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Pharmaceutical Society of the South African Republic.
Central Pharmaceutical Association of N.Z.
Otago Pharmaceutical Association, N.Z.
Pharmaceutical Society of Queensland.
Pharmaceutical Society of South Australia.
Pharmaceutical Society of Tasmania.
Pharmaceutical Society of Western Australia.

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LATE NEWS.

AS this section of THE CHEMIST AND DRUGGIST is this week printed on Wednesday evening, matters of interest reported on Thursday will be printed in the orange supplement, otherwise devoted to situations open, &c.

Summary.

A GOOD IDEA IN SIEVES is illustrated on p. 168.

THE INSTITUTE OF CHEMISTRY pass-list is on p.144

THE TROUBLES that afflict the pharmacist are dolefully told on p. 186.

A MAJOR MAN tells what the chemistry of the examination is like (p. 174).

THE PHARMACY in which Vauquelin served his apprenticeship is illustrated on p. 170.

THE WOFUL EFFECTS of thallium acetate as a depilatory are related by a poet (p. 165).

AN ASSOCIATION for the prevention of consumption has been formed in London (p. 146).

BELFAST is illustrated on p. 204, some account of the drug-trade of the city being added.

SOME LIGHT READING from drug-counters in Germany, India, and at home is provided on p. 169.

MR. LEWIS OUGH discusses caulophyllin, and gives from practice a process for making it (p. 181).

THE LOSS OF LIFE FROM CHLOROFORM anæsthesia seems frightful, when the details are read (p. 152).

AS Kew gives us a cover this week we write about Kew Gardens and the work done in them (p. 194).

WE tell the story of the origin of the metric system, and how metric standards are made to-day (p. 197).

SOME interesting figures from Victorian Government drug and chemical contracts are given on p. 209.

THE names of those who have passed the Minor and Major in London this month are printed on p. 193.

IN SUPPLEMENTARY NOTES to the "Art of Dispensing" Mr. R. H. Parker gives much instructive information (p. 158).

OUR representative now in Canada called at St. John's, N.F., on the way, and sends us notes on the tariff, &c. (p. 207).

PHARMACY is go-ahead in Japan, and has now an annual conference, which provides some pretty pictures in this issue (pp. 172–3).

A PORTRAIT AND BRIEF BIOGRAPHY OF DR. STOKES, the originator of the well-known liniments and mixture, are given on p. 180.

IN THE ISLAND OF UNST there is a pharmacy made of six pieces of wood, which is taken to bits and stored for the winter. All about it on p. 171.

THE CENTENARY OF JOHN BELL & CO., Oxford Street, falls in a few months. An illustrative historical sketch of the business is printed on pp. 160–5.

MR WILLIAM MAIR contributes an illustrated description of how Indian hemp is grown and prepared for use in medicine and as a stimulant (p. 167).

AN HISTORICAL SKETCH of the corps of pharmacists attached to the French army, with an account of the duties of the corps to-day, commences on p. 176.

THE CHEMIST'S ASSISTANT who supplied tincture of nux vomica in mistake for laudanum has been tried before the Windsor Magistrates and discharged (p. 149).

THERE are some interesting things in the article on "Old Irish Pharmacies," amongst them the first prescription written for the Duke of Wellington. He was a few hours old at the time (p. 201).

IN AN ARTICLE on p. 180 is described the method by which the oleo-resin called turpentine is collected and distilled, to which is added a forecast of the market position of turpentine oil.

THE JUDICIAL COMMITTEE OF THE PRIVY COUNCIL have rejected the claim of the Canadian doctor for damages against a firm of wholesale druggists, who, he alleged, had supplied emetic tartar for subnitrate of bismuth, thereby causing the death of his wife. Both allegations were denied (p. 149).

The Summer's Pride.

[Our staff-songster has been overcome by the contents of this issue, and has broken forth into the following melody, which we insert as a Summary Supplement.]

Now the weary pharmacist
Bangs his pharmaceutic fist,
Or droops in limp insufferable horedom;
For his sales are rather slow,
And the takings tend to show
That the public have forsaken him for storedom.

So he wipes with woful sigh,
Sparkling tear-drops from his eye,
And settles down to grim unrestful slumber,
Till a cheerful double knock
Wakes him with electric shock,
And he jumps to clasp the gorgeous SUMMER NUMBER.

Bursts on his astonished view,
Then, the fairy-land of Kew,
Etherealised by Tilney—second Vandyke;
Many gleeful moments pass
At the counter in Alsace,
Or in learning why Josiah went to Klondike.

Thus dishevelled and unkempt,
He reads right through Mair's "Indian Hemp,"
Or ponders o'er the tricky Japanese;
Till the sister-isle at last,
Claims attention for Bel-*fast*,
And most famous of all Irish pharmacies.

Then the clock's metallic clang
Brings him back to "Old Rouen,"
And the story of far-famed Lavoisier,
And the first and last exam.
Or the metric system cram
Harhours thoughts of many a studious hygone day.

Next, the "Northest Pharmacy"
Brings a salt-spray from the sea,
And tooth-hrush manufacture makes him starc,
And with "Novelties" so rife,
He yearns but for the strife
And the lot of the pharmacien-militaire.

Now his warlike bosom thrills,
At the triumph of Walter Hills,
And declaiming like an Irving or a Vezin,
He stands upon a chair,
Waving insets in the air,
Gives a monologue on "Turpentine and Resin."

With his hlood at fever-heat,
He drops into Oxford Street,
And lives with Jacoh Bell and all his kindred;
While his study of the stores
On the far-off distant shores
Of New Zealand and Newfoundland is unhindered.

Now with glaring eye he gloats
O'er the "Fhotographic Notes,"
By "our own pertickler" pharmaceutic camerist,
And the "Summer Supplements"
Call forth blush-hringing comments
From this cutter-iidden literary amourist;

And he swears hy all that's hlue
(And I'm quite convinced it's true)
That there isn't such another feast of knowledge,
Though you search hoth far and near
On this planetary sphere,
To he found in pharmaceutic school or college.

English News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Institute of Chemistry Examination-results.

The July examinations have resulted as follows:—Names of candidates who passed the Practical examination for the Associateship: John Bristowe Pease Harrison, Harold Nolan, M.B.Lond. (for the Fellowship), George Egerton Scott-Smith (for the Fellowship). Intermediate examination: Robert Duncombe Abell, William Arthur Cates, Walter Thomas Collis, Alexander Davidson, jun., William Smith Denham, James Faill. Final examination for the Associateship: In Branch "A" (general inorganic chemistry)—Leonard Myddelton Nash; in Branch "B" (metallurgical chemistry)—Frederic William Daw, Assoc. R.C.Sc. (Lond.) (for the Fellowship); in Branch "D" (organic chemistry)—Harry Thornton Calvert, B.Sc. (Vict.), Rowert Howson Pickard, B.Sc. (Lond.), Ph D. (Munich); in Branch "E" (the analysis of food and drugs, and of water)—Alexander Nash Crosskey, A.C.G.I., Edward Russell (for the Fellowship).

Newcastle and District Chemists' Association.

The second annual excursion of this Association took place on July 20, when a good numher of members and lady friends travelled to Hexham by the express reaching that town about 2 o'clock. Amongst those present were Mr. T. M. Clague, President; Mr. Charles Ridley (Newcastle), and Mr. J. D. Rose (Jarrow), Vice-Presidents; Mr. W. Kerse (Newcastle), Treasurer; and Mr. George F. Merson, Hon. Sec. The weather was very fine, and the party on arrival went for a ramble through the woods to Swallowship, hotanising and photographing hy the way. On their return to the town, they had tea at the Royal Hotel, and then paid a visit to the Abbey Church. The party returned to Newcastle hy the 10 12 express.

Dispute about a Will.

In the Durham Chancery Court, on July 22, before the Chancellor of Durham, Mrs. Ellen E. Sarsfield, widow of the late William Sarsfield, chemist, formerly of Market Place, Durham, sued for the issue of her dower from John Sarsfield, eldest son of deceased. Mr. Meynell, who appeared for the plaintiff, said the late Mr. Sarsfield died possessed of certain freehold property. The widow claimed one third of the proceeds of the property, but her solicitor, on applying to the defendant's solicitor, was met with complete repudiation of her claim, whereupon the present proceedings were instituted. Mr. Joel, for the defendant, said he was there to submit to judgment in proper form. The question was as to whether the costs were to he borne by the estate. Mr. Sarsfield died intestate on April 12, 1897, leaving three sons. The defendants were quite willing to allow the plaintiff one-third share of the real estate. Eventually his Honour made an order directing that Mrs. Sarsfield should have one-third of the net profits and rent arising from the estate, the costs to he paid out of the estate.

Weights and Measures in Oldham.

On July 20 a deputation comprising Oldham grocers, butchers, bakers, greengrocers, chemists, and coal-merchants, waited on the Oldham Watch Committee in reference to the abolition of the charges for the re-verification of weights and measures when found correct. The deputation was introduced by Alderman Schofield, and Mr. W. Perkins said the committee had discretionary power under the Act of 1878 to remit the charges of re-verifying weights and measures which had been found to be just. He pointed out that in Bristol, Glasgow, Manchester, and Hull such charges had been abolished. Mr. A. Faulkner said that if such charges were abolished it would be a great inducement for tradesmen to have their weights and measures more frequently verified; and the Chief Constable thought that by abolishing the fees the prosecutions in regard to weights and measures would become things of the past. It was unanimously resolved to abolish the charges.

Suspected Cachous Proved Harmless.

The Isle of Ely Coroner, on July 20, resumed the inquiry, at Littleport, concerning the death of the little daughter of a labourer named England, who succumbed after an illness of sixty hours' duration under circumstances already reported in the *C. & D.* The child had eaten 1 oz. of pink cachous, bought from a local shopkeeper, and manufactured by Messrs. Fryer & Co., Nelson, Lancashire. The facts were communicated to the Home Office, and Dr. T. Stevenson, the Treasury Analyst, attended to give evidence. He had analysed portions of the child's viscera and a quantity of the cachous, and said he could detect no trace of poison, either mineral or vegetable. The sweets were of an unusually deep-red colour. They were composed chiefly of sugar, and were coloured with a dye of the "fluoresceïn" class, known as "rhodamine." One ounce of the cachous (125 individual sweets) contained $\frac{1}{4}$ gr. of rhodamine, the colouring-power of which was very great. Rhodamine was closely allied with "eosine," the dye largely used for tinting pink blotting-paper and for making modern red inks. The local medical man, Dr. Copeman, was re-called, and said that, after hearing the evidence of Dr. Stevenson, he was of opinion that the death of the child was due to syncope, caused by prolonged vomiting. The jury returned a verdict in accordance with the medical testimony.

Earl's Court Explosion.

The inquest was held on July 22 on the victim of the magazine explosion at Earl's Court Exhibition on July 18. Expert evidence showed that the probable cause of the explosion was the ignition of sodium. It appears that in the same building were stored 45 lbs. of gunpowder, 5 lbs. of spark-powder, 1,500 safety-cartridges, a quantity of petroleum, sodium, and two dozen bottles of "smoke," used to give realistic effect to the naval displays in the Empire Theatre. The petroleum was contained in an open bath, and used for keeping the cut-up sodium in previous to the performance. A quantity of 4 lbs. was used at each display to represent the explosion of mines at a harbour-entrance. The sodium was spoken of at the inquiry as "anti-hydrogenium."

Long-firm Frauds.

At Nottingham Quarter Sessions, Arthur William Whinston was indicted for having obtained by false pretences, from Messrs. Wigfall & Sons, Pontefract, sponges to the value of 3*l.* 18*s.* 7*d.*; and from Mr. N. J. Cobb, cork-manufacturer, London, corks to the value of 9*l.* 17*s.* 11*d.* He was also charged with having obtained credit for the value of the goods with intent to defraud. The goods were obtained by orders conveyed upon memorandum-forms with a plain printed heading, "8 Owen Street, Nottingham. Memorandum from A. W. Whinston." This led the prosecuting firms to be under the impression that prisoner was carrying on business in the town, while the signature was in a different hand to that of the body of the letters, and the whole had the appearance of having gone through a copying-press, and of having come from a regular business-house. As a matter of fact, prisoner had no place of business, but lived in a small house hired by his wife, and counsel for the prosecution submitted that prisoner was carrying on what was known as a "long firm." The Police Superintendent stated that he had known prisoner for twenty years, and this seemed to be his favourite method of getting a living. He calculated that the amount of money he had obtained by these methods since 1891 would be about 195*l.* 10*s.* Prisoner had also been associated with a gang of long-firm swindlers who were proceeded against three or four years ago. The Recorder sentenced accused to twelve months' hard labour.

Trading on Beecham.

At Stafford Quarter Sessions, on July 22, Chas. Edward Hamilton (39), described as a theatrical advance-agent, pleaded guilty to obtaining by fraud various sums of money from tradesmen at Longton. Prisoner canvassed local tradesmen, and obtained payment in advance for advertisements, which he represented would be inserted in a directory which was to be brought out by the proprietors of Beecham's pills. Accused stated that he was the son of an ex-Governor of Ohio, and being ill and in poverty was tempted to defraud, but intended, after leaving prison, to pay all the money back. A Baptist minister intervened on behalf of the accused, and on his appeal prisoner was simply bound over to come up for judgment if called upon. As he left the court, however, the man was rearrested on a warrant charging him with similar frauds at Stalybridge.

Result of a Dog-fight.

Two cases were heard at Grays Police Court on July 22, in the first of which Mr. Daniel Guy, chemist, High Street, Grays, was prosecutor, and in the second case the same gentleman was defendant. The cause of the trouble seems to have been a fight between the dog of a man named Sambleson and a dog belonging to Mr. Guy. At the instance of Mr. Guy, Sambleson was charged with threatening to do him bodily harm. Prosecutor said defendant came to his shop with his dog and said he would have revenge if he waited ten years and got three months' hard labour for it. Defendant challenged witness to fight, which prosecutor declined to do, and said he would not even pay half-a crown to a man to do it. Cross-examined, prosecutor admitted that he had battered up defendant's dog a little to save his own dog's life. He was breaking up ammonia in his shop with a light iron pestle when the scuffle was heard, and he rushed out to defend his dog, hitting defendant's dog with the pestle two or three times. After considerable evidence had been given the case against Sambleson was dismissed, and Mr. Guy was then charged with ill-treating Sambleson's dog. Defendant pleaded justification, saying his dog had been deliberately set on by Sambleson's some time before, and was being continually ill-treated by plaintiff's dog, which was much more powerful. The Justices saw prosecutor's dog in the retiring-room, and afterwards fined Mr. Guy 10*s.*, with 10*s.* costs.

The Sale of Laudanum.

Mr. Coroner Buss held an inquest at Tonbridge, on July 23, relative to the death of a woman named Holmes, whose body was found in the River Medway. Mr. F. G. Abel, chemist and druggist, High Street, Tonbridge, stated that deceased had to his knowledge taken laudanum for thirty-five years. He sold laudanum to her on July 11, and on the following day she returned for more, which he refused to give her, saying he did not consider her to be in a fit state to have it. The Jury, in returning a verdict of suicide, desired it to go forth that there was not the slightest reflection upon Mr. Abel, and the Coroner replied, "Quite so. Chemists are all liable to that sort of thing, and Mr. Abel was wise in restricting the sale."

Poisoned by a Disinfectant.

On July 17, Mr. George Legge, of Stoke Newington, gave his wife a dose of what he supposed was a medicine she was in the habit of taking. It proved, however, to be a fluid disinfectant named "Creasole," which his daughter had purchased from an oilman the evening before, and had placed on a shelf beside her mother's medicine. A doctor was procured, the stomach-pump was used, and Mrs. Legge seemed to recover, but serious symptoms developed, and she died two days afterwards.

Coroners and the Sale of Carbolic Acid.

A coroner's inquest was held at Trowbridge, on July 20, respecting the death of Sarah Downton, who poisoned herself by taking carbolic acid. Mr. Walter Joseph Green, chemist and druggist, Stallard Street, deposed to selling the deceased 2*d.* worth of carbolic acid, which she stated was to be used for disinfecting purposes. Witness cautioned her as to its use, but she said she had "used it before." Dr. Wise, who attended the deceased, stated that he was of opinion that some restriction should be placed by law on the sale of the drug. The Coroner (Mr. F. F. Sylvester), in summing up, also referred to the way in which the acid was sold, and said that he believed there was a Bill now before the House of Commons which would place some restrictions upon the sale of certain poisons, including carbolic acid. The chemist who sold it did his duty by warning the deceased, and the bottle was properly labelled. A verdict of suicide during temporary insanity was returned.

A similar case came before Mr. Coroner F. N. Molesworth, at Littleborough, on July 21, the victim being Albert Heyworth. In this case 6 oz. of the acid was consumed. Mr.

Samuel Hall, chemist and druggist, Church Street, Littleborough, who gave evidence of the purchase, was asked by the Coroner whether, in his opinion, carbolic acid ought to be a scheduled poison, and his reply was, "It ought to be, most decidedly." The Coroner: I believe there is a Bill at present before Parliament to make it so. Mr. Hall: That is so. If it passes a person will not be able to purchase carbolic acid without a witness. The Coroner replied, "The sooner the better."

Upsetting the Medicine.

Alfred Punter, aged 16, residing in Lindar Road, Notting Hill, was summoned at the Brentford Police Court last week, for having assaulted Ranelagh Knowles, a message-boy at Bruce's Drug-stores, the Broadway, Ealing. Knowles was going along Windsor Road, carrying a basket in one hand and some parcels in the other, when the defendant went up to him, knocked him down, and upset the parcels containing medicines. The Chairman said the defendant had taken an unfair advantage of Knowles by striking him when he was unable to defend himself. He was ordered to pay 5*s.* costs.

A Cutter's Decade.

Mr. John B. Foggitt, "the cash chemist," of Nevill Street, Lord Street, and Eastbank Street, Southport, is now celebrating the tenth anniversary of his inauguration as the pioneer of popular prices in the town. He claims to have dispensed during last year upwards of 15,000 prescriptions.

Only One Sample, but Genuine.

Mr. A. E. Ekins, the Hertfordshire County Analyst, in his quarterly report, states that he has analysed only one sample of drugs—1 oz. paregoric—and that was genuine.

Fire.

On the night of July 23 a fire broke out in the chemical-works of Messrs. E. P. Potter & Co., Farnworth, near Bolton, doing damage to the extent of several hundreds of pounds. The fire originated in one of the rectifying-rooms.

Sequel to a Chemical-works Fire.

An inquest was held on July 22 by the Manchester City Coroner concerning the death of William Clay, a workman in the employ of the Clayton Aniline-works, who had died from burns received in a fire which occurred there on July 18. It was stated that deceased was at work in the drying-room, where colours, including 1,000 lbs. of para-nitraline, 2,500 lbs. of naphthol yellow, 900 lbs. of di-benzine, and 100 lbs. of resophine, were being dried on trays. It was deceased's duty to remove the liquid which filtered off the colours, and he was at one end of the room alone when an explosion took place, followed by a dense smoke. Deceased was severely burned before help could be given him, and he was removed to the infirmary, where he died two days later. The origin of the explosion is unaccountable, and the Coroner ordered that samples of the colours be sent to the Home Office to be tested for explosive properties. The inquest was therefore adjourned till September 7.

Till-pilfering.

At Birmingham Police Court, on July 26, a lad named Arthur Eccles was charged with stealing 6*s.* 6*d.* belonging to his employer, Mr. Frederick Barlow, chemist and druggist, Balsall Heath Road. Mr. Barlow stated that for some time past he had missed money from the till, and as he learned that the lad was spending about 18*s.* a week on hiring bicycles he placed marked money in the drawer, some of which was afterwards found in the youth's possession. Mr. Barlow added that Eccles was very respectably connected, and if the Bench would permit him, he was quite willing to withdraw the summons. The Bench accordingly discharged the accused, whose parents expressed their thanks to Mr. Barlow.

Association for the Prevention of Consumption.

This Association has been formed, under the auspices of the Royal Colleges of Physicians and Surgeons, for the education of the public in the methods of prevention and eradication of tuberculosis. The objects of the Association are the dissemination of information, the arousing of public feeling as to the necessity for defensive measures, and the provision of sanitoria, which will be both preventive and curative, for the open-air treatment of consumption. In order to enlist the co-operation of large numbers, the annual subscription for membership has been fixed at 5*s.*, and the donation for life-membership at 5*l.* 5*s.* All members will receive a full description of the measures which are proposed, and information as to the organisation of the Association. The office of the Association is at 20 Hanover Square, W. Sir W. H. Broadbent is Chairman of the Provisional Committee, Mr. Malcolm Morris, F.R.C.S., is Hon. Treasurer, and Dr. St. Clair Thomson Hon. Secretary.

Ambulance-waggon for Volunteer Brigade.

Messrs. Goodall, Backhouse & Co., wholesale druggists, Leeds, have presented to the West Yorkshire Volunteer Brigade Bearer Company a fully-equipped ambulance-waggon. The vehicle is of the latest Government pattern, and is much appreciated by the brigade.

Profit-sharing in the Soap-trade.

On the evening of July 23, Messrs. Edward Cook & Co., East London Soap-works, entertained their employés to tea at their works at Bow, the ground-floor of two large warehouses having been cleared and decorated for the occasion. Mr. H. J. Cook presided, and was supported by Messrs. W. Cook, T. A. Cook, E. Miall Cook, S. Hall, and G. Hall. The President, after tea, announced that as they had all seemed to work together to make 1897 a record year, the firm thought it right that all should have a share in the profits, and bonuses would be given to each. As these bonuses were extra, he hoped that more of them would follow the example of several of the older men, and place on deposit with the firm such sums as they desired, for which interest would be paid. After the distribution of the bonuses, a message of sympathy was sent to Mr. Martyn Cook, who, through ill-health, was unable to be present, and the company were then entertained to a musical programme. Amongst the contributors to this entertainment were Miss Florence M. Cook, Miss Lilian Cook, R.A.M. (whose violin solos were much appreciated), Miss Maude Cook, and Messrs. B. Cook, A. Meade, W. Green, J. Chapman, F. E. Blair, and others. The company dispersed after singing the National Anthem and giving three cheers for the firm.

Stealing Lavender.

At Canterbury (Kent) Police Court on Saturday, two London men, named Arthur and Thomas Allen, were charged with stealing a quantity of lavender, value 1*l.*, from Grove Ferry, where it is grown for distilling-purposes. The men were met at Minster by P.C. Crow with the lavender in their possession, and on being questioned they stated that they had bought it for a dollar. The officer, however, found that prisoners had been seen in the lavender-fields at Grove Ferry, where thirty heads were found to be missing. The men were each sentenced to one month's hard labour.

Cricket.

On July 23, at Clapton, Davy Hills C.C. *v.* Hewletts C.C. Scores: D.H., 42; Hewletts, 27.

On July 23, at Brockley, Stevenson & Howell C.C. *v* Kepler C.C. Scores: Kepler, 137 (Harris 31, Lane 30, Gover 29); S. & H., 97 for 1 wicket (Hurndall 57, Croxford 22). Drawn.

Found Drunk.

Albert James Swan (28), described as a chemist, but who is not on the register, of 11 Winchester Terrace, Plumstead Common, was charged at Woolwich on July 25 with being drunk and disorderly in Plumstead Common Road. P.C. Thorogood said he found the prisoner lying drunk on the footpath, and on waking him up prisoner refused to go away. It was his first offence, and Mr. Paul Taylor discharged him.

Poisoned by Chloral.

A coroner's inquiry was held at Southampton, on July 26, into the circumstances of the death of Mr. A. J. Blackman, a well-known resident of Southampton, who had been found dead in bed. Deceased had been in the habit of taking

chloral to induce sleep, and Mr. James Brierley, the city analyst, who had analysed the stomach and contents, found chloral hydrate and butyl chloral in relatively large quantities. He also deposed to receiving from the Coroner's officer three bottles found in the bedroom of deceased, two of which contained syrup of chloral, and the other a solution of butyl chloral in water and glycerin. The syrup-of-chloral bottles contained a scheduled poison, but butyl-chloral hydrate is not, although both drugs have the same effect. There are several poisons which are not scheduled, and scientists complain that they were not consulted when the Act was drawn up. He made an analysis for the purpose of finding out the strength of butyl chloral in the solution, but did not succeed in separating it from the glycerin. Dr. Eliot made a *post-mortem* examination of the body with Dr. Griffen, and had come to the conclusion that death was due to chloral-poisoning, but they were unable to state the quantity of chloral which had been taken. A verdict of death from misadventure was returned.

Chemist's Son Drowned.

A young man named Edward Scholefield, son of Mr. William Scholefield, retired chemist, Tadcaster, was drowned in the river Wharfe on July 23. He was on a fishing excursion, and overbalanced himself and fell into the water. When rescued he was in a dying state, and shortly afterwards succumbed.

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Personal.

Dr. J. J. McGrath, L.A.H., Dublin, has been presented with an illuminated address and a solid silver tea and coffee service on the occasion of his marriage. The presentation was made by a number of his friends at his residence, 73 Lower Mount Street, Dublin.

Cork Chemists and Cattle-medicines.

Last week, at Cork, the annual Exhibition of the Agricultural Society was held. The attendance was large and the weather propitious. The drug and chemical exhibits were more numerous than last year, and amongst those who occupied stands were Messrs. Kiloh & Co., pharmacists, Cork, who, in addition to showing their pharmaceutical specialities, had an office in the show-yard for the convenience of visitors; and the Cork Chemical and Drug Company (Limited) (Messrs. William Harrington & Sons), who showed horse and cattle medicines, embrocations, medical appliances, &c.

Trouble Coming.

At the Enniscorthy Union last week, a Guardian called attention to the drug-contract which, he said, had this year been given to a highly-paid contractor, notwithstanding that Mr. Roberts, last year's contractor, had given satisfaction, and his account for the twelve months only amounted to 120*l.*, the lowest ever paid previously. It was stated that it was now too late to go back on the contract. A letter was then read from the Local Government Board stating that the auditor had been communicated with. The Clerk said the Guardians would have to take the lowest tender in future, and that there would probably be trouble about this contract.

Hugh Moore & Alexanders (Limited).

This company, which takes over the businesses of Hugh Moore & Co., the Linen Hall, and Alexanders & Co., Great Strand Street, and of which registration details are given under "New Companies," has been offered to the public this week, and, it is said, has been largely over-subscribed. The assets to be acquired by the company comprise the Linen Hall and stores in Sheriff Street, valued at 2,700*l.*; plant, machinery, horses, waggons, &c., 2,563*l.*; stock-in-trade guaranteed at 23,123*l.*; book-debts guaranteed to realise 45,000*l.*; the total, deducting trade liabilities, being 68,579*l.* 12*s.* 6*d.* The combined profits for the past five years are certified to have amounted to 46,435*l.* 10*s.* 1*d.* In 1895 an exceptional profit was made, but deducting that year the average profit for the four years was 8,134*l.* 14*s.* per annum, and the 5 per cent. preference dividend on 50,000*l.*, it is pointed out, would only absorb 2 500*l.* The purchase-price for the businesses has been fixed at 100 000*l.*, one-third of each class of shares being taken in part payment. The board of directors comprises Messrs. Marcus Goodbody, J.P., P. B. Robinson, William Alexander, Robert H. Moore, W. J. McNeight, and William F. Moore, the two last-named being partners in the existing concern of Hugh Moore & Co. These two gentlemen have agreed to act as managing directors of the company for a period of five years.

Scotch News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Dundee Appointments.

At a meeting of the University Court of St. Andrews on July 15 Dr. A. M. Stalker and Dr. David MacEwan, physician and surgeon respectively to Dundee Royal Infirmary, were appointed to the chairs of medicine and surgery in Dundee University College.

Dr. C. Templeman was appointed to the lectureship in forensic medicine and public health, and Dr. D. F. Harris lecturer in physiology and assistant to Professor Pettigrew.

Edinburgh Pharmacy Athletic Club.

The second of the series of summer swimming-handicaps (50 yards) was brought off in the Dalry Baths on July 18, with the following result:—(1) J. Grieve, (2) L. S. Lamb, (3) A. G. Paterson, (4) G. H. C. Rowland, (5) J. Lockerbie.

French News.

(*From our Paris Correspondent.*)

THE CONGRESSES AT THE 1900 EXHIBITION.—The Congress of Medicine, over which Dr. Lannelongue will preside, will probably be opened by President Félix Faure in person. M. Petit is to preside over the Congress of Pharmacy.

ANOTHER PRIZE FOR PROFESSOR MOISSAN.—The Society of Natural Industry has awarded to M. Moissan the Marquis of Argenteuil prize of 480*l.* as "the author of the most useful discovery for perfecting French industry." Among M. Moissan's principal works are the production of carbide of calcium, and of the electric furnace, which M. Berthelot thinks is the infancy of a new metallurgy.

TO PURIFY DRINKING-WATER.—At the July meeting of the Paris Society of Pharmacy, M. Guichard recommended a method for purifying doubtful drinking-water by adding 0 10 gramme of permanganate of lime per 5 litres, and filtering on iron. Neither iron, manganese, organic matter, or microbes remain. He admitted this process was only suitable for domestic application, as it is too expensive for a town to adopt. [This seems to come up in Paris periodically. Sir Wm. Crookes originated the idea a quarter of a century ago.—Ed. *C. & D.*]

HOW TO MAKE COFFEE.—M. Carles, of the "British Pharmacy," Bordeaux, tells us how black coffee ought to be made. First, the beans should be carefully chosen, roasted wisely but not too well, and kept in a close but dry place. This we all know; but M. Carles goes on to point out that distilled water is essential to produce the ideal coffee of the gourmet's dreams. All drinking-water, he says, is either selenious or calcareous, either of which takes off the fineness of the "bouquet."

CARELESSNESS OF PUBLIC.—PHARMACIST SUFFERS.—A curious case has come before the Pau Court of Appeal. Last New Year's eve a pharmacist in a neighbouring town was

handed a prescription for sulphate of magnesia and another potion. The young man who brought it asked that laudanum might be substituted for the potion, and the pharmacist handed him a 20-gramme vial of Sydenham's. The lady who had sent for the medicine took about 5 grammes of the laudanum and died. It now appears that what she wanted was that for the sulphate of magnesia she should have Hunyadi-János. The youth misunderstood her, and hence the blunder. The pharmacist labelled the laudanum "For external use," and he contended that the mistake was not his. The Court of Appeal found that laudanum was included in the decree which forbids pharmacists to sell "poisonous vegetable alkaloids and their salts" without a prescription, but owing to the extenuating circumstances the fine imposed by the lower Court was reduced to 20*l.*

Paris Perfumers.—The French Perfumers' Syndicate some time since offered a prize of 2,000*l.* (50,000f.) for the best process for the "denaturement" (methylation) of alcohol for perfumery-purposes. They sought an inexpensive and easy method which would not change the taste, smell, or colour of the liquid, would not render it harmful or poisonous, was devoid of chemical action upon alcohol or perfumes, might be suitable for tooth-washes, but would defeat attempts at purification for drinking-purposes, and would satisfy the Excise in this respect. Twenty-one samples were sent in by the date fixed (June 21) from the French chemists, to whom alone the competition was open; but it is not surprising to learn that as yet no award has been made. The syndicate which has the matter in hand has its headquarters in the rue d'Enghien, M. Darrasse (Coudray & Co.) being the secretary. M. Prot is president, M. Piver vice-president, M. Guerlain delegate, and M. Chouet (of "Dr. Pierre's") treasurer. There are fifty-three members. The number of perfumery-shops in Paris is about one hundred, employing two hundred and fifty persons. The perfume-factories in and about the city are twice as numerous, and employ some four thousand men and women, the men earning from 4*s.* to 7*s.*, the latter from 2*s.* 6*d.* to 4*s.*, per day of eleven hours.

The Objections to Doctors Dispensing.—The Medical Syndicate of Roubaix (the town on the Belgian frontier where the proposition for a municipal pharmacy was recently quashed) has addressed a circular to the members of the new Chamber of Deputies. They point out that the law stating that doctors in localities where a pharmacist exists "ought not" to dispense, even if they possess the diploma of pharmacy, is practically inapplicable, as no absolute prohibition is enunciated, and no penalty being attached to the Act. The syndicate ask the deputies, when discussing the new Pharmacy Bill, to introduce a clause specifying that the holder of the double diploma must decide which profession he will exercise. It is pointed out that where medicine is prescribed and dispensed by the same person no written prescription is necessary, and in a poisoning-case it would be very difficult to get at the real facts. Again, in many cases, the pharmacist, by pointing out a slip of the pen to the doctor, may avoid fatal consequences. It is thought that doctors must leave much dispensing to unqualified and often inefficient substitutes.

The Unqualified Partner.—M. Charles Chanteaud, the well-known manufacturer of "dosimetric" medicaments, seidlitz, &c., had formerly business connections with Dr. Burggraeve. He had also his brother, M. Numa Chanteaud in his employment as bookkeeper. Numa is a pharmacist, and recently set up in business with a non-pharmacist sleeping-partner named M. van Branteghem, and sold Dr. Burggraeve's preparations. Managership (or the opening of a pharmacy by a qualified man who is not the real proprietor of the establishment) being illegal in France, M. Charles Chanteaud brought an action against the two partners, and the Courts ordered their association to be dissolved. He also obtained a judgment to the effect that M. Numa Chanteaud should always print his Christian name as well as his surname (and in letters of equal size) on all packages offered for sale. These decisions have been upheld by the Court of Appeal. But M. C. Chanteaud also sought to prevent M. Numa Chanteaud from selling medicines bearing the name, portrait, or signature of Dr. Burggraeve. The business collaboration of doctor and pharmacist being forbidden by French law, the Appeal Court held that any connection that might have existed between the doctor and M. Ch. Chanteaud was illegal and non-effective, and on this point they found in favour of M. Numa Chanteaud.

Radam's Microbe-killer.—The prosecution of Messrs. Hirschfield & Bryant in 1896 was reported in the *C. & D.* of March 7 of that year. They endeavoured to bring their business within French legal limits by paying a qualified M.D. to attend at the "Radam Institute" and give consultations. He prescribed, of course, the firm's speciality in every case. M. Guillou, a qualified pharmacist, was in charge of the rue Marcadet manufactory. As the doctor's prescriptions simply contained the words "Radam's microbe-killer," M. Guillou was prosecuted last year for executing prescriptions which did not specify ingredients. The Paris Police Court, however, decided that the Law of Germinal contains no specification as to how prescriptions must be formulated, and the case was dismissed. The decision of the Paris Hygienic Council in 1895 that the sale of the killer ought to be prohibited in France, "as it is a toxic liquid, destined for internal use, which might have fatal effects," decided the prosecutors to appeal from the Police Court ruling. The Court of Appeal has held that the Articles 32 and 36 of the Law of Germinal had been infringed, reversed the decision of the lower Court, and fined M. Guillou 24*l.* for advertising and selling secret remedies. It was stated in the judgment that Messrs. Hirschfield & Bryant were the real tenants of the rue Marcadet premises, M. Guillou being their sub-tenant only; that they received from M. Guillou (nominally for labels) 1f. 50c. for each bottle; that Dr. Y—— was also a sub-tenant and a salaried employé; that the doctor himself admitted he was "charged to examine patients and prescribe the microbe-killer"; that the prescriptions were insufficiently worded to enable them to be dispensed by any pharmacist; and that M. Guillou had thus the monopoly of the sale.

Marriages.

Maskew—Smith. — On July 19, at St. Mary's parish church, Scarborough, by the Lord Bishop of Hull, William Maskew, pharmaceutical chemist, 285 Oxford Street, Manchester, to Agnes Annie, eldest daughter of Richard Smith, jeweller, Scarborough.

Perkin—Mackay.—On July 22, at the parish church, Duddingston, by the Rev. J. A. Hunter Paton, Frederick Mollwo Perkin, Ph.D., of Streatham Hill, third son of W. H. Perkin, LL.D., F.R.S, of The Chestnuts, Sudbury, Harrow, to Elizabeth Margaret, fourth daughter of the late George Mackay, of Bellavista, Duddingston, Edinburgh.

Perkins—Parnell.—On July 26, at St. Mark's, Wolverhampton, by the Rev. R. G. Hunt, M.A., vicar, Thomas Richard Perkins, chemist, Henley-in-Arden, to Lily Elizabeth, daughter of the late James Parnell, chemist, Wolverhampton.

Deaths.

Binney.—On June 30, Mr. Joseph Walker Binney, 284 Pearl Street, New York. Aged 62 Mr. Binney, who was a well-known chemical-importer, was born at Wakefield, England.

Church.—On July 9, Mr. J. O. C. Church, chemist, Acle, Norfolk. Aged 78.

Drawbridge.—On July 17, Mr. J. G. Drawbridge, chemist, 30 Windsor Street, Liverpool. Aged 59.

Mabbett.—On July 11, Mr. G. D. Mabbett, pharmaceutical chemist, Colnbrook. Aged 65.

Usher.—At Bodicote, Banbury, on July 13, Mr. Richard Usher. Aged 57. Mr. Usher was well known to all druggists in the kingdom as a cultivator of medicinal herbs, which business he carried on with his late brother, Mr. Rufus Usher. He was a member of the Banbury Board of Guardians and of the Rural District Council.

Legal Reports.

Essayie v. Hotz & Co. (the Liquorice-root Case).

THE hearing of this action was resumed in the Commercial Court of the Queen's Bench Division on July 21, and finished on July 22. In defence Mr. James Hamilton, the defendants' agent at Bussora, said that if the agreement between plaintiff and defendants of February, 1895, had been carried out strictly, liquorice to the value of 3,410*l.* ought to have been shipped before defendants were asked to make any further advances. But that was not carried out. Mr. Essayie wanted advances as he made shipments. Messrs. Hotz & Co. kept making advances, not on any regular rule, but as nearly as possible to half the amount of the value of the shipments. The account as to past indebtedness was never closed. It had never been worked off by shipments.

The hearing was again adjourned till next day, when

Mr. Carver, Q.C., in addressing the Court for the plaintiff, said the defendants were anxious to make this contract, and that it was intended to settle all those matters which were outstanding. It was a sort of compromise; Mr. Essayie was to supply 2,000 tons of liquorice-root at 4*l.* 8*s.* per ton. Now, Messrs. Hotz & Co. contended that that was not the real view. They now denied that this agreement was a settlement of the previous outstanding accounts. After further argument, his Lordship said he would reserve judgment.

A "Blue" Battle.

AT the Manchester Assizes on July 22 and 23, before Mr. Justice Bruce (without a jury), Wm. Edge & Sons (Limited), of Bolton, claimed an injunction against Wm. Gallon & Sons, grocers, of Leeds and elsewhere, to restrain them from selling any laundry-blue, not being blue of the plaintiffs' manufacture, under the name of "Dolly" blue. For the plaintiffs it was claimed that in 1887 they began to sell their blue as "Dolly" blue, and that it had become generally known in the trade and to the public as "Dolly" blue. They had spent 5,000*l.* a year in advertising it, and they alleged that the defendants had offered, and were still offering, for sale laundry-blue, not of the plaintiffs' manufacture, under the name of "Dolly" blue, manufactured by Mr. Richard Ripley, of Liverpool. The defendants said that in December, 1871, Mr. Ripley registered a fancy design showing the kind of laundry-blue manufactured by him, on which there was a dolly-tub, and that such device had been continued and twice re-registered by him. It also appeared on all his trade-marks. The defendants claimed that the picture was the origin of the word "Dolly," and that it was issued and published years before the plaintiffs ever made blue at all. Witnesses were called on both sides, and at the close of the evidence it was agreed by the Judge and counsel that the case should be concluded at Liverpool Assizes if time permitted, and, if not, then in London before the Long Vacation.

The Nux-vomica Mistake.

AT the Windsor Petty Sessions on July 21, Alexander McBride, a chemist's assistant, aged 23, was charged with causing the death of Hannah Lucy Ireland, on July 18, through serving her with nux vomica in mistake for laudanum. The facts of the case appeared in a report of the inquest in our last week's issue. Mr. Ryland, for the defendant, asked the Magistrates to discharge him, basing his application upon the 7th section of the Offences Against the Person Act, 1861, 14 and 15 Vic., cap. 100, which directs that "no punishment or forfeiture shall be incurred by any person who shall kill another by misfortune or in his own defence or in any other manner without felony." The Bench, however, proceeded with the case. Mr. J. G. Everett, pharmaceutical chemist, High Street, Windsor, who is defendant's employer, stated that McBride was one of the most careful chemists he had ever met, and was most cautious in serving and dispensing. He had passed the Minor examination of the Pharmaceutical Society, and was duly registered as required by Act of Parliament. After hearing other evidence, the Magistrates gave the defendant the benefit of the section of the Act referred to, and discharged him.

Wholesale Druggists Liability.—A Canadian Appeal.

THE Judicial Committee of the Privy Council (Lords Herschell, Watson, Hobhouse, and Davy, and Sir Henry Strong) sat on July 13 to hear an appeal in the case of Kerry and others *v.* England. The appeal was from a judgment of the Court of Queen's Bench for Lower Canada (Appeal side) reversing a judgment of the Superior Court for Lower Canada, sitting in review at Montreal, delivered on November 20, 1896.

Mr. Haldane, Q.C., and Mr. T. Brosseau (of the Canadian Bar) were counsel for the appellants; Mr. Robert Wallace, Q.C., and Mr. A. McGonn (of the Canadian Bar) for the respondent.

The appellants are a firm of wholesale druggists in Montreal. In February, 1894, Mrs. England, the wife of the respondent (Dr. England), was suffering from influenza, and she asked her husband to get her some bismuth. Mrs. England had occasionally taken bismuth before for the purpose of aiding digestion. Dr. England telephoned to Mr. Henry J. Dart, a member of the firm of Henry J. Dart & Co., wholesale druggists, Montreal, for 2 oz. of bismuth, and a small package marked "bismuth trisnit.—2 oz." was forwarded to Dr. England's house in the course of the same or the next day. Subsequently Mrs. England, who complained of nausea and an irritable stomach, took half-a-teaspoonful of the contents of the packet, which she dissolved in water, and drank a quantity of the mixture. Immediately after swallowing it she noticed from the taste that it was not bismuth, and she called out that she was poisoned. Dr. England, who was in an adjoining room, was called, and, after tasting the drug, he formed the opinion that it was either not bismuth at all, or bismuth of an impure kind. Mrs. England complained of pain in the stomach, and commenced vomiting. Emetics were administered. Medical men were called in to attend her, and she died some days afterwards. It was ascertained that the drug taken by Mrs. England in mistake for bismuth was in fact tartar emetic. Mr. Dart stated that shortly before receiving Dr. England's order he (Mr. Dart) had ordered from the appellants 2 lbs. of bismuth, and the appellants had thereupon supplied him, in a parcel marked "bismuth subnit.," with the drug which was afterwards supplied by him to Messrs. England. An action was in the first instance commenced by Dr. England on behalf of himself and his infant son against Mr. Dart and the firm of which he was a member, alleging negligence in causing the death of his wife, and claiming damages. Messrs. Dart & Co. pleaded that the fault was on the part of the appellants. That action was afterwards not proceeded with. Subsequently the present action was brought by Dr. England on behalf of himself and his infant son against the appellants, claiming $20,000 damages, alleging that his wife's death was caused by the tartar emetic, and that there was negligence on the part of Dart & Co. and the appellants. The appellants disputed the allegation, denied negligence, and contended that Mrs. England's death was due to natural causes, and not to the tartar emetic. The action was heard before a jury. Medical evidence was called by the plaintiff to show that the death of his wife was due to the tartar emetic. Doctors were called by the appellants to show that Mrs. England's death was due to disease, and not to the tartar emetic. The jury found that her death was due to previous disease, but was accelerated by the tartar emetic, though not to any appreciable extent, and that the supply of the tartar emetic in the package marked "bismuth subnit." by the defendants to Dart & Co. was due to neglect, carelessness, want of skill, and fault of the defendants or their employés. They awarded the infant son $1,000 as damages for the death of his mother. Dr. England applied for a new trial on the ground that the verdict was informal and defective, inasmuch as many of the answers of the jury to the questions submitted by the Court were inconclusive, inconsistent, or contrary to the evidence, and that the verdict was manifestly unjust. The appellants simultaneously moved for judgment to be entered

in their favour. The Superior Court on November 20, 1896, gave judgment in favour of the appellants, and dismissed Dr. England's motion for a new trial on the grounds, in effect, that Dr. England had failed to show that the appellants were guilty of any fault in law towards him, or that they were responsible to him in the circumstances referred to. Against that judgment Dr. England appealed to the Court of Queen's Bench, when that Court, consisting of five Judges, on September 21, 1897, unanimously reversed the decision of the Superior Court, and ordered a new trial. From that order the present appeal was instituted.

