large sums in trying to oppose this old-established preparation? Chemists, return all others forced upon you, and do not offend a Customer by sending a would-be substitute.

Have you seen the New Black and Gold Glass Cases with Hinged Black and Gold Framed Linen Specimen of the Crystal Palace with elaborate GOLD Mounts?

FACSIMILE OF THE GENUINE LABEL.

Blue Wrappers. Black and White Oval Label.

DEAR HICKISSON, — Send on receipt the £200 order, as we are much increasing our trade by pushing your Ink in place of useless Novelties, as some other Wholesale Houses are sending other Makers', and thereby the Retail are closing their accounts. The 50 No. 1 Glass Cases are sold. Repeat order immediate.—Yours,
BROWN & CO.
29/4/78.

No Heating Required if allowed to remain three hours previous to Washing.

- No. 2 CASE, containing 3 doz. 1s., Crystal Palace and Royal Indelible, Blue Wrapper, Black and White Oval Label, old style. 16s. each.
- No. 3 CASE, containing 1 doz. 1s., Crystal Palace and Royal Indelible, Blue Wrapper, old style, and 2 doz. 6d., do. do. 11s. each.
- No. 4 CASE, containing 3 doz. 6d., Crystal Palace and Royal Indelible, Blue Wrappers, Black and White Oval Label, old style. 8s. 6d. each.

CAUTION I WILL PROSECUTE IN EVERY CASE OF MISREPRESENTATION OR COLOURABLE IMITATION

NOTICE OF REMOVAL.

E. CRAWSHAW & CO., ANILINE DYE MERCHANTS,

Beg to inform their friends that, owing to the considerable increase in their business, it has been found imperative to have very much larger Premises, and that they have now **REMOVED** to their New Five-Storey Warehouse at

80 FANN STREET,

Where they hope to receive the continued patronage of the trade for their unrivalled

CRYSTAL DYES.

ALL COMMUNICATIONS TO BE ADDRESSED TO

E. CRAWSHAW & CO., ANILINE DYE MERCHANTS,

80 FANN STREET, ALDERSGATE STREET, LONDON, E.C.,

SPECIAL TERMS TO SHIPPERS AND WHOLESALE HOUSES.

WOODS' ARECA NUT TOOTH PASTE.

For Removing Tartar and Whiting the Teeth, without injuring the Enamel. Sold in Pots, at 6d. and 1s. each.

WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR CREAM

(WITH GREASE). Restores the Hair if weak or falling off. Price 9d., 1s. 6d. and 3s. 6d. per bottle.

WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR WASH,

Similar to the above (without grease). Price 1s. 6d. and 3s. 6d. per bottle.

WOODS' DANDRUFF POMADE.

Never fails. 1s. per pot.

Proprietor: W. WOODS, M.P.S., Chemist, Plymouth.

SOLD WHOLESALE BY ALL LONDON HOUSES.

AWARDS: London and Vienna Exhibitions

Wood Stains,

AWARDS: London and Vienna Exhibitions

IN LIQUID AND POWDER.

Packed in 1-lb., ½-lb., ¼-lb., and 2-oz. Boxes, ½-pint 6d. Bottles, and bulk.

Specimen Boards and Circulars supplied when ordered.

MANUFACTURER,

THOMAS S. JACKSON,

199 BOROUGH, LONDON, S.E.,

And of all Patent Medicine Warehousemen. Write for New Price Lists of Oil and Spirit Varnishes, Colours, Paints, &c.

ROUND AND OVAL CHIP AND WILLOW BOXES

Of any size, in the very best quality that can possibly be made. Large stock kept in London. Any buyers of these goods should compare my Samples and Prices before ordering elsewhere.

PAUL METZ, Manufacturers' Agent,

19 & 20 HAMSELL STREET, FALCON SQUARE, LONDON, E.C.

Bankers, London and Westminster Bank, Lothbury, E.C.

TO THE TRADE.

DUVAL'S SEVEN AGES MILK BALSAM FOR THE HAIR.

A pretty novelty for ordinary daily use. It has the appearance of Milk, and is very agreeable in application, without the greasiness of lime-juice preparations. It is not liable to separate, and is put up attractively in Large Bottles at 1s., 1s. 6d., & 2s. 6d.

Proprietors, LETCHFORD & Co.,

63 WILSON ST., FINSBURY, LONDON.

TRY IT!
SPANISH

In Bottles,

Unrivalled for RESTORING HAIR, RENEWING, CLEANSING, THICKENING, and PREVENTING the Hair

Of Messrs. Low & Haydon, 330 Strand, London; Barclay & Sons, 95 Farringdon Street, London; of any Chemist or Hairdresser; or of A. P. Muddiman, Leighton Buzzard, Beds.



IT NEVER FAILS!
WASH!!

2/6 & 5/- each.

from FALLING OFF or Turning Grey, instantly removing all Scurf or Dandruff, leaving the skin pure and healthy.

INTERNATIONAL EXHIBITION, 1870.
283, CLASS 3.

Every Man his own Printer

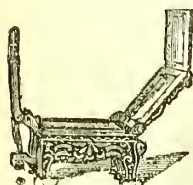
PRINTING PRESSES (all Iron) 25s. complete, to £10 10s.

Specimens of Work, One Stamp. Inventor

JABEZ FRANCIS, Rochford, Essex.

Type and Materials for Amateurs.

Amateur's Guide, 64 pp., 13 stamps.



ESTABLISHED 1868.

J. T. JONES.

Manufactory, Edith Row, King's Road, Fulham, S.W. (Formerly with Mr. Jas. Ewens, Garlick Hill, City).

CLARIFIER OF FINE LARD, MARROW, SUET, AND OILS.

ADEPS. PHARM. PRÆP. BENZ. P. B., &c.

PRICES ON APPLICATION.

OKELL'S ORIGINAL MONA BOUQUET

Retail, 1/, 1/9, and 3/6; Wholesale, 9/, 15/, and 30/ per doz.

This much-admired Perfume (prepared by the Widow of the late Joseph Okell), may be obtained from the leading Patent Medicine Houses, Wholesale Druggists, and Druggists' Sundry Dealers.

Applications for WHOLESALE Agencies to be made to the SOLE CONSIGNER, **THOMAS WEST, Chemist, Stretford, Manchester.**

Dr. C. R. Coffin's AMERICAN DENTIFRICE.

Prepared only by **WILLIAM DARLING, Chemist, Manchester.** May be had from S. Maw, Son, & Thompson; Barclay & Sons; F. Newbery & Sons; Sanger & Sons; and any Wholesale House in London. Price 2s. per Box, and Family Jars 10s. each.

G. F. SNOOK & SON,

TRADE MARK.



1d.

Wholesale & Export Manufacturers
of Druggists' Sundries, &c.,
376 CITY ROAD, LONDON, E.C.

TRADE MARK.



1/4 lb.

SPECIALITIES—

Articulated and White Felt Corn and Bunion Plasters. Felt, Hare-skin, and Chamois and Flannel Chest Protectors. Turkish, Toilet, and Bath Gloves. Sponge Gloves. Bath Straps, &c. Breast Exhausters. Respirators. Higginson's Enemas. Eye Shades. Calico, Flannel, and Linen Roller Bandages. Violet Powder, Fuller's Earth, &c., &c.



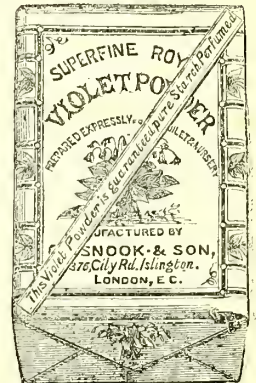
Snook & Son's 1d. Pure Starch Violet Powder, each packet with guarantee, Half-gross in neat Show Box for the Counter, as per Illustration, 5s. per gross. Also in 1/4 lb. and 1/2 lb. packets. Pure Starch, richly perfumed, in handsome wrappers, each packet with guarantee. One dozen in a Glass Top Box, 1/4 lb. 30s., 1/2 lb. 60s. per gross.

Snook & Son's 1d. Pure Fuller's Earth, each packet with guarantee, in same style as the Violet Powder, price 4s. 3d. per gross.

Snook & Son's 3d. & 6d. Fuller's Earth, in Round Fancy Gold Boxes, one dozen in a box, 3d., 18s. per gross; 6d., 36s. per gross.

G. F. SNOOK & SON beg to say they Manufacture solely for Wholesale and Exportation. Any of the above goods may be had of all Wholesale Houses.

G. F. S. & S. will be pleased to forward Sample and Price List free by post on receipt of business card.



THE UNIVERSAL TOOTHACHE SYRINGE

Retail,
6d. each.



Wholesale,
4s. per dozen.

Is a great improvement upon the "DENTAL SYRINGE," as the fluid is contained in a glass bulb, which enables its contents to be seen, also prevents the liability to evaporation through long keeping or exposure.

THE UNIVERSAL CORN AND WART PENCIL.

1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz.

It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a cardboard case.

N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

"The EMPRESS of INDIA'S BOUQUET"

(Registered under the new Trade Marks Act),

A DELIGHTFUL, REFRESHING, AND FASHIONABLE PERFUME.

"Chemists may gratify their loyalty to their hearts' content by selling a perfume just introduced by Mr. B. Robinson, of Pendleton, Manchester, called 'The Empress of India's Bouquet.' The perfume is remarkably cheap, and is by no means lacking in richness. The shilling bottles are good sized ones, corked with the patent sprinklers, and decorated with a faithful likeness of the Empress alluded to."—Editor of *The Chemist and Druggist*, November 15th, 1876.

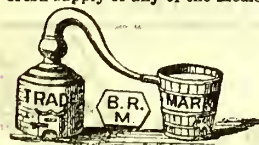
Sold in Bottles, at 1s. each, or Treble Size, 2s. 6d.; Wholesale, 8s. per dozen in 1-dozen cases, and 20s. per dozen in 1/2-dozen cases.

Prepared only by B. ROBINSON, Operative Chemist and Distiller, PENDLETON, MANCHESTER.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Distilled

Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopœia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their use a fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate.

N.B.—Used in the proportion of one part to thirty-two of water they represent the Medicinal Waters of the United States Pharmacopœia.



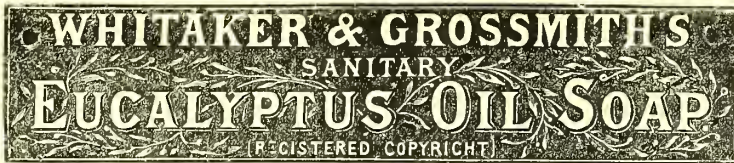
Per lb.		Per lb.		Per lb.		Per lb.	
Aqua Anethi, Concent.	4/0	Aqua Cinnam. Ver. Concent.	6/0	Aqua Fœniculi, Concent.	4/0	Aqua Pimentæ, Concent.	4/0
" Anisi, "	4/0	" Cassiæ "	4/0	" Mentli Pip. "	4/0	" Rosæ "	8/6
" Camphoræ "	4/0	" Flor. Aurant. "	8/6	" Ang. Con. "	6/0	" Rosæ Virgin. "	10/6
" Carui "	4/0	" Flor. Sambuci "	8/6	" Virid. "	4/0		

The above are put up in Bottles of 1/2 lb. or 1 lb. and upwards, each of which has the Inventor's Protection Label over cork.

Wholesale Agents—Hearon & Co., Maw, Son, & Thompson, Lynch & Co., London; Evans, Sons & Co., Raimes, Liverpool; Mather, Woolley, Manchester; Bewley & Draper, Dublin; Glasgow Apothecaries' Co., Hatrick & Co., Glasgow; Raimes & Co., Edinburgh; Poynt, Thirsk; Goodall & Co., Leeds; Clarke, Bleasdale & Co., York; McKesson & Robbins, New York. Special terms for large quantities may be had from

B. ROBINSON, Operative Chemist, Distiller and Brewer of British Wines, Manchester.

Highly recommended by the *Lancet*, *Sanitary Record*, and the *Medical Press* as an elegant Antiseptic Toilet Soap for the Skin, with an aromatic disinfectant for the Apartment.



The Antiseptic properties of the *Eucalyptus Tree* are now fully retained by enclosing the Soap in tinfoil, and any of the old stock on hand will be exchanged for fresh, free of cost.

The Standard says:—"As an antiseptic, *Eucalyptus Soap* has no rival."
 1s. 6d. Boxes of Three Tablets. 12s. per Dozen Boxes.
Special Articles particularly noted for their excellence:

TOILET SOAPS.		Per doz.	BOUQUETS.		Per doz.	POMADES, &c.		Per doz.
<i>Cent-Fleur</i> (copyright)	2/6	20/	<i>Cent-Fleur</i> (copyright)			<i>Cent-Fleur</i> (copyright)	8/	12/ & 20/
<i>Jockey Club</i>	1/6	12/	<i>Star of India</i> ...	In Glass Stopped	12/	<i>Petroleum Pomade</i> ...	12/	& 18/
<i>Musk Windsor</i>	1/6	12/	<i>Pearl of Perfumes</i> ...	or Sprinkling cap	18/	<i>Brilliantine</i> ...	8/	12/ & 20/
<i>Sandringham</i>	1/6	12/6	<i>Stephanotis</i> ...			<i>Anglo Eau de Cologne</i>	8/	& 12/
<i>Eucalyptus Oil</i>	1/6	12/	<i>White Rose</i> ...		24/	<i>Eucalyptus Vinegar</i> ...	12/	& 20/
<i>Semi-Cut Bars</i>	1/	8/6	<i>Ylang-Ylang</i> ...			<i>White Cherry Tooth Paste</i>	8/	& 12/

TRADE PRICE LISTS SENT AND ORDERS EXECUTED THROUGH WHOLESALE HOUSES, OR DIRECT FROM THE MANUFACTURERS,
WHITAKER & GROSSMITH, Wholesale Perfumers, 120 Fore St., City, London.

RECTIFIED SPIRITS OF WINE

One Quality only—Finest BRITISH SPIRIT.

Not less than 2 Gallons, 56° o.p., 20/6; 60° o.p., 21/0 per Gallon.

" " 6 " 56° o.p., 19/9; 60° o.p., 20/3 " "

FOR CASH ON DELIVERY ONLY. COUNTRY ORDERS MUST CONTAIN A REMITTANCE.

HENRY BRETT & CO.,

OLD FURNIVAL'S DISTILLERY, 26 & 27 HIGH HOLBORN, LONDON, W.C.

SPIRITUS RECTIFICATUS, P.B.

CHEMICALLY PURE SPIRITS OF WINE.

A highly-rectified English Grain Spirit, free from Fusel Oil.

60 over proof, 20s. 10d. per gallon; 56 over proof, 20s. 4d. per gallon; less 6d. per gallon for five gallons. Lower quotations for quantities. Cash on delivery or with order. Packages charged, and money repaid when empties returned, 2s. 6d. for two gallons; 5s. for five gallons. Country Orders must contain remittance or reference to London House.

JAMES BURROUGH, CALE STREET DISTILLERY, LONDON, S.W.
 ALSO DUTY FREE FOR EXPORTATION.

PURE SPIRITS OF WINE

FOR
 TINCTURES, ESSENCES, PERFUMES, &c.,
 OXFORD ROAD DISTILLERY, MANCHESTER.

MESSRS. SMITH & GIBB

Reg to call the attention of CHEMISTS and DRUGGISTS to the under-mentioned Prices of Pure Spirits of Wine:—

Strength per cent.	Specific Gravity.	Price per gallon.
63 over proof ..	0.8238	21/0
60 " ..	0.8298	20/8
55 " ..	0.8366	20/2
50 " ..	0.8482	19/6

Special quotations for large quantities.
 Terms—Cash on Delivery. Jars to be returned or paid for.

Orders from the country must be accompanied with a remittance, including the price of the Jars, which are charged as follows:—2 galls. 3/-; 3 galls. 3/6; 4 galls. 4/-; 6 galls. 6/-. When the empties are returned the money will be repaid. Can be had free for exportation.

PURE GOLD COLOURED

SHERRY FOR MEDICATION,

FREE FROM ACIDITY.

£12 10s. per Quarter-Cask of 27 Gallons.
 £6 5s. per Octave ... 13/ "

Brilliant and fit for immediate use. Casks to be returned or paid for.
 2½ per cent. discount for Cash.

A SAMPLE UPON APPLICATION TO

ROBERT GRAY, Wine Merchant,
 6 MOORGATE ST., LONDON, E.C.



JOSEPH IZOD,
 IMPORTER & WHOLESALE DEALER IN MEERSCHAUM & BRIAR PIPES,
 And every Requisite for Tobacconists,
 FARRINGDON ROAD, LONDON, E.C.



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WHITAKER & GROSSMITH'S PURE WHITE GLYCERINE SOAP.

Richly perfumed, and guaranteed to contain the necessary quantity of GLYCERINE for effectually imparting to the SKIN the softening and healing properties for which GLYCERINE is so justly famed.

NECESSARY CAUTION.—This unrivalled Toilet Soap was originated by us in 1863, and solely by its superior merit and moderate price has now attained the patronage of a wide circle of all classes of society. As many (external) imitations of our saleable article are often falsely offered as the real Soap, all vendors should please note that the Box and Wrappers now bear our "Trade Mark," and not be misled by inferior counterfeits, thereby causing disappointment to purchasers, and consequent injury to the sale of the original and genuine Soap.

1s. 6d. Boxes of Three Tablets, 12s. per Dozen Boxes.

Trade Price Lists sent and Orders executed through Wholesale Houses, or direct from the Manufacturers,

WHITAKER & GROSSMITH, Wholesale Perfumers, 120 Fore Street, City, London.

CAUTION TO THE TRADE.

A. S. LLOYD'S EUXESIS.

In addition to A. S. LLOYD'S original signature on Label, each tube of GENUINE Euxesis bears the following distinctive marks:—

Firstly.—My full name, "Aimée Lloyd," on cap of Tube.

Secondly.—The words, "Prepared by his Widow," in raised letters on top of Tube.

Thirdly.—My Address, No. 3 Spur Street, Leicester Square, London, on both English and French Labels.

(Signed), AIMÉE LLOYD,

(Widow of A. S. Lloyd),

Sole Proprietor and Manufacturer of the GENUINE Lloyd's Euxesis.

LUXURIANT HAIR.

PETROLINE

[REGISTERED]

HAIR CREAM

THE MOST POWERFUL OF HAIR PRODUCERS.

It causes the Hair to grow on Bald Spots, by nourishing and vitalising the capillaries, and is the only preparation which specially acts on the Roots of the Hair. It preserves and prevents the Hair from falling off, and removes dandruff; allays all irritating sensations, and imparts a richness, lustre, and softness unapproached by any other preparation. As a Hair Dresser, Preserver, and Producer it is unequalled. Retail price, 3s. 6d. per Bottle (cased). To the Trade, 27s. per dozen, less 10 per cent. Handsome Show Cards and Bills with each order.

DR. DELORME'S

AMA ROSA

[REGISTERED]

TOOTH PASTE

IN COLLAPSIBLE TUBES AND GLASS TOP BOXES.

The quantity contained in these Tubes is greater than a Pot of corresponding price. Retail, 6d. and 1s. each. Special quotation, 3s. 3d. and 6s. per dozen net. Cards and Bills with every package.

Sole Proprietors—NERWICH & CO., Wynne Rd., Brixton, London, S.W.

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SPRING & AUTUMN HEALTH SALINE.

Neatly put up in 6d. and 1s. Packets. Very saleable.

BEDDARD'S

BELGRAVIA TOOTH PASTE.

A MOST EXCELLENT DENTIFRICE.

Handsomely put up in large Jars. ONE SHILLING EACH.

LIBERAL TERMS TO TRADE, SPECIAL TO SHIPPERS.

PREPARED ONLY BY

JOHN BEDDARD,

46 CHURTON ST., BELGRAVE ROAD, LONDON, S.W.

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P. A. STEVENS, Chemist and Dentist, 70 Hyde Road, Hoxton, London, N., Sole Proprietor and Maker of the SILVERY WHITE GUTTA PERCHA ENAMEL for Stopping Decayed Teeth.

P. A. S. is prepared to supply the above to Wholesale Houses and Chemists, in any quantity, with their name stamped upon each stick, cut any length.

To be obtained of all Wholesale Houses. Price List and Samples sent post free.

SPECIAL NOTICE.—The words SILVERY WHITE GUTTA PERCHA ENAMEL are registered as a Trade Mark, and will be protected.

SPONGE.

M. PETERSON & CO., Importers,

66 SOUTH JOHN STREET,

LIVERPOOL.

For Home, Foreign, and Colonial Markets.
Wholesale only.

ESTABLISHED 100 YEARS.

TOILET AND FANCY SOAPS
OF EVERY DESCRIPTION.

CHOICE PERFUMES IN BULK.

No. 1 extra 12/ per pint of 20 ozs.
No. 1 9/6 " "
No. 2 8/ " "
Put up also in great variety of size, style, and price.

SOAPS.

Zinc, Sulphur, Petroleum, 6d. & 1/
Petrolin, Juniper Tar, & 4/ & 8/
other Medicated Soaps ... doz.
Glycerine Jelly, 6d. and 1/
stoppered bots., 4/ & 8/
per doz.

T. F. BRISTOW & CO.
TOILET SOAPS & PERFUMERY.
MANUFACTURERS.

PRICE LISTS
ON APPLICATION.

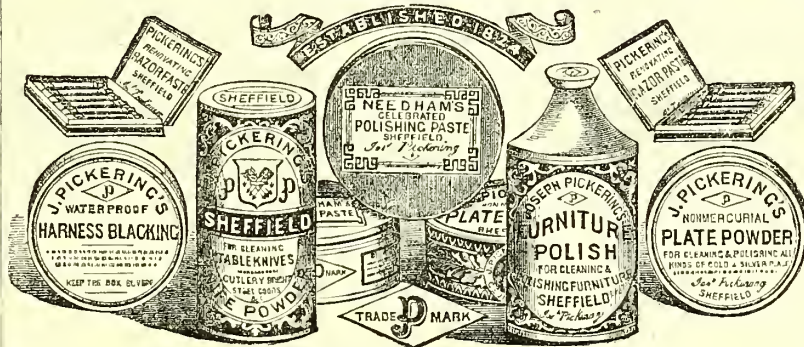
BRISTOW'S SPECIALITIES.

Carbolic Acid Soap... In boxes 3 tblts.
Glycerine and Carbolic Acid ... 1/ & 1/6
Glycerine and Oatmeal Soap ... 8/ & 12/ per dz.
Baby Soap for Nursery use (In boxes, 4 & 12 tblts. (Illustrated Label) 9/ and 27/ per doz.
Family Soap, in boxes, 4 & 12 tblts (1/ & 2/9) 8/ & 24/ "
Cold Cream Soap, in boxes, 3 tbs. in bx (1/6 & 2/6) 12/ & 21/ "
Stockholm Tar Soap } in boxes, 3 tablets in box (1/6) ... 12/ "
Pure Coal Tar Soap ... } in 4d., 6d. & 8d. tblts, in 3 doz. boxes, 2/6, 3/6, 4/6 doz.
Transparent Soap, in boxes 3 tablets (1/ and 1/6) 8/ & 12/ "
Superior Lavender Soap, in boxes, 3 tablets (1/ and 1/6) 8/ & 12/ "
White Glycerine Soap, in boxes, 3 tablets (1/6) 12/ "
Dog Soap (Illust Wrapper), Carpet & Cloth Soap, Pumice Stone Soap (6d. & 1/). 3/6 & 7/ doz.

5 BISHOPSGATE AVENUE, LONDON.

DIPLOMA OF MERIT, VIENNA EXHIBITION, 1873.
Joseph Pickering & Sons (J. Needham), Albyn Works, Sheffield,
LATE
MANUFACTURERS OF

Needham's
Polishing Paste,
For Cleaning Brass,
Copper, and Britannia
Metal Goods, &c.
Pickerings' Razor
Paste,
For Sharpening Razors, &c.
Waterproof
Harness Blacking,
For Black Leather
Harness.



Sheffield Knife
Powder,
For Table Knives, Fire
Irons, &c.
Plate Powder,
For Electro-plated
Articles, &c.
Furniture Polish,
For cleaning French
Polished Furniture, &c
Brunswick
Black,
For all kinds of
Iron Work.

SOLD BY ALL CHEMISTS, GROCERS, IRONMONGERS, ETC.

THE BEST SHILLING MARKING INK.

“PETER'S ARGENTUM.”

TRADE NOTICE.

R. W. Watson, Chemist, Angel Street, Sheffield, begs to announce that he has purchased the above property. The Wholesale Houses and Shippers are requested to forward all orders direct to the Sole Proprietor. Usual Terms and Discounts. Counter Bills with Name and Address as Agent on Application.

BESSEMER'S GOLD PAINTS.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

PRICES, IN PACKETS, 1s. 6d., 2s. 6d., & 4s.

Full Directions for use with each Bottle.

NOTICE.—The Gold Paint is so easy of application, economical in use, and excellent in appearance, that it is extensively employed in the Ornamental Gilding of Decorative Mouldings, Carvings, and all Fancy Ornaments made either of Metal, Wood, Porcelain, or Plaster, and the effects that can be produced, even by unskilled hands, make it useful to all engaged in fancy or home embellishment.

A Copper and Silver Paint, at the same prices, and yielding equally good results, can be obtained.

Sold by all Wholesale and Retail Artists' Colourmen and Druggists' Sundriesmen.

SOLE MANUFACTURER OF THESE SPECIALITIES,

RICHARD J. ALLEN,

Mansfield Place, Kentish Town, N.W., London.

FOR CLEANING PLATE.

BRADLEY & BOURDAS'S
ALBATUM or WHITE ROUGE,
For Cleaning Gold, Silver, and Plated Goods.

Since its introduction as a substitute for the ordinary Rouge, a quarter of a century ago, the sale has amazingly increased both at home and abroad. A trial is only needed to prove its superiority over other plate powders in use. Sold in Boxes at 1s. and 2s.; Tins, 6s. 7 Pont Street, Belgrave Square, and 48 Belgrave Road, London, S.W.



For more than a Quarter of a Century this Powder has sustained an unrivalled reputation throughout the United Kingdom and the Colonies as the BEST and SAFEST article for Cleaning Plate.

Sold in Boxes, 1s., 2s. 6d., and 4s. 6d. each. Also
GODDARD'S FURNITURE CREAM. Sold in Bottles, 6d. and 1s. each.
Sold by leading Wholesale Houses and Factors, and by the Inventor,
J. GODDARD, STATION STREET, LEICESTER.



MEDICATED PAPERS



TRADE MARK.

TRADE MARK.

We have just landed two shipments of "Mortimer's Bromo" and "Gayetty's" Paper, and beg to subjoin prices.

171A & 171B ALDERSGATE STREET, E.C.

LYNCH & CO.

MORTIMER'S BROMO PAPER, for Water Closet.

In Cases containing 50 Packets of 1,000 Sheets 61s. per Case.

" " 50 " 500 " 42s. "

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NET CASH.

SEABURY & JOHNSON'S INDIARUBBER POROUS PLASTERS.

Seabury & Johnson's Medicated Indiarubber Porous Plasters:—

Size, 7½ × 5 in. 2 doz. in box.	PER DOZ. NET.			PER DOZ. NET.			
	£	s.	d.	£	s.	d.	
Aconite	0	4	9	Iron	1	7	6
Aconite and Belladonna	0	5	10	Mercurial	1	18	0
Arnica	0	3	8	Opium, B.P.	2	4	0
Belladonna	0	4	3	Witch Hazel	1	18	0
Benson's Capcine	0	8	0	Surgeons' Rubber Adhesive—			
Capsicum	0	4	9	Cotton, plain or porous, 7 in. wide,			
Galbanum, B.P.	0	4	9	1 yd. lengths	0	17	0
Iron	0	3	8	Twilled linen, plain, 6 in. wide, 1 yd.			
Opium	0	6	4	lengths	1	19	0
Pitch Burgundy, B.P.	0	3	8	Surgeons' Isinglass—			
Poor Man's	0	3	8	Cotton, 11½ in. wide, 1 yd. lengths ...	0	15	0
Strengthening	0	3	0	" " 5 yd. lengths	3	0	0
Warming... ..	0	4	9	Bunion Plasters, 6 in box	0	6	0
Witch Hazel	0	6	4	Corn Plasters, 12 in box	0	6	0
Porous, 1 yd. lengths, 7 in. wide.				Mustard Plasters, 3 in pkt.	6d.	0	3
Belladonna	1	10	0	" " 6 in pkt.	1/-	0	6
Capsicum	1	10	6	" " 10 in box	1/6	0	10
Porous, 5 yd. lengths, 5 in. wide.				" " 6 in. wide, ½ yd. lengths ...	0	6	0
Belladonna	5	2	0	" " 6 " 1 yd. lengths	0	10	0
Capsicum	5	14	0	Court Plasters, silk, 6 in. wide, 1 yd.			
Strengthening	3	15	0	lengths. Black, Flesh-colour and	1	4	0
Porous, 1 yd. lengths, 5 in. wide.				White			
Strengthening	0	17	0	In Fancy Wood Cases, tricoloured, 1/-	0	7	6
NON-PORUSED, 1 yd. lengths, 7 in. wide.				Arnica, Gelatine Cases	1/-	0	7
Aconite	1	7	6	Balsamic, Cased	2d.	0	1
Arnica	1	7	6	Centennial Cased, tricoloured, 6d.	...	0	3
Belladonna, B.P.	1	7	6	Elegant Envelopes	6d.	0	3
Blister, B.P.	1	7	6	Golden Eagle, Wrappers, Black, Flesh-			
Capsicum	1	7	6	colour, and White, 3d.	0	2	0
				One Penny, Envelopes, Black, Flesh-			
				colour, and White	0	0	4

Discount, 15 per cent. Monthly; 10 per cent. Half-yearly.

LYNCH & CO.,

171a and 171b ALDERSGATE ST., LONDON, E.C.

JAHNCKE'S WAX-VESTAS

OF THE FINEST QUALITY,

IN NEW PATENT METAL BOXES,

UNIVERSALLY PATENTED.

The Greatest Invention in Box-Making of the Age.
Perfectly Round Corners in Square Boxes.

RETAILING AT ONE PENNY.

Orders through Wholesale Houses.

ERNST JAHNCKE,

Patentee,

33 ST. PAUL'S ROAD, CANONBURY, N.



W. H. BAILEY & SON, 16 OXFORD STREET, LONDON, MANUFACTURERS.



FIG. 1.

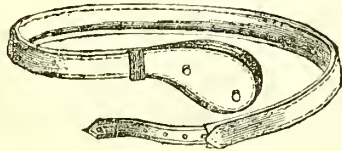


FIG. 4.

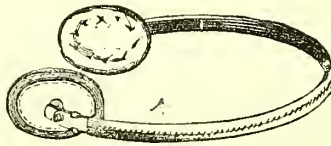
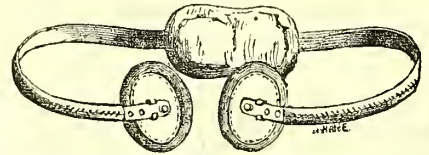


FIG. 5.



TRUSSES.

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin	per doz.	£1 1 0
Circular Trusses, double, basil and chamois or basil and moleskin	per doz.	1 14 0
" " " with extending backs	" "	2 14 0
Salmon & Ody's Expired Patent, single, Fig. 4	" "	1 10 0
" " " double, Fig. 5	" "	3 0 0
Moc-Main Lever, single	each	0 8 0
" " " double	" "	0 13 6
Coles's Expired Patent, single	" "	0 5 6
" " " double	" "	0 10 6
Scrotal Trusses, basil and chamois or moleskin, single	" "	0 4 0
" " " " double	" "	0 7 0

Salmon & Ody's Expired Patent, covered in roan, best polished springs, stitched with silk, double	each	£0 8 0
Moc-Main Lever Trusses, covered in calf or morocco, single	" "	0 12 6
" " " " double	" "	0 17 0
Scrotal Trusses, covered in morocco or calf and doe, single	" "	0 10 0
" " " " double	" "	0 15 0

UMBILICAL TRUSSES.

UMBILICAL TRUSSES, plain, in basil	each	0 7 6
" " " in red roan	" "	0 10 6
" " " on Salmon & Ody's principle, in basil	" "	0 9 6
" " " " in cream roan	" "	0 12 6
Trusses for Prolapsus Ani et Uteri—Prolapsus Ani Truss	" "	1 1 0
" " " " Uteri	" "	0 18 0

SUPERIOR TRUSSES.

Circular Trusses, narrow springs, covered in basil and lined with red skiver, single	per doz.	1 7 0
Ditto ditto ditto ditto double	" "	2 2 0
Circular Trusses, covered in red roan and chamois, single	" "	1 16 0
" " " " double	" "	2 8 0
" " " " narrow springs, covered in morocco and kid, best quality, beautifully finished, single	" "	0 5 0
Ditto ditto ditto ditto double	" "	0 7 6
Salmon & Ody's Expired Patent, covered in roan, best polished springs, stitched with silk, single	each	0 4 0

W. H. BAILEY & SON'S SPECIALITIES.

Improved Imperceptible Trusses, covered in morocco and silk, very strong and very light, entire weight under 3 ozs., single, each	0 7 6
Ditto ditto ditto ditto double	0 15 0
Improved Imperceptible Circular Trusses, in morocco, with sliding beads, single	0 7 6
Ditto ditto ditto ditto double	0 15 0
Improved Umbilical Truss, covered in morocco and silk. The pad is attached to the springs by hinges, which compensate for the movements of the body. It is the only Umbilical Truss that can be worn with perfect ease	1 5 0

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents, Messrs. Barclay & Sons, 95 Farringdon Street.



TROMMER'S EXTRACT OF MALT

In the following Combinations, viz:—

- TROMMER'S EXTRACT OF MALT with Hops.
- TROMMER'S EXTRACT OF MALT with Cod-Liver Oil.
- TROMMER'S EXTRACT OF MALT with Hypophosphites.
- TROMMER'S EXTRACT OF MALT with Pyrophosphate of Iron.

PREPARED BY—

TROMMER EXTRACT OF MALT COMPANY, FREMONT, OHIO, U.S.

From "THE LANCET," January 25, 1879.

"We find that this extract converts starch into glucose and dextrine rapidly and in large quantity. In flavour it is excellent, and we have therefore no hesitation in praising it highly."

SOLE WHOLESALE AGENTS—

LYNCH & Co., 171a & 171b Aldersgate St., LONDON, E.C.

N.B.—FULL DESCRIPTIVE PAMPHLET FORWARDED POST FREE ON RECEIPT OF APPLICATION.

A Profitable Addition to a Druggist's Business.

THE NEW DISCOVERY.

TRADE



MARK.

NUBIAN WATERPROOF BLACKING

Is an Oily Liquid Preparation, entirely free from Acid.

Will NOT INJURE the Leather; gives a PERMANENT POLISH of great brilliancy (without brushing), which does not rub off or soil the clothing; is Waterproof; and through RAIN, SNOW, and MUD will last a Week.

Mud when dry may be brushed off with a stiff brush, or may be washed off, and the polish will remain the same.

NUBIAN BLACKING

Is suitable for LADIES' and GENTLEMEN'S BOOTS and SHOES of every description; also BELTS, PURSES, and TRAVELLING BAGS, HARNESS, MILITARY ACCOUTREMENTS, &c.

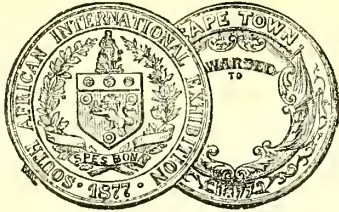
Easily applied with Sponge attached to the Cork, and should NOT be used more than once or twice a week.

THE DRUG TRADE SUPPLIED BY

S. M. BURROUGHS & CO.,

No. 8 Snow Hill, London, E.C.

The Leather Trade supplied by The Blake & Goodyear Boot and Shoe Machinery Co., No. 1 Worship St., Finsbury, London.

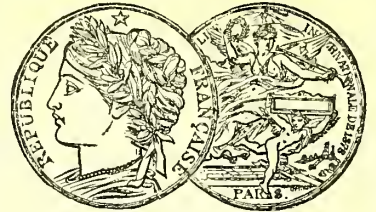


PRIZE MEDALS

AWARDED TO THE

"A 1" COD LIVER OIL.

The A 1 Oil, unlike other samples, contains only a small amount of indigestible matter (solid fats), and a larger proportion of the special constituents of Cod Liver Oil, as is shown by the Table below, which gives the chemical composition, as demonstrated by analysis, of the kinds most frequently sold:—



	Oleic Acid.	Cetylic and Stearic Acids.	Volatle Acids, Glycerine, Iodine, Bromine, Phosphorus, &c.
Pale Oil	83.4	12.6	4.0
Newfoundland Oil	83.6	13.2	3.2
A 1 Oil	86.3	9.1	4.6
Pale Brown Oil	85.0	11.3	3.7
Ditto (reddish)	84.5	11.7	3.8

9s. per Gallon in Winchester Quarts; 8s. 9d. per Gallon by the 25-Gallon Cask.

S. B. & B. supply samples and Circulars Free of Charge to the Trade for Medical Distribution, also Retail Circulars with name and Address of Customers.

SOUTHALL BROS. & BARCLAY, Manufacturing Chemists, Birmingham.

DRAPER'S INK (DICHROIC)

THE NEW BLACK INK, different from anything else ever produced.

Writing becomes a pleasure when this Ink is used. It has been adopted by the principal Banks, Public Offices, and Railway Companies throughout Ireland.

It writes almost instantly full black.
Does not corrode Steel Pens.
Dries rapidly on the Paper.
Is cleanly to use, and not liable to blot.

Flows easily from the Pen.
Blotting-paper may be applied at the moment of writing.

In Jars, 6d., 1s., and 2s. each.

Can be obtained, in London, through Messrs. BARCLAY and SONS, Farringdon Street; W. EDWARDS & SON, 157 Queen Victoria Street, London, E.C.; F. NEWBERRY and SON, Newgate Street; S. MAW, SON, and THOMPSON, Aldersgate Street; JONES and Co., 98 Southwark Street; Wm. MATHER, London and Manchester; and AYRTON and SAUNDERS, Duke Street, Liverpool.

BEWLEY & DRAPER, Limited, DUBLIN.

See "CHEMIST AND DRUGGIST," December 15th, 1874.

SAVORY & MOORE'S SPECIALITIES.

PHOSPHORISED COD LIVER OIL.

The advantage of this preparation over the imitations of it consists in the ability to administer a SUFFICIENT dose of Phosphorus without the admixture of a LARGE quantity of Cod Liver Oil.

Bottles, Retail, 1/6, 2/6, 4/6, 8/- . Wholesale, 12/-, 20/-, 36/-, 70/- doz.

PHOSPHORUS PILLS, 1-32nd of a grain, or any other strength required, non resinous and perfectly soluble. Bottles, Retail, 4/6, 6/6. Wholesale, 36/-, 54/- doz.

THE FINEST COD LIVER OIL, prepared from the fresh Livers, and possessing the constituents of the Oil in their purest and most palatable state. See Pereira's "Elements of Materia Medica."

IN CAPSULED BOTTLES.

Retail, 2/6, 4/6, 8/- . Wholesale, 18/-, 30/-, 60/- doz.

PANCREATIC EMULSION, or Medicinal Food, for use in Consumption, Wasting Diseases, &c.

Retail, Bottles, 2/6, 4/6, 8/- . Wholesale, 21/-, 40/-, 70/- doz.

PANCREATISED COD LIVER OIL. In combining the Pancreatic Juice with the Oil, the digestion of the latter is easily and rapidly effected.

Retail, Bottles, 2/-, 3/6, 6/-, 11/- . Wholesale, 18/-, 30/-, 54/-, 96/- doz.

PANCREATINE (Powder or Granules) represents the active principle of the Pancreatic Juice, by which fats and oils are digested and assimilated.

Retail, Bottles, 2/-, 3/6, 6/6, 12/6, 21/- . Wholesale, 18/-, 30/-, 60/-, 108/-, 180/- doz.

PANCREATINE WINE. Retail, Bottles, 3/-, 5/-, 10/- . Wholesale, 24/-, 40/-, 72/- doz.

PEPSINE PORCI. Retail, Bottles, 2/-, 3/6, 6/6, 12/6, 21/- . Wholesale, 18/-, 30/-, 60/-, 108/-, 180/-, doz. In bulk, 6/- per oz

PEPSINE WINE. Retail, 3/-, 5/-, 10/- . Wholesale, 24/-, 40/-, 72/- doz. In bulk, 5/- per lb.

PEPTODYN, A combination of the whole of the digestive secretions, forming an invaluable remedy in the treatment of all forms of Dyspepsia, and all diseases arising from imperfect nutrition.

Retail, Bottles, 2/9, 4/6, 11/- . Wholesale, 24/-, 40/-, 96/- doz.

SAVORY & MOORE, 143 New Bond Street, LONDON,
And all Chemists throughout the World.



COLONIAL BUILDINGS, 44A CANNON STREET, LONDON, E.O.

Published on the 15th of each Month.

TWENTY-FIRST YEAR OF PUBLICATION.

Subscription. 10s. per year, payable in advance; commencing from any date.

Post free to every country in the world. Single Copies, 1s. each.

Post Office Orders to be made payable to EDWARD HALSE, at the General Post Office.

An index to the advertisements, and the terms for insertion, will be found on page 33.

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Unsuccessful prosecutions in respect to violet powder have occurred at the Lambeth Police Court and at Tiverton. In both cases, however, costs were refused.

A number of chemists and others have been fined in several towns of Lincolnshire for selling poisons (generally vermin-killer) without observing the regulations required by the Pharmacy Act.

Messrs. Betty and Hanbury retire from the Pharmaceutical Council. Messrs. Butt, Fitch, Horncastle, Owen, Richardson, Spink, Squire, and Symes are candidates, as well as 12 of the former representatives, for the 14 vacant seats. Twenty-four gentlemen who were proposed are unwilling to serve.

The Pharmaceutical Society of Ireland has resolved to take steps to prosecute persons infringing the Pharmacy Act.

The subscriptions for the Pharmaceutical Benevolent Fund had seriously fallen off in the first three months of the current year.

Mr. Vizer has given notice of his intention to move, at the annual meeting of the Pharmaceutical Society, a resolution that the admission of females as members is neither necessary nor desirable.

Dr. Richardson addressed the Medical Defence Association, of which he is president, on “Phases of Modern Quackery and Medical Defence.” He submits to the necessity of counter practice with as good a grace as could be expected. He recommends that the Apothecaries’ Society and the Pharmaceutical Society should conjointly arrange an examination which should qualify men for counter practice as distinct from outdoor general practice.

The Medical Council concur in the opinion expressed by the Pharmaceutical Council that the retention of the Apothecaries’ pound is not desirable. The Council recommends that the apothecaries’ weights retained should be scheduled and that standards of them should be kept. The Council does not see the necessity for an official verification of the minor subdivisions of chemists’ glass measures.

The Army and Navy Co-operative Society (Limited) report a business amounting to 822,118*l.* for the half-year ending January 31, which showed an increase of 170,000*l.* over the previous corresponding half-year. The net profit was 12,225*l.*, or 2,400*l.* less than when the smaller business was done, this being due to lower charges. A dividend at the rate of 5 per cent. per annum is declared.

The proposed new Canadian Tariff will, if passed, remove the present 17½ per cent. duty on drugs, though in many cases the duty on manufactured articles is to be increased. Liquid patent medicines are to be charged 50 per cent., and all others 25 per cent.

Mr. Warren De La Rue has been elected President of the Chemical Society, in succession to Dr. Gladstone.

A fairly complete analysis of the adulteration reports for 1878, which has been published by Mr. Wigner, shows that 341 specimens of “drugs” were examined during the year, and that 122 of these were found to be adulterated. A large proportion of these “drugs” were samples of violet powder, and of the rest many had been obtained from grocers and general shopkeepers.

An Adulteration Act has been prepared for Germany, and is now before the German Parliament. It comprehends toys, paperhangings, cooking utensils, and petroleum, as well as foods and drinks, but does not include drugs, as these are already provided for.



Several thousand copies of our next number, May 15, will be circulated among the pharmacutists of the United States. The opportunity is a valuable one for firms wishing to push business in that part of the world.

Some interesting legal events have occurred during the month. The appeal case of the Pharmaceutical Society against a limited company, which raises the important issue whether the latter is amenable to the Pharmacy Act, has been heard by the Court of Queen’s Bench. Judgment has not yet been given. A long Chancery case, involving the validity of Kolbe’s patent, has been heard. In this case also judgment is reserved.

The counsel for the limited company against whom the action for infringement of the Pharmacy Act was brought abandoned as untenable the theory on which the County Court Judge based his judgment, that an unregistered person might sell poisons if the actual seller were qualified; he rested his defence on the plea that companies, as such, were not contemplated by the Act.

The Court of Queen’s Bench has ruled that the objection raised against the Sale of Food and Drugs Act, that the purchaser who had bought an article merely for analysis was not prejudiced if such article were adulterated, is not a valid one.

Pharmacalia.

THE CHEMICAL SOCIETY.

ON Monday, March 31, the anniversary meeting of the Chemical Society was held at Burlington House. *Pax urbi et orbi* would be a mild formula to use with which to describe the tranquillity which prevailed. Last year, a crowded room and an eager audience bore witness to a coming struggle: this, the fellows strayed in with evident unconcern, and the attendance was even scanty. The President, Dr. Gladstone, occupied the chair. He congratulated the Society on their state of quiet prosperity; the bye-laws had undergone some alterations that had been suggested, and the publication of the Journal had been improved. It had made its appearance with greater regularity, and, indeed, had seldom been issued later than the first week in each month. This had been accomplished by diligent exhortations to the printers, and by the valuable aid of the sub-editor (Mr. C. E. Groves). Sixty-one fellows had been elected; eighteen had been removed by death or withdrawal, and the present number stood at 981. There were thirty-four foreign members, and one gentleman, it appeared, had courageously become an associate. Sixty-eight papers had been read before the Society. The number of these papers varied somewhat—for about ten years they averaged thirty-six; in 1872 they fell down to twenty-two, but of late the number had considerably increased. The papers, to the great advantage of the listeners and the subject, had been more largely illustrated by experiment than heretofore—a practice commended by the President. Professor Wurtz had delivered the Faraday lecture at the Royal Institution, “*Sur la constitution de la matière à l'état gazeux.*” Those who were present would not readily forget either the perfect lucidity of the discourse or the rare manipulative skill with which the most difficult experiments were performed, neither would any forget the unassuming manner and frank geniality of the Professor as their guest. The rules of the library had undergone revision; no serial publication of which there was not a duplicate copy was allowed to leave the room, consequently duplicates of back numbers of *Liebig's Annalen* and of the *Annales de Chimie et de Physique* had been ordered, and, together with some other important serials, were now being taken in in duplicate. Many new books had been purchased, and the Council would be glad of suggestions relative to this point. The Treasurer, Dr. Russell, alluded in his financial report to the large balance at the bankers' in favour of the Society. That balance remained uninvested, partly to recoup the bankers for a previous overdrawal, a small interest being granted, and partly because it was a question whether a considerable sum should not be expended in extension of the library. Fresh arrangements had been made for the circulation of books to Fellows residing in the country. A revised series of instructions had been issued to the abstractors, and it was hoped that a greater uniformity in the construction of the abstracts would result. Mr. Perkin and Dr. Russell had conjointly done much to improve the ventilation of the room in which they met. Subsequently Dr. Russell explained the methods they had employed. Their success was beyond all doubt, for at no period of the evening was there the slightest feeling of the oppression usually inseparable from a well-lighted apartment. The balloting list for the election of officers had already announced that it was proposed to elect Dr. Warren De la Rue as the President for the ensuing year. Dr. Gladstone explained the intention of this proposal. It was thought by the Council that it would be a graceful thing to recall from

time to time, for one year only, some well-known senior Fellow to the presidential chair, and as the Faraday lecture took place once in three years, whilst the President is elected for two years, the honour of presiding on that special occasion would occur in the second year of the next President's tenure of office. He (Dr. Gladstone) was not sure but that the same arrangement would be adopted by other learned societies.

The President next alluded to the Research Fund, details of which were read at a later period by Dr. Armstrong. It was suggested that a portion of the money might be devoted to the accurate determination of chemical constants. Such work was not in itself remunerative, nor did it bring with it public reputation, but, nevertheless, it was most important.

A biographical account was read of five Fellows who had died since the last anniversary, and a longer one commemorated the career of the sixth, M. Malaguti. In conclusion, Dr. Gladstone urged the Fellows not to rest satisfied with present attainments. The Society existed for the general advancement of chemical science, and this meant both the encouragement of research and the diffusion of the knowledge of new discoveries. A large amount of original work might surely be expected, seeing that the members now exceeded one thousand, and that the laboratories of our land were growing in importance. The scientific culture of the workers should be increased, and this was effected when the isolation of the laboratory was exchanged for meeting in common, and reading in the pages of the Journal the researches of many minds. One branch of the science should not be cultivated to the exclusion of those borderlands in which the work of the chemist blended with that of the physicist, the geologist, and the physiologist. The formation of new compounds was valuable, but they must be grouped together as a part of systematic knowledge. The construction of expressive formulæ was useful, but these must be modified as the exigencies of further knowledge might require. We wanted to know more of the chemical force itself, and the way in which it acts. When the address was finished there was a little hesitation as to who should propose the vote of thanks. Dr. Odling, who had retired to the extreme upper part of the room, and Mr. Neison, who sat much lower down, rose together. Finally the former moved, and his opponent of last year seconded, both the thanks of the meeting and the adoption of the report. Mr. Neison said he had one grievance yet, and he most good humouredly suggested that the general index of the Journal on which so much had been expended, and for which so little had been received, should be distributed gratis to the Fellows. Mr. Watts, the editor, came in for his due share of honour, and after sundry interchanges of compliment the meeting ended.

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PURE COCOA.

Dr. Muter has contributed a short notice on Prepared Cocoa. The objection to the genuine, that is, the unmixed, article is its extreme richness, arising from the excessive proportion of fat it contains when in a state of purity. Cocoa depends on theobromine and gluten for its stimulating and nutritious properties, and the Doctor argues that the addition of starch and sugar, in order to dilute the fat, tends directly to reduce the value of cocoa as a dietetic article. A far better method is to have the fat partially removed, and the remainder of the bean served to the public in an unmixed state. In this way the other constituents are not only kept intact, but positively concentrated in a high degree. The proportion of the two important constituents as they exist in genuine and mixed cocoas is given as follows:—

	No. 1. Genuine.	No. 2. Fat removed.
Theobromine	0.90 ..	1.20 ..
Gluten	12.21 ..	18.30 ..
	No. 3. Mixture.	No. 4. Mixture.
Theobromine .. ..	.43 ..	.50 ..
Gluten	6.45 ..	7.36 ..

The mixed samples consisted in the first instance of cocoa with the addition of starch and much sugar; and in the second, of cocoa with the addition of sugar and much starch. In both cases of admixture the theobromine and gluten were materially diminished.

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THE SOCIETY OF ARTS.

Mr. H. B. Wheatley, the Clerk of the Royal Society, has been elected Assistant-Secretary of the Society of Arts. The editorship of the Journal will also be placed under his care. Mr. Wheatley has become favourably known by his exertions in connection with the Index Society. Dr. Augustus Jessopp writes in the *Athenaeum*, "that he has his own little Index Society," and that by its aid he has on his shelves at least fifty volumes with perfect *personal* indexes attached.

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ZULU LAWS AT CIRENCESTER.

The Royal Agricultural College at Cirencester has passed a bovine resolution to the effect that Professor Church, who for sixteen years has been the admirable exponent of chemistry within its walls, shall not be allowed to be non-resident now that he contemplates the state of marriage. Had the Professor been a novice in his work, or a man of small distinction, such a decision might have been left unchallenged or, at most, considered hard. In the case of one who has contributed so long to the reputation of the establishment, and is so distinguished in wider circles, the announcement must be viewed as an injustice, besides being impolitic. Apparently the affair has ended by the resignation of a tried and competent individual, whose loss the directors of the establishment will be the first to discover. Two other teachers have shown their estimate of the proceeding, by likewise relinquishing their posts. Professor Lloyd Tanner (Mathematics) and Professor Fream (Natural History) have both given up their respective chairs. Their immediate successors will be placed in an unenviable position, and it is to be hoped that the governing body will re-consider the matter. The resolution ran thus:—"The Committee of Management are of opinion that the discipline of the Agricultural College cannot be satisfactorily maintained except by the residence of professors within the college walls in conformity with the original bye-law, No. 47. Being fully sensible of the services rendered by Professor Church during his sixteen years' residence in the college, they the more regret that they cannot accede to his recent proposal of non-residence, a compliance with it involving such alterations as would unduly disturb the present organisation of the college staff."

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BARFF'S IRON.

Professor Barff, after two years' further experiment, has once more brought his researches upon the prevention of the corrosion of iron into public notice. Inventors often display an excusable enthusiasm in advocating their particular discoveries, but the very quiet and unostentatious manner in which the professor acknowledged former criticism, and detailed the mode in which the objections had been met practically, will certainly be in favour of the reception of the process. This consists, it will be remembered, in oxidising the surface of iron by means of superheated

steam. The black oxide of iron thus formed is unaltered by any of the ordinary influences which produce red rust, and which therefore cause the destruction of iron. This same black oxide has been proved to resist not only atmospheric agency, but even the action of seawater; the difficulty to be overcome was to render its adherence to the iron complete and perfect. It was also essential that the process should be capable of application not only to small articles, such as culinary utensils, but to larger pieces of iron used for commercial and art purposes. To solve these problems and to advance beyond theory, the Professor had a chamber built of fire-brick, in which articles of six feet long were treated. The experiments were successful, and the bars of iron thus manipulated were tested for breaking and tensile strain, the result being that the strength was not affected. Objection was taken to the fact that in the earlier experiments the coating of black oxide sealed off wrought-iron articles. This was found to have resulted from an insufficient and irregular supply of steam to the muffle during the operation, whereby air was not excluded, but was often forced in, from the want of a sufficient pressure of water on the superheating pipes. Air must be completely excluded from the oxidising chamber, because if the oxidation of the iron depend during any part of the process on the oxygen of the air, such oxide will not adhere properly to the iron. For a long time trouble was caused by the appearance of small spots of rust, which originated from minute openings in the coating of black oxide. This rust, being carried out by the water in which the articles were, got diffused about. The cause was traced to the known expansion of iron by heat, and its subsequent contraction by cold. It was clear that no contraction must be allowed to take place in the iron after the oxidising action had commenced; consequently the chamber was always kept at a much lower temperature than the superheater. In fact, it was never allowed to rise above 500° or 600° F. before the superheated steam was admitted: the steam was never passed in at a lower temperature than 1,000°. Another important point was the operator's experience that the best way to conduct the process was by means of superheated steam alone, because the steam being the source of heat to the iron, raised its temperature to that at which it could decompose steam, so that oxidation commenced immediately the iron was sufficiently hot. When, on the contrary, the iron was heated in the chamber before the action of the steam, there was always a danger of air being admitted into the chamber and forming a film of oxide before the steam began to work. The artificially-formed black oxide has the following properties: When the coating is even less than one-sixteenth of an inch great hardness is given to the surface of the iron. An ordinary flat rasp will not remove it without great labour—it will remove pieces of steel from a rasp, and will, of course, resist the action of emery powder. Sticky substances cooked in oxidised saucepans do not adhere, and such vessels may be cleansed by simply wiping. A urinal which was in constant use in the laboratory for months exhibited no deposit. Water evaporated slowly for six weeks, and never allowed to boil, left a deposit which was removed by the application of a duster—it was non-adherent to the iron. A red heat neither disturbed nor injured the artificial coating. Various other applications were enumerated by the Professor, many of which would naturally be suggested. The process failed in the case of iron wire, which could not be bent to a sharp curve without a breakage of the coating. The cost of the process is difficult to ascertain precisely, though it will shortly be undertaken as a commercial enterprise. Hollow goods will take up a much larger space per ton than a ton

of solid iron, and this embarrasses the calculation. The cost, however, for light articles does not exceed that of galvanising, and if the treatment gives a permanent protection to the iron, such manufactured articles should command a higher price than ordinary iron utensils. Different kinds of cast iron behave differently under treatment, some requiring longer exposure to superheated steam than others. Every variety of cast iron can be effectually coated; wrought iron requires a lower temperature; and it is not well to expose articles of very different bulk at the same time, nor should cast and wrought iron be operated upon together.

Lastly, the Professor does not claim novelty of invention, but novelty of the application of the well-known fact that steam passed over red-hot iron filings is decomposed with the formation of black iron oxide and hydrogen. The iron compound was held to be essentially pulverulent, but the researches of Professor Barff have demonstrated that the particles may be made to cohere, and subsequently to adhere in a most useful manner.

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CLAUDE BERNARD.

The brilliant discourse of M. Renan on his reception at the French Academy contains one passage in which we are all interested; it is the description of Claude Bernard, the great *savant*, to whose seat the new academician was promoted. Claude commenced his career as a pharmacist, and originally depended for his subsistence on the modest salary of an assistant. Having finished his studies at the College of Villefranche he went to Lyons, where he entered into the service of a pharmacien of the faubourg of Vaise, receiving in return his board and lodging. This pharmacy supplied the Veterinary School close by, and thither Bernard himself carried the physic destined for the sick animals. A curious thing occurred to Bernard, which probably has happened to others placed in a similar position. "Already" (we translate from M. Renan) "Claude cast more than one curious look on what he saw, and there were many things in Monsieur Claude, as his master styled him, which astonished the latter. It was chiefly the theriaca which he failed to understand. Every time Bernard brought damaged articles to the apothecary, 'Keep that for the theriaca,' observed the worthy man; 'it will do to make the theriaca.' Such was the first origin of the doubts of our *confrère* on the efficacy of the healing art. This noxious drug, made of the spoilt substances of the shop, whatever might be their nature, and which cured, nevertheless, caused him deep wondering." Tired of pharmacy, Bernard tried the drama, but, being well advised, abandoned that perilous career, and turned his whole thoughts to medicine as a science. From him an unsuccessful student may learn not to be faint-hearted. Bernard's commencement was particularly discouraging. He competed in the French fashion, and failed altogether—according to his eulogist, from too much originality. But his future was determined by an almost accidental meeting with Magendie, a man then of note, and of far greater fame afterwards. The two were kindred spirits, and each brought out the genius of the other. Their first introduction was not happy, for Magendie was rough in manner, and by no means conciliatory. Soon, however, the young pupil attracted the attention of his chief by the skill of his dissection. "I take you for my demonstrator at the Collège de France," exclaimed Magendie; and from that day the two became inseparable. The wonderful way in which Bernard set about to discover the dangerous secrets of *virus* shows the enthusiasm which the pursuit of science can create. His experiments were made in a sort of damp, unhealthy cave; others at Alfort, or in the slaughter-houses. Most terrible were his experiments with mad horses, or with

animals inoculated with every kind of virus. Once a doctor, Rayer, discovered that a most frightful disease—viz., glanders—could be transmitted to a human being. Remarkable historical evidence confirms the statement. In an agony of convulsion a horse bit Bernard's hand, and covered it with foam. "Wash it off quickly," said Rayer, who stood near. "No," said Magendie: "you will hasten the absorption." For a moment Bernard paused. "I will wash my hand," said he, suiting the action to the word; "I shall be cleaner." There was a coolness in the whole transaction, and fortunately the pharmacist retained the exercise of his common sense.

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THE LIFE OF A PLANT.

Professor Bentley, before a very fair audience, of which his students formed a part, delivered his lecture, which had been for some time announced, on the "Life of a Plant." The Professor kept strictly to his subject, with an occasional digression about the value of the science of botany, and the pleasure involved in its cultivation. He considered the plant as a human being, and showed how it was born, how it grew, and how its existence was maintained. After a rapid sketch of elementary structure, he described the organs of nutrition—the stem or ascending axis, the root, and the general characters of the leaf. The food required for plants was taken up either from the earth—but always dissolved in water—or from the air as gas or vapour, through the medium of the leaves. Epiphytes, as the Orchids, derived their food entirely from the surrounding air, while parasites depended for their nutrition on the plants upon which they grew. The food supplied was organic and inorganic; of the former carbon existed in the largest proportion, then oxygen, hydrogen, and nitrogen. These are common to all plant life; the nitrogen is chiefly absorbed as ammonia, and the rest as carbonic acid and water, which last is a food in itself, besides being the vehicle for other aliment. One of the most interesting points in the lecture was the description of the way in which inorganic matter varied in different plants, and the practical value of the knowledge of this fact in agricultural botany. The rotation of crops depended on this alone. Other illustrations of the subject must be left unnoticed, and they may be left safely, as the summer session is even now commencing, and soon students will be able in the Gardens of the Regent's Park to hear about absorption, circulation (a term of which the Professor disapproves), respiration, and assimilation. Throughout the lecture the strongest prominence was given to the doctrine that nothing whatsoever *can* be absorbed in an undissolved condition. The report, therefore, of diatoms discovered in the organism must be treated as a myth. Secondly, Professor Bentley enlarged upon the paramount importance of light. The grand compensating effect between the absorbing and respiratory influences of animal and plant life cannot go on without light. Diminish this solar agency and those changes which tend to purify the atmosphere, to fertilise the soil, and to regulate the rainfall, are injured or arrested. Plants want light, and in this humanity resembles the vegetable creation. We want light, too, both physical and intellectual.

THE following grants have lately been made from the Research Fund of the Chemical Society:—10*l.* to Dr. C. A. Burghardt for an investigation into the constitution of topaz; 20*l.* to Mr. Francis Jones for the investigation of boron hydride; 15*l.* to Mr. F. D. Brown for the study of the theory of fractional distillation; 30*l.* to Dr. Dupré for the estimation of organic carbon in air; and 15*l.* to Prof. T. E. Thorpe for the investigation of abietene, the hydrocarbon of nut-pine.

The Pharmaceutical Council.

THE Council met on April 2. Sixteen members were present, the five absent ones being the President, Messrs. Bottle, Fairlie, Hanbury, and Woolley.

MR. MACKAY ON THE PROPOSED AMENDMENT OF THE PHARMACY ACT.

Mr. Mackay wished to explain that he was not opposed to the drafting of a Bill with the object of improving the Pharmacy Act, as at the last meeting of Council it had been represented he was. He was certainly not satisfied with the present Act. If he had an objection to the amendments suggested, it was that they asked too little, and not too much. He should certainly have voted in favour of trying to obtain the amendments which the Council had agreed upon, though he feared the Parliamentary session was too far advanced.

WEIGHTS AND MEASURES ACT.

It was reported that the Medical Council had, at the request of the Board of Trade, considered memoranda which the Pharmaceutical Council had made, and concurred in the opinions that standards of apothecaries' weights should be established, and that the pound weight might be abolished. The Medical Council thinks the ounce and the drachm should be distinctively described as the "apothecaries' ounce" and the "apothecaries' drachm," considers some of the lesser weights too small for Government verification, and does not consider it necessary that the minor subdivisions of glass measures should be verified.

Mr. Sandford said no doubt the Board of Trade would shortly solve the question respecting the verification of glass measures.

NOMINATIONS FOR COUNCIL AND AUDITORS.

The Secretary reported that there had been *forty-four* nominations to fill the fourteen vacant seats on the Council, and the following *twenty* nominees had signified their willingness to accept office if elected:—

Atkins, Samuel Ralph, Market Place, Salisbury.
 Bottle, Alexander, 37 Townwall Street, Dover.
 Butt, Edward Northway, 13 Curzon Street, Mayfair, W.
 Churchill, Walter John, 46 New Street, Birmingham.
 Cracknell, Charles, 217 Edgware Road, W.
 Frazer, Daniel, 113 Buchanan Street, Glasgow.
 Fitch, Robert Owen, 200 Well Street, South Hackney, E.
 Hampson, Robert, 205 St. John Street Road, E.C.
 Horncastle, John, 17 Craven Road, W.
 Owen, John, 51 Holloway Road, N.
 Richardson, John George Frederick, Houghton House, Stoneycote, Leicester.
 Rimmington, Felix Marsh, 9 Bridge Street, Bradford, Yorks.
 Robbins, John, 372 Oxford Street, W.
 Shaw, John, 24 Great George Place, Liverpool.
 Savage, William Dawson, 4 Park Road East, Brighton.
 Spink, Harry Nelson Bowman, 3 Marsham Street, Westminster, S.W.
 Squire, Peter Wyatt, 277 Oxford Street, W.
 Symes, Charles, 14 Hardman Street, Liverpool.
 Williams, John, 16 Cross Street, Hatton Garden, E.C.
 Woolley, George Stephen, 69 Market Street, Manchester.

The following *twenty-four* nominees declined to accept office, if elected:—

Andrews, Frederick, 34 Leinster Terrace, Hyde Park, W.
 Barker, William Robert, 143 New Bond Street, W.
 Betty, Samuel Chapman, 6 Park Street, Camden Town, N.W.
 Cross, William Gowen, Mardol, Shrewsbury.
 Darby, Stephen, 140 Leadenhall Street, E.C.
 Ekin, Charles, 8 Argyle Street, Bath.
 Groves, Thomas Bennett, 80 St. Mary Street, Weymouth.
 Gulliver, William, 6 Lower Belgrave Street, S.W.
 Hanbury, Cornelius, Plough Court, 37 Lombard Street, E.C.
 Hills, Walter, 338 Oxford Street, W.
 Hodgkinson, William, 127 Aldersgate Street, E.C.
 Howden, Robert, 78 Gracechurch Street, E.C.
 Humpage, Benjamin, 6 Albert Place, Turnham Green, W.
 Jones, Samuel Urwick, Chirton House, Leamington.

Matthews, William, 12 Wigmore Street, W.
 Morson, Thomas, 124 Southampton Row, W.C.
 Pound, Matthew, 60 Leather Lane, E.C.
 Randall, William Brodribb, 146 High Street, Southampton.
 Reynolds, Richard, 13 Briggate, Leeds.
 Stacey, Samuel Lloyd, 300 High Holborn, W.C.
 Roach, Pope, 8 St. James's Street, S.W.
 Urwick, William Walker, 60 St. George's Road, Pimlico, S.W.
 Vizer, Edwin Bennett, Church Road, Cliftonville, Brighton.
 Wade, John, 174 Warwick Street, Pimlico, S.W.

Six nominations for auditors had been received, and the following *five* had signified their willingness to accept office, if elected:—

Harvey, Edward, 6 Giltspur Street, London, E.C.
 Hodgkinson, William, 127 Aldersgate Street, London, E.C.
 Stacey, Samuel Lloyd, 300 High Holborn, London, W.C.
 Thompson, Henry Ayscough, 22 Worship Street, London, E.C.
 Watts, William Manning, 32 Lower Whitecross Street, London, E.C.

The following had declined to accept office:—

Squire, William, 5 Coleman Street, London, E.C.

HONORARY MEMBERS.

Mr. Greenish proposed and Mr. Sandford seconded a resolution expressing regret for the loss of the late M. Dorvault, of Paris, an honorary member of the Society. This was carried. The names of Dr. John Tyndall, of London, and Dr. Oswald Hesse, of Stuttgart, were proposed as honorary members.

BENEVOLENT FUND.

The Secretary reported that, up to the end of March, the subscriptions and donations had only reached 396*L.*, while in the same three months of 1878 they had amounted to 558*L.* Mr. Shaw and Mr. Atkins presumed this was due to the general depression of trade. The Secretary said he had lately sent a circular to every chemist and druggist on the register, and the result had been a few additional subscriptions and a large number of applications for relief from persons who had never subscribed to the fund or to the Society.

THE MUSEUM.

A number of specimens of opium and opium alkaloids from Messrs. T. H. Smith & Co., and several other contributions, were announced.

BYE-LAWS.

On the proposal of Mr. Sandford it was resolved, subject to confirmation in the ordinary way, so to modify the present bye-laws affecting examinations as to incorporate all the later regulations of the Board of Examiners.

THE ANNUAL REPORT.

A lively discussion occurred in committee respecting the draft of the annual report which was submitted. With several verbal amendments it was ultimately adopted.

THE BRONZE MEDALS

For the best answers to questions in Chemistry and Pharmacy and Botany and *Materia Medica*, in the examinations held after the first half of the session, were both awarded to Mr. J. B. L. Mackay.

REGISTRATION.

On the motion of Mr. Shaw it was resolved that the names of persons registered henceforth, as having been in business before August, 1868, should be published.

PHARMACIENNES.

The Secretary reported that he had received the following notice of motion to be moved by Mr. Vizer at the annual meeting in May, 1879:—

"The Pharmaceutical Council having desired a definite expression of the feeling of the members of this Society upon the admission of females to its membership—this meeting desires to record its opinion that so complete a change in the constitution of the Society is unnecessary and undesirable."

The Pharmaceutical Society of Ireland.

AT the meeting of the Council held on April 2, 1879, Dr. Tichborne, President, in the chair, the following business was transacted:—

Read, two letters from Dr. A. H. Jacob, relative to the recent action of the Prisons Board, Ireland, in dismissing the apothecaries or other compounders of the Irish prisons. These communications were to be considered official letters from the Irish Medical Association.

Proposed by Mr. Brunker, seconded by Dr. Whitaker, and resolved

That a small committee be appointed to draw up a memorial to the Irish Prisons Board, protesting against the abolition of the office of apothecary, or pharmaceutical chemist, to the county prisons, and requesting them to reconsider their decision in the matter. The proposer and seconder, with Mr. Oldham, to form the committee.

Read, two letters from Mr. Robert Barklie, F.C.S., Hon. Secretary to the Working Men's Institute, Belfast, in relation to his application to have the Institute added to the list of chemical schools from which certificates of practical chemistry will be received.

Proposed by Mr. Brunker, seconded by Mr. Payne, and resolved

That the Council reply to Mr. Barklie, that they are not at present inclined to extend the list of schools of practical chemistry whose certificates will be accepted.

The Chairman of the Law Committee reported their proceedings since the last meeting.

Proposed by Dr. Whitaker, seconded by Mr. Payne, and resolved

That the Law Committee be empowered to take such steps as they may think proper, and to incur reasonable expenses in finding out and prosecuting persons infringing the Pharmacy Act, and to report to the Council.

The name of Dr. Whitaker was substituted for that of Mr. Holmes on the Law Committee, Mr. Holmes having resigned.

Metropolitan Reports.

FIRE.—On April 3 the premises at 6 Bartlett's Buildings, Holborn Circus, occupied by Mr. J. Lewis, wholesale perfumer, were damaged by fire. They were insured in the Royal Exchange and other fire offices.

BURGLARY AT MESSRS. LYNCH & Co.'s.—Henry Carter, whose case we mentioned last month, was again brought before the magistrates at the Guildhall on March 15 and 25, On the latter occasion he was committed for trial.

POISONING.—On March 19 a man named Frederick Bentley, a sword cutler, of 72 Euston Street, was found dead in his forge. At the post-mortem examination nearly 3 ounces of a weak solution of cyanide of potassium were found in the stomach. The cyanide was kept in the workshop in jugs like those used for beer and tea, and the poison had doubtless been taken carelessly.

DRUGGISTS' SUNDRIESMEN AT SUPPER.—On the 4th instant the second annual supper of the junior employes of Messrs. S. Maw, Son & Thompson took place at the One Swan Tavern, Bishopsgate Street, under the chairmanship of Mr. Christy. Supper was followed by a few toasts, "The Royal Family," "The Firm," and "The Visitors" being complimented. In giving "The Firm," Mr. Christy alluded to his connection of 19 years with Messrs. Maw, and the pleasant and valued experience he had gained in that time. Mr. Mears replied for "The Visitors." A capital programme of songs was varied by a recitation given in good style by Mr. Harrison. The singers included Mr. Manchester, Mr. Cattermole, Mr. Burgess, Mr. Denman, and Mr. Hassell. The programme was concluded with "Auld Lang Syne" and the National Anthem.

DUTIES OF ANALYST.—At the meeting of the Holborn District Board of Works, on April 2, Mr. Walker called the attention of the Board to the fact that during the past three months there had been no complaints whatever in regard to adulterations in the district. He suggested that, instead of paying their analyst by salary, the Board should give a fee

per case. Mr. Mather said they had certainly had no "flaming sensational cases" recently, but at the same time their analyst had not been idle, as would be seen by the number of samples that had been investigated. He thought it a matter of congratulation that the inhabitants were apparently being supplied with good and wholesome goods. The subject then dropped. Mr. Walker seems to consider that prosecution of the trader rather than protection of the public is the aim of the Sale of Food and Drugs Act.

VIOLET POWDER.—On March 19, Francis Austin, oilman, 93 Rye Lane, Peckham, was summoned at the Lambeth Police Court for selling violet powder which was not of the nature and property demanded. Mr. Marsden appeared to support the summons on behalf of the Vestry of St. Camberwell, and Mr. St. John Wontner defended on behalf of Messrs. Alfred Bird & Sons, of Birmingham. The facts of the purchase were admitted, but a question arose as to whether the violet powder was that sold under the trade mark "steamer over globe." The case was therefore adjourned for a fortnight to allow of the analysis of the portion in the hands of the defendant, and to allow Dr. Bernays and Dr. Redwood to be called as witnesses. On April 2, after formal evidence of the purchase, Dr. Bernays' certificate of the analysis of the violet powder was put in. This stated that the powder consisted chiefly of sulphate of calcium, that violet powder was a drug as it was used as an application to the skin in erysipelas, &c., that it should consist of starch, and therefore that the violet powder sold was not of the nature and quality demanded.

For the defence, Mr. St. John Wontner called Mr. Alfred Bird, of the firm of Alfred Bird & Sons, Birmingham. He said that the firm had been in existence since 1837, and for 20 years they had manufactured the article known to the public as violet powder. Until within a few months they had sold only one kind, consisting chiefly of powdered selenite. His experience had taught him that there were many kinds of violet powders—some dealers using one, and some another kind. Their special manufacture bore the registered trade-mark—a steamer over a globe—which was simply used to distinguish it from the powder made by other manufacturers. There is nothing in the least degree deleterious in the "steamer over globe" powder. He knew from experience that it was an excellent application to prevent chafing of the skin in babies. He would define violet powder as "any white powder, composed of harmless ingredients of an absorbent nature, suitable for dusting purposes, and having a perfume of violets"; but the term is merely generic, and does not refer to the composition of the powder. No complaints had ever been made of the "steamer over globe" powder during all the years it had been sold.

Professor Redwood stated that violet powder was originally used as hair powder, and formerly consisted chiefly of starch mixed with wheaten flour and china clay. It was now used chiefly as a cosmetic. It can hardly be called a drug in the sense in which the word was used in the Sale of Food and Drugs Act. Every chemist had his own method of making it, which he usually kept a secret. He had analysed a sample of violet powder handed to him by Mr. Bird, and had found it to consist of hydrated sulphate of calcium, 73 parts; silicate of magnesia, 23 parts; powdered orris root and essential oils, 1 part. Starch was made at the present day by treating the powdered grain with caustic alkali, and from imperfect washing the finished product was often alkaline, and, therefore, likely to irritate the skin; he had recently had clear evidence of this, and he should consider a perfectly neutral, slightly soluble, and astringent powder, like selenite, a better application for the skin than starch. He had had experience in the use of this particular kind of violet powder, and had found it very good.

Dr. Redwood in his certificate had stated his results as hydrated sulphate of calcium, steatite, &c. Dr. Bernays had stated them as calcium sulphate, water, silicates, &c. There was a trifling discrepancy between some of the figures, but the different method of stating the results puzzled the magistrate very much. He stated that it seemed clear that anyone may make violet powder how he liked; there seemed to be an immense number of different kinds, and proceedings should only be taken against them when they contained substances likely to be injurious to health.

Dr. Bernays, called by the prosecution, explained the ap-

parent discrepancy between the two analyses, and said that his experience of violet powder extended over 30 years. Until the case in which several children were killed by the accidental admixture of arsenic with violet powder he had never known that it was made of anything but starch. He considered that it was a drug, for it was described in Squire's "Companion" and in "Pereira," and it was there said that it was used as an external application in certain diseased states of the skin. He considered that the sample under consideration was not of the nature and quality demanded, for the authorities mentioned stated that it was made of starch, scented.

The Magistrate: Does it contain anything injurious to health?

Dr. Bernays: No.

The Magistrate: Then that ends the case.

Mr. St. John Wontner then applied for costs. The Magistrate stated that he did not consider it a case in which costs should be given.

Provincial Reports.

ABERDARE.

ACCIDENTAL POISONING.—A dose of liniment was given by mistake for medicine to Mrs. Ann Davies, aged 63, then living at 55 Ynshoyd Street, Aberdare. She died the same day, and at an inquest held on April 1 the jury returned a verdict of "Death by misadventure."

ALFORD.

ALUM IN FLOUR AND BREAD.—Several bakers and millers pleaded guilty at the Alford Petty Sessions on March 18 and April 1 to the charge of selling bread or flour adulterated with alum. The cases require no comment, but on March 18 J. H. Wood, of Alford, and John Sivil, of Hogsthorpe, were separately charged with selling flour containing about 330 grains of alum in a 100 pounds. The defendants denied mixing alum with the flour; Wood stated that his was made from foreign wheat, Sivil that he used English grain; both pleading that this would account for the presence of alum. The case was adjourned for a fortnight to allow the magistrates to obtain further information. On April 1, Dr. Graham, the county analyst, reported "That unground wheat did not contain alum as alleged by the defendants." The magistrates announced their intention of inflicting a fine, and the defendants applied for an adjournment in order that the duplicate samples might be forwarded to Somerset House for analysis. The amount of alum in the sack of 280 lbs. was in Wood's case 943.28 grains, and in Sivil's case 925.14 grains. This proportion is a trifle more than .7 per cent. No criticism can be founded on such a case as this on a report in a provincial paper, but alumina corresponding to this quantity of alum is not unfrequently present in wheat.

BISHOP AUCKLAND.

ADULTERATED TINCTURES.—At the Bishop Auckland Police Court on March 17, John Booth, of Etherley, was fined 10s. for selling tincture of rhubarb adulterated with water. Joseph Harland, of the same place, was fined 8s. 6d. for selling sweet spirit of nitre so largely adulterated with water that it had no medicinal value. In both cases the defence was that the drugs were sold in the same state as when bought, in Booth's case from a Stockton firm of wholesale druggists, and in Harland's case from a firm at Darlington.

CARNFORTH.

CASTOR OIL PILLS.—The case reported in our last, in which the manager of the Carnforth branch of the Lancaster Co-operative Society was prosecuted under the Sale of Food and Drugs Act, for the sale of one pennyworth of castor oil pills, came before the magistrates again on the 15th ult. It had been adjourned for the purpose of bringing the analyst, Dr. Campbell Brown, of Liverpool, as a witness. Mr. Sharp appeared for the prosecution, and Mr. Byrom, of Wigan, defended on behalf of Messrs. Bell & Sons, of Liverpool, the makers of the pills. Dr. Campbell Brown's certificate

stated that the pills were composed of rhubarb, aloes, ginger, some kind of pepper (probably cayenne), soap, saccharine matter, resinous matter, but no castor oil. The pills were sold as "compound castor oil pills." Dr. Brown gave evidence, in which he said the saccharine matter was probably Spanish root. About half of the pills was aloes. Aloes was not such a safe medicine as castor oil, as it acted violently on the lower bowels. People suffering from piles, too, would be injured by it. There might have been a trace of castor oil, but it was not appreciable in two or three pills. He considered that the pills certainly did not answer the description of compound castor oil pills.

In cross-examination, Dr. Brown said he was prepared to believe that there might be 1.5 or 1.75 per cent. of castor oil in each pill, but he was sure there was not 5 per cent. A proportion of 1.75 per cent. would be only .02 grain in each pill. He should call that proportion none whatever. He had ascertained that castor oil pills were sold largely, but by grocers, not by respectable druggists, who sold castor oil in capsules.

Mr. Byrom said these pills had become very popular. His clients sold 250,000 boxes a year. The pills were practically of the nature, substance, and quality demanded. It was in accordance with pharmaceutical custom to describe a compound medicine by any of the ingredients, however small the quantity used.

Dr. Page (Kendal) said the medicine was non-injurious, and in his opinion the name was justifiable.

Mr. Collins, analytical chemist, Bolton, had had considerable experience in the analysis of foods and drugs. He had long known there were such things as castor oil pills sold. He supposed they would contain castor oil; in some cases a very trifling quantity, and in others a mere trace. He presumed they arrived at their present name owing to their giving similar results as a dose of castor oil. He believed a firm at Leeds were the first makers of those pills. If they relied on the pills to get as much castor oil as went to a dose, they would have to take from 400 to 600. He could not say anything as to the effects of the pills, as he was not a medical man. Castor oil was quoted in that morning's paper at 8½d. per lb.; the other drugs were much more expensive. There could, therefore, be no idea of fraud. He had found about 1.35 per cent. of castor oil in the pills, but he could not have found it in two or three pills.

After a brief consultation, the Chairman announced that the Bench were of opinion that there must be a conviction. The penalty would be 40s. and 8l. 5s. 4d. costs.

Mr. Byrom gave notice of appeal at the Quarter Sessions, but the notice has since been withdrawn.

COVENTRY.

CHEMISTS' DINNER.—The first annual dinner of the Coventry and Warwickshire Pharmaceutical Association was held on March 12, Mr. Councillor Wyley occupying the chair. Among the guests were Dr. Read, Dr. Carter, of Birmingham, Dr. Iliffe, Dr. Oakes (Leamington), and Mr. H. Silverlock, of London. The spiritual part of the entertainment consisted chiefly of compliments passed between the "sister professions." The next day the associates dined together under the presidency of Mr. F. Barret, F.C.S., and with becoming humility toasted "Our Masters."

DURHAM.

SUICIDE OF A CHEMIST.—On Sunday, March 23, John George Caldcleugh, aged 22, committed suicide at Durham. He attended church with his brother in the morning; nothing unusual was noticed, and at six o'clock in the evening he was left in the sitting-room, the family expecting he would follow on to church. Instead of doing so he went into the shop, locked the door on the inside, and hanged himself. Deceased was attended by the family surgeon a short time ago for lowness of spirits, but was considered much better at the time he destroyed himself.

EDINBURGH

EDINBURGH CHEMISTS' ASSISTANTS' ASSOCIATION.—The fifth monthly meeting was held in the Pharmaceutical Society's Rooms, 119A George Street (North British Branch), on Wednesday evening, March 26, Mr. McLaren, vice-president, in the chair. The Secretary read a letter of

resignation from the president, Mr. John Young, owing to his removal to London. It was unanimously agreed to award him a cordial vote of thanks for his services in the chair. Mr. J. D. Robertson then read a paper on "Pharmacy: Past, Present, and Future." This paper gave rise to some discussion on early closing. Mr. Cairncross remarked that this matter lay a good deal in the hands of the assistants, who, when entering on businesses of their own, should observe the principles they advocated while assistants. Mr. Welsh thought the subject of shorter hours hardly ripe yet. At the close of the discussion a vote of thanks was awarded Mr. Robertson for his paper. The Chairman having mentioned the subject of the annual supper the matter was discussed, and a provisional committee appointed to arrange matters, subject to the approval of next meeting.

EPSOM.

CONVICTION UNDER THE WEIGHTS AND MEASURES ACT.—On March 31, at the Petty Sessions, Mr. James Gibson, chemist, High Street, Epsom, was summoned for selling a quantity of quinine wine other than by the imperial measure. William Cook, inspector of weights and measures, said he went to defendant's shop on February 28, and asked for a half-pint of quinine wine. Defendant gave him a bottle, for which he charged him 1s. Witness told him he was going to take it to an analyst, and if he chose defendant could have a portion of it. He said he did not wish to have any of it, and after witness had got the certificate of the analyst, he examined the bottle and found it contained about 1½ oz. short of half-a-pint. Witness therefore thought it his duty to bring the matter before the bench, as he distinctly asked defendant for "half-a-pint of quinine wine." Defendant said the bottles were those made for the use of the trade, and were always reputed half-pints. The quantity of quinine he sold was a shilling's worth, and if he had sold more than 8 oz. he should have charged more. He had been in the trade 15 years, and had never made any difference in the price. The Chairman said the case came under the new Weights and Measures Act, which law defendant had clearly transgressed. The Bench considered it was a very unimportant case, and they believed the offence was unintentional. They would, therefore, only fine him 5s., including costs, ordering him to be more careful in the future.

EPWORTH.

SELLING POISON WITHOUT COMPLYING WITH REGULATIONS.—At the Petty Sessions on March 21, John Sharpe, chemist, &c., Crowle, was charged with selling to Police-constable Dewick, on the 13th ult., a packet of Battle's vermin killer without making an entry. The policeman stated that he was in plain clothes, and defendant did not ask his name or enter the sale in a register. Fined 2s., and costs 11s. 9d.—John Pickering, chemist, Crowle, was charged with selling, on the 13th ult., a packet of Battle's vermin killer to Police-constable Dewick, who was not known or introduced to the defendant. Purchaser signed his name in a book. Fined 10s., and costs 11s. 9d.—Thomas Llewellyn Williams, chemist, Owston Ferry, was charged by Police-constable Geneva with a similar offence. Fined 10s., and costs 11s. 3d.

GRIMSBY.

A NEST OF PHARMACY ACT BREAKERS.—On March 18, at the County Police Court, the following cases were heard:—

R. W. Borman, druggist, New Clew, was summoned for having sold Steiner's vermin-killer, being a poison within the meaning of the Act, without having made an entry and obtained the signature of the purchaser. Defendant contended that the article was not a poison within the meaning of the Act. The only poisonous element it contained was phosphorus, and the article was, in consequence, as much outside the operation of the Act as matches were. He handed in a communication from the manufacturers, and the report of Dr. Hassall, analyst, both of which were in support of his statement. The case was dismissed.

T. T. Chapman, chemist, Cleethorpes, was summoned for having sold Battle's vermin-killer without having the sale attested by a witness. Defendant said his wife had sold the article in his absence. She obtained the signature of the purchaser, and, believing that she knew the man, thought that was sufficient. He was fined 1s. and 10s. 6d. costs.

C. E. Borman, Waltham, for selling a bottle of laudanum, on the 17th instant, without having it distinctly labelled with his own name and address, was fined 1s. and costs.

James Elder Bourne, of Tetney, was indicted for having sold some laudanum on the 8th instant without labelling it as a poison. Superintendent Jarvis said that defendant's name was not on the register of persons authorised to sell such articles. Fined 5s. and costs.

Frederick A. Peck, chemist, Cleethorpes, for having sold Battle's vermin-killer without having the sale attested by a witness, was fined 1s. and costs.

LEEDS.

MEDICAL ACT AMENDMENT.—At a thinly-attended meeting held on April 4 in the Civil Court of the Leeds Town Hall, the Rev. Mr. Cuthbertson moved:—"That, in the opinion of this meeting, the law regulating the practice of medicine should give equal rights and liberty to all professions alike, whether they practise allopathy, homoeopathy, hydropathy, or medical botany, so long as they use proper care and skill in the treatment of diseases, and also are of opinion that all professions should have the same responsibilities, and be under one uniform law, and be subject to the same penalties if they do not use all diligent care in their treatment of disease." This was carried, and a petition to Parliament against the Medical Act Amendment Bill was also adopted.

A DISPENSER POISONED BY A PRESCRIPTION.—On March 31 the borough coroner held an inquiry into the circumstances attending the death of Richard Henry Knowles, aged 42, a dispenser at the Leeds Dispensary, who died from the effects of taking a wrongly made up prescription. The deceased was suffering from acute consumption, and at most could not have lived more than two or three weeks. At a consultation between his medical adviser (Mr. McGill) and Dr. Clifford Alburt, the former prescribed one minim of atropine solution to the half ounce. The prescription was taken to the dispensary, where unfortunately one minim was read one grain. The medicine thus prepared was administered to the deceased, and he died some hours afterwards. The jury returned a verdict of death from misadventure.

LIMERICK.

AN APOTHECARY POISONED.—Mr. John Joseph Furlong, of Homan's Medical Hall, George Street, was found dead on February 12 under circumstances which left no doubt that he had poisoned himself with prussic acid. Dr. Parker gave evidence that deceased had been very melancholy for some time past, and the jury found that the poison had been taken by deceased while in an unsound state of mind.

LIVERPOOL.

REGISTERED CHEMISTS' ASSOCIATION.—The annual dinner of this association took place on the 20th ult. at Fisk & Fairhurst's, Castle Street. After the loyal toasts had been duly and heartily honoured, the President, Mr. A. Redford, proposed the toast of "The Registered Chemists' Association of Liverpool." He claimed that it had borne its part in the reformation of some of the blemishes of the trade, such as inordinate hours of business and want of neighbourly feeling, and by the issue of a price list, that might now be found in a great part of the chemists' shops throughout the country. He paid a well-deserved tribute to the services of past officers of the association, and coupled with the toast the names of the treasurer, Mr. R. Parkinson, and the hon. secretary, Mr. B. Dickins. The former made a statement of the numerical strength of the association, and the latter exhorted the members not to leave all to the committee, for the success of the association could only be obtained by every member doing his best to promote its objects. He expressed his strong desire for the closing of chemists' shops on Sunday, as public requirements regarding medicines were met by answering the door bell.—Mr. J. Fingland proposed "The Liverpool Chemists' Association," which was acknowledged by Mr. T. F. Abrahams and Mr. E. Davies, F.C.S.—The Vice-President, Mr. Charles Symes, Ph.D., proposed "The Pharmaceutical Society" and "The British Pharmaceutical Conference." He observed that the history of the parent society had been one of almost

uninterrupted prosperity. It had acquired important powers under Acts of Parliament, and had reached a position of which its members might be justly proud. It had a brilliant past and a powerful present, and he felt assured of its equally brilliant future, provided it exercised its power for the benefit of the whole trade. He also reviewed the establishment of the Pharmaceutical Conference and its successful career.—Mr. John Abraham responded on behalf of the society, and Mr. A. H. Mason, F.C.S., for the conference.—“The Chemists’ and Druggists’ Trade Association of Great Britain” was proposed by Mr. J. Edisbury and responded to by Mr. J. Woodcock.—“The Wholesale Trade,” proposed by Mr. J. A. Turner, was responded to by Mr. J. F. Racines and Mr. R. Sumner.—The toast, “The President, Mr. A. Redford,” proposed by Mr. J. Abraham, was received with “musical honours” and a heartiness designed to convey to the occupant of the chair some expression of the esteem in which he is held by his fellow-chemists.—“The Vice-President” (Dr. Symes) and “The Ladies” were also honoured. Mr. A. H. Mason and a party of friends added greatly to the evening’s enjoyment by their contributions of music, as did Mr. H. Jackson (Messrs. W. and H. Jackson) by an admirable recitation of “Horatius.”

PETERBOROUGH.

TENDERS FOR DRUGS.—The Peterborough Board of Guardians have accepted from Mr. Richard Bright, Peterborough, a tender for supplying Howard’s quinine at 15s. an ounce and cod-liver oil at 8d. for 8 oz.

SOMERSETSHIRE.

A CHEMIST’S ERRAND BOY TURNED HIGHWAYMAN.—Two youths, named Charles William Cross and Thomas Hinks, were committed for trial on April 4, at Wincanton, for shooting at Mr. George Dyke, Milborne Port. The boy Cross had been in the employment of Mr. Knight, chemist, of Wincanton, and was on March 27 sent by his master to Stuckey’s Bank to deposit 25*l.* Instead of doing so, he and Hinks decamped with the money. At Milborne Port they purchased a coat, and at Sherborne they again halted and bought a couple of hunting whips, two pairs of spurs, a revolver, and a number of ball cartridges. Returning towards midnight by Milborne Port, they met Mr. George Dyke, son of Mr. F. Dyke, glove manufacturer, and who was on horseback. They demanded his money or his life, and fired at him, one of the bullets striking him in the leg. He then applied the spurs and rode away. The police were informed of the matter, and on March 29 the two were apprehended at West Stover, near Gillingham. They had in their possession all the equipments of a highwayman, one having two pistols and a revolver, and the other a revolver, and both carried a large quantity of ammunition. Several leaves of “Jack Sheppard” were also found on them.

SPILSBY.

A PETROLEUM ACT POINT.—At the Petty Sessions on March 17, William Butler, employed by Mr. Carlton, chemist, Horncastle, was charged with having sold benzoline in the neighbourhood, which he took from a tank in a cart. The cart bore the name and address of Mr. Carlton, who was licensed, and the tank was marked “benzoline.” The magistrates fined the defendant 5*s.* and 23*s.* costs, and notice of appeal was given.

STAFFORD.

AT THE Borough Police Court on April 3, John Allwood, a druggist, was fined 10*s.* and costs for not registering the sale of some vermin-killer containing strychnine in his poison-book, as required by the Pharmacy Act. A young woman who bought the vermin-killer poisoned herself with it, but recovered under medical treatment.

TEIGNMOUTH.

WHAT IS CHOCOLATE?—A grocer named Lowton was prosecuted at Teignmouth, under the Sale of Food and Drugs Act, for selling as chocolate a mixture of cocoa, arrowroot, and sugar, the latter being in the proportion of 45 per cent. The defendant pleaded that he sold it as

chocolate powder, and served it from a tin labelled “Taylor Brothers’ Chocolate Powder”; and he further contended that there was no such thing as pure chocolate, that which was sold as such being a manufactured article; and there being no standard as to the ingredients, there could be no adulteration. He then read letters from Messrs. Cadbury Brothers and Messrs. Taylor Brothers, cocoa and chocolate manufacturers, in which they said that the word “chocolate” implied a mixture of cocoa with other ingredients. The case was dismissed.

TIVERTON.

VIOLET POWDER.—On March 25, at the Divisional Sessions, Mr. William Gare, chemist, Bampton, was summoned for selling to Superintendent Collins, inspector under the Food and Drugs Act, 3oz. of violet powder adulterated with sulphate of lime.—Mr. Payne defended.—Superintendent Collins said on March 12 he visited defendant’s shop at Bampton, and asked for 3oz. of violet powder. On being served witness told defendant he had purchased the powder for the purpose of being analysed, and fastened it up in three packets (sealed), one of which he returned to defendant, another he sent to Dr. Blyth, of Barnstaple, the county analyst, and the other he produced. On March 16 he received from Dr. Blyth a report (produced), in which he stated that he was of opinion the powder in question was adulterated. Instead of consisting wholly of scented starch, the powder contained more than 35 per cent. of mineral matter, which for the most part was composed of sulphate of lime. It was only right to add that, although pharmacists made violet powder of scented starch, there was no definite standard of purity.—Mr. Paine said the defence was stated by the analyst himself.—The Bench unhesitatingly dismissed the case.—Mr. Payne applied that his client might be allowed the costs. A gentleman had come from London to prove that during a period of thirty years the powder had been manufactured and its purity had never been complained of, but it was largely in demand.—The magistrates said the prosecution being a *bona-fide* one, the costs could not be allowed.

WOLVERHAMPTON.

POISONING WITH MINERAL ACID.—At the inquest upon the body of Betsy Coell, of Church Hill, Penn, held on April 1, Dr. Spackman deposed that the post-mortem examination showed that death had resulted from taking nitric or muriatic acid, or both. The jury returned a verdict of “Temporary insanity.”

YORK.

AT a meeting of chemists and druggists held at the King’s Arms Hotel, Mr. Councillor J. Brown in the chair, the following resolution, proposed by the chairman and seconded by Mr. Kendall, was carried unanimously:—

That in consequence of persons not being registered chemists and druggists, pharmaceutical chemists, or members of the medical profession dealing in patent medicines containing poisons scheduled under the Pharmacy Act, and selling articles used in the compounding of medicines, this meeting of chemists and druggists of the City of York request the Pharmaceutical Society to petition Parliament to amend the Pharmacy Act by prohibiting the sale of medicines or drugs used in the compounding of medicines by any person who is not a registered chemist and druggist, pharmaceutical chemist, or member of any medical college or society recognised by law.

SUBTERRANEAN HONEY.—In Ethiopia there is found, in subterranean cavities (according to M. Villiers), a honey made without wax by an insect resembling a large mosquito. This honey is called *tazma*. The natives use it to cure throat disease. On analysis, M. Villiers finds it to contain 32 per cent. of mixed fermentable sugars and 28 per cent. of dextrine. In composition it resembles the mannas of Sinai and Kurdistan, the saccharine matter deposited by aphides on the leaves of the lime-tree, and the ordinary honey; but it differs from all in containing no cane sugar.

FORMULÆ OF SECRET MEDICINES.

(Continued.)

The Formulæ given below are translated (by special permission of the author) from a German collection compiled by Mr. Edward Hahn, Apotheker. The names following most of the Formulæ are those of the authorities quoted for the analysis. The weights are almost invariably given in metric denominations. A gramme is equivalent to 15½ grains. The prices quoted are the nearest English equivalents to the original retail price.

KAIFFA.—Cacao, 500; salep, 750; sago, 1,000; rice flour, 1,250; groats, 250; Iceland moss gelatine, 250; starch, 2,300; sugar, 6,000; vanilla, 50.—*Chevallier*.

KAISERBALSAM—**IMPERIAL BALSAM**—**ANTI-RHEUMATICUM** (J. Zimmermann, Berlin).—A mixture of fats resembling Rosmarinsalbe,* 45 grammes; camphor, 2 grammes; potassium iodide, 2 grammes. 3s.—*Schädler*.

KAISERPILLEN—**IMPERIAL PILLS**.—Each weighs .09 to .12 grammes. The mass is made of aloes, jalapine-soap, rhubarb, and latterly, as a rule, it contains croton oil.—*Hager*.

AFRIKANISCHE KACTUS-POMADE—**AFRICAN CACTUS POMADE** (E. Wallwitz).—125 grammes of a cactus, with its thorns, are beaten in a mortar, and heated in a vessel (not of copper) with 5 lbs. hog's lard, 1 lb. white wax, and sufficient indigo and turmeric to produce a green tint. The mixture is filtered and shaken till cold with water, 1½ lb.; glycerine, 60 grammes; tannin, 15 grammes (dissolved in water, 30 grammes); rosmarin oil, 7.5 grammes; fennel oil, 4 grammes; and other agreeable perfumes.

KALIDÜNGER—**POTASH MANURE** (Matthias Kolffenbach, Hilkhausen by Altenkirche).—It contains only traces of phosphoric acid, magnesia, and potash, and no gelatine. 100 lbs., 4s.—H. in S.

UNTERPHOSPHORIGSAURER KALKSYRUP—**SYRUP OF CALCIUM HYPOPHOSPHATE** (Grimault & Co., Paris).—Calcium hypophosphate, 1 part, dissolved in a solution made from distilled water, 30 parts; lime water, 6 parts; sugar, 64 parts; coloured with a little cochineal.—*Hager*.

BURNETT'S KALLISTON (Joseph Burnett & Co., Boston, U.S.A.).—A wash containing no hurtful metals.—*Chandler*.

KALLOMYRIN OR **HAARFÄRBE-KRAFTPOMADE**.—A pomade for strengthening and dyeing the hair. "The exclusively privileged Royal Imperial Haarfärbe-Kraftpomade, for restoring and preserving the natural colour of hair" (Dr. Ernest Hikiisch and Karl Russ, Vienna). A mixture of hog's lard and cocoanut oil, 520; stearin, 60; glycerine, 180; Peruvian balsam and storax, 12; sulphur, 16; white lead, 20; iron ochre, 1; an acrid substance soluble in glycerine (perhaps from cantharides), 3. 50 grammes, 4s.—*Hager*.

KALOSIN.—A perfectly harmless vegetable essence for entirely freeing the skin from freckles and sunburns (prepared by Tren and Nughlich, Royal and Imperial Purveyors of Perfumes, Vienna).—An elegant cardboard box holds three bottles, each containing 36 to 37 grammes of a colourless fluid. This is composed of 90 per cent. spirit, agreeably perfumed, and holding in solution the chlorides of ammonium, zinc, and mercury. Bottle No. 1 contains .4 gramme; No. 2, .55 gramme; and No. 3, .65 gramme solid matter. The mercuric chloride forms 10 per cent. of the total chlorides.—*Hager*.

KALULLA.—For cleansing the teeth (Georg Keksch, Austria). Genuine French brandy, 50 parts; rhatany root, 4 parts; alum, 1.125 part; star anise, .25 part; cochineal, .125 part; macerate for four days. After 15 days add 30 parts clean river water, digest three days longer; filter, and add peppermint oil, ½; oil of orange peel, ½; and star anise oil, ⅜.

KALYDON'S AND GOWLAND'S COSMETIC WASH.—A North

* Unguentum Rosmarini compositum, rosmarinsalbe unguentum nervinum, Nervinsalbe, Ph. Germ. Lard, 16; suet, 8; yellow wax, 2; expressed oil of nutmeg, 2. Melt in a steam bath, and add, while cooling, oil of rosmarin, 1; oil of juniper berries, 1.

American cosmetic. An emulsion of blanched bitter almonds, 30 grammes; rosewater, 500 grammes; containing, in solution, .5 gramme mercuric chloride.

DESTILLIRTES KAMMFETT—**DISTILLED KAMMFETT***—(Abt).—For promoting the growth of the hair. Castor oil, 2 parts; olive oil, 3 parts. 25 grammes, 2s.—*Hager*.

KATAMENIEN-ESSENZ.—For pains in the uterus and excessive catamenia (Mohrenapotheke, Leipzig). A reddish yellow, somewhat turbid fluid, with an odour of a mixture of cinnamon and cloves, a strong spirituous taste, at first saline, then astringent and hot, and a slight acid reaction. It is an alcoholic extract of some substance containing chlorophyll, such as the leaves and young bark of the oak, and its origin is probably covered by the addition of a few drops of oils of clove and cinnamon, and a little strong syrup and sal ammoniac.—*Müller*.

KATARRH-BRÖTCHEN—**CATARRH PASTILLES** (Dr. H. Müller).—Pastilles, 1½ centimetre in diameter, consisting of sugar, with 2 per cent. of sal ammoniac and a little liquorice extract, scented with a little star anise and fennel oil; heated and ponred out to make pastilles. Thirty for 7d.—*Hager*.

DR. SAGE'S KATARRH REMEDY (R. V. Pierce).—"Will cure all conceivable bronchial and pulmonary disorders." A powder made by mixing carbolic acid, .5 gramme; camphor, .5 gramme; common salt, 10 grammes. It is to be dissolved in ¼ litre of water, and snuffed or injected into the nose. 2s.—*Schädler*.

KEUCHHUSTENMITTEL—**HOOPING-COUGH CURE** (Apotheker Fraas, Hanover).—Coarsely-powdered resina flava, with all its adhering impurities. Two teaspoonfuls are to be dissipated thrice daily from a hot shovel in the ordinary room of the children. 160 grammes, 3s.—*Hager*.

KEUCHHUSTENMITTEL (Runde).—Tinct. lobeliæ inflatæ, 1 in 20. 4 grammes, 9d.—*Wittstein*.

KIKI-HAARÖL DER KLEOPATRA (Dr. Freiherrn Pelsler, Berensberg).—Castor oil, 144 parts; 96 per cent. spirit, 48 parts; citron oil, 2 parts; bergamot oil, 2 parts; geranium oil, 3 parts; coloured with aniline blue. 40 grammes, 1s. 6d.—*Hager*.

NESTLÉ'SCHES KINDERMEHL, **FARINE-LACTÉE**—**NESTLÉ'S FOOD** (Nestlé, Vevey).—An excellent nutriment for children. A baked mixture of wheat meal, condensed milk, and sugar, reduced to powder. It contains 40 per cent. of sugar and milk sugar, 5 per cent. of fat, about 15 per cent. of proteins, and 30 per cent. dextrine and starch. It is prepared from the finest wheat meal, heated under heavy pressure to 150° C., to convert the starch into dextrine. It is then mixed with a certain proportion of cow's milk, and evaporated at temperatures below 40° C. A package containing 32 portions, 1s. 7½d.; a tin box of five packages, 7s. 6d.—*Hager*.

NESTLÉ'S KINDERMEHL (Franz Coblener, Cologne).—Is a powder resembling the above in taste and smell. Analysis shows it to contain: Moisture, 5.6; carbonaceous matters, 80; fibrine, 3.3; nitrogenous substances, 9.5; mineral matter, 1.6. This shows that Coblener's preparation may be easily taken by children, and will fully replace the Nestlé's food made abroad.

ZINDERNÄHRUNG AUS WEIZENKLEIE BEREITET—**INFANTS' FOOD**.—The Wheat Phosphates of the English. For infants and older children that suffer from weakness (prepared by C.A. Jungclaussen, Apotheke, by the Strohhaus, Hamburg). This is a whitish powder with a sweet taste, forming a muddy solution with water. A weizenkleie extract has been used in England as food for weakly children and convalescents. This had the consistence of pap. Herr Jungclaussen has prepared it in the form of powder, which keeps well and does not get damp when exposed to the air. Analysis gives percentage of moisture, 4.6; carbonaceous matter (dextrine, starch, sugar), 88; nitrogenous substances (proteins) perfectly soluble, 5.8; mineral matters (calcium and magnesium phosphates, potassium and sodium carbonates), 1.6. The proportion of proteins is less than in other foods, but this is only in appearance, as they are in a soluble form, and are therefore immediately and entirely assimilated by weak digestions. It is found that children take it readily in milk, water, and broth.—*Hager*.

* Kamfett, otherwise called Pferdesschmalz, axungia juba, axungia equæ collo, graisse de col de cheval, is the fat from the neck of the horse. See Jourdan's "Pharmæopœia Universalis," Rennie's Translation, vol. i., p. 315.

ITALIAN OLIVE OIL.

MR. A. JANSEN (Florence) communicates the following particulars respecting olive oil to the *Pharmaceutische Zeitung*, from which journal we translate them:—

Next to wine, olive oil is perhaps the most important natural product of Italy. Tuscany alone produces 160,000 hectolitres a year. Usually the olive harvest takes place from the middle of November to the end of December, the fruit being gathered before it is quite ripe. A larger proportion of oil is yielded if the fruit hangs till it is quite ripe (January–February); but the extra yield is not sufficient to balance the risks of the weather, and besides, trees from which the fruit has been gathered late bear poorer fruit in the following year. As usually collected the olives are of a violet tint, and are thus composed:—Pulp 51.25, water 14.38, residue 9.39, seed 20.16, ethereal oil .6. The pulp contains, water 51.25, fibrous material 16.38, oil 9.29. In the neighbourhood of Lucca the harvest is sometimes delayed until April in order to obtain a very fine white oil, with the olive flavour, which is given to the so-called Provence oil by the infusion of oil seeds. That oil is generally an oil of a poorer quality bleached by chemical processes.

The olives should be gathered by hand. Beating the trees with sticks injures both the fruit and the young branches which would bear fruit in the following year. If sufficiently dry the fruit is at once transferred to the press and expressed very slowly and without the aid of heat. A heavy pressure, heat, or any dirt or impurity in the press is very injurious to the oil.

A so-called "virgin oil" is obtained by gentle pressure from the pericarp of the fruit; it is amber yellow to yellowish green in colour, of a pleasant flavour, and with a slight odour of the olive. After expression the oil is at first turbid, but after a little time it becomes quite transparent. Alcohol and ether will dissolve about 3-1000th of their volume. It will keep in a cool place for a long time without change. It boils at 330° C, and its sp. gr. at 12° C is .9192.

The Tuscan oil, and especially that from Lucca, is generally considered the finest for eating. The average annual production throughout the whole of Italy is reckoned at 1,700,000 hectolitres, worth about 350 millions of francs, and this value might be increased if the preparation were conducted with greater care. Sicily, for instance, produces 190,000 quintals, of which not more than 10,000 quintals can be sold for eating purposes. In some provinces the oil produced is so carelessly produced that it is worthless except for lamps and for the manufacture of soap. A good oil is prepared on the Ligurian coast, the greater part of which is exported to France, and there refined and sold at a very high price as Provence oil. In recent years the Province of Bari has made remarkable progress in the preparation of the oil, and now the Bari oil ranks almost if not quite equal with the Lucca oil, as the finest of the Italian olive oils.

Next to the virgin or superfine oils, which are used for eating, preserving sardines, &c., come a second quality, which is obtained by a second pressing, then a third quality obtained by hot pressure and water, and used for lamps, and a fourth quality, extracted by sulphide of carbon or benzine, and used in the manufacture of soap, for cart grease, and so on.

The first purification of the expressed oil is performed by letting it stand for four to six days in large earthen vessels, holding 3 or 4 hectolitres, in order that the impurities may settle. If this method does not clear the oil, it is necessary to filter it. It is found best before filtration to mix the oil with the $\frac{1}{20}$ th of its volume of water, as by this means the slimy substances are more readily removed. When the oil is very dirty it is advantageous to dissolve some tannin in the water before mixing with the oil. Small quantities are filtered through paper, but for large quantities cotton is used. Filtration is also recommended through a bed of sand, wood charcoal, and sulphate of lime.

Dark coloured oils are chemically purified either by acids (nitric or sulphuric) or by alkalis (ammonia, soda, or potash). The acid process is a good one, but if too much or too little is used the oil is injured. A safer method is to purify by ammonia, the process of which is to add to 100 kilogrammes of oil in a cask 400 grms. of ammonia diluted with 800 grms. of water. These are agitated together, and the oil is allowed to stand for three days and is then decanted and filtered.

Other methods of decolorising the oil are adopted. Sometimes it is exposed to sunlight in large white glass bottles. The oil soon becomes colourless, but acquires a bad, almost rancid taste. Agitation with a solution of permanganate of potash (2 per cent.) will also bleach the oil, but this method also leaves a disagreeable taste. A somewhat complicated method, but one which gives a good result, is first to agitate the oil in a cask with water containing gum, then to add to the emulsion thus formed coarsely crushed wood charcoal. The whole is then slowly warmed, but not so high as 100° C., and when cold treated with ether to separate the oil. The ether is recovered by distillation. A stream of nitrous acid gas is sometimes passed through coloured oil, and this process is much recommended. Kaolin is also used by some manufacturers (oil 500, water 50, kaolin 50). Very common oil is sometimes decolorised by agitation, with a solution of acetate of lead, addition of sulphuric acid, and subsequent washing with warm water.

Several methods are employed to restore an olive oil which has become rancid. One is to agitate 25 parts of oil with 5 parts of good vinegar, repeating the operation several times. Or 50 parts of oil are agitated with 80 parts of water at 30° C., in which 12 parts of common salt have been dissolved: the operation is repeated 5 or 6 times. The best method, however, is to add 2 kilogrammes of calcined magnesia to 100 litres of rancid oil, and for 6 days the mixture should be agitated 4 times a day for at least a $\frac{1}{2}$ hour each time. Then the oil is filtered. Such oil must be quickly used or it will soon become rancid again.

REGULATION OF PHARMACY IN THE UNITED STATES.

DR. C. C. VANDERBECK of Philadelphia, U.S., who is at present visiting Europe, has, at our request, written the following article on the requirements and position of the pharmacist in the United States:—

There are thirteen Schools of Pharmacy in good and regular standing in the United States, one in each of the following places:—Ann Arbor, Baltimore, Boston, Chicago, Cincinnati, Louisville, Nashville, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, and Washington. Their curriculum of study and the various efforts made by them to raise the standard of graduation give a fair index of the condition of pharmacy among us.

The requirements for graduation, until very recently, in our pharmaceutical schools, were about the same in all, and were after this manner:—Candidates for graduation must be of good moral character, have attained the age of 21 years, attended two full courses of lectures in a regular College of Pharmacy, the last of which shall be in this College, and have had an experience of at least four years with some qualified pharmacist in a dispensing store. They shall pass a written examination on questions pertaining to pharmacy and its collateral sciences; such questions to be submitted by the professors and a committee from the Board of Trustees. Each graduate will receive a diploma conferring the degree of Graduate in Pharmacy (Ph.G.) Applicants for graduation must present to the Treasurer, on or about the 20th of February, an original well-written thesis, matriculation and professors' tickets, and satisfactory certificates of age, and length of experience in a dispensing store. Since the University of Pennsylvania made the radical changes in its course of instruction—insisting upon a term of study which should be graded, and of considerably wider extent than the old system—medical schools generally and allied institutions have strongly recognised the need of reform. Pharmacy, as a direct associate of medicine, felt the new influences very powerfully, and for a long time there has been a vehement effort among the leading intelligent pharmacists of Philadelphia to create such a sentiment among the men of their calling as should place the Philadelphia apothecary in line with the Philadelphia doctor on the higher plane that had been taken by the latter. It was acknowledged that a truer grade of proficiency among students of pharmacy was desirable, and while some of the Conservatives held on to the familiar doctrine that the thing that had been was the thing that should be, the wiser and more influential men said there must be and should be a change. They secured it after a hard battle. At a meeting of the Board of Trustees of the

Philadelphia College of Pharmacy less than a year ago, it was decided to inaugurate an entirely new system of instruction. Junior and senior courses were instituted, instead of one and the same course for all students. The junior student must pass an examination in all the branches before he can enter the senior class, and the instruction given to the senior class embraces a wider range of scientific subjects than it has been possible to give heretofore. This is justly believed by the Board of Trustees to be a very important step, and one which will place the Philadelphia College of Pharmacy in a very advanced position, not only in relation to the local medical profession, but to the general field of medicine and pharmacy in the United States. This new system went into effect with the session beginning October last. Several other colleges throughout the Union have made similar changes, and others are agitating the question.

But it is not in the colleges alone that we find a tendency—to use a light term—towards a reform in the degree of proficiency expected of a pharmacist. It is seen as well in the formation of Pharmaceutical Associations in various states of the Union. It is true, the American Pharmaceutical Association can point to more than a quarter of a century's work, but the State Associations are of much more recent formation. For instance, the Act of Legislature incorporating the Pharmaceutical Association of this State—my native one, of New Jersey was enacted February 18, 1874. Before pointing out, however, the nature of these State Associations, it may be of interest to some of your readers to know the object and manner of doing things of the American Pharmaceutical Association. Its aim is to unite the educated and reputable pharmacutists and druggists of the United States (and, in truth, Canada, membership being allowed from there, and the twenty-fifth annual meeting being held in that dominion, at Toronto—the first time in the history of the Association that a meeting was held outside of the boundaries of the United States), and for the following objects:—

1. To improve and regulate the drug market, by preventing the importation of inferior, adulterated, or deteriorated drugs, and by detecting and exposing home adulteration.
2. To encourage proper relations between druggists, pharmacutists, physicians, and the people at large, which shall promote the public welfare, and tend to mutual strength and advantage.
3. To improve the science and art of Pharmacy by diffusing scientific knowledge among apothecaries and druggists, fostering pharmaceutical literature, developing talent, stimulating discovery and invention, and encouraging home production and manufacture in the several departments of the drug business.
4. To regulate the system of apprenticeship and employment, so as to prevent as far as practicable the evils flowing from deficient training in the responsible duties of preparing, dispensing, and selling medicines.
5. To suppress empiricism, and to restrict the dispensing and sale of medicines to regularly educated druggists.
6. To create and maintain a standard of professional honesty equal to the amount of our professional knowledge, with a view to the highest good and greatest protection to the public. Every pharmacist and druggist of good moral and professional standing, whether in business on his own account, retired from business, or employed by another, and those teachers of pharmacy, chemistry, and botany, who may be specially interested in pharmacy and materia medica, who, after duly considering the objects of the Association and the obligations of its constitution and bye-laws, are willing to subscribe to them, are eligible to membership. The initiation fee is \$5, and the yearly contribution the same amount. Seventy-five dollars paid at one time makes one a life member, exempt from all future annual contributions.