Lord Hobhouse gave the judgment of the Judicial Committee on Tuesday last, July 26. He first reviewed the facts and the history of the litigation, and, having done so, concluded thus:—Their Lordships are not called upon to pronounce any opinion as to the question of privity [on which the Court of Queen's Bench of Lower Canada had differed from the Court of Review], nor has it been argued at the bar. It may be assumed on this occasion that *a lien de droit* has been established between the parties. The question is whether any right to damages by the complaining parties has been established by the findings of the jury. The sole reason assigned for ordering a new trial is that the findings of the jury Nos. 10 and 11 are contradictory. [The jury found that Dr. England had not suffered any pecuniary damages through the death of his wife, but that his son had, and in the latter case they assessed these damages at $1,000.] Their Lordships cannot see the contradiction. What the jury find is that Dr. England suffered no damage by reason of the death of his wife, while his son suffered thereby to the amount of $1,000. Why should not those two findings stand together? They may be wrong, or against evidence; but that is not the ground taken for a new trial. It is easily conceivable that the death of a woman may cause pecuniary loss to her child, and none to her husband; and that is what the jury have found. Their Lordships cannot agree with the learned Judges that the jury have awarded $1,000 to the boy. They have awarded nothing. It is common enough to take the opinion of a jury as to the amount of damage suffered, leaving it for the Court to say whether on all the facts of the case the plaintiff can recover it from the defendant. That is the effect of the proceedings at this trial. If the findings do not establish the requisite connection between the defendants and plaintiffs, as held by the Court of Review, no damage can be recovered. If they do, as the Court of Queen's Bench hold, there ought to be a judgment for such damages as the other findings justify, and for no more. As the jury have found that the death of Mrs. England was not accelerated by the poison to any appreciable extent, it follows as a legal consequence that the damage attributable to the defendants is inappreciable. It cannot be appreciable for the boy any more than for his father. As regards the father, he has suffered no pecuniary loss; the son has suffered loss estimated at $1,000, but the extent to which the defendants have caused it is inappreciable, or, in other words, is nothing at all which a Court of justice can recognise. No damages being recoverable, it is right to dismiss the action as the Court of Review has done. A large part of the argument for the plaintiff was taken up with an attempt to displace findings Nos. 3 and 9 on the ground that they are against the evidence, and their Lordships' attention was called in detail to the evidence on the point. [Those findings were that the lady's death was accelerated by taking the tartar emetic, but only to an inappreciable extent.] They do not feel it necessary to comment on it in detail. They agree entirely with the position taken by the Court of Queen's Bench—that, whatever might be the opinion they would form if they were the jury, the conclusion to which the jury have come was quite open to them on the evidence, and cannot properly be disturbed. Their Lordships will humbly advise her Majesty to discharge the order appealed from, with costs, and to restore that of the Court of Review [dismissing Dr. England's claim]. The respondent [Dr. England] must pay the costs of this appeal.

A Chemist's Difficulties.

In the City of London Court, on Monday, before Mr. G. Pitt-Lewis, Q.C., the case of Mountain *v.* Spinks was heard. The plaintiffs, who trade in Finsbury Circus, applied to have Mr. Spinks, chemist, Theobald's Road, committed to Holloway gaol for not having paid the sum of 3*l.* 15*s.* due. Evidence was given to the effect that the defendant carried on a good business. He sent a representative to say that he was very much embarrassed. He was in arrear with his rent, and he owed about 250*l.* He was ordered to pay 10*s.* per month, but the Deputy Judge declined to commit the defendant if he made default in his payments.

Sale of Food and Drugs Act.

The Two Pharmacopœias.

At Chorley (Lancs) Petty Sessions, on Tuesday, Isaac Baron, grocer, of Witnell, was summoned in respect to a sale of 8 oz. of compound tincture of Turkey rhubarb on May 19 to P. S. Jackson, who produced the formula of the British Pharmacopœia for 1898, showing the proportion of ingredients as they should be, and he also put in that of 1885. The figures of the analyses were: 47·0 per cent. of water, 50 1 of alcohol, and 2 9 of total solids or extractives, of which 2·4 are soluble in water and 0 5 per cent. insoluble in water, but soluble in proof spirit. The analyst stated that the sample contained only about half the usual quantity of extractives, in which were included the active ingredients of tincture of rhubarb, and in his opinion it had not been prepared according to the British Pharmacopœia. For the defence, Mr. Overend Evans said they were not bound by the Pharmacopœia of 1885, because it contained no directions for a compound tincture, and the sample in question could hardly be judged by the new Pharmacopœia, which only came out in May, and which, as chemists and grocers required notice when any change took place, would only be expected to come into operation in June. He contended that the article in question was not sold to the prejudice of the purchaser, that it was a compound tincture of Turkey rhubarb, and that it actually cost more to prepare than the preparation ordered by the new British Pharmacopœia. Mr. Butterworth, of Blackburn, chemist, maker of the tincture, told the Bench the component parts of the tincture, and said it cost him 3*s.* per gal. more than the ordinary preparation. A fine of 40*s.* and costs was imposed.

Commercial Traveller's Notice.

Another case in which the question of what is a reasonable notice for a commercial traveller was raised came before a jury at Staffordshire Assizes on Friday. The plaintiffs, Messrs. Moulton & Co., dry-salters and soap-manufacturers, Macclesfield, sued J. Dulley, a commercial traveller lately in their employ, for 86*l.*, money received on their behalf. Mr. Terrell, who appeared for the defendant, said his case rested on the claim that the defendant was entitled to three months' notice, and he had only had one month's notice. He entered the plaintiffs' service in December, 1893, though he was not exclusively in their employ. At first he was engaged on a commission of 5 per cent., with a guarantee of a minimum wage of 2*l.* 10*s.* per week. This was increased from time to time, and in January, 1895, the commission was 10 per cent., the firm guaranteeing a minimum wage of 8*l.* per week, including expenses. In August last the guarantee was reduced to 5*l.* per week, and subsequently defendant received a month's notice terminating his engagement. After hearing witnesses, the jury found that four weeks was reasonable notice. Judgment was entered for plaintiffs for 45*l.* 4*s.* 1*d.*

Pharmacists and Doctors' Errors.—A pupil at a Honfleur college recently died from the effects of a medicament containing an overdose of phosphorus. The doctor and pharmacist were both prosecuted. The latter proved that he dispensed the prescription correctly, and was acquitted. The doctor admitted his error, but stated that had the pharmacist consulted the Codex he would have remarked the overdose. The *juge d'instruction* (who conducts the preliminary inquiries in French criminal cases) was disposed to accept the doctor's excuse as a legally valid one, but the lad's parents have insisted that he shall be put on trial.

Bankruptcies and Failures.

Re JOSEPH ROBERTSON, Cullen, Chemist and Postmaster.

THE examination of this debtor took place on July 20, at Cullen Sheriff Court. The assets amount to 197*l.* 2*s.* 3*d.*, and the liabilities to 1,304*l.* 10*s.* 10*d.*, showing a deficit of 1,107*l.* 8*s.* 7*d.* He commenced business in April 10, 1895, and granted a trust-deed in favour of Mr. W. L. Taylor, bank-agent, Cullen, on February 1, 1898. He attributes his failure principally to the special claims made upon him by an adverse verdict in a recent action for breach of promise, which was raised against him in the Court of Session. The claim by the pursuer amounted to 518*l.* 12*s.* 2*d.*, which made a total of 694*l.* in connection with that action. Deducting that from the total liabilities, there were left 560*l.* of other liabilities, and also deducting 40*l.* of preferable debts, and 197*l.* of assets, there was left a further deficiency of 323*l.* In May, 1897, he purchased the property in Grant Street, Cullen, which he occupied, and paid for it 556*l.* odd, including expenses. He put that into the ordinary expenditure, and it would be found in his books. The property was bonded for the full amount of the purchase-money. He borrowed 400*l.* from a client of Mr. Sim, and 150*l.* from his brother, Alexander. In 1895 he borrowed 100*l.* from the bank, and paid back 70*l.* of it within three months. He borrowed the other 30*l.* to pay the balance. When he paid the 30*l.* it was out of his ordinary drawings that year. He really made a profit of 110*l.* that year, which included the 70*l.* he had paid. Next year he did not pay anything off. It was a better year than the one before; but although the overturn was better—there being an increase of 300*l.*—the expenses were equally as much. He accounted for the small profits in two ways—expense in connection with the purchase of the property, and expenses in connection with the post-office. He claimed 33*l.* as wages for managing the business under the trust-deed. It was agreed at the meeting of trustees that the business was to be carried on, and he was instructed to attend to it. He made an endeavour to carry through a composition, which had been arranged upon the condition of his retaining the post-office. He lost that, however, and the composition fell through. If the composition had been carried through, the business would have remained in his hands.

The examination was concluded, and the statutory oath administered.

Re JANE FIELD, widow of Mr. Field, Regent Street, W., Chemist and Druggist.

THIS debtor, who is residing at 33 Norton Road, Hove, Sussex, underwent her public examination at the sitting of the Brighton Bankruptcy Court on July 22, before the Registrar, Mr. A. O. Jennings. Questioned by the Official Receiver (Mr. Howard W. Cox), she stated that her husband carried on business in Regent Street, London, as a chemist and druggist, and on his death she disposed of the business and let the shop. After acting as companion she borrowed 120*l.* in order to start a lodging-house, but the venture proved unsuccessful. The examination was closed.

Gazette.

PARTNERSHIPS DISSOLVED.

James, W. D., and **Rhodes, H.,** under the style of James & Rhodes, Sheffield, surgeons.

Owen, J. M., and **Swete, H. L.,** Fishguard, surgeons.

THE BANKRUPTCY ACTS, 1883 AND 1890.

ADJUDICATION.

Hadingham, John Wells, Battersea Park Road, S.W., one of the executors of the estate of Charles Hadingham (deceased), and carrying on business with Thomas Page Hadingham, the other executor, under the style of Charles Hadingham's Executors, at the Tower and Steam-roller Flour-mills, Beccles, chemist's assistant.

New Companies & Company News.

CARBIDES (LIMITED). — Objects: To acquire, own and work certain undescribed inventions connected with the production of carbides of calcium and magnesium, and to adopt an agreement with the London and Northern Syndicate.

LEAMINGTON SPA AERATED WATERS COMPANY (LIMITED).—Capital 15,000*l.*, in 1*l.* shares. Objects: To take over and carry on the business of a company of the same name. The first directors are:—C. R. Burgis, J. Brown, J. Heale, R. Lamplough, W. Greening, H. Goode.

ORR'S ZINC WHITE (LIMITED).—Capital 40,000*l.*, in 1*l.* shares. Objects: To acquire and carry on the business of manufacturers of and dealers in sulphide of zinc (Orr's zinc white) carried on in London by John B. Orr, and in Widnes, Lancs, by Thomas Kenyon under the style of "The Vine Chemical Company."

GRAHAM'S DRUG-STORES (LIMITED).—Capital 600*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, druggists, drysalters, oil and colourmen, &c. The first subscribers (each with one share) are:—Alfred Croft, 8 New Broad Street, E.C., druggist; George Field, farmer, and Mrs. George Field, St. Helen's, Hastings; Joseph W. Sugden, 9 The Avenue, Acre Lane, Brixton, S.W., chemist; Miss Mary Croft and Mrs. Mary Croft, South View, Crewe; Mrs. Alfred Croft, Eagle Mansions, Stoke Newington. Registered without articles of association.

HUGH MOORE & ALEXANDERS (LIMITED).—Registered in Ireland on July 19. Capital 130,000*l.*, in 13,000 preference shares of 5*l.* each and 65,000 ordinary shares of 1*l.* each, for the purpose of acquiring the businesses of wholesale druggists and general merchants now carried on at Dublin and elsewhere by William J. McNeight and William F. Moore under the style or firm of Hugh Moore & Co., and by William Alexander under the firm of Alexanders & Co., and to carry on the same in all their branches. The first directors are to be Messrs. Marcus Goodbody, Philip B. Robinson, William Alexander, Robert H. Moore, William F. McNeight, and William F. Moore. Registered office, the Linen Hall, Dublin.

THOMAS TYRER & CO. (LIMITED).—This company has been formed and registered, with a capital of 35,000*l.*, consisting of 25,000*l.* in 5-per-cent. cumulative preference shares and 10,000*l.* in ordinary shares, to take over the business hitherto carried on by Mr. Thomas Tyrer under the style of "Thomas Tyrer & Co.," at the Stirling Chemical-works, Stratford, Essex, and to engage in the business of manufacturing, pharmaceutical, and operative chemists. The liabilities and assets of the old firm are taken over by the company as from March 31, 1898. The signatories to the memorandum and articles of association (each with one share) are:—Ludwig Mond, 20 Avenue Road, N.W., chemical-manufacturer; Charles Dreyfus, 286 Dickenson Road, Manchester, chemical manufacturer; Thomas Tyrer, Stirling Chemical-works, Stratford, chemical-manufacturer; Charles Thomas Tyrer, Stirling Chemical-works, Stratford, chemical-manufacturer; Arthur Boake, High Standing, Loughton, manufacturing chemist; Charles Wightman, 1 Fenchurch Avenue, E.C., merchant; Alfred Gordon Salamon, 1 Fenchurch Avenue, E.C., consulting chemist. The services of Mr. Thomas Tyrer have been engaged as managing director, and he will be assisted by the same staff as hitherto.

HAMOR LOCKWOOD'S (LIMITED).—This is a Manchester business manufacturing benzole, carbolic acid, naphtha, creosote, and asphalte, which has been brought before the public this week with a capital of 100,000*l.*

CHEMISCHE FABRIK GRIESHEIM, FRANKFURT.—This company has increased its capital from 6,000,000m. to 9,000,000m., in consequence of its having acquired for 3,000,000m. the Chemische Fabrik Electron, whose capital was 4,000,000m.

MARJORAM is largely cultivated at Laraiche in Morocco. No less than 955 cwt., valued at 441*l.*, was exported last year principally to Cuba.

Deaths under Anæsthetics.

MR. C. W. KROHNE, the head of the firm of Krohne & Sesemann, surgical-instrument makers, 8 Duke Street, Manchester Square, believes firmly in the possibility of the absolutely safe administration of chloroform, and he loses no opportunity of impressing his belief on all with whom he comes into contact. Mr. Krohne's earnestness on this subject is entirely independent of commercial interest. For although his firm are the proprietors of a regulating inhaler, the object of which is to insure precise dilution and perfect control over the vapour, he appears ready to spend far more than his possible profits on this apparatus, both in time and money, to convert the medical profession to his views out of pure devotion to the cause of humanity. And the curious part of the matter is that their conversion does not seem to be necessary. As far as we can ascertain, medical men generally assent to Mr. Krohne's claims; profess, indeed, to have been in agreement with them all their lives; and yet continue to administer chloroform in the same haphazard and occasionally fatal fashion which they have been taught to follow.

Mr. Krohne tells us that during the first six months of this year the number of fatal accidents from anæsthetics was twenty-seven, which, it is satisfactory to note, was much smaller than in the corresponding period of last year, when the number reached fifty-one. That figure was apparently an exceptionally large one, for it appears that from the beginning of 1890 to the end of 1897 anæsthetics caused 405 deaths, all of which Mr. Krohne believes were due to unskilful administration. The following is Mr. Krohne's summary of the deaths recorded this year so far from this cause:—

Published in	Fatality in	Sex and Age	Disease	Anæsthetic	Remarks
The Birmingham Gazette, January 4	Queen's Hospital, Birmingham	M., 40	Abscess in kidney	Chloroform, 6 dr. used	Deceased struggled at first, then suddenly became quiet, and the heart ceased beating
Bristol Times, January 7	General Hospital, Bristol	F., 17	Swelling in the neck	Chloroform, 1¼ oz.	Deceased took the chloroform very well, but she suddenly stopped breathing
Birmingham Daily Gazette, January 8	General Hospital, Birmingham	F., 63	Examination of bladder	Chloroform	The patient took it well, but suddenly breathing ceased during the examination
Liverpool Post, January 12	Royal Infirmary, Liverpool	M., 35	Intended operation	First 1 dr. chloroform, and then ether	He commenced to struggle, and the anæsthetic was changed to ether, when he suddenly stopped breathing, became blue, and died
East Anglian Daily Times, January 13	Chelmsford Infirmary	F., 79	Intended operation	Chloroform	Death occurred before the operation took place
Chelsea Mail, January 22	Victoria Hospital, Chelsea	M., 2	Phymosis	Chloroform	The child seemed to take the chloroform very well. Suddenly it collapsed, and breathing stopped
Liverpool Courier, February 1	Private patient, Liverpool	M., 23	Teeth-extraction	Chloroform	Death occurred before the operation was completed
The Bristol Times and Mirror, February 15	Bridgwater Infirmary	F., 19	Internal complaint	Chloroform	Deceased had a strong heart and was healthy, but she died before the operation
The Morning, February 19	St. Thomas's Hospital, London	F., 30	Internal tumour	Ether	Was under the influence of ether for sixty-five minutes, when her pulse and breathing ceased
Leeds Mercury, February 22	Infirmary, Leeds	M., 48	Intended reducing dislocation of thumb	Chloroform, 1½ dr.	The period of excitement was intense. Died suddenly before the operation was attempted
Liverpool Post, February 23	Infirmary, Bury	F., 36	Abscess	Chloroform	Death took place before the operation was completed
East Anglian Times, February 23	Private patient, Saxmundham	M., 19	Empyema	Chloroform	Deceased suddenly collapsed before the operation was completed
The Irish Independent, March 23	Mercers' Hospital, Dublin	F., 19	Bone-disease	Chloroform	After a few minutes' inhalation, the girl's breathing became laboured, and she died
The Birmingham Daily Post, April 16	Guest Hospital, Dudley	F., 23	Abscess in the breast	Chloroform, 5 dr.	Breathing ceased directly after the operation, which lasted only half a minute
Manchester News, April 29	Bispham, near Wigan	M., 16	Correcting limited movement of elbow-joint	Chloroform, 40 minims	After administering about 40 minims of chloroform, respiration stopped, and death ensued
Chelsea Mail, April 30	Victoria Hospital, Chelsea	M., 9	Operation on the eye	Chloroform	The operation had just been commenced when the child turned a bad colour, and the heart's action failed
Birmingham Mail, May 4	General Hospital, Birmingham	F., 10	Adenoids	Chloroform	Immediately the operation, which lasted about two minutes, was concluded, deceased suddenly became very pale, and respiration ceased
Marylebone Times, May 7	St. Mary's Hospital, London	F., 10	Simple operation on her arm	Chloroform	The operation was nearly over when she suddenly collapsed. The deceased was a healthy child.
Liverpool Daily Courier, May 12	Private, Liverpool	F., 27	Internal complaint	Chloroform, 2 dr.	Scarcely 2 dr. of chloroform had been administered when the patient collapsed.
Lloyd's Weekly, May 15	King's College Hospital, London	M., 53	Growth on the tongue	Chloroform, 1 dr.	Deceased had been in the operating-theatre only a minute, when he ceased to breathe
Western Mail, May 26	Cottage Hospital, Ross	M., 30	An operation	Mixture, chloroform 2 parts, ether 2 parts	Deceased began to struggle violently, and soon died in a kind of epileptic fit
Manchester Guardian, June 7	Royal Infirmary, Manchester	M., 15	Diseased bone in foot	Chloroform	The lad died a few minutes after the chloroform began to be administered

Published in	Fatality in	Sex and Age	Diseases	Anæsthetic	Remarks
The Sussex Daily News, June 14	Infirmary, Chichester	M., 47	Hæmorrhoids	Mixture, chloroform 2 parts, ether 1 part	Deceased suddenly stopped breathing and died. The anæsthetist had himself given anæsthetics in over 1,200 cases, and never had an accident before
Wiltshire Chronicle, June 18	Royal United Hospital, Bath	M., 21	Intended operation	Chloroform, 40 drops	Deceased inhaled only a very small quantity—about 40 drops for about forty-five seconds—when he began to breathe deeply, and the heart ceased to beat
Edinburgh Evening Despatch, June 23	Infirmary, Edinburgh	M.	Reducing a dislocated joint of a finger	Chloroform	After the first few inhalations he began to shout loudly, kick about, and fight, and it required the force of four or five doctors to hold him down. Signs of asphyxia set in, and he died
Keen's Bath Journal, June 25	Royal United Hospital, Bath	M., 11	Tumour under the shoulder-blade	Chloroform, 2 dr.	It took about ten or fifteen minutes to administer about 2 dr. of chloroform, when breathing stopped

Mr. Krohne remarks on the above list that in every instance, as in all cases of chloroform-deaths previously reported, the chloroform was administered on a cap, cone, piece of lint, or towel, in drachms or drop by drop. It was against the uncertainty and danger of such a practice that Snow long ago earnestly protested.

The increase of the number of fatal accidents from anæsthetics since Snow's day is undoubtedly owing to the seemingly insurmountable difficulty of convincing anæsthetists and coroners of the truth of Snow's conviction. Dr. Waller, of Montreal, a year ago, proved that the slow and regular progressive inhalation of from 1 and not above 2 per cent. of pure chloroform-vapour ensures surgical anæsthesis always with perfect safety. If only anæsthetists, says Dr. Waller, had been more universally alive to the quantitative principle underlying Snow's practice—he does not say the absolute quantities that Snow laid down—the waste of life that has been the price paid for chloroform (and has yet to be paid, it is feared) might have been, if not altogether avoided, at least largely curtailed.

Dr. Waller is convinced (1) that chloroform-vapour is in itself a certain and uncapricious agent, producing effects more or less pronounced in gravity according as it acts in greater or smaller quantity; (2) that anæsthesia requires the continuous administration of a mixture of chloroform and air at an average percentage of 1·5—not below 1 per cent., and not above 2 per cent. The Junker method, as known to me, says Dr. Waller, through the apparatus of Messrs. Krohne & Sesemann, seems best adapted practically to fulfil the indications as to quantity. It is adjusted to deliver 1 minim of fluid chloroform at each full stroke of the piston. The large opening of the face-piece allows of perfect freedom of respiration, and is provided with a light feather, which serves to indicate the commencement of inspiration, which is the instant in which a given stroke, or half-stroke, or quarter-stroke of the piston is to be made, driving into the face-piece and inrushing air the vapour of 1 minim or any desired fraction of a minim, from which each patient inhales and absorbs just the amount of vapour to cause no other symptom than that of absolutely safe anæsthesia.

Colonial and Foreign News.

Patriotic Pharmacists.—The Buffalo druggists announce that they will dispense prescriptions free for the families of soldiers who have gone to the war. Patent and proprietary medicines, however, are not included in this offer.

A Good Example.—The firm of Hegeman & Co., 196 Broadway, Manhattan, who employ twenty registered pharmacists, have had all the certificates framed in a uniform manner and hung up over the prescription department of the store.

Natal Customs.—The Customs Union Bill passed in Committee of the whole House in the Assembly at Maritzburg on June 28, and by next day dealers in liquors, drugs, groceries, and all articles affected by the Convention were lowered by Durban retailers.

New B.P. in Victoria.—The Government contracts for general stores for 1898–99 require that "all articles must be of the best quality of the several kinds, and all preparations and compounds are to be those of the new British Pharmacopœia unless otherwise specially ordered."

Bulgarian Drug-trade.—The total value of the imports of drugs to Bulgaria in 1897 was 22,039*l.*, of which Austria-Hungary contributed 11,624*l.*, Germany 5,517*l.*, and France 3,294*l.* The imports of British origin barely exceeded 500*l.* Chemicals were imported to the value of 27,037*l.*, against 22,779*l.* in 1896.

Belgian Arsenic.—The American Consul at Liège, in a recent report on the trade of that town, states that during the first quarter of 1898 the declared value of white arsenic exported to the United States was $16,000. In the first two quarters of 1897 no arsenic was shipped to the U.S., but during the last two quarters $29,000 worth was forwarded. In 1896 the aggregate of such exports to the U.S. was $18,000, and in 1895 $20,000.

Homœopathy in the Antipodes—"The Homœopathic Association of Tasmania" has been founded to demonstrate the scientific basis and promote the interests of homœopathy, also to maintain and uphold the absolute right of every legally qualified medical practitioner to employ any system of medicine he may think best without there by incurring any loss or diminution of professional status. The subscription is 2*s.* 6*d.* per annum. A homœopathic journal is issued monthly by the Association for gratuitous circulation.

Proprietary Medicines in Germany.—The German Excise officers have recently rivalled those of Somerset House in their interpretation of the meaning of "Geheimmittel." Messrs. C. F. Boehringer & Söhne, of Waldhof-by-Mannheim, are one of the latest firms to suffer, having been ordered to pay a fine of 20m. in respect of ferratin, although that preparation is known to be an iron-albuminate one. Messrs. Boehringer appealed against the decision, and, backed by the opinion of Professor Scharr, of Strassburg, have obtained its reversal.

Sinhalese and the Opium-habit.—The consumption of opium in Ceylon is largely on the increase, and the Opium Commissioners in that island have held a series of meetings to consider the effect of the present policy of the Government, and to suggest means whereby the sale may be checked somewhat. The result of their deliberations has not yet been made public. It is stated by a Ceylon contemporary that the present system of open shops for the indiscriminate sale of the drug is creating an opium-habit among hundreds of the natives who never touched opium before. The amount imported into Ceylon in 1895 was 12,827 lbs.; 1896, 14,975 lbs.; and 1897, 18,286 lbs.

Summer Supplements

THE supplements or insets which are enclosed with this issue are not only more numerous than usual, but exhibit a degree of artistic merit which has not, we believe, ever been attained before in a trade journal. This is an achievement for which we are solely indebted to the firms who are employing this method of advertising their goods, and we confidently ask everyone into whose hands this issue may come to give these supplements their careful attention.

Another feature of the series which cannot escape notice is the increased number of attached pamphlets, price-lists, and showcards which we distribute. This system of advertising originated with us, and it has distinct advantages. Firstly, the booklet, or whatever the article distributed may be, is generally something which the advertiser has already prepared and wishes the trade to know of, so nothing could be more effectual than an actual specimen. Secondly, the method of distribution is comparatively inexpensive, and combines the benefits of advertising and a call by a traveller. Thirdly, the nature of such insets ensures an immediate response and a permanent advertisement, as after the booklet or handbill is detached the circular remains for subsequent reference.

We may explain with reference to insets that we only accept them for distribution twice a year. The next occasion will be our Winter Number, to be published on January 28, 1899. Particulars in regard to the charges will be found on p. 64 of the advertisement section of this issue. In the paragraphs here following we give concise descriptions of the supplements, and the folios in parenthcses refer to the section of the issue in which the supplements will be found:—

Stafford Allen & Sons' "Chapter in the History of Drug-grinding, Oil-distilling, and Oil-pressing," is a pamphlet of great historical interest. It appears from it that this firm was founded in 1833, when unadulterated powdered-drugs were unknown, unless the honest druggist made them for himself. The business was commenced for the purpose of supplying pure powders, and through the influence of Mr. Stafford Allen, the founder of the firm, the traditional rule in regard to grinding-allowances (4-per-cent. loss for moisture, gruffs, &c., for each and every drug) was abolished. The firm have also a world-wide reputation for distilled and pressed oils, and it is interesting to note that they are the oldest distillers of sandal oil in this country. They are also the owners of the Ampthill business, George Allen & Co., manufacturers of extracts, &c., and in that connection illustrate the pamphlet with photographs of this year's crops of lavender, belladonna, rhubarb, henbane, aconite, and poppies. Portraits of the first two Allens and of the present partners are also given. Wholesalers especially will find this pamphlet a valuable record of incidents in the trade which have not been adequately dealt with hitherto, and which the rising generation know nothing of. (Pp. 140–141.)

André & Sleigh (Limited), the printers of our cover, invite the trade to consider the capabilities of their three-colour process, and exhibit a bottle of barley-sugar as proof of what it can do. A year ago we told the trade what we thought of this process. It is one of the few things in colour-printing which actually renders a coloured object in facsimile, and to manufacturers who wish to impress people at a distance with the real appearance of their goods, as distinct from imitations, it is simply invaluable. (Pp. 32–33.)

The Anglo-American Oil Company (Limited) insert a specimen of a chromographic handbill (a pretty thing it is) dealing with "White Rose" lamp-oil. This handbill gives useful hints on lamps and oils, which make for efficiency and safety in burning. (Pp. 206–207.)

Armour & Co. devote their cardinal circular to animal products—viz., pepsin and pepsin-tablets, and bone-marrow and its preparations—but it will be observed that the reverse of the sheet contains a statement of their arrangements for the production of organo-therapic remedies, and as the firm annually transform more than twenty million pounds worth of living animals into dead meat, their facilities for fresh supplies of those parts of the animals which yield modern medicines can be imagined. We notice that they supply a pepsin double the B.P. strength. (Pp. 64–65.)

"**The Bag of the Future**" is a clever thing, which druggists will appreciate. It is a box-bag—*i.e.*, when filled it is square—hence packs in the minimum of space close to its fellows. As a specimen of the bag forms this "Summer's Supplement," it would be superfluous for us to refer to all its advantages. The makers do not disclose their name, as they prefer that retailers should get the box-bag through wholesale houses. (Pp. 206–207.)

Thos. P. Bethell shows a dozen reproductions of as many photographs taken with his 2*s.* 6*d.* "Imprimis" camera. When it is considered that photographs always lose in detail when converted into half-tone engravings, the real utility of the "Imprimis" and the goodness of its work may be judged. Mr. Bethell also makes a 5*s.* "Crown" camera, which is as good in its results as many a two-guinea affair. (Pp. 64–65.)

Blondeau & Co.'s "Vinolia price-list" is—well, vinolia. There is no other word in the English language which expresses the thing, and we presume that Dr. Smith has arranged to put the word into his "English Dictionary." The price-list is illustrated, and deals with the following departments:—

Vinolia (the original)	Vinolia sachets
„ powders	„ smelling-salts
„ dentifrices	„ eau de Cologne
„ soaps	„ perfumes
„ shaving-vases	„ caskets
„ toilet specialities	„ pomades

The illustrations are numerous. (Inserted loose.)

Bowers Brothers offer "energy, originality, taste, and striking ideas" to all who want to do advertising by circular, handbill, and the like. They give an example of their prowess in the circular which they insert. (Pp. 64–65.)

Brunner, Mond & Co. (Limited), who have recently celebrated the silver jubilee of the establishment of the ammonia-soda industry at Northwich, insert a circular in which are set forth the advantages of sodium bicarbonate over chalk for the production of carbonic-acid gas in aërated-water manufacture. The circular contains printed instructions for the use of the soda, from which the cleanliness of the bicarbonate and its high utility may be judged. A sample 2-cwt. bag of this is sent to any address on receipt of a 10*s.* postal order. (Pp. 64–65.)

James Burrough's familiar mauve circular, with its gigantic S.V.R. and S.V.M., greets us once again. Now 56 o.p. S.V.R. has given way to "58 o.p. = 90-per-cent. alcohol," which Mr. Burrough supplies, as well as other spirits, table-wines, invalid and B.P. wines, and the "Red Cross" coca-wine. (Pp. 206–207.)

W. Butcher & Son have sent to 42 Cannon Street a list containing forty-two illustrations of photographic apparatus. Being a drug-trade firm themselves, and with a generation of experience in retail pharmacy, they know what suits chemists and druggists in this line of goods, and lay themselves out to supply at moderate terms. Cameras, lenses, shutters, cases, sundries, and magic-lanterns are their specialities, and the prices which they quote speak for themselves. (Pp. 64–65.)

Chemists' Aërated Mineral Waters Association (Limited)—to give the full title—exhibit once more the mammoth syphon which some in the trade may have seen at the Islington Hall. It is the largest syphon in the world. Of course "Camwal" have always made a strong point of the syphon-trade, and in this inset give a few plain figures to show how well the trade grows with chemists when "Camwal" syphons are handled. (Pp. 32–33).

Thomas Christy & Co. excel their previous efforts in colour-printing by this summer's supplement. One distinct gain from such examples of colour printing as theirs is that they show the trade what can be done by artistic methods. The articles advertised in the supplement require a list to themselves, viz.:—

Morstadt" apparatus, cachets, and koseals	"Puro" meat-juice
Witch-hazel extract	Farina's Eau de Cologne (Panteleon Strasse)
Adeps lanæ	Stearn's preparations
Sugar of milk	Dike's pepsin
Paraffin liq.	Hæmoferrum
Pictet's ethyl chloride	Christia photographic, surgical, &c., specialities
Menthol cones	

Some of these articles are illustrated, and a list of the agencies which the firm hold is appended. (Pp. 142–143.)

Coleman & Co. (Limited) reprint in gold and colours the description of a Norwich industry, written by "Silverpen." Once famous chiefly for mustard, the old Norfolk town now takes rank as one of the first places to produce a successful medicated wine—Wincarnis. The process of manufacture is described in the supplement, and there are added particulars of some other wines which the firm make. (Pp. 142–143.)

James Crosfield & Sons (Limited), the manufacturers of Erasmic herb-soap, demonstrate by their inset the value of the three-block colouring printing process. In our last Summer Number we explained that this process can be used for directly photographing a coloured object, and reproducing the same in the natural tints. The Erasmic herb-soap window which is reproduced in the circular could not be so faithfully rendered as by this process, so that the circular serves to show to any who have not seen these window-displays how effective this modern method of advertising is. Quotations for the soap, and terms upon which the window-displays and other advertisements are given, are included in the inset. (Pp. 32–33.)

Geo. Curling, Wyman & Co., following the custom of the preceding firm—Geo. Curling & Co.—insert in all copies of this issue sent to colonial and foreign towns a yellow circular dealing with their principal manufactures and departments of business. Being wholesale and export druggists they may be said to deal in everything pertaining to pharmacy, but they make specialities of granular preparations and gelatine capsules. (Pp. 206–207.)

J. Defries & Sons (Limited), sole licensees and makers of the Pasteur filter, give illustrations of some of the more popular forms of this sterilising filter, which is now being used in the aërated-water industry on account of its efficiency. (Pp. 64–65.)

A. de St. Dalmas & Co., the medical-plaster manufacturers insert a price-list of their principal products, containing reduced facsimiles in colours and gold of the containers and packets in which the plasters are sent out for retail, stock, or surgeon's use. Three dozen distinct articles are figured in such a way that buyers can form their own opinion of the attractiveness of Messrs. de St. Dalmas's goods. The "Leicester" and "National" plasters are their special brands, and we may remark, in reference to their medical plasters, that such kinds as belladonna are compounded with standardised extracts of English manufacture. The price-list on page 3 of the inset contains concise but explicit particulars of the various plasters. (Pp. 142–143.)

John Dickinson & Co. (Limited) in a former special number enclosed a sample of a novel wrapping-paper for soaps, perfumery, &c. A similar sample is again inserted, which will enable chemists to judge of its attractiveness. The paper is grease-proof and translucent, is embossed like moire-silk or like morocco-leather, and, as it is obtainable in several artistic shades, those who put up specialities can, by its use, secure a finish which is impossible by other means. (Pp. 64–65.)

Durafort & Son, of Paris, describe and illustrate the structure of their patent syphon for aërated waters. The syphon-head is lined with porcelain, so that the water does not come into contact with metal. Several different shapes of the head are figured. (Pp. 32–33.)

Essets's Sanitary Fluid and Appliances Company describe, in their price-list and circular, a number of their specialities, and illustrate the containers. The sanitary fluid is a non-poisonous disinfectant which mixes with water and gets straight into touch with microbes, destroying them as well as toxins. It is the basis of a powder, sheep-dip, soap, &c. This company also manufacture sulphur-candles, a special washing-powder, and a flush-disinfector, the last-named securing automatic disinfection of closets after use. (Pp. 64–65.)

Fassett & Johnson, the agents in this country for Wells & Richardson's diamond dyes, insert an artistic circular, upon which is printed a colour-photographic reproduction of the cherry-wood cabinet which is given free with certain orders for the dyes. These dyes are now being extensively advertised to the public, and the agents supplement this advertising by giving to each retailer a good selection of showcards, booklets, &c., which will draw custom and please customers. Some of these things are illustrated on the back of the order-form, which is part of the Summer Supplement. (Pp. 32–33.)

Wm. Gardner & Sons insert an illustrated price-list of the "Rapid" sifters and mixers which are used for mixing chemical and medicinal powders of all kinds. There are now 950 of these machines in use, and the inset shows for what purposes they are employed. (Pp. 206–207.)

D. & W. Gibbs (Limited) give the trade a choice of four styles of fine counter-bills, but if any find it difficult to make up their minds they can have a supply of each. One pertains to the original cold-cream soaps; another shows Cupid smiling as he shaves, for he is using Gibbs' superfatted cold-cream shaving-stick; the third counter-bill is a beauty, because it refers to the floral "Cameo Soap"; and the fourth is quaint and amorous, since it deals with Armand's "Savon d'Este." All these soaps, and many more, are made at the City Soap-works. (Pp. 32–33.)

John J. Griffin & Sons (Limited) ask the question "What is Velox?" on their circular. We answered the question some time ago, and they do it now, by explaining the properties of this unique photographic printing-paper, which can be printed and developed in gas-light. The firm also illustrate on the circular several pieces of physical apparatus, and offer catalogues of such goods as well as chemical, photographic, &c., in which they are well-known dealers. (Pp. 64–65.)

C. J. Hewlett & Son send to colonial and foreign readers a replica of the cover of their export prices current, as a reminder to those who have not received the last issue that they should write for it now. Inside is an interesting essayette on tinctures, and an "open letter" which, in our opinion, grips the key to colonial trade. (Pp. 206–207.)

Horlick & Co. offer to the trade supplies of the clever and extremely amusing diary which is attached to their circular. A trade-card sent to the firm will bring anyone a parcel of the diaries, which is as good an advertisement for this line as we have seen for some time. (Pp. 32–33.)

Jeyes' Sanitary Compounds Company (Limited) repeat the chromographic illustrated price-list which they have inserted on a previous occasion, and which gives figures of their principal soaps, disinfectants, and toilet preparations that contain Jeyes' fluid or creolin. Branalcane is also illustrated, and the wholesale prices of the whole are given. (Pp. 64–65.)

Leath & Ross, wholesale and export homœopathic chemists, offer to those who buy their preparations counter show-cases equal to more than the value of the preparations when retailed, and, it will be noted, the preparations referred to are those homœopathic medicines which are most popular. (Pp. 64–65.)

Albert Levy & Thomas's illustrated price-list of cigars is sure to attract attention. It contains "life-size" figures of Havana, Borneo, and Java cigars, with the retail and wholesale prices of each cigar, and they offer to supply druggists with sample-boxes of ten of the Borneo and Java kinds, or original packings of the Havanas, at the wholesale rates. Probably there are many chemists who smoke, as well as those who sell cigars, who will take advantage of the offer. (Pp. 64–65.)

Lusby (Limited), the proprietors of Pinoza tobacco-specialities, send to every one of our subscribers a copy of their forty-page price-list of cigars, cigarettes, tobaccos, &c. In addition to their own manufactures in these lines they supply the packed tobaccos, &c., of all the leading manufacturers at fine prices—in fact, they are in business to supply tobacco-retailers with all they need. A fair portion of the list is devoted to the Pinoza specialities. (Pp. 142–143.)

McCaw, Stevenson & Orr (Limited), the manufacturers of Ristona gold, silver, and lustre paints, are responsible for the inset having the window of "Taylor, 60" over it. We have previously called attention to these unique paints, which are not only a profitable extra for chemists, but a boon to households, owing to the artistic superiority of their tones. (Pp. 64–65.)

Major & Co. (Limited), of Hull, are the manufacturers of a new disinfecting speciality—Eucryl. It is to be distinguished from all other disinfectants by a brilliant red Z formed by a serpent. It is to be well advertised, and the agency for it is offered to non-cutting chemists. Bath-eucryl is a different article—a saponaceous solution, amber in colour—which makes a delightful addition to the bath. We also note from the inset that the firm make carbolic powder. (Pp. 64–65.)

Marshall's (Limited) insert an eight-page price-list, which is devoted to enamelled collapsible-tube specialities, perfumery, and the "Reel" flycatcher. We may note here special features of this inset:—(1) Orders for one gross of tubes secure special labels; (2) one's own formulæ are compounded and tubed; (3) the beautiful floral sachets are illustrated, so are the quaint ozone disinfectant tablets, and—no, that bad boy's hand has already called attention. (Pp. 32–33).

May, Roberts & Co., the Clerkenwell sundries-house, contribute 148 pages to this issue in the form of their half-yearly price-list of druggists' sundries. As usual, the list is divided into three sections: first, white-paper pages devoted to all kinds of sundries, and very fully illustrated; the second, or pink part, is a full list of patent medicines and proprietary articles, in which are indicated those things that are "saleable by chemists only," those that are under P.A.T.A. rules, or are otherwise protected. We call attention to the special rates announced on page 128 of the list. The third section is devoted to packed drugs, perfumes, toilet and household requisites. (Inserted loose.)

The Maypole Company (Limited) are one of the insetters who make it impossible for us to offer prizes for voting on "The best Inset"—the award would be in every instance so foregone a conclusion that there would be no fun in the voting. The inset is a composite as well as beautiful one. The outer covers can be used as show-cards, and inside is a lovely series of facsimile satin bows to show the people what can be done with the maypole. Lastly, there is the order-form, which specially appeals to business men in the trade. (Pp. 32–33).

Mellin's Emulsion Company (Limited) have the distinction of being the first to carry the cod to the chemist. We have read somewhere a tale of "How they carried the cod to Carlisle," but it seems to us to be a greater achievement to carry the cod to Cortachy, Calcutta, Constantinople, Canada, and any number more hard and soft C's, which is what Mellin's E. C. L. do in their inset. Apart from this, the circular contains the offer of a fine window attraction—(Mermaid and Codfish)—and gives facsimiles of the speciality and label. (Pp. 64–65).

Newball & Mason have got out another new thing in counter-bills, of which they make a "special offer" to the trade. The bill is unlike anything in this line that we have seen before. It is a wreath of hops, dandelions, and other things from England's garden, encircling the essence of them all—to wit, Mason's original extract of herbs for making botanic beer. The extract is an industry by itself, as may be judged from a perusal of the description of their premises, which forms the interior of the inset. (Pp. 32–33.)

The North of Ireland Chemical Company (Limited) are manufacturers of "antiseptic sheep-dip" and "Uni-

versal sheep-dipping powder," which they illustrate on one side of their inset, while on the other is a facsimile of the striking label of "Universal weed-killer"—the "gardeners' favourite." (Pp. 64–65.)

A. & F. Pears (Limited) give the chemist something which will, as usual, help business on. It is the face of a pretty domino, which "if placed in your window on the eye-line will arrest attention and direct it to your business premises." Besides this the circular speaks of the terms upon which Pears' soap is supplied to the trade. (Pp. 32–33.)

John Richardson & Co., Leicester (Limited) insert a most original circular, which for effectiveness will take a lot of beating; and the phrase, "Remember Richardson's" is as good as "Remember the *Maine*." Pills, capsules, and tablets are the subject of the inset. The firm have had a century of business enterprise, and show in the interior of their inset views of the premises in which the enterprise still goes on, while opposite are a series of pithy aphoristic references to their products. (Pp. 142–143.)

Robinson & Sons (Limited) have a wide range of industrial pursuit, which requires the accommodation of five factories, and of these their circular bears views. Then follow an epitome of their surgical dressings, with figures of some of the packages, some particulars regarding Mene towels, and figures of the various kinds of boxes which they manufacture. (Pp. 142–143.)

"Sallyco" Mineral-water Company insert a clever sketch of a Columbine, whose lightness and neatness seem to be due to "Sallyco" water. The water is one, we may say, which is useful as a beverage in all cases of uric-acid diathesis, and its reputation has already been the cause of substitution, *re* which a legal report appears on one page of the inset. (Pp. 32–33.)

Andreas Saxlehner, of Budapest, is content to allow a pyramid of Hunyadi-János water, and "25 years' success in the United Kingdom," herald the merits of this famed aperient, but there are other matters in the inset which should be read. (Pp. 32–33.)

Schweppes (Limited) are the sole importers of the "Kronthal" waters, of which there are three kinds. The one with blue label is an ordinary table-water for taking with wines or spirits, or plain; the red-label water is for gouty people and all who suffer from accumulation of uric acid in the system; and the green-label one is for anæmic and chlorotic people. The circular is characterised by Popini's brilliant sketch of H.R.H. in a comfortable position. (Pp. 32–33.)

H. Silverloek's inset is devoted to particulars of chemists' labels, counter-bills, chemical fly-papers, and all the printing and stationery which chemists need; while the interior contains a two-page impression of a sticky fly-paper manufactured by them. (Pp. 32–33.)

Spratt's Patent (Limited) always give us an inset which causeth the tail of the *C. & D.* dog to wag—it is so fond of a "Spratt," that it can clearly distinguish between "Spratt" and spurious. But it is a very clever dog, and has been known to smile when bath-night came along, as he and "Dr. Jim" (a Scotch terrier so called) are so fond of the dog-soap that there is generally a rush for it. In the inset quotations are given for many saleable lines in bird and animal foods and medicines. (Pp. 32–33.)

Stevenson & Howell (Limited) have entrusted us with a secret. On the first page of their inset they print a memorandum to chemists and druggists, and they back it (the secret will out) with that pretty bunch of lemons which the pharmaceutical world has more than once voted to be the finest thing in advertisement-illustrations they have seen. But there is a freshness about the present cluster of fruit which has not been there before. All this means that S. & H.'s "soluble essence of lemon is genuine." (Pp. 206–207.)

Tomlinson & Hayward's circular is devoted to the following dairy specialities: — Butter-powder, preservative, butter-colour, cheese-colour, cheese-rennet, and essence of rennet, as well as Hayward's "Eureka" weed-killer, sheep-dips, and other horticultural and agricultural specialities. (Pp. 32–33.)

Wm. R. Warner & Co, of Philadelphia, come out on this occasion as promoters of solubility, accuracy, and purity in the pill. "A Warner pill is a soluble pill" say they, and the second page of their inset gives some reasons why. Besides this matter the circular contains particulars of "bromo-soda" and lithia-water tablets, bono-sumbul, ingluvin, and other specialities of the house, which are stocked by their agents, Messrs. F. Newbery & Sons, King Edward Street, E.C. (Pp. 100–101.)

Wills of Deceased Chemists.