All local organisations of pharmacists are entitled to five delegates, as their representatives in the annual meetings, who, *if present*, become members of the association on signing the constitution and paying the annual contribution for the current year, without paying the usual initiation fee. Those thought worthy the distinction may be elected honorary members.

Now to revert to the State associations. The object of these, as stated in the enactment, is "for the cultivation and advancement of the science of pharmacy." A few extracts from the president's address, before the eighth annual meet-

ing of the New Jersey Association, clearly show the feeling that exists in regard to elevating the standard of the profession. He says:—"It is the duty of this association to establish the relation between pharmacist and physician and the public at large, upon just principles, to improve the science and art of pharmacy, and to restrict as much as possible the dispensing and sale of medicines to regularly educated druggists and apothecaries." He urges the importance of taking away this privilege from grocers. Another paragraph in this address will be of interest to those contemplating an American field for their services:—"Gentlemen, our business is overdone; there are too many drug stores; the supply is greater than the demand, still the number is constantly increasing; people have the idea that the retail drug business is nice, easy, clean, respectable, and immensely profitable, and a man having a corner to rent seeks diligently for a young druggist, and offers 'splendid inducements' for him to start for himself, only to find, after a few months of hard, up-hill work, that he has made a mistake, that that drug store don't pay, but still the thing goes on, and another tries the same experiment with similar results. The remedy is a truer conception of the real qualifications of a pharmacist, and a higher standard of professional attainment."

Thus far I have tried to show the requirements of pharmacists here. It will be judged from what has been said that the profession is quite crowded, especially in the Eastern and Middle States. The West offers a better field. Chicago, Cincinnati, St. Louis are no longer West. The empire is moving fast far beyond the Mississippi plains. At least, one must go to Colorado, Kansas, or Utah to get West now, and there in comparatively new settlements, pharmacists and physicians, growing up with the people and the town, may find a due reward for skill and intelligence. I think it is seen also that the profession in the Union is striving to establish its basis upon a higher level of intelligence and efficiency.

While it is true that one can get along with less intelligence and ability in the far West than in the East, it would be a great mistake to suppose that *anyone* could get along on the frontiers.

While the intelligent reader knows there are no Indians in Cincinnati, he may not know that he will find thousands of highly intelligent and cultivated people in all the territories.

The States where a certificate for a pharmacist is obligatory, as far as I can learn, are only four: New Jersey, Kentucky, Missouri, and Maine; Philadelphia and New York City are likewise thus protected. Michigan and several other States have tried to obtain from their legislature a similar law, but thus far without success. These State-laws are nearly alike. The New Jersey law, which may be taken as a specimen of the rest, enacts, "That from and after the first day of January, 1878, it shall be unlawful for any person or persons to open or conduct any pharmacy or store for retailing, dispensing or compounding drugs or medicines, unless such person shall be, or shall employ and place in charge of such pharmacy or store, a registered pharmacist, within the meaning of this Act; and every pharmacy or store kept open for the retailing, dispensing, and compounding of medicines, shall be under the direct personal care and management of a registered pharmacist.

2. "That any person not being or having in his employ a registered pharmacist, within the meaning of this Act, who shall, after Jan. 1, 1878, keep a pharmacy or store for retailing or compounding medicine, or who shall take, use, or exhibit the title of registered pharmacist, shall, for every such offence, be liable to a penalty of fifty dollars; such penalty to be sued for and recovered by the Board of Pharmacy hereinafter mentioned: *provided* that nothing in this Act shall apply to, or in any manner interfere with the business of any physician, nor prevent him from supplying to his patients such articles as may seem to him proper, nor with the making or vending of patent or proprietary medicines, nor with the sale of the usual domestic remedies by retail dealers in rural districts."

The remaining sections provide that a Board of Pharmacy shall be appointed every three years. The method of appointment is by the nomination by the State Pharmaceutical Association, of 15 persons, from which list the Governor shall select five. The duties of examination, registration,

and prosecution, are to be conducted by this board. The members are to be paid at the rate of \$5 per day whenever they are engaged on this service. The registration fee is \$5.

The Kentucky law in the main is the same. A registration fee of \$10, however, instead of \$5 is required. A registered *assistant* desiring to become a registered pharmacist pays a fee additional of \$1.

Section 10 of the Kentucky law says:—This act shall not apply to any town or city of less than 5,000 inhabitants. The law in this State took effect July 15, 1876. Another point in this Kentucky law is of interest, the retailing of proprietary medicines being prohibited, except by those legally entitled to carry on the dispensing and drug business.

The registration fee in Maine is \$5. All who intend to engage in the apothecary's business are subjected to an examination—both pharmaceutical and medical graduates, who shall begin business after the law comes into effect. The pharmacists are much pleased with the clause which compels the medical graduate to pass an examination, and they declare that the least satisfactory examinations before the Board are made by medical graduates having had no pharmaceutical experience. Pharmacists in business at the time of the passage of the Act are not affected by the law, and it is left optional with them, if they desire to become registered, to submit to an examination or not. William C. Baker, secretary of the Philadelphia Pharmaceutical Board, recently wrote me the following letter:—"The Act creating the Philadelphia Examining Board requires every person opening a drug store in Philadelphia to be either a graduate of some recognised college of pharmacy, or to pass an examination before the Board. Assistants must be qualified assistants, that is, have passed an examination as such before the Board." In a later letter in answer to my query whether the diploma from the British Pharmaceutical Society would be recognised, he says:—"I think the diploma from the British Pharmaceutical Society would be accepted by our college, and its possessor be allowed to apply for examination after attending one course of lectures. I think our Pharmaceutical Examining Board would recognise the diploma, and only require the holder to become registered. The pay of drug clerks varies very much—some find only board and college tuition—some a slight money salary—probably \$5 or \$10 per month."

THE ART OF PRESCRIBING.

IT may occur to many that the title is one of those pretentious names merely used to cover a very small matter, and even to others that no such art exists. The definition of the word "Art" may be thus given:—"The power of doing something acquired by experience, study, or observation"—"A system of rules serving to facilitate the performance of certain actions." To be able to prescribe properly certainly is "doing something acquired by experience, study, or observation." It can only be done after a long apprenticeship, during which time experience is gained by observation of numerous cases, and the careful study of these so as to be able to recognise like forms in the future, and it is the object of this paper to point out that there are rules which tend to facilitate the performance of these actions.

Prescribing presumes some one to be prescribed for, and this one as suffering from some malady which it is the duty of the prescriber fully to unearth, and then to give or apply that which will relieve or cure. To prescribe without knowing what it is we are prescribing for is the merest charlatanism, veiled but thinly by an outward show of respectability. To attempt such a task without previous careful attention is as foolish as to try to translate a passage from some language of which we know nothing. Preliminary training is as essential as in any profession. What would be thought of an engineer who gave his opinion as authoritative on a point of law as against a lawyer? and is it any better or less ridiculous that men who have never seen or studied any diseases should invent some universal panacea for all the "ills that flesh is heir to"? We shall have to consider the patient, the disease, and the remedy; and on each of these we shall enlarge and strive to show what

should be the rules followed in order to obtain the best possible results for all concerned.

We will first consider the patient, and it is very important at the outset to recollect that we are dealing with human beings whose present circumstances tend to bring into prominence those states of mind which, unless skilfully dealt with, will defeat all our best efforts. Generally the evil day of seeking advice is put off, because there is a disinclination to tell others what is really the matter; sometimes a definite determination to deceive; in others an undefined dread without any definite reason for its existence; sometimes a nervousness which needs to be soothed, and a carefully-conducted examination, which shall bring out what otherwise the patient would not reveal. Then, of course, in certain cases, we are allowed to inquire into subjects which nothing but disease would justify the slightest allusion to. The manner of the prescriber must be kindly, and such as to make the patient feel perfectly at ease; sympathetic, to win confidence. All queries must be conducted with tact, so as to arrive at the necessary details with as little distress to the patient as possible. No advantage should ever be taken of this position. Nothing can be more ungenerous or so likely to render the prescriber unpopular. These may all seem very small matters, but they are just those which are constantly being neglected, and therefore render it all the more necessary to call attention to them.

It is always well to allow the patient to tell his own tale, merely asking such questions as are necessary to clear up any doubtful point. During this recital it is well to observe the narrator carefully, both as to physical appearance and temperament, noting such points as pallor of face, whether there exists any irregularity of pupils, the presence of any sears, whether there is any want of proper control over the facial muscles as exhibited by trembling of muscles about lips, the presence of any hip, anything unusual in expression or about sound of voice. In this way a great deal of important information may be gained as to the general history of the patient, and some insight into the mental state, by carefully noting the way in which he describes his symptoms; if in exaggerated language or with useless repetition, with an admixture of melancholy for which there is no warrant, or statements marked by a high regard for self or tainted by delusion.

By carefully attending to this some thread will be discovered, and must be followed up by close and kindly cross-examination, and we would remark that this is as necessary as in a law court. No one who has not had large experience would credit the extremely loose way in which patients describe their ailments, contradicting at one moment what has been just previously stated, and this even with intelligent people; and it is not much to be wondered at by anyone who notices how the same characteristics mark the ordinary intercourse of life; and we must also bear in mind that the person is probably trying to describe something he has never experienced before, and therefore can compare it with no previous state in order to render it accurate, and that some of the sensations of malaise are such as to defy accurate description.

How very important this cross-examination may be will appear from the following case:—A boatman, after rowing on a particular day, found he had a pain in the left arm; this became worse, prevented the use of the arm, and deprived him of sleep, the pain being bad at night. His doctor said it was neuralgia, and dosed him with quinine; but this gave him no relief, and after a time he consulted a physician, who told him he had injured one of the muscles of the arm (ruptured some muscular fibres), and advised rest, the arm to be placed in a sling, and some remedies which gave relief. He then passed under the care of a third medical man, and added to his sufferings was the fact of earning nothing. He then had, about midway between the shoulder and elbow, a very tender spot, and in passing the finger over this a deep swelling could be detected. He also pointed out over the breast-bone a fluctuating tumour. This latter, with the nocturnal pain, suggested syphilis, and on cross-examination this was admitted, but certainly never would have been mentioned by the patient, as having occurred so long ago he never thought it had the slightest bearing on his present state. He was ordered still to keep the arm in a sling, to take iodide of potash with sarsaparilla; he had fallen into a low state, induced by sleeplessness and

anxiety. On his next visit he reported that since taking the iodide he had slept well, and on the second day he had felt so free from pain that he had lifted some chairs about, which brought back his old enemy. Under this treatment he soon became quite well, both swellings disappeared, and he regained his health. Here was a case of strain or rupture of muscular fibres, which in a healthy man would soon have been all right, but in this case, in consequence of previous disease, took on the form of syphilis. This was only recognised by careful inquiry, and had this been done at first no doubt the man would have been saved much suffering, much loss of time and money and lowering of health, and much more credit been given to the prescriber. Not understanding their own state, and being quite ignorant of the relative importance of symptoms, patients often leave out altogether the most important details, and we must not forget that they only describe and dwell upon that which causes them inconvenience; and so, if we would be successful, we must dive below the surface, and carefully and patiently investigate final causes. With regard to the disease, it is very important to make an exact diagnosis, as the case above narrated fully exemplifies. Unless the cause of the symptoms be removed, these latter will be likely to remain, or be masked merely to reappear on the cessation of treatment. Never to get into the habit of merely treating symptoms is necessary, unless one wishes to fall into the merest mechanical routine. A case will illustrate this: A woman just over middle age was suffering from diarrhoea, which nothing seemed to arrest. All the astringents were most patiently administered, but without any permanent result; at last, it was suggested that the urine should be examined, and she was found to have Bright's disease, and, on appropriate remedies for this state being administered, the diarrhoea was arrested. Here no attempt to cure this one symptom could be of more than temporary effect, because it was merely a manifestation of a constitutional state which must be cured or relieved ere the diarrhoea would yield. The secretions should always be carefully attended even in trivial cases, or failure will constantly attend our best efforts, and after vain attempts we shall have the mortification of seeing a cure effected merely by another remembering to do what we have neglected. In a case of neuralgia all the usual remedies may be tried without success if an aperient has not been given; whilst a couple of colocynth and henbane pills, followed by quinine, acts like a charm. And it is well here not to rely on the general answer that "the bowels are all right"; it is necessary to make close inquiry, and is always safe to err on the side of administering rather than court failure. The old routine of examining pulse, tongue, inquiring as to state of bowels and secretion of kidneys, gives very often much most valuable information, although many in these advanced days are apt to smile at attention to such trifling matters, and to set it down as an attempt to impose upon the patient as careful investigation that which is nothing more than a mere form. The regularity or irregularity of pulse, its rapidity, whether it intermits or not, whether the vessel when felt is hard and resistant, indicating disease of its coats, whether slow or fast; the tongue, whether clean or coated; if the latter, the colour and arrangement of the fur; whether the papillae are normal or enlarged and reddened; any fissures or ulcers; whether it is large and flabby and indented with the teeth—all are points demanding our notice, and capable of yielding practical information.]

Always carefully inquire after all the special causes of any particular disease, otherwise this may remain in full operation, and treatment prove unavailing. People who habitually take stimulants in excess are notoriously untruthful, and glibly assert that they are almost total abstainers, and it is only by careful inquiry as to how often they imbibe, and about the quantity each time, and adding all together, that a very large total is discovered as being ingested during the day. The white-furred trembling tongue (to avoid this tremor being noticed drunkards will put out their tongues for examination only a short distance, and then keep it still by pressing firmly on it with the upper teeth: always, therefore, insist on the mouth being widely opened), morning sickness, tremor about muscles of mouth, general unsteadiness about all muscular movements, and moist skin will unmistakably reveal an undue and hurtful indulgence in alcoholic liquors. With young unmarried

women, who declare they are not regular, and want something to bring on the menses, it is always necessary to be on guard, lest, whilst doing this, one is really procuring abortion; and, if such be the desire, these patients are quite as untruthful as drunkards. Carefully and conscientiously avoid falling into the habit of mere mechanical prescribing, simply giving something in the hope that you may be lucky enough to hit the mark.

As to the remedy to be employed, that will, of course, depend on the diagnosis, and as there are many drugs to be chosen from for each disease, each one will have one or two special favourites based on previous experience, or following the dictum of some teacher or other person in whose ability great faith is reposed.

There are two great errors to be avoided; one is the eager pursuit of new remedies because they are new and fashionable, or, on the other hand, to ignore them altogether; both Scylla and Charybdis must be avoided, and a middle course taken. Old and tried remedies should not be hastily cast aside; it often happens that what is somewhat old-fashioned and simple will answer the purpose quite as well as its more modern substitute. On the other hand, it would be sheer folly to refuse to recognise the weight of experience in testifying to the value of a recent drug. As far as possible make all medicine palatable; soften down as much as is feasible anything marked, either in appearance, taste, or odour. It is well to encourage what has been very fitly called elegant prescribing, that is, making the product as pleasing to eye, nose, and mouth as is consistent with efficiency; everything must, of course, be sacrificed to this last. Certain people are easily affected by the very smallest doses of some drugs, so that they cannot take them in any shape or form, and the attempt to force them in a disguised state has resulted very seriously. Such peculiarities must be respected, and have mainly to do with such drugs as opium and its preparations, calomel, ipecacuanha, iodide of potash, quinine, copaiba, and belladonna. Do not be easily induced to change a remedy, once having made up your mind as to its suitability, remembering that remedial agents require time; neither persevere too long a time, from being overwedded to a drug, when it is obviously of no further use.

M. R. C. S.

PERSIAN INSECT POWDER.

THE *American Naturalist* for March (vol. xiii. p. 176) contains a short paper by Mr. W. L. Carpenter on *Pyrethrum roseum* as an insecticide. Its power in this respect had been questioned by a writer in the periodical, and some experiments were undertaken in consequence. Insects were confined under a glass tumbler, the edge of which was slightly raised to admit air. Some of the powder of the flowers of the *Pyrethrum roseum*, the so-called Persian Insect Powder of commerce, was introduced on the point of a pen-knife. Large butterflies and beetles, honey-bees, mud-wasps, ants, dragon flies, and spiders were all experimented on. It was found that the odour of the flowers did not affect them, but if any particle of the powder reached the mouth, death, sooner or later, was the result. The insect cleaning the dust from its body would lodge a fatal dose in the mouth.

Some lived only a few minutes, others several hours. The drug caused paralysis of the motor nerves, and the legs were affected in regular order, the first pair being paralyzed, sometimes for several days before the insect died.

The practical lesson is that the powder should only be used where insects will come in direct contact with it. It should be freely sprinkled over anything infested by them.

We may add that in 1874 Hermann Kalbruner (*Zeitschr. des Allgemein. Oest. Apoth. Verein.* xii. 542) investigated the powers of different composite as insecticides. He dusted flies with a few grains of the powder, and noted how soon they died. He considered that those powders were useless which did not kill in less than two hours. His experiments do not cover the ground of those of Mr. Carpenter, but they confirm the conclusion that contact with the powder causes death.

THE CANDLE-NUT, *ALEURITES*, *MOLUCCANA* W.

BY W. G. PIPER, F.L.S.

THE *Aleurites moluccana*, Willd (*A. triloba*, Forst, *Jatropha* (*Croton*) *Moluccanum*, L.), the candle-nut tree, Belgaum, or country walnut, is a native of the islands of the Pacific; it is found in northern Australia, abounds in the Moluccas and most of the islands of the Eastern Archipelago, in the Malay Peninsula, Cochin China, and the South of China. Specimens have been sent from California, Chili, and Venezuela. It is largely cultivated in some parts of India; it is found "casually spontaneous" in the Mauritius; it has been introduced into the West Indies from Asia, and has become naturalised in Jamaica; it is cultivated in the Botanic Gardens of Brazil.

It is a tree of considerable size, though larger in some localities than in others. It is conspicuous in the forests of Oceania from the fine white powder which covers its leaves and young shoots, but which is easily rubbed off. In Ceylon it appears white after rain, so becoming remarkable among other forest trees. Its leaves are large, and are generally uniform in shape in each country, though they are three-, five-, or seven-lobed in Tahiti and Fiji, more or less cordate in the Moluccas, and ovate and acuminate in India. The flowers are diclinous, white, and inconspicuous, in crowded terminal panicles. The calyx is three-lobed, the corolla has five petals; the sepals and petals of the female flowers are rather larger than those of the male. The stamens are numerous, in a little cone of four or five alternate whorls. In the female flowers there are two sessile stigmas.

The fruit is formed of two large fleshy drupes, about the size of a walnut, adhering laterally, and divided internally into two cells, each of which contains a single oily seed. The shell hardens as the fruit matures, and becomes oily covered with a chalky coat; it is firmly adherent to the kernels.

HISTORY.—The "Liber Fundamentorum Pharmacologie" of the Persian Abu Mansur Mowafik Ben Ali (A.D. 1055), (*a*) under the Arabic name *Dend* describes a plant called by the Hindoos *tshupal*, of which there are three kinds—one resembling the pistacio, a second like the ricinus, and a third which is intermediate. The Arabic *Dend* is a name of the walnut, a fact which has some bearing on the subject. Seligmann identifies this plant with the subject of our paper. A Chinese work on botany, the "Kwang-k'ün-fang-p'u," published in the Ming dynasty (A.D. 1368-1616) and re-published in 1708, mentions the *shi-lih*, or *shih* leih (literally, the stone-chestnut), but does not ascribe to it any medicinal properties. The *Pun-tsaou* (A.D. 1597) casually mentions the *shih-lih* under the heading of "Chestnut," and states that it is common in the south of China (*b*). All recent writers on Chinese *Materia Medica* agree in identifying this with the candle-nut. In 1689 Paul Hermann mentions among the plants of the Dutch East Indies the "*Ricini fructu Arbor Curassaviæ foliis Zizyphi argentea Zeylanica*," called by the natives wild cinnamon (*c*). In the same year Jacob. Breyn mentioned (*d*) a "*Ricinus dulcis arborescens* (vel si mavis frutescens) *Americanus populnea fronde argentea sive foliis Populi nigrae argenteis*." Plukenet gives the two preceding names to a mere slip, bearing four or five alternate leaves, figured in the second part of his "Phytographia" (A.D. 1692) (*e*), and his correctness is acknowledged by Hermann in a later edition of the "Prodromus" (*d*). In 1717 the "*Rathakakuna*, or foreign *Kakuna*," "*Nux Juglans Moluccana*," was mentioned on pages 6 and 24 of Hermann's "Museum Zeylanicum," and "*Mahapatighaha*," the "*Ricinus arbor Zeylanica dulcis*" on page 65. Both have been identified by subsequent writers with the candle-nut. Linnæus described the plant in the "*Flora Zeylanica*" (A.D. 1747, p. 165), under the name *Croton foliis cordatis angulatis scabris; subtus tomentosis*. He quotes by mistake the Cingalese name as *Kathakakuna*. In 1750 appeared the first extended account of the plant from the pen of a man who had no acquaintance with the results of his predecessors. Rumphius gave a large folio engraving of the plant, with fruit and flowers, in his "*Herbarium Amboinense*" (vol. ii, p. 180, cap. 12, fig. 58). He describes it under the Malayan name *Camiri*, Latinised by his translator to *Camirium*, and written *Camiri-boom* in Dutch. He gives the names of the tree in the vernaculars of the different Moluccas or Spice Islands (Amboyna, Ternate, Bouro, &c.,

126° to 128° E. and 0° 48' N. to 3° 5' S.), and an account of the uses of the nut and oil (*l*). In 1753 Linnæus described it in his "*Species Plantarum*," p. 1006, under the name *Jatropha moluccanum*. This being the first description of the plant printed after the promulgation of the binomial system of nomenclature, the specific name must be retained. N. L. Burmannus (1768) entitled it *Croton moluccanum* (*f*). Sydney Parkinson published in 1773 an account of the voyage of H.M.S. *Endeavour* in the South Seas. At page 44 he describes the uses of the Tootooe, the *Teloepa perspicua* (*g*). In 1775 Johann and Georg Forster, the companions of Cook, Banks, and Solander in their voyage round the world, constituted the new genus *Aleurites* (*h*). This name is from the Greek *aleuritia*, farinaceous or floury, and is applied to the plant because of the mealy covering of the leaves and young shoots (*i*). The species is described as *Aleurites triloba*, but this specific name must be rejected in favour of that proposed by Linnæus. Loureiro, a Spanish botanist, described it as *Juglans camirium* in the "*Flora Cochinchinensis*" (1790, p. 573) (*j*). In the following year Gaertner described the plant on page 194 of Part II. of his work "*De Fructibus*," and figured the fruit on tab. 125, f. 2. He entitled it *Camirium cordifolium*, referring to Rumphius, Solander, and Forster.

In 1793 Rear-Admiral William Bligh brought the plant to Kew in H.M.S. *Providence*, and it was mentioned in the 2nd edition of Aiton's "*Hortus Kewensis*," vol. v., p. 337. Since then it has taken its place among well-known plants. Under the names *Aleurites commutata*, Geisel; *A. ambigua*, Pers.; *A. cordifolia*, Steudel; *A. lobata*, Blanco; and *A. lanceolata*, Blanco, plants have been described which are considered by Müller to be forms of *A. moluccana*, W. (*k*).

USES.—In Java the tree, which has been introduced from the Moluccas, is grown as a shade to the nutmeg plantations (*n*). The timber is white and rather soft; density while green .642, when dry .445; limit of elasticity, : 3.13; cohesion, : 460. To prevent its decay it should, as soon as it is cut, be immersed in sea water for a time. It is not much used, but in Tahiti it is considered good for building purposes, and in Réunion it is found suitable for flooring-boards (*m*). "The root of the tree yields a brown dye used by the Sandwich Islanders for their native cloth" (*o*). The bark is used in Tahiti for making cloth (*n*). Forster (*p*) and Parkinson (*q*) state that in Tahiti the bark of the Tootooe, or *Aleurites*, is soaked in water, and the gummy solution obtained is used for varnishing their dark-coloured cloth, to make it glossy and to keep out the rain (*r*). A tasteless gum is said to exude from the bark and to be chewed by the natives of the same islands (*s*). Rosenthal ("*Synopsis Plantarum Diaphoricarum*") states that the inner bark dyes cloth a permanent dull red. The bark was sent to the Paris Exhibition from several different countries—Tahiti, Guiana, India, Réunion, &c.—as a tanning agent.

The leaves are used in dyeing native cloths in Fiji (*t*). The fruit is the most valued product. It strews the ground beneath the trees at all seasons of the year. Each nut weighs on an average between 160 and 170 grains. The kernel forms one-third of the total weight. The shell is covered with concretions of calcium carbonate, which effervesces rapidly when it is thrown into acidulated water. M. Damour has analysed it, and finds that it contains 4.38 per cent. of ash, consisting of calcium carbonate, 81.25; magnesium carbonate, 12.76; manganous oxide, .87; potash, 3.20; silica, 1.92. The ash, therefore, is valueless. In Malacca and Java the entire nuts are used under the names *Kamiri*, *Kras*, or *Buwah kras*, in playing a game of chance (*w*). In Fiji, as soon as a baby is born the midwife rushes to the *Lauci* tree, gathers a fresh fruit, and then squeezes the juice into the infant's mouth. This is supposed to clear its throat, and to enable it to announce its arrival more effectually. In this group the juice of the nut is used as a dye (*v*). In Tahiti and in Fiji a black pigment or lamblack, of good colour, is obtained by burning the shells; this is, or was, used in Fiji for blacking the face in "war paint," and in Tahiti for tattooing. This pigment is also used for staining native cloth (*w*). In the Moluccas the shells left after expressing the oil are used for fuel, and burn for a long while. The kernels are eaten in most countries where the tree is common. In flavour they are compared to the walnut (*x*) or the almond. In most places, however, it is believed that they must be eaten with precaution to avoid unpleasant effects, Roxburgh states

that they are considered wholesome (*Flora Indica*, iii. 631). They are used as an article of food in New Georgia (*y*). Guibort thinks them slightly indigestible. In Amboyna they are said to intoxicate if eaten in quantity. A little pepper is taken with them, or the nut is thrown in the fire and left till the shell has charred, when the kernel can be eaten with safety. They are sometimes boiled and eaten in place of the cocconut (*Rumphius*). In Java the nut of the cultivated variety is eaten, and is considered much like the almond. In the Moluccas it is considered aphrodisiac and apt to purge unless roasted or kept a year. In Guiana the nuts are eaten when shelled and deprived of their embryo. The Hindoos are fond of them (*Drury*); in Western India they are kept a year before being eaten (*Riddell*). In Samoa the kernel is chewed and then used for anointing the hair, and in Amboyna they are similarly used. Parkinson states that the black dye used by the Tahitians in tattooing is obtained from the kernels. It is made here and in Samoa by burning shell and nut together, and collecting the soot by placing a portion of cocconut shell in the smoke. It is used for blacking faces in war and for bark cloth.

In Fiji, the Hawaiian Islands, and Tahiti the kernels, threaded on the midrib of a palm leaf, a reed, or a stick of wood, are used as substitutes for candles. These torches or candles are often used in the Society Islands in fishing by night. In the history of the "Mutiny of the Bounty" it is stated that the rooms in Pitcairn's Island were lighted up with torches made of "doodoe" (*i.e.*, "tutui") nuts, strung upon the fibres of the palm leaf. The nuts are also so strung and used by the Sans Blas Indians in Central America, and a child is in attendance to knock off each nut as it becomes burnt out (Cooke, in *London Med. Rec.*, 1860). Each nut burns for about 10 minutes. They yield a light which was considered very good a century ago, but which is now thought dull and smoky and ill-smelling. In the Island of Boen, in the Moluccas, the same plan was also adopted. Rumphius states that the most general application of the tree by the Javanese and Macassarenes is the manufacture of candles from the nuts. The kernels are cleaned, crushed, and mixed with sufficient cotton or cocconut fibre to give them the consistence of stiff suet. A split reed or bamboo is then taken and rolled round a cylinder of the paste, forming a kind of candle or torch. These burn regularly, but they consume more rapidly than tallow candles, and give out an unpleasant odour, so that they are used only by the poorer classes (*z*). Taxes are now allowed to be paid in these nuts in Fiji.

M. Corenwinder has submitted these kernels to a careful chemical analysis. He finds that they contain: Moisture, 5.000; oil, 62.175; nitrogenous substances, 22.653; non-nitrogenous substances, 6.827; ash, 3.345; total, 100.000. Nitrogen, per cent., 3.624. The ash consisted of 1.078 of substances soluble, and 2.267 of substances insoluble in water. The former contained: Potash, .577; magnesia, .022; phosphoric acid, .479; no soda and no chlorine. The insoluble portion was composed of magnesia, .484; calcium oxide, .437; silica and loss, .155; phosphoric acid, 1.191. These figures show that the kernels contain 1.67 per cent. of phosphoric acid, while their ash would contain 30.395 per cent. of potassium phosphate, 39.689 per cent. of magnesium phosphate, 22.804 per cent. of calcium phosphate.

The OIL is the most important product of the tree. It forms two-thirds of the entire weight of the kernel. It is called in Fiji, Waiwai ni Lauai, *i.e.*, oil of the lauci. In the Sandwich Islands it is called Kukui oil, in Ceylon Kekune or Kekuna oil. It has also been named artists' oil, country, Indian, Belgaum, or Spanish walnut oil, lumbang oil, Bankoul oil, Kekui oil, oil of the Tutui or candle-nut tree, and in Hindoo, Hidglee-Badam ka tel, though this is more properly applied to the oil of the *Anacardium occidentale*. As ordinarily prepared it is amber-coloured, tasteless and odourless, slightly viscid at the temperature of the air in England, congealing at 32° Fahr., insoluble in alcohol, and readily saponified. Sp. gr. .923.

In manufacturing this oil it is of importance to separate the kernels from the shells. This is by no means an easy task, as they adhere together very firmly. To obtain a few kernels entirely free from shell it was necessary to treat each one by hand. When the kernels are obtained, 20-horse power will express from them 60 per cent. of oil, and hydraulic pressure is said to produce 6 per cent. more. By boiling with water, as practised in Jamaica and in the Poly-

nesian and East Indian Islands, more than 50 per cent. of oil can be obtained. It is more easily prepared than even cocconut oil, and simple filtration clarifies it and makes it fit for burning.

The kernels, when separated from the shells, quickly turn rancid, and assume a brown colour, so they must be treated on the spot.

The oil is well known in Jamaica, in India, in the East Indian Archipelago, and in Polynesia. In Ceylon, Java, Cochin China, and most of the South Sea Islands it is used for feeding lamps. It gives a clear light, but consumes quickly. In the Marquesas it is being replaced by whale oil, purchased from the whalers.

In the lighthouses of New Caledonia it has been found equal or superior to colza oil. Heckel states, on the authority of two years' experiments in New Caledonia, that the oil rapidly corrodes tinplates, and that even platinum resisted its action only for a time. If this fact be confirmed it will have an important bearing on the economic value of the oil (*Journ. de Pharm. et de Chim.*, 1875, October, p. 293). When properly treated it is said to become very drying, and has been used in many places for mixing paints and for making fat varnishes. The committee appointed to report on the raw materials at the Madras Exhibition, 1855, state that it is a good substitute for linseed oil. It is not much valued in Fiji, and is there used by the natives for polishing. In the Moluccas it is used while fresh for cooking, in place of cocconut oil, which is scarce. When old it is used there for lamps. Medicinally it has been used, like every other newly-introduced oil, as an embrocation in rheumatism, and in Brazil it has had some reputation in this disease. It has been several times during the last 20 years strongly but spasmodically recommended as a substitute for castor oil, but the oil obtained by expression has been given by Heckel in doses of 60 grammes, or nearly 2 ounces, without producing sensible effects. Dr. Oxamendi, who recommended it, found that a quarter of this was an efficient purgative. The cathartic property is probably not inherent in the oil, but is owing to the presence of small quantities of impurities gathered mechanically from the kernels. The fact that it is uncertain in its effects will preclude its use as a medicine. It is considered a stimulant and sudorific by Hindoo doctors (Irvine's "Mat. Med. of Patna"). Birdwood classes it among the drugs of Bombay. It has been used for soap-making, and has been found suitable for the manufacture of stearine for candles. It is said to be used by the Sandwich Islanders as a mordant for their native dyes, but this is extremely doubtful.

COMMERCE.—The oil has been an article of commerce in the Sandwich Islands for nearly 50 years. In 1835 a Mr. French, at Honolulu, was manufacturing 100 to 150 barrels annually (*Am. Journ. Science*, 1838, p. 209.) In 1843 about 8,600 gallons were shipped from this port, valued at 1s. 8d. a gallon. In 1862 M. C. Cooke stated, in the *London Medical Record*, that the Sandwich Islands then produced about 10,000 gallons yearly. This was forwarded to the ports on the West Coast of South America. In 1875 candle-nuts to the value of 700*l.* were exported from Tahiti. From Fiji cargoes of the nuts have been sent to Hamburg. In 1873 \$450 worth were sent to American ports from this group. From the port of Levuka (Fiji) alone candle-nuts were exported to London worth 65*l.* in 1875, 1,562*l.* in 1876, and 3,040*l.* in 1877 (W. S. Cooper. "Fiji: Its Resources, &c.")

The oil is worth in the London market as much as sesame or rape oil—that is, about 30*l.* a ton. There ought to be a ready sale for it in San Francisco and other Pacific ports. In all places where the tree is abundant this ought to become an important article of commerce. The chief difficulty in the way of its realisation is the unusually firm adherence of the kernel to the shell. No machine at present known would separate the kernels, and even by hand labour it is difficult to clean any considerable quantity. It may be worth while to try the plan of baking the nuts slightly, as practised in the Society Islands. The Samoans a few years ago sold a good many of these nuts, and they slightly baked them in their native ovens, after which the shells were easily removed. Boiling them is impracticable, as the nuts are cooked long before the shells are softened. Labour is far cheaper in Polynesia, New Caledonia, and India than in this country, so that it would

be more profitable to express the oil abroad. The fact that in every three tons of the nuts two tons are worthless shells is a strong argument bearing in the same direction. The expression of the oil requires only simple machinery, and the shells would supply all necessary fuel. The difficulty of providing casks or suitable vessels in which to ship the oil is a serious obstacle in the way of this proposal, but we think it is more than balanced by the considerations just stated, and it is one which would diminish yearly. A considerable quantity of oilcake is used for manure in China, and the cake left after the expression of the oil might find a market there. If so it would pay for all the expenses of manufacture. The cake cannot be used for cattle food on account of its occasionally purgative properties, but it would be a very valuable manure. The analysis given above shows that it is unusually rich in nitrogen, potash, and phosphates. The ash left by burning the kernels or cake would meet with a ready sale in any European market: that of the shells is valueless (*aa*).

The best original accounts of the tree and its products are the following: Rumphius' "Herbarium Amboinense," vol. ii., p. 181; Seeman's "Flora Vitiensis," p. 223; a paper on "Kukui, or Kekune Oil," by M. S. Cooke, in the *London Medical Record* for 1862, reprinted in *Pharmaceutical Journal* for that year; "Etudes sur la Noix de Bancoul," by M. Corenwinder, of Lille. The following contain valuable compiled accounts: Simmonds' "Commercial Products of the Vegetable Kingdom"; M. C. Cooke's "Report on the Oils and Oil-seeds of India"; Balfour's "Cyclopædia of India," 2nd edition. Everything of importance will be found in these works.

- a. Translated by F. R. Seligmann, M.D., 1830.
- b. F. Porter Smith's "Chinese Materia Medica" (1871), p. 6.
- c. "Cinnamomum Sylvestre;" e. "Paradisi. Batav. Prodom." Amsterdam, 1689, p. 370.
- d. In his "Prodomus Plantarum rarior." Secundus. The second edition was published in 1739.
- e. Plate ccxx., fig. 5.
- f. "Flora Indica," p. 205 (305 by misprint).
- g. This name was coined by Solander in his "Prim. Flor. Insularum Pacific" (ined.), p. 332. The plant is figured under this name in Parkinson's drawings of Tahiti plants (ined.), t. 105 and t. 106.
- h. "Characteres Genera Plantarum ad insulas maris collegernat." London, 1772-1775, No. 56.
- i. The French is l'Aleurit, the German Mehlbaum (meal-tree). The name aleurometer has been applied to an instrument for testing flour. Aleuromancy is defined by Phillips as a kind of soothsaying or divination among the ancients by bread or cake-paste. Aleuritia is a name given by Willdenow to a division of the genus *Primula*, distinguished by its floury-looking leaves.
- j. In Decandolle's "Prodomus," vol. xv., part ii., p. 722, "*Vernicia*, Lour. 'Flor. Cochinch.,' p. 720," is given as one of the synonyms of the genus. The page referred to is in the index of Loureiro's work; *Vernicia* does not occur in it. The genus *Vernicea* is described on p. 527, but does not seem to be identical with Aleurites.
- k. Decandolle's "Prodomus," loc. cit.
- l. The fact that the first full account of the tree described it as native of the Moluccas accounts for several of its names. Thus it has been called Nux Juglans Moluccanum, Croton Moluccanum, Alenrites Moluccana, Noix des Moluques (Fr.)—properly applied to the nux vomica, Molucca tree, Molukische doppelnuss (Ger.), Molucca nut, and Molucca Aleurites, though the last is simply a translation of the botanical name.
- m. The density, elasticity, &c., were determined by M. Sebent on specimens from New Caledonia. Cf. "Catalogue des Produits des Colonies Françaises à l'Exposition Universelle, 1878," pp. 261, 303, and 336.
- n. Balfour's "Cyclopædia of India," 2nd edition, i. p. 69.
- o. A. Black, in "Treasury of Botany," 2nd edition, 1873, p. 36.
- p. J. R. Forster's "Observations made during a Voyage Round the World," London, 1778, p. 449.
- q. Parkinson Sydney's "Voyage to the South Seas," 1773, p. 44. Parkinson was one of the companions of Cook in his first circumnavigation.
- r. Rosenthal gives Firnisbaum der Sandwicheinseln (*i.e.*, Sandwich Island varnish-tree) as one of the German names of the tree.
- s. I have found no original authorities for this statement; it is made by Balfour, F. Porter Smith, and Rosenthal.
- t. I take this opportunity of acknowledging the kindness of the Rev. J. Nettleton, formerly of Fiji. Although I am personally unknown to him, he replied most courteously and fully to my letter begging for information.
- u. Crawford, J., "Malay Dictionary."—Kamiri has been variously written. Crawford gives Kāmiri as Malayan and Javanese, and Kāmiling as the Malay of Bencoolen; Kamiling and Kamiri are the forms given by

Marsden. Balfour gives Kamiri and Kamari as Javanese; Miquel gives Kemiri, Kamiri, and Kamiling as the names in Sumatra; Hasskarl gives Kamierie as Malay; Kamiri is adopted by Guibort; it and Camarin are given by Rumphius as Malay. The Camirium and Camirboom of this author have been mentioned above. Camirium oleosum is a name given to the tree by Reinwardt. The Juglans Camirium of Loureiro and Camirium cordifolium of Gaertner have also been noticed. Rumphius states that the Amboynans call the *Ricinus*, Camirum when they express oil from its seeds. Buwah-kras, Bua-kara, in Borneo (Cooke's "Indian Oils"), Boeah-kras (Miquel's "Fl. Ind. Batav."), Boa-cras (Rumphius). The first vowel sound is doubtless the German modified ö. Boeah = fruit; kras = hard.

v. The Rev. J. Nettleton and Seeman's "Flora Viti," p. 223. Lauci is pronounced Lauthi, as the letter *c* is an arbitrary sign adopted by the missionaries in Fiji to represent the sound of *th*. It is the most general name in Fiji both for the candle-nut and the tree producing it. Etymologically, it means "covered over in order to ripen." The banana is so covered to keep off the parrots, but the reason the name is applied to the candle-nut is not evident.—*Rev. J. Nettleton*.

w. Rev. J. Nettleton, and Duchesne's "Plantes Utiles," p. 299.
y. "Treasury of Botany," i. 36.

x. In India the tree is called walnut, country walnut (also used in Jamaica), Belgium walnut (it is common near Belgaum, Lat. 15° 48' N., Long. 74° 42' E.), Indian walnut, Spanish walnut. It was considered a species of *Juglans*, by Loureiro and by Burmannus. It is named akhrot, or kukrot, in Sanscrit; akhroot, akhoroot, akhrot, akrot, akroot, dessee akroot (*i.e.*, country—a.), and Bangla-akrot, in Bengalee; ukroot, drukht-*u*-akhroot (*i.e.*, three-lobed akhroot), akrot, akola, in Hindoo; akrot and akroete, in Maleal; akrot, in Malay (?) and Persia (?); jungli akrot, in Duk.; nattu-akrotn, in Tamil; natu-akrotu, in Telooogo. Akrot, and its various forms, are also names for the walnut. Anglo-Indians sometimes call the plant, Indian akhrot. Gray, in his "Supplement to the Pharmacopœia," states that the oil is called dessey-akrot, *i.e.*, country walnut. This name is applied to the oil probably by a mistake. In Mauritius the tree is called noyer (*i.e.*, walnut) de Bancoul. The Arabic Dend, mentioned in the "Liber Fundamentorum," is also a name for the walnut.

z. The above paragraph explains many of the names of the plant. Tutui, written by the early voyagers Tootooe, is the name of the tree in Tahiti and Fiji; "Doodoe" is its title in Pitcairn's Island; Tui tui is the name in the Tonga Islands, and perhaps in the Marquesas; and Balfour states that this is known also in Australia. Kukui is the name in Hawaii and in the Sandwich Islands. "In Tahitian there is a verb *tutui*, 'to kindle a fire'; but in several Polynesian dialects, including the Tahitian, *tui* is 'to pierce through,' and from this 'to string together.' This is doubtless the origin of the name, the nut being pierced through and strung on a cocoonut fibre as above described. Tutui and Tui tui are both reduplicated forms of tui. Kukui is a form of the same word, the *t* of other languages being almost always changed to *k* in Hawaiian. The Samoan name is *lama* [and in Marquesas the plant, according to Cuzet, is called *ama*]. This gives the idea of burning, or rather of lighting. A torch made of dry leaflets of the cocoonut palm is an *au lama*, an being used for a collection of various things, as *au'ra*, a shoal of fishes; *au'fa'i*, a bunch of bananas, &c." The Rev. S. J. Whitmee, one of the greatest living authorities on Polynesian languages, has supplied me in the kindest manner with the above interesting details. I cannot too warmly express my acknowledgments to him. Besides these the English, candle-nut, French, noix chandelle (rarely used), German, Kerzennussbaum, owe their origin to the same use. The names candle tree and candleberry tree have been applied, though wrongly, to this plant. The candle-tree proper is the *Parmentiera cerifera*, or Palo de Velas of Panama (N. O. *Cresecentia*); the candleberry tree is *Myrica cerifera*. A paper in a French magazine stated that the English called the tree *Candle* and *Candleberry*!

aa. Besides the names previously mentioned the tree has received the following:—Noix de Bancoul is the ordinary French name of the nut. Noz do Baucoul, Noz da India, Portuguese of Brazil; Bancoulier, French for the tree. In Tahiti it is named Tiari, also (written less correctly Tiari and Tiaily, Teaily. In Fiji it is also named Sikeci (see note v). In Jamaica it is named Cob-nut, a title which properly belongs, by right of antiquity, to a variety of the hazel-nut, *Corylus avellana*. In Cochiu China it is called Deau lai and Ba-dau-nam. In Ternate (0° 48' N., 127° 27' E.) it was called Saketa; in Amboyna (3° 38' S., 128° 17' E.) Yaro-mahu, *i.e.*, Javanese canarium, either because it grows most in Java or because the use of the nuts was imported thence. The *Canarium commune* is a tree belonging to the family Burseraceæ. Its seeds, and the oil obtained from them, resemble those of the *Aleurites*. In Bouru (3° 5' S., 126° 47' E.) it was called Sibo and Sibut. In Macassar, at the southern extremity of Celebes, it was named Sapiri; in the island of Boen, Ampiri, and in "Bimenses," one of the Spice Islands which we have been unable to identify, it was called Callelli. In Bombay it is named Japhal, or Japhul; in Ceylon, Coekuna, Kokuna, Kekuna, Tel-kekuna, or Kekune. By the Anglo-Indians it is sometimes called Lumbang nut-tree, and the fruits are entitled Lumbang nuts. In Hindoo it is said to be called Hidgji Badam; this is probably a mistake, as the name is generally applied to the cashew nut. Mainphul is given in Bombay to the *Aleurites triloba*, to *Fanquiarta spinosa*, and to *Randia dumetorum*. In Malcal it is named Kara-angolam; in Telooogo, Woodooga. In Sunda and Java it is named Mocutijang.

THE SEVENTEEN SAGES.

SEVENTEEN chemists once set out
 To kick up a great smother;
 I could not say in one short day
 How wise they thought each other.
 A dream should be by them fulfill'd,
 A vision which might never fade,—
 An Institute they were to build
 Of chemists they would form a Guild,
 Exclusive to a shade.
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

'Tis true some such attempt was made
 By two Societies of note;
 What did they care, these sages rare,
 A rival company they'd float.
 'T would raise the wind, their system grand,
 And pay the chemist's tailors' bills.
 (By "chemist" you must understand
 A swell, who never soils his hand
 In rolling nasty pills.)
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

The Legislature first they begged
 A Charter Royally signed to grant,
 In language clear, this would appear,
 As something like a "plant."
 But Parliament was wide awake,
 And did not show itself so weak
 As readily to undertake
 Monopolising laws to make,
 To gratify a clique.
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

Recovering from this rebuff,
 A bitter dose to swallow—
 The seventeen prayed the Board of Trade
 Their arguments to follow.
 Respecting these, the Board opin'd
 They might be either sound or crack'd;
 For registration they must find
 A memorandum, duly signed,
 Under the Companies Act.
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

The necessary forms gone through
 The Institute was started;
 Its friends, though proud and boasting loud,
 Scemed rather ehieken-hearted.
 Though infant-like, in leading-strings
 They wished the members all to be,
 'Twas clear as mud (if truth has wings)
 That they desired, above all things,
 A thumping entrance fee.
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

The world comprises millions, but,
 A great philosopher insists,
 'Tis proved by rules, that still of fools
 The great majority consists.
 Howe'er this be, there was no lack
 Of guineas pouring in like rain;
 The chemists asked for *status* back,
 Alas! those coffers had a knack
 Of running out again.
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

But day of settlement *will* come,
 Though phantoms fair may beckon,
 It came to those, who kindly chose,
 No *quid pro quo* to reckon.
 The Council soon were up a tree,
 And members looked suspicious
 When all they got was F.I.C.,
 (They cribb'd these letters, as you'll see,
 From the word fictitious).
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

Its Fellows mad, Associates wild,
 Promoters, too, disgusted,
 With naught to gain but titles vain,
 Their hopes of plunder "husted,"
 Have learned that history unlocks
 This moral lesson very brief:—
 The frog that thinks itself an ox,
 And doing so, its betters mocks,
 Is sure to come to grief.
 Sing mournfully, oh, mournfully,
 The Institute of Chemistrie.

W. W.*

Botany.

LICHENS.—Messrs. W. Joshua, F.L.S., Cirencester, and E. M. Holmes, F.L.S., 30 Arthur Road, Holloway, have commenced the issue of a series of microscopical preparations intended to illustrate the genera and species of British lichens. These are carefully prepared by experienced hands; they are as clear as possible in their details, and are accurately named. The careful examination of specimens like these, comparing them with descriptions in books, is undoubtedly the best way of learning the rudiments of this branch of science. The series will be of the greatest possible use to beginners. The first fasciculus contains 48 slides, illustrating as many lichens, 15 of which are either very rare or only recently discovered in Britain. It is put up in a suitable box, and sold for 3 guineas. The Rev. W. A. Leighton, one of the best authorities on the subject, speaks in the highest terms of the undertaking.

Personalities.

MR. J. CARTER BELL has been appointed public analyst for the borough of Glossop, vice Allen resigned.

MR. FRANCIS VACHER has been appointed public analyst for the borough of Birkenhead.

DR. BOSTOCK HILL has been appointed public analyst for Leamington, vice Dr. Thompson resigned.

MR. J. VINCENT TAYLOR has been appointed public analyst for Colchester.

MR. J. BAYNES has been appointed public analyst for South Lincolnshire.

MR. FREDERICK LEAK, druggist, York, has been elected to represent the Walmgate Ward, York, in the Town Council. He received 843 votes, while his opponent, a Conservative, received 841. The contest throughout was very close.

DR. ALEXANDER DICKSON, Professor of Botany in the University of Glasgow, has been appointed to the Chair of Botany in the Edinburgh University, in place of Dr. J. H. Balfour, whose resignation we announced last month.

MESSRS. KEENE & ASHWELL, homœopathic chemists, of 74 New Bond Street, have opened a branch establishment at 68 Fulham Road, South Kensington. One of their circulars has been sent to us, in which we read: "Members of the co-operative stores will obtain a liberal discount for cash on producing their tickets." If a fair profit is extracted even from them, the inference which those who have not bowed the knee to the "relief ticket" system must draw is obvious.

MR. FAIRLIE'S businesses were put up for sale by auction last month in Glasgow. A condition of the sale was that both the wholesale and retail concerns were to be taken together, the wholesale to be bought at a valuation to be made subsequently, the stock having been altered since the previous estimate had been made. There were four or five gentlemen at the sale disposed to buy, but some of them declined to bid for the two concerns. The purchaser was Mr. Frazer (Frazer & Green), who gave 1,200*l.* for the retail business. Mr. Frazer now owns four businesses in Glasgow.

* It may be well to remind the writer of these "exceh'c" stanzas that he has not imposed upon us by his pretended discovery of a long-lost poem by the author of the "Excursion." If the rhyme is the rhyme of Wordsworth, the words are the words of a profane plagiarist.—ED. C. & S.

Bankruptcies and Liquidations.

J. B. BREIDENBACH.

At the London Bankruptcy Court on March 24, John Baptist Breidenbach, of Albany Street, Regent's Park, and late of 43 Old Bond Street, perfumer, has presented a petition for liquidation, estimating his debts at about 1,700*l.*, and assets 120*l.*

Mr. G. B. Norman, in applying for the appointment of Mr. John Vale, accountant, as receiver of the estate, and for an order restraining several actions, said that the debtor had no business connection with the well-known firm of perfumers in Bond Street.

The application was granted.

ARTHUR MITCHELL CARR.

A MEETING was held at Sheffield on the 3rd inst. of the creditors of Arthur Mitchell Carr, of Attercliffe, chemist and druggist. Mr. Bedford, accountant, presided. Mr. Needham, the receiver, produced the following statement:—

<i>Liabilities.</i>		<i>£ s. d.</i>
Unsecured creditors..	.. .. .	463 13 10
<i>Assets.</i>		
Stock-in-trade ..	.. .. .	53 12 0
Furniture, fixtures, &c.	.. .. .	58 7 0
		111 19 0
Less creditors in full	.. .. .	31 11 9
		80 7 3

There was a contest between the receiver and the chairman as to which should be trustee, and as neither would give way no resolutions were passed. The following are the creditors:—

	<i>£ s. d.</i>
Parker, John J., Bridlington Quay	97 10 0
Thirty-sixth Commercial Funding Society	77 11 7
Bedford, F., Bank Street, Sheffield	62 0 0
Griffiths, F. T., Sharrow, Sheffield	35 4 2
Bennett, Thomas, Fowler Street, Sheffield	21 0 0
Morris & Co., Birkenhead	20 0 0
Knott, Samuel, Manchester	20 0 0
Tomlinson, J. E., & Co., Shude Hill, Manchester	19 0 5
Johnson Brothers, High Street, Hull	13 16 1
Nicholson & Milne, Queen Street, Manchester	8 1 0
Shaw, G. H., Attercliffe	8 0 0
Bourne & Taylor, Holborn, London	7 0 0
Windross & Benson, Hull	5 19 4
Bennett, Samuel, Barusley	5 6 0

Creditors under 5*l.*:—Johnson & Co., Southwark, London; Leath & Ross, Vere Street, London; Messrs. Wood, Leeds; T. Robinson, Attercliffe; J. T. Blanksop, Potter Gate, Chesterfield; Thomas Shaw & Sons, Ashton-under-Lyne; Thomas Furness, Castle Street, Sheffield; Titterton, Smith & Co., Birmingham; Sheffield Gas Company; Henry Gill, Scotland Street, Sheffield; W. T. Merriken & Co., Hull; Rodger Vargely, Aire Street, Leeds; L. Lowe, Dairworthy, near Bolton; Thomas Bates, Dixon Lane, Sheffield; T. Alcock, Carlton Road, Attercliffe; Wilkinson & Co., Pendleton, Manchester; R. Gibson, Hulme, Manchester; Middleton Vinegar Company, Ashton Cross, Birmingham; Hentry & Sons, Tooley Street, London; Parsons & Co., Water Street, Manchester; Thomas Tweddell, Warren Mills; G. R. Nutman, Palgrave, Leicester; Bryan Brothers, Bolton; Sands & Co., Oxford Street, London; Lott & Co., Vauxhall, London; D. A. Aitchison, Appleby, Westmoreland; and the Sheffield Waterworks Company.

JOHN COOKE, Chemist and Druggist, 126 Hoxton Street.

THE debtor, described also as a dealer in photographic chemicals and apparatus, has presented a petition for liquidation, and his affairs were brought before the Court on March 18. Mr. Maitland said that he was instructed to apply for the appointment of a receiver and manager of the estate, and for an order restraining several actions. The liabilities were about 1,900*l.*, and the debtor made an affidavit stating that his assets consisted of stock of the estimated value of 1,000*l.*, book debts of uncertain value, fixtures, trade utensils, and household furniture. He had been 20 years in the business, and it was important that it should be carried on pending the liquidation, as there were numerous orders on hand from very respectable customers, which ought to be executed, and for which the purchase of goods would be requisite. The debtor added that he was being sued by Mr. J. J. Atkinson, of Manchester Street, Liverpool, for the recovery of 60*l.*; Messrs. Johnson & Sons, of Cross Street,

Finsbury, for 48*l.*; Messrs. J. & R. Morley, Wood Street, Cheapside, for 16*l.*; and by Messrs. Ross & Co., 164 New Bond Street, for 33*l.*—In reply to Mr. Registrar Pepsys, Mr. Maitland said that the nomination of Mr. W. O. Attree, accountant, 52 Gracchurch Street, as receiver and manager, was supported by creditors for 200*l.*, and, if necessary, he could procure further assents.—His Honour appointed Mr. Attree receiver, and granted an injunction: but required the assent in writing of a larger proportion of the creditors before making any order for a manager.

F. LYON, Soapmaker and Chemist and Druggist, Watling Street.

THIS bankruptcy occurred in April, 1876, but the bankrupt only recently filed his accounts, and applied on March 25 to pass his public examination before Mr. Registrar Pepsys. The debts (unsecured) were stated at 1,176*l.* 3*s.* 7*d.*, and no assets; and the following were in the list of creditors:—

	<i>£ s. d.</i>
Bruce Brothers & Co., Robertson Street, Glasgow	456 5 4
Scott, W. A., & Co., Newcastle-upon-Tyne	383 6 4
Sanderson, J., 181 Clapham Road	60 0 0
Bauer & Co., Trinity Square, Tower Hill	45 0 0
Godard, Léon, Paris	42 0 4
Lyon, J. R., Camberwell Road	38 0 0
Nicol & Co., 22 Birchin Lane	24 4 6
Pearce, J. D., 25 Lincoln's Inn Fields	16 2 10
Burgoyne, Burbidges & Co., Aldersgate Street	12 0 0
Bosch & Co., Basinghall Street	10 0 0

There was no opposition, the solicitor for the trustee stating that, although the accounts were unsatisfactory, the bankrupt had satisfied the trustee as to the absence of assets. His Honour accordingly allowed the bankrupt to pass his examination.

HENSON MOSES, Wolverhampton.

A MEETING of creditors of Henson Moses, of Dunstall Road, Wolverhampton, chemist and druggist, was held on March 22 at the offices of Mr. Rudland, of 33 Queen Street, Wolverhampton. Mr. Rudland represented the debtor. The statement of affairs showed unsecured creditors, 212*l.* 5*s.* 9*d.*; partly secured, 145*l.*; rates, &c., to be paid in full, 10*l.* 9*s.* 2*d.*; total liabilities, 297*l.* 14*s.* 11*d.*; total assets, 8*l.* It was resolved by the creditors to accept a composition of 2*s.* in the pound, payable in two equal instalments of three months and six months.

STOCKER & HARRIS, Chemists and Druggists, &c., St. Ives.

THIS failure occurred in October, 1872, and, the assets having been realised, Mr. Low recently applied to the Court for an order closing the bankruptcy in pursuance of section 47. The official assignee reported that the creditors of the joint estate had been paid 13*s.* 9*d.* in the pound, and considerable assets had also been divided amongst the separate estate. Mr. Registrar Pepsys made the order.

EDWARD WILSON, Manchester.

EDWARD WILSON, Broom Street, Manchester and Prestolee, manufacturing chemist, trading under the style or firm of "Edward Wilson & Co.," has filed a petition. Liabilities, 20,000*l.*

POPULAR SANITARY ERRORS.—It is a popular sanitary error to think that the more a man eats the fatter and stronger he will become. To believe that the more hours children study the faster they learn. To conclude that, if exercise is good, the more violent the more good is done. To imagine that every hour taken from sleep is an hour gained. To act on the presumption that the smallest room in the house is large enough to sleep in. To imagine that whatever remedy causes one to feel immediately better is good for the system, without regard to the ulterior effects. To eat without an appetite; or to continue after it has been satisfied, merely to satisfy the taste. To eat a hearty supper at the expense of a whole night of disturbed sleep, and weary waking in the morning.—*Sanitary Record.*

Medical Cleanings.

HYDROPHOBIA.—The report of the Home for Lost and Starving Dogs states that, though 300,000 dogs had passed through the institution since its foundation, only one case of rabies had been discovered; and, though bites were of daily occurrence, not one of the officers had been attacked.

* *

CHROMIC ACID FOR WARTS.—The *Revue Medicale* says three or four applications of chromic acid suffice to cause the disappearance of warts, however hard and thick, and of whatever size. The application causes neither pain, suppuration, nor cicatrices, the only inconvenience being that the warts become of a blackish-brown colour.

* *

THE EFFECT OF WATER ON HEALTHY AND DISEASED SKIN.—Professor Hebra expresses in the *Medicinische Wochenschrift*, of Vienna, an original opinion about the effect of water used externally, and his high standing as a medical authority makes his opinion worth quoting. He believes that washes, baths, frictions, &c., are more injurious than useful to health, and that they afford no protection against any illness arising from chill. In the country, where people seldom bathe, sickness and death are less frequent than in towns; people who never take a bath in all their lives, and wash themselves only superficially, often reach a very old age.

The different applications of water produce inflammatory redness, nettle-rash, eczema, itching, furunculosis and other affections of the skin, which cause much pain, and whose cure requires months, and even years. These are now considered to be the injurious effects of water. Pimples and that disagreeable eczema marginatum, caused through the application of wet compresses, belong to the same class. Water irritates sickly more than healthy skin, and most affects those places which are continually exposed to its action. Baths render the skin less able to resist the influences of cold and warmth.

The temperature of the water has no influence on the irritation which it produces on the skin. The results are the same if cold or warm water is used as a compress in erysipelas, furunculosis, or anthrax; in neither of these does it hasten or impede the cure. Hebra says that water acts as an irritant by softening and removing the epidermis.

Water should not be used in either washes, baths, or lotions by persons with tender skins, or in diseases which are accompanied by inflammation, or after frequent use of soft soap, ointment, sulphur, mercury, iodine, arsenic, &c. Starch or French chalk may in that case be employed.

The use of water is admissible in all cases where an emollient and irritant effect is required, in chronic dermatitis for instance; or to remove substances developed on the epidermis; to open the pores of the skin in order to further the effects of medicaments on the chorion; in psoriasis, ring-worm, ichthyosis, pityriasis rubra, &c.; or when the epidermis is dry, rough, hypertrophic, or thick; in inveterate eczema and prurigo; to remove secretions from wounds; to prevent the access of air to the suffering parts, and to further the closing of scars.

Baths of short duration are quite useless in skin diseases. The patient can remain for weeks and months in a constantly warm bath, eat, drink, and sleep in it, without the least inconvenience to his general health.

Hebra's conclusions are—

1. Water acts by no means indifferently on the skin; on the contrary, it irritates considerably, and originates and develops the germs of diseases.

2. In using water the temperature is of little importance.

3. The temperature of compresses, baths, washes, &c., ought to be left to the decision of the patient himself.

4. General washes, as well as cold and warm baths, are useless as prophylactics of different diseases of the inner organs, and may produce skin diseases.

5. In order to obtain some advantage in skin diseases the bath must always be of long duration—never less than an hour; and in certain cases warm baths can be continued day and night for months.—*Zeitschrift. Allgem. oester. Apoth. Verins.*

Clippings and Pickings.

A MAN coming out of a Texas newspaper office with one eye gouged out, his nose spread all over his face, and one of his ears chewed off, to a policeman who interviewed him replied, "I didn't like an article that 'peared in the paper last week, an' I went in ter see the man who writ it, an' he war there!"

THE LEMON VERBENA.—In a recent book called "Among the Spanish People," the author says that the leaves of the sweet-scented or lemon verbena (*Lippia citriodora*) are largely used to flavour tea with, and that, besides giving a peculiarly delicious flavour, they are medicinally valuable for their cordial properties.

STRANGE USE OF ANTIMONY.—According to the *Pfälzische Courier* antimony is given to geese with their food to promote the formation of the *foie gras*. About 30 litres of corn are required to fit each goose for killing, and the value of the *pâtés* sold every year in Strasburg is about 75,000*l.*

NOVEL USE OF ETHER.—A malefactor, named Uhlmann, recently barricaded himself in his cell at Vevey, Switzerland, and defied the gendarmes to take him before the judges. It was not thought advisable to shoot him, and the Court would not wait till he was starved into surrender, so ether was thrown into the cell until he became sufficiently stupefied to be harmless.

TO MAKE A HOLE IN GLASS.—The following is a new suggestion:—Make a circle of clay or cement rather larger than the intended hole; pour some kerosene into the cell thus made, ignite it, place the plate upon a moderately-hard support, and with a stick rather smaller than the hole required and a hammer strike a rather smart blow. This will leave a rough-edged hole, which may be smoothed with a file. Cold water is said to answer even better than a blow.

HONEYCOMBS.—Apiarians have endeavoured to economise bee-labour by supplying ready-made material for the combs. Yellow wax, of course, answers perfectly, but some have tried to replace it by a cheaper mixture of paraffin and Burgundy pitch in various proportions. This has proved unsatisfactory, as it is either too brittle, or it melts during the hot days of summer, or it is too hard. There is room for a cheap preparation, which should have the consistence and melting-point of ordinary beeswax.

ADULTERATION OF MILK A.D. 140.—Mr. Edward Marshall records in *Notes and Queries* (5th ser., xi., 216) an early mention of the adulteration of milk with plaster of Paris. St. Irenæus, A.D. 140-177 (lib. iii., ch. xvii., s. 4, Ox. tr. Keble, p. 275), has the following:—"As was said by One above us concerning all who in any way deprave the things of God and adulterate the truth, 'It is evil mingling gypsum [or plaster] in milk' (lacte gypsum male miscetur)." St. Peter has also been supposed to refer to a similar practice in speaking of the "sincere" milk of the word.

SQUILLS.—

THE *urginea scilla* is a Liliacean plant, The bulb of which, when sliced and dried, they bring from the Levant;

As stimulant-expectorant, in grains from one to three, It is, with ammoniacum, the best in the B. P.; And mixed with ipecac, it will with speed relieve the chest,

While as a diuretic digitalis suits it best. In grains from six unto fifteen, so Scoresby-Jackson saith, It may be an emetic, and two dozen caused a death; For it's an acrid-soporific poison much to fear, It purges, brings on strangury, and griping most severe. There's soap and ammoniacum and ginger in the pill, And treacle, and there's one in five of finely-powdered squill.

Acetum Scillæ as^o to strength is one in eight, or so, With fifteen minim dose begin, and up to forty go; With it are made the oxymel, so often bad in shops, And syrup—both from half a drachm as high as six^y drops.

Fifteen drops to half a drachm of tincture is the dose, And having said it's one in eight, my rhyme is at a close

A. L., in the *Student's Journal*.

Foreign Items.

SULPHUR is being tried in Ceylon as a cure for the coffee-leaf disease. The powder is blown over the tree while the leaves are damp. The results obtained are promising.

GUANO.—M. Alexander Bertrand, chemist to the Chilian University, reports that the guano discovered on the Patagonian coast is of excellent quality—superior as a manure to that of Peru.

CAPE ALOES.—The amount of Cape aloes exported from the port of Port Elizabeth, Cape of Good Hope, during the year ending December 31, 1878, was 73,214 lbs., valued at 658*l.*, against 3,259 lbs., valued at 40*l.*, in the previous year.

A CORRESPONDENT of the *American Mail* computes that there are cultivated in India 845,000 acres of oil seed, 720,000 acres of cotton and hemp, 391,000 acres of sugarcane, 129,000 acres of indigo, 69,000 acres of tobacco, 88,000 acres of spices, drugs, and dyes, 12,000 acres of poppy, and 8,800 acres of tea.

SHELLAC ADULTERATION.—This subject was incidentally mentioned during a discussion "On Indian Economic Plants" at the Society of Arts on March 7. Mr. Thomas Christy said he had learnt from thoroughly reliable sources that at the present time Indian shellac was adulterated so frequently and so largely with resin, that it had become almost impossible to use it in the textile manufactures. The demand for this variety will probably diminish soon.

ARTIFICIAL FERRUGINOUS WATER.—The French Minister of War has ordered, on the recommendation of the Army Council of Health, the discontinuance of the use of natural ferruginous waters in all the military hospitals. These are to be replaced by a preparation thus made—

Ferri Am. Cit...	.. .. .	1 decigramme
Eau de Seltz ..	.. .. .	1 demi-syphon
Water to make ..	.. .. .	1 litre

Cork, tie down, and keep in a cool place.

SODA-WATER AT THE DIAMOND FIELDS, SOUTH AFRICA.—The first steam-machinery in connection with soda-water manufacture at the South African Diamond Fields has been erected by Mr. A. Langford, at Dutoitspan. By the aid of a never-failing well, which affords a peculiarly soft, pure water, especially suitable for aerated drinks, he can turn out 1,000 dozen a day. There are a number of soda-water manufactories on the fields, all with large connections, and in the warm season all actively and fully employed.

RUSSIAN GARGLE.—The following, says the *Nice Medical*, is much in use among the Russian colony at Nice:—

	Grammes
Phenic acid ..	.. .. . 15
Tannin ..	.. .. . 15
Alcohol ..	.. .. . 60
Distilled water ..	.. .. . 120

Mix a teaspoonful in a wineglassful of water and use occasionally.

CHILI SALTPETRE.—Nitrate of soda has become a bone of contention between the republics of Chili and Bolivia. Bolivia has pledged itself by treaty to impose no duties on articles of Chilian produce exported from the coast of Antofogasta during 25 years. In spite of this the National Assembly of Bolivia has imposed a tax of 10c. per quintal on all nitrate of soda shipped from the Bolivian coast. Chili has protested, and threatens to resist the collection of the tax. Bolivia insists on carrying out a measure which she believes is just and legal.

NITRATE OF SODA.—Antofogasta, the focus of the dispute between Chili and Bolivia, contains vast deposits of nitrates which are yearly increasing in importance. The total shipments from Peru during 1878 are stated by the *South Pacific Times* to have been nearly 6,000,000 quintals (quintal = 100 lbs.). During the same period not less than 12,000 tons have been shipped every month from Antofogasta, or 3,500,000 quintals in the year. Should this island fall into the possession of Chili, its nitre production will be pushed into active competition with that of Peru.

Chemistry.

IMPURE AMERICAN POTASSIUM IODIDE.

C. E. De Puy, Ph.G.

A SAMPLE of potassium iodide, bearing the label of a Western manufacturer, had such a suspicious appearance that it was examined chemically. Alcohol sp. gr. .835 dissolved about 50 per cent. of it, and it was found to contain 57.8 per cent. of potassium bromide, 32.9 per cent. of potassium iodide, with traces of chloride and carbonate.—*Am. Jour. Pharm.* li. 77.

PREPARATION OF NITROGEN.

DR. GUSTAV A. TRENTLER, of Blasewitz, near Dresden, Saxony, prepares nitrogen for inhalation and technical purposes by passing air through a solution of ferrous sulphate. The oxygen is taken up by the iron salt, which is converted into ferric sulphate. The latter is reduced to the ferrous state by the action of metallic iron.

A CHANCE FOR CHEMISTS.

In a recent address by Professor Atwater, of Middletown, Conn., before the Farmers' Meeting at Concord, U.S., he said that the great want of agriculture at the present time is nitrogenous manures or fertilisers. This is the most costly element that the farmer has to buy. Four-fifths of the atmosphere around us is composed of nitrogen, and the man that discovers a way of obtaining it from the air, at a small expense, will be the greatest material benefactor that the world has ever produced.

PLATINUM AND IRIUM FOR THE STANDARD METRE.

AN ingot of an alloy of platinum and iridium (9 : 1), weighing 260 kilogrammes, has been prepared by M. St. Claire Deville for the French Government as the material for the standard metres. The osmic removed from the crude platinum is sufficient to poison the whole civilised world. It is preserved in the vaults of the Bureau of Weights and Measures. One of the assistants has since died, and it is feared that his death was accelerated by exposure to the fumes of the acid. Great care has been taken in the preparation of the ingot, but it is now found to contain a considerable proportion of ruthenium, which lowers its specific gravity.

NEW METHOD OF ANALYSIS.

At a recent meeting of the Academy of Natural Sciences Professor George A. Koenig, of the University of Pennsylvania, exhibited his recently-invented "chromometer"—an instrument designed for the purpose of making delicate determinations of certain metals in ores. It is based upon the optical fact that complementary colours will extinguish each other if mingled in proper proportions; for instance, if to a green solution a red solution be added, the liquid, if the proper conditions be complied with, will become colourless. This principle has been applied to the colours which certain metals, as iron, manganese, copper, &c., produce when fused with borax, which is the only chemical used in this method of analysis. Beads containing known quantities of a metal in 100 parts are prepared, and the thickness of a glass of the complementary colour required to produce extinction is recorded. To accomplish this the instrument is furnished with a glass wedge of a green or red colour, cut at an angle of about 1°. By moving this wedge before the glass bead, with the help of a suitable rack movement, a scale moves at the same time, and at the point of extinction of colour the reading of the scale refers to a table showing the percentage of metal contained in the examined substance. By this method of analysis a correct determination of manganese in an iron ore can be made in 15 minutes, or a copper estimation in 30 minutes, which is not more than one-third the time required by the usual methods of analysis.

THE MANUFACTURE OF POTASSIUM IODIDE.

E. Schering, Berlin.*

THREE of the methods proposed for the preparation of this salt answer well when large quantities are operated on. They are:—

1. Preparation of barium iodide from barium sulphide and iodine; and decomposing it with potassium sulphate.

2. Saturating solution of caustic potash with iodine, evaporating and heating the solid mass with carbon.

3. Decomposing ioduretted iodide of iron with potassium carbonate.

All three have special advantages and disadvantages. In No. 1 the preparation of a high percentage barium sulphide is somewhat difficult; there is a troublesome but unavoidable evolution of sulphuretted hydrogen during the decomposition of the sulphide; and the precipitate of barium sulphate takes a long time to wash. Nevertheless, the use of potassium sulphate is advantageous, as this salt can be obtained in the market purer and cheaper than the carbonate; and the precipitated barium sulphate is the best material that can be used in the manufacture of the sulphide. As far as the barium compounds are concerned, No. 1 is a "closed" process, and if the operation is carefully conducted, and no sulphur compounds remain undecomposed, a very beautifully clear solution of the iodide is obtained, which yields at once the porcellanous crystals most in demand in the market. I have used this process for a long time with the best results, but have finally abandoned it because of the annoying evolution of sulphuretted hydrogen.

By Method 2 a very concentrated solution of potassium iodide is obtained if the washings are not mixed with it; but a solution of potassium hydrate must be previously prepared, and the evaporation and deflagration of the solution of iodide and iodate consume so much time and fuel that I finally gave preference to Method 3.

Although this plan requires the previous preparation of a compound, yet the iodo-iodide of iron is more easily prepared than either potassium hydrate, or barium sulphide.

To obtain the semi-opaque crystals demanded in the market it is necessary in Method 1 to ensure that the barium sulphide is completely decomposed by the iodine. If alkaline sulphur-compounds are present in the solution the crystals formed will be small and transparent. Ferrous sulphide seems to be soluble in hot concentrated solutions of potassium iodide. If it be present in the solution it separates on cooling, and gives the crystals a bluish tinge. If iodine be even in minute excess, other metals present in the barium sulphide will come into solution, and the resulting crystals of potassium iodide will be ill-formed and more or less coloured. In Method 2 the solution will contain iodates if the deflagration has not been uniform, and potassium sulphide will be present if the caustic potash solution was not absolutely free from sulphates. Both are equally noxious in retarding or preventing crystallisation. Method 3 excludes finally all traces of iodates or sulphur compounds, yields at once a pure solution, and if this be boiled with a slight excess of potassium carbonate all traces of iron will be removed. Besides the above-mentioned impurities, other foreign salts—as those of sodium—hinder the formation of fine porcellanous crystals of potassium iodide. The conditions to be observed in order to obtain these are, in general, freedom of the solution from sulphur compounds, suitable alkalinity, a definite degree of concentration, and slow cooling.

The presence of lead in the iodine used in the manufacture of potassium iodide is a very great disadvantage. The solubility of lead iodide in solutions of potassium iodide, especially when concentrated, causes the former to enter the mother liquor. Sulphuretted hydrogen precipitates the dissolved lead only in part, leaving the solution of a citron-yellow colour. The crystals deposited from it contain lead, and differ slightly in form from those of the pure salt. Lead can be entirely removed only from very dilute solutions of the iodide, and the dilution and subsequent evaporation of large quantities of the mother liquor entail a very disproportionate expenditure of labour and cost. Care should therefore be taken to purchase, in the first place, iodine quite free from lead.

* Pharmaceutische Zeitung, xxiv. 110.

Pharmacy.

SOLUBILITY OF LIME IN WATER.

A. LAMY obtained at temperatures of +32°, 122°, 212° Fahr., results which differed widely from those of Dalton and Phillips. According to Lamy the theoretical solubility of pure lime in water may remain constant, while practical results may turn out very differently. These depend not only on the nature, origin, and density of the lime, but also on the temperature at which it is burnt, the longer or shorter duration of its contact with water, and, finally, the shorter or longer duration of the heating of the solution. Crystallised hydrate of lime dissolves very slowly at the temperature of melting ice; if produced from pure carbonate of lime it dissolves with great difficulty; if obtained by burning nitrate of lime or marble it dissolves easier.—*Compt. rendus.*

SOLUBILITY OF LIME IN WATER, AND ITS RELATION TO THE PRESCRIPTION OF AQUA PHAGEDÆNICA.

By L. C. W. Cora, Hospital Apotheker in Rotterdam.

AFTER a short review of the statements made by Lamy relating to the solubility of hydrate of lime, the author says that the solubility diminishes when the lime is heated to about 113° F.; if the latter is heated to redness, its solubility increases; filtering weakens the solution, as the paper absorbs some of the lime. He quotes Lamy's results, obtained from three different kinds of lime:—A. Lime made by burning nitrate of lime; B. Burnt marble; C. Lime which has been heated to redness. 1,000 parts of lime-water contain:—

Temperature Degrees F.	Lime A	Lime B	Lime C
+32	1·362	1·381	1·430
50	1·311	1·342	1·384
59	1·244	1·299	1·343
86	1·142	1·162	1·195
113	0·996	1·005	1·033
140	0·884	0·868	0·885
212	0·562	0·576	0·584

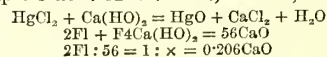
Those Pharmacopœias which give prescriptions for the preparation of lime-water differ slightly. The Pharmacopœia Helvetica requires in the litre, 1·250; the Pharmacopœia Britannica, 1·280; the Pharmacopœia Gallica, 1·285 grammes. No lime-water of the pharmacies, however prepared, will equal in concentration that obtained by Lamy from sample C, at +32° F. In some countries of Europe the Aqua phagedænica,* or, as it is called in the older Pharmacopœias, Liquor hydrargyri bichlorati corrosivi cum calcaria usta, is still much used, for instance in Belgium, England, France, Germany, Holland, and Russia, but of the different Pharmacopœias, those of France and Germany only order the same proportion, viz.:—

Lime-water.

Ph. Belg.	Ph. Brit.	Ph. Gall.	Ph. Germ.	Ph. Holl.	Ph. Russ.
250	240	300	300	144	340 parts

To 1 part of perchloride of mercury.

The quantity of lime-water used is not unimportant, for, if not sufficient, part of the perchloride is not decomposed, whereas if the proper quantity be employed, the result is chloride of calcium and yellow oxide of mercury. The quantity prescribed by the Dutch Pharmacopœia would be just enough if it contained as much lime as obtained by Lamy in sample C at +32° F.—viz., 1·43 = 1,000 = 0·206 = 144.



But as lime-water is never prepared at +32° F., the aqua phagedænica of the Dutch Pharmacopœia gives, after filtration with sulphuretted hydrogen, a considerable precipitate of black sulphide of mercury; 160 to 165 parts of good lime-water prepared at ordinary temperature will be sufficient to decompose entirely 1 part of perchloride of mercury, so that in the other mentioned Pharmacopœias a certain quantity of hydrate of lime is always present. In Denmark, Amsterdam, and Antwerp the proportion was 1 : 192; in Parma, 1 : 288. An average proportion is given by the British and Belgian Pharmacopœias 1 : 240 and 1 : 250, which is perhaps the best.

* i.e. Lotio hydrargyri flava P.B. or yellow wash.

Wateria Medica.

COLLECTION OF MEDICINAL HERBS, ROOTS, &c.

Dr. Bernbeck has seen fresh-collected valerian root dried at night on a lime-kiln, at a temperature of 145° to 165° F. It was sold to druggists, and still smelt of valerian, but would have been quite useless for distilling essential oil. In another case, digitalis leaves were gathered four weeks before flowering time, spread for several weeks on the floor of a store-house during damp weather, and finally dried by exposing them to direct sunlight. This would account for the occasional formation of jelly in infusions of digitalis; a large amount of pectose would be formed during this slow drying, especially in the ribs of the leaves; which, coming in contact with medicaments containing pectin, would produce in a few hours a jelly, and so much more the longer the leaves had been infused.* If fresh digitalis leaves are dried in a drying closet at 90° to 100° F., they will keep their fine appearance for years, and never form jelly in infusions, especially if they are gathered shortly before the flowers open. These examples suggest to pharmacists the advantage of gathering and drying their herbs themselves, or of buying them from other pharmacists. They may thus ensure good quality, and buy at a cheaper rate than from wholesale druggists.

Flores acacie, primulae, violae, persicae, lamii, &c., should be spread on perforated trays, and directly introduced into the drying closet, whilst herbs and roots should be for a few days partly dried on the floor of an airy store-house, then left in the drying closet until perfectly dry, and stored in well-closed tins or glass bottles. In drying large quantities of herbs the room above a baker's oven will answer admirably.

DRAGON'S BLOOD.

Herr J. M. Hildebrandt recently communicated to the *Gesellschaft naturforschender Freunde*, Berlin, some new facts in the history of dragon's blood. By the inhabitants of Socotra it is called *Edah* (according to Wellstead); by the Arabs it is named *Khoheil*; it is exported from Mascat. In India and China it is chiefly used as a lac-dye: the Socotrine drug sometimes reaches Europe from Bombay and Zanzibar. It is yielded by a species of *Dracena*, while the bulk of that in the market is from *Demonorops draco*, Mart., of Sumatra and Borneo. That from the Zanzibar market is much adulterated. Its solution in alcohol leaves a granular deposit, and its colour is much inferior to that of the resin from *Dracena schizantha*, Baker, gathered by Hildebrandt in Soumaliland. In Zanzibar it is named *Mazina ya watu warili*, i.e., "milk of two men," or *Matcho ya watu warili*, i.e., "eyes of two men." It is there used as a cure for ophthalmia. According to Hunter the natives of Socotra occasionally remove about 2 square inches of the bark, and the cavity thus made becomes filled with resin in two or three weeks.

The Poison Cupboard.

La Lancette Belge says that according to statistical returns sulphate of copper has caused the death of 77 persons in Belgium during the last ten years. The phosphorus obtained from matches has proved fatal to 170, verdigris to 33, sulphuric acid to 30, and cantharides to 24.

DEATH FROM DRINKING GIN.—At Coverham, near Middleham, a boy, six years old, named Christopher Yeoman, was sent to the public-house for a pint of gin. Two hours after, he had not returned, and on search being made he was found helpless by the roadside. He had evidently been drinking the gin. He was carried home, but in spite of the doctor's efforts he died next morning (February 12). On February 20 the coroner's jury returned a verdict of "Death from drinking gin."

* The jelly consists of pectose acid. Its formation can be avoided if the leaves, instead of being gradually heated with water, come at once in contact with boiling water, as in that case the pectose is coagulated and rendered inactive.—(Translator.)

ARSENIC AS A LINEN GLAZE.—The *Scientific American* mentions a case of a young lady suffering from arsenical poisoning, the cause of which was for a long time mysterious, but which was ultimately proved to have resulted from the use of arsenic with the starch put on the linen. The old negress who got up the linen had acquired quite a reputation for the brilliance of the polish she produced.

A CASE of poisoning by adulterated pepsine occurred lately at the Hôpital Temporaire in Paris. Dr. Ball had prescribed this drug to several of his patients, as well as to the house-surgeon, who was dyspeptic. The next day every one of them showed symptoms of belladonna-poisoning, such as dilatation of the pupils, dryness of the throat, &c. Experiments were then made on several other persons, with the same effect. It is, however, not clear in what way the belladonna could have become mixed with the pepsine.

POISONOUS COLOURS.—The Governing Council of Zurich has prohibited the use of all colouring matters prepared from the compounds of the metals lead, arsenic, copper, chromium, zinc, antimony, bismuth, and mercury, for decorating articles of consumption or of clothing, or their materials; paper for wrapping up chocolate, coffee, tea, chicory, tobacco, and eatables in general; toys, covers and cushions of children's carriages; carpets, curtains and window-blinds, lamp-screens, wafers, and table services. Poisonous organic matters, such as gamboge, picric acid, and the aniline colours, especially magenta, are not to be used for colouring articles of food or drink, such as confectionery, jams, syrups, wines, &c. The same rule applies to the pheuol colours. Imported articles containing such poisons may not be sold.

Inventions.

NEW AERATED WATER APPARATUS.

We have received a note from a continental correspondent of an improved method of producing carbonic acid gas and aerating waters, which, we are informed, has already been established in 30 or 40 factories in Holland and Belgium. Our correspondent says:—

"This improvement emanates from Professor J. F. Beius, who, in co-operation with his brother Dr. H. Beins, both distinguished chemists in Holland, has perfected an apparatus said to produce, from the heating of bicarbonate of soda, the necessary gas for aerating purposes.

"A simple gas jet is sufficient to evoke, in a few moments, an abundant supply for the bottling machine, which they have also perfected, and which is automatic, and capable of producing from one to two hundred dozen per day with the labour of two workmen."

The machines, we are told, are much cheaper than those now in use, and with them the employment of sulphuric acid and whitening is quite obviated.

PENCILS FOR MARKING BOXES, ETC.

THE firm of Ofenheim, Griffen & Co., in Vienna, are now supplying wax pencils made of ozokerit (or mineral wax), for marking and writing on all kinds of wood, also linen, cloth, and paper, and as a substitute for chalk for the black-board. The marks produced with these pencils are not obliterated by moisture, or acid, or friction. The pencils are made in different sizes and with various colours. We also learn from a German source that colour-pencils for writing on glass, porcelain, metal, &c., are supplied from Faber's works at Stein, near Nuremberg, being made, in one case (black pencils), of 10 parts of the finest lamplack, 40 parts of white wax, and 10 parts of tallow; in another (blue pencils), 10 parts Prussian blue, 20 white wax, and 10 tallow, and so on. The colouring matters are mixed with the fatty masses in the hot state, ground fine, dried somewhat in air, and pressed with a hydraulic press into the form of small, round rods, then further dried and fixed in the wood.

NICKEL compass needles are now being tried in several vessels. Mr. Joseph Wharton has sent out four on Russian cruisers, and another on a French vessel.—*Engineer*, March 28, 1879.

THE PATENT "PILL COATER."

PRICES, ILLUSTRATIONS, AND DESCRIPTIONS FREE.

BOURNE & TAYLOR, 35 Castle Street, Holborn.

UNGUENTUM PETROLEI. See page 68.

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1/1½ size (containing 9 powders)	8/6 per doz.	} less usual discount.
2/0 " " 27 " "	24/- " "	
4/6 " " 54 " "	42/- " "	
11/- " " 216 " "	11/- net.	

A mixed parcel to value 78/-, net, at 6/6, 18/-, 34/-, & 120/- per doz.

SEIDLITZ POWDERS.

Full size, and prepared throughout with Howard's Materials.
Loose, 5/6 per gross; in 1 doz. Coloured Boxes, Wrappers, &c.,
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Laboratory Teaching for Medical Students to qualify as Medical Officers of Health and Food Analysts under the Adulteration Act.

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HAWKER'S JUJUBES. See page 5.

SEE SEABURY & JOHNSON'S Advertisement of INDIA RUBBER POROUS AND SPREAD PLASTERS on page 101.

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SANITAS.—The fluid is colourless, non-poisonous, and agreeable; it is harmless to furniture and linen, and is "THE ENEMY OF DISEASE." "SANITAS is a valuable Antiseptic and Disinfectant."—*Times*. "SANITAS is first favourite among Disinfectants."—*Lancet*.

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PURE COD LIVER OIL. See page 80.

EDITORIAL NOTES.

THE PHARMACEUTICAL COUNCIL.

OF the fourteen retiring members of the Pharmaceutical Council the following twelve are candidates for re-election:—Messrs. Atkins, Bottle, Churchill, Cracknell, Frazer, Hampson, Rimmington, Robbins, Shaw, Savage, Williams, and Woolley. Messrs. Hanbury and Betty, who also are among the retiring members, decline the contest. The outside candidates are Messrs. Butt, Horncastle, and Squire, representatives of fashionable West-end pharmacy; Mr. Robert Owen Fitch, of Hackney, the eloquent advocate of trade interests at several recent annual meetings, and the only representative offered to the Eastern districts of the Metropolis; Mr. John Owen, displaced at the last election, and Mr. H. N. B. Spink, of Westminster, one of the leaders in the recent organisation of traders against the Civil Servants' competition. From the country the only candidates who accept nomination are Mr. J. G. F. Richardson, of Leicester, who has an extensive acquaintance with provincial pharmaceutical requirements; and Dr. Symes, of Liverpool, known as an accomplished pharmacist and an advocate of progressive measures. Addresses, setting forth the views of Messrs. Butt, Frazer, Fitch, Spink, and Symes, will be found among our advertisements on pages 16 and 17.

COUNTER PRACTICE.

NOTWITHSTANDING the violent threats which some of the medical organs launched against the "counter prescribers" when the Shepperley case had been decided against them, public opinion seems to have made itself felt. In spite of all that has been said, that case is likely to turn out a test case in very deed. The new Government Medical Bill, which has passed the House of Lords, and which only awaits in the House of Commons the settlement of differing views respecting the composition of the Medical Council, abolishes the power of prosecuting prescribers under the Apothecaries Act. The Society of Apothecaries being asked by the Medical Council if they had any objection to raise against the Bill, replied that with the exception of a suggestion that the repeal of certain clause of the Apothecaries Act should not take effect till the proposed new Medical Board is established, that society has nothing to complain of. On the contrary, "the Bill appears to them in all material respects one which should receive the cordial support of the medical profession." Still more striking was the proposal made by Dr. Richardson in his presidential speech to the members of the Medical Defence Association last month. Including "counter practice" among the phases of modern quackery, he suggested "that as the practice existed by necessity in some form or other it would be best to legalise it by instituting an examination conjointly by the Apothecaries' Company and the Pharmaceutical Society, the passing of which examination should qualify men strictly for counter practice, as distinct from out-door general practice, medical or surgical." The first counter practitioner thus "rather qualified," will probably establish himself in Hygeia, but notwithstanding the impracticability of the proposal Dr. Richardson's remarks may be taken as indicative of the effects of the new light which has pierced the blanket of our quondam foes.

DISPENSING AND RETAIL PRICES.

THE encroachments of co-operative stores, and other forms of competition, have forced on all members of our trade a serious consideration of the question of prices, and much has been written of late in all varieties of tone on the subject. Numbers of schemes have been suggested, not only lately, but in all pharmaceutical time, with the object of enabling chemists and druggists to settle once and for ever this troublesome question. Grand discoveries have been made over and over again, the results of which are to ensure an uncomplaining public and a satisfactory income for all pharmacists, *if only* all the trade will agree and unite their efforts. We are prepared to assert that nothing short of universal idiocy in our ranks will ever prepare the necessary basis for any scheme resting on such a condition. The alchemists' dreams of a few centuries back were not wilder than are those of some chemists of the present day, who would fain force all their *confrères* in all localities to paddle their canoes in their own peculiar fashion. Times change, and if we do not change with them so much the worse for us. Old dispensers will remember the time when doctors prescribed a dozen draughts where now they give a single bottle of drops. Ruin stared the trade in the face when the draught system was abandoned, but chemists had to accept the inevitable, and no such terrible results followed. Dispensing by stores at a mere percentage above the cost of material has assumed massive proportions, at least in the Metropolis, but it is a system which is hardly likely to continue. The pusillanimous hesitation of those who were responsible for the administration of the Pharmacy Act has given illegitimate pharmacy a long start, but now that it is at last forced into Court it is plainly seen that its assumptions depend on a merely technical chance, and that

whatever the immediate result of the action now under judicial consideration, the Act must ultimately be vindicated. Truly co-operative dispensing, if there is such a thing, may have a rather longer lease of life, but it is in itself so inherently weak that it cannot be considered permanent. A store which would calculate accurately the expenditure and the returns of its dispensing department, reckoning a fair proportion for rent and wages, would find that the comparatively small amount turned over in a certain space and in a certain time did not yield a net profit. Besides, the intelligent portion of the public will never object to a fair remuneration for the skill involved in the preparation of medicines. Tailors and dressmakers can get paid for their skill in fitting, hairdressers can get a fancy price in a small way for the manipulation of our heads, and surely pharmacists may claim a shilling for a dozen pills without being accused of exorbitant ideas. Someone complained once to Canova that he had charged a thousand crowns for a piece of work which had taken him but ten days to execute. "It took me twenty years," he replied "to learn to make that statue in ten days." The trade in patent medicines, we are told, is slipping from us. This should be bad news for patent medicine dealers, but if the trade will meet the difficulty with spirit and energy it need not hurt them much. Chemists hold in their hands power which, if exercised skilfully, could completely upset the patent medicine trade in a week, to their own profit in the bargain. There is one word more which ought to be added. Mere buying and selling is not skilled labour. This must be recognised by traders who would do any reasonable business in these hard times. The enormous prices which are so religiously "kept up" by many old houses for articles the value of which is public knowledge, have naturally driven trade to the grocers and to the stores. We should be the last to recommend anything like cutting in a business which must necessarily be so limited as that of the pharmacist. The majority never get a fair reward for the patient care and conscientious skill which they expend on the supply of their clients' requirements. But there are exceptions; and we only regret that the punishment which is threatened, and which in part has come, should fall on others besides on those who deserve it.

THE "PREJUDICE TO THE PURCHASER" DIFFICULTY.

ON March 28 Mr. Justice Lush delivered the judgment of the Court of Queen's Bench in a case which had been referred to the Court in order to obtain a decision on the question whether an offence against the Sale of Food and Drugs Act could be said to have been committed when the purchase of an article had been made by an official, not with his own money. The appeal was heard by Mr. Justice Mellor and Mr. Justice Lush, and both concurred in the opinion that the purpose for which any article was bought made no difference in regard to the offence, which consists in selling an adulterated article. The decision of the Court was therefore against the plea that an article sold merely for analysis could not be said to have been sold to the prejudice of the purchaser.

The Lord Chief Justice, whose passion for discovering and discussing technical flaws has occasioned all the difficulty, was not present, and Mr. Justice Mellor tried to make it appear that his senior had merely asked an innocent question on this point. The decision which had been given by the Court of Session of Scotland in favour of the adulterator, on a similar point, was also explained away. That Court had been divided in opinion on this point. Their decision in the particular case which had been often cited had been arrived at from several considerations.

SALE OF FOOD AND DRUGS ACT.

ADULTERATION is a purely commercial phenomenon; remove it outside trade and it ceases to be adulteration. No one blames the man who mixes water with his brandy, or drinks skim-milk with his coffee; it is only when he barter his goods that the question of adulteration arises. The title of "The Sale of Food and Drugs Act" tacitly admits the mercantile nature of the offence, though this is afterwards ignored. No view of adulteration can be correct which does not recognise this feature.

The Legislature had obvious reasons for enacting that no one engaged in trade should be "analyst" or "inspector" for the district in which his business was carried on. The administrators of this essentially commercial Act have therefore no practical knowledge of trade or adulteration; they have never sold a penny roll or a box of pills—their ideas are gathered from the laboratory, and from books often sensational in character. They are not tradesmen, which curiously seems to involve that they should regard every tradesman as a kind of Esau, whose hand is against every man, whose character is a compound of all that is mean and vile, and who lives by plundering his customers. The *Analyst* speaks, as a matter of course, of "our natural enemies, the trade journals," thereby designating the tradesmen represented by the journals. The existence of honesty in a tradesman is theoretically ignored, if not denied.

A great waste of time, energy, and money, has resulted almost necessarily. Very few of the prosecutions for the sale of adulterated drugs have raised issues of importance to the public. Among the prosecutions which have failed, not on the question of prejudice to the purchaser, but on other grounds, it is difficult to find one which would have been undertaken by a competent business man. In almost every case which has been defended by intelligence, backed by the necessary wealth, the tradesman has come off with flying colours. Indeed, it seems difficult to formulate the question involved in the spirit of nitre, milk of sulphur, or citrate of magnesia cases, in a way which a pharmacist would not think absurd.

It is this feature of professional hostility to tradesmen which we have chiefly attacked under the title of analysm. Our articles have earned for us the title of "Organ of the Adulterators," and have more than once been construed into deliberate defamatory attacks on individual analysts, though we have never been convicted of personal malice. Analysts do not recognise either the existence of this feeling nor the commercial character of adulteration.

"The position of analysts," says the *Analyst* for April, is simply this:—"They say, fix what standards you like, be they high or be they low, but either at once give us standards like those proposed to be provided for spirits, or appoint some central authority, say, for instance, the Council of the Society of Public Analysts, to provide such standards which, when duly approved by the Privy Council, shall become bye-laws under the Act, and so binding on every one concerned." That is, the organ of the Public Analysts seriously proposes that the Government shall interpose between the consumer and the producer, not to protect either party against its own folly or the other's villainy, but to dictate the exact terms of their dealings, to stereotype trade, to interfere with the operation of the laws of nature which cause every word and name, without exception, to become looser and wider in meaning every year. Sumptuary laws which ordain the fashion and quality of garments, and which have long been discarded as useless and tyrannical, are certainly not more offensive than this. And these Public Analysts, these "natural enemies" of the tradesman aspire to be the guides

of the Government in this matter. They care nothing for the public and less for the tradesmen. They only wish the Legislature to arrange matters so that they need exercise no discretion in their work. No tradesman and no man who had extended his studies beyond the "exact sciences" would be deluded by the thought of fixed standards for articles of commerce.

In two cases during the past month small retail tradesmen have been prosecuted for selling violet powder chiefly composed of calcium sulphate. In both the tradesman has been acquitted, for he happened to be defended by the wholesale dealer; the expense of defence has in each case been heavy, but in neither would the magistrate allow the defendants costs. The Sale of Food and Drugs Act was passed to protect the general public against its own ignorance and carelessness, to ensure that in every case the consumer got what he asked for. Its motive and aim are in every way laudable. But, in spite of many precautions, it is being made an instrument of oppression. The inspector visits a small tradesman, purchases some article of doubtful composition, hands it to the analyst, perhaps obtains an adverse report, and immediately summons the vendor before the magistrates. Probably the article is of such little importance that the vendor pays the fine and costs, and ceases to sell it. But if he defend himself, and get a verdict in his favour, the result is the same. "The magistrate does not consider that the costs should be allowed," and so, innocent or guilty, the unfortunate tradesman is fined. The best of Acts administered in this way will fall into disrepute.

THE SCIENCE OF VIOLET POWDER.

MR. DUPRÉ, a Vice-President of the Society of Public Analysts, has recorded an elaborate series of experiments to show that fullers' earth and starch powders will absorb more water than will selenite. He also adds several tables which prove beyond doubt that a measure of a certain size will hold more terra alba than wheat starch, and more arsenic than either. His tables further show that, if shaken down, a larger quantity still can be got into the same measures! These discoveries are announced in the last number of the *Analyst*. Was it for such that Mr. Dupré was honoured with fellowship of the Royal Society?

THE ELECTRIC LIGHT AND SURGICAL OPERATIONS.

MR. BALMANNO SQUIRE gave a lecture in the theatre of the United Service Institution last month to a large audience, composed chiefly of members of the medical profession, on the application of the electric light to surgical operations. He exhibited two lamps which had been constructed from his designs, one of which was portable to a certain extent, the other being fixed on a bracket. The lamps contain a Jablochhoff candle, and by means of various glasses and mechanical arrangements can be modified both in power and in area of light. The portable one is intended to be held by an attendant during such an operation as an amputation; the fixed lantern is proposed for the use of oculists, aurists, dentists, and others who, in examining the respective organs of the body, require as pure a light as is attainable. The ordinary light of a London consulting-room is rarely sufficient for a surgical investigation. The employment of yellow gas light cannot be compared with the pure white electric light, and no doubt the latter would be generally adopted if it were not for the cost. At present nothing smaller than a four-light Gramme machine can be obtained, and that, with the corresponding engine and the lamp, would cost nearly,

if not quite, 300/. Mr. Squire, however, hopes that as a one-light machine is all that is necessary, a complete apparatus may ultimately be obtainable for not much more than 100/. This might be spent by some of the larger hospitals. He also hinted at the possibility of establishing a common machine in some locality where surgeons and dentists congregate, and laying on the light to their respective consulting-rooms. Mr. Squire's lecture and demonstrations were much applauded.

THE NEW CANADIAN TARIFF.

A NEW tariff of a strongly protectionist tendency has been proposed in Canada, and as the present Parliament is pledged to such a policy, it is almost sure to be passed, perhaps with some few modifications. It will make a very considerable difference to the drug trade, as will be judged from the following items. At present, crude drugs in general are taxed with a 17½ per cent. *ad valorem* duty. For the future most of them will be free. Opium is a distinguished exception. On this an increase of 2½ per cent. is proposed. Essential oils are also to be raised from 17½ to 20 per cent. Perfumery is advanced from 25 to 30 per cent. This section includes all toilet preparations. French perfume pomades, however, are reduced from 25 to 15 per cent. Proprietary and patent medicines are at present taxed at 25 per cent. all round. Those in liquid form are to be raised to 50 per cent.; other kinds to remain as they are. Generally, foreign manufactures are brought within the tariff, if they were not previously included, and where they were comprehended the duty is raised, and this is certainly the case with some manufactured chemicals, but we do not at present understand whether it is so generally with products of this character. Sulphate of quinine, which formerly paid 17½ per cent., is to be promoted to 20, and some of the strong acids and salt-petre, formerly free, are also to pay 20 per cent. These are nearly all the special mentions of manufactured chemicals in the list which we have received.

POSTAL NOTICES.

SINCE April 1 some important new regulations in respect to foreign postage have come into force. These apply to Class A of the Postal Union only, which comprehends the whole of Europe, the United States and Canada, Turkey in Asia, Egypt, and Persia. To all these countries post-cards may now be sent at 1*d.* instead of 1¼*d.* as heretofore; printed papers may be forwarded at the rate of ½*d.* per 2 oz.; "commercial papers," including legal documents, deeds, invoices, bills of lading, manuscripts, and anything of that kind, not of the nature of a letter, at 2½*d.* for 4 oz., and ½*d.* for every 2 oz. in addition; and patterns at 1*d.* for 2 oz., and ½*d.* per 2 oz. beyond. There is a second class into which the Postal Union is divided, comprehending India, Japan, Hong Kong, the West Indies (most), Brazil, Argentine Confederation, the West Coast of Africa, Mauritius, and Mexico, to which post-cards can now be sent for 1½*d.*, commercial papers for 2½*d.* for 4 oz., and 1*d.* per 2 oz. beyond, printed papers at 1*d.* per 2 oz., and patterns at 1*d.* per 2 oz.

Another postal announcement recently issued is to the effect that by payment of telegram and reply, and one shilling extra, anyone can have from the Meteorological Office the latest information as to the weather in any district of the United Kingdom, and forecasts of the weather in any district not bordering on the Atlantic. The Meteorological Office is open between the hours of 11 A.M. and 8 P.M. on week days, and from 6 to 8 P.M. on Sundays, and messages can be left at any telegraph office.

INFINITESIMALITY.

IN January last we made some remarks on infinitesimality, based on a lecture delivered before the School of Homœopathy by Dr. Richard Hughes. We stated that Dr. Hughes draws the line, in his own practice, at the 30th centesimal potency, but he looks with some favour at the 200th, and he mentioned that some American practitioners had professed to carry dilutions up to the thousand, millionth, and even ten-millionth. A correspondent of one of the medical journals, in which our remarks were reprinted, has calculated what the 30th centesimal dilution really is. He says that one minim of aconite tincture, for example, would require a decillion minims of water. A cubic mile of water would contain 71,000 billions of minims; a decillion minims would fill a hollow globe large enough to contain the whole of our solar system ten thousand billion times! That is the 30th centesimal. He thinks it beyond human, or archangelic, intelligence to conceive the space that would be occupied by the 200th centesimal dilution of a drop of any tincture. The whole universe, as far as it has been revealed by the most powerful telescope, would barely contain a dilution represented by only 80 cyphers, and the 200th centesimal would require 400 cyphers to express it.

AN ADULTERATION ACT FOR GERMANY.

AFTER investigating the Adulteration Acts of 48 countries, and appointing a weighty commission, the German Government has felt itself qualified to prepare one for itself. A summary of the proposed regulations is given in the last number of the *Analyst*, by M. Otto Hehner.

The Act regulates the sale of food and articles of consumption, of toys, paperhangings, colours, eating, drinking, and cooking utensils, and of petroleum. Drugs are already provided for under the Pharmacy Laws. The sanitary police are empowered to *take* samples of any of the above articles exposed for sale, paying for them at the usual price; and to inspect the rooms in which the goods are stored or sold. *If requested*, they must seal part of the sample and leave it with the vendor. Resistance to the officers is punished by imprisonment, or by a fine not less than 50*s.* nor more than 150*s.*

The Emperor is empowered to prohibit, under formal limitations, (1) the sale of articles of food or consumption when prepared, stored, or packed in certain ways; (2) the sale of articles of food, &c., in certain conditions or under names not corresponding to their real condition; (3) the sale of diseased food-animals or their flesh; (4) the use of certain substances and colours for the manufacture of wearing apparel, toys, paperhangings, and eating, drinking, and cooking utensils, and the sale of the articles so manufactured; (5) the sale of certain kinds of petroleum; (6) the manufacture or sale of articles intended for adulterating other articles. The penalty for an offence against regulations prescribed by this Act will be imprisonment, or fine not exceeding 150*s.*

The imitation and the falsification, by addition, subtraction, or improvement in the external appearance of articles of food; and the conscious sale of such articles without due notice, or of articles under names likely to deceive, are offences punishable by imprisonment not exceeding six months, or by fine not exceeding 75*l.*, or by both. The unconscious sale of such articles is punishable by imprisonment, or by a fine not exceeding 150*s.* Under these cases the articles may be confiscated.

The preparation of any of the articles affected by the Act

in such a way that they are likely to injure health, and their sale knowing them to be in this condition, is punished by imprisonment and loss of civil rights. If death or grievous bodily injury has resulted, the offender may be sentenced to penal servitude not exceeding five years. If the offence was knowingly committed, the penalty of penal servitude, not exceeding 10 years, is inflicted, and of penal servitude for life, or not less than 10 years, if death has ensued.

If a defendant is condemned, he must publish the sentence at his own expense in such a way as the Court may direct if he is acquitted, and makes the necessary application, the Court must order the publication of the acquittal at the expense of the prosecutor or of the State.

ADULTERATION RETURNS.

MR. WIGNER has published, in the *Analyst*, a tabulated statement of the work done by most of the analysts in Great Britain. He has obtained returns from 168 districts. The percentage of adulterated samples found among those examined is higher in drugs than among any other class of articles. As shown by the table, 341 specimens of drugs were examined, and 122 of these were found adulterated, a percentage of 35.77. Mr. Wigner, however, fairly points out that chemists and druggists are not to blame for this, firstly, because a large proportion of the samples were obtained from grocers or other dealers, and secondly, because the term drugs has been made to include a large number of samples of violet powder. Mr. Carter Bell, for instance, reports that he examined 60 samples of drugs, and found 40 adulterated, but all his samples were violet powder. The proportion of adulterated samples found among wines, spirits, and beer was 29.31 per cent., milk 18.38 per cent., butter 13.23 per cent., groceries 12.89 per cent., and bread and flour 2.97 per cent.

PITURI CORRECTION.

OUR report last month of the discussion on Pituri was inaccurate in some particulars. Mr. Gerrard has obtained the alkaloid Duboisine from *Duboisia myoporoides*, and a crystallisable principle named Piturine, from Pituri; this drug is referred by Müller to *Duboisia Hopwoodii*. From these facts Mr. Holmes inferred that Pituri would probably contain a crystalline alkaloid. The specimens of the drug exhibited were, as we have since learnt, the only ones in Europe.

THE CHEMICAL SOCIETY.

Thursday, March 20.

DR. GLADSTONE, President, in the chair.

The following papers were read:—

“On Plumbic Tetrethide,” by E. Frankland and A. Lawrence. The authors prepared this compound by adding plumbic chloride to zinc ethyl, and distilling the product in a current of steam. Ammonia, carbonic anhydride, carbonic oxide, cyanogen, nitric oxide, oxygen, and sulphuretted hydrogen do not act on this substance at ordinary temperatures. Sulphurous anhydride converts it into a white amorphous mass, consisting of diethylsulphone and plumbic ethylsulphinate.

Professor W. Foster gave a verbal communication “On the Production of the Higher Oxides of Iron, Chromium, Manganese, and Bismuth.” When the salts of the above metals are treated with an alkaline solution of sodic hypobromite, ferrates, chromates, and permanganates are formed, oxygen being evolved. Copper sulphate solution, when mixed with the hypobromite solution, evolves oxygen at ordinary temperatures.

“On the Decomposition of Water by Certain Metalloids,”

by C. F. Cross and A. Higgin. The authors conclude that pure sulphur decomposes water, uniting both with its oxygen and hydrogen; the decomposition is independent of atmospheric oxygen. Amorphous phosphorus decomposes lead acetate solution, but is without action on water at 100°. Vitreous phosphorus does not decompose water at 100° when air is excluded.

“On the Volumetric Determination of Chromium,” by W. J. Sell. To the boiling solution containing chromium acidified with sulphuric acid, permanganate is added until a pink tint remains after boiling for three minutes; the manganese is precipitated by the addition of sodium carbonate and alcohol and filtered off; the chromic acid in the filtrate is then determined by iodine and hyposulphite. The author also gives details of a method of fusing chrome iron ore, by means of which an estimation of the chromium can be made in an hour and a quarter.

Thursday, April 3.

MR. WARREN DE LA RUE, President, in the chair.

The following papers were read:—

“On Terpin and Terpinol,” by Dr. Tilden. The author has continued his previous researches, and has succeeded in obtaining crystals of terpin hydrate from essence of lemon. The author considers terpinol to have the constitution of an alcohol. Oil of lemon, cajeputol, oil of coriander, and citronella contain bodies closely resembling terpinol.

“On a Gold Nugget from South America,” by G. Attwood. These nuggets are found in alluvial soil in Venezuela; numerous gold-bearing quartz veins are found in the neighbouring hills. About one-half of these nuggets are covered with a dark brown substance resembling a silicate of iron. When this is dissolved, much finely-divided gold separates, and the nugget is partly covered with dull fine gold. The gold obtained from the quartz is less pure than that of the nuggets. The author concludes that gold nuggets gradually increase in size, owing to the accumulation of fresh particles of finely-precipitated gold.

“On Lead Tetrachloride,” by Mr. W. W. Fisher. The author has not isolated this compound, but has obtained it in solution, by dissolving lead dioxide in hydrochloric acid; the yellow solution thus formed precipitates brown hydrated peroxide of lead when treated with solutions of alkalis, &c. The author also suggests the use of chlorine, or bromine, in the presence of sodium acetate, as a means of quantitatively determining lead by precipitation as peroxide.

“On the Transformation of Aurin into Trimethylparosanilin,” by Messrs. Dale and Schorlemmer. This is effected by the action of an aqueous solution of methylamine at 125° on aurin.

“On the Solution of Aluminium Hydrate by Ammonia and a Physical Isomeride of Alumina,” by C. J. Crop. By boiling the ammoniacal solution of aluminic hydrate a precipitate is obtained, which on drying and ignition furnishes alumina, which is extremely hygroscopic, absorbing 35 per cent. of water.

“Researches on Dyeing, Part II.—Note on the Emission of Colouring Matter,” by Dr. Mills and Mr. Campbell. The experiments were made with silk and a dilute solution of Nicholson’s blue. The authors affirm that a real and uniform dyeing effect can always be obtained with silk and Nicholson’s blue, the heat and souring used by dyers being unavoidable. The authors recommend the addition of common salt to the vat.

CHLORIDE OF LIME AS AN INSECTICIDE.—*Le Cultivateur* remarks that rats, mice, and insects will at once desert ground on which a little chloride of lime has been sprinkled. Plants may be protected from insect plagues by brushing their stems with a solution of it. It has often been noticed that a patch of land which has been treated in this way remains religiously respected by grubs, while the unprotected beds round about are literally devastated. Fruit trees may be guarded from the attacks of grubs by attaching to their trunks pieces of tow smeared with a mixture of chloride of lime and hog’s lard, and ants and grubs already in possession will rapidly vacate their position.



AND

Literary Notes.

The Study of Rocks. By Frank Rutley, F.G.S. London: Longmans, Green & Co. 1879.

PETROLOGY, or the study of rocks, is not yet twenty years old, but its position as a science is well established. Pharmacists not yet provided with that great promoter of happiness, a hobby, will find in the study of the rocks of their district a fertile source of pleasure, and their previous training will help them much. The knowledge of chemistry, and familiarity with the use of the microscope, which they already possess are almost essential to the petrologist. Materials for study are abundant, and every worker may hope to unlock some of nature's still hidden secrets. Mr. Rutley is an interesting guide to his subject; his qualifications are beyond dispute, for he is a member of H. M.'s Geological Survey; and the accuracy of his work has been insured by the friendly criticism of eminent men. His book is addressed to those who have some knowledge of general science, and seems to smooth the difficulties likely to be met in approaching a new study and in progressing towards its higher branches. It describes the necessary tools, and tells us how to use them. The collection, preservation, and examination of specimens, and the rudiments of classification and description, receive separate treatment; and a list of standard works consulted by the author, and a fairly full index, complete the work. There are six plates and 88 woodcuts, not one of which is superfluous.

The National Dispensatory. Stillé and Maisch. London: Churchills. Pp. viii. + 1,628.

THE only legitimate criticism of a compilation like this must be based on a careful comparison of every statement with the original authorities. Such criticism can hardly be exercised by any but the authors themselves. Their names are a sufficient guarantee for the soundness and accuracy of the information they have collected.

Less than two years ago appeared the fourteenth edition of Wood and Bache's "United States Dispensatory." It is impossible to avoid comparing two works so similar in purpose, in bulk, and in origin. But it is equally impossible to say which is the better or more useful book.

The "National Dispensatory" is beautifully printed and fairly well bound. The articles are arranged alphabetically throughout, on the plan which is followed in the "British Pharmacopœia." Each article is broken into several paragraphs, with prominent head-lines, and under each important plant, drug, or preparation, other less noteworthy but allied substances are described. This feature is praiseworthy. Much information of the kind most likely to be sought in a work of reference, that is, "the little known," is thus quietly introduced, and we think that in the subsequent editions the quantity of this might be advantageously increased. An extensive index is added, and the last part of the book distinctly recognises the prescribing druggist. It is an index of therapeutics, referring the seeker from the name of the disease to the drugs which are used to cure it. The work is very easily referred to, the information it affords is as full as can be expected from its encyclopedic character, and every chemist should certainly keep by his side either this or some similar work.

THE Calendar of the Pharmaceutical Society for 1879 contains over 450 pages, and gives all the information respecting the proceedings of the Society, lists of members, &c., and a number of Acts of Parliament affecting chemists. It is sold by the Society at 1s., or 1s. 4d. post free.

WE have to acknowledge the receipt of a new treatise on "Materia Medica and Pharmacy," by the late Dr. Handzel Griffiths, edited by Dr. George F. Duffey (Dublin: Fannin & Co.). Also a course of lectures on "Artificial Manures,"

given at the experimental farm at Vincennes by M. Georges Ville, translated and edited by Mr. William Crookes, F.R.S. (London: Longmans & Co.). These we shall more fully review next month.

DR. NORMAN CHEVER.—The Swiney prize of 100*l.* and a silver cup worth 100*l.* have been awarded by the Royal College of Physicians and the Society of Arts to this gentleman, for his "Manual of Medical Jurisprudence for India." This work is most interesting to pharmacists, for it throws much light on the pharmacy of India.

It was our duty in February last to express an unfavourable opinion of a book entitled "Medical Men and Manners of the Nineteenth Century." The author seems to entertain an opinion of his work differing from ours—to which he is quite welcome—for he writes to us anonymously: "The author presents his compliments to the Editor. The spiteful utterances of the latter count for little in opposition to the opinions of disinterested and respectable journalists."

A VERY valuable "Encyclopædia of the Industrial Arts, Manufactures, and Commercial Products," is now being published in parts by Messrs. E. & F. N. Spon. The work is under the editorship of Mr. G. G. André, F.G.S. Parts I, II, and III, which are already published, contain descriptions of the processes adopted in the manufacture of the acids. The production of acetic, arsenious, carbazotic, carbolic, carbonic, chromic, citric, gallic, sulphuric, hydrochloric, nitric, oxalic, and tartaric acids is detailed with practical and theoretical elucidations, and the text is frequently illustrated with engravings. The typography is quite worthy of the important character of the work. The Encyclopædia is to be completed in about 30 parts at 2s. each.