ALFORD.—The will of Mr. Edward Alford, chemist, Wadebridge, who died on March 23, 1897, has been proved by Mr. John Alford and Mr. William Alford, by whom the testator's personalty was sworn at 410*l.* 8*s.* 9*d.*

ALLSHORN.—The will of Mr. F. S. Allshorn, homœopathic chemist, 5 Victoria Road, Kilburn, who died on November 13, 1897, has been proved by Mr. Alfred Allshorn, homœopathic chemist, 28 Streatly Road, Brondesbury, the son, and Mr. W. A. Bilney, the executors. The testator's personalty was sworn at 9,813*l.* 19*s.* 3*d.*

ALMAN.—Letters of administration to the estate of Mr. Francis Alman, chemist and druggist, Macclesfield, who died intestate on August 3, 1897, have been granted in London to Mrs. Elizabeth M. French, by whom the deceased's personal estate is sworn at 2,848*l.* 15*s.* 8*d.*

BARRITT.—The will of Mr. Henry Barritt, chemist and druggist, Colchester, who died on August 17, 1897, has been proved by Mrs. Clemence E. Barritt (widow), Mr. Leonard Barritt, and Mr. Ernest Hy. Barritt, the executors of the testator, whose personalty was sworn at 2,993*l.* 10*s.*

BROWN.—The will of Mr. F. J. Brown, chemist and druggist, Minety, who died on September 15, 1897, has been proved by Mr. George Sisurn and Mr. William Forrester, by whom the testator's personalty was sworn at 2,870*l.* 5*s.* 7*d.*

COLLINS.—The will of Mr. Clement Collins, chemist and druggist, Brettall Lane, Stourbridge, who died on September 30, 1897, has been proved by Messrs. Frank Fletcher, J.P., Reading, and Rowland Moore, the executors, by whom the testator's personalty was sworn at 10,685*l.* 14*s.* 6*d.*

RAYBOULD.—Letters of administration to the estate of Mr. Joseph Raybould, druggist, Kingswinford, who died on August 30, 1897, have been granted to his widow. The deceased's personalty was sworn at 1,885*l.* 7*s.* 4*d.*

WHITE.—The will of Dr. James Fredk. White, manufacturing chemist, Leeds, who died last April, has been proved by Mr. Herbert Beaumont, of Wakefield, and Mr. J. W. Cullingworth, of Leeds. The estate is sworn at 24,388*l.* 11*s.* 8*d.*, of which 15,322*l.* 10*s.* 9*d.* is net personalty.

COMMERCIAL-TRAVELLERS' TAX. — In Denmark commercial travellers are required to pay a tax of 9*l.* a year if only one firm is represented, and 4*l.* 10*s.* for each of the others. This tax is paid to the Customs authorities on the date on which the traveller arrives in Denmark, and the licence is available for one year. The licence has to be inspected by Customs and police authorities in all towns the traveller visits on penalty of a fine of 3*l.* 10*s.*

The Art of Dispensing.

Notes and Criticisms.

THE following paragraphs are contributed by Mr. R. H. Parker, F.C.S., pharmaceutical chemist, Maida Vale, W., one of the original contributors to "The Art of Dispensing." Mr. Parker's notes will be continued during August. We shall gladly welcome any similar notes from other users of the volume. The folios in the paragraphs refer to the pages in "The Art of Dispensing."

Time of Dispensing (page 8).—Another good method is the use of a small adhesive label, marked "Immediate" in very bold type, thus:—

IMMEDIATE.

Order received at
Sent out at

to be placed outside the parcel in the most prominent position, so that it cannot fail to catch the eye of the messenger and of the person to whom the medicine is delivered at the house. This label should only be used for parcels of special urgency and those promised for delivery at a certain hour. It is much more effective than the line of small type often heading the prescription-envelope, "It is important that this medicine be delivered without delay," which is probably rarely read.

* * * *

Measures (page 16).—The most useful measures for the dispensing-counter are:—2-oz. conical, 4-dr. conical (graduated throughout for each 20 minims), and 20-minim pipettes (graduated for each minim). The conical measures should be selected of rather elongated shape, the inner sides forming a cone having straight sides (no bulging). Generally speaking, the 2-oz. measure should not be used for measuring quantities under 2 dr., nor the 4-dr. measure for quantities under 20 minims.

Triturations of Potent Remedies (page 17).—For general dispensing-purposes triturations of arsenic, strychnine, sodium arseniate, mercuric chloride, &c., are very useful. One part of the medicament should be lightly triturated with an equal weight of coarse sugar of milk until thoroughly mixed, then with firmer pressure until an impalpable powder is produced; add gradually 8 parts of fine sugar of milk, and continue trituration until uniform, occasionally detaching all powder adhering to the mortar and pestle. Transfer to a bottle, and label distinctly with the name of the medicament on one line, and below "Trituration 1 in 10."

* * * *

A Supply of Hot Distilled Water (page 37) is a great convenience at the dispensing-counter. Where space permits, a gas-stove and boiling-vessel (preferably with a tap) of suitable size should be set apart for this purpose only, and the heat adjusted so as to keep the water nearly boiling. A small vessel may be fitted over the sealing gas-jet, thereby utilising its waste heat. An extremely useful arrangement is a circular ring tripod, 8 inches in diameter, fitted with a set of water-bath rings; the legs of the tripod should be of such length that the top of the Bunsen flame, when full on, reaches a little higher than the rings. The exact quantity of water required should be placed in an evaporating-basin resting on the tripod (using an aperture of less diameter than that of the surface of the water) and set over the Bunsen; then, by the time the labels are written and the solid ingredients weighed, the hot water is ready; stir in the material to be dissolved, and, if necessary, strain into the bottle through cotton-wool, and cool before adding any volatile ingredient. If the quantity of solid is more than will be retained in solution when cold, no heat should be used; powder finely, and send out with a "shake" label.

* * * *

Liquors for Syrups (page 38).—Many syrups which are rarely required, and which are apt to decompose on keeping, may be prepared from the liquors, provided the dispenser assures himself that the finished product is similar to the official one, and does not contain added preservatives which may interfere with other ingredients in dispensing; the dispenser should know exactly what the liquor contains. Many dispensers prefer to make these concentrated preparations themselves, and in most instances this may readily be done; but if time does not allow, or if only small quantities are required, it is better to obtain fresh supplies frequently from manufacturers who make this class of preparation a speciality.

Syr. Ferri Phosph.—This darkens very much on keeping, but a concentrated solution of pure iron in phosphoric acid eight times the strength of the syrup changes very slowly, especially if kept in bottles quite full. This may be diluted with simple syrup as required.

Easton's Syrup.—This also darkens rapidly, but if the iron be omitted and the syrup made up to seven parts instead of eight, and filtered through paper, a brilliant syrup is obtained which keeps indefinitely. Seven parts of this, with one part of liquor. ferri phosph., should be mixed as required.

Syrupus Croci.—A concentrated infusion (four times the strength of the syrup) saturated with chloroform keeps much better than the syrup.

Syrupus Rhœados and Syrupus Violæ, unless in frequent demand, are much better made from liquors.

Preserving Mucilage (page 39).—A good plan is to keep two wide-mouthed bottles—of capacity equalling two or three days' supply of mucilage—one with a tin cap to dispense from, the other corked for making and labelled with the quantities of ingredients that will just fill it; when filled, lay on its side and rotate occasionally until quite dissolved. When the dispensing-bottle is empty thoroughly cleanse it, strain the reserve supply into it, and start a fresh batch in the making-bottle. A great improvement is to use aq. chlorof. instead of aq. dest.; there can be no real objection to this practice. [Or 10 minims of formalin to the pint.—Ed.]

Tannic Acid (page 42) does not readily yield a bright solution with water; a stock-solution (in proof-spirit 1 in 2) may be used, and yields a brilliant solution, with pure water, of a light-yellow shade; tap-water makes it opalescent.

* * * *

Pill-powder (page 46).—Two parts of powdered starch, with one part of very fine French chalk, makes a very good pill-powder.

Butyl Chloral Hydrate (page 53).—Add 5 per cent. of powdered tragacanth and mass with simple syrup. Any glycerin-compound added to this produces a troublesome pill-mass.

Ext. Cannabis Indicæ (page 59), when prescribed alone, makes a good mass with powdered liquorice q.s. If aqueous extracts are present a troublesome mass frequently results. The addition of 5 or 10 per cent. of pulv. tragac. and q.s. of "dispensing syrup" will perhaps answer, or, as in the following instance:—

Ext. cannabis indicæ	...	...	gr. iij.
Quin. sulph. ...	...	...	gr. xij.
Ext. hyoscyami	...	...	gr. xij.

Although both extracts were soft, this produced a crumbly unworkable mass; but the addition of 1 drop of a mixture of glycerin and spirit (equal parts) acted like magic and gave a splendid mass. Rectified spirit makes a very good mass with the following:—

Zinci valer. ...	...	...	gr. xij.
Ext. cannab. ind.	...	...	gr. ij.

Ft. pil. xij. in arg.

Ferri Protochloridum.—This is very deliquescent, and may contain a considerable amount of absorbed moisture. It should be dried thoroughly on a water-bath, powdered and massed quickly, with a very small quantity of mucilage of acacia; roll in lycopodium, place in a bottle, and nearly fill it with lycopodium. An ordinary coat of varnish is almost useless for a very deliquescent pill; it is much more important to exclude the air which supplies the moisture.

Ext. Lactucæ.—The following prescription may be noted:—

Hydrarg. subchlor. ...	...	...	gr. xxiv.
Ext. lactucæ ...	...	...	3j.

These pills, although made hard and varnished, were returned soft and adhering to the box; when made just as before, but rolled in lycopodium and sent out in a bottle almost filled with lycopodium, they did not become soft, even when not varnished.

Guaiacate of Lithia (page 64) makes a very satisfactory mass with "dispensing syrup." If massed with mucilage the pills crumble to pieces after a few days. If massed with spirit they may be of doubtful solubility.

Sulphide of Calcium (page 71).—To the quantity prescribed for one pill add pulv. tragac. gr. $\frac{1}{20}$, pulv. sacch. lactis ad gr. j., and mass with pure glycerin. This makes an odourless mass; the presence of water in any form, even as in confection of roses or an aqueous extract, decomposes the sulphide with evolution of H_2S, and the virtue of the pill is thereby more or less destroyed.

Dispensing Syrup (Squire).—Equal parts of glycerin, simple syrup, and mucilage. Is a most useful excipient, combining the virtues of all and the vices of none of its constituents.

Pulv. Rhei (p. 70).—One of the best excipients is glycerin and rectified spirit, equal parts.

Soap and Iron.—A favourite pill of Sir Andrew Clark's was:—

Aloin.	gr. ½
Myrrh....	gr. ½
Ext. nucis vom.	gr. ½
Ferri sulph.	gr. ½
Saponis	gr. ½

Ft. pil. i.

If an aqueous excipient be introduced the soap and sulphate of iron react, forming oleate of iron, and producing a very crumbly mass; but if massed with a drop or so of glycerin and spirit (equal parts) a capital mass results.

Medicated Pastils.—Bilson's pastil-mould (*C. & D.*, June 18, page 984) is a most useful form; thirty-six circular pieces of tin, lozenge-size, made concave, are soldered on a flat piece of metal. Each concave is filled with the melted glycogelatin (medicated as required) and allowed to cool.

Squill and Ammoniacum in Powder keep perfectly in a bottle with an accurately fitting stopper if carefully wiped each time it is used, so that no particles are left between the stopper and neck. If the stoppering is not quite perfect, a little vaseline will make it airtight. This precaution may advantageously be adopted for deliquescent chemicals, especially for those not in frequent use.

* * * *

Cachets.—A considerable nicety is required in damping cachets; too much moisture makes the edges curl; if the moisture is insufficient the two halves will not adhere. A good plan for the dispensing-counter, where only a dozen or so are made at a time, is to soak a piece of paper in water, drain it, shake off superfluous moisture two or three times vigorously, lay it upon the upper halves of the cachets, press once with the roller, remove paper, and quickly turn over the top of the machine and press steadily for a few seconds.

* * * *

Cacao-butter Suppositories (page 100).—It is customary to dispense suppositories with this basis, when none is specially indicated. The following is the *modus operandi*:—Weigh the basis, and melt with as little heat as possible; then, if practicable, the prescribed medicament should be finely powdered, and rubbed down with a little of the melted basis to a thin creamy consistence on a pill-tile that has been made nearly as warm as the hand; transfer this mixture while still semi-fluid to the vessel containing the remainder of the basis, stir until it begins to thicken, then pour into the mould. In case an aqueous extract (which does not admit of powdering) is an ingredient, proceed as follows:—Melt the cacao-butter in an evaporating-dish as before, and set aside until required; it must be kept at a temperature just over its melting-point by occasionally warming the dish a moment if it begins to solidify; rub the aqueous extract and other medicament with a little water on a cold pill-tile to thin creamy consistence, and transfer to an ointment-slab (which has been thoroughly warmed in water up to, but not exceeding, 90° F.); pour a little of the melted basis upon the medicament, and stir until it begins to thicken, manipulate rapidly and vigorously as an ointment, gradually adding the whole of the melted basis, so as to produce a perfectly uniform preparation before it becomes harder than a soft ointment; quickly transfer the whole to the evaporating-dish, hold it about 6 inches above the gas-flame, and warm cautiously, stirring continuously, until it is just fluid enough to pour into the mould. Tannic acid, or any other incompatible, must not be mixed with the aqueous extract, it should be separately rubbed down with a little of the melted basis on a slightly-warmed slab, and added just before pouring into the mould.

A well-made suppository will slip readily from the mould, it has a perfectly uniform appearance throughout, and a fine-polished surface. To secure this result, careful attention must be paid to the lubrication of the mould and to the method of pouring. If the mould be cold, and its surface highly polished and quite free from grease, no lubricant is needed, or perhaps the inner surface may be breathed upon just before filling; in either case, the mould should not be opened until plenty of time has been allowed for the suppositories to become thoroughly hard. When this involves too much delay, the mould (for cacao-butter suppositories) should be coated with a mixture of soap-liniment (1 part) and glycerin (3 parts). The coating must be thin, and evenly distributed with a little cotton-wool or lint. Too much soap in the lubricant emulsifies the surface of the suppository, and gives it a whitened and uneven appearance; too little prevents the glycerin from remaining thinly distributed, then the suppositories adhere to the mould, and probably break in extracting. The melted suppository-mixture should be poured into the mould just as it is beginning to solidify; if too hot, any medicament not in solution may subside and accumulate at the apex of the snppository. In very hot weather it will be found necessary to put the filled mould on the floor of a cold cellar for half an hour to cool; but if this is impracticable, or if urgently required, it may be placed on a plate and surrounded with lumps of ice. Never put the mould under water until *after* the suppositories have set.

Chloral Hydrate (page 105) may be melted with a mixture of equal parts of cacao-butter and white wax, and poured into the mould; or it may be powdered, and beaten to a uniform mass with cacao-butter, and pressed cold into the mould.

Cocaine.—Many dispensers hold that the pure alkaloid should be used dissolved by heat in the cacao-butter; but it is very probable that the finely-powdered hydrochloride would make a more efficacious suppository, as it would be absorbed directly it touched the moist mucous surface, whereas it is doubtful whether a moist surface could abstract the alkaloid from fatty solution. This theory is supported by the statement, on high medical authority, that "carbolic oil is worthless as a disinfectant; it does not liberate the carbolic acid to moist surfaces."

New Books.

Any book named in this list can be supplied post-free to any part of the world on receipt of the published price by the Publisher of THE CHEMIST AND DRUGGIST, 42 *Cannon Street, London, E.C.*

Spencer, W. G. *Outlines of Practical Surgery.* 8¾ × 5⅝. Pp 704. 12*s.* 6*d.* net. (Bailliere.)

Story, A. T. *The Story of Photography.* 38 Illust. 6½ × 3¾. Pp. 182. 1*s.* (Newnes.)

Stuart, Elma. *What Must I Do to Get Well? and How can I Keep so?* 13th ed. 7½ × 4⅝. Pp. 378. 6*s.* net (Simpkin.)

Sutcliffe, J. H. *Incubators and their Management.* Illus. 2nd ed. 7⅜ × 4⅝. Pp. 108. 1*s.* (L. U. Gill.)

System of Medicine. Edited by T. C. Allbutt. Vol. 5. 9 × 5¾. Pp. 1074. 25*s.* net. (Macmillan.)

Thompson, C. J. S. *Notes on Pharmacy and Dispensing for Nurses.* 6¾ × 4¼. Pp. 110. 1*s.* (Scientific Press.)

Urlin, R.D. *The Law of Trustees.* 4⅜ × 7. Pp. 116. 1*s.* net. (Effingham Wilson.)

Warren, W. J. *A Handbook to the Gum-bichromate Process* Illus. 7⅛ × 4¾. Pp. 76. 1*s.* net. (Iliffe.)

White, W. H. *Materia Medica, Pharmacy, Pharmacology and Therapeutics.* 6½ × 4. Pp. 621. 3rd ed. 7*s.* 6*d.* (Churchill.)

G

"Towards the End of 1798 John Bell opened his Shop."

IN this simple sentence Jacob Bell has recorded an event which has been momentous to English pharmacy. No one questions that of the historic pharmacies in Great Britain 225 Oxford Street, London W., is *facile princeps*, as it was there that the corporate existence of the craft commenced forty odd years after the founder of the pharmacy opened the door to take half-a-sovereign and lose half-a-guinea the first day.

Scarcely a hundred years have elapsed since John Bell opened his shop, but it is appropriate that we should in this semi-annual issue nearest approaching the centenary of the event give some particulars of the firm's history.

The story of the foundation of the business has often been told, and to young pharmacists it is ever fresh; yet it is difficult for them, and even for older men, to realise that John Bell was a very young man when, "on the 17th of August, 1798, he observed a shop to let in Oxford Street." He was not yet four-and-twenty, and was still in the employment of his apprentice-master, Mr. Frederick Smith, chemist, 20 Haymarket, for whose daughter he had a tender regard —she was to become some years later the mother of Jacob Bell. The young man remained with Mr. Smith after his apprenticeship, at a small salary, while he looked out for an opening. He had been intended for a doctor, but could not tolerate the work, and he liked pharmacy. He set about the selection of a suitable opening in the conscientious manner which was to be expected of a young Quaker of that day. He says in his journal: "On my return home from seeing a poor woman I observed a shop to let, which seems a little to strike me, though with a fear lest I should err in judgment. . . . If I may be so favoured as to keep my place, however unworthy, will not an all-wise bountiful Providence care for me?" There were green fields opposite the Oxford Street shop in those days, which did not deter the opening, because John Bell knew that honest and pure drugs were wanted in the district. Mr. Frederick Smith encouraged him to take the shop, and his father settled the matter by advancing 400*l.*, of which Messrs. Fynmore & Palmer, shop-fitters, received 86*l.* 13*s.* 9½*d.* on November 24, 1798. The actual day on which the shop was opened is not known. The first entry in the oldest day-book of the house is—

1798, 12 Mo. 8. M. D. Percival 123 Oxford St.
lb. viii. sulph. viv. 3½ 2–4.

This vellum-bound day-book gives no direct clue to the opening-day. It is believed to be probable that booking-customers were not the first customers, but to say more than this would be idle conjecture. Working single-handed John Bell found, at the end of a year, that he had lost money, and the despondency through which his Uncle Sheppard dragged him in the early months of the year, both with soothing advice and 100*l.* to complete the fitting and stocking of the shop, returned; but his friends made him stick to the place, and he did so, with the result that he had paid off the borrowed 500*l.* before 1800.

One is curious to know what the shop was like at the beginning, but here, again, records fail us. It is a double shop now, and has been within the memory of man; the old-fashioned windows, with their thirty small panes of plate glass, each with a dozen carboys and bottles, are comparatively modern. Jacob Bell mentions that soon after 1806 the private door of the premises was sacrificed in order to enlarge the shop, which seems to indicate that the shop was at first a double one, but narrower. It is also known that the 100*l.* which his Uncle Sheppard lent him shortly after he commenced business was to remove a partition which was in the way of the arrangements he planned for a complete pharmacy. Since then many partitions have been removed and additions made, so that the pharmacy of to-day must be very different to what it was at the end of last century. Still, there is an old world and, undoubtedly, much of the original air about it. The mahogany fittings are dark with age, and the front shop, with its serving-counters at each side, is innocent of glass cases and other touches which characterise up-to-date pharmacies. It is, however, the firm rather than the shop, which specially interests us at present. We find there have been

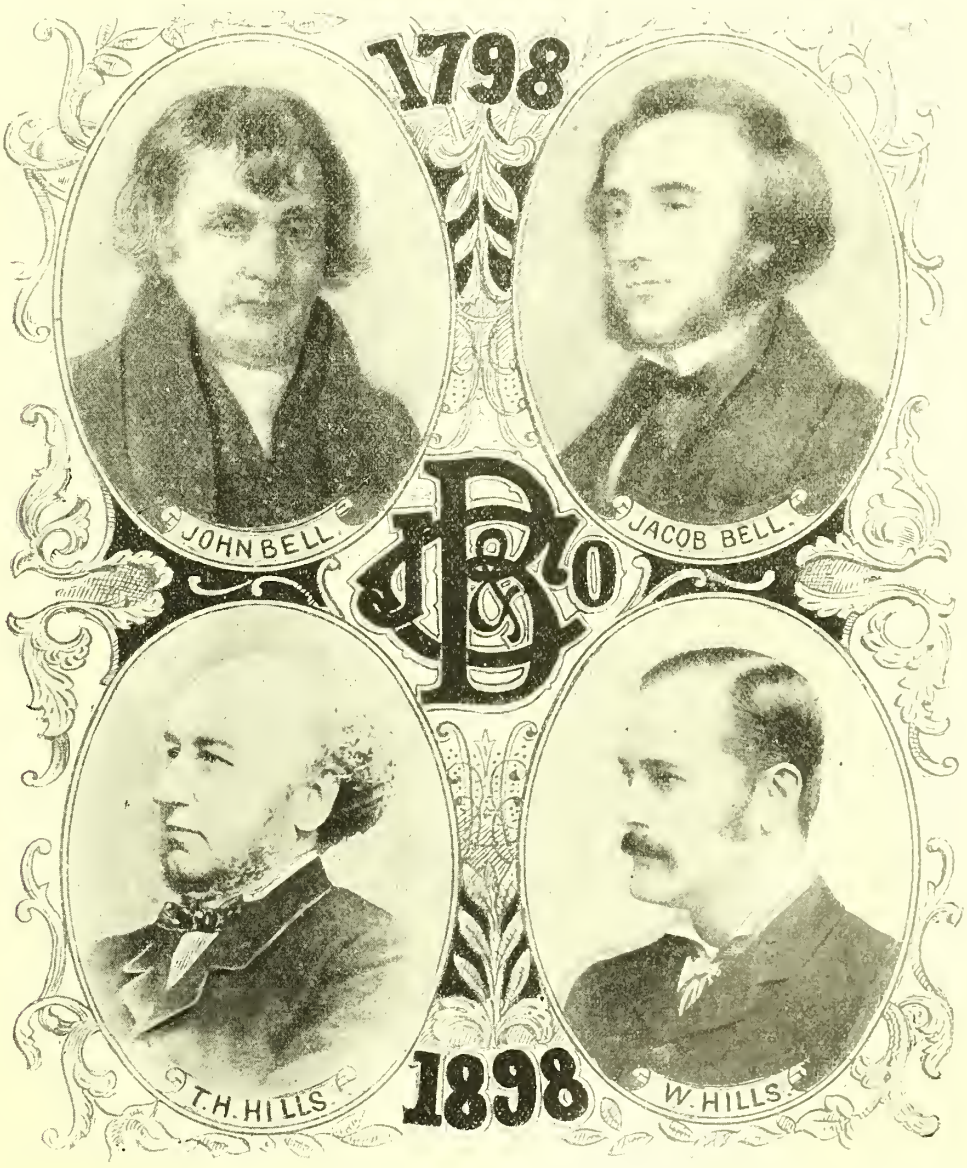
Eight Epochs

in its history, and the men at the head of affairs were as follows:—

First, 1798–1819, John Bell.
Second, 1819–1836, John Bell, Thomas Zachary, and John H. Walduck.
Third, 1836–1849, John Bell, Jacob Bell, and Frederick John Bell.
Fourth, 1849–1852, Jacob Bell.
Fifth, 1852–1859, Jacob Bell and Thomas Hyde Hills.
Sixth, 1859–1891, Thomas Hyde Hills.
Seventh, 1891–1893, Walter Hills and Samuel Gale.
Eighth, present time, Walter Hills.

Almost at the beginning John Bell was joined by a younger brother, Jacob, as an apprentice. They worked together without other help, except that of John Simmonds, the shopboy, for two years, when, in 1800, Thomas Zachary became an apprentice. Things were looking brighter by that time, and Mr. Bell had paid off the loans which he had raised. The day-book testifies that almost every day of the first two years showed increasing trade; the prices were certainly not bad, but were not extravagantly high, and to the volume of the business chiefly was the good position of the young man attributable. He economised marvellously, it is true, letting off every room of the house that he could; but in 1802 he was married, and required more accommodation. Four years later came the first enlargement of the shop, by which time there were three apprentices and two "shopmen." The latter were engaged in the back shop or as general utility men, and John Simmonds was one of them. The late Professor Redwood has told how John was wont at first to pound a duster in a mortar in order to keep up appearances; but this story is probably apocryphal, for John Bell was a strict

Quaker, keeping his shop shut all Sunday and up to 12 noon on Thursday, so that he and his assistants might have the opportunity of attending meeting; and it is difficult to imagine that he would willingly allow John Simmonds to deceive the public and damage his dusters. There was better occupation for Simmonds in the "elaboratory," as the back shop was called from the first, and he soon became an adept in pharmaceutical operations. He remained with the firm until a hoary old age to be "immortalised by Hunt's water-colour drawing of 'The Laboratory.'"



"RULES" OF NINETY YEARS AGO.

About 1810 John Bell reduced to writing the regulations of his pharmacy, which had been tacitly in force for some time. These are preserved to this day, and it may not be out of place to reproduce them in abstract, especially as they indicate how the business had grown in a dozen years:—

Sundries to be done every morning before breakfast.

One assistaut and two apprentices (or more) to clear and wipe counter, dust bottles in windows, clean and fill serving-bottles, clean mortars and knives, trim and clean lamps before breakfast.

Three or four seniors to attend in turns on Sundays, assisted by one junior; also to take turns serving at meal-times and after 9 P.M. All to assist in cleauing one window on Tuesdays and Fridays.

Each to put everything he uses in place afterwards, wipe scales, and, if lads are out, wash mortars. When no customers present see that supplies are full, prepare pills, pick gums, &c. "To avoid disappointing of customers, and to be particularly careful not to allow them to wait without being spoken to."

Rise at 7, go to bed at 11, and be cleaned at breakfast-time. By turns assistants may go out on Wednesday aud Saturday mornings. Junior apprentice but two to have occasional superinteudence of the elaboratory, to examine goods as they come in, keep vial-drawers, have stock of plaster-leathers, &c., aud write out bills.

Junior apprentice but one to execute apothecaries' orders, prepare infusions and decoctions, prepare horse-medicines, keep apothecaries' bills, take care of countiug-house, and collect monthly bills.

The apprentice to clear one counter after dinuer aud tea.

[Then follow brief regulations as to personal conduct, and, in conclusion, the following]:—

The junior apprentice to prepare no prescriptions unless by the

direction and superintendence of the senior assistant, to keep the sundry articles usually kept put up; and if behindhand to be assisted by his senior. Lastly, to remember it is as much in the power and duty of the employed as the employer to study to make each other happy, and to strive to do as he would be done by.

The Second Generation.

Jacob Bell was an infant when these regulations were printed; March 5, 1810, was his birthday. Thirty-nine years later, when, as editor of the *Pharmaceutical Journal*, he was asked to write a biography of his father, Jacob Bell put into it few family details. He was reticent, as well as modest, about such matters. His father took two partners in 1819 from his staff, with the object of relieving himself of many details which had become irksome, and to allow him to take a more active part in the religious body in whose community he lived. With the admission of his old apprentices, Thomas Zachary and John H. Walduck, the firm-name became John Bell & Co., and Thomas Zachary took charge of the house. Mr. Bell had a house at Wandsworth, and it was his custom to drive in to Oxford Street daily in a pony-trap, a practice which he continued until a short time before his death The business advanced steadily under its extended management. The shop had acquired a wide reputation, medical men and the public knowing it to be a pharmacy where everything could be relied on. Every preparation was made on the premises, when that could be done, this being in most instances the only possible guarantee for purity. Dispensing formed a large part of the business, but the retail was good, and it was all that John Bell could do to keep the preseribing department from growing, for he was a gifted prescriber.

John Bell & Co. were well known in the provinces by the twenties, old assistants from 338 Oxford Street (now 225) having settled down in various towns, and their apprentices were keen to get new experience in the old shop. The Quaker community knew it too, and it was through that connection that the late Theophilus Redwood, after three years' experience with a Cardiff apothecary, began, in 1821, to put up Epsom salts, seidlitz-powders, and castor oil in Bell's. Redwood found a few notable men behind the counter and to share the common room with him. Amongst them were Robert Alsop, whose work on infusions there are some still living who appreciate; George Nelson, who was afterwards to make a name as a gelatine-manufacturer; and John Garle, who became a pharmaceutical examiner. When Redwood entered Bell's the shop was resorted to by customers from far and near. It was generally thronged, and the accommodation was unequal to the increasing business. The necessity for enlarging and improving the premises had become so obvious that even John Bell's conservative instincts bowed to the inevitable, and the result was that he and his partners offered a premium for

A Plan of Improvement.

Redwood had had three years' experience in the shop, and was now expertly dispensing at the principal counter. He matured a plan, and submitted it, with detailed specifications, which so charmed John Bell & Co. that they accepted it, and carried out the improvements without deviation from the plan. In all essential particulars the front shop remains to-day what it was then (1824)—a simple double shop, without special dispensing-arrangement, for all prescriptions are compounded from the contents of the shop-rounds, and in full view of the customers. Is it not told that Jacob Bell himself was one day dispensing a prescription for a lady who kept up an incessant chatter, in the course of which he made a mistake, and to retreat from it honourably he managed to land the bottle on the floor?

The Two Brothers.

Jacob Bell entered the business in 1827. He was put under Thomas Zachary's charge, and lived indoors under his eyes. During his apprenticeship the heir of the house got on terms of great intimacy with the assistants and apprentices, was an eager leader in their study of literature, and attended the lectures by Faraday and Brande at the Royal Institution along with Redwood. Frederick John Bell, his younger brother, came into the business later, and when Zachary and Walduck retired in 1836 Jacob and Frederick were admitted partners. History has little to tell us about Frederick John Bell; apparently the lustre of his elder brother's career blinded his contemporaries to his more sober abilities. His characteristics favoured the affectionate side, and the late Henry Deane, alone amongst pharmacists of the last generation, has preserved to us some inkling of the brotherhood which existed between both the young Bells and their associates. Writing to us in 1870, Mr. Deane said of the early thirties:—

> I was much encouraged by the friendship of both the late Jacob and Frederick Bell; to them, or rather to their memory, I owe a deep debt of gratitude for their many acts of consideration for my faults and the opportunities placed in my way for improvement. . . . John Bell had an excellent library, which was accessible to the assistants; but as yet there was nothing specially written for chemists and druggists, and this want was a frequent subject of conversation between Jacob or Frederick Bell and myself, and we more than once suggested the formation of a society adapted, not only for mutual improvement, but with a view to the general improvement of the whole body of chemists and druggists. . . .
>
> In 1840 the Microscopical Society was formed, and my friend Frederick Bell and I joined it on the foundation. . . . It would be unjust not to mention Mr. Bowerbank's * open weekly meetings at Islington. . . . Frederick Bell and I went, were kindly welcomed, and had our first lesson in observing with a good microscope.

There is little more than this on record regarding Frederick Bell's character. Quietly he seconded his brother Jacob in the efforts which he so successfully made to weld the metallic drug-trade together, and he became a founder of the Pharmaceutical Society and one of its first auditors; further, however, than signing the first financial statements, he took no active part in the work of the Society, and did not hold the office after the first year. His connection with 338 Oxford Street ceased some two years before his father's death.

A Pharmaceutical Nursery.

It would be out of place in this article to deal with Jacob Bell's public life, especially his work on behalf of the Pharmaceutical Society, but it is right that the support of the men in 338 Oxford Street, in 1841, should be mentioned. The first roll of the Society contains the following names of founders who were in Bell's, the first three being members (as in business on their own account), the rest associates (therefore assistants); and we may add that George B. Francis (afterwards of Hearon, Squire & Francis) was then the superintendent of the laboratory, having succeeded Henry Deane, who bought the Clapham business in 1837. Redwood at this time was also in business on his own account as a chemical-manufacturer:—

John Bell	Thomas Lodge
Jacob Bell	Francis Middleton
Frederick John Bell	John Moss
John Barnard	George Scholefield
Robert Bentley	Henry Scholefield
George Francis	H. G. Times
Thomas Hyde Hills	

From that time the "shop" has had many notable phar-

* Dr. J. S. Bowerbank, a noted microscopist, who did much investigating the foraminiferæ.

Macbeth's Etching of the Present Laboratory.

Hunt's Picture of the Laboratory in the Fifties.

macists behind its counters, and some enthusiastic Bellite may one day make up the roll.

While Jacob Bell was an assistant and junior partner, he was ever active in promoting the culture and welfare of his associates. First, as apprentice and assistant, he worked with them in chemical and similar studies, attending lectures, and converting his bedroom into a laboratory, wherein he might leisurely continue experiments. His influence as a young man must have been stupendous when we recall the terms of affection with which men of such diverse characters as Henry Deane, John Mackay, and Theophilus Redwood spoke of him. Under his direction the laboratory was altered to the capacity and form which are shown in Hunt's picture. Not the least of Jacob Bell's accomplishments (but one which we are apt to forget) was that he was an expert pharmacist.

Thomas Hyde Hills's Connection

with the business commenced in January of 1837. He had been apprenticed to Mr. Thorby, of Brighton, an old Bell's man, until his 21st birthday, May 27, 1836, and continued with Mr. Thorby until the end of the year, when he came up to London on the look-out. We have been told that he had the choice of places in Corbyn's and Bell's; also that he wandered about the streets of London for ten days seeking a situation; but a more authentic account gives it that he went straight to 338 Oxford Street with Mr. Thorby's recommendation, and was promptly engaged as a junior assistant. Jacob Bell took a great fancy to him. They were about of an age, Bell being then in his 27th year and Hills in his 22nd. Mr. Bell had a house in Langham Place, and had begun to draw round him the artistic and literary circle with which he was identified until the end, and which Thomas Hyde Hills kept up until death thinned the ranks of Jacob Bell's friends. Not very long after Mr. Hills had entered 338 Oxford Street Jacob Bell invited him to his house in Langham Place for a few days' visit, and there Mr. Hills remained until his friend's death in 1859.

After serving in the front shop for eight years Mr. Hills was in 1845 appointed superintendent of the laboratory. As an associate of the Pharmaceutical Society he attended the School of Pharmacy classes, and became a pharmaceutical chemist in 1848. His diploma of membership (No. 2,311) is marked "Founders' Proof" (as is Jacob Bell's, which is No. 10), in virtue of the fact that he was one of the few to join the Society at its start. His service in the Oxford Street laboratory continued for seven years, but during the latter portion of this time he had become indispensable to Jacob Bell in the management of the business for Mr. Bell added public duties as a parliamentarian to his incessant work on behalf of pharmacy, not to mention a string of social engagements that only a man of consummate energy and rare perspicuity could have met. We must here recall the fact that Jacob Bell had just turned 30 when he founded the Pharmaceutical Society; he entered Parliament before he was 40, and it was at the age of 49 that he was laid to rest in Highgate Cemetery. How much he did in his too brief life! With the retirement of his brother, two years before his father's death in 1849, Mr. Bell found the direction of the business a big handful, and he was glad to have relief by giving Thomas Hyde Hills a place in the firm. That was in 1852. Five years later, and two years before Jacob Bell's death, Mr. Samuel Gale was invited to come from Barnstaple to superintend the laboratory.

The More Recent Epochs.

With the death of Jacob Bell in 1859, Thomas Hyde Hills became sole proprietor of the business, which still continued to develop, so that the premises at the back were extended eastwards to the street known as Hills Place, while the laboratory was also extended, and gradually modernised under Mr. Gale's management. So matters went on until Mr. Hills's nephew (Walter Hills), after an apprenticeship in the provinces and experience in Berlin and Paris, entered "the shop" in 1871. When Thomas Hyde Hills died, seven years ago, Mr. Gale became a partner, and since the death of the latter in 1893, Mr. Walter Hills has been the sole proprietor, and of him we need only say that he is at this moment, from his position as President of the Pharmaceutical Society of Great Britain, the figurehead of British Pharmacy.

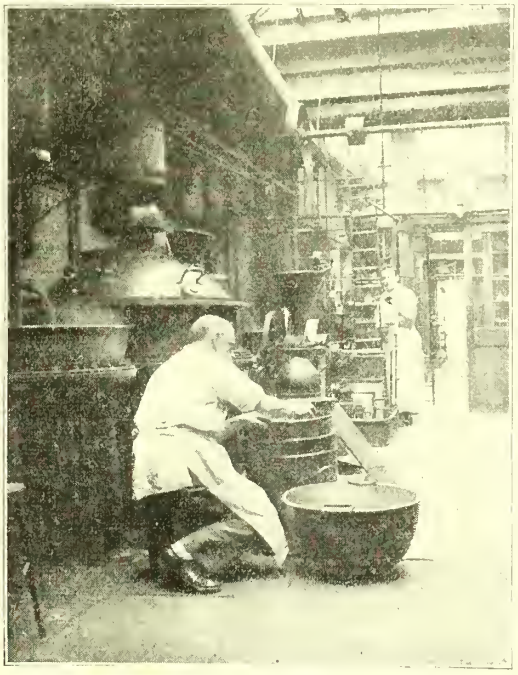
"The Shop."

Such, then, is the history of the firm. We have endeavoured to show how the premises have grown during the century; but it were idle to attempt to reveal every step in progress. To-day features about the shop, points in the way that business is done, and the manner of indoor-living embody the principles upon which John Bell started the business. Changes in the staff rarely occur, for the assistants' rooms give their occupants the comforts of a club. It is, by the way, a curious fact that the firm's errand-boys board in the house; they are lads from the country, and are as well cared for now as John Simmonds was in 1800.

Unquestionably the most notable thing about the pharmacy is its laboratory. Mr. R. W. Macbeth, A.R.A., has recently done a fine etching of it, to make a companion picture to Hunt's, and this, through the courtesy of Mr. Walter Hills, we are enabled to reproduce along with Hunt's. The contrast shows fifty years' progress. We also reproduce two photographic views, which, if less artistic, at least serve to show that the laboratory is an actuality of some importance, for its sole use is to provide the front shop with the preparations required in dispensing prescriptions and in retailing. There, up to recently nearly all the cod-liver oil which the firm have sold has been made. Why? Because in days when cod-liver oil was made from all sorts of livers, the surest way to tell that cod-liver oil was pure was to see the livers taken out of the cod fish and not to lose sight of them until the oil dripped into your stock-bottles and the liver refuse went into the dustbin. It is for such reasons that everything that can be made in Bell's is made. One day recently we found them busy making ext. belladonnæ viride. Before these sentences are read many bushels of roses will have found their way from Mitcham fields into the huge still seen in the pictures, and aqua rosæ will have come forth, although the B.P. no longer requires this care. There one may see alcoholic extracts made with rectified spirit, and evaporated in steam-pans which are solid block-tin or earthenware. The big shallow pan behind the still is solid block-tin, and many of the smaller pans on the bench are made of the same material. The equipment of the laboratory is complete enough for a wholesale house, but it is attached to a retail shop.

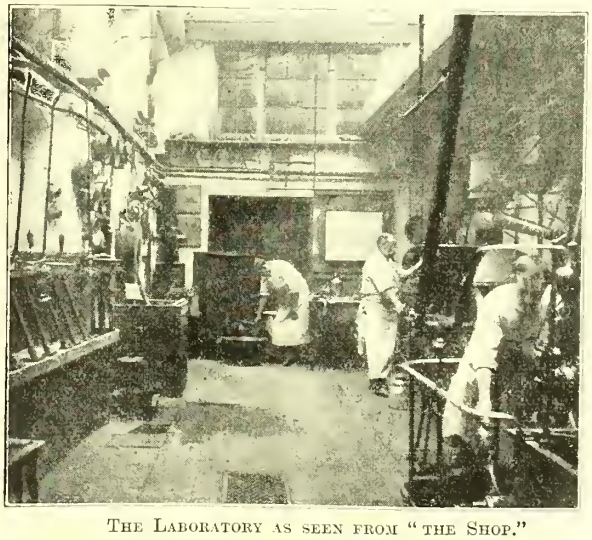
Mr. E. W. Lucas, the present superintendent, came from Hong-Kong to take charge of the laboratory when Mr. Gale died, and he is assisted by a pharmacist and several laboratory-hands. They work every day of the week except Sundays, which fact is the best comment upon the utility of the place. In addition to this laboratory the superintendent has on the first floor an analytical laboratory, and on that and other floors, behind Oxford Street, are stock-rooms which are under the charge of registered men. There is a perfect system of stockkeeping and bottle-filling. The superintendent is responsible for every article which is placed in stock, and all the shop-bottles are filled under his eye. This is a rigid rule, and an example of many which make up the organisa-

tion of the establishment. We mention another. When a prescription calls for a toxic substance the dispenser has to go to the poison-cupboard. Before opening it he rings a bell, whereupon a second qualified assistant comes. He is shown the prescription, which he notes, and the ingredient required



THE LABORATORY, LOOKING TOWARDS "THE SHOP."

is weighed or measured in his presence, and a full record is made of the transaction in a book. The departmental system in dispensing is "tabu"—*i.e.*, one dispenser does the whole thing down to writing the label and finishing-off, because division of responsibility does not diminish liability



THE LABORATORY AS SEEN FROM "THE SHOP."

to error. Nevertheless, rigid checking is practised, and Mr. Wretts, the manager of the "shop," has a staff of very competent men under him, who are as jealous of the traditions of the house and its reputation as were any of the famous men who have preceded them. And the business to-day has about it all the characteristics which make for another century's existence. No pharmacy in which every article is produced in strict accordance with the official Pharmacopœia, and in which compounding is done intelligently, can lose its reputation.

The Pharmacien's Revenge.

[A FRENCH DOCTOR REPORTS THAT THALLIUM ACETATE TAKEN INTERNALLY PRODUCES BALDNESS IN A FEW DAYS.—*C. & D.*, May 28, 1898.]

PRETTY Lisette was a charming grisette,
The flower of the rue Vavaline,
Who lived with her mère and sold vin ordinaire
At the café "La Rose et la Vine."

Jules Jacques Valerine de la Pilmachine
Was a student of pharmacie,
And he loved Lisette, the gay grisette,
As no other maid loved he.

But, alas! Liz was flirty (she wasn't quite thirty),
She was fond of the men militaire;
Les Chasseurs d'Afrique and garçons Polytechnique
Were worshipped by Liscttc the fair.

So Lieutenant Alphonso des Epaulettes,
Of the fourteenth of the Line,
So debonnaire with his coal-black hair,
He captured the heart of Lisette the fair,
At the café "The Rose and the Vine."

Jules Jacques Valerine de la Pilmachine
Looked askance at the happy pair,
And jealousy keen, with its eyes so green,
Made him curse the coal-black hair.

"She loves him," cried De la Pilmachine,
"Because of his dashing air,
His waxed moustache, his sabretasche,
And his curly, coal-black hair."

He pondered deep, and he pondered long,
On what his revenge should be.
"I have it! I have it!" at last he cried;
"Lisette is the bride for me!"

Lieutenant Alphonso des Epaulettes,
At the café "The Rose and the Vine,"
Little did think, when chaffing Lisette,
What he drank with his sparkling wine.

For Monsieur Valerine de la Pilmachine,
As close by the pair he sat,
When the chance he got, a powder he'd drop
In the wine of Alphonso the fat.

And—passing strange!—as the time went on,
The locks of Alphonso grew thin.
"Ma foi!" said Lisette, "c'est drôle, son poll;
Your baldness does early begin!"

So back she came to her old-time beau,
The student of pharmacy.
"Jules has not the air à la militaire,
But he has no mysterious absence of hair,"
Said this maid of gay Paree.

Then Jules he laughed a gladsome laugh,
As to himself said he,
"Thallium acetate brought back my mate.
Vive la depilatoree!"

R. K. K.

"ONE used to flounder about for a new recipe, or to pick the best of old ones, amongst journals, formula-books, &c., but now one turns to his copy of 'Pharmaceutical Formulas.' Tis the best trade-book I have handled since I first handled a pestle."—A. S. WEIR (Kemnay).

Indian Hemp.

How it is Grown and Prepared for Use in Medicine and as a Stimulant.

By William Mair.

HEMP is a holy plant of the Hindús. A guardian lives in the leaf of the *bhang*, as it is named in the Sanskrit, just as the wife of Vishnu lives in the hysteria-curing *tulsi*, or Holy Basil, and as Shiva dwells in the dysentery-scaring bael (the B P. 1898 notwithstanding). Oaths are taken on the bhang-leaf, and to one who forswears himself the bhang oath is death. And yet in some parts the phrase, "may hemp be sown in thy house," is one of the commonest of abusive imprecations, inasmuch as in many districts its cultivation is considered disreputable. The same plant that yields hemp-fibre in Ireland produces narcotics in India: the same plant grown in Europe affords the familiar hemp-seed that is given to cage-birds. The resin-yielding hemp grows wild throughout the Himalayas from westmost Kashmir to the extreme east of Assam, throughout an area, indicated by our sketch map,

of 1,500 miles. It reaches down the southern slopes of the mountains into the Punjab and Gangetic plains, and occurs at altitudes as high as 10,000 feet.

The Indian hemp of commerce is not, however, produced from the plant in its wild condition, and it hardly occurs

The Spontaneous Growth of Bhang.

spontaneously in the districts of Bengal and Bombay whence the drug, as it comes to London, is exported. Cultivation is confined in the first-named Presidency to a compact tract having a radius of about sixteen miles, under close Excise supervision, and embracing about 1 200 acres, and about 5 per cent. of the produce, about 80 000 lbs. annually, finds its way by sea to London. Rather over 1,000 acres are cultivated in the Bombay Presidency; about 30 per cent. of the crop, about 120,000 lbs., is exported to Aden, Arabia, Africa and Europe. The remainder is consumed in the country. Smaller areas are cultivated in Madras and in some other Provinces and States, chiefly for local consumption. It may be well to define clearly the three narcotic products of the plant:—

1. "Ganja," which is cannabis indica, B.P., "the dried [unfertilised] flowering or fruiting * tops of the [cultivated] female plant of *Cannabis sativa*, grown in India, from which the resin has not been removed," or which have become coated with resin in consequence of having been unable to set seeds freely.