MESSRS. HOULSTON & SONS publish a series of little books on trades, which they honour with the title of "Houlston's Industrial Library." Number 6 of this series professes to describe the trade of a chemist and druggist. The present publication is a revised edition, although the title-page does not indicate that fact. The publishers have apparently recently become aware that a Pharmacy Act has come into operation, and with a laudable desire to keep up with the times they have managed to incorporate its main requirements into their manual only ten years after it became law. Long clippings from the Pharmaceutical Calendar, therefore, help to bulk out this edition. The course of study at Bloomsbury Square is minutely described, but no suggestion is given that pharmaceutical education can be obtained anywhere else. The little scraps of information respecting the trade, with which the author fills up the balance of his manual, are occasionally correct and comparatively useless, but are often inaccurate and absurd. A drawing showing a sectional view of a mortar may be mentioned as illustrative of the former class, while a ludicrously impossible sketch of a pill machine, with the rolling slab and the cutting grooves far away down in a box, may be quoted as representative of the latter. Only one specimen of a prescription is given, and in this two grains of corrosive sublimate (hydr. chlor.) are ordered to be taken every other night. The qualifications of the writer are displayed in his analysis of this prescription. "The first article," he says, "is *hydrargyrum chloras (sic)*, the Latin name for chloride of mercury or calomel," and so on. To this edition is added, by way of conclusion, a warning to young chemists which is so absurd as to compel a doubt whether the writer can really be serious. He says there "is a habit which chemists and druggists acquire of putting out the foot to break the fall of any bottles that may have slipped out of their hands." And then he proceeds to picture the danger of this habit by describing how a certain pharmaceutical local secretary, having dropped his razor, went to catch it with his foot, and was consequently laid up for several days. For their credit's sake, we would advise Messrs. Houlston & Sons to limit their industrial library to such occupations as the Footman, the Groom, the Housemaid, and the others who already keep the Chemist and Druggist company in their series, and leave the latter to the attention of firms who are able to obtain competent demonstrators of his various and difficult duties.

AN anonymously-written pamphlet on "The Plague as it concerns England" has been published by Messrs. Hardwicke & Bogue. The author discusses, with much cogency, the conditions favouring the development of this disease, which, though it left England in 1679, had not wholly departed from Europe until 1843, and has since occurred occasionally in Tripoli, Arabia, and Persia, and now revisits the European boundaries. In 1846 a report was made by a commission appointed by the Paris Academy of Medicine, and the conclusions arrived at by that commission have been singularly supported by a study of all the subsequent appearances of the disease. Mainly, it is almost proved that the plague requires special provisions for its development; marshy soils, putrescent surroundings, a warm moist atmosphere, low crowded dwellings, unwholesome or insufficient food, and physical and moral wretchedness; these, or most of them, seem to be conditions essential for the propagation of the plague. With other surroundings it is probable that there is no danger at all in contact with a person so diseased. The pamphlet consequently argues against quarantine regulations as unnecessary, and in favour of sanitary improvements.

A SMALL treatise on "The Hygiene of the Skin," by Mr. J. L. Milton, the senior surgeon to St. John's Hospital for Diseases of the Skin (Chatto & Windus, 1s. 6d.), is a bright and instructive popular discussion of a subject in which most people are interested. It contains a tolerably full account of the anatomy of the skin, and many suggestions for its management in health and disease. No description of the various affections to which our skeleton's covering is subject is attempted. The author, however, takes the opportunity of indulging in the favourite pastime of prescribing everybody's diet, and airing all his own crotchets on this undying theme, though he is severely sarcastic on all who have preceded him on this topic. He is amusingly pugnacious in reference to popular delusions on skin subjects; for example, that a certain royal personage is only provided with a single skin, a condition in which, says Mr. Milton, he could not live for 12 hours; that incipient colds can be cured or prevented by a good night-sweat; that skin diseases can be driven in, or ought to be coaxed out; that the blood is especially associated with any skin diseases, and so on. We imagine that one or two of these "popular delusions" are too firmly fixed, and, we may add, too well founded, to be affected by Mr. Milton's ridicule. In the last chapter the subject of soaps is treated with a good deal of care. The author does not approve of the use of such substances as tar, carbolic acid, and sulphur in soaps, and he is humorously sarcastic about the fashionable emollients, such as mallow, honeysuckle, rose, elder-flower, lettuce, almond, and honey, professedly combined with them. He has had 13 samples analysed by Professor Attfeld, with the result that Pears' transparent soap approaches most closely to the standard of what he considers the pure article. This, he says, was made in special forms for hospital practice originally at his suggestion, "although for nearly a century before the soap was favourably known in hospital practice." We trust that a comma is to be understood after the word "before" in the sentence we have quoted, or Mr. Milton will hardly have the opportunity of treating us to many more of his interesting essays. We shall conclude our notice of this little book with an extract from one of the latter pages commenting on the often-extolled

ROMAN BATHS.

Lastly, with every account of baths comes the eternal history of the ancient baths, especially those at Rome: their magnificence and completeness, their lavish profusion of scents, their vast numbers, and so on. It would really be a variety if some one would occasionally tell us the truth about these things, with a little less of the theatrical tinsel. The Roman baths were haunts of profligacy and idleness; infinitely less decent, less comfortable, and less adapted to their purpose than the Turkish baths in England. Among the scents figure foxglove, lily, wild thyme, water-niout, and marjoram, every one of which, when rubbed on the skin, produces a most disagreeable smell. The experience of later ages has shown that anointing with oil, which formed a part of the system, was in no way necessary to health; common sense tells us that it was a filthy practice, and if Socrates really said—as he is reported to have done—that men should smell of oil, he simply showed that, in addition to being what most sensible persons in Athens considered him to be—a perverse, contradictory old nuisance, he was also an old pig. Till subsequent investigations verify them

the accounts about the numbers of the baths must go for nothing, seeing that there is scarcely an author of antiquity who can be trusted on such points, and most of them contain exaggerations which are only suited to the capacity of our credulous boyhood.

"FASHIONS OF THE DAY IN MEDICINE AND SCIENCE" (Kingston-upon-Hull: Levy & Co.) is the title of a book which we have read through with thorough enjoyment. It is written by Mr. H. Strickland Constable, the author of "Our Medicine Men," a work which we have not had the advantage of reading. The author describes himself as a Yorkshire squire. It will do the omniscient metropolitan science-mongers good to know what a Yorkshire squire thinks of some of them. There is a freshness, a healthiness, a vigour, about his criticisms which give them an attraction perhaps beyond that which they intrinsically deserve. There is not a page of his book which does not contain a droll anecdote or a quaint turn. Some of the stories are very old, but it is of no use to object to that, for the author tells us he prefers to illustrate his arguments with such, and he would do so always, but that his memory is defective, and then he has to invent new ones; "but I suspect," he adds, "they are seldom as good as the old ones." The solemn theories of modern doctors, and the materialistic teachings of third-rate scientists, are the objects of his satire; and whatever may be said of his objections it cannot be said that the author has failed to make himself acquainted with the literature of modern medicine and science.

"Men (say the scientists) have lived on this earth millions of years. During all this period treatment of disease has confessedly been totally wrong; but now (say the doctors), dating from four or five years back, the right modes of treatment have at length been discovered. Of course this may be true, only doctors of all ages have thought the same about themselves each in his own time."

We are all too ready to accept as discovered truth the latest guess which comes before us, especially if backed with the authority of a name which is often in the newspapers. We are too ready to name a thing, and then suppose we know all about it. We are too ready to analyse dead matter, and then imagine that from the results thus gained we are finding out something about life. Materialism in one form or another is, in fact, the price this age has to pay for its prodigious activity in analytical pursuits of various kinds. Against this our author protests, and not with the contempt for scientific theory which is born of ignorance, but with the sharp sight of a man who has read and weighed the theories of modern science, and who can put his finger on the weak link in a chain of argument which, but for that one weak link, seems perfectly riveted.

He believes that there are some facts which analysis will not prove. And he believes that, useful as analysis is, it is not the only necessary faculty. He refuses to follow the mathematician who threw "Paradise Lost" into the fire because "it proved nothing."

About the word *expert*, he says I must explain that I use it to express a person who devotes his life to one subject or pursuit to the exclusion of all others. This leads to his acquiring useful facts, but it is unfavourable to his drawing correct inferences, even on his own subject. "What material must we use," asked the Athenian, "for statues of great men?" "Oh," said the tanner, "there is nothing like leather." "What do you do when you have influenza?" I asked a hairdresser who was operating upon me. "Oh," said he, "I gets my 'ed well brushed." "What is that we should look up to with reverence and adoration?" "Oh," says Professor Tyndall, "matter contains the promise and potency of all life—matter is the all in all."

Vaccination, vivisection, the germ theory of disease, and Sir Thomas Watson's nine zymotic diseases are good-humouredly, but not the less severely, criticised. If we had space we should be glad to make longer extracts from this work, which, without endorsing all of the author's views by any means, we can say is truly that which has generally been a terrible bugbear in times past, but in his hands has been well carried out, namely, "instruction combined with amusement."

By an error the following donation was omitted from the list of donors to the Chemists and Druggists' Trade Association of Great Britain advertised in our last issue:—Mr. J. A. Foster, 7 Wheeler Street, Birmingham, 4*l.* 2*s.*



ARE LIMITED LIABILITY COMPANIES INDEPENDENT OF
THE PHARMACY ACT ?

THE important case of the Pharmaceutical Society *v.* the London and Provincial Supply Association (Limited) came before the Court of Queen's Bench on March 15. The Lord Chief Justice and Mr. Justice Mellor were the judges. The Attorney-General and Mr. Lumley Smith appeared for the Pharmaceutical Society, and Mr. Wills, Q.C., and Mr. Finlay represented the company.

This was an appeal from the Judge of the Bloomsbury County Court, who had decided against the Pharmaceutical Society. The facts were stated in a special case, which was read by the Attorney-General. The defendants were registered under the Companies Act as a limited company on January 29, 1878. The company was formed to carry on the general business of Mr. William Mackness, 113 Tottenham Court Road, he himself being managing director of the concern. The nominal capital of the company is 10,000*l.*, divided in 1,000 shares of 10*l.* each. Mr. Mackness holds 564 fully paid up shares, six other persons hold five shares each, and three persons hold one share each, all these having paid up only 2*l.* 10*s.* per share. One of these shareholders is Henry Edward Longmore, and he is qualified as a chemist and druggist, but no other shareholder of the company is so qualified. A drug department forms part of the business, and this is conducted by the said Henry Edward Longmore with the aid of certain qualified assistants. Certain sales of poison in this drug department were proved.

The Lord Chief Justice asked if there was anything to prevent any other assistant in the employment of the company serving in this department in case of the absence of the qualified manager.

The Attorney-General said he believed that one of the sales of poison proved was made by an unqualified person. Reference to the evidence was made, but it appeared that the sale was made by a person whom the purchaser had never seen before, but there was no proof whether he was or was not qualified.

Mr. Wills remarked that the same thing might happen in the case of any chemist.

The Lord Chief Justice said that was so, but the individual was a qualified person, while the company was not. He (the Lord Chief Justice) reasoned thus: If the company came within the Act under the term "person," the company could not be qualified unless the whole of its members were.

Mr. Wills intimated that it was to that point that his argument would be directed. He had not read all the judgment of the learned County Court Judge, but at present he could not see how the view which that judge had taken, that the employment of a qualified person made the difference, could be maintained. If the Court thought it did, so much the better for him.

The Lord Chief Justice said it seemed to him that although the Pharmacy Act made no reference to a corporation, yet that, as a corporation was an aggregation of persons, they would be liable to the consequences of any offence which a person might commit.

Mr. Wills said he should be able to argue his view of the case when his turn came, but he might say that he did not believe for a moment that in framing this Pharmacy Act the Legislature ever intended to prevent the sale of drugs and the dispensing of prescriptions by co-operative societies. If their attention had been directed to these they would probably have said that such was not their intention. It was simply a *casus omissus*.

The Lord Chief Justice: Do you say that "person" does not include an aggregate of persons?

Mr. Wills: Yes, my lord. It would include any numbe

of persons associated in a private partnership, but I think I shall be able to show you that in construing Acts of Parliament "person" does not always mean "corporation."

The Lord Chief Justice: We will keep our minds open.

The Attorney-General said after what had been said he would confine his remarks to the question which had been raised. He then proceeded to analyse the Pharmacy Act with a view of showing that the intention of the Legislature was to prevent the sale of poisons except by certain qualified persons. He instanced the provision made in regard to widows, who were not allowed to carry on a business for an indefinite period even with a qualified person. That fact, he thought, disposed of the view which had been taken by the Judge of the County Court. Referring to the clauses providing that purchasers of certain poisons should be known to the seller, he said it was impossible that a company should fulfil that condition. The Legislature intended to check the indiscriminate sale of poisons. They chose this means of preventing it. As to the observation which had been made about the sale of poisons and dispensing of prescriptions by co-operative stores, he did not see that any great hardship was involved. They might sell any drug they pleased. The only things they might not sell were a certain few poisons. He had never been in one of these stores, but he supposed there were a number of departments. If the person charged with the sale of poisons were not in, some other clerk, he supposed, took his place. But, hardship or not, such was the intention of the Legislature. The learned counsel then quoted from the Act 7 and 8 Geo. IV. cap. 28, "For the Further Administration of Justice in Criminal Cases," which expressly makes the words of any statute applicable in the plural as well as in the singular number, in the feminine as well as in the masculine gender, and to corporations as well as to individuals.

The Lord Chief Justice remarked that the Act of Geo. IV. only referred to offences punishable by indictment or by summary conviction. The penalty in this case was only obtainable by a civil suit.

The Attorney-General said the question was whether the word "person" in the Pharmacy Act comprehended "corporation." He said that as the penalties under section 17 were obtainable by summary conviction, it was clear the "person" there referred to must include "corporation," and he maintained, therefore, that the Legislature intended also to include corporations when "person" was mentioned in section 1.

Mr. Justice Mellor asked if there was not a later Act applying to this point.

The Attorney-General said there was Lord Brougham's Act (13 and 14 Vict. c. 21), which provided that in the interpretation of all Acts of Parliament the singular should include the plural, and masculine should include the feminine, unless there should be an express stipulation to the contrary.

The Lord Chief Justice said he understood Mr. Wills' argument to be that the corporation could not be proceeded against, though any association of individuals not incorporated would be liable.

Mr. Wills, in support of that theory, said: Otherwise Apothecaries' Hall would be liable.

The Attorney-General said all the members were exempt through being apothecaries.

Mr. Wills said the members were exempt because they had been examined, but the corporation had not been examined, and could not be. What he maintained was that the individuals composing a corporation could not be punished individually for what the corporation does. If he were a shareholder in a railway, he could not be made individually liable for what the railway did.

The Lord Chief Justice asked whether a corporation of persons, having instructed a servant to infringe the law on their behalf, were not liable as accessory to the fact.

The Attorney-General then quoted from the Companies Act, that any seven or more persons associated for any "lawful" purpose might form a limited liability company. He urged that unqualified persons might not "lawfully" keep open shop for the sale of poisons, and therefore they could not associate for the purpose. If they might they were beyond the grasp of the Act altogether. He doubted if the assistant who might sell any poison irregularly could be convicted. He thought the statutes

were analogous to those which regulated the practice of solicitors.

Mr. Justice Mellor thought, in the latter case, it would not be competent for men qualified or unqualified to incorporate themselves to carry on the practice of a solicitor.

The Attorney-General then quoted from Maxwell and Coke passages which went to show that unless there was any special reason to understand the contrary, "person" did include "corporation."

Mr. Wills repeated his argument, and,

The Lord Chief Justice said the learned counsel had raised a difficulty which they could not see their way to get over. This was an action against a corporation. Without deciding the point, he was strongly of opinion that an action brought against any of the individuals forming the company could be maintained; but he thought the argument was well founded that a corporation could not be held guilty of an offence which the Act of Parliament confines to a person.

The Attorney-General asked if an appeal would be allowed?

The Lord Chief Justice said he thought so, if the Attorney-General should think it desirable.

The Attorney-General said he did not wish to continue the discussion, but there were cases which seemed to show corporations were indictable.

The Lord Chief Justice asked that these should be cited.

The Attorney-General then quoted several cases, and commented at some length, especially on a judgment given by Chief Justice Erle in an action brought against the London General Omnibus Company. The defence had been raised in that case that the corporation having no soul could not have had a malicious intention. Chief Justice Erle said that the company having been incorporated for the purpose of driving omnibuses, they were clearly liable for any wrong done in the course of that act by their servants.

The Lord Chief Justice said it struck him that the difference between the cases cited and this one was that those referred to the actual commission of a wrong; here, however, the corporation was alleged to have committed merely an offence against an Act of Parliament.

Mr. Wills again addressed the Court. He argued that there was a sufficient reason for the distinction between the "person" of the first section and the "person" of the 17th section, as it never could have been the intention of the Legislature to put a stop to all sales of medicines by co-operative stores and companies which were already doing that class of business. He maintained that if this were the case Apothecaries' Hall would be liable to a penalty. He also claimed that the Act of Geo. IV., cited by the Attorney-General, was rather in his favour, for it assumed that *prima facie* a corporation was not included in the word "person," and was therefore necessarily excluded in the cases to which that Act did not apply. He mentioned other Acts which expressly state that the word "person" shall include "corporation." Having analysed the Pharmacy Act he urged that it never could have been the intention of the Legislature that its provisions should be applied to corporate bodies. The truth was, no doubt, that the framers of the Act had not thought of corporations at all.

At this point the hearing of the case was adjourned till the Tuesday following (March 18), but on that day Mr. Justice Mellor was not present, and a Court was not formed.

The case was resumed on April 5. The Attorney-General was not present.

Mr. Wills briefly recapitulated his previous arguments, contending that according to authorities the term "person" could only be assumed to include incorporated bodies in cases which could be tried by summary jurisdiction. He would desire to press on the Court his previous contention that, as the special enactments for the interpretation of Acts of Parliament which provided that words importing the singular should include the plural, that words importing the masculine should include the feminine, and so on, but did not say anything to the effect that the word "person" should include bodies corporate, the presumption must be that such was not the intention of the Legislature. He supposed that it was thought such an interpretation might be inconvenient in some cases, and that it would be better to leave this interpretation to be named when such was the intention.

Some Acts do so explain the term "person," the Public Health Act, for example. There were many Acts to which such interpretation could not apply. A body corporate could not be hanged or imprisoned. It would be strange if the term "person" were to mean sometimes persons only, and at other times were to include bodies corporate. He agreed with the Attorney-General that the protection to the public was not so complete as it would have been if these corporate bodies were not allowed to sell poisons, but that was not the question. He contended that no such provision had been made, and he believed that if a demand had been made in 1868 to insert a clause which would have prevented all dispensing on the part of any co-operative society, or even, as he had before shown, Apothecaries' Hall itself, there would have been no chance of getting it.

The learned counsel then went through the Pharmacy Act clause by clause, to show that in many instances the word "person" was named in such connection that it was impossible that a corporate body should be intended. Bodies corporate, for instance, as such, could not "possess a practical knowledge of their business," as required by the first section of the Act. The Attorney-General, with perfect fairness, had argued, therefore they could not keep open shop for the sale of poisons; but he (Mr. Wills) thought it would be very strange if it really had been the intention of the Legislature to put a stop to all dispensing by such bodies, that they should do it by a side wind in that manner. He could quite understand that the Pharmaceutical Society might desire so to get rid of them. Co-operative stores were in existence then, and had been found to be of great benefit to those who belonged to them. That of course went for nothing, except to show that if the Act had been intended to include them it would have been so expressed. The fact was, no doubt, that the persons who drew the Bill never once thought of them. The schedule, the examination requirements, the erasure of names of persons who have died, the provision that the register should be kept according to the alphabetical order of surnames, all tended to show that the Act was not applicable to bodies corporate. The Attorney-General had replied to that, "So much the worse for them;" but he insisted that the Legislature would not have adopted this roundabout method of suppressing them if it had desired to do so. The public would be protected by the requirement that the person selling the poison should be qualified.

The Lord Chief Justice thought the learned counsel must go the length of saying that these companies required no qualification at all.

Mr. Wills thought the sale of a poison by an unqualified person would make that person liable. He further touched upon the clauses affecting widows of registered persons, the Benevolent Fund, election as members of the Pharmaceutical Society or to the Pharmaceutical Council; maintained that it was plain that in framing this Act, such bodies as the one he represented had not been thought of, and urged that an amending Act ought to be applied for if the present was not thought sufficient, rather than that the words of the law should be strained.

Referring to the cases which had been brought forward by the Attorney-General, he said that no doubt such offences at common law as such bodies could commit, or violations of the special statutes under which they were incorporated, were punishable, but these were the only classes of cases which had been cited, or which, he believed, could be cited by the other side.

Mr. Lumley Smith said he should only add a few words to the arguments of the Attorney-General. He alluded again to the dictum of Lord Coke, that the natural meaning of the term "person" included bodies corporate. It had been claimed by counsel on the other side that as the Interpretation Act only referred to cases which came under summary jurisdiction, and specially mentioned that the term "person" should in such cases include bodies corporate, therefore, in other cases this interpretation did not apply. But it would be as correct to assume that in all other Acts the feminine was not included in the masculine, or the plural in the singular. The learned counsel had asked the court to decide that the word "person" in this Act, if in one instance it cannot apply to bodies corporate, must always have the same signification. But this could not be the case, as there was one clause in which a penalty could be recovered by summary process, and, therefore, in that case bodies corporate were

included in the word "person." But it was important to consider what was the mischief which it was the special intention of this Act to prohibit. He apprehended that the idea of the Legislature in framing this Act, and in applying it expressly to the person who kept the open shop, was that it might often be difficult to get at the mere assistant who sold the poison, who might be here to-day and gone to-morrow, and, therefore, it was provided that the person keeping open shop, which could not be done secretly, should be responsible, and that a person not qualified should not keep open shop for the sale of poisons, even though he kept 50 qualified assistants. The recital to the Pharmacy Act says, "It is expedient that persons keeping open shop for the dispensing of poisons shall possess a competent practical knowledge of their business."

The Lord Chief Justice: That is the recital; does the Act correspond?

Mr. Lumley Smith: Yes, my Lord; in Section 1 it is so provided; and the special case finds that the defendants did keep open shop for the dispensing of poisons.

The Lord Chief Justice: You say that it would not be competent for any unqualified person to keep open shop for the dispensing of poisons, although he himself took no part in the business, and kept qualified assistants.

Mr. Lumley Smith: Yes, my Lord; and my learned friend has given up the contention that he could.

The Lord Chief Justice: Suppose that A and B are partners, A being registered and B not; and if A attend exclusively to the chemical department and B to the grocery for instance, would such a partnership be illegal.

Mr. Lumley Smith: I should think so. I presume the law would be similar to what it is in the case of attorneys, and I suppose it would not be competent for unqualified persons to call themselves, for instance, The Law Conducting Society (Limited), even though they employed qualified attorneys as assistants. If the person who sold the poison only were responsible the protection afforded to the public would be very ineffectual. You must be able to get at the proprietors. The learned counsel's great *cheval de bataille* had been that the Apothecaries' Society would not be able to carry on business under this act if the term "person" really included "company." But he (Mr. Smith) was told that every member of that society was a legally qualified apothecary, and therefore was not affected by this Act.

The Lord Chief Justice: But are you sure that all who dispense poisons there are qualified?

Mr. Lumley Smith: That I cannot say; but I am told that those forming the society, who keep the open shop, are all qualified apothecaries. We have been told, too, that many co-operative societies were in existence when this Act was passed, but we have had no evidence of that, and I believe it was not so. One only, the Civil Service Society, was, I believe, started in 1868, and that was only in its infancy, and did not then, I believe, sell poisons. The question is, Will this Court allow great corporations to come in and do what the law says shall not be done?

The judges having consulted briefly,

The Lord Chief Justice said: This is an important case; we will consider our decision.

THE MANUFACTURE OF SALICYLIC ACID.—ALLEGED INFRINGEMENT OF PATENT.

THE action of Von Heyden *v.* Neustadt to restrain by injunction the alleged infringement of letters patent for the production of salicylic acid, was commenced on the 18th ult., before Vice-Chancellor Bacon, sitting in the Chancery Division of the High Court of Justice. The hearing of the arguments and the taking of *via voce* evidence occupied nine days.

Mr. Aston, Q.C., Sir H. Jackson, Q.C., and Mr. Macroy appeared for the plaintiff; the Attorney-General, Mr. Everitt, and Mr. Carpmael appeared for the defendant.

Mr. Aston, Q.C., in opening the plaintiff's case, said that the plaintiff, Von Heyden, was the assignee of an invention communicated by Professor Hermann Kolbe, of Leipzig, to Mr. John Henry Johnson, and by him patented in this country in the month of February, 1874. The invention for which letters patent were granted to Johnson on February 17, 1874, was for "Improvements in the production of salicylic acid, and of the isomeric and homologous acids."

The defendants, Messrs. Neustadt & Co., carried on business in Mincing Lane, London, and it was alleged by the statement of claims that the defendants had infringed the plaintiff's patent by importing into and selling in this country salicylic acid manufactured by a process identical with the subject of the letters patent granted to Johnson. The subject matter of the letters patent was one of very great importance owing to the great variety of purposes for which it was employed in this country. Salicylic acid was an antiseptic, and had the action of arresting decay in the parts of substances which in all probability would be subject to premature decay, or, at least, it arrested that decay for a considerable time. It was an exceptionally valuable chemical production which, prior to the date of the letters patent, was practically unknown. The product was formerly derived from the old form of salicine—salicine being obtained from the bark of the willow, which, when subjected to the operation of hot water, distillation and so forth, produced a bitter which was called salicine, and which consisted of carbon, hydrogen, and oxygen. It could also be produced in other ways. For the purposes of this action it might be conceded that salicylic acid was produced in the laboratory prior to 1874, but prior to that date it had never been made commercially valuable and adapted for the thousands of purposes for which it was now employed. Prior to 1874 the cost of producing salicylic acid was twelve guineas a pound, and the utility of the plaintiff's invention might fairly be tested by the fact that it could now be produced for 7s. or 8s. per lb. The specification set forth that the patent related to the invention of salicylic acid by the action of carbolic acid gas upon alkalies, or a mixture of them. After describing the process of production, the learned counsel referred to the pleadings. The plaintiff's statement of claim set out the patent to Johnson on February 17, 1874, as the receiver of a communication from Kolbe, and the assignment to the plaintiff, with the consent of Kolbe. The defendants had never by their pleadings called the validity of the patent in question. The statement of defence admitted the grant of the letters patent to Johnson, but denied that he was the "first and true inventor;" but Johnson satisfied that description within the meaning of the statute. The defendants did not admit the assignment to Von Heyden, but that would in due course be produced. The defendants denied infringement, and alleged that they were dealing with salicylic acid imported from the firm of Mayhew, of Darmstadt, who were manufacturing the acid in accordance with a patented process of their own. Herr Mayhew's process, patented in Germany, and by the defendants in England, was, however, identical with the plaintiff's. He was prepared to concede that the defendants had introduced certain improvements in the production of the acid, but the infringement was palpable, and he submitted that he should most conclusively prove that prior to the date of the plaintiff's patent no other person than Professor Kolbe had produced salicylic acid so as to make it commercially valuable. The state of knowledge at the time was set forth in the following terms in the specification:—"Amongst the acids of the aromatic range originally produced synthetically salicylic acid was obtained by introducing carbonic acid into boiling carbolic acid, sodium being simultaneously dissolved in the latter; yet this method, as well as that of the preparation of salicylic acid produced by the employment of the expensive and not easily procurable oil of wintergreen, from *Gaultheria procumbens*, did not promise to yield either a satisfactory or advantageous result." After citing authorities the learned counsel called the following evidence:—

Dr. William Odling, Professor of Chemistry at the University of Oxford, &c., in his examination in chief by Sir H. Jackson, said that he had carefully read the plaintiff's specification, and, as a competent chemist, he considered that the terms of the specification were sufficiently clear and precise to enable him to make salicylic acid. At the date of the specification—February 17, 1874—salicylic acid was only known to chemists as a chemical study, and not as an article of commerce. As sold it was always produced from such compounds existing in nature as wintergreen, or the salicyline got from willow bark; it had also been obtained by the conjoint action of metallic sodium and carbonic acid gas on carbolic acid. The process was only of interest as

a scientific fact. The plaintiff's description of his invention is as follows:—"Carbolic acid is heated with the solid hydrates of the alkalies or of the alkaline earth such, for example, as hydrated oxide of potassium, of sodium, of calcium, of barium, or of strontium in a closed retort of iron, glass, or any other suitable material, the temperature being for some time maintained at about 183° C., or thereabouts, until the water with the greater part of the excess of carbolic acid has passed into suitable vessels for its reception, so that the carbolic acid may be used again, dry carbonic acid gas being conducted in a continuous stream into the contents of the retort, the formation of salicylic acid or paroxy-benzoic acid, as the case may be, will take place." It therefore came to this, that the three substances out of which the salicylic acid was made are carbolic acid, caustic alkali or soda, and carbonic acid gas. The specification went on to say that "The temperature may finally be made to somewhat exceed 200° C.; under these circumstances the entire mass will gradually become solid, and the operation is terminated when but little residual carbolic acid distills over." In 1874 that was an entirely new method of producing salicylic acid. The product is a solid brownish mass. In witness's opinion the production of carbolate of soda in that form was new, and the treatment of that substance with carbonic acid gas at a temperature of 183° was indisputably new in 1874. The specification contained an alternative process as follows;—"A combination or mixtures of the alkalies, or of the alkaline earths, or a mixture of them with carbolic acid, is effected in a suitable open or closed vessel, the proportions being calculated according to their equivalents or otherwise, as may be found convenient; heat is to be applied, and the materials are maintained in a state of agitation until the mixture is entirely divested of water, and ready for further manipulation. This substance, dephlegmated as much as possible, is now transferred into a retort, and treated as before described, namely, by heating it in a current of dry carbonic acid gas. By this means the corresponding salts of salicylic acid or paroxy-benzoic acid, or a mixture of them, will be formed, whilst regenerated carbolic acid passes over, and is collected for further use." If an excess of carbolic acid was employed that excess had to be driven off, and then the evolution of carbolic acid is finished. In a perfect process one half of the carbolate of soda is converted into salicylic acid, and the other half is collected, regenerated, and used over again. Both alternatives were novel in 1874. The modes of combination were different. The salicylic compound being completed "the contents of the retort are subjected to ablation with water, and the salicylic or paroxy-benzoic acid, or a mixture of both, as the case may be, is precipitated with hydrochloric or any other suitable acid," the object being to set free the organic acid, and this was only new as part and parcel of this continuous process.

Would a practical chemist be able to carry out in practice the description which you have read from the specification?—Undoubtedly. Any person of ordinary chemical knowledge, following out the directions of this process, could not have failed to obtain a yield of salicylic acid, which at that time (1874) would have been a very great acquisition. The continuous agitation recommended in the second alternative could be performed by a boy stirring the materials. Any practical manufacturing chemist would almost necessarily have the whole of the apparatus required on his premises, or could easily obtain them.

The defendants, by their specification, claim:—"Improvements in the manufacture and production of salicylic acid, and in apparatus employed therein, and consists, I. In the preparation of basic sodium salicylate, by the action of carbonic acid upon dry sodium carbolate at a certain or determined temperature, &c." What relations would you say that the first paragraph had to Johnson's specifications? In Johnson's specifications the expressions "basic sodium salicylate," and "dry sodium carbolate" are not used, but the first substance is identical with the product in Johnson's action of carbonic acid gas, and "dry sodium carbolate" is identical with the product which Johnson operates upon which is got by mixing soda and carbolic acid together and heating them. The processes and products are equivalent. With reference to the temperature there is this difference: Johnson says that the temperature should be maintained at about 183°, and finally exceeding 200°; and the defendants

say the temperature should fluctuate between 170° and 185°. I cannot see any other substantial difference between the two modes of treatment. Kolbe and Lautemann were the first to produce salicylic acid artificially. Prior to the patent of 1874 Kolbe and Lautemann disclosed to the world the method of passing carbonic acid gas into heated liquid carbolic acid, in which sodium was being dissolved, and, secondly, by passing carbonic acid gas into heated carbolic acid, in which sodium has been dissolved. Until 1874 it had never been thought that this salicylic acid could be produced by means of the three substances—carbolic acid, carbonic acid gas, and caustic alkali; but only by carbonic acid gas and carbolic acid and metallic sodium.

The utility of this invention of Kolbe and Johnson has been denied by the defence. What is your evidence as to utility?—Personally, I only know that it is a very extraordinary antiseptic, and that it has a large sale. It is much used in commerce and in physic for dressing wounds, and as a disinfectant; it is also largely used by brewers to prevent their beer from turning sour, and is said to be used in milk also. This mode of manufacture has created a new industry.

Cross-examined by the Attorney-General at considerable length as to the state of knowledge prior to 1874. Extracts from various articles contributed by Kolbe and Lautemann to the "Annals of Chemistry and Pharmacy," on the production of salicylic acid from 1859 down to 1874 were read for the purpose of showing that there had been a disclosure of the process of producing salicylic acid patented by the plaintiff. In 1874 witness admitted that Kolbe made known through the *Annalen* that salicylate of soda might be obtained by acting upon carbolate of soda with dry carbonic acid. It was well known that under certain conditions salicylate of soda could be got by acting on carbolate of soda by carbonic acid, the conditions being that the carbolate of soda is produced by metallic sodium and dissolved by carbolic acid. Kolbe's "Manual of Organic Chemistry," 1854, Miller's "Elements of Chemistry," 1869, and various manuals of chemistry, were also quoted by the learned Attorney-General to prove prior knowledge to the date of the plaintiff's specification, but witness denied that the alternative processes contained in the Johnson's specification had been disclosed prior to the date of the patent. Summing up the differences between prior processes and the plaintiff's, witness said:—"One point of difference is that Johnson treats the separate substance, carbolate of soda, or sodium, with carbonic acid gas, whereas it had only been treated in admixture with the excess of carbolic acid, which is a serious impediment to the formation of salicylic acid; and secondly, he produces his substance in the first instance from soda and carbolic acid, and converts that into salicylic acid, whereas the product obtained from soda and salicylic acid had not been converted into salicylic acid within the knowledge of man.

Dr. John Attfield, Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, author of the "Manual of Chemistry," &c., examined by Mr. Aston, Q.C., stated that he had known of the modes of producing salicylic acid since 1854, and read Kolbe's paper on the subject, which appeared in the *Annalen* for 1859. Following the directions therein contained, witness experimented and obtained salicylic acid in small quantities. With the exception of the two processes described by Kolbe and Lautemann, witness had no knowledge, prior to 1874, of any process by which salicylic acid could be obtained, except from certain vegetables and the oil of wintergreen. Witness considered that the directions given by Johnson were ample to enable practical chemists to get the results desired successfully. After being taken through the material parts of Neustadt's specification, witness said the directions and the results were identical with Johnson's. There was no difference in the product, and only a little difference in the apparatus.

By the Attorney-General: Prior to 1874, symbol for carbolate of soda, which now is $\text{Na C}_6\text{H}_5\text{O}$ was not known definitely and chemically; but that symbol was used prior to 1874 in the books.

Dr. Henry Edward Armstrong, Professor of Chemistry at the London Institution, Finsbury Circus; author of "Introduction to Organic Chemistry," Hon. Secretary of the Chemical Society in London, &c., deposed that in 1867, 68, and 69 he assisted with Kolbe in his laboratory, and whilst there he had occasion to produce salicylic acid by the process

described by Kolbe and Lautemann in the *Annalen*; and the quantity of salicylic acid produced was relatively small—too small for commercial purposes. In none of the passages contained in the volumes of the *Annalen* prior to 1874 did witness find anything anticipatory of the Kolbe-Johnson patent. No formula was ever given for the Kolbe-Lautemann process. $C_7H_6O_3$ is the formula for all salicylic acid; the Merck-Neustadt process gives the same result as the Kolbe-Johnson.

By the Attorney-General: It is stated over and over again in the text-books on chemistry that you can produce carbolate of potash by mixing carbolic acid with caustic potash; and the carbolate of soda may be formed in the same way. Witness denied that Gerhardt or Laurent had anticipated the plaintiff's specification.

Professor Edward Frankland, Corresponding Member of the Academies of Science of Paris, Berlin, St. Petersburg, and Munich, examined by Mr. Aston, Q.C., gave corroborative evidence.

Mr. John Henry Johnson, examined by Mr. Maerory, said he was the first patentee and true inventor within this realm of an invention communicated to him by Hermann Kolbe, of Leipzig, Saxony.

By the Attorney-General: I was simply an agent. I know nothing of the transaction between Kolbe and Von Heyden.

Dr. W. Foster, Professor of Chemistry at Middlesex Hospital, gave evidence as to the fact of the uses of salicylic acid for antiseptic and medical purposes. Became acquainted with the plaintiff's process through the *Journal of Practical Chemistry* for July, 1874.

Mr. Auguste Ferdinand Zimmermann, 21 Mincing Lane, stated that his firm first imported salicylic acid at the end of 1874 or the beginning of 1875. Its sale commenced in 1875; its use was not then known in this country; its sale rapidly increased. The first consignment was sold at 14s. per lb.

Mr. Julius Cyriax (of the firm of Burgoyne, Burbidge & Co., Coleman Street) deposed that his firm were Dr. Von Heyden's agents in this country, and were consignees of salicylic acid. The first parcel imported by his firm was in July, 1874. Had been 21 years in the chemical trade, and salicylic acid as a commercial commodity was new to the trade. In 1874 witness's firm imported 20 lbs. weight, and in 1875 about 350 lbs.; last year they imported 36,000 lbs. The price in 1874 was from 12s. to 14s. per lb.; the average price now is 7s. 6d. for quantity. The defendants were selling at from 6d. to 9d. per lb. less.

Cross-examined by Mr. Carpmæl: Prior to 1874 dry carbolate of soda was not a commercial commodity.

Dr. Frederik von Heyden, the plaintiff, examined through an interpreter, said he was the proprietor of the letters patent obtained in the name of Johnson. Got his patent rights from Kolbe without purchase. Commenced proceedings in the German Courts against Mr. Schering for infringement of his patent, and succeeded in three separate Courts. Witness gave evidence in support of novelty of the invention.

Cross-examined by the Attorney-General, witness said he did not make use of Schering's apparatus for manufacturing the commodity. Was co-proprietor of the patent with Kolbe from the beginning. It was not known to him that prior to 1874 carbolate of soda had been made with carbolic acid and caustic soda. Had studied Professor Kekule's book, and what was there stated had the effect of making witness doubt Kolbe's assertions respecting carbolate of soda.

Re-examined by Mr. Aston, Q.C.: Any chemist reading the following passage from Kekule's book (vol. iii. p. 15) would take care not to heat his preparation:—"According to Calvert, the solid mass which is formed by the contact of carbolic acid and concentrated liquid potash will, after repeated pressing between filtering-paper, give up the potash, and crystallised hydrate of carbolic acid will remain."

Sir Henry Jackson, Q.C., having summed up the evidence, The Attorney-General opened the case for the defence. He said that the defendants, on their pleadings, denied the alleged infringement, and the great difficulty in the case was to know what Johnson's invention really was; for the statements made by Johnson in his specification and the invention indicated by his witnesses, were totally different. In this case the scientific witnesses, with some considerable

ingenuity, had formulated an invention for the plaintiff, Dr. Odling, Dr. Attfield, Dr. Armstrong, and Professor Frankland said the true features of the invention were, the forming of dry carbolate of soda that never was formed before, and the operating upon that separate dry carbolate of soda by carbonic acid gas for the purpose of producing the salicylate of soda, added to which, by some ordinary chemical proceeding, salicylic acid could be obtained. If that was the invention, where was the infringement by Neustadt? Neustadt's invention is for "the preparation of basic sodium salicylate by the action of carbonic acid upon dry sodium carbolate at a certain or determined temperature, and also under certain conditions;" secondly, "In the complete recovery of the carbolic acid set free;" and thirdly, "In the re-utilisation of the unconsumed carbolic acid;" and then an elaborate apparatus for the manufacture was described. From beginning to end Neustadt did not say that he used the separate solid dry carbolate of soda; what he said was, that he used a dry carbolate of soda, which might be produced in various ways—certainly by the dissolution of sodium in carbolic acid. It was clear that the salicylate of soda would be produced by throwing the jet of carbonic acid gas on the dry carbolate of soda, and that was not what Johnson's invention consisted in. The learned Attorney contended that the plaintiff's letters patent were bad because the invention was not accurately described, and, 2nd, because the invention was old. The plaintiff described two processes, and even admitting that one was new, then, according to decided cases, the patent would be bad if it turned out that one of the processes was old. The learned Attorney then proceeded to analyse the evidence for the purpose of showing that the plaintiff's patent was anticipated by articles in various chemical publications—mainly Professor Kolbe's—published in 1854, 1859, 1860, 1861, and down to 1874. In conclusion, after dealing at great length with the evidence for the plaintiff, he said he should call a number of scientific witnesses who would clearly prove that it was perfectly well known before 1874 that carbolate of soda could be produced, that acting on that carbolate of soda by carbonic acid salicylate of soda could be made, and, of course, from salicylate of soda salicylic acid could be made—that carbolate of soda could be produced either from sodium in carbolic acid or from a mixture of caustic soda with carbolic acid, and they would say that all this was disclosed to the world by Kekulé and others. Separated carbolate of soda, on which the plaintiff seemed to rely, was an article of commerce, and it might be formed in such a way as to be either a dry carbolate of soda or a hydrated carbolate of soda; but if it were a hydrated carbolate of soda it was in a separated form, and to produce salicylic acid from it all that it was necessary to do was to drive out the water and submit it to the action of carbonic acid. He submitted with confidence that nowhere from the beginning to the end had Johnson indicated that that was his invention. What he obtained, if he claimed anything, was that he made salicylic acid by operating in the same way as before, with this exception, that instead of using sodium he used caustic soda. He would show that the formation of a carbolate, the principal step, by means of caustic soda and carbolic acid was perfectly well known, as was also the fact that salicylic might be made from such a carbolate, by the action of carbonic acid. If that was so, there was an end of the plaintiff's case. Why was not Professor Kolbe called, unless the plaintiff knew that if he were called, he would be obliged to confess that he was in possession of all this knowledge, and had disclosed it to the world prior to the date of this patent.

The following witnesses were then called:—

Dr. Charles Romley Alder Wright, Doctor of Science at the London University, and Treasurer of the Institute of Chemistry, examined by the Attorney-General, said that about 1873-74 a demand for salicylic acid arose in consequence of certain physiological discoveries made by Professor Kolbe and his collaborators. Prior to 1874 it was known that carbolate of soda would be produced by dissolving metallic sodium in carbolic acid; it would not be a hydrate, but it would be chemically dry. It was also known that salicylic acid could be formed by the direct combination of the elements of carbonic acid gas with the elements of the carbolate of soda. Prior to 1874 several investigations were made and published which showed that carbolate of potash and carbolate of soda were

capable of being heated to moderately high temperatures without decomposition. 183° C. would be moderate. This is shown in the "Manual of Organic Chemistry," by Auguste Kekulé, vol. iii. p. 196, and published in 1867. A large number of statements occur in chemical text books which would lead witness to the conclusion that the carbonate of soda formed by acting with sodium in carbonic acid would bear a temperature of 180° for some time without a change. It is stated in numerous manuals of chemistry published prior to 1874 that carbonate of soda could be formed from carbonic acid and caustic soda. Kekulé's "Manual of Organic Chemistry," vol. iii., p. 15, says:—"Potassium dissolves in gently warm phenol with evolution of hydrogen. On cooling the whole solidifies to a colourless crystalline mass of carbonate of potash. This same compound is produced by heating carbonic acid with the corresponding quantity of caustic potash." A little lower down:—"Carbonate of soda is prepared just as the potash compound, which it perfectly resembles." This witness understood to mean that when carbonic acid and potash are heated together the substance C_6H_5OK is produced, of necessity with evolution of water, water being driven off. This statement conveyed the impression that what chemists term an anhydrous substance, dry in a stricter sense, is produced by acting with caustic potash, and that the corresponding carbonate of soda is similarly produced. The compound so produced would be chemically dry and solid. Kolbe stated—"Manual of Organic Chemistry," vol. i., p. 399, edition 1854—that potassium and sodium decompose carbonic acid, but only slowly in the cold. There is also a passage in "Watts' Dictionary" of 1866 on the subject, vol. iv., p. 390. Watts says:—"14thly. Phenol is attacked by potassium or sodium, slowly at first, more quickly when aided by a gentle heat, hydrogen being evolved, and phenate of potassium or sodium produced. 15thly. When carbonic anhydride is passed into pure phenol gently warmed, and sodium is added by small portions, hydrogen is evolved and salicylate of sodium is formed. The reaction is the converse of that by which phenol is produced from salicylic acid." The quotation is from Kolbe and Lautemann, *Jahresb.*, 1859 p. 309, 1860 p. 291. Both these papers had been referred to in this case from the *Annalen*. From the text books witness gathered that about the year 1860 Kolbe prepared salicylic acid in this way and made the fact known to the chemical world. Reading the plaintiff's specification there was nothing to indicate that the invention intended to produce, in the first instance, a solid, dry, separate carbonate of soda. The specification spoke of the action of carbonic acid gas on carbonic acid in the presence of alkalis. The words employed were chemically nonsense, for there would be neither alkali nor carbonic acid if the two were brought together. A carbonate would be formed. In the second process, witness did not understand that the inventor intended necessarily to produce dry carbonate of soda. Was not aware whether solid carbonate of soda was sold commercially prior to 1874.

Cross-examined by Mr. Aston, Q.C.: Calvert, of Manchester, produced carbonate of soda in a separate form prior to 1874. In Johnson's description there were directions which would enable witness to produce salicylic acid. Understood that the object of the invention was to produce salicylic acid in large quantities and at a considerable reduction in price. Considered that the plaintiff's method was substantially the same as the old methods, which were not properly carried out so as to get the maximum possible yield. In order to produce salicylic acid in large quantities the principal part of the excess of carbonic acid must be driven off.

Mr. John Dale (of the firm of Robinson, Dale & Co., Manchester), examined by Mr. Carpmal, said his firm were large manufacturers of carbonic acid and aniline dyes. After describing the process of manufacturing carbonic acid, witness said it was well known before 1874 that carbonate of soda could be evaporated to dryness—that the solution of carbonic acid and soda could be evaporated to dryness without decomposition.

Mr. Robert Taubman (manager to the firm of Messrs. Morson, wholesale manufacturing chemists, Southampton Row), examined by Mr. Everitt, said, on January 19 and March 26, 1872, his firm sold carbonate of soda to Messrs. Dunn, Squire & Co. at 2s. 8d. per lb. There had been sales prior to that date.

Mr. Thomas James Tipping (assistant chemist in the

laboratory of the Messrs. Morson) stated that dry carbonate of soda was made by his firm in July, 1869.

Dr. B. H. Paul (editor of the *Pharmaceutical Journal*) gave evidence in support of prior participation of the plaintiff's patent.

Professor James Alfred Wanklyn (Lecturer on Chemistry and Physics at St. George's Hospital), in his examination in chief stated that twenty-one years ago he discovered that carbonic acid could act upon sodium compounds and produce sodium salts, and that a jet of carbonic acid was capable of acting on organic sodium compounds.

Dr. Walter Noel Hartley (Member of the Council of the Chemical Society of London, &c.), gave corroborative evidence as to the state of knowledge in the chemical world with regard to the production of dry carbonate of soda, as that given by Dr. Wright and succeeding witnesses. He had not made it, but had frequently seen it described in books.

Mr. Everitt summed up the evidence adduced for the defence, and submitted that the plaintiff's patent was *ex facie* bad; 1st on account of the insufficiency of the specification, and 2ndly from want of novelty.

Mr. Aston, Q.C., in his reply on the whole case submitted that the plaintiff had successfully sustained his action for an infringement by the defendants of his patent rights. He contended that it was conclusively proved that prior to 1874 it was not known how to produce salicylic acid in the mode patented by the plaintiff. It was suggested that somewhere in the pages of voluminous manuals of chemistry, text books on chemistry, and works of interest to chemists, published in German, French, and English, there would be found a disclosure of the process invented by Kolbe, patented by Johnson, and assigned to Von Heyden. But even if this were so—and the evidence disproved it—it could not be regarded as such a prior publication as would invalidate the plaintiff's patent. The utility of the invention being conceded, and its novelty being proved, he submitted that the case against the defendant was fully established, and the plaintiff was entitled to an injunction as prayed.

The Vice-Chancellor reserved his judgment.

PHARMACY IN HONGKONG.

A CASE which illustrates a chemist's assistant's mode of life in Hongkong was heard before the Supreme Court, on January 25, 27 and 28. Mr. Duggleby, an assistant, sued Mr. J. D. Humphreys, trading as A. S. Watson & Co., chemist, aerated water manufacturer and importer of port, sherry and brandy, for \$538, being the amount of three months' wages and second-class passage to England. Mr. Humphreys denied the liability on account of the plaintiff's misconduct, and brought a cross action for the balance of Duggleby's passage to England, which was to be repaid by instalments. It was admitted that the amount claimed by Mr. Duggleby was correct, if the charge of misconduct failed. This was therefore taken first. Mr. J. D. Humphreys stated that he had four assistants in Hongkong. They messed by themselves, but everything, including beer, wines and spirits was supplied by him. Brandy was kept in a store-room under the charge of a boy. When a case was opened no further account was taken of it. The store boy would hand brandy to any of the assistants on verbal or written order, and would keep no account. The assistant would enter it in the ledger, or in the book of cash sales, or in the mess account, according to its destination. The assistants were all allowed to open accounts in the ledger if they wished. Mr. Duggleby came into his service on March 24, 1878. He had been very remiss in sending out medicine, and was continually absenting himself from business on the plea of illness. His breath frequently smelt of spirits, and spices taken to conceal the odour. The store-boy stated that he had supplied Mr. Duggleby with brandy at the rate of four or five bottles a month from August onwards. These had not been entered, and Mr. Duggleby could not satisfactorily account for them. He had never observed similar conduct in his other assistants. Confirmatory evidence was given by another assistant and by native servants. Mr. Duggleby was called in defence, and denied the charges. No evidence was called to support the defence, and on January 27 the Judge decided against Mr. Humphreys on the ground that the alleged misconduct had not been proved. Leave was given for an application for a new trial before a jury, on the ground that the verdict was against the weight of the evidence.

Trade Notes.

A SAMPLE of a good sound sherry, suitable for medicated wines, has been sent to us by Mr. Robert Gray, of 6 Moor-gate Street. Terms are given in his advertisement.

* * *

PARNELL'S CHALYBEATE SALINE is a new granular effervescent salt prepared, combining tonic and aperient properties. Iron and sulphate of magnesia are combined in this preparation. The sample sent to us, we are told, has been kept for 18 months, and its colour has been in no way affected.

* * *

LENTILLA.—Messrs. James & Co., of Eversholt Street, N.W., have taken advantage of the recent advocacy of lentils as an article of food, and have produced from them a pleasantly-flavoured food which they call "Lentilla," and which produces puddings, pancakes, or porridge, at once digestible, nutritious, and economical.

* * *

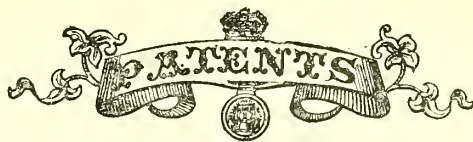
PETROLEUM.—An investigation has taken place in America which has disclosed that the Standard Oil Company had made a treaty with the Pennsylvania Railroad, giving the latter a commission on all shipments in return for special rates, which virtually gave the monopoly of the trade to this one company. The result has been ruinous to hundreds of men engaged in the trade, and an appeal has been made to the Legislature to prohibit this unfair action of a State-chartered railway.

* * *

PROPRIETARY MEDICINES AND ADVERTISEMENTS.—We mentioned last month that certain medicines which had been taken in exchange for advertisements on the understanding that they were to be despatched to foreign climes, there to establish a new centre of blessing, were being hawked about London under makers' prices. We have heard of other instances since, and we think it would only be fair that houses to whom such medicines are offered should communicate with the makers, either before or after purchasing.

* * *

OZONIC PERFUMERY.—Mr. Rimmel has for years urged that perfumes serve a higher purpose than the mere gratification of one of the senses. It is well to take a lofty view of one's mission, and Mr. Rimmel's theory has been to a great extent justified by scientific researches. That plants exhale, or, at all events, occasion the production of, ozone to a greater or less extent is admitted, and that a supply of ozone is the best air purifier is also recognised. That turpentine and many perfumes of analogous composition also yield similar, if not identical, results has also been established. Taking advantage of these facts, Mr. Rimmel has prepared a series of disinfectants of an agreeable character. Besides the aromatic ozoniser, which we have previously noticed, and which consists, apparently, of sawdust soaked with eucalyptus, there are now offered ozonised eau de Cologne, lavender water, and Florida water, the perfume of which is spread through an apartment by putting a few drops on a cloth pad supplied for the purpose. An ozonised soap is also added to the series, for the benefit of persons who wish to carry out the ozonic theory to its uttermost extent.



The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, successor to L. de Fontaine-morean & Co., 4 South Street, Finsbury, London; and at Paris and Brussels.]

Applications for Letters Patent:—

- Alimentary Substances.**—No. 1249.—G. E. Davis, of Heaton Moor, Lancashire, consulting chemist. Improvements in the manufacture of alimentary substances. Dated March 28, 1879.
- Anhydrous Sulphuric Acid.**—No. 919.—C. S. Gorman, of Irvine, Ayrshire, North Britain, chemist. Improvements in the manufacture of anhydrous acid. Dated March 8, 1879.
- Bottling-machine Regulating Valve.**—No. 1233.—J. T. Trotter, of Stocksfield-on-Tyne. An improved regulating valve for bottling-machines. Dated March 28, 1879.
- Bottle-stoppers.**—No. 916.—T. Rule, of Harrogate, Yorkshire. Improvements in the construction and mode of stoppering bottles for containing aerated liquids. Dated March 8, 1879.
- Bottle-stoppers.**—No. 976.—J. C. Haddan, of 67 Strand, London, civil engineer, and W. F. Trotman, of the Zoological Gardens, London, refreshment contractor. Improvements in bottle-stoppers. Dated March 12, 1879.
- Bottle-stoppers.**—No. 1210.—L. Valet, of Liverpool, Lancashire. Improvements in and relating to stoppers for bottles, for aerated or gaseous liquids, part of which improvements consist in an improved compound to be used for the manufacture of such stoppers, also applicable to other stoppers and various useful purposes. Dated March 26, 1879.
- Bottle-stopper, &c.**—No. 1222.—M. L. J. Lavater, of Paris, civil engineer, and W. J. Tranter, of Wednesbury, Staffordshire, mineral water manufacturer. An improved stopper and draw-off nozzle for bottles containing aerated and other liquids, and process of deodorizing and scenting stoppers and other articles made of indiarubber. Dated March 27, 1879.
- Disinfectants.**—No. 1081.—R. V. Tuson, of Great College Street, Camden Town, London. Improvements in the preparation of materials to be used, and disinfectants, deodorisers, and antiseptics, as well as for the destruction of parasites infesting man and the lower animals, and similar purposes. Dated March 19, 1879.
- Indiarubber Tubing for Chemical Purposes.**—No. 1087.—E. De Pass.—A communication from La Compagnie Franco-Américaine de Caoutchouc durci et souple, of 1 Boulevard St. Denis, Paris, France. Improvements in and in the manufacture of indiarubber tubing, specially useful for chemical purposes. Dated March 19, 1879.
- Recovery of Glycerine from Soap Leys.**—No. 1282.—C. Thomas, of Bristol, soap manufacturer; W. J. Fuller and S. A. King, both of Bristol. Improvements in the recovery of glycerine from soap leys. Dated March 31, 1879.
- Saccharate of Lime.**—No. 1266.—J. H. Johnson.—A communication from H. Legru, of Paris. Improvements in the production or manufacture of saccharate of lime. Dated March 29, 1879.
- Sulphide of Zinc.**—No. 1131.—T. Griffiths, of Birkenhead, Cheshire, and J. Cawley, of Deptford, Kent, chemist. Improvements in the manufacture or production of sulphide of zinc. Dated March 21, 1879.
- Sulphide of Zinc.**—No. 1047.—J. Cawley, chemist, of 468 New Cross Road, Deptford, Kent. An improvement in the manufacture of sulphide of zinc. Dated March 17, 1879.
- Tannin.**—No. 1070.—W. A. Barlow.—A communication from P. Gondolo, of Paris. Improvements in process for obtaining or extracting tannin. Dated March 18, 1879.
- Alkali.**—No. 4148.—J. C. Stevenson, M.P., alkali manufacturer. Improvements in apparatus for the manufacture of alkali. Dated October 8, 1878.
- Benzine Soap.**—No. 300.—C. D. Abel.—A communication from J. Barbhieux and A. Rosier, both of Marsilles, France. A new or improved process for the saponification of mineral oils and the manufacture of benzine soap. Dated January 24, 1879.
- Dental Tools.**—No. 104.—H. Richmann and U. K. Arnold, both of San Francisco, Cal., United States. Improvements in direct-acting engines and drilling apparatus, the same being applicable to dental tools, rock and other drills. Dated January 10, 1879.
- Dental Plates.**—No. 156.—W. R. Lake.—A communication from L. N. Winderling, of Milan, Italy. An improved process and apparatus for the manufacture of dental plates. Dated January 14, 1879.

- Filters.**—No. 3746.—W. White, of Chancery Lane, London. Improvements in the manufacture of filters or filtering material. Dated September 21, 1878.
- Iodine.**—No. 3814.—C. M. Sombart.—A communication from H. Boeckel and R. Müller, both of Schoenbeck, near Magdeburg, Germany. Improvements in procedure and apparatus for producing iodine and bromine. Dated September 30, 1878.
- Phosphorescent Powders.**—No. 5255.—W. M. Brown, a communication from J. Peiffer, W. F. C. MacCarty, and Prince T. P. de Sagan, all of 1 Rue de la Fidélité. Improvements in the composition and manufacture of phosphorescent powders, and in a special mechanism for augmenting the intensity and duration of their luminous properties. Dated December 24, 1878.
- Sulphate of Ammonia.**—No. 3694.—R. W. Wallace, of Mark Lane, London. Improvements in the manufacture of sulphate of ammonia, and in apparatus therefor. Dated September 19, 1878.
- Treating Brine.**—No. 3599.—L. Mond, of Northwich, Cheshire, manufacturing chemist. Improvements in the treating of brine for the production of carbonates of soda and salt. Dated September 11, 1878.