2. "Charas" is the name applied to the resinous matter, when collected separately, which exudes naturally on the leaves, stem, and fruit, and which contains, or is intimately associated with, the active principle. (It usually contains leaf dust, seeds, and other impurities picked up in the process of manufacture.) The "Pharmacographia" calls it "a foul and crude drug, the use of which is properly excluded from civilised medicine."

3. "Bhang" or "Siddhi," different names which are applied to the dried leaves of the hemp-plant, whether male or female, and whether cultivated or uncultivated, and without any preparation other than drying. (It not infrequently finds its way into the markets as an inferior grade of the drug and as an adulterant of it.)

In the Course of Cultivation

the plants are most carefully tended and the males eliminated in order to prevent as far as possible the fertilisation of the female, and by retarding the development of seed to increase the secretion of resin. The next illustration shows the

Male (right) and Female (left) Hemp-plants (cultivated).

contrast between the loose-flowering panicle of the male and the stronger inflorescence of the female. In Bengal the Natives talk of the ganja-bearing plant as the male and the weaker pollen-bearing plant as the female. An expert or professional *poddar* is engaged for the operation, which takes place before the flowers have fully developed, and which requires some skill to distinguish the differences involved. The hemp-doctor breaks over the plants which he decides to be male, and the cultivator plucks them out, filling the blank spaces with other plants. The male plant begins to flower in November and the female in the beginning of January, at which time the cultivator is on the look-out for abnormal male flowers on the female plants, or "hermaphrodites," as they are sometimes called. The ganja begins to ripen about the middle of February, when it assumes a brownish colour and sheds all the larger leaves, and is ready for harvesting.

* Fully fertilised seeds are plentifully produced, notwithstanding the precautions taken, subsequently described, to eradicate the male plants.

It is then that the name *sivajata* (cluster of hair of the god Siva) is given to the agglutinated flowers and leaves.

THE FINEST GANJA

is undoubtedly that of Bengal. It is usually understood that the "*compressed*, rough, dusky-green masses consisting of the branched upper part of the stem, bearing leaves and pistillate flowers or fruits, matted together by a resinous secretion," is

GANJA-PLANT READY FOR CUTTING, SOME OF THE DRIED LEAVES STILL ADHERING.

intended to refer to the form of the drug as prepared in Bombay as distinguished from the more active form of the drug produced in Bengal, in more cylindrical, not flattened pieces. Three forms are made in Bengal—"flat," including "flat small twig" and "flat large twig"; "round"; and "chur."

The flat Bengal ganja was the original and has always been the most reliable form, physiologically, of the drug as found on the London market. It was shipped *via* Bombay, but the generally inferior product of the Western Presidency has largely supplanted it, due chiefly to the fact that it is cheaper, and partly because of the somewhat heavy duty and restrictions imposed by the Government of Bengal on the manufacture of the drug. It was placed on record by the Hemp Drugs Commission (Report, vol. i. p. 96) that "the Khandwa (Bombay) ganja differs from that of Bengal in being green in colour, and having a much larger quantity of leaf left in it. The latter is a very special article, and no ganja will be found to compare with it in any province." This variety was adopted by the Hemp Commission as the standard for physiological comparison, and two out of three samples of the drug as grown at Ahmednagar, on the Bombay side, were found to just equal it in physiological activity. So that if the B.P. intends that both should be used, and there seems no reason why the better article should be excluded, it would be well that this should be indicated more clearly; the composition may be taken to be fairly constant and the preparation is invariably careful. The "round" form of the drug is of course more active, and a superior product, containing as it does, and as will be explained, much less useless and inert matter than the flat.

The following is a description of the principal details of the elaborate and technical process followed in the manufacture of cannabis indica at Naogaon, the centre of hemp-cultivation in Bengal. It involves chiefly pressing, drying, and removal of the leaf. Bright sunny weather is essential

GATHERING THE GANJA-CROP, NAOGAON.

to the best manufacture. The plants do not all come to maturity at the same time, and they must be manipulated within three or four days of maturity or they become useless. The manufacture of flat ganja takes about three days, and is carried out on a piece of ground which has been specially levelled for the purpose. The number of plants handled in each three days' operations is usually about fifty or sixty. The first day the plants are cut in the morning, brought to the manufacturing-ground, and spread out in the sun till the afternoon. They are then cut up one by one into lengths of about 1 or 2 feet. Those having flower-spikes upon them are retained, and the rest is thrown away. The portions selected are spread out in the dew for the night. The work of the second day consists in alternately pressing and drying the crop and getting rid of useless leaf and seed. The branches are piled by bundles of five or ten, flower-spikes inwards and overlapping, in a circular heap about 4 feet

PREPARING FLAT GANJA, NAOGAON, BENGAL.

in diameter. The workmen tread this down, moving round upon it and supporting one another as shown to the left of the photograph. One of the wicker mats which will be seen on the ground is then placed over the heap and the men sit or place weights upon it. After half an hour of the pressure the pile is unstacked, the bundles are taken off and beaten together over a mat to shake out the seeds and leaf. The heap is again built exactly as before, the upper layers of the

previous heap being placed at the bottom of this, and the processes of treading, pressing, unstacking, and beating are repeated. The bundles are now laid out side by side on mats and trodden individually, the workman holding the stem-ends with one foot while he passes the other foot downwards towards the flower. The bundles have now been reduced in size and consist of four or five twigs each. They are then laid in a slanting position over the bamboo pole on the ground and left for the night. The whole process is repeated on the third day and completed by pressing the twigs individually with the feet into flat masses in the way already described. The twigs are now gathered into bundles of two standard sizes, a certain quantity of large twigs in the one and of small in the other and subsequently into the "robbins" in which the drug is delivered to the wholesale druggist.

The Manufacture of Round Ganja

is not complete until the fourth day after the plants are cut, and a great deal more of the woody portion is rejected than in the case of the flat variety. A horizontal bar of bamboo is lashed to uprights about 4 feet high, and mats are placed on the ground on each side of it. Bundles of twigs, either tied together by the stem-ends or not, according to the skill of the treader, are set out on the mats; the men range themselves on each side of the bar, and holding on to it for support proceed to roll the bundles with their feet. This is repeated, and the twigs subsequently hand pressed, shaken out, and covered up for the night. After further rolling, drying in the sun, and careful manipulation on two succeeding days, and all useless twigs and sticks having been eliminated, the twigs are sorted according to length and tied into bundles of three descriptions—short, medium, and long. "Chur" consists of pieces of the compressed flower-heads accidentally broken off in packing, together with fragments of resin, and it is on this form that the Excise tariff imposes the highest duty, because in that state the drug is almost free from inert matter.

In contrast with the care and patience with which the drug is treated at Naogaon may be given a description of the process of treading at Ahmednagar, Bombay. The preparation is much the same, but the treading-floor is usually prepared like an ordinary Indian threshing-floor with clay and cow-dung. The ganja is spread in squares of 15 or 20 feet wide and about 6 inches thick, and a line of eight or ten men and women dance upon it to the music of a tom-tom. Treading begins at the outer edge of the heap, and is continued in a spiral until the centre is approached, when the men fall out one by one as the space grows smaller. They follow close on one another, dancing sideways in the leader's footsteps, and the music of the tom-tom keeps them at it.

Charas, which is used for smoking, is only collected in the Himalayas, but we may note here the methods adopted. The Bhutias of Nepal walk through the crop or jungle clothed in leather or with leather leggings on, to which the resin adheres, and from which it is scraped. In other places it is obtained by simply rubbing the young flowering tops between the hands, and in some of the Native States by men walking to and fro among the plants clad only in a loin-cloth and their bodies smeared with oil.

Deterioration

takes place in Indian hemp on keeping, which doubtless largely accounts for the contrasts in physiological activity in galenical preparations of the drug. The common belief in Lower Bengal is that ganja which has been kept for a year has lost its power, and ganja two years old is considered to be worthless, a standard of physiological activity which experiments have proved to be practically justified. Surgeon-Major Prain, Superintendent of the Royal Botanic Gardens, Calcutta, in his most recent communication to Government embodying his researches on the storage of the drug, has proved that "by careful 'close storage' [in a deal box with perforated sides] it is possible to preserve, even for three or four seasons, a good deal of the narcotic power of flat ganja, but that stored with the greatest care it seems by the time it is three and a half years old not to possess more than one-fourth the power of fresh ganja." It is believed, however, that this deterioration does not under ordinary conditions take place so rapidly in temperate climates as in that of Bengal. The drug, it was also proved, should not be stored in tins. Of the

Pharmacy

of Indian hemp there is little to be said until physiological standardisation becomes a feature of our national Pharmacopœia. No drug demands this more than does cannabis indica, and none presents so much uncertainty in the amount of extractive it will yield to the pharmacist or in the activity that the extractive will present to the prescriber. Nothing could be more haphazard than the B.P. formula for extractum cannabis indicæ, to "exhaust by percolation and evaporate the percolate to the consistence of a soft extract." But it is difficult to better it according to present B.P. pharmacological standards. That august volume is not strictly correct in stating that "the leaves and bracts bear external *oleo-resin* glands." The narcotic principle of hemp is not an oil or a resin, nor is it an oleo-resin. All that Dr. Prain could make of it last year was that it appeared to be "a substance that oxidises into an ordinary resin as a fixed oil does."

Pharmaceutical Apparatus.

Sieve.

At a recent meeting of the Philadelphia College of Pharmacy Professor Trimble exhibited and described a sieve invented by Mr. J. Frank Strawinski, P.D., a recent graduate of

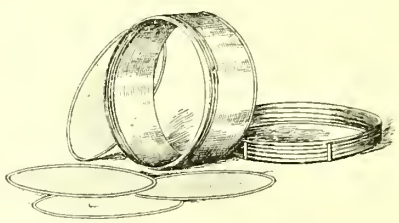


Fig. 1. Sieve, with the Several Parts Detached.

the college. The inventor's idea was to lessen the liability to contamination of powdered drugs. The accompanying illustrations show the parts of the sieve in fig. 1, and in fig. 2 its appearance when these are put together for use. The body or frame is made of brass, which is tinned on the inner surface. At the base of the frame is a coarse threading, and over this a collar containing the sieve-plate is screwed. On the exterior of the collar are five finger-holds, so that it may be adjusted quite firmly. The sieve-plates are made separately, and in adjusting the apparatus all that is necessary is to place one of these of the desired mesh in the collar before attaching the latter to the frame. The model constructed by Mr. Strawinski had five sieve-plates, each of the proper mesh for producing the degrees of fineness specified in the Pharmacopœia.

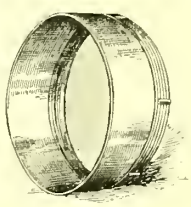
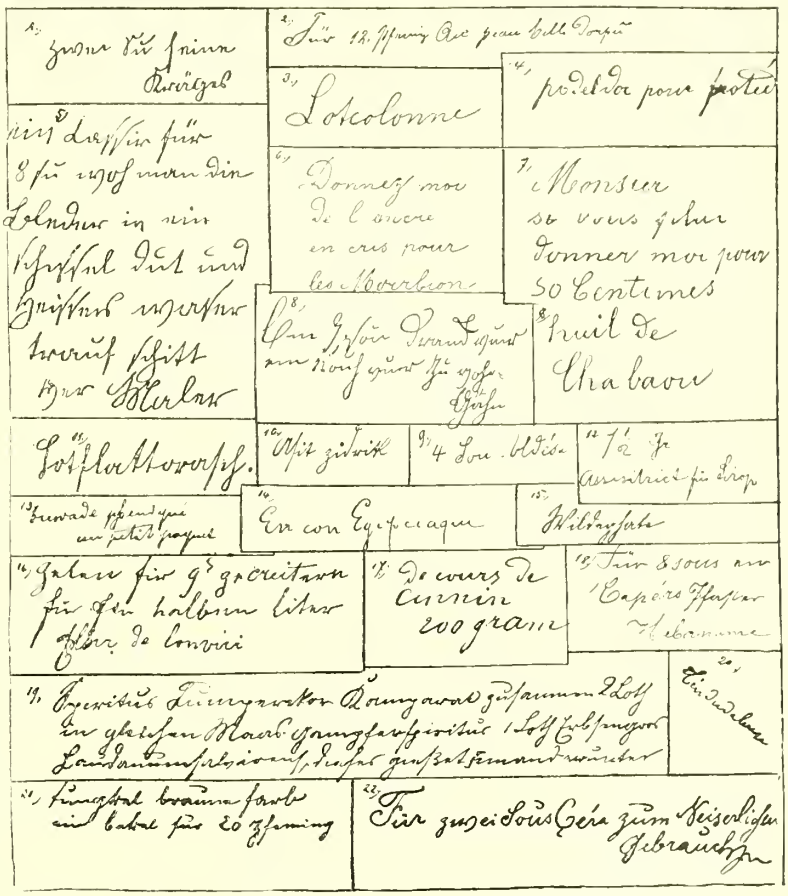


Fig. 2. Sieve Complete

At the Counter in Alsace-Lorraine.

A SUBSCRIBER at Strasburg sends us a specimen of one of the most curious of pharmaceutical publications. It is called *Hazweiess*, the meaning of which, we confess, is a mystery to us; and it is described as the organ of the Pharmaceutical Association of Alsace-Lorraine. It "erscheint wenn es kann" (appears when it can), and is edited by Mr. E. Heldt, 13 Pflanzbad, Strasburg. It is produced entirely by lithography, the articles being some in French and some in German, and all reproduced from the original manuscript. It contains, besides, numerous illustrations, some of them very clever, and these also are, of course, lithographed. One page, entitled "Autographen," we copy, and show on the annexed facsimile, which is, however, a good bit reduced from the original. It gives a number of the daily orders received by the pharmacists of the borderland. As will be seen, the two languages which are used there almost indifferently add to the complications of "At the Counter" difficulties. The following is a brief key to the problems, which will be of special interest to our linguistic subscribers:—



1, Fœnum græcum; 2, Opodeldoch; 3, Eau de Cologne; 4, Opodeldoch pour frotter; 5, Untranslateable; 6, Onguent gris; 7, Huile de copaba; 8, "Ein sieben sous Trank für eine Kuh zum Vergehn"; 9, Althéesalbe (ung. althææ); 10 and 12, Acid. citric.; 11, Eau des fleurs d'orangers; 13, Ouate pheniquée; 14, Onguent Egyptiac; 15, Huile de cade; 16, Geben firgs geereitern (Kraüter) für ein halben liter Elsir de lonvici (Elixir de longue vie); 17, Ecorce de quinquina; 18, Thapsia; 19, Spiritus campericor (camphor); 20, Tinct. aloes; 21, Tungkal (Dunkel) branne farb ein cekel für 20 pfg.; 22, Fur 2 sous Cera (Cerat) zum Neiserlichen (äusserlichen) Gebrauch. Ingenious readers may do the rest.

At the Counter in India.

AN Indian pharmacist favours us with the following specimens of orders received from natives:—"Tetanic acid and glycerine"; "billiards pills" (antibilious); "mixture and pills for rupture"; "thermometer with Q certificate"; "very sale fide" (ferri sulph.); "a bottle of Somebody's cough-trossachs."

Here is a difficult case:—"A friend of mine is suffering much from excessive growth of hairs on his skin. He is, so to say, ashamed of going out and meeting friends: what to talk of other persons? He more or less resembles a sheep in this respect. It would be a favour to him and to me as well if you would kindly let me know whether you have got any such medicine as would either destroy the hairs or eradicate them without giving rise to any other disease. He is willing to give you some remuneration if you can save him from this difficulty and tediousness."

SOMETHING TO SAVE FOR.—Chemist (to boy who has brought an illegible note): "What's this all about, sonny? I can't read it." "Oh! I don't know—my brother wrote it; I spect he's carefu of his ink 'cause he wants to buy a race-horse."

At the Home Counter.

"BENTWOOD" was what a Bolton customer asked for when wood betony was meant.

ELIXIR of vitriol had run to "relisher bittery" on an order sent to Mr. J. Lockwood, Burley-in-Wharfedale.

"A PENNERTH of Emma Bainsey to get the maggots out of the teeth." It was Mr. Spencer Palmer, of Thornbury, who got this order, and who set Emma to her allotted task.

A "REMEDY FOR QUINZES" is wanted at Sheffield, also "lickwood of ammonia"; and Mr. J. W. J. Turner, who had to meet these requests, was also asked by Mrs. Smith to "kindly lend her a scringe for two days."

CHATHAM customers will take a good deal of beating for original spelling, judging from some specimens sent by Mr. A. A. Freeman. These include the following orders: "1*d.* of squich cbrips 1*d.* of julppile," "1*d.* lodman 1*d.* maguilure 1*d.* ruhburb 1*d.* pepmint," "Crilian ointam," "tinture of Hyadine," "1*d.* of the Cambrick for pudding pies;" and peroxide of hydrogen had got itself entangled into "Prack Side aside fredys."

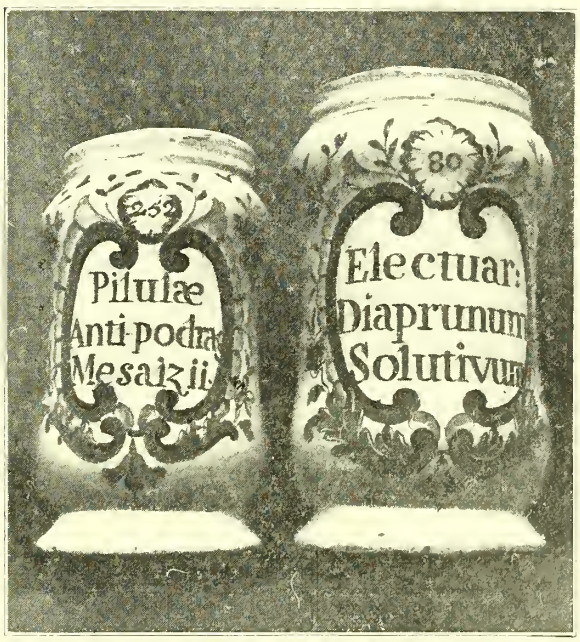
An Old Rouen Pharmacy.

(Vauquelin's First Situation.)

IT was at the time of the March snowstorms, and a rough night-passage from Newhaven to Dieppe decided me to stop at Rouen, while sundry qualmish sensations still persisting induced me to look about for a pharmacy. In a somewhat unkempt little square, where a still more unkempt little monument marks the site of Joan of Arc's execution, I came across the object of my search. It was a long narrow shop with an old-world air, and while awaiting the preparation of the wished-for "pick-me-up," I endeavoured to learn from the pharmacist something of its history.

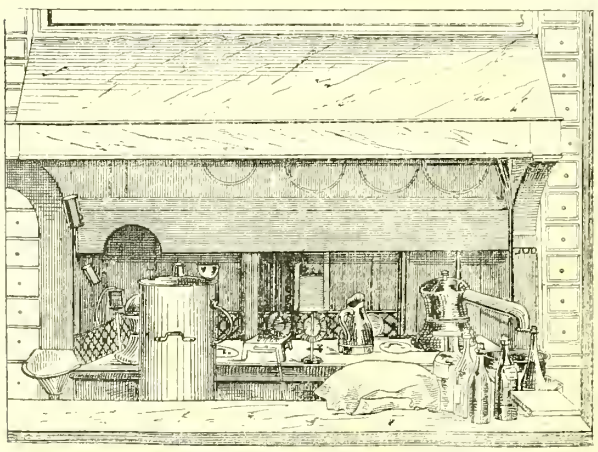
"It is an old place," said the proprietor, M. Delamare, "and dates from at least 125 years back, for Mesaize, whose name is still over the door, set up in business in 1772, and, as you can see, the style of decoration is Louis XVI."

Noticing I took some interest in the subject, and learning that I was an English colleague, he offered to show me



round. M. Delamare also gave me a photograph of some of his ancient pottery which I was admiring.

"It may interest you to know," said he, "that it was in



this pharmacy that Vauquelin first felt his vocation for the profession in which he afterwards gained such celebrity. He was a poor country-lad, son of a Norman peasant, and presented himself to Mesaize, who engaged him as a 'garçon de laboratoire'—porter, I suppose you would say in England. For, as you see by this quaint old furnace, with its battered alembics and utensils, Mesaize was one of the old worthies who made his own medicaments. He was a well-to-do man and employed three assistants, and in his day was one of the leading pharmacists of Rouen."

"And you have kept the officine unaltered?" I asked, glancing at the walls, where a set of old jars and numberless drawers replaced the symmetrical rows of labelled glass jars to which I am accustomed.

"Yes, except that all the paintings on the ceiling and walls were destroyed when the Church of St. George and St. Sepulchre (English saints both, you know) was burnt in 1880. This old church was of course secularised at the Revolution, and Mesaize had a sort of drawing-room built on it, just off the pharmacy. Here, during the Terror, the scientists of Rouen, whose societies had been dissolved, used to meet in secret and communicate their discoveries and researches till safer days dawned."

"Then Mesaize took a keen interest in science?"

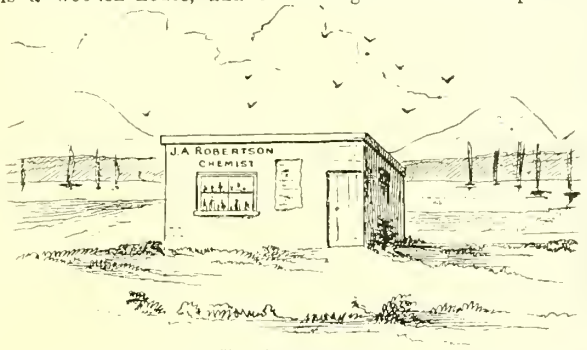
"In his own branch, at any rate. Come upstairs and look at some of his books."

A winding and rather breakneck staircase led into a tile-flagged, low-pitched, oak-beamed room, looking out on to the Place de la Pucelle. "Here the three assistants slept," said my cicerone. From a collection of books piled in a cupboard he took out the oldest and bulkiest. "Pharmacopœias," he said. "Not to mention the German and Spanish, which will probably interest you less, here are three English works—Dr. Quincy's 'Pharmacie Universelle Raisonnée' (1749), translated by Clausier, a work by Dr. Baker dated 1788 (he was physician to your George III.), and Pemberton's R.C.P. Pharmacopœia of 1761." "Nothing older?" "Yes, French ones—here is one by Charas, the King's apothecary, published at the author's pharmacy at the 'Golden Vipers,' Fauxbourg St. Germain, 1676, and another by Lemery, with his portrait; you know he was a native of Rouen. This treatise, 'Veterinary Medicine,' by Desolleysel, is dated 1685."

In a lower room were chalk portraits of Mesaize and his wife. The dress and style reminded me of David's portrait of M. and Madame Lavoisier. Mesaize was one of the founders of the Rouen Société Libre de Pharmacie, founded in 1802. At their first meeting at the Hôtel de Ville (6 prairial, an X.) he took the chair as the senior member by age, and was elected secretary. The Society still exists under the same name, but is thoroughly up to date, and a Syndicate is now attached to it.

The Northest Pharmacy in Britain.

THE farthest-north pharmacy of the British Isles is a branch carried on in Baltasound, in Unst, one of the Shetland Isles, by Mr. J. A. Robertson, of Fraserburgh. It is a wooden house, and the fittings are not of Spanish



THE PHARMACY.

mahogany. The pharmacy proper is 10 feet by 10 feet, and is provided with a door and window. The windows are not of plate glass, and Atkinson's perfumes, silver-topped smelling bottles, and Turkey sponges are not in demand. It is a wooden structure, painted grey outside, but not painted inside. It is made in six pieces, and is taken to pieces and stored for the winter.

Baltasound is annually frequented during June by some 320 large fishing-boats, with a crew of seven men on each, and by about 1,000 women, chiefly from the Banff and Aberdeenshire coasts. The boats come to fish for herrings, and the women come to gut and cure them. The cured fish are sent to Germany, Russia, &c., in barrels. The population numbers about 3,500 "in the season," and as there is no other chemist on the island Mr. Robertson finds his services much appreciated. He carries a full stock of black draught, pills, quinine, neuralgia-powders, effervescing saline, carbolic oil, and such like articles, strong and useful—especially strong in the case of drugs used as "pheesic," for the quality is judged not by the elegance of exhibition, but by the effects produced. He has to prescribe daily and hourly, for the nearest medical man is three miles away. There is no tram-car, cab, or train to help you on your way.

The experience is altogether unique; the class of business done, the Bohemian life—all are full of novelty. I call it (writes Mr. Robertson) a perpetual picnic. We sleep one

HERRING-GUTTING.

on the floor and one below the counter, we catch and fry our own fish, we shave behind the front counter, we throw our dirty water out "round the corner," and we wash in the open air on a box alongside the pharmacy, and receive our customers while we are breakfasting at the front counter. We have to carry all our water in tin pails a distance of nearly a mile. There is a strong demand for ointment, to heal the hands of the gutters (the women who gut the herrings). These women suffer much from inflamed fingers, and should a cut or scratch be neglected, the strong salt used in curing the fish soon eats out a small hole, round which the flesh becomes very inflamed, and, of course, very painful. They call it "pickit hands."

Here are a few samples of the work of the season:—To superintend the restoring of a Highland fisherman, who was nearly drowned; to call and see fully half-a-dozen girls in convulsive and hysterical fits; to dress a severe head-wound, caused by the woodwork of the sail of a fishing-boat coming violently against a young fellow's cranium. In such cases I only acted for humanity's sake, and urged my customers to get the doctor "at once," but if he comes promptly it takes two or three hours, and if he is out visiting the delay may be much longer.

Costiveness is very common among the fishermen, six or seven days without action of the bowels is fairly common. I told one burly chap to take two pil. coloc. c. hyoscyami gr. v., "but," said he, "I need strong pheesic." "Oh, well," I said, "take three." He returned next day, and said he took four to make sure, and they had "wrocht" him, "but no sair."

Tooth-extraction is also an operation I am often called upon to do. "Black draught" is a great favourite with the fishermen, but it must be supplied "fort.," and it is interesting to see the apparent relish with which the patient drinks his 2 or 3 oz., almost licking his lips as he finishes.

THE FISHING FLEET.

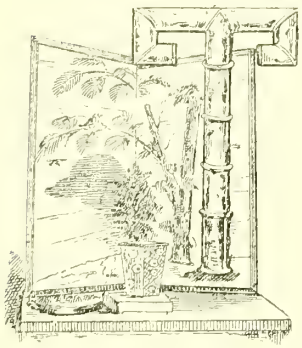
Shetland ponies, sea birds, grand rock scenery, O_3 in galore, splendid sea and loch fishing, light enough to read a newspaper at midnight are among the attractions, and Mr. Robertson suggests that anyone requiring a complete change and very bracing air might try "Ultima Thule" for a holiday. From Leith or Aberdeen there is an excellent service of steamers.

THE *Medical Brief* defines an ethpharmal medicine as a preparation with a trade-mark name made by a reputable manufacturing house for physicians' prescriptions only, and advertised solely through medical journals, or to the doctor direct.

A HIGH PERCENTAGE.—Little Iky Moses: "A cake of carbolic soap, please, sir; doctor ordered it for father." Chemist: "Containing how much carbolic acid, my boy—5, 10, or 20 per cent.?" Little Iky: "I'm afraid father won't look at anything under shixty per shent!"

A JAPANESE PHARMACOPŒIA on the lines of the German one was published in 1887, twelve years after its inception. It was printed in Japanese, but a Latin edition was also published. It is a somewhat stringent work so far as the testing of chemicals is concerned, and the Customs have power to reject any pharmacopœial chemicals which do not conform to the standard. There is a Government chemical laboratory which looks sharply after such matters.

Progress of Japanese Pharmacy.



THE temptation to be enthusiastic about Japanese pharmacy is great. A generation since we treated it much in the way that we treat aboriginal or mediæval medicine; now it has a definite scheme of education, thorough examinations, a law to regulate the practice of the craft, a Pharmacopœia which is the most stringent in the world, and a Pharmaceutical Society which has in these later days become peripatetic. The last-mentioned factor is the occasion of these notes, for Mr. Hyrayama, Inspector of Pharmacists of the Imperial Army, has been good enough to send us a dozen photographs relating to a meeting of the Society which was held last year in Kiu-Shiu (Mr. Hyrayama does not say in what part of the island). The Society in question is a twenty-year-old body, which was originally founded by the students and graduates of the pharmaceutical section of the Medical Department of the Tokyo University. It grew steadily until in 1892, and with a membership of 600 pharmacists trained and cultured according to approved Western ideas, it was felt to be strong enough to change it into the Pharmaceutical Society of Japan. The Society originally met monthly, except in August, but has now become so strong that an annual meeting in a provincial centre for the express object of furthering pharmaceutical science has been added. It was, we learn, a success. Our pictures show the Assembly House used on the occasion and views of the interior. Exhibitions have always been a feature of the Society. In the early days they consisted chiefly of the work of the students of Tokyo University, but now, it will be seen, they are more important in character.

The Assembly House and Exhibition

were approached through a magnificent gateway, upon the pillars of which a notification of the meeting was posted. To the right of this gateway is the house for the medicinal-plants section of the exhibition, and this was used by the members as an entrance. It is shown in the second picture, the porch being draped with the national flag, and within it are seated a few of the principal members, who wear European costume. A fair display of medicinal plants in pots is shown outside, and there are included several of those centuries-old dwarf trees in the culture of which the Japanese are adepts. The last picture of the series is an interior view of this department. Each plant is labelled with the common and botanic names in Japanese, and we notice by the original photographs that every pot, though made of "common clay," is artistically decorated. The rail in front is of bamboo, and must not be mistaken for a steam-pipe.

The exhibit of chemical apparatus (seen in the third picture) consists of glassware chiefly, and is, apparently, Bohemian in origin. The aspirators are the most prominent feature, but flasks, retorts, Kipp's SH_2 apparatus, potash-bulbs, burettes, and Soxhlet's apparatus can be distinguished. The companion picture, showing the products of applied chemistry, indicates that we have points to learn from the Japanese in the art of exhibiting. The introduction of flowering plants is a pretty touch, which relieves what otherwise would have been a bare bottle-show. The design in the initial letter to this article is drawn from a bit of decoration in one of the lobbies of the assembly-house. The smaller glass case in No. 4 picture contains samples of metals and metallic salts, which are labelled in Roman and Japanese characters.

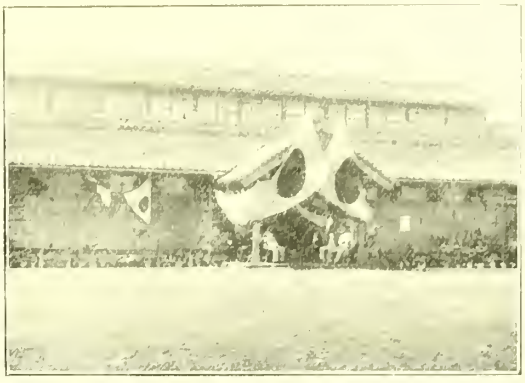
The section of chemical preparations and secret medicines is the subject of the next picture. Here excellent diagrams of inflorescences are shown, and alkaloids, medicinal chemicals, antiseptics, and antiseptic dressings, besides many pharmaceutical specialities. The companion picture to this shows galenical compounds on the left side, and materia medica on the right. The latter is especially interesting, as showing Japanese craftsmanship in the construction of specimen-boxes. These are wooden cases, glazed on the top, with slide-lids, and they are made entirely without metal nails, being dovetailed and skewered in a way which few but Japanese can do. The seventh picture, drugs and chemicals, is the most shoppy, as it exhibits most of the specimens in the manner they are found in trade. Besides these pictures we have one showing the section of pharmaceutical apparatus, which, however, is so blurred by halation as to prevent its reproduction. One of the most noticeable things in this picture is a still of the Bracher type. These brief notes and the pictures suffice to indicate that Japanese pharmacists, when they assemble in conference, believe that an exhibition is good for them. No touting is allowed.

The Rise of Japanese Pharmacy.

The Japs took their medicine from the Chinese originally—*i.e.*, about the beginning of the Christian era. For centuries there was no change, and no recognised school of treatment, until the Portuguese began to trade with the country. Then, about the middle of the sixteenth century, a school of Japanese doctors was founded, who practised according to Portuguese methods. About a century later, Dutch physicians had established themselves at Nagasaki, where a factory was founded by Dutch colonists, and they taught the Japanese all they knew about physic. It was a great deal, in spite of the severe restrictions placed upon intercourse with foreigners, and there is no doubt that the seed sown from 1641 to the end of the seventeenth century bore fruit continuously until, in 1858, the physicians of the Western school had become sufficiently numerous and powerful to form a medical society in Tokyo, for the purpose chiefly of establishing a Vaccine Institute. In 1867 this Society founded a General Hospital, and three years later it founded the Medical Department of the Tokyo University, to which the pharmaceutical section is attached.

Pharmacy has gone hand in hand with medicine all these years; indeed, the conditions upon which pharmacy is practised are such that they are only applicable to an educated and experienced race of men. For many years pharmacy laws have been in force, but in 1890 a new one was passed, largely through the influence of the Pharmaceutical Society of Japan. The enforcement of the law is entrusted to the Home Department of the State. The essence of it is "one registered man one pharmacy"; branches must be in charge of registered pharmacists. To qualify, candidates must pass an examination in the same subjects as the British Minor. The examination

Entrance to the Assembly House.



Front of the Assembly House.

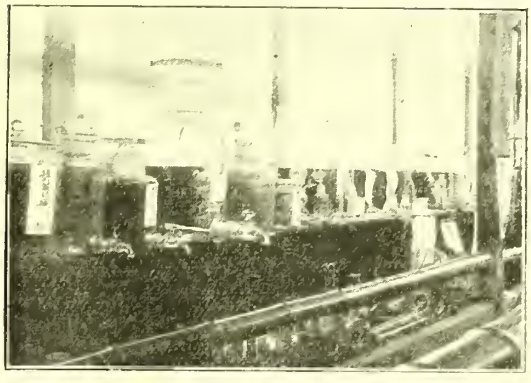
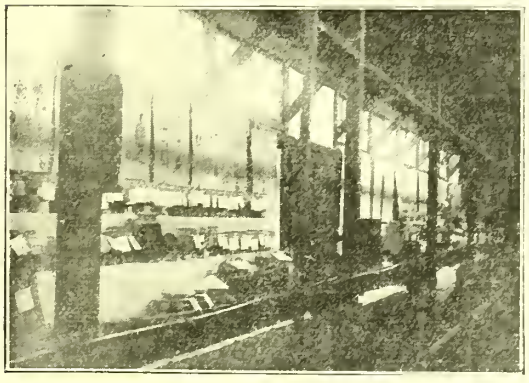


Exhibit of Chemical Apparatus.

Exhibit of Applied Chemistry.



Chemical Preparations and Secret Medicines.

Galenical Compounds and Materia Medica.

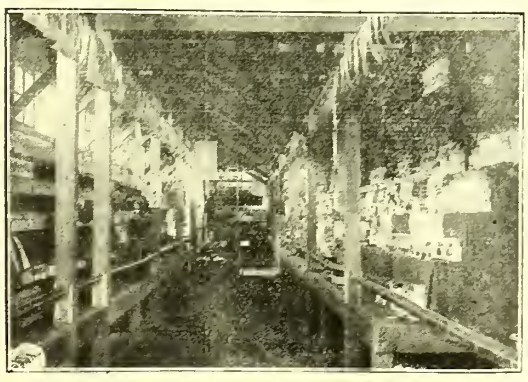


Exhibit of Drugs and Chemicals.

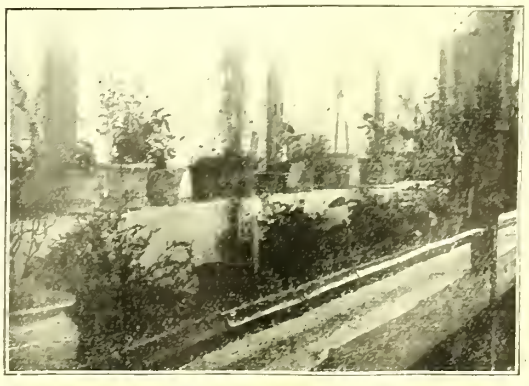


Exhibit of Living Medicinal Plants

is as stringent as the Minor. The Home Department keeps the pharmaceutical register and compels registered pharmacists to keep it correctly informed as to their addresses. A register of pharmacies and their managers is also kept. The sale of poisons is strictly confined to registered persons, and the regulations are more stringent than with us—*e.g.*, no poison may be sold to a child, and orders for poisons of a highly toxic nature must be kept for at least ten years. The dispensing of prescriptions is also strictly regulated by rules which all must observe, and there is provision for controlling stock which prevents new remedies being sold until they are approved by Government.

Japanese pharmacists follow European methods to some extent in their business. A goodly number of them get The Chemist and Druggist every week, and we observe from the official organ of the Japanese Pharmaceutical Society (it is called *Yaku-Gaku-Zasshi*; we get it regularly, and always turn over its pages with a longing which is Japanese) that the *C. & D.* and other European pharmaceutical papers figure in it in the vernacular.

The Major Examination.

By M.P.S.

INTENDING candidates for this examination may possibly wonder what sort of questions they may expect in the practical-chemistry portion. It is unfortunate for them that the questions are not officially published, as is invariably the case in the London University and other examinations. As, however, the "powers that be" prefer to surround this part of the ordeal with mystery, we are tempted to lift the veil to some extent.

In the ordinary way a candidate is given three exercises, dealing respectively with the quantitative estimation of one or more substances, and the qualitative analysis of a single salt and a mixture of three salts. It is a good plan to start with the single salt, and run through the usual tests. In this way time is gained while the candidate is thinking out the best method of tackling the quantitative estimation, since this usually requires a certain amount of careful thought.

We will now give six typical papers, which were given to candidates in April last. It must be added that the ingredients of the salts are just as they were determined by the candidates, and we are in no way responsible for their accuracy. They will, however, serve as a guide as to what may be expected in the future:—

A.—1. Test the purity of the sample of antifebrin, and if impure determine the amount of the chief impurity. (Said to be aniline sulphate.)
2. Identify the bases and acids contained in the mixture of salts. (Pb, Cd, Ca; HNO_3, HBr, H_2CO_3.)
3. Identify the single substance. (Magnesium phosphate.)

B.—1. Estimate the glucose in the mixture of glucose and cream of tartar. The solutions required for this purpose must be made with the pure materials provided.
2. Triple salt. (Mg, (NH_4), K; H_2SO_4, HCl, HNO_3.)
3. Single salt. (Lead carbonate.)

C.—1. Test the sample of mercurous chloride for mercuric chloride, and make a quantitative analysis of the powder, if mercuric chloride be present.
2. Triple salt. (Hg, Pb, Mn; H_2CO_3, HNO_3, $HC_2H_3O_2$.)
3. Single salt. (Quinine sulphate.)

D.—1. Determine the percentage of NH_3 in the ammonium sulphate.
2. Triple salt. (Cd, Na, Ba; H_2SO_4, H_2SO_3, HNO_3.)
3. Single substance (PbO.)

E.—1. The sample of sodium arseniate is suspected to contain arsenite; if the latter be present, determine the ratio of As_2O_3 to As_2O_5.
2. Triple salt. (Fe, Sn, (NH_4); H_2SO_4, HNO_3, H_2CrO_4.)
3. Single salt. (PbI_2.)

F.—1. The given sample of oxalic acid is suspected to contain potassium hydrogen oxalate; if present, determine the proportion of this impurity.
2. Triple salt. (K, Na, As; HNO_3, HNO_2, HBr.)
3. Single substance. (White precipitate.)

Among other single and triple salts given we may quote the following. with the same reservation as before:—

Triple salts—

1. Ba, Ca, K; HBr, HI, HNO_3.
2. Hg, K, Pb; HI, HCl, H_2CO_3.
3. Cu, Cr, K; HNO_3, HCl, H_2CO_3.
4. K, (NH_4), Na; HBr, HI, H_2SO_3.
5. Fe, (NH_4), Cu; H_2SO_4, HNO_3, H_2CrO_4.

Single sustances—

Hg_2Cl_2; H_3BO_3; $KC_2H_3O_2$; $MgSO_4 7H_2O$; $Na_2HPO_4 12H_2O$; HgS; carbonate of magnesia; hydrochlorate of morphine; hydrochlorate of quinine; and citric acid.

Intending candidates will do well to be prepared for the very typical estimations which we have given. These are general favourites, and do not offer great difficulty, when the method of operation is once grasped. It may be well to mention that the presence of cream of tartar in no way affects the estimation of glucose, and that ether is the best solvent to emplov in the separation of corrosive sublimate from calomel. No candidate should fail to try the estimation of NH_3 if he has not already done so; at the April examination this question quite spoiled the chances of one poor fellow—he had never done it before, and lost his head in attempting it. The determination of the ratio of As_2O_3 to As_2O_5 in a mixture is rather tricky. It is best to estimate the As_2O_3 with iodine; then reduce the As_2O_5 with sulphurous acid, and estimate the total amount of As_2O_3. It must not be forgotten that the SO_2 requires to be driven off, and the $NaHCO_3$ in the titration must not be neglected.

There is a class of question that offers some difficulty, unless one is acquainted with algebra. We give an example:—"3·0720 grammes of a mixture of calcium and magnesium carbonates gave off 1·4438 gramme of CO_2 when treated with acid. Determine the percentage of each ingredient in the mixture."

By using simultaneous equations this problem works out quite easily: thus—

Let x = $CaCO_3$ and y = $MgCO_3$ in the mixture; then, by question,

$$x + y = 3.072 \quad . \quad . \quad . \quad \text{(i)}$$

Again, the CO_2 evolved from x grammes $CaCO_3$

$$= \frac{CO_2}{CaCO_3}\,x, \text{ or } \frac{44}{100}\,x = \frac{11}{25}\,x,$$

and the CO_2 evolved from y grammes $MgCO_3$

$$= \frac{CO_2}{MgCO_3}\,y = \frac{44}{84}\,y = \frac{11}{21}\,y.$$

Hence the equation:—

$$\frac{11}{25}\,x + \frac{11}{21}\,y = 1.4438 \quad . \quad . \quad . \quad \text{(ii)}$$

(ii) multiplied by $\frac{25}{11}$ gives $\quad x + \frac{25}{21}\,y = 1.4438 \times \frac{25}{11}$

or

$$x + \frac{25}{21}\,y = 3.2813 \quad . \quad . \quad . \quad \text{(iii)}$$

(iii) − (i) gives

$$\frac{4}{21}\,y = 0.2093.$$

Hence y = 1·0988.

Inasmuch as 1·0988 gramme $MgCO_3$ is present, the difference—viz., 3·0720 − 1·0988, or 1·9732 gramme—is $CaCO_3$, from which the percentage may easily be calculated in the usual way. It will be found to be—

$CaCO_3$	64·23
$MgCO_3$	35·77
	100·00 *Ans.*

The "First" Examination.

WE have had several communications which seem to show that the comments on the "First" examination questions by "A Headmaster," which we published in our issue of January 15, were of interest. "Dunalba" wrote the next week to state that "Headmaster" was in error in stating that the answer to Question 4 in the arithmetic paper ["Divide the product of 2·1825 and ·0046 by ·0002425"] will have a cuculiting decimal in it. "Headmaster" admits the error, which he accounts for by the fact that he wrote the comments in a restaurant near the Examination Hall, and not in the quiet of his study. As he points out, this goes to show still more clearly the usefulness of the method he suggested.

We append also notes by "Headmaster" on other questions which have been put to us arising out of questions in the Latin section of the examination:—

ON THE DEPENDENT OR INDIRECT QUESTION.

There are two kinds of questions—namely (1) direct; (2) indirect. The following are direct questions:—

(*a*) Who are you? Quis es?
(*b*) Why did you kill Cæsar? Cur Cæsarem interfecistis?

It will be seen that direct questions are principal sentences.

The following are indirect questions:—

(*a*) I ask who he is. Rogo quis sit.
(*b*) Tell me why you killed Cæsar. Dic mihi cur Cæsarem interfeceritis.

It will be seen that indirect questions are subordinate clauses.

General rule: In every indirect question the verb must be in the subjunctive mood.

In sentence 5 of Latin paper (First examination) we have:—

He said he did not know where you were spending the summer.

The indirect question involved here is "where you were spending the summer." The direct form of this question would be, "Where were you spending the summer?" But, when introduced by "he did not know" (or any similar phrase), the question becomes indirect, and the verb (you were spending) must be in the subjunctive mood. A few parallel examples will, perhaps, make the matter quite clear:—

Direct Questions.

(*a*) Who killed him?
(*b*) Whither was he going?
(*c*) Why did he do this?
(*d*) When did he return?
(*e*) Have you the same opinion as I?

Indirect Questions.

(*a*) It is uncertain who killed him.
(*b*) He did not say whither he was going.
(*c*) I wonder why he did this.
(*d*) Cæsar did not know when he returned.
(*e*) Tell me if (use *num*, not *si*) you have the same opinion as I.

In the first passage of the Cæsar set on January 11 we have a good example of a pair of indirect questions:—"Satis esse causae arbitrabatur quare in eum aut ipse animadverteret, aut civitatem animadverterejuberet" = "He thought there was sufficient cause why either he himself should rebuke him or he should order the State to rebuke him."

The direct questions would be, "Why should he rebuke him or why should he order the State to do so?"

ON THE FINAL CLAUSE.

Final clause is the name given to a subordinate clause which indicates purpose. "Final," from Latin *finis*, an end. In English purpose is generally expressed by the infinitive; thus:—

He sent ambassadors to sue for peace.

Sometimes we might find, "He sent ambassadors in order to sue for peace," where the purpose is more apparent.

General Rules: (I.) Never translate the English infinitive by the Latin infinitive provided the "to" can be changed into "in order to"—that is, if the "to" signifies purpose.

(II.) Final or purpose clauses may be variously rendered; thus:—

He sent ambassadors to sue for peace.

(*a*) Legatos misit ut pacem peterent. (Always subjunctive.)
(*b*) Legatos misit qui pacem peterent. (Qui = ut ii, in order that they.)
(*c*) Legatos misit ad pacem petendam. (Gerundival construction.)
(*d*) Legatos misit pacis petendae causa [or gratia]. (For the sake of suing for peace.)
(*e*) Legatos misit pacem petitum. (First supine after a "verb of motion.")

Note carefully that if the final clause is negative you must use *ne*, not *ut non*—thus: "He sent ambassadors not to sue for peace" ("Legatos misit ne pacem peterent"). "Ut non pacem peterent" would mean, "So that the consequence was they did not sue for peace."

General Rule: (III.) A negative final clause is introduced by *ne*; a negative consecutive or consequence clause is introduced by *ut non*.

In the second passage of the Cæsar set on January 11 we have: "Tantus subito timor omnem exercitum occupavit, ut non mediocriter omnium mentes animosque perturbaret." The "*ut* clause" is here consecutive, not final. "Such fear suddenly seized the whole army that [the consequence was] it disturbed the minds and courage of all in no slight degree."

Distinguish carefully:—
(1) Ut nemo = so that nobody (Consecutive).
(2) Ne quis = so that nobody (Final).
For example:—
(1) Ita respondit *ut nemo* crederet,
He replied so that nobody believed him.
(2) Ita respondit *ne quis* crederet,
He replied so that nobody should believe him.

STUDENT EXPOSING HIS (SUPERFICIAL) METHOD OF STUDY.

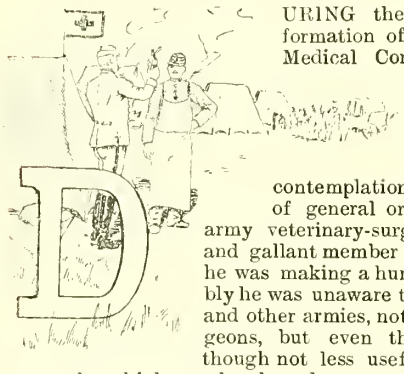
The examiner would first have the candidate's rendering of the English sentences into Latin to guide him; in this part of the work ignorance is easily unmasked. Should the candidate barely survive this test, then the examiner has a second to apply—namely, the setting of a complicated passage, of a passage that is not straightforward. For example, in passage 1 of the Cæsar the principal clause is found at the end practically, while the rendering of the "*quod* clauses" would be a very good test of a student's knowledge of the text. The key—that is, a good scholarly translation—ought to be most helpful to a private student; but to get the work up from the key by heart, as it were, without grasping the construction of the sentences, is a pernicious practice, and one which can rarely lead to success.

DOCTOR: "Just place this thermometer under your tongue, Mrs. Peque, and keep your lips closed tightly." Mr. Henry Peque (after a few minutes of speechless delight): "What will you take for that instrument, Doc?"—*Puck.*

EXTENSIVE GRATITUDE.—Death.—Smit.—On the 28th inst., Amy Jane Mary Smit, eldest daughter of John and William Smit, aged 1 day 2½ hours. The bereaved and heartbroken parents beg to tender their hearty thanks to Dr. Jones for his unremitting attention during the illness of the deceased, and for the moderate brevity of his bill. Also to Mrs. Williams for the loan of clean sheets, to Mr. Wilson for running for the doctor, and to Mr. Robinson for recommending mustard-plaster.—*Krugersdorp Sentinel.*

H

French Military Pharmacists.



URING the debate on the formation of the Royal Army Medical Corps in the House of Commons some weeks ago, Major Rasch asked Mr. Powell Williams whether it was in contemplation to confer the rank of general or field-marshal on army veterinary-surgeons. The hon. and gallant member evidently thought he was making a humorous hit; possibly he was unaware that in the French and other armies, not only military surgeons, but even the less assertive, though not less useful, army pharmacists rank as high as colonels and even generals.

Who—except, perhaps, army officers in the fighting ranks—will say that this recognition of the representatives of the healing art who form such an important part of the modern army corps is unmerited and unjustified by their services?

The fact that military pharmacists have no acknowledged existence in the British army, except as dispensers, induced a *C. & D.* representative to make inquiries regarding the way these things are done in France, and he was fortunate enough, a few days ago, to obtain an interview with M. Balland, who, as "principal pharmacist of the first-class" (with rank as colonel) is one of the chiefs of the French military pharmaceutical staff. He has control of the Army Laboratory at the Invalides (now the headquarters of the Military Governor of Paris, the French "Horse Guards," so to speak), and supervises not only the quality of drugs and medicines supplied to the land forces, but also such samples of food and stores as may be submitted to his department for testing and analysis.

It may be well to remind *C. & D.* readers that, while the English army relies on quality rather than quantity, that of France—which in time of war could call a million men into its fighting ranks—is practically "a nation within a nation" That it should have accredited and experienced pharmacists is a matter of necessity; and the number of 115 on the staff would be ridiculously inadequate were it not that, when on a war footing, many of the pharmacists who would be called upon for active service would be drafted into the Ambulance Corps to work at their own calling.

The Reduction of the Staff.

Early this summer, as already announced in the *C. & D.*, the President of the French Republic signed a decree "revising the law of 1882" regarding military doctors and pharmacists. By this decree the number of French army surgeons was increased from 1,300 to 1,437, while the military pharmacists were nominally reduced from 185 to 115 as follows:—

	Act of 1882	New Act
Inspector	1	1
First-class principal pharmacist	6	4
Second-class „ „	6	5
First-class pharmacist-major ...	46	30
Second-class „ „ ...	68	45
First-class aide-major	43	20
Second-class „ „	15	10
	185	115

Although the recent decree must be regarded as a victory for the doctors and an injustice to the pharmacists, the harm done is more apparent than real. As a matter of fact, the nominal staff of 185 has never existed except on paper, the actual strength having been about 120. "So that the law really only consecrates a state of things already existing," explained M. Balland, as we opened the conversation. "And having comparatively few representatives in Parliament, where the doctors are numerous, you could do nothing?" I asked. "Just so. The doctors want, as we say here, 'all the blanket on their side of the bed,' and we cannot stop them."

As a matter of fact, several attempts have already been made (since the French army was reorganised in 1873, after the war) to suppress the pharmacists altogether, and the law of 1882 placed them, for the first time during the century, under the orders of the doctors.

"But if you are interested in the subject," added M. Balland, "let me offer you these pamphlets," for not only is he the head of the laboratory, but his hobby is to be the historian of the military pharmacists. I accepted the works with pleasure, and from them and other sources I gained the following information.

Under the Old Régime.

Military hospitals were founded in France in 1597, but the first record of French army pharmacists is to be found in the order signed by Richelieu, at Lyons, in 1630, which named for the "Army of Italy," three doctors, five surgeons, and two apothecaries, MM. Perdreau and Laforêt. These latter were each to receive 100 livres monthly, the pay of a captain of infantry in those days. Eight years later we find "apothicaires" attached to each army, and they are constantly named side by side with surgeons. In 1719 the "apothicaire-major" received 120 livres a month, with rations, forage, and allowances.

Military Pharmacist in Napoleon's Time (1809).

They appear then to have served under the doctors. The regulation of 1719 gives the doctor power to dismiss the apothecary; that of 1747 orders the apothecary not to make any preparation "outside the pharmacy, or in the absence of the doctor or surgeon-major." But that in later years they were men of sound knowledge and sufficient qualifications is evident from the rules laid down in 1775 for the military hospitals of Strasburg, Metz, and Lille, which enact that each summer "the apothecary-major shall demonstrate the principal galenical operations before such of the surgeons as are not on duty, and explain the manipulations. He shall also hold an annual botany class for the purpose of lecturing on ordinary plants, which the doctors, surgeons, and apothecaries shall be obliged to attend." The ordinance of 1780 provides that the verificator of pharmacies (chief pharmacist) shall annually inspect provincial hospitals and botanic gardens, send in quarterly accounts of drugs supplied to each hospital, and analyse new or doubtful remedies.

Some well-known Names.

Among the pharmacists who served in the armies of Louis XIV., XV., and XVI. may be cited Cadet de Gassicourt, his brother, Cadet de Vaux (who founded the first French daily paper, by the way), Leroy (who edited the first Formulary for French military hospitals), Bayen, and Parmentier. Bayen was chief pharmacist of the Minorca expedition of 1756 against the English, and rendered many services to the French troops by his analyses of drinking-water and discovery of pure fountains, supplying saltpetre for bombs, &c. During the Seven Years' War he did much to remedy the terrible state of the military hospitals of 150 years ago. In this war we find the first germ of the sensible and humane provisions rendered general by the Geneva Convention a century later. In 1759 Marshal du Barail and the English general, H. S. Conway, signed an agreement that "the wounded and sick, with their doctors and attendants, should not be made prisoners of war." Had the Prussians observed similar rules the great Parmentier (who wore the military pharmacist's uniform for nearly half a century) would have escaped some peculiar experiences. During this same Seven Years' War he was captured by the Prussian Hussars not less than five times. "They are the cleverest *valets de chambre* I know," he wrote good

humouredly; "they stripped me more quickly than I could ever have undressed myself—very honest fellows, too; they took nothing but my clothes and money!"

From 1757 to 1813 Parmentier was in the service, and the value of his contributions to army pharmacy may be judged by the fact that a French commissariat journal is now republishing some of his rarer works bearing on food and drugs.

From 1779 to 1781, during the naval war against England, he was pharmacist at the divisional hospitals established on the Norman and Breton coasts for the sailors of the French fleet.

The Modern Corps of French Pharmacists

dates, like most French institutions, from the Revolution. The vast armies organised in 1792-93 to combat the European coalition were provided with a proper corps of sanitary officers. In the true spirit of Republicanism the Convention decided that the sciences which rendered equal services should have equal recognition, and doctor, surgeon, and pharmacist were all of similar rank. Each "army" had a doctor, surgeon, and pharmacist, who ranked as brigadier-generals; each hospital had three chiefs (one of each branch) ranking as majors; while the inferior grades had the pay, rank, and allowances of captains and lieutenants.

Conscription of Pharmacists.

The position of officer in the Sanitary Corps was, however, no sinecure, and the professions did not enlist *en masse* like the people. But the Convention was not a body to stop at trifles, and on August 1, 1793, an Act was passed to register all doctors and pharmacists between the ages of 18 and 40 that their services might be put into requisition, if necessary, by the War Office. That this was no mere formality is proved by the fact that the Army Sanitary Corps, which mustered 2,500 all told early in 1793, swelled to 4,000 at the end of the year, and in 1794 was 8,000 strong. A copy of the summons received by a young pharmacist, published by M. Balland, may be reproduced as an historical curiosity:—

Military Hospitals.

REPUBLIQUE FRANÇAISE.

LIBERTY, EQUALITY, FRATERNITY.

SANITARY COMMISSION.

The provisional government of France is revolutionary until peace is proclaimed.

The apathy of the government having caused defeat, the delays for the execution of Laws and measures shall be fixed; the violation of delays shall be punished as an attempt against Liberty.

Paris, 13 prairial of the second year of the French Republic, one and indivisible.

The Sanitary Commission.

To.....

The Sanitary Commission invites thee, citizen, to present thyself at once and without delay at the military hospital of Fontainebleau to act provisionally in the service of 3rd class pharmacist, until thou shalt receive a commission.

Salut et Fraternité, [illegible]!

(Signed) LASSIS, ANT. DUBOIS, BAYEN, & THÉRY.

During Napoleon's Wars

the number of conscript pharmacists was still large. To those who desire to know something of their life I may recommend Sebastian Blaize's "Mémoires," written in 1828 and republished in 1897. Pressed into the service at 19 years of age, Blaize left Avignon in 1808, and was drafted into the army as assistant-pharmacist and sent to Madrid, where he spent some little time—and money—with Parmentier. "You march all the easier when your pockets are empty," said his Mentor, as they quitted the capital. "Yes; but we don't dine any the better," answered Blaize. And he describes, with boyish freshness, his impressions and adventures; how he physicked pretty Dolorès and her mother during fever (being quartered in her father's house); and how, when his turn came, the señorita's fair hands brought him his potions and aliments. Left at Madrid when the French troops retired (as a punishment for being present at a dinner which ended in a duel), he is taken prisoner by the Spaniards and sent to Cadiz. He "trembles at the thought" of falling into the hands of the English redcoats, but later on learns to distinguish them "from the ferocious beasts called Spaniards and Portuguese." In fact, not many days after, a couple of Englishmen, seeing him half-starved, "offered him the slight help of which a soldier can dispose," while the Spaniards forced him to sleep on the bare stones and live on beans; and on one occasion he was only saved from assassination as a "heretic" by baring his breast and showing the crucifix, which Dolorès had hung round his neck at parting. There is little pharmacy, but much romance, in the narrative. Among the incidents he records are how he blew powdered alum into his eyes, and thus (as an invalid) avoided shipment to the Canary Islands; how the English admiral saved him and his fellow-prisoners on the hulk from cannibalism by a timely gift of sea-biscuit; how he fought and won his liberty with 200 fellow-prisoners, and finally found himself in clover, quartered in the family of a jolly Inquisitor at Seville till Wellington chased the French from the Peninsula. He escaped capture at Vittoria, thanks to the rich treasure-chests round which he saw English and French stop fighting to fill their pockets as he hurried past. He witnessed the farewell of Napoleon at Fontainebleau, assumed the Bourbon cockade, and with a thankful heart found himself safe in Paris, after six years of unsought adventure.

In 1815 the number of pharmacists was reduced to 147; in 1836 to 95. The Algerian wars raised the total to 113;

A MILITARY PHARMACIST OF THE FIRST CLASS EQUALS A "COMMANDANT" (MAJOR) IN RANK.

in 1852 Napoleon III. increased it to 146, and in 1859 to 159. The law of 1852 fixed the rank as follows:—

Pharmacist-inspector ...	ranks as	General of brigade
1st class principal pharmacist	„	Colonel
2nd class „ „	„	Lieutenant-Colonel
1st class pharmacist-major ...	„	Major
2nd class „ „ ...	„	Captain
1st class pharmacist aide-major	„	Lieutenant
2nd class „ „	„	Sub-Lieutenant

Such is, briefly, the history of the Corps. They have rendered

Important and Peculiar Services

to the army during war. When Napoleon retreated from Moscow, in 1812, his generals were at their wits' ends to know how to coin and carry away the gold and silver ingots which numbered hundreds and formed the richest part of the booty. "Have we not Laubert?" (head pharmacist of

the Grande Armée) was the Emperor's brief reply; "I leave all to him." And his confidence was justified by Laubert's prompt and efficient measures.

Jeannel was besieged in Medea (Algeria) in May, 1840. The garrison had 528 bullocks, but no forage for them. The pharmacist found means to smoke part of the meat and reduce the rest to broth, and the soldiers were thus fed until Changarnier raised the siege and relieved them on August 29. It was also Jeannel who, when shut up with Bazaine's troops in Metz (1870), suggested the idea of balloons, and 3,000 letters were thus sent out of the besieged city—a system enlarged and perfected during the siege of Paris.

At Val de Grace.

"And your own occupations, M. Balland," said I. "You confine yourself to analysis, I believe?"

"Principally. In the superior ranks we are, strictly speaking, analytical chemists. I have just published a very complete comparative analysis of the various flour-pastes (macaroni, &c.) employed in the army; and I examine canned meat, forage, and even textiles, to see if they correspond to specifications."

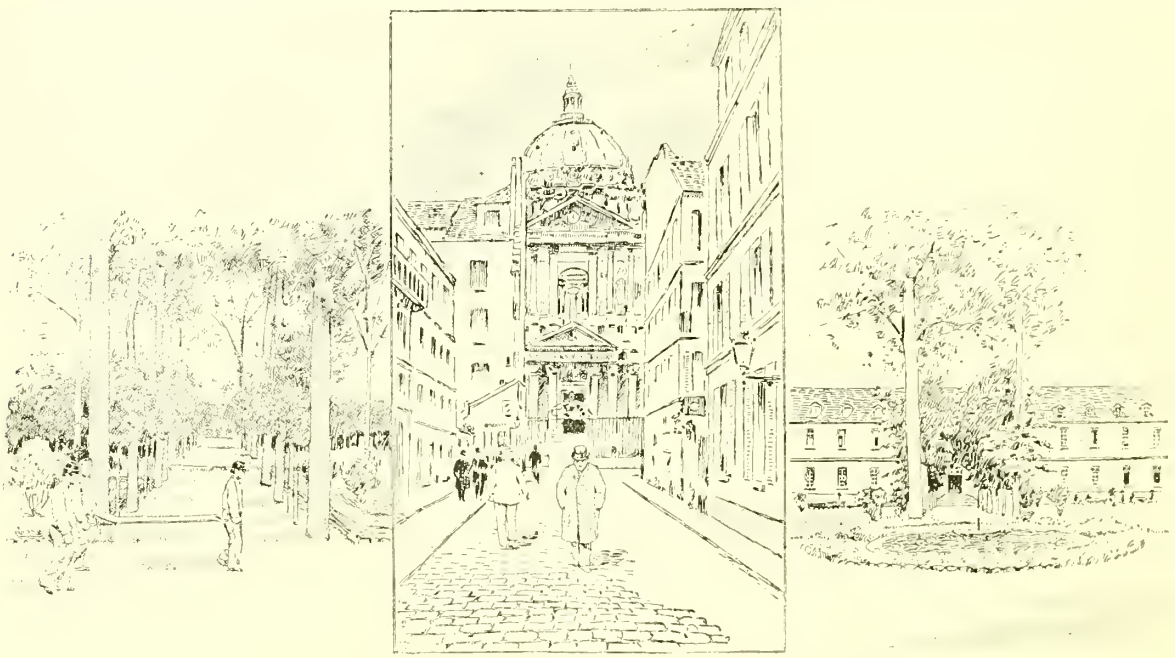
"And the pharmacy of the Invalides?"

"A small affair nowadays. Built for 6,000 pensioners, the building now contains 250; the rest is used as offices. The green-velvet band below indicates that he is a pharmacist. The serpent embroidered on the collar of his dolman (tunic) is common to all the Sanitary Corps, but ever since Napoleon I.'s time crimson-velvet facings have been reserved to surgeons and green to pharmacists, to distinguish them from the combatant officers.

Courteous, as befits his double capacity of officer and pharmacist, M. Georges is evidently a strict disciplinarian, and absolutely refused to be "drawn" on the question of the new decree and its injustice. He evidently shared the idea that the soldier's duty is "not to reason why." So we turned to educational matters.

The Military Pharmacist's Education.

Since Strasburg fell into German hands no special school exists for the French military pharmaceutical student—the Lyons establishment is for surgeons only. The youth who wishes to enlist as a pharmacist, after taking his B.A., may present himself at the annual examination at Val de Grace. A poster which I saw at the School of Pharmacy yesterday invited students to present themselves. They must, of course, be French. The examination is competitive, the vacant posts being given to those having the highest percentage of marks, on the condition that they sign an engagement to serve in the army for at least six years from



Le Val de Grace, Military Hospital and Gardens.

quaint old pharmacy is modernised. Better go round to Val de Grace."

Val de Grace (a stone's throw from the the Paris School of Pharmacy) is not only the most important military hospital in France, but is also a "school of application," where army surgeons and pharmacists must study ere they receive their commission as officers of the French forces. Pharmacist Burcker, so well known at the Society of Pharmacy meetings and elsewhere, has recently been removed to Marseilles. A Draconian law provides that a military pharmacist shall not be stationed at the same post more than ten years. Marseilles is the site of the "Reserve," or second big drug-warehouse of the army; the first is on the Quai d'Orsay, Paris, not far from the Eiffel Tower.

Pharmacist Georges,

who ranks as "first-class major," is now head of the pharmaceutical department of the School and Hospital. Tall and slight, in full uniform, and soldierly in his bearing, he might be taken for a smart infantry lieutenant but for a few grey hairs in his moustache and the four gold bands round his képi and cuffs, which denote his rank, while the the date of their commission as "aide-major of the second class" (sub-lieutenant).

They are then free to study at any school of pharmacy they prefer, but are required to present their notes, &c., fortnightly to the pharmacist-major of the local hospital, to give formal assurance of the fact that the 1*l.* a week or so allowed them by the Government is really being spent in pursuing their professional instruction. If they are "plucked" twice consecutively at any examination they are struck off the list.

When they obtain their "first-class" certificate (the "second-class" pharmacists, now abolished, were not eligible for commissions) they go to Val de Grace for a year's "stage," or training, and leave this "school of application" with their commission as aide-major.

"And how many students have you here?" I asked, when M. Georges terminated.

"Five. Last year I had ten. More or fewer are admitted as vacancies occur in the Corps."

"And the teaching-staff?"

"Myself and one assistant-professor for pharmacy; there are also two pharmacist-majors in the hospital. But let me show you round."

A MILITARY-HOSPITAL PHARMACY.

We passed through the assistant-professor's office into the "chambre de garde" (house-pharmacist's room). Here the "stagiaire" on duty eats and sleeps; the other four are free when the day's dispensing and classes are finished, for the French officer is never quartered in barracks, but has a money allowance to pay for lodgings outside.

"Military simplicity," I remarked, glancing at the bare painted walls, the iron bedstead, the deal table; not a carpet, not a picture.

ELEVE PHARMACIEN MILITAIRE-STAGIAIRE.

M. Georges smiled. "Everything is military here. Our young fellows don't have the easy life of the 'interne in pharmacy' in the civil hospitals." We passed into the pharmacy next door, where some uncorked bottles met the chief's vigilant eye. "These bottles must be stoppered at once, monsieur," he said briefly to the stagiaire, who, with a laboratory-apron over his officer's uniform, was engaged at a neighbouring bench, and had evidently supposed his superior to be safely busy at his office-work.

"Here is the cupboard for emergencies," continued M. Georges, "of which the two 'gardes' (doctor and pharmacist) on duty have each a key. Underneath, unlocked, are the antidotes for various poisons, each bottle distinctly labelled with full instructions as to the usage, maximum dose, &c., so that, even should no doctor or pharmacist be available, the first person handy has only to read for himself." All round the walls were shelves of the usual drugs, and I noticed a list of maximum doses hung in a conspicuous position. "If a larger dose than what is specified occurs in a prescription," explained my guide, "it is the young pharmacist's duty to consult his superior officer before dispensing."

NEW MEDICAMENTS.

"Do you use many of the newer remedies?" I asked, noticing a vial of analgesine.

"Very sparingly, and after due test and experiment. Novelties are served out in one or two hospitals, from time to time, for analysis and trial, and reported on to the Military Sanitary Committee. They usually decide not to adopt them. Not through mere conservatism, but because we cannot afford to pay fancy prices for anything not really superior to the well-tried drugs we have in stock."

"Are your expenses so carefully checked?"

"Yes. Not actual disbursements, for we do not buy anything direct. We simply fill up printed requisitions for all our needs and send them to the central military pharmacy in the rue de l'Université. But quantities used are carefully noted, and there is no waste. For instance, you know that in civil hospitals the internes often prepare quite a number of medicaments beforehand, if they are pretty sure they will be wanted later on. If potions are thus prepared in advance here, to avoid delay the next morning, we merely put in the active ingredient—opium, for instance—and the minor drugs are only added when the infirmier, who follows the surgeon-major round the wards, brings the prescription-book back to the pharmacy. And in spite of all this, all medicaments are delivered by 10 A.M. As I said before, there is no slack and slipshod work in our hospitals."

"But haven't I heard that French parents like their sons to be infirmiers?"

"Possibly; so that they won't go to battle if war is declared. I can only tell you it is hard work, twelve to fourteen hours a day, and two or three nights a week out of bed."

STOCK-REMEDIES.

Next door was the "Tisanerie," where a soldier, his red képi and trousers contrasting oddly with his white blouse, overlooked half-a-dozen enormous coppers, simmering on an extensive kitchen-range.

"One copper holds 175 litres," remarked the major. "And here are the stock-preparations ready for use," pointing to a long row of metal cans—not unlike railway milk-cans—marked "Distilled Water," "Pectoral Syrup," "Tea," &c. Tea is considered a medicine among the mass of the French population, and is largely used at Val de Grace. In a neighbouring cupboard were the bottles for disinfectants. Instead of the usual gummed labels, the name of the liquid was painted in bold letters on the bottle itself, red letters being used for poisons like carbolic and sublimate. "My own idea," explained M. Georges. "Labels get washed off or dirty, but this prevents danger."

GARDEN, VAL DE GRACE MILITARY HOSPITAL. PATIENTS, SISTER OF CHARITY NURSE, AND MILITARY PHARMACIST.

There was another pharmacy where stock-remedies are prepared in large quantities, and here again, I am afraid, my inopportune visit got someone into trouble, some bottles of fermented milk, improperly stoppered and dripping on the floor, being duly noted by my companion.

Then came the school, a laboratory of fifteen benches—where M. Georges teaches practical chemistry as applied to hygiene to the sixty medical stagiaires as well as to the young pharmacists—and a lecture-theatre. The assistant-professor teaches pharmacy, analysis, and materia medica; a series of drugs lay on the laboratory-table for identification at the afternoon class. And, to conclude, M. Georges' own spacious private laboratory, where he does all his analysing. Here, again, the soldier-element was represented by a fresh-faced, red-trousered laboratory-attendant, who saluted in military style and replied in the stereotyped French barrack phraseology: "Anybody been in?" "No, my major." "Well, I'm going to *déjeuner* now." "Yes, my major," and so on, standing at "attention," as the regulations direct.

IN WAR-TIME.

"A last question, M. Georges: Do you pharmacists ever march in the fighting-line?"

"That depends on our rank. The superior officers are naturally usually occupied in the large hospitals at head-quarters; but the young fellows go to the front if ordered. I have myself marched 'in the column' during the Tunisian campaign of 1880. Yes, I carried a sword, and a revolver, too; the Arabs respect these more than they do the Geneva Convention, which protects us in European warfare. We wear the red Geneva cross. My duties? My first, when we halted, was to examine and analyse all the drinking-water available, and choose the best for the men. This was,

perhaps, the most important thing in Africa, but, of course, I had plenty of other work."

"And have pharmacists ever been killed in battle?"

"A few; but look at the 'List of Honour' as you go out through the cloister."

The Army Pharmacists' "Westminster Abbey."

I thanked M. Georges, and withdrew to the quadrangle, where the "Tableau d'Honneur" is inscribed in gold letters on black marble slabs—the names of the officers of the Sanitary Corps who have been killed in battle or died of maladies contracted in the hospitals and ambulances. I noticed two pharmacists "Tués a l'ennemi" during Napoleon I.'s campaigns in Germany and Russia (1810–15), and a young fellow ("elève pharmacien Roy") who was killed during the siege of Strasburg (1870).

But the other list was grim enough. Yellow fever had carried off forty-two pharmacists at San Domingo in 1802–1803, and three at Gaudeloupe in the same year. Three fell victims to typhoid fever during the Austerlitz campaign (1805), and three more during the Crimean war. Cholera carried off ten in Algeria (1834–37 and 1867–68), and three during the Russian campaign (1855). Above were busts—"nothing but surgeons, of course," M. Georges had drily remarked—and the motto of the Sanitary Corps—

DÉVOUEMENT
HONNEUR PATRIE

The whole was fitly completed (apart from a long list of surgeons) by slabs to the Sisters of Charity and infirmiers who died at their posts, and by two others bearing appropriate quotations; one of these, which was written by brave old Ambroise Paré (1517–90), is as true of pharmacists as of surgeons:—

"For I have been at battles, skirmishes, assaults and sieges of towns and fortresses, as well as shut up in besieged towns to care for the wounded. And God knows how our judgment is perfected in this art, when, far from any thought of gain, our only honour is the friendship of the brave soldiers whose lives we save."

As an appropriate conclusion to these notes, let me quote pharmacist Sebastian Blaize's racy classification of the composition of an army:—(1) Glory and riches (commander-in-chief, &c.). (2) Glory without riches (subalterns and privates). (3) Riches without glory (army contractors and sutlers, pursers and officials). (4) Neither glory nor riches (the Sanitary Corps in general and the military pharmacists in particular).

William Stokes, M.D.

It rarely happens that the names of medical men go down to posterity associated with famous medicines. A few official and unofficial remedies which are named after their originators are proof of this statement. We have amongst the former Gregory's powder and Donovan's solution, and in the latter there are perhaps no preparations more familiar to pharmacists of the United Kingdom and the United States than Stokes's liniments and mixture. Dr. William Stokes, the originator of these preparations, was one of the most notable of the physicians of this century. He came of a good stock, his father, Dr. Whitley Stokes, being professor of medicine in the University of Dublin, and by him he was educated in the first instance; then he began the practical study of medicine in the Meath Hospital, but was so fond of chemistry that he pursued the study of that science in the laboratories of Trinity College and the College of Physicians in Dublin, and afterwards went to Glasgow, where Dr. Thomas Thomson was then lecturing in the University. In his twentieth year young Stokes entered as a student of the medical school of the Edinburgh University, and became one of the most distinguished students of that famous school. He was, for example, while a senior student, President of the Royal Medical Society, an honour reserved for the best and greatest of the young men. Sir Dominic Corrigan, the first President of the Pharmaceutical Society of Ireland, was a fellow-student of Stokes, and graduated in the same year. It is remarkable that two so notable Irishmen should have been studying at the Edinburgh medical school at the same time, and that their speciality should have been on kindred subjects, Corrigan's work on the circulation havingmade him famous, while Stokes's researches on the heart and respiration are known to the medical world. After graduating at Edinburgh Dr. Stokes returned to Dublin, and began practice there. By 1835 he had become noted for his skill in the treatment of chest-diseases, and in that year he began to write his great work on the diseases of the chest, which was published in 1837,

and was hailed at the time as "a work justifying the belief that medicine is really assuming the character of an inductive science."

The formulæ for his liniments are given on page 525 of "Pharmaceutical Formulas," and for the expectorant mixture on page 549. These prescriptions were, in the first instance, familiar enough to Dublin pharmacists, but since then they have become favourites in all parts of the British Empire, as well as in the United States. Stokes succeeded his father as Regius Professor of Physic in the University of Dublin in 1845, and became one of the Queen's Physicians in Ordinary in Ireland, as well as the Crown representative of the General Medical Council. He had many honours conferred upon him before his death in 1878. For some of the particulars of Stokes, and for the portrait which accompanies this note, we are indebted to Messrs. Cassell & Co. (Limited), the publishers of the *Practitioner*, and we may add that a biography of Stokes has recently been published in the late Ernest Hart's series of "Masters in Medicine."

"Your 'Pharmaceutical Formulas,' is a most useful book of reference."—*R. W.* (237/33).

Peeling Cinnamon.—The work of peeling the bark from cinnamon-shoots is entirely performed by members of the Challa caste, who are very expert at the business, and transmit it as a sacred heritage from father to son.

Poisonous Bush-plant. — Mr. E. T. Bickford, F.L.S., secretary of the Von Mueller Botanic Society, has received for examination a sample of a solanaceous plant, *Anthocercis littorea solaneæ*, common to the bush surrounding Perth, W. Australia, and from which poisonous properties resembling belladonna are observed.

Practical Notes and Formulæ.

LEMON WHEY.

TAKE a pint of milk and water, the juice of two lemons, and let the mixture boil for five minutes; strain and add sugar to taste. Or 1 pint of boiling milk, ½ pint of lemon-juice; sugar to taste; mix and strain.—*Meyer Brothers' Druggist.*

GINGER-POP.

TAKE 5½ gallons of water, ¾ lb. ginger-root bruised, ½ oz. tartaric acid, 2¼ lbs. white sugar, white of three eggs well beaten, 1 small teaspoonful lemon oil, 1 gill yeast; boil the root for thirty minutes in 1 gallon of the water, strain off and put the oil in while hot; mix. Make over night; in the morning skim and bottle, keeping out sediment.—*Meyer Brothers' Druggist.*

TOY-PISTOL CARTRIDGES.

THREE samples of wafers and cartridges, such as are used by children for toy-pistols, have been analysed by Professor A. B. Prescott. The wafers he found to be composed of black sulphide of antimony, chlorate of potash, nitrate of potash, and sodium hypophosphite; the cartridges contained fulminate of mercury and gunpowder. These are not very desirable ingredients for children to handle.

PERMANENT LIBRARY-PASTE.

FRANK EDEL gives the following formula in the *American Druggist*:—

White dextrin	...	...	5 or 5½ lbs.
Water (heated to about 160°)	...	...	1 gal.
Oil of wintergreen	...	...	½ dr.
Oil of cloves	...	...	½ dr.

Dissolve the dextrin in water by stirring; when cool add the oils and stir; pour the paste into bottles, and cork.

The paste is to be placed in a cooling-chamber at a temperature of 40° or 45° for a few days to ripen.

BATH-POWDER.

A FORMULA for bath-powder is given in *Meyer Brothers' Druggist* which is practically the same as that given in "Pharmaceutical Formulas" (page 59), but no quantities are stated. The following general directions for taking a bath are interesting:—"If the bath is for the purpose of reducing the heat of the body, relaxing the skin, or as a non-stimulant, the temperature of the water should be about 90° F. If the bath is for the purpose of softening and cleansing the skin, or to produce insensible perspiration, the water should be of a temperature of about 75° F. If the object of the bath is to obtain a stimulating tonic or sedative effect, the temperature of the water should be between 40° and 60° F., the colder the better."

SYRUP OF TOLU.

MR. W. C. ALPERS, Bayonne, N.J., proposes the following method of preparing syrup of tolu:—A wide-mouthed bottle is filled with small glass marbles. A tincture of tolu of any desired strength is poured into the bottle, and the spirit allowed to evaporate, turning the bottle upside down or rolling it occasionally, which leaves the tolu on the inner surfaces of the bottle and on the marbles, presenting an extensive surface for solution. Hot water is then poured into the bottle and allowed to cool. By filtering this water a concentrated tolu-water is obtained, in which the sugar is dissolved.

OINTMENTS.

F. MIEHLE, in a communication to the *Phar. Zeit.*, gives some particulars as to the preparation of ointments, and recommends them to be made of two consistencies, one called unguentum durum and the other unguentum molle, the basis to consist of paraffins and wool-fat in the following proportions:—

	Hard	Sof
Solid paraffin...	... 40	... 22
Liquid paraffin	... 50	... 60
Wool-fat ...	... 10	... 10

By weight.

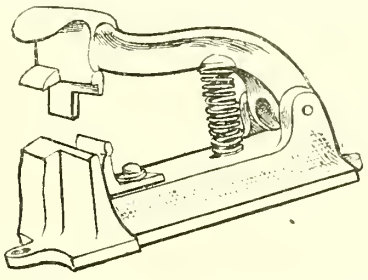
These to be made by melting the paraffins on a water-bath, adding the wool-fat, stirring, and when cold rubbing up the basis in an ointment-mill, so as to ensure that it is perfectly smooth. The decided advantage of this basis is tl at it mixes freely with water up to a certain point, and the two consistencies give possibilities of a wide range of application. Seven parts of the soft basis with 3 parts of water make a beautiful white salve similar to cold-cream, which is excellent for making ointments of salts and extracts in watery solution. Equal parts of the soft basis and rose-water, perfumed with otto of rose, make an unalterable cold-cream.

REACTION FOR SANTONIN.

HEAT from 1 to 2 c.gm. of santonine with 2 gm. of concentrated sulphuric acid, and to the resulting liquid add, drop by drop, 2 c.c. of a 1-per-cent. solution of cerium sulphate containing 2 per cent. of sulphuric acid; when the reddish solution cools down, dilute it with 8 c.c. distilled water. A violet-red precipitate forms, in which may be seen a few particles of deeper colour. The clear liquid is then divided into three portions. To the first test-tube add an excess of phenol, two layers form, the aqueous one colourless, while the carbolic acid is red. Shake the contents of the second tube with ether, it remains colourless. Shake the third portion with amylic alcohol, and it acquires a brilliant brown, which phosphorus trichloride converts into violet.

TUBE-CLOSING MACHINE.

A COLLAPSIBLE-TUBE CLOSING MACHINE as accompanying illustration, is being used in the United tates which does away with the use of pincers or a spatula for that purpose. A great



saving of time is effected, as the work can be done much quicker, the makers claiming that it will close ten tubes in a minute.

SODIUM-PHOSPHATE SOLUTION.

MR. J. W. ENGLAND, before the Philadelphia County Medical Society, proposed the following solution for administering sodium phosphate:—

Sodium phosphate dried	... ... ℥iij. ℥iss. gr. vj.
Phosphoric acid (50 per cent.)	... ℥iss.
Water to	... ℥viij.

Mix the acid with the water, dissolve the salt, and filter through paper.

Dose: ℥j. to ℥ij. in a wineglass or more of hot water three times a day, one hour before food.

This solution mixes with water in all proportions, and each drachm yields on evaporation about 30 gr. of anhydrous salt.

A GOOD DISINFECTANT.

Chinosol	... ℥iss.
Carbolic acid ...	... ... ℥j.
Eucalyptus oil	... ... ♏x.
Water to	... ℥xxv.

Shake until dissolved.

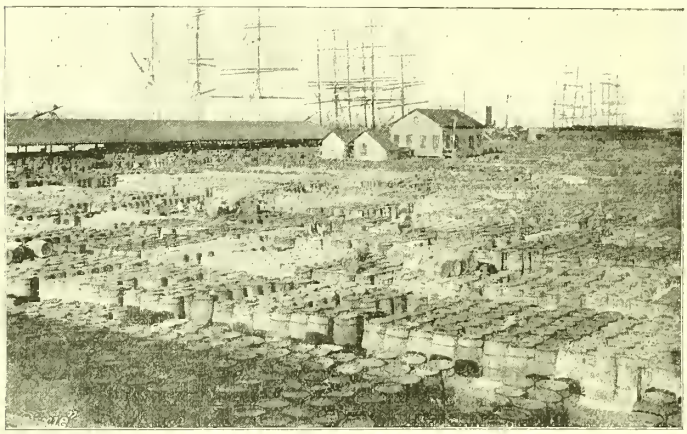
This makes a superior disinfectant for household use. It is as active as carbolic acid, pleasanter to use, and safer May sell in square quarts at 1*s.* or less.

FAIR PATIENT: "Doctor, my memory has become very bad of late." Doctor: "Indeed. In these cases it is my invariable rule to ask for my fee in advance."

BROWN: "Do you know that the majority of physicians are comparatively poor men?" Jones: "No, I wasn't aware of that; but I know some of them are awfully poor doctors.

Turpentine and Resin.

MR. LEIGHTON W. HUBBARD wrote for *Dixie* not long ago an interesting article on "Turpentine-farming," which was substantially a brief history of the tar, pitch, and turpentine industry of the Southern States of U.S.A. He says that in 1700, some eighty odd years before America was severed from the British Empire, this



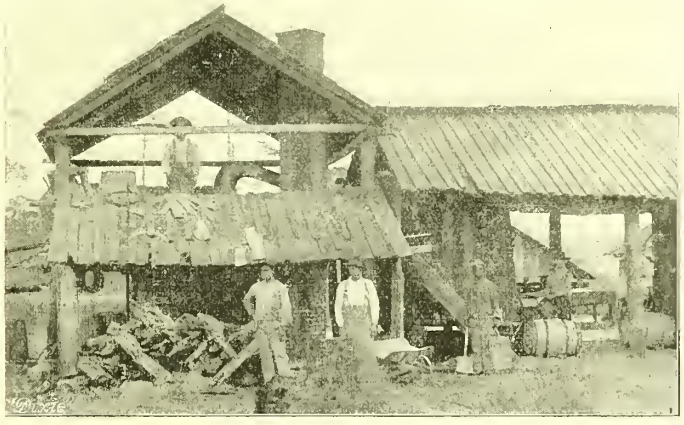
Turpentine Wharves at Savannah.

industry was founded. Since then the industry has steadily grown, the shipments during the year 1895–96 from Savannah (the largest shipping port for these products in the world) amounting to over 300,000 casks of turpentine oil and 1,150,000 barrels of resin. The value of the trade in naval stores (by which terms tar, pitch, turpentine, and resin are designated) at Savannah is estimated at $10,000,000 per annum. The wharves and warehouses at that port contain an average stock of 40,000 casks turpentine and 200,000 barrels resin. In no other part of the world is such a view as is depicted in the illustration to be seen. The resin is parked in the open air, but the former is stored in sheds, as the changes of temperature act quickly upon the spirit. During warm weather it is continually watched, as the casks are apt to leak owing to expansion. As it contracts during cold weather, the deficiency must be supplied before shipment. A standard cask holds about 50 gals. The stock at the wharves is owned by the exporters, who usually buy the daily receipts at market price. The production during the past four or five years has been so large that values have gone down considerably, and efforts are now being made by exporters and factors to lessen the production of turpentine in future years. In the summer of 1897 the price of turpentine fell as low as 22c. per gal., the lowest figure in the history of the trade. A fair profit can be realised at 30c. to 35c. Signs of an improvement during the past few months are not wanting, and the turpentine men are hopeful of better prices; and, so high is the hope of man, they are just now extending their business operations. Speaking of the collection of crude turpentine, Mr. Hubbard states that the best pine-forests are in Southern Georgia and Northern Florida, though the supply of trees in the former district is gradually diminishing, and during the last few years many farmers have removed to Florida, where the pine forests are dense and convenient. An average farm consists of 15,000 to 30,000 acres, and is usually located near a railroad or navigable river, where the cost of transport and hauling is small. The yellow and the "slash" pine are the only trees that produce turpentine. Yellow pine grows on upland, and yields well. Slash pine is found on lowland, where the old trees have been consumed by lumber-mills and are succeeded by a young growth. For turpentine-operations the trees must be sound. Farmers usually lease the trees, and do not purchase the land. After the lease expires and the trees are abandoned, the owner of the land can sell them to a sawmill firm for lumber. The cutting-season lasts from December to February. The cut is made with a long-bladed axe, and is in the form of a box, 12 inches wide and 4 deep. The hand (often a negro convict) begins the box about 18 inches from the ground, and chips a level streak across the pine for 12 inches; the axe is raised 5 inches above the streak, and a single stroke is made above the centre. From the top stroke to the level streak the axe chips out the box, the bottom of which is usually about 4 inches lower than the level streak. It is chipped out skilfully until smooth. The chips are then removed from the bottom, and the box is then inspected by the overseer. A first-class hand can cut from 170 to 175 boxes per day. New boxes begin to fill with crude turpentine within a day after they are cut, and in a few weeks they are full. The dipper and dip-bucket are then requisitioned to remove the exudation. The dipper is shaped like a large spoon or scoop of iron, fitted with a wooden handle, and with this it is possible to dip two to four barrels a day. After the fourth year the boxes produce little "dip," but their faces furnish several pounds of hard crude turpentine ("gum thus"), which is scraped off in the fall. The barrels of crude turpentine are transported to the still, which is made of copper and shaped like a syrup-boiler. The stills hold from fifteen to forty barrels (280 lbs. each) of crude turpentine, and are erected over the fire-box of the furnace. A fire is started, and 40 or 50 gals. of water with fifteen to forty barrels of crude turpentine, according to the capacity of the still, are put in. The process of distilling requires continuous boiling of the crude turpentine for about three hours. A barrel is placed under the mouth of the still, which is a small pipe extending from the side, to catch the condensed vapours of wort and spirit. The distiller knows

Yellow Pine Forest Boxed for Turpentine.

when the work is over by taking a glass goblet and catching a quantity of the distillate, and if the oil of turpentine is thoroughly extracted from the crude material the goblet contains only water. The oil is decanted from the water in the barrels, and poured into the commercial-spirit barrels of 50 gals. each. After the distillation is over, the content of the bottom of the still, which is resin, is emptied into a trough. From 10 to 11 gals. of spirit is obtained from 500 lbs. of crude turpentine. There are twelve grades of

resin, but only one of turpentine, whether obtained from the virgin exudation or scraped crude. The majority of the work on turpentine-farms is done by negroes, who are prepared to accept low wages and rough it. Thousands of people in feeble health are said to have found benefit from inhaling the properties of the pine-tree sap, and the whole system is braced up. In fact, we are told, that there is no better sanitorium than around the turpentine-distilleries of Florida, where the patient has the advantage of a glorious climate as well. As is well-known spirits of turpentine is principally used in the paint and varnish industry, and in the manufacture of rubber goods. About 7,000,000 gallons are required annually for the former industry, and about 4,500,000 gallons for the latter. It also enters largely into the preparation of medicines, especially liniments. Resin is also put to a variety of uses in the arts and manufactures. Printers' ink contains resin, as also does sealing-wax, putty, and varnishes. The



A TURPENTINE DISTILLERY.

mouth-pieces of common tobacco-pipes are made of resin, and numerous ornamental articles have resin for their basis. The finest grades are used to form the glaze on writing-paper. Two kinds of resin oil are obtained from resin by dry distillation, the light variety being used principally in fine varnishes. The heavy oil enters into the manufacture of axle-grease, machine and lubricating oils, and cheap paints. The product known as "pitch" is the residue from the dry distillation of resin, and is used for the caulking of ships, black dyes, or pigments. A special kind of pitch is used by brewers for "pitching" beer barrels and kegs.

From another source we learn that the present year will establish a new record of production in the turpentine-industry. Judging from the receipts of spirits at the principal outports from the opening of the season (on April 1) to the present time, there is every indication that the crop of 1898–99 will be the largest ever made, exceeding that of two years ago, when it was believed that the limit of production had at last been attained. At six of the ports—Wilmington, Charleston, Savannah, Brunswick, Mobile, and New Orleans—the total receipts of spirits up to July 1 were 164,600 casks. The producers are beginning to realise the bad effects of this over-production, and there are many complaints of the reckless over-doing of the cutting of virgin boxes. The following is a short summary of the course of the market during 1898. Prices are lower now than they were at any time during last year. The market is now down to 23½c., while the lowest point last year was 24c. in July. From the opening of the season, except during the squeeze at the close of April and May, when abnormal conditions temporarily prevailed, the natural tendency of the market has been downwards. The market has never rallied since June 1, and even now, with spirits offering at such a low figure, the market is not firm enough to justify the hope of any speedy reaction. The operators who sold futures for May-August delivery at 25½c. to 26½c. have reason to congratulate themselves on a good stroke of business. The engravings which illustrate this article are from the *Timber Trades Journal*.