Specifications published during the month:—

Postage 1*d.* each extra.

1878.

2708. A. E. Harris. Spring action for artificial teeth. 6*d.*
2948. F. G. Vedova. Manufacture and application of materials containing tannic acid. 4*d.*
3036. F. Wirth. Filters. 10*d.*
3111. G. Bellini. Stoppers for bottles. 4*d.*
3112. S. Canning. Glass bottles. 6*d.*
3125. W. R. Lake. Apparatus for the concentration of sulphuric acid, &c. 2*d.*
3140. T. G. F. Dolby. Hermetically closing jars, bottles, tins, &c. 6*d.*
3147. A. Bell. Filtering apparatus. 6*d.*
3166. H. Brunner. Manufacture of alkali. 4*d.*
3182. R. Lavender, J. Richards, and D. Williams. Treating waste sulphuric acid. 4*d.*
3201. H. A. Whitaker. Colouring matter. 2*d.*
3210. T. H. Duckworth and S. Wright. Apparatus for filling bottles with aerated waters, &c. 6*d.*
3212. C. Priece. Corks and corkscrews. 6*d.*
3228. E. G. Brewer. Apparatus for the manufacture of hydrogen gas. 2*d.*
3252. A. P. Priece. Preparation and treatment of saccharine substances.
3257. F. C. Hills. Manufacture of sulphate of ammonia. 4*d.*
3282. A. A. Croll. Manufacture of sulphate of alumina. 4*d.*
3300. R. Brewster. Apparatus for the treatment of celluloid and vulcanite in the manufacture of dental plates, &c. 6*d.*
3307. W. Bull. Apparatus for charging or filling bottles. 2*d.*

ABSTRACTS OF SPECIFICATIONS.

FOR permission to print the following we are indebted to the courtesy of the *Engineer*:—

2651. Respirators, J. Elton.—Dated July 3, 1878.—(Not proceeded with.) 2*d.*

This consists of two plates of metallic gauze or perforated metal applied to the nostrils, and connected by a fine spring which presses on the central division of the nose. Behind the outer plates other plates may be placed as also thin cork, sponge, or cotton wool.

2351. Sifting or Separating Apparatus for, J. H. Johnson.—Dated June 13, 1878.—(A communication.) 6*d.*

The sieve or separator serves to actuate an "auto-pneumatic" box, by means of which a suitable variable current of air is obtained without the employment of indirect mechanism. In order to prevent the adherence of the substances operated upon, and the consequent obstruction of the interstices of the separator, a set of beaters of stretched cords is employed which act conjointly with, and in the same upward direction as, the compressed air, so as to produce a shock through the layer of substances under treatment, the air in its upward course carrying off such light particles as would cause the obstruction.

2564. Silver Oxide in Lubricating Substances, A. Forsyth.—Dated June 26, 1878. 2*d.*

A small portion of oxide of silver is mixed with any fatty substance used for lubrication.

3022. Soda. Manufacture of, A. Allhusen.—Dated July 30, 1878. 4*d.*

This consists in the system of furnacing in a revolving furnace the materials employed in the manufacture of soda, and known as sulphate of soda, carbonate of lime, and coal, in which the operation is divided into two distinct stages.

2373. Stains, J. and A. Bidwell.—Dated June 14, 1878. 4*d.*

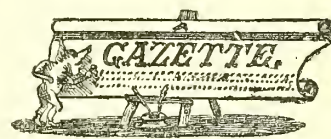
A rubber for removing ink or other stains, and consisting of pumice stone, is inserted in the back of nail, scrubbing, or other brushes.

2571. Sulphuric Acid, Manufacture of Anhydrous, H. G. B. Rober.—Dated June 26, 1878.—(A communication.) 6*d.*

This acid is produced from the combination of anhydrous bisulphate of sodium and anhydrous sulphate of magnesium, the material being carried over heated plates by means of an endless chain passing over pulleys, thus calcining the material. The raw material is placed in dishes upon a table which can be raised by a rack and pinion into the retort mouth, which it closes. The retort cover is then opened, and the dishes introduced by means of a fork. A similar table at the other end allows their withdrawal.

2438. Thermometers and Pyrometers of Graphite, O. Steine.—Dated June 19, 1878. 6*d.*

This consists in the use of a bar of graphite or plumbago enclosed within a tube, which tube being liable to change in length by difference of temperature, is caused to act on the indicator by means of a tube extending from the top of the said bar to the indicator.



BANKRUPTS.

- NICHOLSON, CHARLES, Batley, York, chemist. March 29.
- WRIGHT, JOSEPH, Great Yarmouth, chemist and dentist. March 31.

DIVIDENDS.

- BARKER, JOHN, Shoreham, Sussex, chemist. First and final of 7*s.* 4*d.*, at F. G. Clark's, 7 Union Street, Brighton.
- HEATON, LUTHER, Union Street, Dewsbury, manufacturing chemist. First of 5*s.*, at Grove Street, Dewsbury. Trustee, W. F. Fox.

LIQUIDATIONS.

- CARR, ARTHUR MITCHELL, Attercliffe, Sheffield, chemist, &c. March 19.
- CLAYTON, JOHN OATES, 22 Lowerhead Row, Leeds, chemist. March 29.
- COOKE, JOHN, 126 Hoxton Street, chemist and dealer in photographic apparatus. March 22.
- GIBBON, DAN, 109 High Street, Cheltenham, chemist. March 31.
- KERNISH, EDWARD JOHN, 99 Duke Street, Barrow, chemist and tobaccoist. March 29.
- WILSON, EDWARD, trading as E. Wilson & Son, 2 Broom Street, Manchester and Prestolee, and Northumberland Street, Higher Broughton, manufacturing chemist. March 14.

SEQUESTRATIONS.

- TURNBULL, ADAM, manufacturing chemist, Glasgow.

PARTNERSHIPS DISSOLVED.

- GOSNELL BROTHERS & Co., 121 King's Road, Chelsea, perfumers. March 1. Debts by E. Gosnell.
- HIPKINS, S., & HIPKINS, W. D., 83 High Street, Prince's End, Sedgley, Stafford, chemists. March 8. Debts by S. Hipkins.
- JAGO & ROTHERY, Hightown, Cleckheaton, York, manufacturing chemists. March 4. Debts by J. Jago.
- LAYCOCK & WATERHOUSE, Beeston Road, Leeds, chemical manufacturers. March 1. Debts by A. Laycock.
- LONGSHAW, WILLIAM, & SONS, Sankey Bridges, near Warrington, chemical manufacturers. December 27, as regards J. Longshaw. Debts by W. Longshaw, jun. and P. P. Longshaw.
- PEPPERCOCK & WILCOX, Lincoln, chemists. December 31.
- POLLOCK & Co., 133 Fenchurch Street, London, chemists. February 11. Debts by H. Smith.
- RAYNER & KENDALL, Sowerby Bridge, York, chemists. December 31.
- READE BROTHERS, Wolverhampton, varnish manufacturers, wholesale druggists, and manufacturing chemists. June 29. Debts of the varnish business by W. J. Reade, and of the other business by T. Reade.
- SILVANUS, JAMES, & SONS, Truro, grocers and chemists. March 4.
- STURTON, J., R. & J. A., 119 and 120 Fitzroy Street, Cambridge, chemists. December 31, as regards J. Sturton. Debts by R. and J. A. Sturton.
- WATSON, WALKER & QUICKFALL, Leeds, manufacturing chemists. December 31, as regards G. A. Watson. Debts by the continuing partners.
- WILSON & Co., 80 Lamb's Conduit Street, Middlesex, chemists. March 11. Debts by W. A. Wilson.

EXCHANGE COLUMN.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

- Split sodas, 30 gross, new, excellent quality; 11s. a gross. Baildou & Son, Edinburgh.
- Good old-style toothbrush-case; 10s. Rogerson & Son, Pharmacists, Bradford.
- Specie jars and other chemist's fittings. 297/37.
- For sale cheap—the complete fittings of a chemist's shop; mahogany drawers, glass labels and knobs. 297/31.
- Douglas's nervous pills; 47 boxes 1s. 1½d., 8 boxes 2s. 9d.; will be sold a bargain. 17/291.
- The set of 12 Tomes' circular-jointed forceps (Maw's), in morocco case, nearly new, for sale. H. Whewell, Kidderminster.
- Three 1-gallon pear-shaped, and one 6-quart upright, carboys. What offers? Goodenough, Somersham.
- 36 lbs. of Dutch pink; also 56 lbs. of drop black. What offers? Sykes, Great Barr Street, Birmingham.
- Insect powder, about 400 lbs., from flowers, 1s. 6d. lb., cash with order, two stamps for sample. Lockwood, Chemist, Sheffield.
- Guttapercha sticks, a few gross, 3d. size, 6s. 6d. gross, cash with order, stamped envelope for sample. Lockwood, Chemist, Sheffield.
- Pindar's rotary pill machine, to cut 3 grains, good as new, to be sold at half-price. Page Woodcock, Norwich.
- A few drugs, patent medicines, and sundries at 30 per cent. off wholesale prices. F. E. W., Furnace Lane, Longton, Staffordshire.
- Sixty specimens of pharmaceutical chemicals, in 3 bottles, 10s. Wood, 497 Rochdale Road, Manchester.
- Pharmaceutical Journal*, complete, from 1841 to 1870, well bound. Also Pereira's "Materia Medica." Smith, Chemist, Ludlow.
- A No. 4 J. Francis printing press, cost with extra typ., &c., about 6l. 10s., invoice to show; a bargain for 4l.; never been used. 297/28.
- 8-gallon pear-shaped window carboy, with cut-glass stopper, would exchange for pair swannecked show bottles, or offers. Kemp, Chemist, Horncastle.
- For sale or exchange, the *Pharmaceutical Journal* from its commencement. 31/297.
- The *Pharmaceutical Journal* from the commencement up to the present time. What offers? Twelve years bound. W. T. Mole, St. Neots.
- Six dozen Barrow Evans' Restorer, 8s. dozen, carriage paid; 10 cwt. army biscuits, fresh, 8s. 6d. per cwt., sample free. Bordass, Driffield.
- Quantity of wax, not perfectly pure, but good enough for wholesale purposes, good colour, price 1s. 1d. per lb., sample free. Herbert Kemp, Horncastle.
- Five chests good Oopach tea, cost, with duty, 1s. 6d. lb.; two chests good Kaisow Congou, cost, with duty, 1s. 7d. lb. Samples sent. What offers? R. Calvert, Stokesley.
- Small soda-water machine by Barnett, in perfect working order, with all connections, only been in use six months. For particulars apply, Perkins, Chemist, Lichfield.
- The entire stock of a wholesale druggist for disposal, including sundries, &c. Lists on application. Lloyd Rayner, 333 Kingsland Road, London, N.
- Two hundred 6d. coupons (General Expenditure Assurance Company's), available up to December 31; also a few patent medicines. Wanted useful book or Barry's revalenta biscuits. Eminson, Loudon Road, Reading.
- Five-grain pill machine, marble slab, 19s.; tooth forceps, enemas, catheters, pocket cases, and many other surgical instruments, cheap; also lot of medical works, cheap. T. P., 40 Brunswick Square, W.C.
- One dozen Tildmau's sea soap, 4 dozen Rothenheim's Pauama and Pineolium socks, ½ dozen Pineolium chest protectors, 11 bottles Manette's 2s. gold paint, 21 bottles Manette's gold paint 1s. Offers wanted. 7/296.
- Selling off.—North Devon shilling photographic views, 6d. each, 5s. dozen, all different; foreign stamps, 4d. hundred, 1,000 for 2s. 6d.; unused, assorted, 4d. dozen, 60 for 1s.; sheets sent on approval. Turner, Chemist, Totterdown, Bristol.
- One three-guinea chemical cabinet (Evans Lescher's), 30s.; 5 cwt. gum siftings (not dust), 28s.; 3 cwt. dirty gum, 30s.; job lots benzoline lamps, makers' prices, faultless condition. B. Newbam & Co., Castle Hill, Sheffield.
- 150 lbs. fine English honey, price 7d. 23/295.
- Two useful copper carboys, with handles, necks 2 inches, and copper lids 9 inches diameter, liquid capacity about 13 gallons, weight about 20 lbs.; price 15s. each, only a little over price of old metal. Hay, Chemist, 4 Regent's Terrace, Hull.
- In exchange for microscope, or for sale, 40 2s. numbers Virtue's "Shakespeare," complete, uncut, unsoiled; 19-in. Maw's air-cushion, Fig. 1, page 64, perfectly new; Pulvermacher's hydro-electric chains. Hoddinott, Boundary House, Barnet.
- What offers in cash, patents, or exchange, for Epps' 7l. 7s. counter-case, containing 29 6d. globules, 39 9d. globules, 30 9d. tinctures, 21 9d. pills, 34 1s. tinctures, 33 1s. pills; also for a 40-gall. gasometer for nitrous oxide or other gas. Maddock, Pulborough, Sussex.
- Wills' "Analysis," 10l.; Jarman's "Analysis," 10d.; Buckmaster's "Chemistry," 1s. 6d.; Oliver's "Botany," 2s. 6d.; Balfour's "Botany," 8d.; Roscoe's "Chemistry," 3s.; "Caesar," 1st book, 6l.; Cassell's "Lessons in Latin," 1s. 3d. Booth, 34 Burton Road, Derby.
- Three-light gas pendant, two-light ditto, counter scales, specie jar, store bottles, glass case, pillar coffee-mill, tea-mills, chip-boxes, gold watch, H.G.H., ol. mentha pip., scented hair oil, ol. olive sec., acid tart, shellac, and finest ess. limonis; particulars or samples. 26/62.
- Carbolic acid, 3 galls., McDougall's No. 3, 3s. gal.; marking ink, 24, 2s. bottles (Bond's) perfect, 3s. 6d.; ferri sulphas com., 4s. cwt.; National baking powder, 300 boxes, 1s. 2d. each; 102-gall. cans terehine, 8s. each, can included. J. W. Adams, 54 Oxford Street, Salford.
- To Chemists.—Two large handsome mahogany stands and bases for window show-jars, 1 large show-jar, 2 gilt tops, 2 plate-glass tooth-brush cases, 1 rosewood perfume-stand, a lot of figures (3, 4, 5, and 6), bronzed-brass window-fittings, all in good condition. Apply at 16 Bishop's Road, Paddington.
- Smedley's ascending douche in good condition, very little used, cost 3l. 5s., for 2l. 5s.; good quarter-plate lens and camera [dark slide missing], three or four printing frames, the lot for 17s.; quantity medical books in good condition; list on application. F. Clifton, Coru Market, Derby.

Quantity of good army biscuits, make first-class dog biscuits, and sell well as such, good condition, price 10s. per cwt. Sample free. Herbert Kemp, Horncastle.

2, 3, 4, and 5-grain pill machines, to cut 24, new, 16s. 6d.; 1 to 48 5-grain pill machine, 30s.; silvered plate glass; glass shelves; counter drawers in nests; also a quantity of good fittings, jars, &c., very great bargains. E. Natali, 207 Old Street, almost opposite Great Eastern Street, London, E.C.

Fifty nests mahogany-fronted dove-tailed drawers, glass knobs and gold labels, in nests from 2 ft. to 16 ft. long, at 2s. 6d. per drawer; a first-rate nest of fittings, fig. 197, equal to new, 18l., a bargain; 8-ft. wall-case, as fig. 200, 14l. 10s. E. Natali, 207 Old Street, opposite Great Eastern Street, London, E.C.

Fifteen dozen benzine bottles, strong and well stoppered, average 23 oz., 8s. per dozen; Musprat's "Chemistry," bound in morocco, 2l.; hypodermic syringe, solid silver, two extra pieces with good pipes, silver probe, in case, 30s.; 30 useful small surgical instruments, 2l. List on application. W. Kimberley, 22 Balsall Street, Birmingham.

Eight dozen gold-labelled shop-rounds, 40-oz., 20-oz., 10 oz., 4l.; 1 dozen 2½-lb. gold-labelled ointment jars, 16s.; pair of brass scales on mahogany drawer, 11-inch beam, 30s.; 5-gr. pill machine to cut 24, 16s.; 3-div. cigar case, mahogany, 8s.; sloping counter-case, 33 in. by 21 in., 15s.; four 12-lb. tea canisters, 6s. each; four 20-oz. oil bottles, glass caps, 7s.; three 4-gall. carboys, 10s. each. The above are nearly new, having only been in use a few months. F. E. W., Furnace Lane, Longton, Staffordshire.

Soda-water stand, 50s.; dispensing screens, as 163, 164, 165, &c., &c.; also three dispensing screens with glass case at each side and looking-glass centre with marble slab in front, cases have silvered-glass backs and shifting shelf tables, on top "Dispensing Department;" also three shelves at back, the entire length for dispensing bottles, very elaborate, 5 ft., 6 ft., and 7 ft. long, 8l. 10s. A bargain. E. Natali, 207 Old Street, E.C.

5-ft., 6-ft., 7-ft., 8-ft., and 9-ft. mahogany-top counters, fitted with drawers, equal to new, very cheap; a number of mahogany-top, moulded, front-edge, and deal-moulded and panelled fronts, painted and grained mahogany, from 4 ft. to 15 ft. long, 24 in. wide, at 10s. per foot run; a 13-ft. Spanish mahogany counter, a bargain; several mahogany-top cupboards, painted and grained fronts, 12s. per foot run as under cases; Maw's illustrated list, 198, 199, 200. E. Natali, 207 Old Street.

Thirty-three nests mahogany labelled shop-drawers, 8 mahogany wall-cases, 20 mahogany-top counters, 5 nests counter-drawers, 3 label-chests; 5 complete fittings, drawers, lockers, shelving, and cornice above, as 189, 190, 196, 197 Maw's, all lengths; 7-ft. long dispensing counter and screen, as 159 Maw's; 8 dispensing-screens, as fig. 40, 157, 159, 164 Maw's; 4 upright cases, as fig. 21, 38, 39 Maw's; tooth-brush case, as 52 Maw's; counter-cases, as fig. 16, 41, 81, 103, 100, 105 Maw's; 2 elaborate dispensing screens, with glass case at each end and mirror centre, with carved tablet on top, fitted with shelves at back; 8 pill machines, 4 tincture presses, 30 tea canisters, 6 store 112-lb. canisters, and numerous other goods. Lloyd Rayner, 333 Kingsland Road, London, N.

Dentist's vulcaniser that will bear any amount of pressure, made with ½-inch wrought copper with copper lid, so that bursting into fragments is impossible, thermometer, two gun-metal flasks, and clamps, 3l. 10s. complete. Richard Cockeroff, Dentist, Mytboldmroyd. Reason for parting with it, have others at work.

Shop rounds, 9s. doz.; 3 doz. black stock hottles, japanned caps and gold labelled, 1s. 6d. each; 6 doz. jars, gold labelled, fig. A, 2s. 6d. each; 6 doz. each, 1, 2, 3, and 4-lb. blue ointment jars, new, 25 per cent. under list price; 3 doz. turquoise blue ointment jars, dome covers, 3s. 6d. each; 3 doz. turquoise blue jars, gold covers, 12 in. high, elaborately labelled, 6s. 6d. each; 24 6-lb. white jars, 2s. each; 24 1-lb. brown stone jars, japanned covers, 6s. 6d. doz.; 24 6-lb. do. do., 1s. 9d. each; 50 upright show bottles, 1s. 9d. to 4s. each; 26 mahogany store boxes, 14 in. long, 10 in. high, 10 in. wide, 2s. 6d. each; a number specie jars, equal to new, from 50s. pair; a quantity of Wedgwood mortars and pestles, 25 per cent. off list price. E. Natali, 207 Old Street, opposite Great Eastern Street, London, E.C.

5-ft. 3-in. bent plate-glass counter case, as fig. 41, 5l.; 3-ft. do. do., as fig. 16, 40s.; 7-ft. do. do., as fig. 97, 8l.; 4-ft., as fig. 95, 80s.; 5-ft., at fig. 96, 5l.; 6-ft., as fig. 99, 7l.; 2-ft., as fig. 100, 60s.; 3-ft. 6-in., as fig. 100, 65s.; 4-ft., as fig. 101, 80s.; 4-ft., as fig. 41, 80s.; 6-ft., as fig. 105, 7l.; 8-ft., as fig. 105, 9l.; several as figs. 27, 9, and 10, very cheap; 3 mahogany paper stands, as fig. 67, 8s. 6d. each; a number of smaller glass counter cases, very cheap, also others as fig. 81, from 5s. each; tooth-brush cases, as fig. 52, 30s. each; as fig. 7, 28s.; as fig. 8, 20s.; sponge cases, as fig. 90, 90s.; as fig. 92, 5l.; desk and case, as fig. 21, 70s.; 5-feet dispensers' screens, as fig. 78, 5l.; as fig. 163, 4l.; 164, 5-ft. long, 6l. 10s.; 7-ft., 6l.; 4-ft. wall case, 3l.; several other very cheap screens. E. Natali, 207 Old Street, opposite Great Eastern Street.

3,000 labelled shop rounds, all sizes; 36 60-oz. labelled lozenge bottles; 80 patent oil bottles, with glass and japanned caps; 120 20, 30, 40-oz. fine dark blue syrup bottles, labelled; 250 upright and carboy-shape black glass store bottles, labelled, with gilt and japanned caps; 40 labelled store boxes; 400 ½, ¾, 1, 2, 3, 4, 7-lb. brown earthenware jars, japanned tops, labelled; 2,000 white, blue, olive, lilac earthenware spon jars, labelled, all sizes; 150 1, 2, 3-lb. handsome labelled jujube jars, as fig. 2 Maw's; 40 labelled lozenge or jujube jars, as fig. A Maw's, 2s. each; 12 3-lb. handsome labelled lozenge jars, with gilt tops; 39 handsome labelled show jars, as fig. D Maw's, 6s. 6d. each; 6 handsome show vases, as fig. C Maw's; 30 handsome specie jars, all sizes, great bargains; 80 pear-shape window carboys, all sizes; 5,000 Winchester quarts, all sizes down to ½-pint; 50 gross 1-oz. Lubia's ess. bottles; 20 gross 1-oz. round ess. bottles, stoppered; 6 gross 2-oz. round ess. bottles, plain; 120 gross lime juice and glycerine bottles, from 1-oz. up to 10-oz.; 350 gross white vials, all sizes; 8 gross white earthenware covered pots, all sizes; 10 gross blue castor-oil bottles. Lloyd Rayner, 333 Kingsland Road, London, N.

FORMULÆ.

Receipt-book, containing 550 receipts, carefully copied, 15 years collecting, during good situations; going abroad, will accept 5l. 5s. Invaluable to any chemist wishful to increase his business. 5/297.

Pill Coating.—Formula and full instruction for coating pills with a shining pure white film. Pills coated from this formula have an excellent appearance, and equal to almost any in the market. This formula is employed in a very select and fashionable dispensing establishment, price 5s. 32/297.

Beware of Cheap and Worthless Imitations.—Fragrant foaming dentifrice (similar to Floriline); effervescent fruit saline (resembles Eno's); splendid black ink (never corrodes steel pens); marking ink (black or red); golden hair-wash; brilliantine (inseparable); bay rum (splendid imitation); hair colour restorer; pomade for removing and preventing scurf; Kaloderma, or skin beautifier; cherry tooth paste (never ferments); cement (equal to Coaguline); pill coating (pearly white); magic neuralgic drops (never-failing remedy); copaiba paste (transparent); with many others, send stamp for list. The toilet requisites are identical with those prepared by a renowned West-end perfumer; the others are equally good; all are inexpensive to prepare; 5s. each (five for 1l.); open to exchange. "Analyst," care of Mr. Warnes, 79 Gaisford Street, N.W.

WANTED.

Good reliable recipe for coating pills. 25/296.

"Homœopathic Pharmacopœia," latest edition. Rogerson & Son, Pharmacists, Bradford.

Bentley's "Botany," Pharmacopœia, latest editions. 16 Market Place, Kettering.

Whelpton's pills, 2s. 9d. size, soiled wrappers, lowest price doz. Lockwood, Chemist, Sheffield.

Old teeth-mountings on dental metals; old gold, platinum, and silver; full value allowed for. Entwistle, 17 Shaw Street, Liverpool.

Pereira's or Royle's "Materia Medica," also Proctor's or Lescher's "Pharmacy," latest editions; state particulars and price. R. F. Wright, High Street, Sbepton Mallet.

Bentley's "Botany," Wills' "Materia Medica," Wills' "Pharmacy," "Selecta e Præscriptis," latest editions, price. Statim, Ketties Court, Aberdeen.

Two galvanised oil cisterns, to hold 40 or 50 gallons each; 1 do., 30 gallons; 1 do., about 40 gallons, to hold turpentine; must be in good condition, and have movable brass taps, square cistern will be preferred. Particulars to Hall, Chemist, Gatehouse.

Full price will be given for a few copies of the "Year-hook of Pharmacy," for 1870, 1871, and 1872. Apply to Professor Atfield, Hon. Gen. Sec. of the Pharmaceutical Conference, 17 Bloomsbury Square, London, W.C.

Bent plate-glass counter-case, with shelf at back, 4 or 5 feet long, as Maw's fig. 100 or 101, state condition and price; also some York Glass Co.'s (fig. 164) lozenge bottles, labels in good condition. L. N. Anstey, Chemist, 53 Green Lane, Stoney Croft, Liverpool.

ADDRESSES WANTED.

Present address of Thomas Quinlan, late assistant with Kemp, Chemist, Chester. Entwistle, 17 Shaw Street, Liverpool.

Address of Captain Parker, late 4 Bank Buildings, Weymouth; wears glass eye. Waterall & Son, Nottingham.



THE monthly record of the export trade of the United Kingdom again shows a decline when compared with that of the corresponding month of last year. The total declared value reached in March, 1879, was 16,170,518*l.*, and 16,756,397*l.* in March, 1870. The difference in the declared value of exports for the quarter ending March 31 of each year was almost 4,000,000*l.*, against the current year. In all our great branches of industry there is abundant evidence of a continuance of the severe depression of commercial affairs which has now for so long weighed on this nation. That the decline has not been so serious in the last month as in the previous months of this year is the only feature of the latest returns which has any tendency towards hopefulness.

The business done in chemicals has been satisfactory, and the somewhat higher quotations which we announced last month have been at least maintained. Bleaching powder has been selling freely, and 6*s.* 3*d.* is now asked landed in London. Bicarbonate of soda is also 10*s.* per ton higher than a month ago, the latest price quoted being 10*l.* 7*s.* 6*d.* landed. Crystals are steady at 70*s.* Cream of tartar is slightly higher, being sold at 104*s.*, and some scarcity is anticipated as the summer comes on. Citric and tartaric acids are much neglected, and the former may be bought at a lower price than for some years past. Parcels have been sold a week ago at 1*s.* 9½*d.*, but the quotation has since rallied to 1*s.* 10*d.* Oxalic acid is now selling as low as 4*d.*, and even a fraction less than this; 3½*d.* was accepted at public auction lately. Refined borax is in steady demand at 36*s.* Sugar of lead selling at 38*s.* for English, and 33*s.* for foreign. The long-threatened advance in iodine has occurred, and large purchases have been made at 1*s.* 2*d.*, the general anticipation being that a further rise will follow. Quinine has again advanced, the demand apparently outstripping the production. Foreign makes, especially, are very scarce and difficult to buy in quantity. Much uncertainty still exists in regard to the South American supply of barks, and it will be many years yet before we can hope to be independent of that source. The latest prices obtained for cinchonas have been among the highest which have been realised, and holders of good samples have been able to command the market. The makers of salicine have also advanced their price. Mercurials are still low, the metal being in abundant supply.

There seems to be a continuation of fair business in the drug markets. It is stated that in the quarter just ended 48,869 lots have been offered at the drug sales, against 42,554 in the first quarter of 1878. The quantities actually sold have been apparently quite up to the average.

Barbadoes aloes have been bought rather eagerly at improving prices in consequence of a report that this year's crop has to a large extent failed. Cape aloes have also been bought more freely, speculators recognising some association between them and the Zulu war.

Camphor has arrived in very large quantities, and is consequently lower. Holders do not press sales, or the effect of the large increase of stock would have been still more marked. Now comes a report from Hong Kong that the stock of China has been nearly cleared out there for America.

Opium has kept steady, but holders are firm and, as the stock is not large either here or at Smyrna, a further rise is by no means improbable, when the inevitable reports of the failure of the new crops come to hand.

Cardamon seeds maintain the recent advance, and the supplies brought forward have obtained ready purchasers. Tonquin beans have also commanded higher prices, some Angostura making 7*s.* at last sales. Cubebs are held at 55*s.*

Oil of almonds has declined to 1*s.* 10*d.*; castor oil is firm for best, and this is also the case with cod-liver oil. Oil of aniseed is again rather dearer, and oil of cloves is also firmly held. Essences of lemon and bergamot turn out both good and cheap, and American oil of peppermint is lower than it has been for years. When the present supply is reduced an advance may be anticipated, as the present price for H. G. Hotchkiss's is lower here than the same brand can be bought for in New York.

In gums, olibanum marks a decided rise, and dammar and ammoniacum both show an upward tendency. Holders still ask high prices for Benjamin, but very little business has been done. Asafœtida is rather firmer.

Saffron is still held confidently, and the present price for Valencia is 46*s.* to 49*s.*; for Alicante, 23*s.* to 25*s.* Dalmatian insect-flowers bought in at 2*s.* 3*d.* per lb. Musk has advanced from 4*s.* to 7*s.* per oz.

Canada balsam, bright yellow, offered at 1*s.* 1*d.*; Copaiba sold at 1*s.* 5½*d.* for Para, and 1*s.* 7¾*d.* for Maranham; the latter filtered bought in at 1*s.* 10*d.*

Castoreum was bought in at last sales at the high price of 40*s.*; coca leaves, 1*s.* 7*d.*; liquorice paste, 50*s.*; fair Italian orris, 36*s.* Ergot of rye sold at 10½*d.* to 1*s.* Turkey galls, rather mixed, made 77*s.* 6*d.* and 80*s.* Rhubarb and senna sold at about usual rates.

Oils have varied but slightly. Linseed is a trifle stronger at 26*l.*, but rape is somewhat depressed. Olive oil, though reported higher in the Italian markets, is very little inquired for here, and at the moment, although the stock is very low, prices show a slight decline. Palm is slow of sale, and fish oils are scarcely touched. Turpentine is obtainable at 22*s.* to 22*s.* 3*d.*, according to quantity on the spot, 22*s.* 3*d.* to 22*s.* 6*d.* April-June, and 22*s.* 6*d.* May-August. Petroleum oil is firm on the spot at 8½*d.* and month 8*d.*, but quiet at 7½*d.* for April-June; whilst business has been done for September-December at 8½*d.*

The following is a record of the stocks of some of the chief drugs on March 31, 1879:—

	1879	1878		1879	1878
Aloes	1,935	2,027	Gum (Cont.)—		
"	11	15	Turkey ..	611	659
"	89	1,518	E.I.	1,546	2,879
Aniseed, Star chts	515	836	Assafœtida ..	245	407
Arrowroot	10,184	12,961	Benjamin ..	1,163	856
"	6,052	5,192	Damar	695	648
Balsam	44	120	Galbanum ..	19	25
Bark, Medicinal			Gamboge ..	104	144
c&c.	335	1,005	Guaiacum ..	37	132
s&c.	12,904	9,032	Kino	9	11
Borax	939	948	Kowrie	819	933
Bees' Wax 1 ..			Mastic	159	126
s&c.	643	412	Myrrh, E.I. ..	202	282
c&c	2,360	1,366	Olibanum ..	1,764	4,621
cakes	27	17	Sandarac ..	1,096	1,031
Wax, Japan vege-			Senegal	22	43
table	5,063	6,420	Tragacanth pkgs	1,294	1,148
Camphor	11,446	3,577	Ipecacuanha ..		
Cardamoms ..	279	453	& bgs	194	217
Cocculus Indicus			Jalap	466	455
bgs, &c.	1,643	2,270	Nux Vomica pkgs	4,080	1,428
Colombo root pkgs	643	677	Oil—		
Cream Tartar ..	88	85	Castor	2	—
Cubebs	167	184	"	6,350	2,388
Dragonsblood chts	77	142	Palm	1,381	432
Galls, B.I. c&c	3,565	1,749	Cocoonut	4,266	2,512
M'iterranean sks	831	939	Olive	417	1,068
Gum—			Aniseed	99	168
Ammoniac pkgs	444	521	Cassia	331	675
Animi & Copal			Opium	970	1,801
pkgs	4,288	8,723	Rhubarb	1,187	772
Arabic, Barbary			Sarsaparilla ..	714	1,200
pkgs	748	1,656	Senna	1,358	2,842

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.	1879.		1878.	
	s. d.	s. d.	s. d.	s. d.
ACIDS—				
Acetic	0 2½ to	0 0	0 2½ to	0 0
Citric	1 10 ..	0 0	2 2 ..	2 3
Hydrochlor.	5 0 ..	7 0	4 0 ..	7 0
Nitric	0 4½ ..	0 0	0 4½ ..	0 0
Oxalic	0 4 ..	0 4½	0 4½ ..	0 5
Sulphuric	0 0½ ..	0 1	0 0½ ..	0 1
Tartaric crystal. "	1 4½ ..	0 0	1 4½ ..	0 0
powdered	1 4½ ..	0 0	1 4½ ..	1 5
ANTIMONY ore	240 0 ..	300 0	240 0 ..	300 0
crude .. per cwt.	36 0 ..	0 0	37 0 ..	0 0
star	46 0 ..	47 0	59 0 ..	51 0
ARSENIC, lump	25 0 ..	0 0	26 0 ..	0 0
powder	8 6 ..	10 0	9 6 ..	10 6
BRIMSTONE, rough ..	100 0 ..	102 6	110 0 ..	115 0
roll .. per cwt.	9 6 ..	10 3	9 0 ..	9 6
flour	10 6 ..	13 0	11 6 ..	13 6
IODINE, dry	1 2 ..	0 0	0 10½ ..	0 0
IVORY BLACK, dry ..	8 6 ..	0 0	8 6 ..	0 0
MAGNESIA, calcined ..	1 10 ..	0 0	1 10 ..	0 0
MERCURY	122 6 ..	0 0	142 6 ..	0 0
MINIUM, red	17 0 ..	17 3	20 6 ..	0 0
orange	28 6 ..	0 0	33 0 ..	0 0
PRECIPITATE, red ..	3 3 ..	0 0	3 7 ..	0 0
white	3 2 ..	0 0	3 6 ..	0 0
PRUSSIAN BLUE ..	0 0 ..	0 0	0 0 ..	0 0
SALTS—				
Alum	122 6 ..	125 0	127 6 ..	135 0
powder	140 0 ..	0 0	150 0 ..	0 0
Ammonia:				
Carbonate	0 6½ ..	0 6½	0 6½ ..	0 6½
Hydrochlorate, crude,				
white	600 0 ..	720 0	580 0 ..	720 0
British (see Sal Am.)				
Sulphate	370 0 ..	390 0	420 0 ..	430 0
Argol, Cape	75 0 ..	82 0	72 0 ..	90 0
Red	56 0 ..	70 0	58 0 ..	70 0
Oporto, red. "	28 0 ..	30 0	32 6 ..	33 0
Sicily	60 0 ..	65 0	60 0 ..	65 0
Ashes (see Potash and Soda)				
Bleaching powd.	6 3 ..	0 0	6 0 ..	6 3
Borax, crude	27 0 ..	34 0	0 0 ..	0 0
British refined. "	35 0 ..	35 0	36 0 ..	37 6
Calomel	2 11 ..	0 0	3 2 ..	0 0
Copper:				
Sulphate	18 3 ..	18 6	19 6 ..	20 0
Copperas, green. "	50 0 ..	55 0	50 0 ..	55 0
Corrosive Sublimat. p. lb.	2 3 ..	0 0	2 7 ..	0 0
Cr. Tartar, French , p.cwt.	103 0 ..	104 0	100 0 ..	0 0
brown	80 0 ..	82 6	0 0 ..	0 0
Epsom Salts	4 3 ..	6 0	4 3 ..	6 0
Glanber Salts	3 0 ..	4 6	3 0 ..	4 6
Lime:				
Acetate, white, per cwt.	11 0 ..	20 0	11 0 ..	20 0
Magnesia: Carbonate "	47 6 ..	0 0	47 6 ..	0 0
Potash:				
Bichromate	0 5 ..	0 0	0 3½ ..	0 0
Carbonate:				
Potashes, Canada, 1st				
sort	26 0 ..	27 0	20 0 ..	21 0
Pearlshes, Canada, 1st				
sort	36 6 ..	0 0	26 0 ..	0 0
Chlorate	0 6½ ..	0 0	0 7½ ..	0 7½
Prussiate	0 10½ ..	0 11	0 10½ ..	0 10½
red	1 7½ ..	1 8	1 8 ..	1 9
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Bromide	1 8 ..	0 0	0 0 ..	0 0
Chloride	6 6 ..	0 0	0 0 ..	0 0
Iodide	16 0 ..	16 6	13 0 ..	0 0
Quinine:				
Sulphate, British, in				
bottles	12 9 ..	0 0	14 0 ..	0 0
Sulphate, French "	12 9 ..	13 0	14 0 ..	14 6
Sal Acetos	0 6 ..	0 6½	0 7 ..	0 0
Sal Ammoniac, Brit. cwt.	44 0 ..	45 0	42 0 ..	43 0
Saltpetre:				
Bengal, 6 per cent. or				
under	18 9 ..	19 3	22 0 ..	22 6
Bengal, over 6 per cent.				
per cwt.	18 0 ..	18 6	21 0 ..	21 6
British refined "	23 0 ..	24 6	25 6 ..	28 0
Soda: Bicarbonate, p.cwt.	10 3 ..	10 6	10 0 ..	0 0
Carbonate:				
Soda Ash .. per deg.	0 1½ ..	0 0	0 1½ ..	0 0
Soda Crystals per ton	70 0 ..	0 0	72 6 ..	0 0
Hyposulphate, per cwt.	0 0 ..	0 0	0 0 ..	0 0
Nitrate	13 3 ..	13 6	15 6 ..	15 3
SUGAR OF LEAD, White cwt.	38 0 ..	0 0	36 0 ..	0 0
Brown, cwt.	26 6 ..	0 0	26 6 ..	0 0
SULPHUR (see Brimstone)				

	1879.		1878.	
	s. d.	s. d.	s. d.	s. d.
VERDIGRIS	per lb.	0 0 to	0 0	0 0
VERMILION, English ..	"	2 2 ..	0 0	2 8 ..
China	"	2 3 ..	0 0	2 2 ..
DRUGS.				
ALOEES, Hepatic	per cwt.	70 0 ..	170 0	80 0 ..
Socotrine	"	100 0 ..	210 0	85 0 ..
Cape, good	"	45 0 ..	47 0	38 0 ..
Inferior	"	42 6 ..	45 0	25 0 ..
Babadoes	"	70 0 ..	240 0	49 0 ..
AMBERGRIS, grey	oz.	53 0 ..	70 0	80 0 ..
BALSAM—				
Canada	per lb.	1 0 ..	1 2	0 9 ..
Capivi	"	1 4 ..	1 7½	1 6 ..
Peru	"	3 9 ..	4 0	4 9 ..
Tolu	"	2 3 ..	2 5	3 0 ..
BARKS—				
Canella alba	per cwt.	20 0 ..	28 0	18 0 ..
Cascarilla	"	24 0 ..	36 0	15 0 ..
Peru, crown & grey per lb.	"	1 0 ..	2 3	1 0 ..
Calisaya, flat	"	2 0 ..	3 3	3 0 ..
" quill	"	1 1 ..	6 0	4 6 ..
Carthageana	"	3 0 ..	4 5	1 5 ..
Columbian	"	1 6 ..	8 4	1 6 ..
E. I.	"	1 6 ..	3 6	1 3 ..
" good & fine "	"	4 0 ..	12 8	5 0 ..
Pitayo	"	1 6 ..	3 3	0 6 ..
Red	"	3 6 ..	8 6	3 3 ..
Buchu Leaves	"	0 2½ ..	1 1	0 2½ ..
CAMPHOR, China	per cwt.	74 0 ..	76 0	80 0 ..
Japan	"	74 0 ..	75 0	82 6 ..
Retin. Eng. per lb.	"	1 1½ ..	0 0	1 1 ..
CANTHARIDES	"	1 6 ..	4 3	2 0 ..
CHAMOMILE FLOWERS p.cwt.	"	0 0 ..	0 0	50 0 ..
CASTORUM	per lb.	0 0 ..	0 0	9 0 ..
DRAGON'S BLOOD , p. cwt.	100 0 ..	260 0	85 0 ..	280 0
FRUITS AND SEEDS (see also Seeds and Spices).				
Anise, China Star per cwt.	75 0 ..	80 0	75 0 ..	90 0
Spanish, &c. "	35 0 ..	42 6	45 0 ..	50 0
Beans, Tonquin.	per lb.	4 6 ..	7 0	1 9 ..
Cardamoms, Malabar				
good	"	7 6 ..	9 0	4 9 ..
inferior	"	3 0 ..	7 10	1 9 ..
Aleppy	"	2 0 ..	8 0	2 0 ..
Madras	"	2 3 ..	6 0	2 2 ..
Ceylon	"	2 2 ..	4 2	3 6 ..
Cassia Fistula	per cwt.	55 0 ..	57 0	81 0 ..
Castor Seeds	"	0 0 ..	0 0	0 0 ..
Cocculus Indicus	"	7 3 ..	9 0	8 3 ..
Colocynth, apple	per lb.	1 3 ..	1 10	1 0 ..
Croton Seeds	per cwt.	28 0 ..	30 0	23 0 ..
Cubebs	"	55 0 ..	0 0	32 0 ..
Cumin	"	27 0 ..	40 0	29 0 ..
Dividivi	"	12 0 ..	15 6	12 0 ..
Fenugreek	"	5 1 ..	10 0	6 0 ..
Guinea Grains	"	29 0 ..	30 0	28 0 ..
Juniper Berries	"	0 0 ..	0 0	6 6 ..
Nux Vomica	"	6 6 ..	9 6	9 0 ..
Tamarinds, East India,	"	12 0 ..	19 0	12 0 ..
West India	"	18 0 ..	26 0	21 0 ..
Vanilla, large	per lb.	19 0 ..	25 0	20 0 ..
inferior	"	7 0 ..	18 6	15 0 ..
GINGER, Preserved , per lb.	0 4½ ..	0 6	0 4½ ..	0 7
HONEY, Chili	per cwt.	30 0 ..	36 0	37 0 ..
Jamaica	"	35 0 ..	41 0	38 0 ..
Australian	"	0 0 ..	0 0	0 0 ..
IPHEACUANHA	per lb.	4 6 ..	4 9	4 9 ..
ISINGLASS, Brazil. ..	"	2 6 ..	5 4	3 0 ..
Tongue sort	"	3 6 ..	5 6	3 5 ..
East India	"	1 0 ..	4 10	2 0 ..
West India	"	3 7 ..	4 6	4 0 ..
Russ. long staple	"	6 0 ..	10 6	8 0 ..
" inferior	"	0 0 ..	0 0	0 0 ..
" Simovia	"	1 6 ..	2 6	1 6 ..
JALAP, good	"	1 0 ..	1 2	0 8 ..
infer. & stems	"	0 10 ..	0 11½	0 7 ..
LEMON JUICE	per degree	0 0½ ..	0 1½	0 1 ..
LIME JUICE	per gall.	1 3 ..	1 8	0 0 ..
LIQUORICE, Spanish per cwt.	0 0 ..	0 0	34 0 ..	39 0
Liquorice Root	"	0 0 ..	0 0	0 0 ..
MANNA, flaky	per lb.	0 0 ..	0 0	3 6 ..
small	"	0 0 ..	0 0	1 4 ..
MUSK, Pod.	per oz.	24 0 ..	71 6	20 0 ..
Grain	"	32 0 ..	62 0	25 0 ..
OILS (see also separate list)				
Almond, expressed per lb.	1 10 ..	0 0	1 9 ..	0 0
Castor, 1st pale	0 4½ ..	0 5½	0 5½ ..	0 5
second	0 4½ ..	0 4½	0 4½ ..	0 5
Cod Liver	per gall.	2 6 ..	4 6	4 0 ..
Croton	per oz.	0 2½ ..	0 3	0 2½ ..
Essential Oils:				
Almond	per lb.	20 0 ..	0 0	25 6 ..
Anise-seed	"	8 0 ..	9 0	6 9 ..
Bay	per cwt.	0 0 ..	0 0	65 0 ..
Bergamot	per lb.	6 0 ..	9 0	10 0 ..
Cajeput	per bottle	3 6 ..	4 0	3 0 ..
Caraway	per lb.	0 0 ..	0 0	9 0 ..
Cassia	"	2 10 ..	2 11	3 0 ..
Cinnamon	per oz.	3 9 ..	4 6	4 6 ..
Cinnamon-leaf	"	0 1½ ..	0 0	0 2½ ..
Citronelle	"	0 3 ..	0 3½	0 2 ..
Clove	"	9 0 ..	0 0	8 0 ..
Ginger Grass	"	0 2½ ..	0 3	0 2½ ..
Lavender	per lb.	0 0 ..	0 0	1 8 ..
Lemon	"	3 0 ..	5 6	5 0 ..
Lemongrass	per oz.	0 2½ ..	0 0	0 2½ ..

1879.		1878.	
s. d.	s. d.	s. d.	s. d.
Essential Oils, continued:			
Neroli per oz.	0 0	to	0 0
Nutmeg	0 3	to	0 3½
Orange per lb.	5 0	to	7 0
Otto of Roses per oz.	18 0	to	30 0
Patchouli	1 6	to	3 0
Peppermint:			
American per lb.	7 6	to	9 6
English	21 0	to	23 0
Rosemary	0 0	to	0 0
Sassafras	2 0	to	2 3
Spearmint	8 0	to	9 0
Thyme	0 0	to	0 0
Mace, expressed per oz.	0 5	to	0 0
OPIMUM, Turkey per lb.	18 0	to	21 0
inferior	10 0	to	16 0
QUASSIA (bitter wood) per ton	100 0	to	130 0
RHUBARB, China, good and fine per lb.	1 6	to	3 6
Mid. to ord.	0 6	to	1 6
Dutch Trimmed	0 0	to	0 0
ROOTS—Calumba per cwt.	30 0	to	55 0
China	28 0	to	30 0
Chiretta per lb.	0 2½	to	0 3½
Galangal per cwt.	20 0	to	22 6
Gentian	18 0	to	20 0
Hellebore	0 0	to	0 0
Orris	20 0	to	45 0
Pellitory	0 0	to	0 0
Pink per lb.	1 0	to	1 4
Rhatany	0 2	to	0 5
Seneca	2 4	to	2 8
Snake	0 0	to	0 0
SAFFRON, Spanish	30 0	to	50 0
SALEP per cwt.	120 0	to	140 0
SARSAPARILLA, Lima per lb.	0 4	to	0 5½
Guayaquil	1 1	to	1 4
Honduras	1 0	to	1 4
Jamaica	1 2	to	1 7
SASSAFRAS per cwt.	0 0	to	0 0
SCAMMONY, Virgin per lb.	23 0	to	25 0
second & ordinary	8 0	to	20 0
SENA, Bombay	0 0½	to	0 2½
Tinnivelly	0 1½	to	1 4
Alexandria	0 4	to	1 4
SPERMACETI, refined	1 4	to	0 0
American	1 1	to	1 3
SQUILLS	0 1	to	0 3
GUMS.			
AMMONIACI drop per cwt.	£ 2	to	£ 2 10
lump	0 12	to	1 18
ANIMI, fine washed	13 15	to	15 0
bold scraped	12 0	to	13 10
sorts	9 2/6	to	11 17/6
dark	5 0	to	8 10
ARABIC, E.I., fine			
pale picked	2 15	to	3 5
sorts, md. to fin.	2 2	to	2 14
garblings	1 2	to	2 0
TURKEY, pick. gd. to fin.	6 5	to	9 10
second & inf.	3 5	to	5 0
in sorts	1 15	to	3 15
Gedda	1 10	to	1 17
BARBARY, brown	2 16	to	3 2
AUSTRALIAN	1 15	to	2 10
ASSAFOETIDA, cm. to fin	1 8	to	3 0
BENJAMIN, 1st & 2nd	21 0	to	70 0
Sumatra 1st & 2nd	6 5	to	16 10
3rd	2 10	to	5 12/6
COPAL, Angola red	3 5	to	6 0
Benguela	3 0	to	3 10
Sierra Leone, per lb.	0 7½	to	0 10
Manilla per cwt.	16 0	to	24 0
DAMGAR, pale	0 0	to	0 0
Singapore	65 0	to	70 0
EUPHORBUM	0 0	to	0 0
GALBANUM per lb.	0 0	to	0 0
GAMBOGE, pckd. pipe per cwt.	200 0	to	250 0
GUAIACUM per lb.	0 7	to	1 6
KINO per cwt.	65 0	to	105 0
KOWHIE, sorts	20 0	to	40 0
selected	100 0	to	177 6
MASTIC, picked per lb.	2 6	to	3 0
MYRRH, gd. & fine per cwt.	150 0	to	205 0
ord. to fair	60 0	to	145 0
OLIBANUM, p. drop	72 0	to	78 0
amber & ylw.	62 0	to	70 0
garblings	26 0	to	35 0
SENEGAL	60 0	to	0 0
SANDARAC	60 0	to	100 0
SHELLAC, Orange	72 0	to	88 0
Liver	64 0	to	73 0
THUS	0 0	to	0 0
TRAGACANTH, leaf	200 0	to	360 0
in sorts	65 0	to	190 0
OILS.			
SEAL, pale per tun	£ 28	to	£ 25 10
yellow to tinged	25 0	to	27 0
brown	23 0	to	24 0
SPERM	58 0	to	0 0
BODY	0 0	to	0 0
COD	27 10	to	0 0

1879.		1878.	
£ s.	£ s.	£ s.	£ s.
Oils, continued:			
WHALE, South Sea, pale, per tun	27 0	to	28 0
yellow	25 0	to	26 0
brown	21 0	to	23 0
East India, Fish	0 0	to	0 0
OLIVE, Galipoli per ton	0 0	to	0 0
Goja	0 0	to	0 0
Levant	43 0	to	0 0
Mogador	0 0	to	0 0
Spanish	44 0	to	46 0
Sicily	43 10	to	44 0
COCONUT, Cochin	42 0	to	50 0
Ceylon	37 5	to	38 0
Mauritius	37 10	to	37 15
GROUND NUT AND GINGELLY:			
Bombay	0 0	to	0 0
Madras	0 0	to	0 0
PALM, fine	34 10	to	0 0
LINSEED	26 0	to	0 0
RAPESEED, English, pale	31 5	to	32 0
brown	29 0	to	29 5
Foreign, pale	0 0	to	0 0
brown	0 0	to	0 0
COTTONSEED	27 10	to	28 10
LARD	39 0	to	40 0
TALLOW	30 0	to	35 0
TURPENTINE, American, cks.	22 3	to	0 0
French	0 0	to	0 0
PETROLEUM, Crude	0 0	to	0 0
refined, per gall.	0 8½	to	0 8½
Spirit	0 8	to	0 8½
SEEDS.			
CANARY per qr.	44 0	to	55 0
CARAWAY, English per cwt.	0 0	to	0 0
German, &c.	0 0	to	0 0
CORIANDER	15 0	to	20 0
HEMP per qr.	39 0	to	44 0
LINSEED English	60 0	to	68 0
Black Sea & Azof	49 0	to	0 0
Calcutta	48 6	to	0 0
Bombay	49 6	to	0 0
St. Petersburg	48 0	to	0 0
Mustard, brown per bshl.	0 0	to	0 0
white	9 0	to	12 6
POPPY, East India, per qr.	54 0	to	0 0
SPICES.			
CASSIA LIGNEA per cwt.	37 0	to	45 0
Vera	22 0	to	35 0
Buds	57 0	to	58 0
CINNAMON, Ceylon:			
1st quality per lb.	1 2	to	3 3
2nd do.	1 0	to	2 3
3rd do.	0 11	to	1 6
Tellicherry	0 0	to	0 0
Chips	0 2½	to	0 5
CLOVES, Penang	1 7	to	1 9
Amboyna	1 4	to	1 6
Zanzibar	1 4	to	1 4½
GINGER, Jam., fine per cwt.	90 0	to	200 0
Ord. to good	60 0	to	80 0
African	18 0	to	19 0
Bengal	18 0	to	19 0
Malabar	0 0	to	0 0
Cochin	39 0	to	115 0
PEPPER, Blk., Malabar, per lb.	0 3½	to	0 4½
Singapore	0 3½	to	0 3½
White Tellicherry	0 0	to	0 0
Cayenne	1 4	to	3 1
MACE, 1st quality	2 0	to	2 8
2nd and inferior	1 0	to	1 11
NUTMEGS, 78 to 60 to lb.	3 4	to	5 0
90 to 80	2 11	to	3 3
132 to 95	1 10	to	2 10
PIMENTA	0 5	to	0 5½
VARIOUS PRODUCTS.			
COCHINEAL—			
Honduras, black per lb.	0 0	to	0 0
silver	0 0	to	0 0
pasty	0 0	to	0 0
Mexican, black	2 1	to	2 2
silver	2 1	to	2 2
Teneriffe, black	2 1	to	2 11
silver	2 1	to	2 3
SOAP, Castile per cwt.	25 0	to	43 0
SOY, China per gall.	1 10	to	2 0
TERRA JAPONICA—			
Gambier per cwt.	16 6	to	16 9
Free cubes	24 0	to	27 0
Cutch	23 0	to	26 0
WAX, BEES, English	£ 0	to	£ 0
Jamaica	7 0	to	7 10
East India	6 0	to	6 10
VEGETABLE, Japan	2 16	to	2 19
WOOD, DYE, Bar per ton	3 10	to	0 0
Brazil	13 0	to	45 0
Cam.	15 0	to	23 0
Fustic, Cuba	0 0	to	0 0
Jamaica	7 0	to	7 10
LOGWOOD, Campachay	8 5	to	8 10
Honduras	6 15	to	7 0
St. Domingo	5 15	to	6 5
Jamaica	6 0	to	0 0
LIMA, first pile	10 0	to	11 0
RED SANDERS	6 0	to	6 5



31/293. *H. R.*—**Angostura Bitters.**—1. For the following formula we are indebted to Owen's "Licensed Victuallers' Manual":—Angostura bark, 4 oz.; camomiles and orange peel, of each 1 oz.; cardamoms and cinnamon, of each $\frac{1}{2}$ oz.; raisins, 1 lb.; proof spirit, $2\frac{1}{2}$ gallons; macerate for a month, then press and filter. 2. In making the "sulphur and lead" hair-restorers, "H. R." finds it difficult to thoroughly diffuse the precipitated sulphur throughout the mixture. In most of the mixtures of this kind glycerine is used to rub down the sulphur. Is not this sufficient?

9/25. *W. H. C.*—Paregoric being a preparation of opium cannot be legally sold by any but registered chemists and druggists.

6/25. *W. H.*—**Liqueurs.**—There is a useful article on this subject in Part 9 of Cooley's "Cyclopædia," but this does not give the formulae for either of the liqueurs you name. True *Maraschino* is made by fermenting the juice of Dalmatian prunes or peaches, and distilling over from the broken stones. *Kirschwasser*, which is a similar product, is made by treating similarly the juice and stones of black cherries. The genuine *Chartreuse* is made at a monastery near Grenoble in three varieties—green, yellow, and white, and is sold at from 8*l.* to 10*l.* per litre. An excellent imitation of the yellow chartreuse is sold by the French liqueur dealers at about one-fourth the price, but at present we are unable to give you the formula.

Mr. T. Baker, Maryborough, Queensland, sends us a sample of a native **Arrowroot**, asking us to let him know what is probably the market value. We sent the sample to Mr. Greenish, who reports as follows:—"The sample forwarded to me, marked 'Arrowroot A,' from Mr. Baker, Queensland, I find, on microscopical examination, to be the starch of a '*Canna*'—most probably that of *Canna edulis*—and called in this country '*Tous les Mois*.' The term 'arrowroot,' in its ordinary acceptation, is in England confined to the produce of one of the Marantas, either of *Maranta Indica*, *Maranta arundinacea*, or both, but in its more extended application embraces many other edible starches not derived from the Marantas. This starch is not, therefore, an 'arrowroot' in the sense in which that term is used in this country, and if found mixed with a maranta starch and called 'arrowroot,' would, in the practice of many public analysts, be called an adulteration. The sale of '*Tous les Mois*' has always been a limited one, and it is now less used than ever, being mainly pushed out of commerce by the introduction of the so-called 'flours,' as 'cornflour,' &c.—importations of maize starch from the United States. This sample of '*Tous les Mois*' is clear, of good colour, and free from impurities; taking the wholesale druggists as a guide, its price averages 6*d.* per lb. to the retail trader. The import value should be ascertained of a drug broker in Mincing Lane; probably 2*d.* or 3*d.* per lb. would represent it fully."

L. O. L.—We have looked through several works on the hair, but have not found reference to any case quite similar to that which you describe. It is most probable that the whiteness is due to some constitutional disturbance, and we should expect the tonic treatment recommended would be the only aid which medical treatment can offer.

An Old Subscriber.—Your name appears on the Registrar for this year at your Liverpool address. You should give notice to the Registrar of your change of address. No other formality is necessary.