Notes on Resinoids.

BY LEWIS OUGH, F.C.S., F.L.S., Pharmaceutical Chemist.

IV. CAULOPHYLLIN.

THE plant from which this resinoid is obtained (*Caulophyllum thalictroides*, Nat. Ord. *Berberidaceæ*) has been used from an early date by the aborigines of North America for certain female complaints, and some knowledge of its properties seems to have been obtained from the early colonists, with whom it was a favourite remedy in domestic medicine. The rhizome, with its attached rootlets, is the part of the plant employed medicinally, being known by the names of blue cohosh, squaw-root, blueberry-root, and pappoose-root, but it must not be confounded with *Podophyllum peltatum*, which was formerly called black cohosh, or squaw-root. The plant is found in the moist shady mountainous districts of most North American States, where the rhizome and rootlets are collected in the early spring or late autumn. By some writers the roasted ripe seeds are much praised as a substitute for coffee. As found in commerce this rhizome varies in size and length, is much twisted and branched and very irregular in appearance, having on its upper surface prominent transverse ridges, and at intervals persistent traces of former aerial stems, being internally of a whitish and externally of a brown-grey colour. The numerous rootlets arising from its sides and lower surface are, like the rhizome, slightly bitter, aromatic and pungent, the odour being strong and peculiar, especially in the rootlets. Blue cohosh has been found to contain saponin, starch, gum, and two resins, and on ignition yields about 2⅓ per cent of ash. An alkaloid, caulophylline, is also reported to be present in the drug, but this requires confirmation, as it does not appear to be essentially different from the resinoid. A tincture prepared by maceration in rectified spirit (1 in 5) is occasionally employed, also a liquid extract, but the resinoid is the preparation in most general use.

The following method for the preparation of the resinoid gives a good result when dealing with 28-lb. quantities of the rhizome.

The coarsely-powdered root is thoroughly damped with spirit (s.g. ·828), packed in a percolator, and allowed to stand for forty-eight hours, then slowly exhausted with more spirit, about 30 gals. being required for the above quantity. The bulk of the spirit is recovered from the brown alcoholic tincture by distillation, the remainder being driven off at a low temperature. The resulting resinoid is of a dark brown colour very slightly hygroscopic with a peculiar characteristic odour and readily reduced to a fine powder, the yield varying from 10 to 11 per cent. According to Coe's "Concentrated Organic Remedies" (1869) the medicinal uses of caulophyllin are almost unlimited, it being antispasmodic, alterative, tonic, emmenagogue, parturifacient, diaphoretic, diuretic, and vermifuge, whilst other writers describe it simply as a stimulating tonic and a reliable parturifacient. The dose of the resinoid is usually stated to be from ¼ to 1 gr., but Coe says as an antispasmodic 5 to 10 gr. may be given with advantage. Solution of ammonia renders it readily soluble in water and alcohol, so possibly an ammoniated tincture might be used with advantage.

The work connected with this note was conducted in the laboratories of John Richardson & Co., Leicester (Limited).

"DRAWN FROM LIFE" is the dentist's motto.

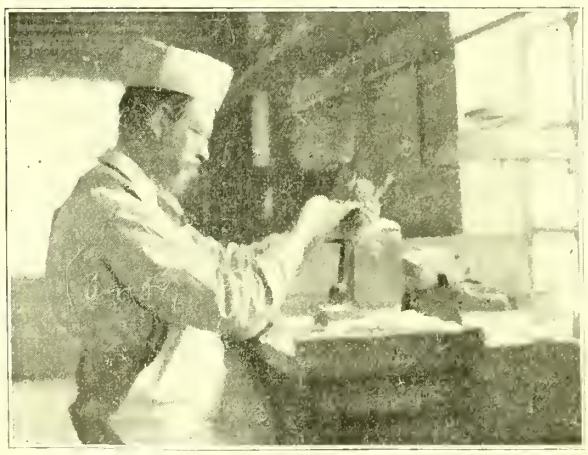
How Tooth-brushes are Made.

By Our Inquisitive Inquirer.

I HAD the opportunity of watching the manufacture of tooth-brushes at Messrs. G. B. Kent & Sons' factory at Victoria Park the other day, and as I am sure most chemists will feel an interest in following the stages in the evolution of a tooth-brush, I propose to give an outline of what I saw.

It is not necessary to follow the life-story of the bullock. The tooth-brush story begins when the bone-boiler calls at the butcher's for offal, and receives among other material bullocks' leg-bones. After extracting fat and gelatin from the bones by boiling, the leg-bones are packed in sacks and sent to the tooth-brush maker.

The leg-bones are subjected to a circular saw, pieces being sawn off each end to make certain lengths. The pieces sawn off are not wasted, but come in for making small bone articles, such as the shields used in infant-feeding gear. The bones are then sawn lengthways. Each bone produces four pieces of different shape. The different "cuts" are the foundation of four types of tooth-brush. One cut is a thick square one, and produces the heavy round or square handled brush; two other cuts make flat shapes; and the last—a curved piece—is used for curved-handled brushes. These pieces of bone are then passed to the planing-shop, where men with sharp planes take off the rough corners and advance the bone a second stage, according to the shape desired. The waste bone-dust produced here is sold for manure. It is either used on the land as it is, or by chemical process transformed into such form as is judged best suited for the crop it is desired to nourish. We have now to take the bones to the "profiling" machine, which cuts out the outline of the tooth-brush; the hollowed portion at the bottom of the brush is common to nearly all sizes, different shapes of brushes being produced by varying the adjustments of the machine. After this process more planing and filing is done by hand-labour until a perfect tooth-brush is produced, *minus*, of course, the bristles. Now the bones are soaked in turpentine for a night to dissolve out any fat which may remain from the bone-boiling operations, and are then boiled in water to get rid of the turpentine. The bones are then placed with water in revolving drums, and revolved for a day or two. All sharp edges are worn off in this process



Graving Tooth-brushes.

and the work of subsequent polishing lightened. From the revolving drum with plain water the bones are transferred to others containing mixtures of polishing-material, such as whiting and water, from which they eventually emerge with the familiar smooth surface. After washing, the bones are drilled, the rows of holes into which the bristles are subsequently inserted being pierced by machines capable of being regulated as to distance apart of the holes and shape of brush. All drilling is not done straight into the bone, some kinds of brushes requiring holes drilled in a slanting direction; these are all produced by delicate adjustment of the drilling-machine. Drilling done, the bone is subjected to a carefully-conducted bleaching-process, and comes from it with much-increased whiteness, the bone up to now having been of a yellow colour. The next operation is "graving," the grooves on the back of the brush corresponding with the rows of drilled holes being graved out either by machinery or hand. Machines can do straight graving, but the graving on oval or irregular-shaped brushes must be done by hand. This hand-graving is one of the most delicate operations through which the brush passes, as the workman has to depend on his judgment, the result of long experience, aided by touch and sound, as the tiny circular saw traverses on the back of the bone the course of the holes on the under side. The tooth-brushes with plain backs are done by the trepanning process. It is a machine-drilling process done from the

Waxing Tooth-brushes.

top end of the brush portion. This form of brush, although it looks nicer to some people, is not made in anything like the number in which groved brushes are, for the reason that it does not wear well.

Now the bones are ready for bristling. The young women who do this become very expert at it, and their nimble fingers manipulate the wire and bristles at such a rate that before one follows how it is done the brush is laid down fully bristled. One of them did her work, at my request, slowly, and I was able to see that a loop of wire was pushed through from the back, a little tuft of bristles inserted, and the wire pulled tight, which has the effect of doubling the bristles in the middle and making them stick out in the orthodox direction. The holes are taken in rotation, and the brushes, when finished, passed on to other girls, who press down the wires in the backs in the position they are destined to occupy permanently. A lot of judgment is required in taking the right amount of bristle to fill the hole; if too much is taken the bristle will be nipped, and, when used, the outer ones will break off. Holes in different patterns are of different sizes, so that the operator has to learn what quantity must be taken to be just right. They can tell, too, by the feel, when drawing the wire tight, if they have hit on the right quantity. Then the backs are "waxed." Young women sit with saucepans of melted sealing-wax in front of them, and, taking the brushes singly from the hot-plate where they are warmed, smear melted wax on the back. The wax, which may be of various colours, is kept warm by standing the saucepan on hot-plates heated by gas. When the brushes are cold the superfluous wax is scraped off, and they are passed on to be polished. Rapidly-revolving felt wheels, water and whiting, and intelligent manipulation produce a glossy polish in a very short time. The men who do the polishing work in pairs, one of them doing the larger surfaces with a thick wheel, and another the edges and curves on a thinner wheel. Now the brushes are washed with soap and water, and, when dried, passed on to have the bristles shaped. After "drawing," and up till now, the bristles are of various lengths and without definite shape. The bristles are shaped by hand or

machinery. Machines can do the straight, square shapes, but only scissors, dexterously manipulated by deft fingers, can do the serrated, crenulated, and irregularly-cut patterns.

The pattern-number and name are now stamped on, the polish finished by spirit-rags, minute defects in the waxing made good, and other little operations done to finish the brush. I have not touched on the preparation of the bristles—that is a long story which I may tell at a future time; neither have I mentioned up to now the many sorting processes the brushes undergo whilst being made. Some bones are less perfect in texture than others; these are duly sorted out. Some do not take kindly to the bleaching, and those of less attractive colour are picked out. Bristles, again, are graded, and to one who has watched the scanning at different stages by the eagle-eyed searchers for defects, there can be no doubt that the best brushes *are* the best and infinitely superior.

Photographic Notes.

BY A PHARMACEUTICAL CAMERIST.

I HAVE been asked several times lately for

PERSULPHATE OF AMMONIA,

which is being used for removing pyro stains from the fingers, and was originally recommended for that purpose by Liesegang in the German *Amateur Photographer*. It is prepared by the electrolysis of a saturated solution of sulphate of ammonia. Crystals of the persulphate form at the anode, the formula for which Hugh Marshall gives as $AmSO_4$. The persulphates give no precipitate with barium chloride, but on warming barium sulphate slowly separates, and chlorine is evolved. Ammonium persulphate is very soluble in water, but aqueous solutions gradually decompose, a sulphate being formed and oxygen liberated. It is a powerful oxidising-agent, organic colouring-matter being bleached by it and alcohol oxidised into aldehyde. The salt is used by rubbing a little of the moistened powder on the fingers, and then rinsing off with water. It will be remembered that potassium persulphate (KSO_4) was introduced some time ago under the name of anthion, as a "hypo" eliminator. It is curious to note that the potash salt is only slightly soluble in water.

A USEFUL THING for the holiday-season is the following

DRY DEVELOPER

recommended by Mr. Bavis, of Pisa:—

A.

	Parts
Metol	152
Hydroquinone	48
Eikonogen	40
Boracic acid	10

Mix, and keep in a dark stoppered bottle.

B.

	Parts
Sodium sulphite	100
Borax	25
Sugar of milk...	25

For use dissolve 3 parts of A and 4 of B in 100 of water.

THE use of

BOLTING CLOTH

in making enlargements gives an additional play to the artistic faculties of photographers. The Eastman Company supply a kind known as bolting silk, in two qualities—coarse and fine. The texture is very even and regular, and although this kind of bolting silk answers well, there is a field open for experimenters. If the silk is placed close to the paper when enlarging the finished print looks as if done on artists' canvas. By plaeing the material further from the paper a more diffused effect is secured.

KEEPING STOCK.

MR. R. CHILD BAYLEY has been writing in the *Optician* on the storing of photographic goods by dealers. The remarks on storing ammonia and ether are common knowledge to chemists, but on the storing of dry-plates his remarks are useful. Dry-plates, he says, should not be stored at the top of a room lit by gas, as warm impure air has a distinctly bad effect on them. Damp, again, is liable to set up bacterial decomposition, a dry-plate in a moist atmosphere being an almost ideal culture-plate. Heat exercises not only a deleterious effect on plates, but, by acting on the packing-papers and box, gives rise to emanations which sooner or later find their way through the purer inner wrappings and attack the plates. *Verb. sap. sat.*

ORTOL DEVELOPER.

THE ortol developer mentioned in THE CHEMIST AND DRUGGIST, April 2, 1898, page 542, is now being supplied by Fuerst Brothers, the agents, in packages ready for adding to water. The "A" tube contains the ortol and metasulphite of potash; the "B" tin the mixture of sulphite and carbonate of soda. It is a convenient way of selling this new developer, and a great convenience for travellers. The same firm are also supplying Hauff's toning and fixing cartridges, a tube of which makes 5 oz. of solution; and Hauff's fixing cartridges, which possess similar advantages.

PLATINUM-PRINTS

can be intensified. I had a bundle of under-exposed prints brought in by a customer to know if I could do anything with them. I had not up till then tried Hübl's formula; but, doing so then, and finding it answer fairly well, I reproduce it here:—

A.

Sodium formate	1 oz.
Distilled water	10 oz.

B.

Platinum chloride	15 gr.
Distilled water	1½ oz.

To use, add to 4 oz. of water ½ dr. of No. 1 and 45 drops of No. 2. When the prints have gained sufficient density they must be well washed.

A GOOD deal has been made by our Scotch friends of the disadvantages of the mineralised spirit in

DEHYDRATING NEGATIVES.

One great fault laid to its charge was its proneness to form an opalescent cloudiness known as "milk-fog." Once, when troubled with this defect, and having some valuable Jubilee negatives to dry quickly, I tried pure spirit, and got the milk-fog just the same. Investigation led me to find that "hypo." left in the film, and crystallising under the dehydrating influence of spirit, was the cause of the trouble. Well-washed negatives do not give this defect; but it is satisfactory to note that in every case where it did occur I found that soaking in water and well washing would entirely remove it. When one is in a hurry, which is just one of those occasions when dehydrating-agents are used, one is apt to curtail the washing process.

I SEE now that as a black for

GUM-BICHROMATE WORK

acetylene soot is being recommended. I collected some by holding a plate in a smoky flame, and found it very soft and fine, and that it mixed well with gum, as there was a marked absence of greasiness, often very much present in some samples of lampblaek. If you intend making some of this soot, and are using a large burner, take care to conduct the operation out of doors, or escaping soot will soon cover objects in the room.

DARK-ROOMS.

Banchory.—A. Henderson, High Street.
Buckie.—G. P. Gibson, West Church Street.
Cardiff.—Duck & Son, St. John's Square.
Greenwich, S.E.—Mr. E. A. Kempton, 110 Blackheath Road.
Hyde.—Swindells Brothers, 30 and 141 Market Street.
Norwich.—W. T. Dawson, 74 Prince of Wales Road.

AN IRISH BRAKEMAN was hurt by a train, and his friends offered to send for a physician. They asked, "Do you want an allopath or homœopath?" He replied, "It don't matter—all paths lead to the grave."

Why Josiah Went to Klondike.

JOSIAH GALEN sat in his easy chair wrapped in reverie. From his haggard face and unkempt appearance an observer would have concluded that he suffered from great mental perturbation, and such was in truth the case.

This was his last day in the drug-trade, and little as he had cause to love it he could not now forbear to recall the bright hopes and lofty ambitions with which he entered it. He thought of the proud day when, having "scorned delights and lived laborious days," he had entered the Temple of Æsculapius, and had come out entitled to add to his name the mystic letters A.P.S.; he thought of the resolutions he had made; how he had intended to be a pillar and an ornament in his noble profession so that when he was, at last, gathered to his fathers his bust might be placed in some niche in the Æsculapium at Bloomsbury. For a while things went well with Josiah. His business prospered, he was a guardian, and was likely to be a churchwarden. But within the last year a series of misfortunes had come upon him which had left him in the state we have just indicated.

The first blow which his hopes and aspirations had received, and which eventually shattered them like a house of cards, had been struck some twelve months previously when a business-like gentleman entered his pharmacy declaring himself to be an Inspector under the Weights and Measures Act, and demanding to see Josiah's balances, &c.

Josiah, full of conscious rectitude, and feeling hurt at the suspicion that was necessarily implied by the Inspector's visit, ordered James (the boy) to bring forth the measures. The boy obeyed with alacrity, and brought out the only three measures the establishment could boast; but, in his eagerness to oblige the representative of authority, he dropped one, which fragmented on the floor. The Inspector picked up the pieces, one by one, until he found a piece which bore the stamp of verification. The other two measures were passed in due course. The balance on the counter was rather stiff, without being radically wrong, but was somewhat reluctantly passed; so, too, were the dispensing-scales. The countenance of Josiah had assumed an injured innocent, I-told-you-so, kind of expression, when the eagle eye of her Majesty's Inspector caught sight of a square 7-lb. weight, which stood on the floor against the shop-door, and which was only used as a weight to prevent the door closing. With a "Hullo! what's this?" he picked it up and examined it. He found it stamped; but *minus* the ring at the top, originally placed there for convenience in handling. It was consequently short in weight to the extent of the missing ring. The Inspector carefully put the weight in his bag, and informing Josiah, who was too much overcome to speak, that he would "hear about it later," left the shop.

The boy James will never forget the *mauvais quart d'heure* that followed; he resigned his appointment soon afterwards. Nor will Josiah Galen, A.P.S., ever forget the humiliation of his first appearance at a police court, where he was let off with a caution—and 20*s.* costs.

Mr. Galen was gradually recovering from the gloom into which this untoward event had cast him, when a gentleman entered the "Æsculapian Pharmacy" and politely asked for an ounce of sweet spirit of nitre. "Good thing for a cold, isn't it?" said he, pleasantly. Mr. Galen acquiesced, put up the required compound, and handed it over the counter.

No sooner had he done so than his customer began that well-known formula, "I am an Inspector under the Food and Drugs Act," &c. When Josiah recovered, the "Food and Drugs" man was dividing the ounce of sweet nitre into three equal parts, which he sealed up in bottles of about a pint capacity, and left the shop with a cheerful "Good day!"

Poor Josiah was summoned to attend the same police court as previously for selling "spirit of nitrous ether not of the nature, substance, and quality," &c. How he spent the time between the receipt of the summons and his appearance at that miserable court he never knew. He lived in a kind of unhappy dream, and even in sleep had no rest from his misery. Huge bottles of "sweet" nitre (how ironical the name sounded) sat defiantly on his chest and could not be induced, on any pretext, to move away, until he awoke to find himself (perhaps from association of ideas) bathed in perspiration. At other times he fell over precipices into a sea of sweet nitre, in which, after battling furiously for some time, he would slowly sink, desperately clutching for safety at a 7-lb. weight.

At length the day arrived, and the Magistrate, who had previously let Josiah off with a caution—and 20*s.* costs, heard the case. He now evidently regarded Josiah as a thorough bad lot. Josiah contended that the compound purchased by the Inspector being a delicate, volatile substance, liable to decomposition, had been improperly handled. An ounce only had been purchased, one-third of which, being placed in a ridiculously large bottle, was sent to the analyst to report upon. Under the circumstances it was certain to decompose, and the analyst ought to have stated in his certificate whether this had occurred. The Magistrate regarded this as a mere subterfuge, and decided that the majesty of the law was against Josiah. That clause of the Act, he said, which Mr. Galen had quoted, referred only to such articles as butter, cheese, and milk, and was not intended to cover delicate chemical compounds, such as the one in question. The man in the street knew that cheese, for instance, would decompose; it had even been known to walk away before now; but who ever heard of sweet nitre walking away? The plea was absurd. It was a bad case, and he must impose a penalty of 5*l.*, with costs.

Josiah was carried home by his supporters an inanimate wreck. For some time his mind was despaired of; but he eventually recovered the semblance of his former self.

As he made his way down to the shop for the first time on his recovery, he heard an appalling crash. Rushing in frantically he fell over a syphon-case, placed invitingly in the way. He found that the shop-boy, while cleaning the window ready for his master's critical eye, had lost his balance, and in attempting to gain his equilibrium had unavailingly grasped a carboy. The result was disastrous, and Josiah was just in time to see boy and carboy disappearing through the window into the street. The boy was carried off on an ambulance to the nearest hospital.

When the shop had been cleared of the *débris*, Mr. Timothy Slapdash, the assistant who had managed during Josiah's illness, said he wanted to speak with Mr. Galen on an urgent matter. This assistant, although well up enough in his work, was a junior whom Mr. G. had taken as an apprentice, and whom he was now coaching for the Temple of Æsculapius. The youth stated that he had received a letter, which, with much trepidation, he handed to Josiah, who took the official-looking document in his hand and read it through with lowering brow. It was from a firm of solicitors, requesting young Slapdash to pay two penalties of 5*l.* each for illegally selling two poisons—laudanum and chlorodyne—contrary to the provisions of the Pharmacy Act. "I suppose," said young Slapdash, "you will—ahem! —you will pay the fines for me." Josiah viciously tore up the letter and retired for the rest of the day. He tore his hair with rage, and cursed the day he was born. But he had to pay the 10*l.* all the same; more than he had made out of his "trade monopoly" since he had been in business.

A month or so went by in quietness, but one day Josiah set to work to rearrange his shop in some respects. It struck him that a case, which stood against the wall, would look better if moved into a rather bare corner. Slapdash and he had just succeeded in moving it from its long resting-place when a gentleman entered the shop. Josiah turned to serve the gentleman, who asked for some little trifle. While Josiah was getting it the customer scrutinised an old tablet on the wall, which the removal of the case had brought to light, referring to some tooth-powder, and which stated that the constant use of that tooth-powder prevented toothache.

The inquisitive customer bought a box of this powder also, and departed. Mr. Galen, fearing nothing, went blithely about his work. Presently a buxom dame entered, and defiantly demanded to see "Mister Galen hisself." Josiah timidly intimated his possession of that name, whereupon the dame, in a hysterical voice, began a vehement tirade about "her pore boy who'd been a-cruelly overworked of hisself till he couldn't stand and a fell thro' the winder thro' bein' exhausted of hisself, more shame on yer," &c. Josiah correctly assumed that this was his shop-boy's mother. He beat a hasty retreat, followed by the words, "I'll have the law on yer, that I will."

Trouble now began to seem the natural order of things, and Josiah was by no means surprised a few days later to receive a summons under the Shop-hours Act for working William Slowboy, a youth under 18 years of age, for more than seventy-four hours in one week. It appeared that Slowboy, who only by courtesy could be ever said to "work," had been accustomed to attend for an hour on Sunday mornings to clean the knives and boots, thus overstepping by one the number of hours during which he could be legally "worked."

There was another appearance at the police court for poor Galen, and another fine. He was further threatened by the solicitor with heavy damages (about 15*s.* a week while the boy lived) under the new Workmen's Compensation Act for the injuries the youth had sustained.

The next morning Josiah got a document from Somerset House, asking him to formulate any reasons he might have for not contributing 10*l.* to her Majesty's revenue for selling a certain "tooth-powder" without a medicine-stamp. Confident in the belief that never in any way had he contravened the Act as regarded that tooth-powder, Josiah wrote back in language more forcible than polite repudiating all liability. He was informed, in reply, that the person who purchased the tooth-powder was induced to do so by reading on a tablet on the wall of his shop that its constant use prevented toothache. The amiable Commissioners, however, in this case intimated their willingness to compound his crime for a couple of sovereigns, which as things were going seemed a first-class bargain, and Josiah settled.

He had now sunk into a state of callous indifference. Misfortunes had come upon him so fast that he imagined his cup of bitterness must now be full. But alas! for the frailty of human hopes. The next Sunday evening Galen, who was alone on duty, sold to a very prepossessing young lady twopennyworth of methylated spirit. The damsel remarked, with a glance that entranced the too susceptible Josiah, that she was so sorry to trouble him, but she was starting for a picnic very early in the morning, and wanted it for her spirit-lamp to curl her hair. Josiah, wishing he was going to the picnic, had not the heart to refuse her; but he learnt how little prepossessing young ladies were to be trusted when, a few days later, he found that his customer was the local supervisor's daughter, and he was summoned by the Excise authorities for selling methylated spirit between the hours of 10 P.M. on Saturday and 8 A.M. on Monday.

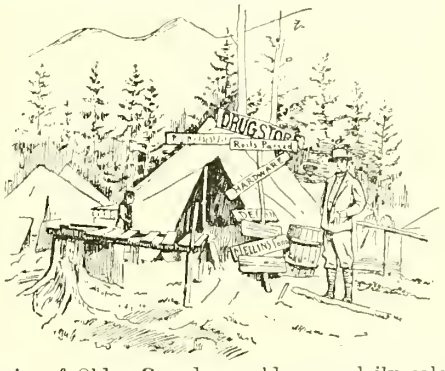
Young Slapdash having left, Mr. Galen had engaged an assistant who was remarkably clever (at least, so he said) at extracting teeth. So with a view of recovering lost ground by a side-line, a sign was exhibited on the window, "Teeth Skilfully Extracted." For a time all went well, although from the yells of the dental clients, and the maledictions with which they departed, it might have been inferred that the description "skilfully" was rather a courtesy title. Still the teeth were extracted, and the skill, such as there was, was paid for. But Galen's Nemesis, in the shape of the Dentists Act, was at hand, and he was threatened with legal proceedings—perhaps at the instigation of an ungrateful patient, who had been through the mill—for usurping the functions of a dentist.

Mr. Galen, who was not a subscriber to THE CHEMIST AND DRUGGIST (indeed, had he read his *C. & D.* he would not have fallen into the many legal pitfalls that had been the bane of his business career), knew little of the Dental Act, and nothing of the Legal Defence Fund which that journal had instituted. He was, therefore, now quite prostrated, and, regarding this as the last straw in his load of misfortune, gave way to utter despair.

And this is why Josiah Galen, as he sat in his easy chair, decided that the civilised freedom of England was too exciting for him, and resolved to seek more peace and monotony on the banks of the Yukon.

Pharmacy in Klondike.

THIS is a sketch of the first pharmacy which has been opened in Klondike. The sketch is from the *Montreal Pharmaceutical Journal*, which says little about it except that "it is a crude affair, but no doubt many elaborately-fitted-out



pharmacies of Older Canada would swap daily sales with pleasure." A correspondent in Alaska gives in *Meyer Brothers' Druggist* particulars of the drug-trade in various Alaskan towns. The first port of any importance which he mentions is Wrangel, a town which was on the decline until the Klondike rush gave it new life. There is only one druggist of importance in the place, but there are five or six doctors, one of whom has a stock of drugs. There is also a general store where patent medicines are sold. About twelve miles from Wrangel, on the mainland, is Juneau, a prosperous mining-town. There are three flourishing drug-stores in Juneau, and the proprietors report very good business and prices in proportion. Dyea and Skaguay, at the entrances to the Chilkoot and White Passes respectively, are at the head of Lynn Canal, about 100 miles from Juneau. These are mining-camps of about five or six thousand inhabitants, and have sprung into prominence only since August of last year. In Skaguay three pharmaeists have establishments. Patent medicines are sold for double the price they bring in the States, and drugs in proportion; but rents are high, and so are freight-rates and wharfage. Dyea has five drug-stores Goods for this town are shipped to Skaguay, unloaded on scows, towed to Dyea, six miles distant, and then unloaded on the beach about two miles from the town. Here a great number of Klondikers supply themselves with cases of useful remedies for sprains, aches, and pains when purchasing their outfits. At Douglas City, which is situated in Douglas Island, three miles from Juneau, across Gostineaux Channel, there is a small drug-store. The town is almost solely supported by the Treadwell gold-mines, the property of the Alaska Treadwell Gold-mining Company, who have a hospital and dispensary for their employés.

Editorial Comments.

The Company Clause.

WE suspected last week, and it is now admitted, that the most influential objection to the Lord Chancellor's proposal to amend the Pharmacy Act by a clause to provide against its infringement by companies came from the Council of the Pharmaceutical Society. "So far as the promoters of the present Bill are concerned, they disapprove of the proposed clause as it stands, and prefer that the Bill should continue

to be, as originally intended, a non-contentious measure." That is a statement quoted from last week's number of the official organ of the Society. It is not very tidily expressed, but it is definite enough. It means that the Council and their intimate friends were so eager to get their paltry little Bill passed that, rather than risk it, they preferred to reject the assistance which the Lord Chancellor and Lord Herschell spontaneously offered them towards the accomplishment of what has always been professed as the ultimate purpose of the measure.

We readily admit that the clause, as drafted by the Lord Chancellor, would not have met the legitimate claim of pharmacists. It would have left "all the rights, profits, privileges, and advantages" (as the Board of Green Cloth has it) of pharmacy in the hands of unqualified persons. It would give to unqualified persons the controlling power in regard to the exercise of our profession so far as it is a profession. It may be that all the boards of directors who now govern ten, twenty, fifty, or a hundred pharmacies, and who dream of new fields for their energies, are at present actuated by the most conscientious motives, and look on the public welfare before they ever consider dividends. But where is the guarantee that they will always be so generous? It does not follow, we are aware, that even if they were all pharmaceutical chemists they would necessarily be always altruistic; but it does follow that if they were all qualified they would know the importance of the businesses they rule. The provision that their businesses shall be conducted by qualified assistants is not by any means sufficient. The qualified assistant may be a conscientious pharmacist; but he is liable to dismissal at any moment by his unqualified masters.

But could not the representatives of pharmacy have laid such arguments as this before the Lord Chancellor? He clearly enough withdrew his amendment with reluctance; his warmest support, we gather, came from Ireland; and he was, undoubtedly, willing to do what reasonably could be done to secure for pharmacy its rightful position. We are afraid it was impossible to ask at this date that companies should not be allowed to own chemists' and druggists' businesses. Twenty years ago that could have been pressed with much more chance of success than now. But it might still have been feasible to enact that no unqualified person should be entitled to be a director of a company formed for the object of carrying on a pharmaceutical business. If for any reason which does not occur to us so much seemed impracticable, it might at least have been required that the managing-director of any such company should be qualified. His qualification is of infinitely greater importance to the public than is that of the assistant who merely carries out his commands. Either of these provisions would go a long way towards remedying the grievance of which we complain. It is likely enough that the Lord Chancellor would have adopted one such amendment of his clause, and it is far from certain that the Houses of Parliament would have rejected it. At all events, the opportunity was offered to test the opinion of our legislators, and it has been declined by the Pharmaceutical Society of Great Britain.

The pharmaceutical associations of the country gave loyal and invaluable aid to the Council of the Pharmaceutical Society in the matter of this amending Bill. But the large majority of the members voted for it on the explicit or implied assurance that it was to pave the way for some legislation that would be of substantial value. If they maintain their enthusiasm in the face of this betrayal—for the conduct of the leaders deserves to be so designated—they are simply impervious is to facts.

Wine-licences.

THE near approach of the Brewster Sessions (outside London) makes information concerning wine-licences opportune. Chemists in the country who think of applying for a licence, and who have not yet given notice, will observe by what follows that there is not an hour to lose.

Wine-licences such as may be obtained by chemists are of two kinds. The first, or wine-dealer's licence, costing 10*l.* 10*s.* annually, may be obtained practically by anybody, on application at any time at the nearest Inland Revenue Office. This licence has much to recommend it to chemists and druggists. No magistrates' certificate or other permission is required, and ,so far as England, Wales, and Ireland are concerned, it authorises the sale of foreign wines, British wines, and sweets in any quantity—for consumption off the premises of course. With such a licence all kinds of wines, medicated or otherwise. can be sold in bottles of any size, and it authorises the travellers of wholesale traders to take orders from customers anywhere. The wholesale provisions apply also to Scotland; but there is considerable doubt whether the retail sale—*i.e.*, in less quantity than 2 gals. at a time—is permissible without the authority of the Licensing Justices, and we believe the Excise inform those who take out the licence in that part of the kingdom that retail dealing may subject them to the interference of the police.

The retail licences are somewhat more difficult to obtain, In England and Ireland the only licence of the kind open to chemists is what is generally known as the bottle-licence. costing 2*l.* 10*s.* annually. Under the Act 23 Vic., cap. 27, anyone who keeps a shop for the sale of any kind of goods can obtain a licence to sell foreign wine (and this includes British wine and sweets) by retail in reputed pint or quart bottles, not to be consumed on the premises.

By the General Licensing Act, however, it is now necessary to obtain a certificate from the Licensing Justices before such a licence can be issued. But the Justices cannot refuse to issue such a certificate except for one or other of four reasons stated in the Act.

The grounds for the refusal of the certificate are:—(1) That the applicant is not of good character; (2) that the shop is a disorderly one, or that the applicant owns or occupies a disorderly house in the neighbourhood; (3) that the applicant has already forfeited by misconduct the same or some other licence for the sale of excisable liquors; and (4) that the shop or applicant is not qualified by law to obtain such a licence. So far as this particular licence is concerned there appears to be no qualification of rent, nor have the Magistrates any discretion as to the necessity or desirability of such a licence in the particular town or district, or as to the suitability of the premises or otherwise. Practically any chemist or druggist is absolutely entitled to a certificate on making application with the necessary formalities at the annual Licensing Sessions, held in London, Middlesex, and Surrey, in the last ten days of March, and in all other counties, boroughs, towns, and divisions, between August 20 and September 14. Anyone wishing to apply for this licence is required to give notice in writing to the overseers of the parish and to the superintendent of police of the district twenty-one days at least before the meeting of the Justices. The notice must set forth the name and address of the applicant, the situation of the shop, and the kind of licence required. A similar notice must be fixed on the outside of the door of the shop, and also on the principal door of the parish church (or of some other church, chapel, or public place if there is no parish church), on two consecutive Sundays, within twenty-eight days before the

licensing meeting. The notices to the superintendent of police and the overseers may be sent by registered letter, and no particular form is prescribed. But in most cases forms are prepared and may be obtained from the Justices' Clerk or from the superintendent of police, and from one or other of these the applicant will usually obtain all the information necessary to enable him to make the application in a proper and formal manner.

In country divisions and in the smaller towns there is no need to employ a solicitor. In London and the larger cities, where it is more difficult to be sure of the exact persons and places to which the notices must be sent, it would probably be more economical to place the matter in a solicitor's hands when making the first application for such a licence. Fortunately it is only with this first application that all these forms and notices are required A formal application has to be made for a renewal of the Magistrates' certificate each year, but none of the other notices are required, and the applicant need not even attend personally at the Licensing Court, as he must do when making his first application. The legal fees payable to the Magistrates' Clerk amount to 7*s.* 6*d.* This licence only authorises the sale of wine in the regulation size of bottles, and the quantity sold at any one time must be under 2 gals.—*i.e.*, must not exceed 11 reputed quart or 23 reputed pint bottles.

This licence does not apply to Scotland. There the Magistrates have full discretion, and may grant or refuse a retail wine-licence as they please. If granted, there would be no restriction as to the size of bottles or the quantity sold, except that it must be under 2 gals. The Scotch retail-licence costs only 2*l.* 4*s.* 1*d.*

It is important to remark (for magistrates are generally unaware of the law in this respect) that there is no such thing known to the Excise as a medicated-wine licence, and no Bench has power to grant a certificate with the condition that only such wines shall be sold.

Temporary Wine-licences.

It was formerly the practice of the Board of Inland Revenue, under certain circumstances, to grant temporary Excise licences of all kinds, available till next Licensing Sessions, without any formal magisterial certificate, but simply on a recommendation of two of the Justices of the particular town or division. This practice, we understand, has been discontinued, so far as those licences over which the Magistrates have absolute discretion are concerned. Over some licences, however, such as the wine retail or bottle licence, the Magistrates have little or no control, and in exceptional circumstances temporary licences of this kind are still issued, we believe, if the Board are satisfied that the applicant is entitled to such a licence, and a recommendation from two or more of the Justices concerned is produced A temporary licence of this kind does not obviate the necessity of applying for a *new* licence at the next Brewster Sessions, with the same formalities as if the applicant held no licence.

This Number.

Twenty tons of paper will not suffice for this edition of The Chemist and Druggist, and the number of persons who have been engaged on its production, including printers, engravers, binders, artists, writers, and publisher's staff, have to be counted in hundreds. Copies of this Summer Number will penetrate to every corner of the earth where the English language is read, and we hope every reader will find something especially interesting to him. Many of the Supplements issued with this number are very costly productions and we bespeak for those enterprising firms who make such a production as this possible in the trade at least a favourable hearing. We reckon that subscribers get this journal delivered to them wherever they live for a fraction over three-halfpence, which, in some cases, is about one-tenth of the cost of postage. What puzzles us is to discover where we come in.

The trade need not worry about us, however. We are always trying to go one better on our last effort, and as long as we have the cordial support of the trade at our back, as we are certain we have, we shall go on giving half-sovereigns' worth for shillings. Our first Summer issue of the weekly *C. & D.* was published on July 31, 1886. Its literary portion amounted to thirty-six pages, which is the average of each weekly number nowadays. The important feature of the 1886 Summer Number was an article on historic pharmacies, which was illustrated by a page wood-engraving of the pharmacies of Messrs. Allen & Hanburys in Plough Court, the Apothecaries' Hall in Blackfriars, Messrs. Corbyn & Co. in Holborn, Messrs. John Bell & Co. and Squire & Sons in Oxford Street, and Messrs. Savory & Moore in Bond Street. "Pharmacy in Canada," by the late Mr. Alfred H. Mason, was also a speciality of the number, and the rest was made up of the customary weekly news, &c. At that time (only twelve years ago) we had to rely solely upon wood-engravers for illustrations, and wood-engraving was slow and expensive. The "Historic Pharmacies" engraving represented two weeks' work by an artist, who visited the spots to sketch the shops, then had to draw his sketches on the wood for the engraver, who then had a good eight days' work before him ere the engraving was ready for the printer. Even a map of Canada which illustrated Mr. Mason's article had to be done by a similar tedious process. This slow style is now a thing of the past, and the advance is due entirely to photography, the possibilities of which were scarcely thought of then. Some say, with regret, that wood-engraving is passing into a lost art; we do not believe the finest wood-engraving will ever die out, but assuredly it is well that the roughest and quickest of it should disappear, for it had neither the grace nor the exactitude of photographic engravings.

This number focuses, in a sense, the measure of photographic machine-printing achievements. Our cover is produced by the three-block colour-printing process; the photographs used in the text are reproduced by the screen method, which consists in interposing a ruled glass screen between a piece of bituminised metal and a photographic transparency, whereby the sensitive bitumen is printed as surely as a piece of sensitive paper would be, and after the print is developed and fixed the surface shows exposed pieces of metal, which are etched by mineral acid (for zinc) or ferric-chloride solution (for copper). The line drawings are done in the same way, except that no screen is used, and zinc alone is employed for the plate. Finally, the wood-engraver's art comes in, and with buhr and chisel roughnesses are removed and lines and high lights put where the mechanical has failed. This development of illustration has created a new industry since 1886, and that The Chemist and Druggist has not been slow to take advantage of it this number is of itself sufficient evidence; not a week passes in which we do not employ it.

The Chemist and Druggist is pretty well known in the United Kingdom, and what it says has some influence. A little while ago it turned the most powerful Government of the century from its purpose. But its circulation abroad is simply unique. No intelligent young pharmacist leaevs these shores without arranging for the *C. & D.* to follow him, and we are constantly gratified by letters from the

colonies and foreign lands showing that the *C. & D.* keeps up the feeling of fraternity among widely-scattered pharmacists.

During the past twelve years every important town in the British Empire has been visited by one or other ambassador of the *C. & D.*, and if there were any English or English-reading chemist there who lived without its benign influence it was promptly shed upon him, and his half-sovereign annexed. To-day, when the future of trade between Canada and the mother-country absorbs the interests of politicians and peoples, one of our staff is going from town to town in the Dominion in quest of information and subscriptions. So has it been in past years as regards the United States, South America, South Africa, and India; our offices and staffs in Melbourne and Sydney demonstrate and maintain our influence in antipodean climes, so that if we preach the gospel of publicity to those who manufacture and deal in druggists' goods, we back our opinion and our preaching by costly efforts of our own, which are undertaken as much in the interests of those who support us as in our own.

The Triumph of Walter Hills.

THE President of the Pharmaceutical Society has scored a personal victory by his success with the Pharmacy Acts Amendment Act, which received the Royal Assent on Monday last. Even those of us who could never work up any enthusiasm on behalf of this poor little measure cannot refuse to recognise the earnestness with which he pushed it along, nor would we wish to be the last to congratulate him on the result. We are sorry that we have to do so with the reservation indicated in a preceding note. Had he seized the opportunity offered him in the House of Lords, even if he had lost his Bill altogether, all the trade would have applauded his gallant effort.

This is in truth the Pharmaceutical Society's first Parliamentary success since 1852, when they got their own special statute protecting the title of "pharmaceutica chemist," and 1862, when they secured exemption from jury-service for pharmaceutical chemists. The Act of 1868 has bestowed upon them wealth beyond the dreams of their founders, but that Act was not theirs. As we have so often been reminded, it was not the kind of Act they wanted, but was indeed forced upon them. The amending Act of 1869 was demanded by medical men, and was passed at their request. The Council of the Society have amused themselves many times since by drafting Bills, and discussing what should be put into these Bills, and what should be left out. They began drafting Bills after they had been defeated over the companies question in the Law Courts, but they never once asked Parliament to provide for the *casus omissus* which their action had revealed. Their first Bill actually brought before Parliament was introduced into the House of Lords in 1887, and its object was to acquire power to divide the qualifying examination and to enforce a compulsory curriculum. That Bill passed the Upper House, and also went through its second reading in the Commons, but never got into Committee. Similar Bills were introduced in 1888 and 1889, and another with a jury clause added in 1891, but no one of them found its way to the statute-book.

The amending Act of 1898 accomplishes very little; so far as the trade generally is concerned it provides no advantage whatever. It enables the Pharmaceutical Society to elect persons who have passed the qualifying examination to membership, instead of to associateship as now, and gives to such persons the right to sit on the Council of the Society if they can get themselves elected. This scheme has been rhetorically described by its advocates as one for "consolidating the Society," and it was held out that, when that result was achieved, the Society so consolidated would go to Parliament again, and that then its power would be such that Governments would simply grovel before it. Mr. Hills was clever enough to win converts to this creed from end to end of the country, and he managed to inspire them with a certain sort of artificial enthusiasm for his humble little Bill. In the Hon. Frederick Smith he caught a tenacious worker, and even in the opposition to his Bill he was lucky. Nothing more ridiculous than Mr. Cross's amendments could well have been framed, and the representative of Camlachie further committed the fatal Parliamentary sin of trying to grind his own axe. Mr. Boot, too, organised an opposition which would have been formidable if it had been rather earlier; but for keeping up the support of the trade the President could not have wished for anything better than Mr. Boot's opposition. Lastly, there was Dr. Tanner. His interposition undoubtedly saved the second reading, and if he is not offered an honorary membership when the next vacancy occurs, the Pharmaceutical Society will be guilty of base ingratitude.

We do not anticipate much effect from the new Act. If it adds a couple of hundred to the membership that is as much as it will do, and the Houses of Parliament will look on that accession of strength with equanimity. It will have one other effect, certainly. By taking away the one attraction which was held out to chemists to go beyond their qualifying examination, the Council of the Society have virtually slain the Major examination. To the extent that the Minor membership increases the Major membership will decline, and the extra examination itself is under sentence of death. The idea of those founders of the Society who sought to create an aristocracy of the trade is abandoned. We have been told again and again that this is "a democratic measure," and that Mr. John Burns approves of it. Democracy is a good enough thing in its place, but a dead level is not a good thing. Neither levelling up nor levelling down is wanted. With a higher examination as an optional one, there was some attempt made to provide for the necessarily varying requirements of the community. If now it is sought to bring the qualifying examination up to the higher level, the result will be sooner or later a demand for a lower certificate, and we shall repeat in Great Britain the experience of Ireland. Already the tendency to stiffen the Minor has been carried to its extremest limits. Public and trade convenience is being infringed by the ever-increasing severity of the examiners. It must be remembered that it is tradesmen, and not professors, that are to come out of the mill.

Chemists and the Law.

WE have lately reported that the Edinburgh District Chemists' Trade Association offered prizes to assistants and apprentices in their district for the best set of replies to a series of questions relating to the laws affecting pharmacy. The idea seemed to be an excellent one, and we think it was novel. We published the questions in full in our issue of April 30. They related to the storage and sale of benzol, the regulations as to the retail sale of methylated spirit, the conditions under which medicated wines of ginger, coca, pepsin, and quinine may be sold without a licence, the sale of arsenic, the use of stills by chemists, and the medicine-stamp duty. By the courtesy of the officers of the Association we have been allowed to examine the seventeen competing papers, and our comment on them must be one of some surprise at the general accuracy of the writers. There are a few oversights in the papers—as, for instance,

that several of the competitors omit to mention that arsenic must be labelled—but we only discovered two or three actual blunders, and these are not important. The questions themselves were not faultless. For example, the first asked—

What does the law require in regard to the storage and sale of benzol?

Probably the author of the question only had in view the storage and sale of benzol by persons not holding a petroleum-licence. But clearly a full reply to the query would involve almost a copy of the Petroleum Act. Again, we should say it is at least unusual to refer to ginger-wine as a medicated wine. The competitors generally assumed that ginger-wine essence was meant. Perhaps it was; but that is not a medicated wine of ginger. The arsenic question was a little foxy—

You receive two orders for arsenic from two farmers, one for 7 lbs. and the other for 12 lbs. How would you execute these?

Probably the intention was to catch the unwary respondent who might remember that it is permitted to sell quantities of over 10 lbs. uncoloured, but who should overlook that this concession is not extended to agricultural purposes. We do not remember that any of the competitors fell into this trap.

Our experience has been that a large number of chemists have taken no trouble to acquaint themselves with the laws which directly concern them until they learn about them by the sharp lesson of a penalty. Then they call on heaven and earth to avenge their wrongs. We are glad to believe from the evidence of these seventeen essays that the coming chemists are likely to be better informed on so important a point of their mental training.

Otto-of-Rose Matters.

We observe from a Consular report that the exports of otto of rose from Bulgaria in 1897 amounted to 3,192 kilos., valued at 71 278*l.*, the amounts and values to the different countries being as follows:—France, 1,151 kilos, 25,683*l.*; Great Britain, 686 kilos., 15,412*l.*; Turkey, 680 kilos., 15,155*l.*; and Germany, 583 kilos., 12,992*l.*

We are indebted to Messrs. David Thom, Domeier & Co. (Limited) for the following estimate of this year's crop of otto, to which are added the actual yields for the ten preceding years:—

1898 ...	320,000	meticals,	equal to about	48,000	oz. Turkish
1897 ...	470,000	,,	,,	70,000	,,
1896 ...	740,000	,,	,,	110,000	,,
1895 ...	480,000	,,	,,	72,000	,,
1894 ...	385,000	,,	,,	57,750	,,
1893 ...	380,000	,,	,,	57,000	,,
1892 ...	280,000	,,	,,	42,000	,,
1891 ...	460,000	,,	,,	69,000	,,
1890 ...	500,000	,,	,,	75,000	,,
1889 ...	550,000	,,	,,	82,500	,,
1888 ...	500,000	,,	,,	75,000	,,

These figures are supplied by Mr. H. A. Holstein, of Kezanlik and Constantinople, who suggests that the statistical position indicates higher prices.

There has been considerable discussion on the Continent recently regarding the analytical factors of otto. The discussion traverses the ground covered by a correspondence in The Chemist and Druggist at the end of 1896, when the late Mr. M. Conroy, Mr. J. C. Umney, and others expressed opinions on the matter. The latest contributor to the subject is Dr. P. M. Raikoff, of the chemical laboratory in the Sofia High School, who criticises certain statements made by Mr. F. Dietze, the well-known Berlin chemist, in the *Chemiker Zeitung*. The interest which essential-oil dealers take in the subject warrants us giving certain technical facts advanced by Dr. Raikoff in regard to the valuation of otto. He submits, as nearly every analyst maintains, that otto of rose must be judged by a series of tests. Further, that the source of the otto is an important factor in regard to the quality of the oil. The sp. gr. and melting-point alone do not suffice, but when these are associated with the optical rotation, acid number, saponification number, and especially the ester number, a true estimate of the value of the oil is obtained. The following table embodies Dr. Raikoff's analytical determinations:—

No.	Sp. Gr.	Cryst. Point	Opt. Rot. 100 mm. at 25° C.	Mean Acid No.	Mean Sapon. No.	Este No.
1	0·8531	22·5	−2° 12′ 15″	1·6	17·7	16·1
2	0·8583	20·5	−2° 6′ 50″	2·3	16·5	14·2
3	—	22·5	−2° 38′ 40″	1·5	16·9	15·4
4	0·8659	18·5	−2° 35′	0·8	13·1	12·3
5	—	22·5	−2° 45′	(2·5)	(16·8)	14·3
6	—	14·5	−1° 43′ 40″	—	17·8	—
7	—	27·2	−3° 28′ 30″	2·7	21·1	18·4
8	0·845	24·3	−3° 3′ 50″	1·3	10·8	9·5
			Geranium Oil.			
Turk.	0·8867A	—	+0° 41′ 20″*	1·0	39·6	38·6
	0·8960B	—	—	—	—	—
French	0·8869A	—	−7° 52″ *	7·7	62·8	55·1
	0·8971B	—	—	—	—	—

A at 27·5° C. B at 15° C. * at 19° C.

The first three ottos were made from mixed roses; No. 1 was from the red rose (*Rosa centifolia*), and No. 5 was from another red sort, while Nos. 6 and 7 were from white varieties which yield the otto known in the market as "green"; No. 8 was Séraphimoff's otto; and in comparison with these figures are given the figures for Turkish and French oil of geranium. We think these figures speak for themselves, and we have only to observe that the sp. grs. of the first seven ottos were taken at 27·5° C., as compared with water at 15°, and No. 8 at 27·5° C., as compared with water at 17·5° C. The crystallising-point was determined by placing 10 c.c. of the otto in a small stoppered eprouvette 15 mm. in diameter, a thermometer being so placed in the oil as to indicate the mean temperature exactly. The otto was allowed to solidify, then was melted with the warmth of the hand, well shaken, allowed to rest, and the crystallisation-point fixed at the moment when the first crystals began to appear in the oil. Dr. Raikoff vouches for the genuineness of the ottos which he dealt with.

Companies and the Professions.

The *British Medical Journal* has come to realise what the company invasion means. The journal of the British Medical Association is somewhat late with its discovery, but has got its facts all right, and is properly alarmed about them. It tells its readers that the effect of the judgment of the House of Lords in the case of the Pharmaceutical Society *v.* the Loudon and Provincial Supply Association (Limited) (1880) was that companies, not being able to comply with the requirements of those Acts which lay down that a personal qualification shall be necessary for the pursuit of certain callings, are not affected by them; and the *B. M. J.* has learned that advantage has been taken of this judgment in certain instances to evade the Medical and Dentists Acts. For instance, towards the end of last year a company was incorporated in Ireland, consisting of six persons of the same name—three being women—and a solicitor. Their objects are, amongst others, to carry on the

bnsiness of pharmaceutical chemists, &c., and to carry on the business of physicians and surgeons. There was no qualified medical man amongst those who signed the memorandum, nor was there a pharmaceutical chemist.

In another instance a *soi-disant* medical student (not registered as such) associates himself with five persons of various occupations, and with one who styles himself "physician"; this last was a registered practitioner, but has been now dead for some years, though the company goes on. The so-called medical student is stated to have carried on a medical practice of a low type for some time prior to his incorporation The place still exists, and is placarded as "Medical Hall," and sundry legends — "Medical advice gratis," "To the surgery," and the like—appear on the premises, while the window (a chemist's shop) is full of venereal-specifics, appliances for avoiding pregnancy, &c Other examples quoted are those of the World's Dispensary. Medical Association, which holds itself out to supply medical and surgical advice and assistance of all kinds; here, of the seven, five put M.D. after their names in the memorandum, though they are careful not to do so elsewhere, and of course none of them is registered; the General Council of Safe Medicine, Warner's Safe Cure, and Ware's Eczema and Anæmia Cure are other instances of the same character, some of them going so far as to send a paper to be filled up by the patient describing his symptoms, with which he is requested to send a sample of his urine.

Of course, medical law is not quite analogous to pharmacy law; the Medical Council have powers of dealing with members of the profession which pharmacists have not; but, on the other hand, in the sale of poisons pharmacists have a tangible ground of action which doctors have not in regard to medical advice. Still, the abuse of company law to the direct injury of certain professions is one which calls for united action, and there are hopeful signs that this is on the way. What is needed, says the *British Medical Journal*, is "some provision by which incorporation into a company shall be rendered of no avail in protecting offenders, but shall leave them as liable as though no company existed."

THE SPECTACLE-TRADE.

We have received a courteous communication from the Spectacle Makers' Company, in which they say that they do not now think it advisable to elect a non-member of the Company upon the committee. They would have accepted a nominee of the Pharmaceutical Society, so that the refusal of the Council of that body to appoint someone debars the trade of representation until chemists obtain the diploma of the Company, and so push their claims within. We now thank those who have corresponded with us in this matter. Several ask us for further information regarding the examinations, and that we shall give when the schedules are published.

THE NEW BEVERAGE.

Liquid air seems to be only a partial success as a beverage. M. d'Arsonval, of the Collège de France, who is producing it in considerable quantities, recently invited a few friends to dinner, and as a novelty mixed a little of the liquid air with champagne. The combination, it is reported, was much approved. But one bold guest induced his host to allow him to try a little of the fluid neat. The result was alarming. The adventurer, like the shepherd in "Pickwick," "swelled visibly," "blew out like a balloon," says the report, and for a few moments was in serious danger. Fortunately, the air escaped through his mouth just in time—and along with it his dinner. He knows now the distinction between hydrated air and aërated water.

CARBO-SAPOL—NEW ANTISEPTIC.

Dr. George T. Beatson, writing in the *British Medical Journal*, speaks very highly of a new disinfecting compound, which is made by combining 50 per cent. of Calvert's No. 5 carbolic acid with 25 per cent. Tennant's yellow soap and 25 per cent. soft black soap. The ingredients are heated together in a water-bath until a clear solution is obtained; the mixture is then strained through lint. Mr. J. McMillan, chemist, Glasgow, is the originator of it, and has christened it "Carbo-sapol." It is perfectly miscible with water, forming an oleaginous solution which yields an abundant lather when the hands are washed in it, leaving them when dried soft and glossy. It is less irritating than the ordinary carbolic lotions, a 1-per-cent. solution being strong enough for use for the hands or the skin of a patient. During operations "Carbo-sapol" is of great service both for the hands and for sponges. Corrosive-sublimate solutions form with blood a compound which stains the skin and nails in a disagreeable way, and sponges with blood in them are also permanently discoloured. A preliminary washing in a 1-per-cent. solution of "Carbo-sapol" gets rid of the objectionable blood, after which a 1-in-2,000 corrosive lotion may be used to remove the slipperiness from the hands when handling instruments.

EXTRACT OF CONIUM.

The Therapeutic Committee of the British Medical Association have reported to the annual meeting upon the frequency with which this preparation is employed. When the committee were making inquiry in anticipation of the revision of the Pharmacopœia, they found that there were 354 practitioners throughout the country who used the extract often, and 399 who used it occasionally, but the Pharmacopœia Committee have omitted the extract, probably because, we may say parenthetically, Messrs. Farr and Wright have proved that the commercial extract is practically inert. The Therapeutic Committee made further inquiry regarding the use of the extract, and found that many of those who were positive as to their using it gave way on more pertinent inquiry. The report contains a statement as to the complaints in which the extract has been used, and sums up the matter in the following paragraphs:—

1. That the use of the extract of conium is fairly widespread.
2. That it is used both internally and externally.
3. That its use in each case appears to be dictated by the desire to relieve pain or to allay irritation or spasmodic affections.
4. That when employed internally it is generally used as an adjunct to other preparations of greater potency, and that there is but little evidence that it is of any value when given alone.
5. That when employed externally it has also been generally used with other sedatives, and, though there is some evidence of its power to relieve pain, the indications of its utility are only scanty.
6. That the range of dose employed appears to indicate either lack of active properties or lack of uniformity of strength; and that there are still a certain number of practitioners who would welcome a new solid preparation of conium, if by any pharmaceutical device such a preparation can be made of constant strength.

CEARIN.

Mr. Isslieb has communicated to the German Pharmaceutical Society a note on a new ointment-basis which goes by the above name. It is the outcome of the researches of Drs. Darmstaedter and Lipschutz on the composition of wool-fat. They found that wool-fat contains carnaubic acid and carnaubyl alcohol, both of which have the property of mixing with water very readily. Mr. Isslieb therefore mixed an original compound containing carnauba wax on the basis of the unguentum paraffini of the German Pharmacopœia, the wax taking the place of the solid paraffin, and the result of this is an agreeable basis capable of taking up about four times as much water as unguentum paraffini—that is, 15 per cent. to 18 per cent., as compared with 4 per cent. to 5 per cent. The name cearin is suggested by the province of Ceara, in Brazil.

The Royal Gardens, Kew,

Lend a Summer Aspect to the Cover of this Number.

So sits, enthroned in vegetable pride,
Imperial Kew, by Thames's glittering side;
Obedient sails from realms unfurrow'd bring
For her the unnamed progeny of Spring.

WE quote the rhyme with some hesitation. We would rather have commenced this article by saying that when one enters Kew Gardens by Victoria Gate the scene which meets his view is that depicted upon the cover of THE CHEMIST AND DRUGGIST this week. The view is only a few acres of the hundreds which make up the Royal Gardens; but it is the most characteristic bit, the one which sticks to the mind of every student who has been in the Gardens, and it is the centre of the most important botanical organisation in the world. Even although the last statement were not the fact, the Gardens are still to Britishers a peculiarly Imperial institution, for from them have gone to every part of the Empire trained horticulturists and botanists, in order to start new cultures, to form economic gardens, to investigate floras, and generally to promote the natural resources of our colonies and dependencies. So well has its work been done, both on the scientific and commercial sides, that Kew is regarded as a sort of Imperial and international exchange of botanical novelties and economic products.

W. T. THISELTON-DYER, M.A., B.Sc., C.M.G., C.I.E., F.R.S., Hon. M.P.S., DIRECTOR OF THE GARDENS.

The selection of a view of the Gardens for our cover is, therefore, not inappropriate for a number of this journal, which will soon be speeding to every corner of our glorious Empire. It will be observed that the picture is printed by the same process as was used in our last Summer Number—namely, the three half-tone block process, in which the primary colours are printed in superposition—yellow, red, and blue. But this week's cover differs from the last July one in having a touch of gold added to it. This is a bit of progress which has been made during the twelve months, and there is no question that it greatly enhances the appearance of the cover. The whole of the outside of the cover has, of course, been printed by the process. The scene on the front was long ago described by Sir William Hooker as

"THE GLORY OF THE GARDENS."

This Palm House was completed in 1848, and, curiously, the ironwork was executed by a Dublin ironfounder, Mr. Turner. It is substantially the same to-day as it was fifty years ago, which shows how far ahead the old Glasgow botanist looked when he was laying the foundation of Kew as the British centre of economic botany. When Sir William Hooker took charge of the Gardens in 1841 they were in a bad way. The Government of the day had tried to place the responsibility of them upon others, just as in the year before the Royal Family had graciously gifted them to the nation. Learned societies declined the privilege of supervising them, and it was a lucky thing for the British Empire that the Government had finally to take them into their own hands. We do not propose to write the history of the Gardens now, or at any time, but it is worth stating that the foundation of them has been attributed to Good Queen Bess. This is the story as told in an American magazine:—

> Couriers were wont to be despatched to the ends of the land for Queen Elizabeth's floral bouquet, but meanwhile she had to wait, until some obscure owner of a choice plant came forth to sacrifice her possession to the gratification of her ruler. This queen received many voluntary contributions of flowers from her subjects, but the uncertainty of the time, manner, and quality of the flowers was irritating to her. In the winter the wild flowers of the fields and gardens withered, and the flower-loving queen felt the loss more keenly than those less favoured with the fortunes of life. With the wealth of an Imperial nation at her back, she could not command a choice of flowers that a day labourer can obtain to-day. Out of this royal necessity grew the most famous garden of the world. With her own hands Queen Elizabeth laid out the grounds that were to produce and fructify the flowers for her drawing-room. She started to raise flowers for her own personal gratification, and ended by producing flowers and plants for the millions. No single desire of an impetuous queen ever yielded better fruit. On Queen Elizabeth's little flower-garden the nation gazes to-day with national pride.

This is pretty, but it is not true. The American historian has confounded Queen Bess with Lady Elizabeth Capel, wife of Mr. Molyneux, Secretary to George II., who inherited the Gardens from her grandfather, R. Bennett, Esq., whose residence in the middle of the seventeenth century was Kew House. George III. took a lease of Kew House from the Capel Family in 1730, and thus the nucleus of the Gardens became directly connected with the nation.

First devoted almost exclusively to the cultivation of plants—the rarer the better—the Garden-owners gradually began to employ botanists as collectors in obscure parts of the globe, and to the living were in time added dead plants, so that the Herbarium eventually acquired importance. But until Sir William Hooker's advent in 1841 Science was at the prow and Pleasure at the helm of the Botanical craft. Sir William's scheme of organisation involved the foundation of a Library and a Museum and the development of a Herbarium, as well as the extension of the Gardens, especially more systematic culture under glass The scheme was faithfully carried out by Sir William and his son, Sir Joseph Dalton Hooker, who succeeded him as director, and is well maintained by the present director, Mr. Thiselton-Dyer.

To the majority of visitors the Gardens and their living contents are the sole attraction, but probably few of them ever give a thought to the wonderful variety of plant-life which is to be seen in the open. All the climes of the earth are represented in the trees, shrubs, and flowers, while in the glass houses the rarest and most tender of plants grow as

luxuriously as marigolds in a London garden. The mind of the botanist is apparent everywhere, and the needs of the student appear to have had the first care. As is well known, there is a reserve garden laid out in natural orders for the special use of students. Naturally the work involved in caring for the immense number of living plants, and in keeping the grounds trim, requires a big staff of labourers

GEORGE NICHOLSON, F.L.S., CURATOR OF THE GARDENS.

and gardeners, and the well-organised staff is under the direction of Mr. George Nicholson, who is curator. It is well to note that Mr. Thiselton-Dyer has the assistance of experts at the head of each of the three great departments, as well as of Mr. Daniel Morris, C.M.G., in the direction of the whole. Mr. John Gilbert Baker is curator of the Herbarium, and Mr. John R. Jackson keeper of the Museums.

THE HERBARIUM

is not open to the public. Although, strictly speaking, in the Gardens, its entrance is from Kew Green, immediately

JOHN GILBERT BAKER, F.R.S., &C., CURATOR OF THE HERBARIUM.

outside the principal entrance to the Gardens. Here Mr. Baker has the assistance of eight expert botanists, besides any adventitious help afforded by botanists who come from all parts of the world to work out from their own specimens the flora of any particular part of the globe. The herbarium proper is a magnificent hall with two galleries, in which the dried specimens are stored in cupboards according to their natural orders (after the "Genera Plantarum"), as well as their geographical location. The purpose of this part of the Kew industry is to identify plants, and with this object three sources of information are available apart from the living specimens in the Gardens—viz., (1) the herbarium, (2) drawings or plates of plants, and (3) books. There is a magnificent library in the building, and the most valuable book in it is a list of all the known plants of the world and of the books, journals, &c., containing descriptions or figures of the plants. This is like the British Museum Library Catalogue, and, also like it, it is daily being added to. It is the "Index Kewensis," which we owe to Darwin, who provided the money for it.

The drawings or plates of plants are kept in natural orders like the herbarium specimens, every known drawing which has been published being preserved in this way in portfolios of cards; besides which there are 123 volumes of the *Botanical Magazine*, containing descriptions and figures of all the new plants which have been raised and flowered in Kew since 1775; and the "Icones Plantarum," started twenty-

JOHN R. JACKSON, A.L.S., KEEPER OF THE MUSEUMS.

five years ago as a record of herbarium specimens. To the herbarium come specimens from all parts of the world (generally unaccompanied by the collectors), singly or many together, for identification, and the Curator and his assistants make it their business to identify them or christen them, as the case may be. While giving assistance freely, these workers rarely decline the free assistance of competent botanists who wish to work up any branch of the world's flora, and good material is always available. There is a room full of bundles of specimens from all parts of the world waiting identification, and we were interested in noticing the *C. & D.* orange supplement used as packing in bundles from Sumatra. Sir Joseph Hooker, though an octogenarian, is spending the evening of his days in volunteer work. He has completed his Flora of India, and is now engaged with the specimens collected by the late Dr. Trimen in completing the Flora of Ceylon, which Dr. Trimen commenced. The British Empire, we may say, on Mr. Baker's authority, contains 45,000 known plants, or about a third of the world's number.

THE MUSEUMS.

Of all the departments of the Gardens, the Museums are undoubtedly the part which the drug-trade is most interested

in, because the Curator and his assistant, Mr. Hillier, are constantly engaged in identifying specimens of products, telling where they come from, or what economic use they may be put to. Of the three Museums, No. I., a museum of commercial botany, is the most important. It has been in existence since 1856, and, although not specially devoted to materia medica, the collection of this group alone is one of the most complete in the world. Mr. Jackson's frequent contributions to this journal are familiar to the drug-trade, and show his interest in what interests us; but he as frequently contributes to journals devoted to other branches of technique, and perhaps there are no subjects in which he specialises of greater importance to the Empire than woods and indiarubber. Mincing Lane brokers are specially indebted to him and Kew for the assistance which is given in the latter subject. Woods fill Museum III. (formerly the Orangery of Frederick, Prince of Wales), and Museum II. contains the overflow of Museum I. In the conduct of these museums we have concentrated a chief function of Kew—viz.,

The Development of Colonial Resources.

Apart from assistance given in the recognition of specimens sent from the colonies, and advice in regard to their commercial value, Kew has now become the recognised training-school for British economic botanists. At between fifty and one hundred centres in the British colonies botanical stations and gardens have been established at the instigation of Kew, and experimental culture of economic plants is constantly going on there, with the view of ascertaining what new things may be profitably cultivated in the localities. In Australia, India, Ceylon, South Africa, Central Africa, and the West Indies are such gardens and stations, and they all look to Kew as a mother and a helper. The Kew gardeners are encouraged to perfect themselves in theoretical as well as in practical botany, and many a man who has entered the Gardens as a humble wielder of spade and hose has lived to assist in the growth of a colony by intelligently fostering a colonial botanical station.

During the summer months courses of lectures on botany are given to the staff by Mr. Baker, and in the winter months on chemistry by someone who is working in the Jodrell laboratory or other friend, while Mr. Jackson arranges a personally-conducted tour of the Museums, chatting pleasantly, rather than lecturing, on Economic Botany.

The British taxpayer looks to Kew as a place of pleasure, and the Legislature has recently endorsed that view, at the instance of democratic John Burns, by opening the gates daily at 10 o'clock. It is an experiment which will last until October. Meanwhile, students and artists are the sufferers by the move, as previously they were afforded the privilege, on special application, of quiet study before noon

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Calculating Doses for Children.—The following method is Pedersen's method:—Divide the adult dose by twenty, and multiply the result by the number of years the child is old.

Boric Acid in France.—The reason why the French Government have recently placed a duty on boric acid was that German manufacturers were underselling the French on the French market.

Yeast-exports from Great Britain to Calais are on the decline—viz, 94 tons in 1897 as compared with 224 tons in 1896. The exports of the same article from Calais to Great Britain amounted to 104 tons.

A Gum Arabic Substitute is made, according to a Russian patent, from the pulp of the fruit of *Mesembryanthemum edule* and *M. acinaciforme* by pressure, the juice being filtered and evaporated to dryness.

Pharmaceutical Examination Results.

We have received from the Registrar of the Pharmaceutical Society of Great Britain the following list of candidates who were granted certificates at the July meeting of the London Board of examiners:—

Major Examination.

Candidates examined	31
„ failed	15
„ passed...	16

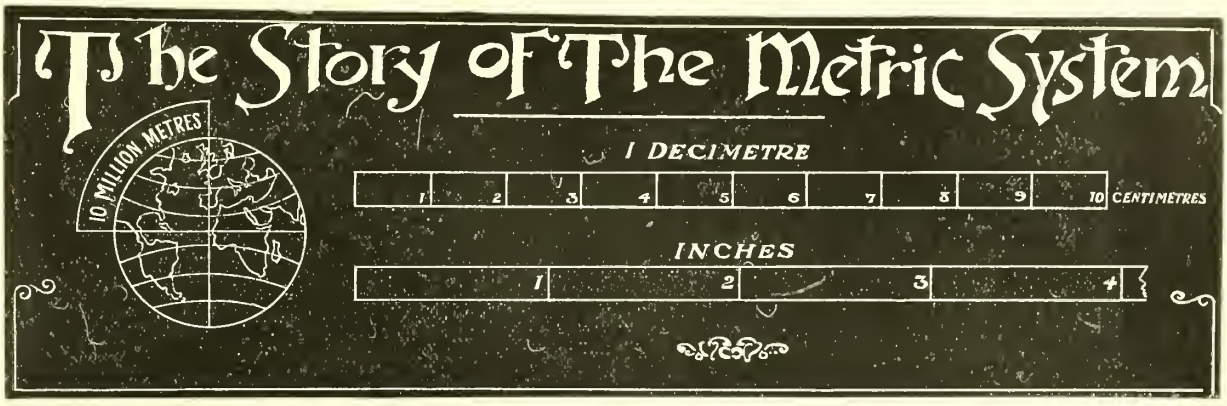
Dixon, William
Ellis, Hugh Edward
Flemming, Thomas Henry
Franklin, Arthur Cawte
Gale, George Thomas
Garnett, John Benbow
Hart, Samuel Henry
Hodgson, John Edward
Hovenden, Sydney Churcher
Jones, George Maurice
Martindale, William Harrison
Merrikin, Sydney Herbert
Pick, Frank Phillips
Rhead, Alfred
Smallwood, Frederick William
Teale, John Oliver

Minor Examination.

Candidates examined	340
„ failed	236
„ passed	104

Barker, Henry John
Barrett, Thomas Edward
Battle, John Cyril Marfleet
Bennett, Charles Thomas
Bennett, William Chaplin
Benzie, Robert
Blore, Moulton
Bould, Frederick Ewart
Brian, Ernest
Brookes, Alfred
Bunting, Sydney
Burden, James Rowland
Burridge, Archibald Edger
Calvert, William Eggleston
Carr, Charles Frederick
Chambers, Ernest James
Chapman, Alex. Sterling Brice
Chatburn, Edwin Jordan
Churchill, Arthur Henry
Collins, Clifford
Crawford, Ernest
Cruse, Thomas Edward Castell
Dance, James George
Darroll, John Walter
Dawson, Dan
Elbourne, Ernest Gilbert
Ellis, Frederick John
Evans, John
Farr, Minnie
Fenn, George
Frank, John William
Freke, Alice
Garland, Alfred Harry
George, William Blissett
George, William Foxton
Glaister, Robert
Gould, Sydney Hartforth
Gray, William
Green, William Baker
Harmer, John Daniel
Haydon, Arthur Henry
Hughes, Edward Davies
Inch, Jedediah Paul
James, Ernest Owen
Johns, Aneurin Vaughan
Jones, Thomas Stephen
Jones, Thomas William
Keeton, Percy
Kennard, Lilian Sarah
Kesterton, Walter
Kieft, Edward James
Lacey, Richard Samuel
Lane, George
Lane, Harry Richard
Legg, Harold Beaumont
Lescher, Thomas Edward
Lycett, Herbert
McRostie, James
Magnay, William
Maidment, Harold Harding
Meyler, Thomas
Moore, Kate Lilian
Morris, Gerald Arthur
Morrish, Charles Henry
Mosley, William Francis
Nicol, Alexander Wm. Rendall
Nundy, William Lockwood
Nunn, Ernest Albert
Parry, Idwal
Paterson, George Frederick
Payne, Herbert
Prescott, Wilfred Egerton Peter
Quibell, John William
Rawling, Joshua
Richardson, James Alfred
Roberts, John Lloyd
Robertson, Sidney
Rolfe, John Thurlow Twaites
Rouse, William Henry Broom
Sales, Charles Henry
Saltmarsh, Alice Isabella
Sarjeant, Herbert William
Sayers, Stephen Percy
Selby, Horace Walter
Sencicle, Fred
Sinnett, William
Smith, Henry Llewellyn
Smith, James
Spurway, William James
Stovin, John
Sykes, Henry Vincent
Tanner, William Edward
Thompson, George Pinder
Turner, Alfred William
Vallet, Cyril Edward Franklin
Walker, Martin Pybus
Wallace, William Henry
Wallis, Thomas Edward
Wathes, Arthur
White, Robert Shoebridge
Whitehead, Herbert Joseph
Whiting, William
Wild, Thomas Jabez
Wooldridge, Thomas

The Excess of Lime left in making lime-water makes very good whitewash for walls of stables, gardens, &c.—W. T. M. L. (213/9).



AMONG the minor miseries and injustices of French life previous to the Revolution was the condition of the weights and measures in common use, the diversity of which was described by a contemporary authority as scandalous. What was a pound was an enigma infinitely more inscrutable in France at that time than in England when Sir Robert Peel propounded the same question. Not only every province, but almost every parish, had its own variation of some kind or another, and, as always happens in such cases, the ultimate injustice fell on the poorest classes.

The marvellous characteristic of the French Revolution was the apparent suddenness with which so many minds received enlightenment. Men of all classes seemed to see to the bottom of things with a new perspicacity, and it was a very inconspicuous grievance indeed which did not at least get some one's attention.

This one, the want of uniformity of the weights and measures, had been pressed by the Academy of Sciences upon successive Governments, but with no marked success until on May 8, 1790, on the motion of Talleyrand, the National Assembly adopted a decree authorising the Academy to proceed with the necessary investigations. The object defined was that a basis should be agreed upon which it was hoped all nations would accept A sum of 300,000 livres was voted to pay for the expenses which would be incurred, and the National Assembly expressly urged the Academy to correspond with the Royal Society of England with the view of securing, if possible, more general uniformity by means of an International Commission.

ENGLAND DECLINES TO CO-OPERATE.

The Royal Society did not respond with cordiality to the advances of the French scientists. The present agitated condition of France was given as an excuse for not co-operating, and the Paris Academy were probably not altogether sorry to be unhampered with an unenthusiastic associate. A committee consisting of Borda, Lagrange, Lavoisier, Tillet, and Condorcet (secretary) was appointed in the first place to consider the best basis to adopt, and this committee issued a report on October 27, 1790, showing the advantages of a decimal system. This being agreed to, the further consideration of the basis of the system was entrusted to the physicists, mathematicians, and astronomers, Borda, Lagrange, Laplace, Monge, and Condorcet. The report of this committee was dated March 19, 1791. It was a lengthy and able document. First, the committee gave their reasons for advocating that the unit of length should be a national standard, something that could always be re-tested, and which, unless some extraordinary change of terrestrial conditions should occur, would be invariable and definite. They had considered three such standards: the length of a pendulum beating seconds at, say, the latitude of Paris; a fourth part of the earth's measurement at the equator; a fourth part of the terrestrial meridian.

THE UNIT ADOPTED.

The length of the pendulum was first proposed as a standard by a French astronomer, Jean Picard, in 1670; this seemed at first the most attractive to the committee as the unit of measurement, and it can hardly be said that the objections to it set forth in the report were very substantial ones. First it was urged against it that the second was a merely arbitrary division of time, and, secondly, that time itself had no direct relationship to measurement. It had been suggested in reply to the first objection that the second might be avoided altogether, and a calculation was made as to the length of a pendulum with one oscillation per day, the day being a natural division of time. Dividing this length by 10 milliards it was found that the unit thus obtained would measure about 27 inches. In other words a pendulum of 27 (French) inches in length at the 45th degree of latitude, and with other defined conditions, would make 100,000 oscillations per day.

This, however, involved the necessity of calling in time to settle a question of space, and the committee preferred to base their unit on an actual measurement of the earth's surface. To try to take the circumference of the earth at the equator would involve expeditions to distant lands, and would, perhaps, be found impossible of accomplishment. The measurement of a section of the earth's meridian passing through Paris was more feasible, and this was what was decided upon. Of course, the complete measurement of the fourth part of the meridian from the equator to the pole was impracticable; but astronomical and geometrical science permitted the estimation of the whole by taking a sufficiently long arc, and it was resolved to appoint commissioners to make actual surveys from Dunkirk to Barcelona via Paris. This would cover a little more than $9\frac{1}{2}°$, 6° north and $3\frac{1}{3}°$ south of Paris, while the two end points would be at the sea-level. Previous measurements from Dunkirk to Perpignan were in existence, and the records of these would be of assistance to the new survey. The report went into lengthy details of the apparatus and calculations which would be necessary for this great work.

It was also shown how a standard of weight could be deduced from the basis of the standard of measure by taking a defined cubic measurement of water and weighing it at the freezing-temperature *in vacuo*, or estimating it at that. Another commission would have to be appointed to carry out the experiments necessary for fixing this unit.

LAVOISIER'S SHARE OF THE WORK.

The chemist Lavoisier, whose amazing power of work and willingness to fulfil any scientific task always led to his appointment to any post in the Academy which involved laborious detail or danger—made him, in fact, the willing horse of the Academy—had been appointed from the first treasurer of the Committee of Weights and Measures. It was not very long before the conduct of all the correspondence and the provision for most of the undertakings had come into his hands. It was he to whom fell the wearisome task of "dunning" the Convention for instalments of the subvention which had been voted, and he, too, had to provide for the expenses of the commissioners appointed to the several duties connected with the undertaking. It is pretty certain that Lavoisier, who was both rich and generous, paid many of these expenses out of his own pocket, as it is certain that he helped to support some of the Academicians dependent on their State allowance when the Convention refused to continue such contributions. In 1792 Laplace

retired from the committee, and Lavoisier was chosen to fill his place, and it may be assumed that to him in at least as large a share as to any other Frenchman were the conception and the details of the metric system due.

Metric Nomenclature.

We next come to a report dated July 11, 1792. In this the committee record their first suggestions for the nomenclature of the new system. There was no doubt about adopting the name of "metre" as the substitute for the old French toise, though only about half its length. For measures of distance it was proposed that 1,000 metres should be called a "millaire." As to the divisions of the metre the committee were in much doubt. The question whether they should adopt simple words of one syllable, or whether they should propose new names, each of which should explain the relations of the division to the metre, had been under consideration. On the whole they decided in favour of the latter course, and the names decimetre, centimetre, and millimetre were proposed and apologised for. The committee recognised that such names would seem at first somewhat "bizarre," but it was believed that with familiarity they would become less formidable. In this report the name for the unit of land measure, "are," with its divisions, deciare and centiare, were also suggested. "Are" was derived, it was explained, from area, and was associated with the Latin *arare*.

Measuring the Earth.

On Sunday, November 25, 1792, a deputation from the Academy waited upon the Convention to formally report the progress that had been made. Borda read a report in which it was explained that it had only been possible to actually commence operations at the end of the previous spring. The preparation of the instruments and the preliminary arrangements had occupied the time until then. Citizen Mechan had gone to Spain in July, and had been measuring angles from certain mountains. He had strongly represented the desirability of extending the measurements to Cabrera south of the island of Majorca, making the distance south of Paris almost exactly the same as that north of the capital—that is, six degrees either way. The Spanish Government had manifested great interest in the work, and had offered every assistance. They had sent an armed corvette to Carthagena to take the Commission to Majorca if it was desired. Citizen Delambre was engaged in measurements nearer Paris. The Commission had noted the completeness with which similar work had been carried out by an English Commission near London, and hoped that their work would be in no way inferior to that done in England. Citizens Borda. Coulomb, and Cassini were working with the pendulum to check the measuring undertaken by Citizens Mechan and Delambre, while Citizens Lavoisier and Haüy had been appointed to determine the weight-unit, and their work, it was hoped, would be completed during the winter. A fifth Commission had been appointed to compare the actual standards in use in the various departments. The Convention had ordered these to be sent to the Academy, but only a few had then come in. In conclusion it was hoped that the Academy would finish its work early in 1794, and then it would only remain to make the standards and to send copies of them to other nations.

The Academy and the Convention.

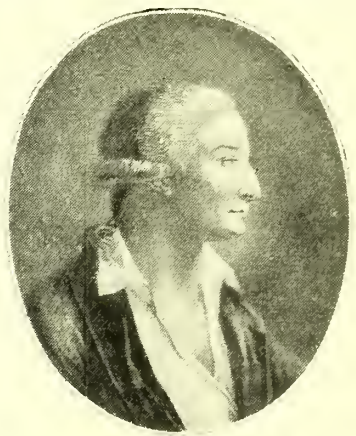
Citizen Lalande then addressed the Convention on behalf of the Academy, and offered a series of the Academy's publications, consisting of 150 volumes of the works of Academicians dealing, as he explained, with every branch of intellectual activity. These, the orator said, had been produced under a despotic *régime*. What could not be hoped for under the Republic, when genius could choose freely the object of its meditations, and in whose eyes reason was the sole arbiter?

Never was any governing-body so greedy of flattery as this Convention. Any omission to pay this due ensnred the suspicion of "incivisme," if not of aristocratic sympathy. Never were there so many frothy orations made as in the three years of its existence; and never, in justice it should be added, were so many vast and substantial reforms undertaken and carried through in so short a period.

Gregoire, the ex-priest, who subsequently saved his neck by declaring that though he voted for the condemnation of the king he never meant his execution, Citizen Gregoire, who presided, responded to the deputation "Citizens," he said, "the National Convention applauds the importance and the success of your work. For a long time philosophers had included this rectification of the variation of weights and measures among their desires. The Genius of Liberty asked the Genius of Science to give it some fixed and invariable unit, which should be independent of all arbitrary conditions. Estimable Savans, it is through your efforts that the Universe will owe this great service to France; this beneficent verity shall become a new bond between the nations, and one of the most useful conquests of Equality. The National Convention accepts the precious collection you offer it, and invites you to its *séance*."

The Weight Unit.

Another report, dated January 19, 1793, records the weight-experiments of Lavoisier and Haüy. They got a closed copper cylinder, made by Citizen Fortine, "a distinguished artist known to the Academy." The methods of exactly verifying the size of this vessel are explained in detail. It was 9 inches in diameter, and 9 inches high. The weighings



Lavoisier.

were made "on a balance belonging to Citizen Lavoisier, which was sensible to 1 grain when both pans were charged with 24 lbs." From their experiments the chemists deduced the exact weight of a cubic decimetre of distilled water at the freezing-point to be (in old French weights) 2 lbs. 0 oz. 5 gros. 49 grains = 18,841 grains. The committee proposed to give the designation "grave" to the new weight, and to divide it into decigraves, centigraves, and milligraves. The grave, it will be noticed, was equivalent to 1 kilogramme of the metric system as finally adopted.

This report, which also dealt with proposals for a decimal coinage, was undoubtedly the work of Lavoisier. One more report was published in August, 1793. In that the committee suggested new names for the divisions of the metre. There were objections to the scientific names proposed, it was recognised, and the committee now offered the terms palm, doigt, and trait for decimetre, centimetre, and millimetre respectively.

The Academy Suppressed.

On August 8, 1793, the Convention decreed the suppression of all the learned societies. Almost single-handed, Lavoisier contended with the remorseless Convention. He put forth immense efforts to obtain a reprieve for the Academy of Sciences; Gregoire and Lakanal eloquently aided him in the Convention, and for a moment his appeal was successful. On the 14th of the same month a new decree was issued permitting the members of the "Ci-devant Academie de Sciences" to continue to hold their meetings as before, in order to carry out the works entrusted to them by the Convention. The members came to their meeting on the 17th, but found the doors of their rooms closed and sealed by the Directory of the Paris Department, who executed the decree

of the 8th, and had had no intimation of that of the 14th. The Academy of Sciences, which had existed uninterruptedly since 1666, was closed.

The Committee of Public Instruction undertook to ascertain what works of the Academy it was necessary to carry on. Fourcroy, who owed nearly all he knew to Lavoisier, and who is suspected of having become his bitter enemy, carried out this inquiry. The result was the appointment of a special commission, which consisted of Borda, Laplace, Lagrange, Brisson, Haüy, Coulomb, Delambre, Monge, and Lavoisier, with Fourcroy, the chemist, and Arbogast, the mathematician, both members of the Convention, as inspectors. Lavoisier was reappointed treasurer and secretary, and on his proposal Berthollet, the chemist, was associated with the Commission. The meetings of the Commission were fixed for the 2nd, 5th, and 8th of each decade, at 7 o'clock decimal (4.48 P.M.) exactly, for by this time the new Republican Calendar had been decreed.

An Error in the Unit.

The Reign of Terror interfered with the labours of the Commissioners, and the great chemist, who had served his country so brilliantly in this and in many other scientific tasks, was one of its victims. The work went on, however. Citizens Mechan and Delambre completed their measurements, and the final conclusion adopted was that the quarter of the meridian equalled 5,130,740 toises (1 toise = about 2 yards). Jean Picard's earlier measurements made the length of the same meridian 5,135 400 toises; and it may now be mentioned that later observations by Biot and Arago and other astronomers have satisfied men of science that the true length of the meridian should have been about 1,000 toises more than the Commission made it—that is to say, the metre is less than it ought to have been by about the one-hundredth of an inch.

Legislative Sanction.

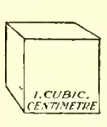
The first legislative decree in France endorsing the work of the Commission was that of the Corps Legislatif of the 4th Messidor an vii (June 22, 1799). This simply adopted and authorised the use of the new measures.

The objections to the new measures were very strong and general. The people would not part with their familiar old weights and measures, and in 1812 two Imperial decrees were issued endeavouring to compromise matters. These recognised and sanctioned the old designations, but gave them metric values. The toise was to be the measure of length, and was to be 2 metres and divided into 6 feet, each foot into 12 inches, and each inch into 12 lines. The livre was to correspond with 500 grammes, and the ounce and the gros were retained as divisions. The aune was to be 12 decimetres, and the boisseau, or bushel, $\frac{1}{8}$th of a hectolitre. It was not until 1837 that the metric system was finally adopted by the French Parliament.

The Metric System To-day.

The diagram which heads this article shows the "real unit" of the system, the quarter of the earth's meridian, and the tenth part of the "usual unit." Our space does not allow the representation of the metre, so we present a decimetre divided into ten centimetres. One hundred millions of those little decimetres would cover the distance between the pole and the equator. Below the decimetre appear the corresponding English inches.

One cubic centimetre of distilled water at 4° C. is the unit of weight, the gramme. It is equal to 15 432 English grains. The diagram in this case is the exact size of a cubic centimetre.



One cubic decimetre is the unit of fluid measure. It is called the litre, and corresponds with 1·76077 English pint.

The unit of superficial measure is the ARE, which consists of 100 square metres. The centiare (= 1 sq. metre) is the only division of this measure ever used. The usual land measure is the hectare (100 ares = 2·471 English acres).

The stere, which is the standard for wood, &c., is another measure of capacity. It is a cubic metre.

Lastly, the franc, the money standard, consists of 5 grammes of metal (9 parts silver and 1 part copper). It is divided into 100 centimes, but there is no term to indicate multiples of the franc.

The divisions of each weight or measure, it will be noted, are indicated by Latin prefixes, thus: deci ($\frac{1}{10}$th), centi ($\frac{1}{100}$th), and milli ($\frac{1}{1000}$th).

The multiples are indicated by Greek prefixes, thus: deca (10 times), hecto (100 times), and kilo (1,000 times).

The only terms in actual use are the following:—

Kilometre	Kilogramme	Hectare
METRE	GRAMME	ARE
Decimetre	Decigramme	Centiare
Centimetre	Centigramme	
Millimetre	Milligramme	
Hectolitre	Decastere	
LITRE	STERE	FRANC
	Decastere	Centime

The cubic centimetre (c.cm.) is a usual scientific measure, and in commerce the "quintal metrique" (100 kilogrammes) and the "tonneau metrique" (1,000 kilogrammes) are also used.

A few approximate correspondences with English weights and measures which are worth remembering are given in the annexed table:—

8 kilometres	= nearly 5 miles (exactly 4 miles 1,680 yards)
4 cubic centimetres	= rather more than 1 fluid drachm
6 centigrammes	= nearly 1 grain
4 grammes	= rather more than 1 drachm
28 grammes	= nearly 1 ounce avoirdupois
1 litre	= rather more than 1¾ pint
1 hectare	= nearly 2½ acres
1 hectolitre	= nearly 2¾ bushels

The Weights and Measures (Metric System) Act of 1897 makes the possession and use in trade of metric weights and measures legal, and such weights and measures are now obtainable in this country. The way to popularise the use of these would be for members of the Decimal Association to arrange with their tradesmen to sell goods to them by the metre, the kilogramme, and the litre.

The Metric System at Home.

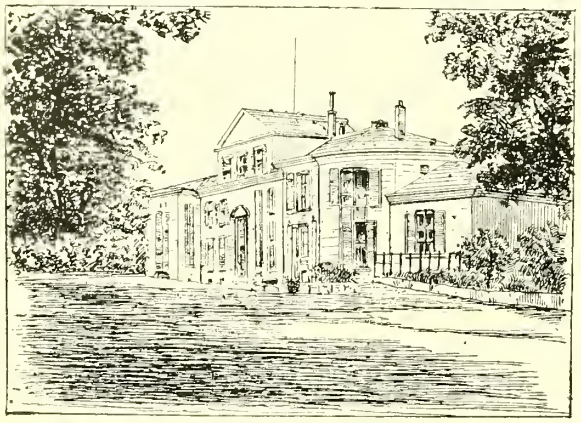
About a hundred yards from the well-known Sèvres porcelain-manufactory near St. Cloud stands a small building where the administration of the metric system for France, and, indeed, for the whole civilised world is conducted.

At the end of a leafy avenue, itself surrounded by a chestnut-grove, stands the Pavillon de Breteuil, a little white villa formerly belonging to one of the Bonaparte family. Above the entrance-gate of the garden is the inscription, "Bureau International des Poids et Mésures," and for the benefit of the inquisitive stranger the notice is appended, "Entrée Interdite." I obtained admission (writes our Paris correspondent) through the kind intervention of Dr. J. A. Harker, a young savant from the Kew Observatory, who has been at Sèvres for about twelve months to establish relations between the international standard gas thermometer and the electrical resistance thermometer devised by Professor Callender, late of Montreal, and now of University College, London. The Pavillon itself is occupied by M. Benoit, the French director. In the laboratory just opposite work his two Swiss assistants, M. Guyon and M. P. Chappuis The latter was assisting Dr. Harker in his researches when I called.

The metric system is controlled by an International Bureau, including a representative from each country interested. There are now about twenty-five members of the bureau. Mr. Chaney, of the Standards Department of the Board of Trade, is the English representative; M. J. Bertrand represents France; and M. Foerster, Germany. These gentlemen meet once every two years in the library of the Pavillon. The budget of the establishment is 78,000f. (a little over 3,000*l.*) yearly, contributed in various proportions by the nations adhering, and assessed according to population, legal enforcement of the metric system, &c. In round figures, Germany pays 10,000f. (400*l.*); France, 8,000f. (320*l.*); the United States a trifle more; England, 5,000f.

(200*l.*). Small countries pay much less—Denmark only about 300f. (12*l.*)—but all have equal rights. Denmark took about 1,000f. (40*l.*) worth of standards from the laboratory last year.

"As to progressive Japan, one might almost say she has been spending a big portion of her war indemnity on scientific instruments," said Dr. Harker. "No; the metric system is not compulsory there, but the standards are checked by the metric standard; and she likes the best of everything. All the metres she bought were of platinum



Home of the Metric System.

iridium. They cost about 400*l.* a piece. You know this metal costs half again as much as gold. Yes; one can have the standards in cheaper metals, and many countries do."