24/292. **An Opening for Assistants in South Africa.**—A South African apothecary writes as follows:—"I believe you would benefit both sides if you could induce a limited number of good steady chemists' assistants to come out. A supply of six or eight a year would be useful. The salary of an assistant newly arrived is not particularly high, averaging from 5*l.* to 7*l.* per month with free board and lodging. If he stayed a year or two in a good business and picked up enough Dutch to understand the natives and their requirements he would very soon get advantageous offers from the country. A steady frugal man, too, would soon save enough to set up for himself, and it would not be difficult to find openings." Our correspondent went out 18 years ago with but very small capital, and he says he would not now change businesses with many even of our superior chemists at home.

25/29. *Latin Student.*—The translation of the motto on the Pharmaceutical arms (*Habenda Ratio Valeat*) is—A care must be had for health. *Habenda* is the gerundive of the verb *habere*.

25/26. *Beacon.*—If you send us your full address we will reply to you by post.

F. C.—The 24th section of the Dentists Act provides that "every person registered under this Act shall be exempt, if he so desires, from serving on all juries and inquests whatsoever, and from serving all corporate, hundred, and township offices, and from serving in the militia."

1/26. *J. M. G.*—**Tinct. Frangulae.**—The '*Cortex frangulae* of the German Pharmacopœia is the bark of the *Rhamnus frangula*. A tincture (or, more correctly, a fluid extract) may be made by boiling $2\frac{1}{2}$ oz. of the bark

with 1 pint of water. The product, strained, is to be evaporated to 20 fluid drachms. To this add 2 fluid oz. of proof spirit. The root of the *Rhamnus frangula* is not used.

26/32.—*C. W. W.*—**Aquarium.**—The water in aquaria can be purified only by putting living plants in it. No other plan will answer, and even changing the water frequently is a poor substitute.

25/55. *W. P.*—**Show Colours.**—*Royal Blue.*—Take copper nitrate, 3 oz.; water, q.s., to dissolve; add ammonia solution as long as the colour deepens, then water, to make up 2 gallons. *Blue.*—Take copper sulphate, 2; acid. sulph., 1; water, q.s. *Dark Blue*, copper sulphate, 16 oz.; water, 2 gallons; dissolve and filter; then add ammonium acetate, 2 oz. *Red* or *Crimson*, iodine and potassium iodide, of each 2 drachms; triturate with 1 drachm of water, then add 3 gallons of water, and 4 oz. of muriatic acid.

25/46. *H. A. M.*—**Hydrobromic Acid.**—Acidum hydrobromicum is sometimes called acidum hydrobromicum dilutum. Three formulae for making it are in use. The first in point of time is Wade's. Dissolve 11 oz. avoirdupois of potassium bromide, and 14 oz. avoirdupois of tartaric acid in 40 fl. oz. water. Leave the solution in a cold place for some hours, or until precipitation is complete. Each fluid drachm will contain 10 grains of bromine almost entirely in the form of hydrobromic acid. Small quantities of potassium bromide and acid tartrate will also be present; dose, about $\frac{1}{2}$ drachm. Fothergill's formula arose from an erroneous copy of Wade's. It provides a considerable excess of potassium bromide. Squibb's formula, published last year, is largely used. It is as follows: 7 parts, by weight, of sulphuric acid, sp. gr. 1.838, are added to 1 part of water, and the mixture allowed to cool. Then pour it slowly and with constant stirring into a hot solution of 6 parts potassium bromide in 6 parts of water. Set the mixture aside for 24 hours, when the potassium sulphate will have crystallised out. Pour the liquid into a retort, break up the crystalline mass and wash it with 2 parts of water, adding the washings to the mother liquor. Distil nearly to dryness, titrate the distillate with normal soda solution, and dilute with water till the solution contains 34 per cent. of HBr. A drachm of this solution contains just half as much bromine as a drachm of potassium bromide.

25/45. *Montreal* wishes to know where the following can be obtained; they are ingredients in a prescription which has been sent him to dispense:—

1. Ext. Asiatic cannabis sativa.
2. Ext. Asiatic halish sativa.
3. Verbena hastata.
4. Ext. Asiatic Cashgar leaves.
5. Inulin.

No. 1 is doubtless extractum cannabis Indicae. No. 3 is a well-known American drug, sold by the Shakers among others. It is a species of vervain more bitter than the English plant, and said to be emetic. No. 5 is a substance closely allied to starch, found in the roots of the Jerusalem artichoke and of other composite plants. It could probably be obtained from the great chemical houses in London. We shall be glad of any information about the other articles.

19/9. *Tant a Reader.*—We do not find the name you mention in the "Medical Directory" for 1877. The "Register" for 1878 has not yet been published. We know nothing of the solvent cure for consumption.

26/10. **White Embrocation.**—*E. J. Bull* asks: "Will any of your readers kindly furnish me with a formula for a good White Embrocation for general use among horses and cattle?"

26/7. **Indelible Ink.**—*A. B.*—You will notice that the ink you refer to is destroyed by "mango," or chloride of lime, which is now used almost universally by laundresses. The ink mentioned on page 23 of our January issue is more likely to suit you. The writer who furnished the note in the "Diary" did not give the proportions of the ingredients. "Stoemcr" is a misprint for "Stoermer."

VAST DEPOSIT OF MINERAL WAX.—Professor J. E. Clayton, of Salt Lake City, has produced a sensation in American circles by the announcement of the discovery in Utah of a deposit of mineral wax occupying an area 60 miles long by 20 miles wide, and in some places forming a bed 20 feet thick. It contains more or less clay in seams and layers; but this is readily eliminated by melting, the earthy matter settling, and leaving the paraffin nearly pure. This is quite black in the mass, but translucent in thin layers. Mineralogists have already inaugurated a controversy as to its exact nature, and its place in their systems. Some consider it identical with the Austrian ozokerite, others name it zietrisikite. It seems certain that the discovery is a genuine one, and that it has laid open an immense source of wealth to the district.

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We ask reference to the announcement of MESSRS. W. R. WARNER & Co., on p. 57. Detailed Price Lists of the Formule in stock are now ready, and will be supplied on application. The advantages claimed for WARNER'S PILLS are that they are uniformly and carefully prepared, thoroughly soluble, and in every way satisfactory.

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The attention of the Trade is asked to **BERDOE'S LAVENDER WATER**, of Triple Strength. This article has proved itself worthy of appreciation, and is really well prepared and in good condition. Price per Large Bottle, 4s. 9d.; half ditto, 2s. 5d. (Bottles contain about, or more than, twenty fluid ounces.)



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Ess. Bouquet	Geranium	Kuhli-Kuhli	New Mown Hay	Santal	West End			
Fleur d'Oranger	Girl of the Period	Ladies' Pet	Oh! How Sweet	Something New	Wild Flowers			
Floral Bouquet	Jasmin	Lign Aloe	Opoxonax	Stephanotis	Wild Rose			
Flowers of Eden	Jockey Club	Maréahale	Patchouli	Sweet Briar	Ylang Ylang			
The above Perfumes at per 20 ozs. 9/6; 10 ozs., 4/10; 5 ozs., 2/6.								
Aromatic vinegar ..	per 20 ozs.	6/9	* Ess. Musk (strong) ..	per 20 ozs.	15/6	Spent Pomade (French) ..	per 20 ozs.	1/-
Eau de Cologne (super)	"	4/9	Ess. Violets ..	"	12/6	Triple (French) Rose Water ..	"	1/2
* Ess. Ambergis ..	"	23/-	Ess. Wood Violet ..	"	12/6	Triple Orange Flower Water ..	"	1/2
Ess. Civet ..	"	12/9	Lavender Water (very fine)	"	4/9	<i>Bottles included at above prices.</i>		

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C	Plain	"	"	"	1 1/2 oz.	"	1/6
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No.	s. d.	s. d.	No.	s. d.	s. d.	No.	s. d.	s. d.
25. Pil. Aloes et Assaf. B.P.	1 0	4 3	46. Pil. Acid. Arsenious	1 0	4 3	67. Pil. Rhei. Comp.	2 0	9 3
26. " Aloes Barbad. B.P.	1 0	4 3	47. " Ague	2 3	10 6	68. " Strychnia, $\frac{1}{2}$ gr.	1 0	4 3
27. " Aloes et Ferri. B.P.	1 0	4 3	48. " Aloes et Mastich	1 6	6 9	69. " Todoforn et Ferri	6 0	—
28. " Aloes et Myrrh. B.P.	1 0	4 3	49. " Antibilious	1 6	6 9	70. " Analeptic	2 0	9 3
29. " Aloes Socot. B.P.	1 0	4 3	50. " Antidiyspeptic	2 3	10 6	71. " Anodyne	2 3	10 6
30. " Assafet. Comp. B.P.	1 3	5 3	51. " Aperient	2 3	10 6	72. " Antichlorotic	2 3	10 6
31. " Gambogia Comp. B.P.	1 0	4 3	52. " Camphore et Hyocycami	1 6	6 9	73. " Antichoromania	2 3	10 6
32. " Cinchonidia Sulph. 1 gr.	1 8	7 11	53. " Cathartic Co. (Exotic)	1 6	6 9	74. " Antispasmodic	2 3	10 6
33. " " " 2 "	3 0	14 3	54. " " (Improved)	1 6	6 9	75. " Antiperiodic	2 3	10 6
34. " " " 3 "	4 3	20 6	55. " " (Vegetable)	1 6	6 9	76. " Antispasmodic	2 0	9 3
35. " Colocynth. Comp. B.P.	2 0	9 3	56. " Emmenagogue	3 0	14 3	77. " Astringens	2 0	9 3
36. " Colocynth. et Hyocycami, B.P.	2 0	9 3	57. " Ext. Belladonnae $\frac{1}{2}$ gr.	1 0	4 3	78. " Cathartic (Cholagogue)	2 0	9 3
37. " Conii Comp. B.P.	1 3	5 6	58. " Ext. Nuc. Vomicee $\frac{1}{2}$ gr.	1 0	4 3	79. " Ecoprotic	2 0	9 3
38. " Ferri Carb. B.P.	1 3	5 6	59. " Ferri Iodid.	2 0	9 3	80. " Laxativa	2 0	9 3
39. " Hydrargyri, 3 gr. B.P.	1 3	5 6	60. " Morphie Sulph. $\frac{1}{2}$ gr.	2 0	9 3	81. " Sedativa	2 3	10 6
40. " Hydrarg. Subchlor. Co. B.P.	1 3	5 6	61. " Neuralgic	8 6	—	82. " Tonic	2 0	9 3
41. " Ipecac. cum Scilla, B.P.	1 3	5 6	62. " Opii, Camph. et Tannin.	2 3	10 6	83. " Hydrarg. 5 grs.	1 6	—
42. " Plumbi cum Opio, B.P.	2 0	9 3	63. " Podophyllin, $\frac{1}{2}$ gr.	1 0	4 3	84. " Iodide of Mercury, $\frac{1}{2}$ gr.	1 0	4 3
43. " Quinia, 1 gr.†	7 0	34 3	64. " Podophyllin Co.	2 0	9 3	85. " Cathartic Co.	1 6	6 9
44. " Saponis Comp. B.P.	2 0	9 3	65. " Quin. et Ferri et Strychnia	5 0	24 3	86. " Diuretic	1 6	—
45. " Scilla Comp. B.P.	1 3	5 6	66. " Quinia Sulph. 2 gr.†	13 8	67 7	87. " Ferri Pyrophos, 1 gr.	1 3	5 6

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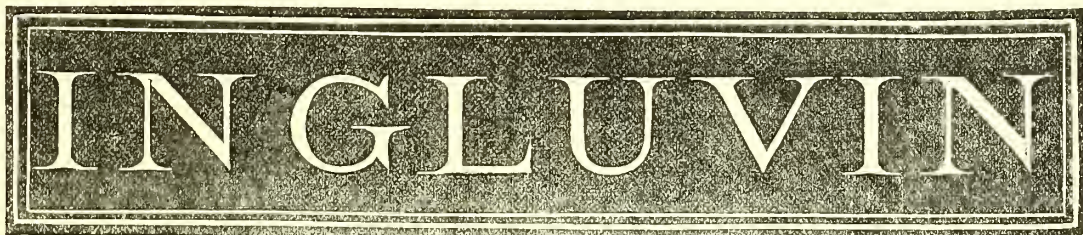
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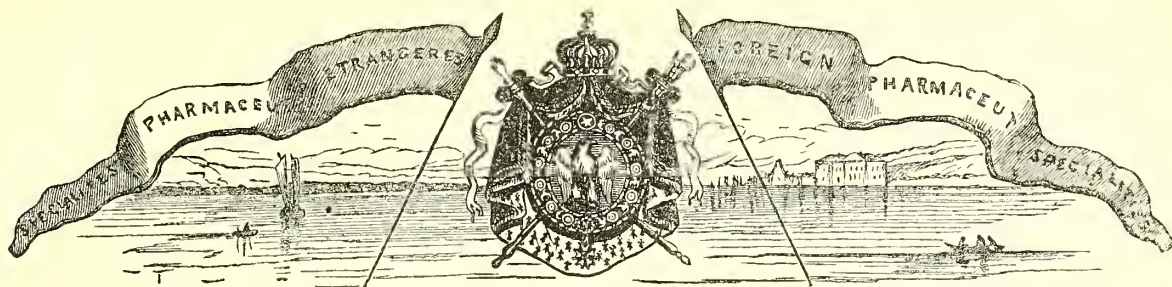
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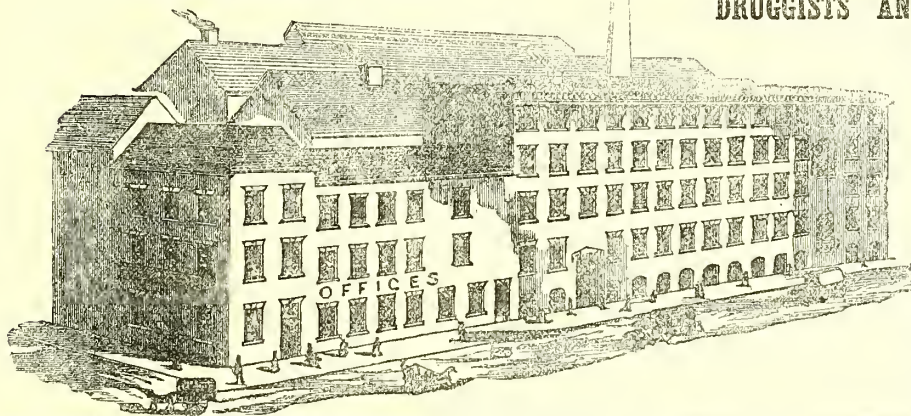
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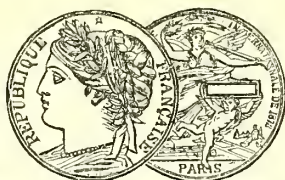
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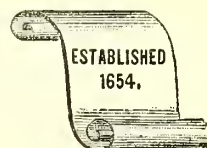
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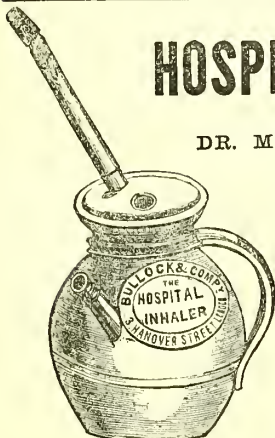
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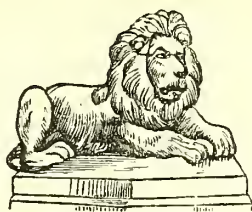
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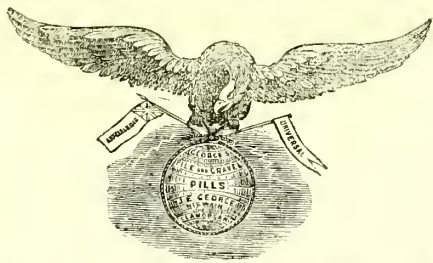
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- FORM I.—Pil. Aperions Fort.**
 Ext. Aloes Aq. Pulv. Cambog. P. Jalapæ P. Coloc.
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 Each 5 gr. Pill contains 1 gr. Calomel ;
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 Ext. Anthem. P. Capsici.
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- FORM, W.—Pil. Prandii, No. 2.**
 Ext. Aloes Aquos.
 Pil. Rhæi Co. Ext. Gentian.
 In gr. iv. and gr. v., per lb. ... 6/
- FORM X.—Pil pro Diarrhœa.**
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 Capsicum Pulv. Opii.
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 Pulv. Guaiac. Resin. P. Opii.
 In gr. iv. and gr. v., per lb. ... 6/
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Shape	Size	Shape	Size
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Saddle	4 1/2 x 9 1/2	Heart	5 x 7
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THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th, 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation; nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

FURTHER IMPORTANT NOTICE.

The subjoined list of eminent Firms concur with Vice-Chancellor Sir W. Page Wood's statement in Court, that Dr. Collis Browne was undoubtedly the Inventor of Chlorodyne; and that when Chlorodyne, or the Original Chlorodyne, is ordered, they invariably supply Dr. J. Collis Browne's:—

Apothecaries' Hall,	London.	Gale & Co.,	London.	Newbery & Sons,	London.
Allen, Hanbury & Co.,	"	Giles & Son,	Clifton.	Oldham, G., & Co.,	Dublin.
Baiss Brothers,	"	Goulding, Messrs.	Cork.	Parsons & Richardson,	Leicester.
Banks & Richards, Birmingham.	"	Gratton & Co.,	Belfast.	Peake, Allen & Co.,	Dublin.
Barron, Harvey & Co., London.	"	Grimwade, Ridley,	London.	Raimes & Co.,	Liverpool.
Bell, John, & Co.,	"	Grindley & Son,	Chester.	Raimes & Co.,	York.
Corbyn & Co.,	"	Hearon, Squire & Francis,	London.	Raimes, Blanshards & Co.,	Edinburgh.
Cox & Gould,	"	Hodgkinson, Tonge & Stead,	"	Sang & Barker,	"
Curling & Co.,	"	Hopkins & Williams	"	Sanger, J., & Sons,	London.
Curtis & Co.,	"	Hunt & Co.,	Exeter.	Sim, James, & Co.,	Aberdeen.
Davy, M'Murdo & Co.,	"	Hunt, A., & Co.,	"	Smeeton, W.,	Leeds.
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Dunn & Company,	"	Lynch & Co.,	"	Tomlinson, Hayward & Co.,	Lincoln.
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Ferris & Co.,	Bristol.	Meggeson & Co.	"	Woolley, James,	Manchester.
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After these public statements in a Court of Equity, and subsequent confirmation by the trade at large, no Chemist can conscientiously use or sell any other compound for Chlorodyne without committing a breach of faith, unjust to patient and physician. The value of the remedy alone creates the great demand.

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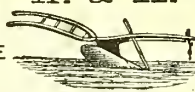
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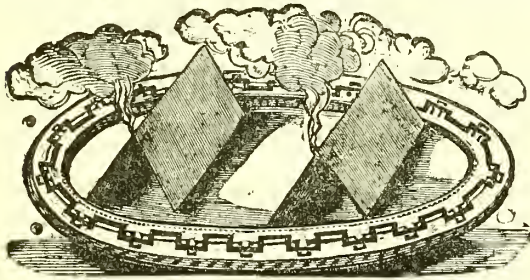


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DIRECTIONS.—Fold and place one or two pieces of paper on a dish, and light the top at point A. A dense fume will then arise and gradually fill the room; and after inhaling it for a few minutes the air-tubes will be cleared of mucus, difficult respiration will cease, and the patient will fall into a sound and refreshing sleep. The outer air must be excluded by keeping the windows, doors, and chimney closed. The paper may be burnt in the day as well as at night if necessary.—Price 2s. 6d., 4s. 6d., and 11s. per box.

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This remedy is advertised in the *Lancet* and *British Medical Journal*; it is therefore known to members of the Medical Profession, by whom it is recommended.

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They are very light, being one-sixth the weight of covered pots.

They are not breakable.

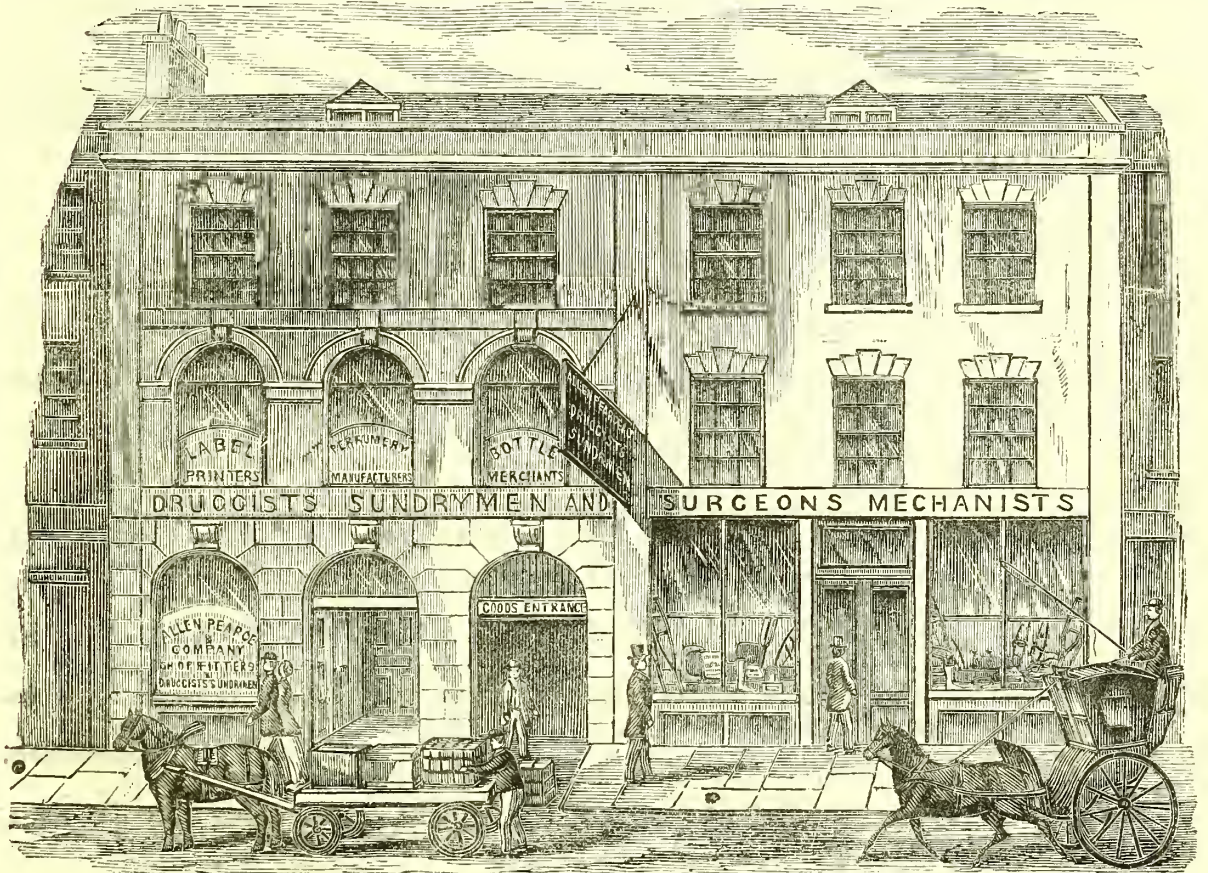
We have just issued a REVISED PRICE LIST for these and all other Boxes made by us. We are now able to make a considerable reduction on previous prices.

The Lids fit quite air-tight.

They are made to stand any climate.

PRICE LIST ON APPLICATION.

ALLEN PEARCE & CO.,
DRUGGISTS' SUNDRYMEN,
SURGEONS' MECHANISTS,
LABEL PRINTERS,
 AND
EXPORT MANUFACTURING PERFUMERS,



10 & 11 BATH STREET,
BRISTOL.

Enlarged Price List, ready January 1, 1879, sent on receipt of Business Card.

Proprietors of Pike's Fit Powders, Lillie's Preparations, Schweitzer's Dandelion Coffee and Cocoa, &c., Mrs. Allen's Neuralgic Mixture, &c.

FOREIGN AGENTS WANTED.

BEST WORK ONLY.]

[BEST WORK ONLY.

FILMER KIDSTON,

MEDICAL SHOP FITTER & SHOW CASE MAKER,

AND MANUFACTURER OF EVERY DESCRIPTION OF DRUGGISTS' FURNITURE.

NOTICE.

Chemists commencing Business, Fitting-up Shops, or making alterations to their premises, should first inspect KIDSTON'S modern and unique style of manufacture, so much approved of by the Profession for its elegant appearance and superior finish.

Plans and Estimates supplied. Gentlemen are invited to inspect KIDSTON'S

PRIZE DISPENSING COUNTER,

Which can be seen at the Show Rooms,

DUKE STREET, BRUSHFIELD STREET, BISHOPSGATE, LONDON.

ILLUSTRATED LISTS OF SHOW CASES ON APPLICATION.



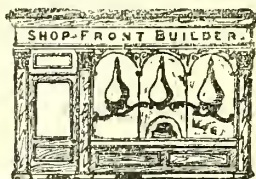
SHOP-FITTINGS.

ESTABLISHED 1830.

SAMUEL HOWLETT,

4 LINDLEY STREET (formerly called North St.), SYDNEY STREET, MILE END, LONDON, E.

A few Minutes' Ride by Omnibus from the Bank.



MEDICAL AND GENERAL SHOP FITTER.

SHOPS FITTED BY S. H., and to whom references are kindly permitted:—

Messrs. Corbyn, Stacey & Co., 7 Poultry, London.

Mr. H. Deane, Clapham, London.

„ John Broad, Hornsey Rise, London.

„ N. Nicholson, Canonbury, London.

&c.

&c.

&c.

Messrs. Leath & Ross, St. Paul's Churchyard, London.

„ Harvey & Reynolds, Leeds.

Mr. W. F. Smith, 280 Walworth Road, S.E.

Mr. Thomas Hall, Lowestoft.

&c.

&c.

&c.

Cabinet Fitter to the Pharmaceutical Society of Great Britain. Manufacturer of every description of Air-tight Glass Show cases for Chemists, Jewellers, &c. Medical Labelling, &c.

Plans and Estimates for Entire Fittings and Alterations supplied.

R. TOMLINSON,

DRUGGISTS' SHOP-FITTER, SHOW-CASE MAKER,

AND
MANUFACTURER OF DRUGGISTS' SUNDRIES,
15 St. PAUL'S SQUARE, BIRMINGHAM.

VALUATIONS EFFECTED.

BUSINESS TRANSFER AGENT.

Second-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c.

SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

R. T. will wait upon parties fitting up, to plan and advise. 2nd-class fare only charged.

FOR SALE, FIXTURES FOR SHOP, ABOUT SIXTEEN FEET BY TWELVE.

WRITE FOR LIST.

ESTABLISHED 1851.

CHEMISTS' SHOP FITTERS,

SHOW CASE MAKERS & SHOP FRONT BUILDERS.

JOHN CURTIS & SON,

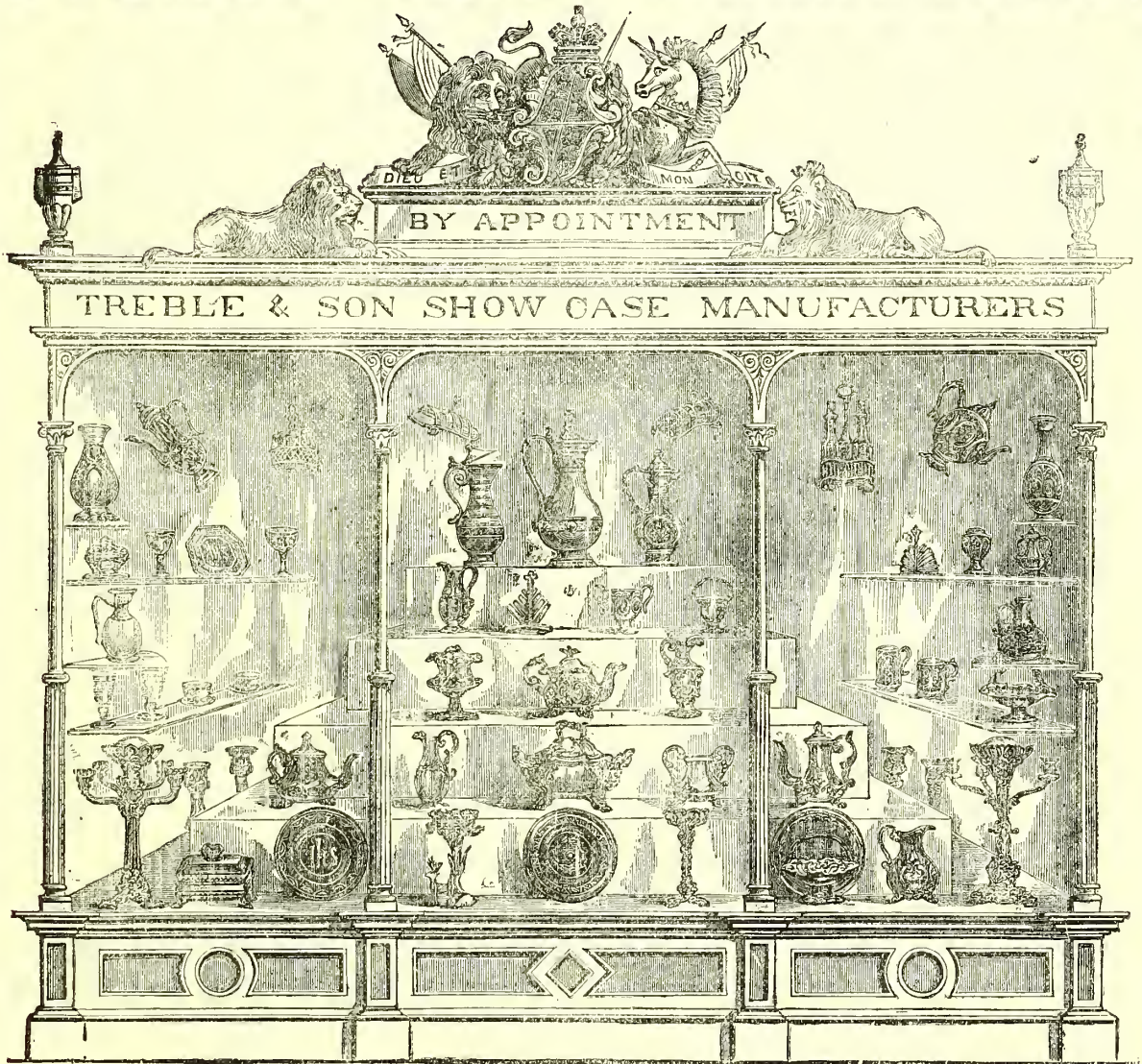
NORTH OF ENGLAND STEAM SHOP FITTING WORKS,

WADE STREET AND WADE LANE, LEEDS.

Designs and Estimates furnished.

EXPERIENCED FITTERS SENT TO ALL PARTS. DESIGN SHEETS FORWARDED ON APPLICATION

EXHIBITIONS SYDNEY AND MELBOURNE.



GEO. TREBLE & SON, MANUFACTURERS OF SHOW CASES

Special Designs and Estimates Supplied.

SHOW CASES & SHOP FITTINGS BY CONTRACT.

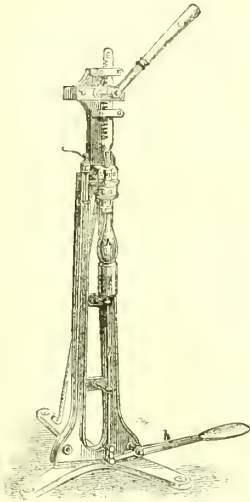
Works:—40, 41, 42, 43, & 44 GLOUCESTER STREET, & MYRTLE STREET; 44, 46, 48, 50, & 52 WHITMORE ROAD;
and BRIDGE WHARF, REGENT'S CANAL, LONDON, N.

Office:—GLOUCESTER STREET, HOXTON, LONDON

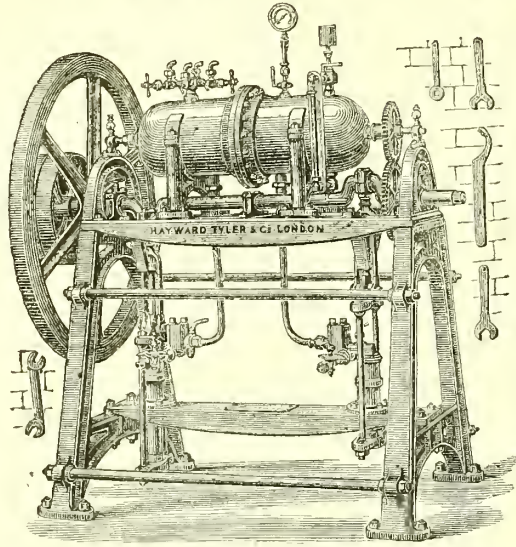
GOLD MEDAL, PARIS, 1878,

FOR

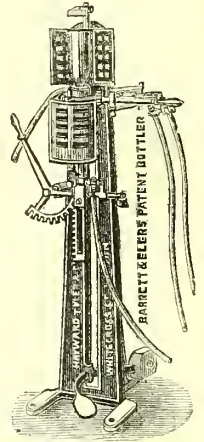
SODA WATER MACHINERY.



Rack Bottling Machine.



Extra Strong, Large, and Powerful Soda Water Machine for 1,000 dozen per day.



Bottling Machines of every description.

HAYWARD TYLER & CO., Whitecross Street, LONDON.

**MONDOLLOT'S PATENT
Soda Water Machinery,**

Continuous System without Gazometer.

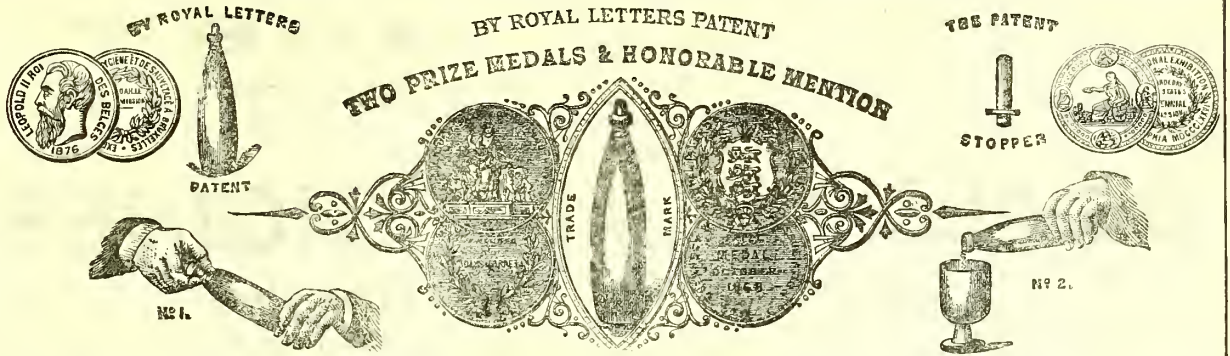
**GOLD MEDAL AT THE PARIS EXHIBITION,
1878.**

Full particulars on application to the Sole Agents,

MESSRS. L. FRIQUET & CO.,

**13 LITTLE JAMES STREET, BEDFORD ROW,
LONDON, W.C.**

Sole Agents also for BRIET'S GAZOGENES and SYPHONS.



Note.—With a gentle pressure, as Shown in Diagram No. 1, the Stopper is pushed in, and the position as in No. 2 will empty the contents of the Bottle.

BARRETT & ELMERS, 9 DACRE ST., WESTMINSTER.

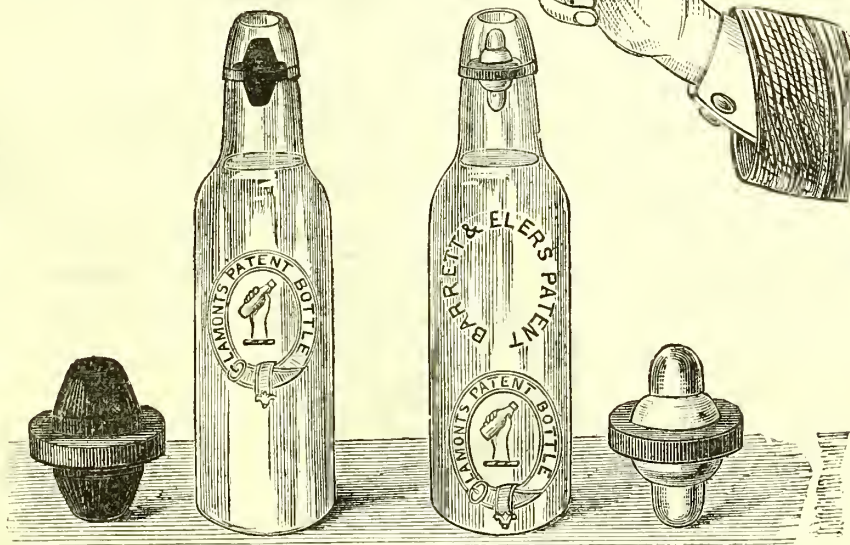
By Royal Letters Patent



Dated June 2, 1874. No. 1923.

LAMONT'S PATENT BOTTLE, &c.

The Best,
The Cheapest,
The Cleanest
Stoppers
before the
Trade.
—
No Rubber
Rings that
come out or can
be taken out
of the necks.
—
Skilled labour
superseded.
—
Great Saving
effected.



Easily Filled,
Easily Opened,
Easily Cleansed
and Washed.
—
The Stoppers fit
perfectly, and
always fall in
their right
places in the
necks of
the Bottles,
thereby
preventing
leakages.

EBONITE STOPPER

GLASS STOPPER

THE NEW STOPPER

(On the left in diagram)

Is made of Ebonite, which is perfectly non-porous, and from its elasticity and lightness it cannot break the Bottles, and will stand any pressure required to be put into them. It is a perfectly pure material, and when properly prepared and cured, and fitted with deodorized Rubbers, it does not in any way affect the contents of the Bottles as regards taste, &c.

THE GLASS STOPPERS

(On the right in diagram)

Have now been in very extensive use and demand for the last four years, and they can be recommended for their cleanliness, simplicity, and their general neat appearance; and from their peculiar construction—being very small and light at the ends—the breakage of Bottles is reduced to a minimum.

Licensees have the advantage of using one or all these Stoppers (except in certain places which applies only to the Wooden Stopper) under one License.

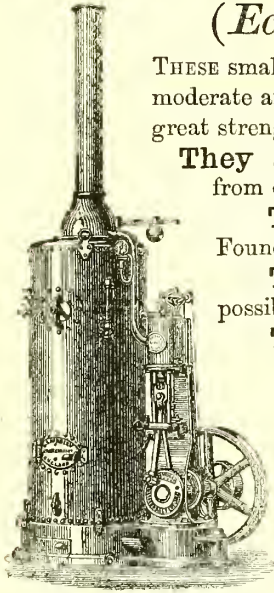
BARRETT & ELMERS' FILLING MACHINES AND SYRUP PUMP COMBINED,

Have been proved to be the Best and Cheapest in the market, of which now upwards of 1,000 have been sold.

E. S. HINDLEY, BOURTON, DORSET.

SMALL STEAM ENGINES

(Economical in Fuel and in First Cost).



THESE small Engines are specially adapted for driving Soda Water Machinery wherever a moderate amount of cheap power is required. They combine simplicity, compactness, and great strength, are easily managed, occupy very little space, and require no fixing.

They are available at any time, as steam can be got up in half an hour from cold water.

They require no fixing, being erected on a Cast-Iron Water Tank Foundation.

They are simple in construction, and, having as few working parts as possible, are not likely to get out of repair.

They can be driven by a boy. Can be made to burn GAS instead of Coal.

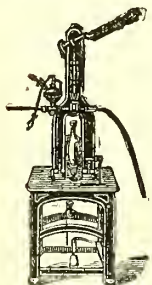
Nominal horse power...	1	1½	2	3	4	5	6	8	10
Engine and Boiler combined ..£	39	47	55	70	88	100	115	135	157
Engine and Boiler on three Wheels, with Handle.....£	41	49	57	75	95	110	125	145	167

ALL SIZES IN STOCK—DELIVERED FREE TO ANY STATION
Illustrated Catalogues with full particulars on application.



GOLD MEDAL SODA WATER MACHINERY.

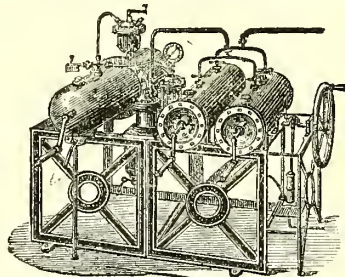
Awarded Grand Medal of Progress
at Vienna, 1873.



Bottling Machine.

Seven First-class Medals awarded at various International Exhibitions over and above all other Machinery of the kind since 1862.

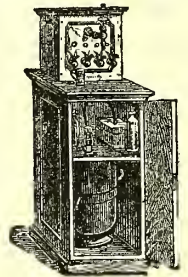
Soda Water made at a minimum cost by using these Machines.
 No Steam Power wanted.
 Entire Saving of Coals.
 Half the usual Labour.
 Saves Breakage of Bottles.
 Simple in Construction.



TRADE MARK.
Generator and Bottling Cylinders.

Agents for Lamont's Patent Bottles, and Vaass & Littman's Ice Making Machines.

Sole Agents for Galloway's "Excelstor" Soda Water Machine, with Steam Engine combined, and "Universal" Double Pump Machine, Guaranteed to Make 40,000 Bottles per Day; also all other Specialties made by this celebrated House.



Cabinet Machine.

Cost of Machines Saved in one Season in Broken Bottles alone.

The undersigned are the only Manufacturers in Europe of the Improved Machines for Making, Bottling, and Drawing on Draught Aërated or Mineral Waters.

These Machines are lined with pure tin, the pipes are of pure tin, and every care is taken to make them as perfect as possible. For convenience, and saving of time and labour, these Machines are not excelled; therefore, for Makers of Soda Water, Lemonade, Ginger Ale, Seltzer, Potass, Vichy, and other Waters, they are invaluable.

Before purchasing send for Catalogue of 104 pages, post free, giving illustrations and prices.

NOTICE.—The Trade and all others are notified that no one has authority from us to manufacture any of our specialties; and anyone pretending to have such, and manufacturing the same, will be dealt with according to law. All are therefore safe only by dealing with the original Inventors and Manufacturers.

DOWS, CLARK & Co., 46 & 47 Frith Street, Soho, LONDON.

In our New Catalogue, just issued, will be found illustrations and descriptions of the various Machines for Making Aërated Waters and Bottling the same, Marble Machines for the Counter, of various designs and prices, Copper Cylinders and Coolers, Syphons and Fillers, Ice Safes, Silver-plated Counter Draught Tubes, Tumblers, and Silver-plated Holders, Measuring Taps, Ice Cream Freezers, Fruit Juices, Extracts for flavouring, and Fruit Syrups, for Export or otherwise. Patent Clasps for Bottles, Pressure Gauges, the Cabinet Machine for Clubs, Private Families, Messes, &c. Mineral Waters for Export. Bottles, Corks, Ginger Ale Extract, Gum Extract, for producing foam, Cider Extract, &c., &c.

Lime Juice Cordial and Syrup of the very finest quality.

THE ECLIPSE SILENT GAS ENGINE.

"Amongst the several improvements which have recently been made in motive power Engines in which Gas is the heating agent employed, that which we now illustrate is one of the most noticeable.

*** The Engine working smoothly and giving no trouble from heating of the exhaust valve or other parts. It should be noted that the use of steam with the gas and air, effectually lubricates the working cylinder. The Engine evidently works with very little friction, and the water arrangements keep both cylinders cool."—*The Engineer*, January 17, 1879.

"No water-vessel to cool the cylinder is required; indeed, the hotter the cylinder gets the better the engine works, as in a steam engine. Moreover, the heat is all utilised and the steam it generates forms a valuable source of power. We ourselves have seen the engine running for several minutes by steam alone, the gas having been turned off. Next, the utilisation of the steam overcomes another difficulty. The dryness of mere gas explosions is destructive to cylinders, and they have to be incessantly lubricated. In this engine, however, the steam overcomes this difficulty, and no more lubrication is necessary than in a steam engine. Then, again, the pressure of the expanded gas is low—seldom over 40 lbs.; a fact which has an appreciable bearing on the longevity of the engine.

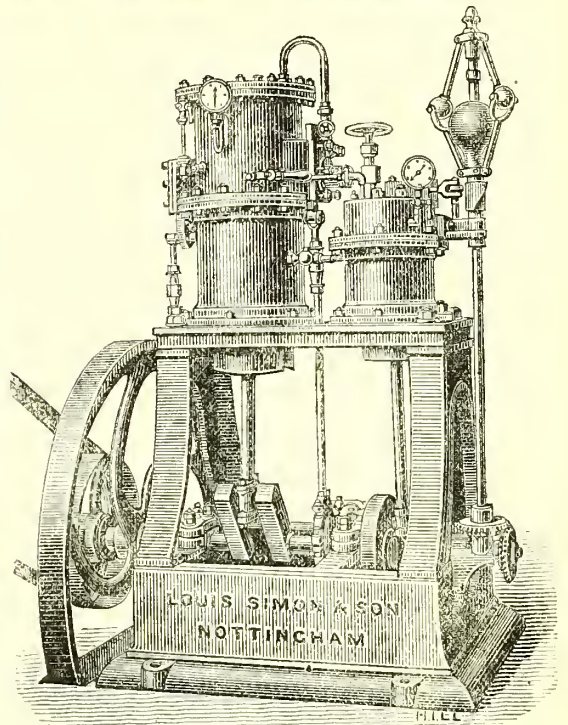
"This engine works quite as smoothly as a steam engine, and its regularity is remarkably good. As to its power there can be no doubt. The other day we saw a 4-horse power at Messrs. Simon's works driving three sets of shafting and some heavy planing and other machinery."—*The Printers' Register*, December, 1878.

E. 241

Patentees and Sole Makers :

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Wilford Road Works, Nottingham.



SODA WATER AND LEMONADE MACHINE,

TO MAKE ALL THE AERATED DRINKS.

WITH RECIPES AND INSTRUCTIONS FOR WORKING.

A Machine, with Dial and Water Gauges, to make 300 dozen per day	...	£30	0	0
Ditto ditto ditto 1,000 ditto	...	£40	0	0
Engine and Boiler to drive same	... ..	£30	0	0

PARTICULARS OF

N. G. WILCOCKS, Engineer, BATH.

BINGLEY'S



ANALYSED

SODA WATER.
SELTZER.
POTASH.
LEMONADE.
LITHIA, &c.

MANUFACTURED BY

JOHN BINGLEY, Pharmaceutical Chemist,
NORTHAMPTON.

A copy of Professor Atfield's Report will be forwarded by post on application.

COBDEN'S QUININE & PHOSPHORUS PILLS,
THE BEST NERVE TONIC,
GIVE STRENGTH & ENERGY TO
DEBILITATED CONSTITUTIONS
2/9 & 4/6.
SUSSEX DRUG CO., BRIGHTON.

Exhibitors at the Philadelphia Exhibition] DRINKS FOR ALL CLIMATES. [Agricultural Hall, Location L. UNDER THE ESPECIAL RECOMMENDATION OF THE FACULTY.

SUPERCARBONATED MINERAL WATERS.

Manufactured and Sold Wholesale by CANTRELL & COCHRANE,

DUBLIN & BELFAST,

Makers of the Celebrated

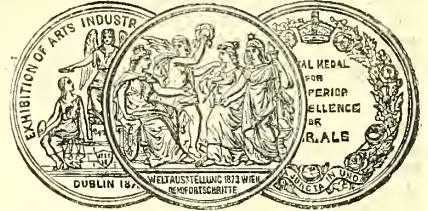
AROMATIC

GINGER ALE.

CONTRACTORS FOR THE

Abyssinian Expedition. Cunard Steam Ship Co. Inman Steam Ship Co. Montreal Steam Ship Co. Oceanic Steam Navigation Co. National Steam Ship Co. Pacific Steam Ship Co. Anchor Steam Ship Co.

Also Makers by Appointment to His Excellency THE LORD LIEUTENANT.



Soda Water, double. Soda Water, single. Kali, or Potass Water. Lemonade.

Ginger Ale, Aromatic. Aerated Sarsaparilla. Aerated Quinine. Aerated Tonic Bitters.

Supercarbonated Lithia Water. Winter Beverage. Royal Seltzer Water. Chalybeate Water.

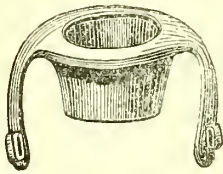
Carrage Water. Aerated Dandelion. Pullna Water. Vichy Water.

Bismuth Water. Lime Juice Syrup. Lime Juice. Aromatic Orange Bitters.

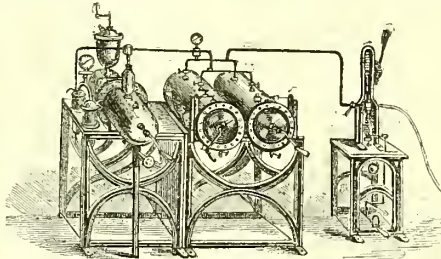
DELICIOUS "FRUIT NECTAR" FOR SUMMER DRINK. DUBLIN EXHIBITION, 1872.—The ONLY PRIZE MEDAL for "Superior Excellence" was Awarded to CANTRELL & COCHRANE. ALSO TWO PRIZES VIENNA EXHIBITION, 1873; AND THE GOLD MEDAL, PARIS MARITIME EXHIBITION, 1875. N.B.—Export Orders Packed in a most superior manner for all parts of the World.

SODA-WATER MACHINERY.

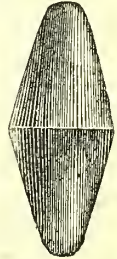
PATENT NOZZLE



FITS ANY BOTTLE.



THE STOPPER



GLASS OR EARTHENWARE.

GENERATOR, BOTTLING CYLINDERS, AND RACK.

DAVENPORT'S NOZZLE AND STOPPER (Horner's Patent) is the only Patent for utilising old Bottles, and converting them into Patents. No Corks or Wire, and saving entire cost in one season. The New Nickel-plated Nozzle makes this the most attractive Patent in use. Trial allowed. Prices and Royalty lowered. Send for Samples.

Catalogues of Soda-Water Machines, Ice-Making Machines, Engines, Boilers, Copper Cylinders, Syphons, Seltzogenes, Filters, &c., and all accessories to the Soda-Water Trade.

AGENTS FOR HAYWARD TYLER & CO'S SODA-WATER MACHINERY.

Illustrated Catalogues, of sixty-four pages, post free to all parts of the World.

DAVENPORT & CO.,

Soda Water Machinists and Manufacturers and General Machine Agents, 99N HIGH HOLBORN, LONDON.



LONDON, 1862.



LONDON, 1873-74.



PARIS, 1867-78.



VIENNA, 1873.



PHILADELPHIA, 1876.



CAPE, 1877.

SODA WATER MACHINERY,

And all accessories connected with the business.

HANDSOME MARBLE COUNTER FOUNTAINS,

For dispensing Iced Fruit Drinks.

MACHINES FROM 30 POUNDS.

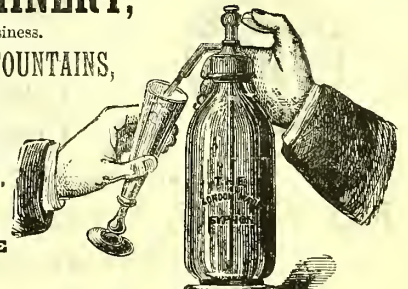
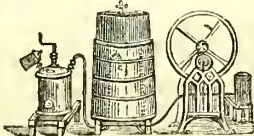
Sole Agents for Codd's Patent Globe-Stoppered Soda Water Bottles.

In use by over 500 established Soda Water Makers in England alone.

SOLE MAKERS OF THE IMPROVED LONDON-MADE SYPHON, 2s. each in quantities.

CATALOGUE FORWARDED FREE.

THE "LONDON-MADE" SYPHON.



BARNETT, SON & FOSTER, 23T Forston St., Shepherdess Walk, City Road, London, N.

HAY'S CONCENTRATED SOLUBLE ESSENCE OF JAMAICA GINGER

(Guaranteed Pure and Free from Capsicum).

Specially adapted for the manufacture of GINGER BEER, GINGER ALE, WINES, and CORDIALS. These, when made with this essence, are bright and transparent, and have the finest Jamaica Ginger flavour and aroma. It is also adapted for all Dietetic, Medicinal, and Pharmaceutical purposes.

DOSE.—Ten to Forty Minims.

Each fluid ounce of this Essence contains the aromatic constituent of 240 grains of Jamaica Ginger Root.

"Singularly free from resin."—*The Lancet*.

"It is really necessary that a superior Ginger Beer should be introduced to the public, and in Mr. HAY'S GINGER ESSENCE we find the very ingredient to bring about such a desideratum."—*Mineral Water Trade Recorder and Advocate*.

"Ginger Beer manufactured from this ESSENCE has the purest Jamaica Ginger Aroma distinguishable as soon as poured out. It is a beverage fit for any gentleman's table, and ought to attain great popularity."—*The Chemist and Druggist*.

"Contains the essential oil of AROMATIC CONSTITUENT OF THE ROOT, has the AROMA of GINGER without the unpleasant taste of the resin, and is specially adapted for flavouring GINGER BEER."—*Pharmaceutical Journal*.

"It is a pure elegant preparation, and is free from resinous matter. Ginger Beer made with it is clear and transparent, has the aroma and flavour of the ginger, and is very pleasing to the palate."—*Medical Times and Gazette*.

"The Ginger Beer made with this pure TINCTURE OF GINGER is extremely grateful and palatable. It is clear and bright as water, and is certainly preferable to some wines we have tasted under the name of champagne."—*Medical Press*.

A COMPOUND ESSENCE, which is an addition of **Vanilla, Lemon, and other flavours**, is also prepared. It is strongly recommended for the manufacture of **Ginger Beer, Wines, &c.**—to which it imparts a peculiarly fine fruity flavour and aroma. Syrups and all Saccharine preparations of Ginger generally undergo speedy fermentation, but when made with either of these Essences, keep remarkably well.

TRADE PRICES:—Simple Essence, 5/- per lb.; Compound Essence, 5/6 per lb.

PREPARED BY

W. HAY, Chemist, &c.,

4 REGENT'S TERRACE, ANLABY ROAD, HULL.

Agents—Messrs. HEARON, SQUIRE & FRANCIS, Wholesale Druggists, 5 Coleman St., London, E.C.

"ABSOLUTELY PURE."

SEE ANALYSES. Sent post free on application.

ELLIS'S

CRYSTAL SPRINGS.



RUTHIN

Soda, Potass, Seltzer, Lemonade, also Water without Alkali. For GOUT, Lithia Water, & Lithia & Potass Water.

WATERS.

REGISTERED.

CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every label bears their Trade Mark. Sold everywhere, and wholesale of

R. ELLIS & SON, RUTHIN, NORTH WALES.

London Agents: W. BEST & SONS, Henrietta St., Cavendish Square.

FOREIGN MINERAL WATERS.

FREDERICKSHALL (5 Cases, 6d. per Case less) 24/6 Case, 30 bot... 34/ Case, 60 1/2 bot
 APOLLINARIS (20 Hprs., 1/- per Hpr. less) ... 25/ Hpr., 50 " ... 39/ Hpr., 100 "
 HAMPERS free, carriage paid; Empty Bottles, 6d. per dozen.
 HUNYADI JANOS (10 Cases, 1/2-bts., 5/- less; 10 Cases, bts., 3/- each less)
 SELTZER ... 11/6 Hpr., 25 bts. ... 50/- Case, 50 1/2-bts.
 PULLNA... .. 18/- Case, 20 " ... 15/6 Hpr., 50 "
 VICHY ... 31/- " 50 " ... 27/- " 50 "
 CARLSBAD ... 37/6 " 50 "
 KISSINGEN ... 45/- " 50 "
 SCHWALLBACH ... 27/6 " 50 "
 HOMBURG ... 37/6 " 50 "
 WILDUNGEN ... 40/- " 50 "
 CARLSBAD SALTS, 1/2-Bots., 21/- per doz.; 1/2-Bots., 41/- per doz.; Bots., 80/- per doz.

FINE NORWEGIAN BLOCK ICE.

ORIGINAL BLOCKS, 2 to 3 cwts. each ... 2/6 per cwt
 1 cwt. to 2 cwts. ... 4d. per lb. | Under 1 cwt. ... 1d. per lb.
 Packing and Mats for Original Blocks free; 3d. each allowed for Mats if returned in good condition.

PRINTED DIRECTIONS for STORING ICE sent free on application.

W. B. HARRISON,

Importer of Ice & Mineral Waters,
 6 BRIDGE STREET, SUNDERLAND.

RANDALL, SLOPER & CO., SODA WATER MANUFACTURERS, SOUTHAMPTON.

GOODS FORWARDED CARRIAGE PAID WITHIN 80 MILES OF SOUTHAMPTON, ON ORDERS OF 2 GROSS AND UPWARDS.

Soda, Seltzer, Potash & Aerated Waters supplied in Syphon Bottles.

Importers of Hunyadi János, Friedrichshall, Vichy, Pullna, Carlsbad, and other Foreign Mineral Waters, supplied at Prices which will bear comparison with London Rates.

PRICE LISTS FORWARDED ON APPLICATION.

PURE AERATED WATERS.

MANUFACTURED BY

T. & F. J. TAYLOR, NEWPORT PAGNELL.

ESTABLISHED 1835.

Purity and Excellence of the Water certified by Analysis by PROFESSOR ATTFIELD, Ph.D., F.C.S.

NEWPORT PAGNELL SODA WATER, containing 10 grains of Bicarbonate of Soda in each bottle.

AERATED WATER, without Alkali.

POTASH WATER, containing 10 grains or 20 grains of Bicarbonate of Potash in each bottle.

LITHIA AND POTASH WATER.

SELTZER WATER, prepared according to Analysis of the Natural Water.

EFFERVESCING LEMONADE, superior in flavour colourless, and warranted to retain its brilliancy.

Each Bottle is protected by a Label bearing the Signature of the Firm.

G. COLE,
 MANUFACTURER OF BOXES FOR CODD'S PATENT BOTTLES,
 AND MAKER OF
ALL KINDS OF PACKING CASES
 FOR THE SODA WATER TRADE.

N.B.—Orders executed with dispatch, and on the most reasonable terms.

STEAM WORKS:—

48 and 50 TRINITY STREET, ROTHERHITHE, S.E.

THE LEAMINGTON

TRADE
"APNEUMATIC"
 MARK

MINERAL WATERS

GINGER ALE (Aromatic).—There is now a large consumption in private families of this very popular beverage, its Aromatic properties and Brilliancy of Colour are perfection; part of a bottle may be used, and the remainder if re-corked will keep in perfect condition.

Apneumatic Soda Water.

Apneumatic Brighton Seltzer.

Apneumatic Potass Water.

Apneumatic Lithia Water.

Apneumatic Aerated Water.

Lemonade.

Dr. A. H. HASSALL, in his recent Analysis, says:—"I have repeatedly Analysed the Aerated Waters manufactured by Messrs. Kinmond & Co., and have always been able to report thereon in terms of the highest praise."

Our terms are more favourable for a family trade than those of any first-class makers.

KINMOND & CO., late J. DAILY & CO., LEAMINGTON.

Trade List and Descriptive Pamphlet of the Apneumatic process free on application.



EUGENE GERAUT & CO.

**NEW PATENT LEVER
 SELTZOGENES.**

1878.

For the immediate production of Eau de Vichy, Soda Water, Sparkling Lemonade, Aerated Waters.

First introduced by EUGENE GERAUT & Co. in 1853.

3-pint, wire, 13/; 5-pint, wire, 18/; 8-pint, wire, 30/.
 Cane covered, 3-pint, 6d.; 5-pint, 1/; 8-pint, 2/ each extra.
 Strongly silver-plated top, 5/ each extra. 3-pint size,
 ditto, ditto, ditto, ditto, 38/ each; 8-pint size,
 ditto, ditto, 48/ each.

Our well-known Seltzogenes are improved yearly, and have already stood a public test of upwards of Twenty Years, and are acknowledged as THE VERY BEST.

POWDERS FOR THE ABOVE:—Subject.—3-pint, per dozen boxes, 22/; 5-pint, ditto, 36/; 8-pint, ditto, 65/.

LIBERAL DISCOUNT FOR LARGE QUANTITIES.

1 & 2 CORPORATION BUILDINGS, FARRINGTON ROAD, LONDON, E.C.



SYPHONS.

IMPORTANT NOTICE.

Great Reduction in Price.

1873.

Clear or coloured glass, pure ENGLISH BLOCK TIN TOPS, with piston or cap.

22/6 per dozen, for quantities of not less than one gross.

25/ per dozen, for less than one gross.

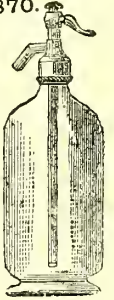
Packing in Cask, 5/ per gross.

The Name marked on the metals free of charge for quantities of not less than one gross.

The Name engraved on the glass for quantities of not less than one thousand, 2d. each extra.



1870.



E. MONROY & CO., Paris,

Manufacturers of SYPHONS, GASOGENES, or

SELTZOS-SIMPLIFIE & SELTZOS-HENRY,

INVITE ATTENTION TO THEIR LIST OF PRICES, TO BE HAD FROM THEIR

Agents, WM. LINCOLNE & CO.,

13 DUNDAS STREET, GLASGOW, AND 32 LUDGATE HILL, LONDON, E.C.

Natural Mineral Waters of "Apollinaris," "Hunyadi Janos," Vals,

Vichy, Carlsbad, Seltzer, Kissingen, Homburg, Pullna, Friedrichshall, &c., direct from the Springs.

Also the **ARTIFICIAL MINERAL WATERS** prepared by Dr. STRUVE & CO., at the Royal German Spa, Brighton, and R. ELLIS & SON, Ruthin.

Appointed Agents for the celebrated "APOLLINARIS WATER."

W. BEST & SONS, Foreign Wine, Spirit, and Mineral Water Merchants, 22 Henrietta Street, Cavendish Square, London, W.

TO THE MINERAL WATER TRADE.

J. B. LAMBE & Co. desire to draw the attention of LICENSEES of PATENT STOPPERED BOTTLES to their



MOTTO-DISCS OR SEALS,



OF WHICH THEY ARE THE ORIGINAL MAKERS.

The Article is made of good stout Cardboard, while the Mottoes are numerous and varied, and packed carefully in Boxes of 5,000 each.

These Seal Mottoes are a great convenience, strengthening the cap label, and keeping the lips of the bottle free from dirt.

A Large STOCK is kept, and Orders can be supplied immediately on receipt.

PRICE LIST.		
5,000	:	9d. per 1,000.
25,000	:	8d. "
100,000	:	6d. "

Special Quotations for Larger Quantities. Samples will be sent on Application.

MANUFACTURERS OF EVERY DESCRIPTION OF LABELS, SHOW CARDS, &c., SUITABLE FOR THE TRADE.

J. B. LAMBE & CO.,

CHROMO-LITHOGRAPHERS & GENERAL PRINTERS,

199 UPPER THAMES STREET, LONDON, E.C.

MILLS & CO.

BOURNE WATER,

THE PUREST IN ENGLAND.

MILLS & CO., Manufacturers of the Original BOURNE ARTESIAN AERATED WATERS.

BOURNE SODA WATER, unequalled for its natural Alkalinity.

BOURNE POTASH WATER—a Special Remedy for Rheumatism and Gout.

BOURNE LEMONADE—Superior Quality, made from the Fruit.

BOURNE LITHIA WATER—Specific for the Gout. Guaranteed to contain a fixed quantity of Lithia.

BOURNE SELTZER WATER—The natural Alkalinity of the Bourne Artesian Well Water, combined with Artificial Salts, produces one of the best articles made. This Seltzer Water is well adapted for invalids for its purity. When taken at dinner-time, it promotes digestion. Early in the morning, slightly aperient.

R. M. MILLS & CO., MANUFACTURERS, BOURNE. Messrs. Padgett & Son, Wine Merchants, 27 Motcombe Street, and Messrs. Hardy & Co., Chemists, 42 Fenchurch Street, corner of Mincing Lane, Wholesale Agents, London.

And their appointed Agents throughout the Kingdom.

J. H. CUFF'S

MINERAL WATERS,

Atkinson St., Deansgate,

MANCHESTER.

SODA WATER
SELTZER WATER
POTASS WATER
15 grs.

LEMONADE
GINGER ALE
LITHIA WATER
5 grs.

LITHIA WATER WITH POTASS.

QUININE TONIC WATER, &c., &c.

SENT IN BIN CASES. NO PACKING REQUIRED.

Carriage paid on 12 Doz. assorted, or 6 Doz. of one kind.

Priced Lists free on application.

DISCOUNT ACCORDING TO QUANTITY.

SPECIAL TERMS FOR EXPORT ORDERS.

Attention is directed to Cuff's Soda, Seltzer, and Potass Waters, and Ginger Ale (the latter a speciality), all of which command a very extensive and ready sale.

Cuff's Waters are prepared expressly for a High-class Family Trade.

HOT WEATHER!

WHAT TO DRINK AND WHAT TO AVOID!

A MORE OR LESS SPECIFIC ANSWER TO WHICH QUESTION will certainly throughout the coming summer not unfrequently be desired of Chemists by their customers, especially in sea-side towns, where, to the visitors thereto, it commonly happens that the change of air and water, supplemented very frequently by undue exposure to solar heat, renders the possession of a perfectly wholesome and corrective refrigerant remedy a decided desideratum, and for the proper fulfilment of which requirement we venture to think it will be readily allowed that the use of the ordinary effervescent compounds are utterly unfitted and unscientific, possessing, as they uniformly do, the double disqualification of alkalinity and more or less of purgative property.

Before, therefore, recommending for more than very occasional use effervescent preparations of the class uniformly composed of Tartrate of Soda with varying proportions of Sulphate of Magnesia, the fact should never be lost sight of that they exert a powerfully alkaline effect, which, when for some time continued, most certainly impairs nutrition by causing a serious loss of coagulable power in the blood—a deprivation, it will be unnecessary to remark, especially typical of scurvy and other vitiated conditions.

It will, therefore, we think, be sufficiently obvious that the novel combination of the salutary principle of lime fruit—to the entire exclusion of Tartaric Acid—with effervescent properties unalloyed by the usually excessive alkalinity, for the first time supplied in

WENHAM'S LIME JUICE SALINE OR HEALTH SALT,

is such as to render it a general domestic remedy of prime importance, whether it be had recourse to for its gratefully refrigerant and prophylactic properties, or for the more specifically alterative and antiputrescent action of its constituent Lime Juice, which, being furthermore supplemented by the valuable therapeutic agency of Nascent Oxygen derivable from its potassic component, leaves nothing to be desired to render it physiologically correct as a remedy in the numerous cases where, from imperfect oxygenation consequent upon excesses in diet or unsanitary conditions of life, the blood has become charged with carbonaceous matters—a condition it is needless to observe always provocative of functional derangements, as well also as it offers a favouring nidus for the reception and development of zymotic diseases.

NOTICE TO THE TRADE.

By the introduction of WENHAM'S LIME JUICE SALINE to the notice of their Customers (which from its unique and attractive appearance it itself effects when displayed upon the counter), Chemists have the opportunity of considerably augmenting their returns by the sale of this entirely novel and elegant preparation, which—to enumerate some of its advantages—

Possesses in a complete and portable form the valuable anti-scorbutic, alterative, and general healthful properties of Lime Juice and Potash;

Rendering it in the highest degree a remedy at once palatable, refreshing, and health-sustaining;

Which, with a total absence of qualities whereby its range of usefulness can be limited, as in the case of purgative and obviously weakening Tartrates of Soda, &c.,

Supply important desiderata that, considered in connection with the unapproached intrinsic value of the article,

Amply warrants the assumption of its obtaining the decided approval of the Public wherever introduced.

"35 Baker St., W., July 9th, 1878.

"DEAR SIRS,—I think your Effervescent Lime Juice Saline is well made, and should become very popular as a contribution to 'Elegant Pharmacy,' as well as a cooling beverage during the heat of summer. You will be pleased to hear that we have just sent a consignment of it to H.M.S. *Monarch*, Cyprus.—Yours faithfully,

"A. W. POSTANS, F.C.S."

"Aylesbury Pharmacy, 11th Nov., 1878.

"Messrs. WHEELER & Co., I sold out of your L. J. Saline on Monday last, and have got in a fresh supply, which makes my third case. I lately recommended it to a gentleman, who was so especially pleased with it that, upon the occasion of his purchasing a second bottle, he assured me that he should spare no pains to make known its virtues amongst his numerous friends. From the trial, therefore, which I myself have made, and the testimony I have received from my customers, I can confidently affirm it to be the best preparation before the public or the trade.—I am, Gentlemen, Yours faithfully,

JOHN TURNER."

IMPORTANT TO SHIPPERS.

LIME JUICE SALINE has most successfully been introduced with a view to obviate the difficulty of obtaining really reliable Lime Juice under any but very exceptional circumstances. In the condensed form, now for the first time presented to the public, the difficulties attendant upon its use and transport in the liquid condition are wholly obviated; and by a combination of the most *recherché* qualities, together with an entire freedom from the lowering effects of ordinary saline compounds, a remedy is provided which requires but a single trial to offer the most convincing proofs of its immense usefulness.

"21 Eclleston Square, S.W."

"September 12th, 1878.

"Gentlemen,

"Should Lime Juice be proved to be an efficacious remedy for Scurvy, the palatability and 'readiness for use' of your preparation will render it invaluable in all future Arctic Expeditions.

"I am, Gentlemen,

"Very truly yours,

"A. H. MARKHAM, Captain R.N."

Captain A. H. MARKHAM was Commander of H.M.S. *Discovery* in the recent Arctic Expedition.

In Bottles, 2s. 6d. and 4s. 6d. each; Cases for Export, 21s. Sole Manufacturers (Registered),

WHEELER & CO., LONDON, & SOUTHBEND-ON-SEA.

OPINIONS OF THE PRESS.

CHEMIST AND DRUGGIST.—"WENHAM'S EFFERVESCENT 'LIME JUICE SALINE' is the well-chosen title of a new granular preparation, of the class which has become so widely used in domestic medicine within recent years. This will probably, in a very little while, take its place in popular favour with the best of them. It is an exceedingly well-made salt, readily soluble, and with a flavour which fully justifies its title. It is most attractively put up in glass-stoppered bottles, with a handsome outside wrapper."

EUROPEAN MAIL.—"The public have been sufficiently awakened by the impostures of the past to carefully discriminate between the remedies which are offered to them, and to select those only which common sense approves. Hence it is that we find such invaluable preparations as WENHAM'S EFFERVESCENT 'LIME JUICE SALINE' obtain a large and ready sale."

"TRADE NOTES."—MESSRS. W. MATHER & CO.'S PRICES CURRENT.—"As it possesses all the refreshing and medicinal virtues of the freshly-expressed West India Lime Juice, so highly valued for its health-giving properties, and in such a convenient form, it cannot fail of becoming exceedingly popular. The style in which it is put up deserves its merits, and its unqualified praise—in strong large capped bottles—evidently no expense has been spared in the get-up; and we strongly recommend it to the notice of the trade, for it will repay introduction."

"TRADE NOTES."—MESSRS. BURGEOYNE & CO.'S PRICES CURRENT.—"Samples of this comparatively new article have reached us. It is a preparation of the best India Lime Juice, and should be of great utility where those antiscorbutic virtues of the lime, so well known, are required. It is sparkling, effervescent, and very palatable, and the proprietors claim for it the possession of all those properties for which the lime is esteemed, without any of the attendant lowering effects of ordinary salines. It will keep, we are told, in any climate, and is always fresh, the peculiarities of the lime, and the antipyretic and alterative salts of potash and soda with which it is combined, remaining always fresh and effective. It is very tastefully packed and labelled, and will eventually command a ready sale."

AGENTS.—Calcutta, Messrs. Bathgate & Co.; Bombay, Messrs. D. S. Kemp & Co.; Allahabad, Mr. J. L. Lyell; Melbourne and Wellington, Messrs. Felton, Grimwade & Co.; Sydney and Brisbane, Messrs. Elliott Brothers; Dunedin, Auckland, and Christchurch, Messrs. Kempthorne, Prosser & Co.; Port Elizabeth, Messrs. N. Adler & Co.

CHEMISTS' SPECIALITIES.**NON-ALCOHOLIC, AERATED, AND PHOSPHATED IRON BEVERAGE.****ZOEDONE.****BRAIN AND NERVE TONIC AND NUTRIENT TONIC BEVERAGE.**

ZOEDONE is not a medicine, but a beverage for daily use. It possesses properties combined in no other beverage, having the essential constituents of the BLOOD, BRAIN, and NERVE TISSUE. It is agreeable to the palate, pleasant to the eye, and innocent in its action. It is also non-alcoholic. As a dinner beverage it is unsurpassed as an agreeable sparkling drink; especially adapted for the overworked, worried, or anxious; for convalescents it is invaluable. It is recommended to the weak and to the strong as life-renewing and health-sustaining. The Faculty speak in the highest terms of it; and an award of Honourable Mention has been given to it at the Paris Exhibition, 1878.

PRICES (including Bottles), free on Rails at Wrexham:—6s. per dozen, in Half Champagne Bottles.

6d. EXTRA PER DOZ. FOR PACKAGES, not returnable. 1s. PER DOZ. EXTRA, specially prepared for shipment, and packed in casks.

"Among the products exhibited by R. Evans and Company, of Wrexham, is their Zoedone or Phosphated Beverage, which is an elegant palatable tonic drink containing the phosphates—lime, iron, soda, and potash."—LANCET.

ZOEDONE MAY SAFELY BE TAKEN DAILY—IN USUAL QUANTITIES AS OTHER BEVERAGES.

Dr. ED. A. KIRKBY, in his work on "The Value of Phosphorus," says:—"The therapeutic effects of Phosphorus are due to its ALIMENTARY properties, and when employed as a MEDICINE it is appropriated as a FOOD in building up and renovating nerve tissue. Phosphorus is a well-known constituent of the blood, and a never-failing ingredient in the more important tissues and fluids of the body. In common with Iron and Lime, it is a very important ALIMENTARY principle, and whenever its supply is not in proportion to the needs of the economy, deterioration of nervous tissue and nerve force is an inevitable consequence."

Opinions of the Press, and Dr. Hassall's Report.

"**ZOEDONE** is at once a food and a drink, having high value for sustentation and for restoration of the debilitated."—*British and Foreign Confectioner.*

"**ZOEDONE** is no doubt a very efficient and pleasant vehicle for the administration of the but little soluble phosphate of iron."—*Lancet.*

Dr. WOOD says:—"As a nutrient tonic to the nervous system, and in all cases of nervous exhaustion, the use of Phosphorus is commended by reason and by experience."

"I have carefully examined a sample of the New Aerated Mineral Water, manufactured by Messrs. Evans & Co., and to which they have given the name of **ZOEDONE**. I find the statement made respecting its composition to be fully borne out by the analysis. The **ZOEDONE** is a BRIGHT, SPARKLING, and VERY PLEASANT beverage, quite free from any medicinal taste; indeed, it forms a most agreeable and elegant vehicle for the administration of the Phosphates of Lime and Iron which it contains, and which are in a state of complete solution."—ARTHUR HILL HASSALL, M.D., Author of "Food, its Adulterations and the Method of their Detection."

Patentee: D. JOHNSON, F.C.S. Manufacturers: RICHARD EVANS & CO., Wrexham, North Wales.

ALSO MANUFACTURERS OF ABSOLUTELY PURE AERATED MINERAL WATERS FOR HIGH-CLASS TRADE.

SPECIAL TERMS FOR CHEMISTS.

RICHARD EVANS & CO.'S

NON-EFFERVESCING CONCENTRATED SOLUTION OF

LITHIA & POTASS.

FOR THE USE OF THE MEDICAL FACULTY AND FOR DISPENSING CHEMISTS.

Each fluid ounce contains 10 grains Lithia Carbonate and 20 grains Potass Bi-carb.

A 20-ounce bottle of this Liquid Concentrated Lithia and Potass is equal in Medicinal value to three-and-a-half dozens of ordinary Aerated Lithia Water.

From the *Lancet*.—"NOTE ON THE PARIS EXHIBITION.—Among the pharmaceutical products shown by Messrs. R. Evans & Co., of Wrexham, is to be noticed their Concentrated Solution of Lithia and Potass, which is a good therapeutical improvement."

In 20-ounce Bottles, at 6s. each.

RICHARD EVANS & CO.'S**AROMATIC GINGER ALE**

Is non-alcoholic, and free from intoxicating properties. It is eminently stimulating and invigorating, pleasant to the eye, and agreeable to the taste. As a dinner beverage it promotes digestion. It is the safest beverage for the OVERHEATED, and is thus specially adapted for evening parties. It is recommended to be decanted (say two or three bottles at a time) into a glass jug, and its sparkling properties will then be improved when poured from the jug into the tumbler or champagne glass.

R. EVANS & Co.'s GINGER ALE may be safely taken by the young or the aged as daily beverage, and is equally adapted for a winter or summer drink.

R. EVANS & Co.'s GINGER ALE, and all their other beverages, are perfectly free from impurities, and are guaranteed free from LEAD and other injurious contaminations. The water from which these beverages are prepared is unsurpassed for purity, as shown by the analysis of several distinguished chemists.

Price 30s. per gross,

In which quantities (or assorted Mineral Waters) it is delivered carriage paid to any station, the empties being also returned at R. EVANS & Co.'s charge.

RICHARD EVANS & CO., Wrexham, North Wales.

SPECIAL NOTICE TO DRUGGISTS.

Increase your Business by Selling the ORIENTAL COMPANY'S TEA.

IN SUBMITTING THEIR TEAS to Agents, the above-named Company desire to offer the following remarks:—

THE PROPRIETORS have been long connected with the EAST, as IMPORT and EXPORT MERCHANTS, and, with the means at their command, are enabled to avail themselves of their experience in purchasing at the proper season, from the best markets, and direct from the TEA PLANTERS, thereby securing the choicest pickings, and saving all intermediate profits between producer and consumer.

THE TEAS being thus bought are carefully cnt, sifted, and mixed by the most improved machinery, under the superintendence of a PRACTICAL TEAMAN, whose whole study has been devoted to the ART OF BLENDING TEAS to suit the Tastes of the general public; and it may be added that it is greatly due to judicious blending that the COMPANY'S TEAS have acquired the position they now hold.

INDIAN TEAS have within the last few years obtained such favour with connoisseurs for Strength, Aroma, and Delicacy of Flavour, that THE ORIENTAL COMPANY have introduced, as a SPECIALTY, a blend of these fine Teas, the sale of which has attained such proportions as to warrant the assertion that it produces the most delicious beverage ever offered to the public.

THE TEAS are packed in specially-prepared wrappers, with TINFOIL LINING, in $\frac{1}{4}$ -lb., $\frac{1}{2}$ -lb., and 1-lb. Packets; 5-lb., 10-lb., and 20-lb. Tins; 20-lb. Boxes, Half-chests, and Chests; and retailed as under.

Fine China Blended Tea, Magenta Label	... ..	Retail at	2 0	per lb.
Finest " " " Blue	"	"	3 0	"
Fine Indian " " Green	"	"	2 6	"
Finest " " " Yellow	"	"	4 0	"

For Terms of Agency and other particulars apply at the Office—

418 OXFORD STREET, LONDON, W.

MUSTARD.

FINCH, RICKMAN & CO.'S

Genuine Qualities

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

6 Broken Wharf, Upper Thames St., London.

E. LAZENBY & SON'S PICKLES,

Sauces, and Condiments.—E. LAZENBY & SON, Sole Proprietors of the Celebrated Receipts, and Manufacturers of the Pickles, Sauces, and Condiments so long and favourably distinguished by their name, beg to remind the Public that every article prepared by them is guaranteed as entirely unadulterated.—92 Wigmore Street, Cavendish Square (late 6 Edwards Street, Portman Square), and 18 Trinity Street, London, S.E.

HARVEY'S SAUCE.—CAUTION—

The admirers of this Celebrated Sauce are particularly requested to observe that each bottle prepared by E. LAZENBY & SON bears the label used so many years, signed "ELIZABETH LAZENBY."

ROBERT GIBSON,

MEDICATED LOZENGE MANUFACTURER,

CARLTON WORKS, HULME, MANCHESTER, AND 1 FINSBURY CIRCUS, LONDON,

MAKER BY STEAM POWER OF MEDICATED AND HIGH-CLASS LOZENGES OF EVERY KIND.

Boiled Sugars, of the Finest Quality, Packed for Home or Export.

Fragrant Bouquet Lozenges, 100 in an Ounce, have an immense sale.

SUGAR WORM CAKES,

Keep in any Climate, give great satisfaction, and have an increasing demand, especially in Africa and Australia. Put up in Tins, each containing 6 Dozen or 12 Dozen Cakes.

Price List, sent by post on application. Our Goods can be bought through any Wholesale House in London.

NESTLE'S MILK FOOD,

For Infants, Children, and Invalids.
 London Depot—7 BARBICAN, E.C.

NESTLE'S MILK FOOD is prepared at Vevey, Switzerland, from the pure milk of Alpine fed cows, the finest wheaten flour and sugar, combined in exact proportions to imitate closely the natural food for infants. It is thoroughly cooked, and reduced to a fine powder, perfectly soluble in water, requires only the simple addition of water to prepare it for use—in this respect having the advantage over all other foods.

NESTLE'S MILK FOOD is highly recommended by the best medical authorities in all parts of the globe as a perfect diet. Nestle's is the original and genuine Milk Food or Powder. The extensive demand for this Food, its well known superiority and universal recognition by the medical profession, have produced the inevitable imitations. The trade and the public are hereby cautioned. Nestle's Milk Food has stood the test of years. Take no other under any pretence whatever.

NESTLE'S MILK FOOD is put up in tins, packed in lined cases specially for the export trade. Is highly concentrated and in a perfectly dry state. Will keep good in any climate.

Our Wholesale Agents at any port will pack and ship the Food to or for any part of the world.

Wholesale Depot: **HENRI NESTLE, 7 BARBICAN, LONDON.**

Barclay & Sons, London
 Jno. Sanger & Sons, London
 F. Newbery & Sons, London
 S. Maw, Son & Thompson, London
 Jno. Thompson, London
 R. H. Millard & Sons, London
 Lynch & Co., London
 Corbyn & Co., London
 Grimwade, Ridley & Co., London
 R. Hovenden & Sons, London
 Evans, Lescher & Evans, London
 G. Rosenthal, London

W. Sutton, London
 Hodgkinson, Stead & Treacher,
 London
 W. Edwards & Son, London
 J. P. Werner, London
 W. Mather, London
 Peacock Bros. & Co., London
 Burgoyne, Burbridge & Co., London
 Tidman & Son, London
 Robt. Brooks & Co., London
 Horner & Sons, London
 W. B. Cranwell & Co., London

Wyleys & Co., Coventry
 Raines & Co., Liverpool
 John Thompson, Liverpool
 Evans, Sons & Co., Liverpool
 J. Hallawell & Co., Liverpool
 Thompson & Capper, Liverpool
 James Woolley, Sons & Co., Manchester
 Jewsbury & Brown, Manchester
 Southall Bros. & Barclay, Birmingham
 Goodall, Backhouse & Co., Leeds
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Evans, Gadd & Co., Exeter
 Raines & Co., York
 Raines, Blanchards & Co., Edinburgh
 Duncan, Flockhart & Co., Edinburgh
 John Mackay, Edinburgh
 Apothecaries' Co., Glasgow
 W. & R. Hatrick & Co., Glasgow
 McMaster, Hodgson & Co., Dublin
 Grattan & Co., Belfast
 McMahon, Day & Co., Limerick
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WHOLESALE AGENTS AND SHIPPERS:

COLONIAL AGENTS

MELBOURNE: Felton, Grimwade & Co.; SYDNEY: Elliott Brothers; DUNEDIN: Kempthorne, Prosser & Co.; AUCKLAND: Kempthorne, Prosser & Co. CALCUTTA: Smith, Stanistreet & Co.; MADRAS: Oakes & Co.

Wholesale Depot: **HENRI NESTLE, 7 BARBICAN, LONDON.**

ESTABLISHED 1836.

SEIDLITZ POWDERS.

WHOLESALE AND FOR EXPORTATION.

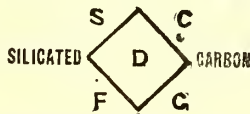
QUALITY AND STRENGTH GUARANTEED.

Put up in best style in Plaid Boxes, 6s. per doz. Fancy Gold ditto, 7s. Gold, Enamelled, and Embossed, best hinged ditto, Gold Labels, &c., 7s. 6d. per doz. Ginger Beer and Lemonade Powders, 5s. per doz. Soda Powders, 3s. Sherbet, 7-lb. Bags, 6d. per lb. Chlorodyne, 6s. per lb.; W. Qts., 5s. 6d.

THOMAS KNOWLES,
 CHEMIST,

40 SEYMOUR STREET, EUSTON SQUARE, LONDON, N.W.

SILICATED CARBON FILTERS.



Prize Medals—PARIS, 1867. HAVRE, 1869.

ADOPTED, IN PREFERENCE TO ALL OTHERS, by the Admiralty, and used in the General Post Office, the London and Provincial Hospitals, and many Public Establishments in various parts of the World.

SILICATED CARBON FILTER COMPANY,

CHURCH ROAD, BATTERSEA, LONDON.

LA TROBE'S PURE SOLUBLE COCOA.



Supplied to Chemists only, all other Trades refused.

H. L. T.'s production stands entirely upon its own merits, as the Purest Cocoa manufactured.

That the Trade may have an opportunity of testing, H. L. T. sends samples for gratuitous distribution amongst the medical profession upon receiving from Agents a list of same.

Retailed in Canisters,

1s. and 2s.

La Trobe's

Pure Soluble Cocoa.

Also Manufacturer of

La Trobe's Highbury Bouquet,
 La Trobe's Constitution Powder,
 La Trobe's Cough Lozenges,
 La Trobe's Plate Powder.

Price List, with Terms, on application to

H. LA TROBE,
 COTHAM, BRISTOL.

ORANGE-QUININE TONIC-WINE.

"ORANGE-QUININE TONIC-WINE" manufactured by us henceforth will be sold without a Patent Medicine Stamp attached.

Neither a Patent-Medicine License nor a Sweets License will be required by Dealers for the Sale of it.

The Retail Price will be 2s. 6d. and 1s. 1½d. per bottle.
Wholesale, 24s. and 10s. 6d. per dozen.

HIRST, BROOKE & HIRST.

LEEDS, February 1st, 1879.

Gold Medal, Paris Exhibition.

FRY'S COCOA EXTRACT,

IN PACKETS AND TINS.

Pure Cocoa only, with the superfluous oil extracted.

This pure and delicious Cocoa, consisting exclusively of choice Cocoa Nibs from which the superfluous oil has been extracted, is strongly recommended to all who appreciate the full flavour and fine aroma of Cocoa.

"If properly prepared, there is no nicer or more wholesome preparation of Cocoa."—*Food, Water, and Air*, Edited by Dr. HASSALL.

J. S. FRY & SONS, BRISTOL & LONDON.

TRY ALSO

FRY'S CARACAS COCOA.—"A delicious preparation."

CHEMISTS' TEA AGENCY.

BROKEN-LEAF TEA, 1s. 8d. per lb.

A Money-saving Tea, absolutely pure, in half-pound packets 10d. The small leaf from fine India and China Teas, stronger, richer, and cheaper than any whole-leaf tea. Wholesale to Dealers and Sellers and Agents, 40 lbs. sent free to any railway station in the kingdom.—**WALKER & DALRYMPLE**, Warehouses—154 and 155 Whitechapel Road, London. P.O.O. payable at Head Office. Bankers—The National Provincial Bank of England. N.B.—Samples posted free.

CHOICE PACKED TOBACCOS.

Best Birdseye, in ¼ lb. tins; also ¼ lb., ½ lb., ⅓ lb. packets.
Superfine Birdseye, in ¼ lb. tins; also ¼ lb., ½ lb., ⅓ lb. ,,
Imperial Birdseye, Foil, 2 oz., 1 oz.

"Yellow Honey from Down South." } In ¼ lb. tins; also
This Tobacco is the most highly esteemed } Foil, 2 oz., 1 oz.
in the States.

"Virgin State," Selected from the } In ¼ lb. tins; also
Finest Virginia Leaf. } Foil, 2 oz., 1 oz.

Superfine Oriental Returns, } In ¼ lb. tins; also
A Mild Smoking Tobacco. } Foil, 2 oz., 1 oz.

Fine Turkey Returns, Foil, 2 oz., 1 oz.

PACKED SHAG.

Superfine Shag	¼ lb., ⅓ lb., ⅓ lb.		
Fine Shag	¼ lb., ⅓ lb., ⅓ lb.		
Fine Ragg	¼ lb., ⅓ lb., ⅓ lb.		
For Retailing at 3d. per oz.	{	Good Shag	½ lb., ⅓ lb., ⅓ lb.
		"Old Honest"	½ lb., ⅓ lb., ⅓ lb.
		"Uncle Tom"	½ lb., ⅓ lb., ⅓ lb.
		"Aunt Chloe"	½ lb., ⅓ lb., ⅓ lb.

E. & W. ANSTIE, MANUFACTURERS, DEVIZES, WILTS.

ESTABLISHED ONE HUNDRED AND FIFTY YEARS.

Protected by Her Majesty's Royal Letters Patent.

Bracher's "Desideratum Mixer."

FOR MIXING ALL DESCRIPTIONS OF POWDERS.

ADVANTAGES:

These Machines are specially adapted for mixing Powders of all descriptions, either in small or large quantities, and are the most rapid and efficient mixers in use. They are portable, require no fixing, and can be readily taken apart when necessary.

For Grocers and Drysalters they effect a considerable saving of time—Coffee and Chicory, and all similar substances, being thoroughly mixed within the space of two minutes.

For Druggists, they prove invaluable, for mixing all kinds of powders, crushing the knobs or concreted lumps, and separating all refuse or foreign substances at the same time.

After mixing, the contents may be easily taken from the Machine, the larger sizes discharging from the bottom into Casks or Canisters.

Sizes and Prices on application. Manufactured by

P. H. BRACHER, 77 High St., Wincanton.

ESTABLISHED 1843.

M. A. CRAVEN, Wholesale & Export Confectioner,

AND MANUFACTURER OF

MEDICATED LOZENGES, REFINED LIQUORICE, JUJUBES, &c.

PAVEMENT, CONEY ST., & COPPERGATE, YORK.

Lozenges of all descriptions made from Customers' private formulæ (or ingredients) and stamped with name if required.

PRICE LIST ON APPLICATION.

PURE FLOUR OF EGYPTIAN LENTILS,

IN TINS OR IN BULK.

ESSEX FLOUR AND GRAIN COMPANY, LIVERPOOL ROAD, LONDON, N.

BROOK & CO.'S DANDELION COFFEE

IS the Best and the Cheapest, containing three times the strength of ordinary Coffee. The above is highly recommended by the Medical Faculty as an Agreeable, Palatable, and Medicinal BEVERAGE. See Reports from Dr. Hassall, M.D., Author of "Food and its Adulterations," &c.; also, Otto Hehner, F.C.S., Analyst. Sold in Tins, 6d., 1s., 1s. 9d., by most respectable Chemists. Wholesale Agents: Goodall, Backhouse & Co., Leeds; Wm. Mather, London; Jas. Woolley, Son & Co. and W. Mather, Manchester; H. Glover, Son & Co., Bradford; and all Wholesale Houses.

Caution—See you get BROOK'S, as inferior qualities are often substituted.

MAKERS—BROOK & COMPANY, 76 HANOVER STREET, MANCHESTER.

HONOURABLE MENTION, INTERNATIONAL EXHIBITION, 1862.

ISINGLASS

Of every description, suitable for CHEMISTS, GROCERS, BREWERS, WINE COOPERS, &c., imported and cut by

J. W. HART, 5 St. Mary Axe, LONDON.

Orders accompanied by a remittance executed as under—

RUSSIAN.

No. 1, 13/- per lb.; No. 2, 11/6 per lb.;
No. 3, 9/6 per lb.

BRAZIL.

No. 1, 5/9 per lb.; No. 2, 4/9 per lb.;
No. 3, 3/6 per lb.

PACKED IN SMALL BOXES, 1s. per lb. EXTRA.

BRANSON'S COFFEE EXTRACT,

For the Immediate Production of Fine and Pure Coffee.

Owing to completed improvements in its manufacture

BRANSON'S COFFEE EXTRACT

Is now specially prepared for use in hot climates, and is Guaranteed not to become oxydised nor fermented in any change of temperature. It is economical in use, there is no waste, and its permanent stimulant properties are more valuable than those of alcohol. Sold by all chemists in bottles at 1s. and 2s. each.

Wholesale Agents: Barclay & Sons, W. Edwards & Son, J. Sanger & Sons, F. Newbery & Sons, E. Lazenby & Son, Crosse & Blackwell, London, and

LYNCH & Co., Aldersgate St., London.

THE WANT OF THE DAY.

Registered.



1d., 3d., & 6d.

MAKES STARCH LINEN AS NEW.

Starched Linen is made to Iron Easier, and is unequalled for Stiffness and Gloss. Sold by most starch sellers, at 1d., 3d., and 6d. each. Wholesale by the Proprietor,

T. CRITCHLEY,

CHEMIST & WHOLESALE DRUGGIST
BLACKBURN.

CAUTION!—Makers and Sellers of imitations will be prosecuted.

RANDALL'S BLACK CURRANT LOZENGES.

	Net Cash.	To Acct.
	s. d.	s. d.
Plain Black Currant, old square	2 6	2 8
" " " rough oval	2 6	2 8
Black Currant and Ipecacuanha	2 6	2 8
Black Currant and Tannin.. ..	3 0	3 3
Black Currant Voice (warm astringent) ..	3 0	3 3
Black Currant Cough Lozenges	3 6	3 10

(Ipecac. and Morph., strength as "E. P.")

In Bottles, 1 lb., 2 lbs., 4 lbs., and 7 lbs. For Exportation, in soldered tins, of any size. From EDWARDS, London; through any Wholesale House; and from the Manufacturers,

RANDALL & SON, Southampton,

Who will forward Samples by post on application.

Also, BROWN COUGH LOZENGES, 2s., 2s. 2d.; 7 lbs. stamped with name free.

N.B.—Medical Lozenges of every kind,

Including those of the Pharmacopœia of the Hospital for Diseases of the Throat, London.

SILICATED CARBON FILTERS.

SYPHON FILTERS FOR TRAVELLERS.

By means of these Filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the Filter therein and drawing the water through the tube by suction.



No. 20.

used as a Syphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

Each of these portable Filters may be

They are readily cleaned from sedimentary matter by merely blowing through the tube, and brushing the surface of the filtering medium.

- | | |
|--|-------|
| A.—Pocket Filter, 2½ inches diameter, in porcelain, with glass mouthpiece, in decorated metal box | s. d. |
| .. .. . | 2 6 |
| B.—Ditto, 3½ inches diameter, in best stoneware | 5 0 |
| .. .. . | 7 0 |
| C.—Emigrant's, 5 inches diameter, with silver-plated tap | 12 0 |
| G.—Pocket Filter, for carrying over shoulder, as supplied to the Forces in Abyssinia and in Zululand, and to the Ashantee Expedition | 3 6 |
| H.—Ditto, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits | 5 0 |

TABLE FILTER, NO. 24.

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water



to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

- O, 2s. 6d.; A, 4s.; B, 5s. 6d.
Engraved Vine Pattern—O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

POROUS TERRA COTTA FILTER, NO. 29.

Shape of this Filter as Fig. No. 24.

- O, 2s. 6d.; A, 4s.; B, 5s. 6d.

SILICATED CARBON BLOCKS.

- 2 in., 1s. 6d.; 2½ in., 2s. 6d.; 2¾ in., 3s.; 3½ in., 4s.; 4¾ in., 5s. 6d. ea.
SPECIAL QUOTATIONS FOR QUANTITIES.

PRIZE FILTER,

This Filter is constructed in the form and colour of an Etruscan Vase, having inside it a movable pan, into which the Silicated Carbon filtering medium is fitted.



PATTERN NO. 23.

The exterior is made of Porous Ware, which acts with remarkable power as a Refrigerator, keeping the water deliciously cool. Capacity, about Two Gallons.

PRICE, WITH SILVER-PLATED TAP, £3 10s.

DINING-ROOM FILTER, No. 22.

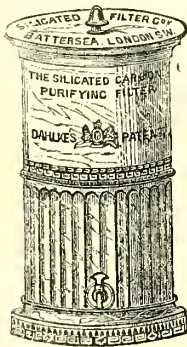
MADE IN MARBLED CHINA.

Size A holds about two gallons; size B, five gallons.

PRICES.

- | | |
|---|-------|
| A | 35s. |
| B | 80s. |
| A, with Ice Compartment (New Patent.) | 42s. |
| B, with Ice Compartment (New Patent.) | 100s. |

The large size (B) is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.



REFRIGERATOR FILTER, NO. 25.

Made in Porous Terra-Cotta Ware,

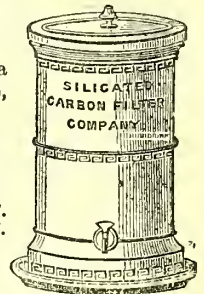
Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A

COOL DRAUGHT OF PURE WATER.

- Price, with Silver-plated Tap 31s. 6d.
Ditto, ditto, with Ice Compartment 42s. 0d.
Capacity, Two Gallons.

Specially adapted for Tropical Climates.



PORTABLE FILTER, No. 34, for Travellers at Hotels, Families at the Seaside, Pic-nics, &c. Made in Marbled Porcelain, with Cover. Can be placed in a jug, decanter, or other vessel. Price 7s. 6d. each.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

SILICATED CARBON FILTERS.

DOMESTIC FILTER, NO. 27.



Made in cream-coloured Stoneware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap. All sizes of this pattern can now be had with Patent Ice Compartment, which renders this Filter the most perfect of Refrigerators.

PRICES.		With Ice Compartment.
No. 0, capacity	1/2 gall.	.. 10s. 6d. ..
No. A, "	1 "	.. 14s. 6d. ..
No. B, "	2 "	.. 21s. 0d. ..
No. C, "	4 "	.. 32s. 0d. ..
No. D, "	6 "	.. 42s. 0d. ..
No. E, "	8 "	.. 52s. 0d. ..
No. F, "	12 "	.. 70s. 0d. ..

UNIQUE STONEWARE FILTER, NO. 28.

No House should be considered as thoroughly furnished until it is supplied with one or more good Filters.

No Water should be used for Drinking or Cooking without being Filtered.

This Filter is made of a New Ornamental Stoneware, similar in shape to the Domestic Filter, and of two-gallon capacity. When arranged in a Hall or Conservatory, side by side with evergreens, the effect is very pleasing.

Price, with Silver-plated Tap, 30s.



MAIN SUPPLY FILTER, NO. 40.

SPECIALLY ADAPTED FOR Mansions, Schools, Hospitals, Public Institutions, Breweries, Distilleries, Soda Water Manufactories, Dye Works,

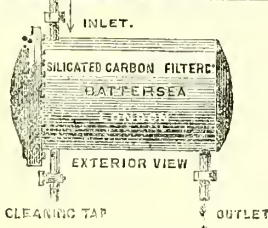
And all other Establishments where large quantities of

PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows:—

A, 1/2-inch or 3/4-inch pipe	£6 6s.
B, 1-inch pipe	£9 9s.
C, 1 1/2-inch, 1 1/4-inch pipe	£15 15s.
D, 2-inch pipe	£26 5s.



This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

Special Contracts entered into for Large Works, Institutions, &c., &c.,

FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.

Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

FILTERS FOR SHIP'S CABIN USE,

No. 26.

As supplied to the Admiralty, and used on board the first Steam Life-Ship "Peronelle."

Made in hard Stoneware, strongly cased in Wicker, and fitted with Silver-plated Tap.

1/2-gallon capacity	s. d.
1 " " " " " " " " " "	10 6
2 " " " " " " " " " "	22 0
4 " " " " " " " " " "	36 0
6 " " " " " " " " " "	48 0
8 " " " " " " " " " "	57 6
10 " " " " " " " " " "	68 0

These Filters are invaluable on board ship, furnishing a supply of pure and wholesome water during a long voyage.



NEW DOUBLE-ACTION FILTER,

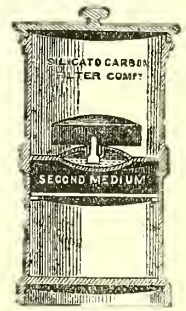
No. 35.

In Cream-coloured Stoneware.

This Filter is specially adapted for rain water, and also for very hard or muddy water. The second medium being protected by a slab, no water can possibly reach it until after passing through the first medium. By this means a double process of filtration is effected, whilst at the same time the impurities contained in the water are deposited on the slab, and may be easily cleansed away with a sponge.

Prices complete—A, 2 gallons, 30s.; B, 5 gallons, 50s.

Extra Blocks supplied for these Filters at 10s. 6d. and 15s. each.



REFRIGERATIVE CANVAS FILTERS, No. 32,

For hanging in Verandahs, Tents, or Huts, and also for travelling in hot climates. Prices—A, 21s.; B, 25s.

A LIBERAL DISCOUNT TO THE TRADE.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

PARIS: 131 Boulevard Sebastopol.

NEW YORK: 62 Water Street (H. R. Mensing, Agent).

OZOKERIT.

PATENTED.

Grand Medal,
MOSCOW, 1872.



Grand Medal,
VIENNA, 1873.

MADE IN ALL SIZES.

At the CENTENNIAL PHILADELPHIA EXHIBITION the highest honours were awarded to

J. C. & J. FIELD

FOR THEIR EXHIBIT OF

CANDLES

PATENTEES & ORIGINAL MANUFACTURERS OF SELF-FITTING CANDLES.

Made in all Sizes. | Made in all Colours. | Burn to the End. | Require no Scraping.
Made in all Qualities. | Fit all Sockets. | Require no Cutting. | Are Safe, Economical, Cleanly.

CANDLES SPECIALLY ADAPTED FOR EXPORTATION TO HOT CLIMATES.

OZOKERIT (Patented). In handsome 1-lb. Packets.

These beautiful Candles are made in ALL SIZES, and from their great hardness and non-liability to bend when exposed to a high temperature, are well adapted for Ball Rooms and Tropical Climates. They possess the highest illuminating power of all descriptions of Candles.



UNITED SERVICE SOAP,

Of highly emollient properties, and singular durability of Perfume.



Tablets 5 to 1b.

Tablets 3 to 1b.

TRANSPARENT GLYCERINE TABLETS, TRANSPARENT HONEY TABLETS, BROWN WINDSOR, and all FANCY TOILET SOAPS,

In Tablets, Squares, or Bars, and in all qualities.

EMOLLIENT "STOCKHOLM TAR SOAP,"

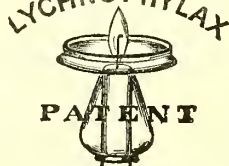
Very detergent, and a powerful disinfectant.

NIGHT LIGHTS, WAX MORTARS, DISH-WARMERS, LIGHTING-WICK BOUGIES, WAX and TRANSPARENT TAPERS, &c.

CARRIAGE CANDLES in Wax, **LYCHNOPHYLAX** OZOKERIT, & Stearine, all sizes.

PATENT CANDLE GUARDS.

These Glasses (made to fit 4's and 6's only) more effectually prevent the Guttering of Candles than any article ever introduced.



Specially adapted for Ball-rooms, Churches, &c.

PATENT SAVE-ALLS & CANDLE-CUTTERS for use with these.

Full particulars, with drawing, sent on application.

Wholesale Detailed Price Lists of

J. C. & J. FIELD, PATENT CANDLE WORKS, LAMBETH MARSH, LONDON, S.E.

ENO'S "FRUIT SALT,"

"FRUIT SALINE," OR "FRUIT POWDER."

ENO v. STEPHENS IN THE COURT OF CHANCERY.

Shorthand Writer's Notes of Vice-Chancellor Bacon's Summing-up and Judgment.

Sir HENRY JACKSON, Q.C., on proceeding to sum up in detail on the evidence and arguments in the case, was stopped by the VICE-CHANCELLOR in the following words:—

Sir Henry Jackson, I do not think I ought to trouble you. The case has been discussed at very great length, I confess somewhat to my astonishment. When Mr. Hemming declined to adopt the evidence as it was before the Court of Appeal, and put the Plaintiff to prove by the same evidence the same facts which had been proved before, I was under the impression that he meant to call witnesses on his own behalf. If that had been, as it probably may have been his intention at that time, there would have been a reason perhaps for repeating over again at very great length and considerable expense, of course to somebody, the evidence upon which the Court of Appeal had acted—I say nothing about what was done in this Court, but the Court of Appeal had acted upon that evidence. The case, however, concludes, and no evidence whatever is adduced by the Defendant—not even his own statement in his Defence is verified by his own affidavit. What is to be done with a case like that? The whole principle of the case was decided upon the first occasion. The Court of Appeal thought it right to adopt that restriction which I had thought it right to adopt, not to extend the Injunction further than the then present exigency of the occasion required. Not one word of the judgment of the Court of Appeal shows that there should be any restriction, or that there should be any restriction when the case came on for hearing. Now it comes on for hearing upon precisely the same evidence, and the evidence, among other things, is, that in the circular which accompanies this bottle of salt, the words to which the Plaintiff particularly objects are repeated by the Defendant, and repeated by means of copying the Plaintiff's circular. Mr. Giffard says nobody buying the bottle would think of looking at the circular, for it is enclosed in the wrapper, and not even visible to the eye. But the case is one in which the Plaintiff complains of the general similarity and the general appearance of the names which are used by the Defendant, and if a purchaser entertained any doubt, if he was puzzled for a moment between "Vinous" or "Vinous," and Eno's—the sounds being, in one mode of pronunciation, very much alike—if he opened the wrapper and read the circular he would say, My doubts are removed; this is what I want—I want Fruit Saline, and here it is—the circular says it is "Fruit Saline."

The Defendant in his statement at the end of the fourth paragraph says he has not "at any time since the month of August, 1877, used the words Fruit Saline, or Fruit Powder, in any label or advertisement or otherwise in connection with the sale of the said preparation." Under the old system if a defendant had put in his answer, as he must, upon oath, he might perhaps have read that passage and said "the Plaintiff's allegation in that respect is denied." The Defence is not put in on oath and the Defendant declines to pledge his oath to that fact. But it does not rest there; for the evidence is clear and conclusive that after the month of August, 1877, when the Plaintiff, not without some degree of forbearance, as it seems to me, was content to take the Defendant's word that he would not repeat that offence which the Plaintiff complained was doing him that injury which he thought he was suffering, he did, in spite of his promise, repeat that which the Plaintiff called an offence and believed to be an injury to him. The case comes to a hearing, the Defendant insists upon the Plaintiff proving his case. At the Defendant's instance the Plaintiff has proved his case, and, among other things, has proved the utter falsehood of that Defence which is set up in the paragraph which I have read. The matter, therefore, is wholly without doubt, without defence, without excuse of any kind that I can perceive, because, when I am told that I must consider what the intention of the parties was, and when I am told, moreover, that there is no evidence that anybody has been deceived, and the Defendant in his defence says nobody has been deceived, his intention to deceive is not contradicted. That is what the Plaintiff imputes to him; and that is what, I think, the Plaintiff establishes not only from the simplicity of the sign, but from the fact that, when the complaint was first made in August, 1877, they were words which the Defendant admitted he had no right to use. For what reason? Because they were calculated to deceive—calculated to represent the Defendant's goods as those which the Plaintiff was selling under the title which he had adopted.

Upon the general case, therefore, in my opinion, the matter is beyond all doubt. It is proved that the use of the word "Fruit" with other substantives, "Saline" and "Salt," and so on, has been made by the Defendant since the time when he promised not to make it, when he admitted it was unlawful, and which I have no doubt whatever was wholly unlawful. It is said that he endeavoured to keep his promise by pasting something over the word "Fruit." Well, if that meant anything it is a plain admission of the justice of the Plaintiff's claim in that respect. But how can I consider that that is keeping his promise? Whether that pasting over was to be effectual or not would depend upon the consistency of the paste or glue, or perhaps the humidity of the atmosphere or any other accident. That there was no intention to perform his promise, I am satisfied of, and that there has been no performance of his promise I think is clear.

Upon the general case, therefore, I think the Plaintiff is entitled not only to the Injunction in the terms of the Interlocutory Order, but upon those more extensive terms which the Plaintiff asks, by his claim, should be applied to the Defendant's infringement of his rights.

Then there is another subject which is so intimately connected with that that I do not like to hear them both together, and I am very glad I did, because, as Mr. Giffard has just told me, that is the main question in dispute between the parties. For the Injunction the Defendant does not seem to care much, though he has violated it, in my opinion, plainly; but he says the question is whether there is a title to register this Trade Mark for which the Defendant proposes to apply. Now that depends upon the words of the Act of Parliament which have been used, the more important of which are "so resembling as to be calculated to deceive." That is a question not to be decided by eyesight; I am invited to lay these two devices side by side, and, since they are not identical and since there are

great differences in their external appearance, to decide that they are not calculated to deceive. To that word DECEIVE I have no right to criticise or quarrel with; it is used in the Act of Parliament, and if I were to give one sense to it, it is plainly in my judgment calculated by the Defendant, meant and intended by him, to deceive any person who is not vigilant enough either in eye or in ear to detect at once the difference between Vinous and Eno's, and the difference between Fruit Salt and any other salt, Eno's title being plainly upon his Trade Mark, Eno's Fruit Salt.

It is not, as I have said, by sight; it is not by the use of a microscope; it is by any other means of detecting more or less of resemblance that you can decide a question which the statute contemplates by using the words that I have referred to. But it is whether the Registrar, whose office it is to register, is satisfied before he performs his function by registering the mark, that the applicant's mark does so resemble as to be calculated to deceive. Can any living man doubt that it is not only calculated—that is intended—but that it is also calculated—that is to say, meant and contrived for the purpose of deceiving—else why does he do it? The world is wide, as has been said in the Judgment referred to, and all things in the animate and inanimate world are open to the Defendant to make a device which shall distinguish his goods from those of any other person. But the Plaintiff having appropriated to himself, and enjoyed for years a device in which the principal characteristic consists of a bunch of grapes, with a Latin motto, and the specific description which relates to Eno's Fruit Salt, the Defendant proposes to register a design in which the principal device is the stem of a vine with a bunch of grapes and some leaves, and a Latin motto around it, and it is to be called "Vinous Salt." If there was nothing in the case but the contrast of these two things, it might, perhaps, to some persons, who trusted only to their eyes, be said there was no resemblance between them, or no sufficient resemblance; but the Registrar is bound to take the whole case into his consideration; he is not to be baffled by any mere similarity or dissimilarity. That is not the way that the Court of Appeal, in the latest case, was before the Sheffield case—dealt with the question. The Defendant there had as good a right as anybody in the world could have to stamp his own crest or coat of arms, or anything else, upon his commodities. Nobody could dispute it, and nobody, putting the two things together, could say they were so much alike as to deceive. Mr. Hemming insisted that the stamping, being made on a hard metal, was likely to be blotted, and the persons to be deceived. I have a very clear recollection of that case, and I say it would be impossible for a man with eyes, or with one eye, in his head to mistake the device in that case for the device which the Plaintiff desired there to see.

Mr. HEMMING:—Your Lordship will pardon me, I was only quoting the Master of the Rolls.

The VICE-CHANCELLOR:—I know, and have also clearly in my mind what the Master of the Rolls said and what he did not only in the "Dog and Porridge Pot" case, but in that case. The Master of the Rolls' Judgment takes a wide and comprehensive view of the subject. He refers to the statute only for the purpose of verifying and corroborating that view, but what he said was "an honest man who wants to mark his goods never thinks of taking the device partly or wholly which some other tradesman is employing for the purpose of marking his goods," and that I take to be the true principle of the case.

And that these things together, the Plaintiff's evidence in the first place, the total absence of evidence or statement on the part of the Defendant, excepting the ingenious and elaborate statements which Counsel have addressed to me, there being no statement whatever by him at any time except that he admitted he had done wrong in using the word "Fruit." I am asked to say that there is no such resemblance as to deceive between these two devices, as between those two men, and calculated to mislead in reference to the commodities tendered in the shape in which they are sent into the world. I think I should be wasting time if I observed further upon it. It is to me clearly manifest not only that there is sufficient resemblance to answer the strictest words of the statute, but that there is a resemblance which has been carefully and intentionally calculated to deceive. And as the Defendant will not pledge his oath to the contrary, and I cannot come to a contrary conclusion than that the Injunction ought to go in the terms in which the bill prays for it, extending it therefore beyond the Injunctions granted on the Interlocutory Order and upon the motion, to say that the Defendant is not entitled to register the device of a bunch of a vine with a bunch of grapes upon it, and a Latin motto on it and the name "Vinous Salt," is to me an end of the matter.

Sir HENRY JACKSON:—Well, my Lord, of course I must have the costs. The VICE-CHANCELLOR:—You must have the costs of both.

Sir HENRY JACKSON:—And I think I must ask for the Shorthand Notes of the evidence yesterday. That your Lordship has given on occasions. It is impossible for us to avoid incurring that expense, although it has proved to be absolutely useless. Your Lordship has given it on several occasions, and I must ask your Lordship for the costs of taking the evidence.

Mr. HEMMING:—I do not think your Lordship is over in the habit of giving costs of that kind, unless there is some special reason for taking the notes. I do not know whether my friend anticipates an appeal upon that evidence. I am sure he will not say so, and I do not think the Court is in the habit of allowing the costs of a shorthand note of the evidence under such circumstances. It is not taken by arrangement. It is not in every case where there is an arrangement between the two sides, and even when there is an arrangement, it is not in every case that the Court allows these costs. I ask your Lordship not to say anything about them unless a general rule is laid down that in every case either party may require a shorthand writer to be employed. We know that the rule is the other way.

The VICE-CHANCELLOR:—So far from laying down any rule, my notion of this particular subject of the costs incurred by the shorthand writer is that it ought not to be done without a good and sufficient reason for it. Now the reason is to me perfectly apparent and conclusive. Sir Henry Jackson proposed to treat the evidence as it had been used in the Court of Appeal, as being put in here. Mr. Hemming objected to that, and insisted upon the witnesses being examined. My opinion it became indispensably necessary that a record of that evidence should be kept, and that could only be done according to the present practice of this Court by the employment of a shorthand writer. Mr. Hemming therefore drew down upon his own head the necessity for the employment of a shorthand writer, and having done it without reason as I thought; and having done it without effect as I have decided, in my opinion the costs ought to be included in those costs which the Defendant is bound to pay to the Plaintiff.

Mr. HEMMING:—That does not mean any transcript—there has been no transcript taken.

Sir HENRY JACKSON:—I have the transcript here, and I was prepared to sum up this morning.

Mr. HEMMING:—There was no occasion for it.

Sir HENRY JACKSON:—I do not want of course the costs of any of the speeches. I merely take the transcript of the shorthand notes of the evidence.

The VICE-CHANCELLOR:—I think that must be so, because for anything I know this day week the Lords of Justice will have them in their hands.

Mr. HEMMING:—Then would be time to ask for it.

Sir HENRY JACKSON:—My Lord has decided.



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