In this connection it may be noted that the platinum iridium is supplied by Johnson, Matthey & Co., of London, who are probably the chief gainers by Japan's expenditure. The laboratory practically works at cost price. It was Henri St. Claire Deville who proposed this metal. The laboratory itself is double-walled, so to speak. A passage running between the outside walls and the laboratory walls reduces to a minimum the influences of heat and cold. The official standards of the French metric system are locked in the cellar.

The Metric Room.

Measures of length do not interest chemists, or it would be curious to describe the way the official standard metres are prepared—the metal kept in water at a certain invariable temperature, the division into $\frac{1}{1000}$ parts of a millimetre (called microns), &c. Of course this is done by automatic machinery, and with the aid of microscopes. The metre was once made in H form, but an X section has now been adopted to economise the expensive metal. England already possesses her official metre.

The Kilogramme-room

was next visited. Here I found M. Guyon in charge, and on Dr. Harker explaining the purpose of my visit, he courteously placed himself at our disposal. Here were four sets of scales, glass cased, of course; but what I did not understand were the brass rods, 4 yards long, in front of each.

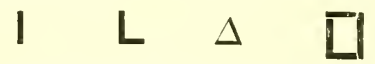
"You are aware that temperature exercises a great influence on weight," was the explanation. "If anyone goes near the balances, the animal heat would seriously affect the calculations. These brass levers serve as arms, and enable us to weigh at 4 metres from our scales."

"But it is impossible to see at such a distance."

"Quite so; and here, you see, is a kind of telescope for use by the operator. Of course you know also that when one side of a scale-beam is longer than the other it always goes down. You have noticed that in shop-scales. Well, it is practically impossible to have a beam which is exactly equal."

"But you have only to change your weights on to the other scale to find the error."

"Exactly; and here is an apparatus for doing so every time we weigh." And, going to the end of the brass levers, M. Guyon put his eye to the telescope, the weights were lifted from one side to the other, the scale-pans being cut in X ⊕ to allow of this. "A most ingenious arrangement," Dr. Harker coincided, "which only exists in very few other establishments." Then there were the standard weights, some sets in platinum iridium and some in quartz. I noticed that for the milligramme weights the same arrangement was adopted as is used for small apothecaries' weights ("angle weights" is, I think, the technical term) in England.



1 mgm. 2 mgm. 3 mgm. 4 mgm.

Quartz and platinum are the hardest substances obtainable, but sets of velvet-lined pincers (or ivory for the tiny weights) are alone used to lift them from the velvet boxes in which they luxuriously nestle. They are, needless to say, always slowly and softly deposited, and never dropped or pushed on to the scale-pan. Each time the glass case of the scales has been opened, the instrument is not used again for several hours. All is done that is possible to maintain the room at an even temperature. For the kilogramme the standard of precision is a fraction of the $\frac{1}{100}$ of a milligramme, or about $\frac{1}{100000000}$ (one hundred millionth) of the total weight. The standard kilogramme had a box to itself, a conical piece of metal. A vacuum weighing-apparatus, barometer, iron cupboard for weights, &c., completed the furniture of the laboratory.

"And the Litre?"

I asked. That, I was told, is now calculated from the kilo. But the staff are at present making a standard litre. In a third room I was shown the block of metal, which was being trimmed into the proper size by Bisschoffheim's 1892 apparatus, a large and elaborate machine as big as a grand piano. All covered in varnished wood, a glass front enabled the block, which was to be exactly the inside capacity of the litre, to be seen. Behind, one could mount on a raised platform, and by the aid of the microscope see the work of paring the block down to the correct size when the electric light was switched on.

The Chemist's Soliloquy.

To send, or not to send; that is the question:
Whether 'tis better for the old man and me
To let the physic of a careless doctor
Go to the patient, or ask the medic
For a new prescription. To send; to err
Perhaps; and by that error run the risk
Of making worse a fellow-man who lies
Helpless in his bed—a responsibility
Devoutly to be shun'd. To send;—to err;
To err! perchance to kill; ay, there's the rub;
For should the error kill what harm may come,
What sheriff's man, with writ, may chuck us hence,
Must give us pause; in this respect
The druggist's life is laden down with care;
For who would bear the possibility of
Defending an action for damages;
Of pining in a danky dungeon cell;
Of reading headlines in the daily press:
"Another Chemist's Fatal Error!"
When he could substitute a thing of chalk,
Or ask the doctor? Who would sit in doubt
And wonder what on earth the end might be
But that the dread of stirring up the doctor's ire—
And turning him into a mortal foe—
With all his family, puzzles the will
And makes us rather run a right big risk
Than poke up strife that we would not have?
Thus policy does make cowards of us all,
And thus our natural love of proper action
Is sicklied over with the pale cast of thought,
And things which 'twere better had our care
Are given leave to take their own sweet course
And kill or cure as chances.

Old Irish Pharmacies.

A RECENT tour through Ireland found no pharmacy more historically interesting than the Apothecaries' Hall in Dawson Street, Dublin, of which Dr. Evans is proprietor. This has been a drug-shop since 1684. One has seldom the

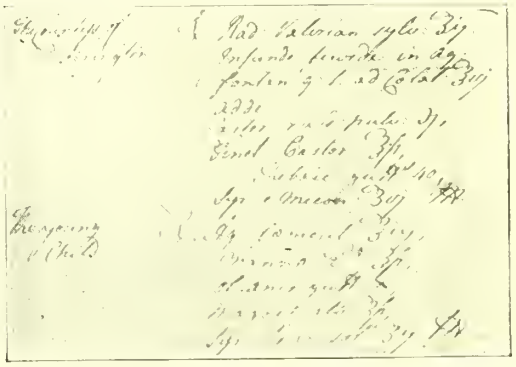
pleasure of inspecting a business whose origin and record are so well authenticated as the one now under review. It is admittedly the oldest drug-house in Ireland, and Dr. Evans is of opinion that the claim of seniority might be made to include the sister isle as well. THE CHEMIST AND DRUGGIST has published a picture of a pharmacy in Knaresborough, dating from 1720, which claims to be the oldest in England; and as the Dawson Street establishment had been compounding electuaries for a generation when the Yorkshire shop was opened, it seems entitled to the credit of having a more ancient lineage than any similar concern in the three kingdoms.

The birth-certificates of the business, in the form of eight stock jars or pots, are very interesting pharmaceutical relics.

It will be observed from the illustration that the date 1684 is indelibly printed on each, and the initials over these figures were those of the founder, Hastings by name. The oil and syrup jars are furnished with a tubular spout, which being unnecessary in the case of ointments, is non-existent. Here are the names on the eight bottles. The syr. papav. is the only official preparation under the 1885 B.P., and even that goes to the wall under the new regime:—

E. BACC. LAUR.	DIASCORD
E.	E
AMIGD. AM.	PAPAVER.
O.	S.
LOH. SAN. V et LX.	ENULATU: CŪ M.
	V
VULPIN	TVTIE
O	V

There hangs in the compounding-department the original prescription which was the first ever dispensed for the Duke of Wellington. There is some dubiety regarding the iden-



tical house in which the Iron Duke was born, but none about his first medicine. Dr. Evans naturally values this piece of paper very highly. He some years ago permitted it to be shown at an Irish exhibition held in London, but the extreme difficulty he encountered before recovering possession of the relic caused him to tremble for the fate of his property, and he is likely to be a little more exacting in his conditions before he again permits it to leave his possession.

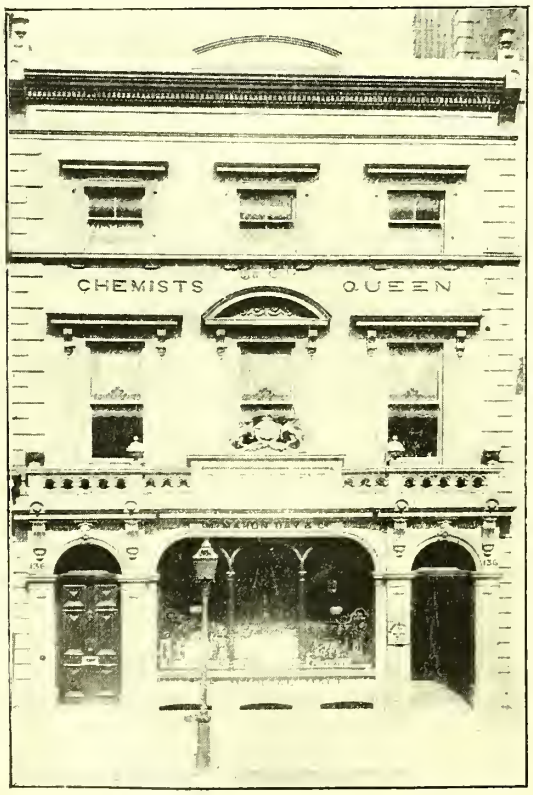
Until quite lately the receipts of the accounts at the erection of the premises and the stocking of the original apothecary's shop were in existence. These would have been worth reproducing had they been forthcoming, but they seem to have been too well taken care of, as they could not be found when wanted.

Our tourist spent an hour looking over some of the old ledgers in the office of Messrs. Leslie & Co., wholesale chemists, St. Bride Street, Dublin. Mr. Peacock, the principal, states that they date their birth to within two years of the landing of William of Orange. In an excess of zeal at spring-cleaning time a well-meaning porter consigned the most valuable of the old office tomes to the laboratory furnace. Still, those which survive would well repay a careful perusal. It appeared that in the year 1767 the half-year's rent of the premises, amounting to 35*l.*, was paid to Sir Richard Wolseley, the great-grandfather of the present Commander-in-Chief.

Even a wider significance seems to have been attached to the word "drugs" in those days than in these. One entry reads, "To produce of lottery-tickets, 19*s.*," and the charge of 3*l.* 10*s.* 11½*d.* for "stirrup-irons and saddle" suggests a very Whiteleyish store. A sugar-baker seems to have used inordinate quantities of pulv. jalap., as his twelvemonth's bill for this article ran well into three figures. If this seasoning was used in the manufacture of his confectionery, it may have been the cause of much of the unrest which prevailed in Ireland about the middle of last century, and which has hitherto been attributed to other influences.

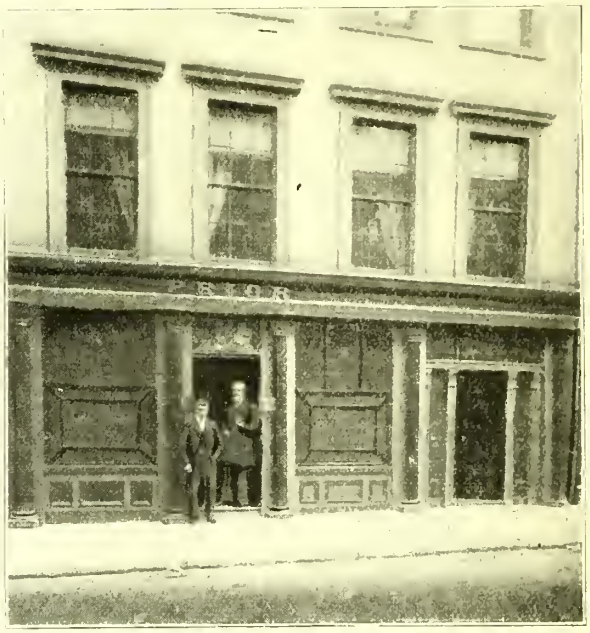
In Limerick our traveller found Mr. Day, the proprietor of the business of Mahon, Day & Co., more interesting than his pharmacy. The latter is one of the best shops in Limerick, and, as the reproduction shows, the firm are

chemists to the Queen. Mr. Day stated that he gets full prices for all patents, and he certainly adopts original and effective methods of advertising the stores to the hurt of the latter. It will be remembered that some shady doings saw the light of the law courts a few months ago. The scene was London, and ham or bacon was the subject of discussion. Of course, this touched the Limerick men in the softest of all points—the pocket—for the friend who yields the ham is, as we all know, "the gent that pays the rent." When the verdict was pronounced the district could not supply the London demand for hams. Mr. Day had a newspaper cutting describing this, mounted on a card and placed inside his glass counter-case along with some other published accounts of actions redounding to the discredit of stores. The customer waiting a few minutes cannot help reading these. The idea is not bad, and the reading of a press notice will have more effect than listening to a volume of invective. Mr. Day professes to put up none of his own proprietaries, but his neighbours say he is the proprietor of some put up in the name of a fictitious or defunct firm. He also claims for his establishment that it is the oldest in Ireland barring Evans's, of Dawson Street, Dublin In this assumption he is not quite correct. The business is certainly very old, probably over a century, but the proprietor has practised his utilitarianism to an alarming extent, as he sold to a waste-paper man all his old ledgers and prescription-books, and consigned his very old stock bottles and pots to the scrap-heap as being out of date. Mr. Day is an interesting remainder of the old chemist, devoted to his business and indifferent to, if not contemptuous of, all outside interests. He



makes no secret of this peculiarity, and he finds it answer apparently. Some fourteen hours a day is his usual stretch of duty, and from Monday morning to Saturday night this is unrelieved by any variation. The daily papers, he boasts, have no interest for him, and, strangest of all, even The Chemist and Druggist, which is held in a sort of affectionate but critical respect all through Ireland, might perish ignominiously for all that Mr. Day would care.

Mr. H. M. Prior, of Londonderry, is a kindly old gentleman, whose shoulders have become stooped and his hair white in the practice of pharmacy. His shop is worthy of note. It dates from 1765, and is only excelled in age by the Dublin Apothecaries' Hall already described. It was at first owned by Sir John McGuiness, Mayor of Derry, and surgeon to the gaol and county infirmary, from whose son it



passed to Dr. W. J. Eames. In his hands the business attained dimensions somewhat unusual even in those days. With Derry as headquarters, he carried on several branch establishments, one so far off as Dublin, where he owned the business in Westmoreland Street now in the hands of Dr. Walsh. Being so far from his base of operations seems to have been inconvenient, for after a brief tenure he disposed of the Dublin branch to Mr. Pring, who afterwards became the son-in-law of Mr. Grattan and head of the flourishing Belfast firm. Mr. Prior, who was assistant under Dr. Eames, became a partner, and afterwards sole proprietor. He keeps

up the best tradition of the house, and is justifiably proud of his long and honourable record.

Not far from Derry, in the smaller town of Strabane, our Rover thought at first that Dr. French, of this place, was going to deprive Mr. Prior, of Londonderry, of his title to be the oldest drug-shop in Ulster, and his claims involved some

disturbance of the dust in his attic. Dr. Prior stated that his books showed a record back to a date fifty years before the siege of Derry. Examination, however, failed to verify this by a long way. The oldest book bore date 1757, and, as barley malt was almost the only article mentioned until forty years later, the conclusion was inevitable that in that year the business carried on was something different from that of a chemist. Dr. French abides by the old practice, still fairly prevalent in old establishments, of dating his prescription-books in Latin. But more interesting than the "Die Jovis" or "Die Solis" was his practice of occasionally illustrating his prescription-books, in order, as he himself suggested, to afford some amusement to posterity. It was March 18 when the *C. & D.* man called at his shop, and the previous day's work bore the heading "Die Sanctus Patricki." In the centre was a sketch showing that pillar of the Church ejecting the toads from Ireland. As is well known, St. Patrick, like many a good man since his time, hailed from Scotland and it may perhaps be permitted, with no feeling of irreverence, to adapt Dr. French's idea to modern needs by some such design as the last on the preceding page, which is respectfully suggested to the heraldic sponsors of the Pharmaceutical Society of Ireland.

THE man who eats cloves
May disguise his condition;
But he's never quite free
From the breath of suspicion.

A New Zealand Pharmacy.

THERE is much in common between Antipodean pharmacies and those of the old country. The one which we illustrate here has recently been built and fitted by Mr. Donald L. Turner, pharmaceutical chemist, Wellington, N.Z., who hails from Dorking, in Surrey, where he served his apprenticeship with Mr. W. W. Clark, pharmacentical chemist. Mr. Turner has been in the Australasian colonies for nearly a quarter of a century, and has worked his way to the front rank of New Zealand pharmacy. He has served as a member of the New Zealand Pharmacy Board, and was formerly a partner in the firm of Turner & Co. When that

firm dissolved recently he took the corner of Manners and Willis Streets in Wellington, and this new "Corner" Pharmacy is the result. The shop is beautifully fitted with New Zealand woods. The walls behind the shop-rounds and wall-cases are covered with some 300 feet of mirror, which also fills the panels of the counter-front. There are heavy

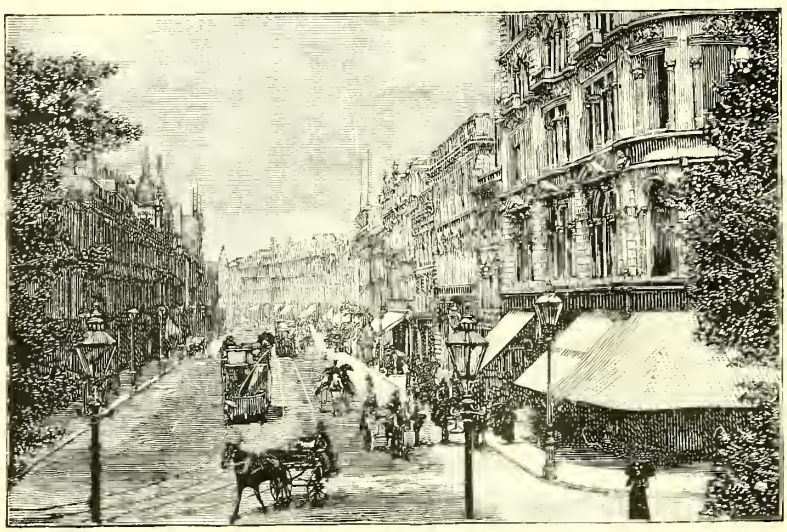
honeysuckle-wood columns dividing the wall-cases, counter-panels, and the shelving for the shop-rounds. The shop is lighted by sixteen electric lamps (16-candle power) inside, and one 25-candle power at the door. The effect is excellent, we believe. Mr. Turner's extensive experience of Antipodean pharmacy enables him to speak with authority on prospects out there, and any who think of going out may write to him.

Belfast.

THE City of Belfast, which will shortly be the scene of the annual demonstration of their learning which pharmacists allow themselves, is a place well worth visiting, both for itself and its surroundings. It may be added that no Saxon who can spare the time will regret it if he extends the time of his visit so as to see some more of Ireland while he is on that side of the water. Dublin and the county Wicklow, Cork, and lovely Killarney, and, if possible, some bits of Connemara, will gloriously fill in whatever time the tourist can spare from the noble scenery of the North, while all through the country the attractions of novelty and the invariable charm of courtesy may be relied upon to add to the pleasure of the trip.

Belfast is a modern city, and vies with any in Great Britain in enterprise and self-reliance. So far as the visitor sees it, it is essentially a town of this century. In 1800 its population was just about 20,000; now it is estimated at 330,000, one-third of which has been the growth of the last twenty years. Its name is said to be traceable to Bealfeirsde, which was softened *viâ* Belfeirsat to Belfast. The original was a combination of *beal*, mouth, and *feirsde*, ford, and indicated the ford at the mouth of the river. It is situated partly in county Antrim and partly in county Down, the bridges across the Lagan uniting the two counties.

High Street, 1786.



Donegal Place.

For centuries, from the Conquest to the days of Queen Elizabeth, Belfast was only a fortified post held by the Irish to maintain the "ford," and its history was mainly a confused record of struggles between the "septs" and the English garrison at Carrickfergus. But in 1570 the O'Neills, who occupied Belfast Castle, organised such a successful insurrection that the Earl of Essex was sent to the spot, with a powerful army, to restore order. On his advice a strong castle was erected at Belfast, and garrisoned by the English. But Shane O'Neill captured it in 1597, and Sir John Chichester retook it immediately after. His brother, Sir Arthur Chichester, was granted possession of it in 1604, and he colonised Belfast by bringing over a large number of immigrants from his native Devonshire. The place became secure and English and Scotch settlers followed, and Belfast's charter of incorporation is dated 1613. It was created a city in 1888, and in 1892 it obtained a new charter which conferred the title of Lord Mayor upon its Mayor. It is the home and centre of the great linen industry. The flax is grown through Ulster, and the great warehouses in Belfast, where it is spun, bleached, and calendered, are among the sights of the city. Shipbuilding is another of Belfast's great industries. Messrs. Harland & Wolff's great works being, perhaps, the largest in the world. Whisky, tobacco, and, especially interesting to us, aërated-waters must also be named among the

Royal Avenue

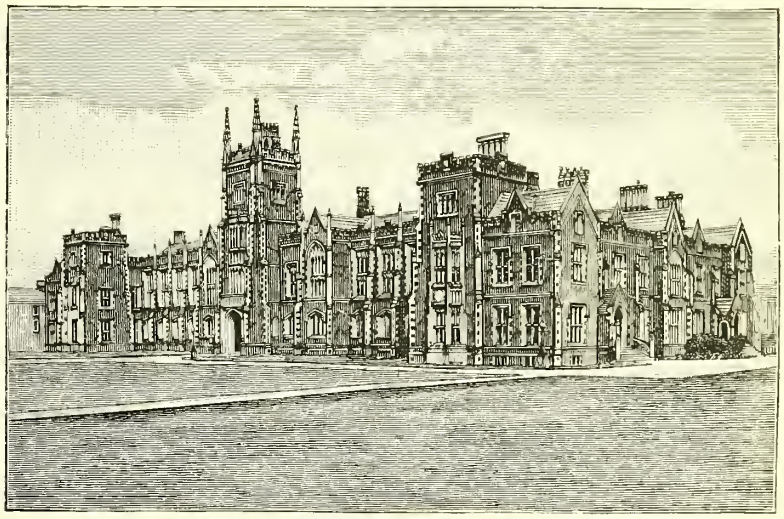
HIGH STREET, 1892.

prominent manufactures for which Belfast has become famous. Messrs. Cantrell & Cochrane, Messrs. Ross & Co., and Messrs. Corry & Co. are the leading representatives of this business, but there are many others; and any pharmacist who may get admission to either of these factories will find his inspection of them of the utmost interest.

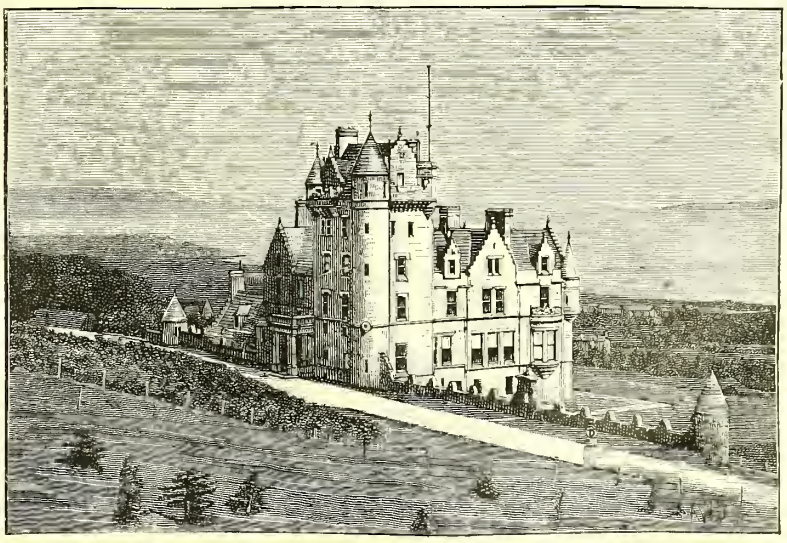
Grattan & Co. (Limited), the famous pharmacists, are also aërated-water manufacturers, and claim to be the original manufacturers of ginger-ale. Many years since ginger-beer was a recognised beverage, and was a muddy liquid which had been in the vicinity of ginger of some form; but Mr. Grattan issued, under the name of "ginger-ale," a beverage in a clarified form, which has been universally imitated in name and nature. When the visitor to Belfast, at Conference time next month, makes his exit from the arrival-station in Victoria Street, he will find as one of the most prominent buildings, almost opposite Messrs. Grattan's aërated-water factory.

Belfast is not as good a centre for pharmacy as other parts of Ireland. It contains some very handsome establishments, and no doubt in many a first-rate business is carried on. But the professional character of the business is much stronger in Dublin and Cork. Belfast has, unfortunately, caught some of the habits of Glasgow, and the dispensing-doctor is abundantly in evidence, while many medical men also keep open shop.

A quarter of a century ago there were only four pharmacies or medical halls in Belfast—viz., Grattan's, Ball's, Davidson Leslie's, and Wheeler & Whittaker's. Of these, Grattan's and Davidson & Leslie's (now Davidson & Hardy) are still prominent; but Ball's and Wheeler & Whittaker's have gone. Grattan & Co. (a limited company) are the principal pharmacists of Belfast, and perhaps the largest in Ireland. This is the company whose apprentices were refused admission to the pharmaceutical examination,



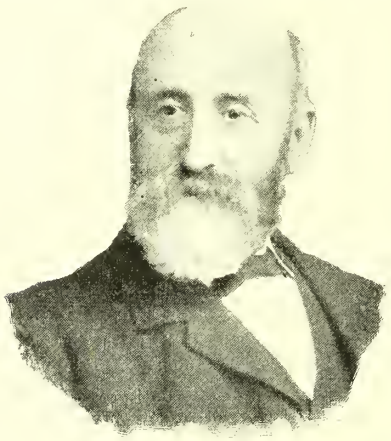
QUEEN'S COLLEGE.



BELFAST CASTLE AND LOUGH.

with the result of a High Court action. Among the other leading pharmacies in the city may be named those of Mr. Payne, Oxford Circus; Mr. J. Nicholl, High Street; Messrs. McKnight & Co., Carlisle Circus; Mr. Tate and Mr. Montgomery, Royal Avenue; Mr. Guyler and Mr. Stewart, Ormean Road; Messrs. Lewis & Murray and Mr. McNaught, Albert Bridge Road; Mr. J. B. Hay, Lisburn Road; Mr. Agnew, Mr. J. B. Robinson, and Mr. R. Barron, Antrim Road; and Messrs. S. Nicholl & Co., Donegal Place. There are, besides, many first-rate businesses carried on by chemists and druggists or registered druggists. These vary in character, from almost pure drug-businesses to those of what are called in England oil and colour men. The Ulster Chemists (Limited) have absorbed half-a-dozen of these, together with some pharmacies. Sir James Haslett, M.P. (the head of J. & J. Haslett), is the leading representative of the drug-trade. He is a noted man in the city,

and has been its Mayor. Sir James holds quite a *levee* at his business establishment every morning, when he is at home. A string of all sorts and conditions of people may be found waiting to see him; some on politics, some on municipal affairs, a customer wanting to buy, a traveller anxious to sell, a poor old woman come for his advice or interest for some of her family, a man who wants



Sir James Haslett, M.P.

[*Photo by J. Phillips, Belfast.*

to report how his lad (in whom Sir James has taken some interest) is getting on, and so on. And Sir James listens and replies to each and all of them with an ease and urbanity of manner peculiar to himself, and when the last one is attended to he attends to his own affairs. He is a notable character, and one of the hardest-working men in one of the hardest-working towns in the country.

Postcard Competition.

Drafting Labels.

"Compose the wording of your own labels. There is plenty in this book which will assist you."—"Pharmaceutical Formulas," page 112.

We shall give a guinea for the best draft of a label composed as suggested. The following is an example:—

COMEDONE-CREAM.

Comedones, or blackheads, are caused by the sebaceous or fat glands of the skin becoming choked, so that the fat does not exude, and the outer portion of it becomes black. This frequently gives rise to irritation and an unsightly pimple. The condition may be alleviated and further trouble prevented by using this cream, which stimulates the glands and produces a clear and healthy skin.

Directions. — Apply the cream freely to the afflicted parts every night at bedtime, and wash in the morning with Blank's ichthyol soap.

(Name and address.)

The example is drafted from page 35 of "Pharmaceutical Formulas." We shall be glad if subscribers and their employés will do likewise, sending in the drafts to us on postcards. To the guinea prize we may add copies of the "Formulas" and of our forthcoming book, "Diseases and Remedies," which will be given to those who send in commended labels. The competition will remain open during August

Window-displays.

The following notes are sent to us by our New York correspondent, "A Man from London." Druggists in general neglect the art of window-dressing. An occasional clear-out and clean-up when the goods become faded and too dusty to be left undisturbed any longer constitutes all the attention given to one of the most important parts of the shop, and yet a well-dressed window gives a quick return in sales and reflects favourably upon the proprietor.

There is much to be learned from a study of the different results of window-dressing. You gauge the likes and dislikes of the locality. A man who uses his window as it should be used—to advertise his goods—will dress the window at least once in every two weeks, and at the end of the year he knows what lines pay best to push in his neighbourhood. A druggist having half a dozen of his own particular proprietaries can give each a show several times during the year, taking care, of course, that the lines are seasonable. After twenty-five years' experience in the trade, I take it the druggist who makes a practice of changing the goods shown in his window, and studies to make it attractive, is invariably a prosperous and busy man.

A window dressed with a miscellaneous assortment of goods is not so effective as one line shown in a large quantity. From the advertisement point of view it pays best to show one thing at a time, though I have seen a very striking window produced by displaying one of every patent medicine kept with the prices marked distinctly upon each; this was a cut-rate druggist, of course.

Dustproof windows and fine plate-glass shelves are very well in their way, but give me a deep window and no shelving for making displays. The shelves give the window a look of unbroken want of variety, which kills the effect as an advertisement. A hundred or so cartons, nicely arranged in a window without shelves, fill the eye and give an impression of large business being done in the article. I offer the following original suggestions for the benefit of those readers of The Chemist and Druggist who care to use them:—

A NOVEL SPONGE-DISPLAY.

Obtain a large cask, the larger the better, paste some white paper all over outside, put a wire hook into each sponge, which should be priced legibly, and hang around the cask from wires fixed upon it, the cask to occupy the centre of window. Show Turkish bath-gloves and soap on either side.

A TOILET-PAPER SHOW.

Stretch a strong wire across the window about a foot to the rear; string rolls of toilet-paper upon it from end to end, unroll six in the middle and fasten at the bottom of window; then tie in the middle with a piece of red ribbon so as to make a sheaf appearance, pile the toilet-paper on each side and put up prices, and you will have a window which will draw and pay.

HOW TO SET OFF CITRATE OF MAGNESIA.

A few pots of ferns placed among a show of citrate of magnesia in white glass bottles make an attractive summer window.

PROPRIETARIES.

Corn-cures, hair-washes, perfumes, and cartoned lines are just the things to make the window always worth looking at, as they can be placed in a variety of different ways to produce effect, and a little experience in dressing produces gratifying results all the way round.

CYCLING-ACCESSORIES.

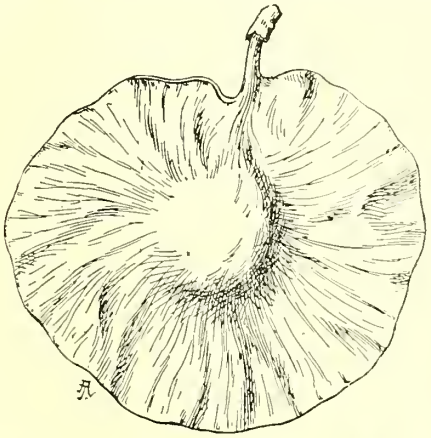
Many enterprising druggists are putting up special preparations for cyclists, and a little ingenuity and patience in affixing their line to the wheels and handle of a bicycle in their window will bear the good results of novelty and up-to-date advertising.

War News. — "I just heard some good war news, Mr. Bodemann," said a humble voice over the 'phone. "Good; let's hear it." "Cantharidis." "Ga-r-r-r, Snick."

The Botany of Kino.

BY JOHN R. JACKSON, A.L.S., &C., KEEPER OF THE MUSEUMS, KEW.

OF late years a good deal of attention has been given to the subject of the supply of kino, and no better *résumé* of the whole matter has appeared than that which was published in THE CHEMIST AND DRUGGIST for February 26 last, page 355, which was made still more complete by Messrs. Will and Branch's "Report on some Kinos" in the *C. & D.* for July 9 last, page 57. With these two papers before us there is but little more to be said either on the points of production or on the character and composition of the resins themselves. In connection with the subject of the scarcity of Malabar kino and the prospect of the development of other sources, it may be well to draw attention to a few facts with regard to its botanical origin. As is often the case with vegetable products, we find them to be the exclusive productions of certain natural orders. Thus, in rubber-producing plants, we have not hitherto found them to exist outside the natural orders *Euphorbiaceæ*, *Urticaceæ*, and *Apocynaceæ*, except in such small quantities as to exclude them from ever becoming sources of commercial supply. Again, with guttapercha, *Sapotaceæ* is the only natural order which yields this or analogous substances. So with kino, the species of *Pterocarpus* and *Butea* belong to



the *Leguminosæ*, and the *Eucalyptus* to *Myrtaceæ*, thus indicating that any development of new sources is probably to be found in plants belonging to these families. At the same time, it is not impossible that similar juices may be formed in other plants, and attention might be directed by travellers in new countries to such juices, especially when occurring in plants that are known to possess astringent properties. One such occurs to us in a polygonaceous plant, *Coccoloba uvifera*, a native of the West Indies, where it is called "seaside grape." The fleshy fruits are agreeably acid, and are eaten with sugar. They are considered antidysenteric and astringent. The wood, which is hard, heavy, and finely veined, contains a red astringent juice, which upon inspissation forms a kind of kino; but, though the plant in question possesses these properties, little seems to be known out of its native country as to the real value of its kino or of the quantity likely to be obtained from it. But to revert to the genus *Pterocarpus*, from which officinal kino is obtained, it is not impossible that other species may be found to yield a similar juice, and we would recommend that special attention with this view be directed to them. The species may be easily recognised by the winged fruit, which our illustration of *P. Marsupium* indicates. This engraving is of interest as being made from the fruit of one of the trees from which the kinos reported upon in this journal were actually made.

Newfoundland Notes.

A "C. & D." Man's Impressions of Cabot's Island.

I REACHED St. John's to find the drug-trade mourning the loss of Mr. John McNeil. Rarely have I seen such manifestation of sincere regret as every druggist expressed to me regarding Mr. McNeil. The reason is not far to seek. There is remarkable feeling of good fellowship in

THE TRADE HERE,

and this is due entirely to the personal influence of Mr. McNeil. He held a friendly-meeting of the trade in his shop about two months before his death, at which every chemist in town put in appearance. The object of the meeting was to consider the effect of the altered Customs tariff on the trade. It was from his store that practically all the rest of the druggists in the island have come. His business was started by his father-in-law, Mr. Thomas McMurdo, in 1825, and is the largest in the island. There is a big town and country retail connection, and also a wholesale trade. The shop, 31 Water Street, is a fine one, with four windows and two doorways, and was erected immediately after the fire which devastated two-thirds of the town in July, 1892. It was illustrated in the *C. & D.* about two years ago. The fittings—counters, shelving, and windows—are of carved oak. A marble soda-water fountain finds a place on the counter. The business is now to be conducted by Mr. Thomas M. McNeil.

Mr. M. Connor's store, 358 Water Street West, is another fine pharmacy. On entering it, the first thing a man from the old country notices is the bracket seats, eight in number, which project from the counter. Then a large framed announcement catches the eye:—

"Gentlemen will not and loafers must not stand around here during business hours."

I send you a photograph of the interior, which shows that in Newfoundland at least they are as go-ahead in pharmacy

as in the old country. And they are strict as to hours. They open at 7 A.M. and close at 7.30 P.M., emergency calls being answered up to 10.30 or 11.30. I saw several people turned away who came before the key was turned just after 7.30.

THE NEW TARIFF,

which has recently become law, has advanced the duties on nearly everything that is imported. I have made a careful examination of the tariff, and notice that practically all medicinal, chemical, and pharmaceutical preparations are charged a duty of 30 per cent. *ad val.*, except those containing alcohol, which pay 50 per cent. *ad val.* Olive oil pays 20 per cent., and the bottled oil 30 per cent.; vaseline and similar toilet-preparations, 30 per cent.; pomades, non-alcoholic perfumery, and toilet-preparations, 35 per cent.; ethylic alcohol, $3·20 per proof gallon; wood spirit and

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methylated spirit, 50 per cent. *ad val.* Ether, nitrous ether, spt. æther. nit., spt. ammon. arom., alcoholic perfumes, tooth-washes, &c., 50 per cent. *ad val.* Advertising-matter is also to pay 50 per cent. *ad val.* I do not notice many exemptions of trade interest. Although antiseptic surgical dressings are liable to duty, surgical instruments and artificial limbs are admitted free. I send you a copy of the tariff, so that home houses who want information may get it from you.

The following are some of the retail prices agreed upon by the meeting presided over by the late Mr. McNeil early in the year. When the duty and freight charges are considered, it will be noticed that the prices are by no means extravagant. The following are taken from the English list. There is also an American and Canadian one:—

All 1*s.* 1½*d.* to sell at ...	40c.	Johnson's soothing-syrup	40c., $1
All 2*s.* 9*d.* to sell at ...	90c.	Jeyes' fluid ...	20c., 35c.
Bishop's various salts ...	40c.	Keating's insect-powder	10c., 15c., 30c.
Bond's marking-ink ...	30c.	Koko	50c., 90c.
Benger's food	60c.	Mellin's food ...	30c., 60c.
B. & W. tablets, antipyrin	50c.	Maw's C.T. paste... ...	20c.
Price's night-lights ...	25c.	Pears' F. earth	20c.
Clarke's night-lights ...	35c.	Price's glycerin	25c.
Clarke's blood-mixture ...	$1	Savory & Moore's milk and cocoa	60c.
Hooper's cachous ...	20c.	Singleton's ointment ...	75c.
Cox's and Nelson's gelatine	15c.	Sanitary rose-powder	20c., 35c.
Calvert's C. powder	20c., 30c.	Wright's C.T. soap ...	15c.
Denoual's copaiba-caps....	50c.		
Elliman's embrocation	40c., 80c.		
Frizzetta	60c.		

I note that the duties show several anomalies; the most glaring, perhaps, are tinctures in bond, which can be bought at 10*d.* (20c.) per lb.—that is approximately 8*s.* 4*d.* per gal., which, with the 50-per-cent. duty, is 12*s.* 6*d.* per gal. The duty on proof spirit is 13*s.* 4d. per gal, to which has to be added price of spirit in bond, cost of drugs, and cost of manufacture, if the druggist wants to manufacture himself. The result is that all tinctures are imported made. They are mostly got from Germany. If ordered from English houses they often come from Germany. In regard to patents, I may say that the greater portion are got from the States. Chemists' own proprietaries are practically unknown, and windows are not dressed. Carboys and show-jars are all that are shown. Doctors do not dispense, and store-competition is unknown in dispensing.

Dispensing-charges.

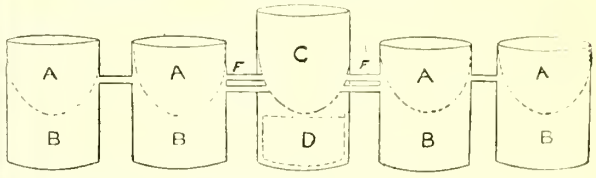
The following are the rates since April 1:—

Powders ...	40c. dozen; 25c. half-dozen; 5c. each.
Capsules,	50c. dozen; 70c. 2 dozen; 30c. in quantities.
Pills ...	20c. dozen; 30c. 2 dozen; 10c. in quantities.
Mixtures	2-oz. 15c., 3-oz. 20c.
„	4-oz. 25c., 6-oz. 35c.
„	8-oz. 35c., 10 and 12-oz. 40c.
„	16-oz. 50c.
Gargles and lotions	8-oz. 30c.
	10 and 12-oz. 35c., 16-oz. 40c.
Ointments	10c. per oz.
Suppositories	70c. dozen.
Pessaries	90c. dozen.

Cod-liver Oil.

The manufacture of cod-liver oil has been carried on continuously in Newfoundland for three centuries, but the era of refined medicinal oil dates back, I have been told, to the late Mr. Robert Warington's time. When Mr. Warington was at the Apothecaries' Hall, in Blackfriars, he sent out his brother to Newfoundland to superintend the manufacture, and that gave good results. How the oil afterwards fell into disrepute is well known to the trade at home. It has been looking up during the past decade, partly owing to the go-ahead way in which Mr. W. A. Munn, the principal maker, has pushed the business.

The factories are about 130 miles distant from St. John's, and the process is as follows. Within two hours of being caught the livers are taken out of the fish and put in the pot. The arrangement is something like this:—



A = heating-pans, into which livers are put; capacity 80 gals. each.

C = boiler, containing water.

D = furnace, for heating water.

B = hot jackets, containing either steam or hot water, conveyed along pipes F.

As heat is applied the oil is expressed, and is baled off in ladles.

The livers which remain are allowed to rot, and after they become rancid they yield the brown cod-liver oil of commerce used for tanning-purposes. Mr. Munn has over a dozen factories going. The oil is then sent in lots of a few thousand gallons to Harbour Grace, in Conception Bay, where the freezing-warehouses are. Cylinders of galvanised iron are filled with salt and snow, which give a temperature of 18° F. The portion of the oil liquid at 18° F. is filtered through bags. Ten years ago Mr. Ad. Neilson, a Norwegian, who is thoroughly conversant with the Norwegian industry, was appointed superintendent of the Newfoundland fisheries, and has done much to encourage and improve the manufacture of the oil. He has published two small books of instructions, which, however, he gives to oil-producers only, on condition that no copies be sent out of the island. He introduced the freezing-process, which had not previously been known in the place at all, and Mr. Munn was the first by several years to adopt it. In Canada, Newfoundland oil is imported free of duty, and the result is that Norwegian oil does no good there. A large quantity is also sent to the U.S.A., where it goes in on the same footing as the Norwegian. At Bacalean Island (a French corruption of a Spanish word, meaning "fish"), and in the immediate vicinity, are caught the fattest and best cod fish in the world.

The Future of Newfoundland.

Newfoundland has an area a little larger than Ireland, and a population of 200,000, St. John's having 32,000. There are five chemists in the island outside St. John's. A splendid steamer-service has been started with the mainland, with which there is communication twice a week. This will assist imports from America, and the trade with the States is growing; so, too, with Canada. The new developments of manufactures and mining, which are at present being embarked upon, will assist every trade, drugs included. Coal has been found, and is now being worked. Iron has been mined these three years, and some new mines are now being sunk. A wood-pulp factory has recently started, and another of a colossal nature is to be set agoing shortly. The 630 miles of railway have been sold by Government to the local Vanderbilt, Mr. R. G. Reid, a Coupar-Angus man, who has also acquired valuable tracts of forest and mining land, which he intends to develop for all they are worth. So the future of the island looks brighter now than it has done for many a year.

A Peristaltic Pill.

I know a pill when you are ill
Will give you satisfaction;
Try one or two, the work they do
By peristaltic action.

Aloes and nux produce the flux
(Combined with belladonna),
They do no harm, act like a charm,
Upon my word of honour.

Good Excuse.—At a trial held some time ago in Ireland one of the jurors asked to be excused from serving on the jury. Judge: "For what reason?" Juror: "My Lord, I've got the itch." Judge (to the clerk): "Scratch him out."

Victorian Government Drug-contracts.

IT is the custom of the Victorian Government to invite tenders for supplies of all kinds, and we observe by the *Victorian Government Gazette* that the following are some of the tenders which have been accepted. We may explain that in practically every case the prices include the duties upon the articles, which do not, however, exceed 25 per cent.:—

Campbell & Smith to supply:—

Arsenic at 24*s.* per cwt.
Carbon bisulphide at 4¾*d.* per lb.
Phosphorus at 3*s.* 6*d.* per lb.
Strychnine (powdered and coloured) at 3*s.* 3*d.* per oz.

for rabbit-extirpation. The following prices are for the same articles, but for (A) photo-litho. and photographic purposes, and (B) as drugs and medicines. The prices to which *b* is attached are the contracts of Baker & Rouse, *c* Campbell & Smith, and *r* Rocke, Tompsitt & Co.:—

	A			B		
	s.	*d.*		*s.*	*d.*	
Acid. acet. glacial.	2	0	(*c*)	2	3	(*r*)
Acid. citric., crystals	1	6	(*c*)	1	4	(*r*)
Ammonium bromide	2	9	(*b*)	2	10	(*r*)
Borax	0	4	(*r*)	0	3	(*r*)
Cupri sulphas	0	3	(*r*)	0	4	(*r*)
Gum arabic	1	3	(*c*)	2	0	(*r*)
Iodine	1	3	(*c*)	1	2	(*r*)
Liquor ferri perchlor. ...	1	3	(*c*)	1	0	(*r*)
Ferri sulph. pur.	0	3	(*c*)	gran. 0	8	(*r*)
Hydrarg. perchlor.	3	0	(*c*)	3	9	(*r*)
Potass. bichrom.	0	6	(*c*)	0	7	(*r*)
Potass. bromid.	2	8	(*r*)	2	7	(*r*)
Argenti nitras	1	10	(*b*)	2	4	(*r*)
Sodæ carbonas	0	2	(*r*)	0	1½	(*r*)

The contract for drugs, medicines, and druggists' sundries was given solely to Messrs. Rocke, Tompsitt & Co., and comprised 397 articles, from which we select the following prices:—

		s.	*d.*
Acetum cantharidis	per lb.	1	9
Acid. carbolic. (Calvert's purest) ...	„	9	6
Acid. hydrochloric. pur.	„	0	9
Acid. nitric. pur.	„	1	4
Acid. sulphuric. pur.	„	1	6
Aqua cinnam. conc. (1–40)	„	7	6
Calx chlorinata	„	0	4
Decoct. aloes co. conc.	„	3	10
Decoct. cinchon. conc.	„	4	4
Ext. aloes socot.	„	3	3
Ext. colocynth. co.	„	10	6
Ext. glycyrrhizæ liq.	„	3	0
Glycerin. acidi tannic.	„	2	10
Infus. calumbæ conc....	„	1	9
Liniment. aconiti	„	6	6
Liniment. iodi	„	7	2
Liquor arsenicalis	„	0	9
Liquor epispastici	„	14	6
Morphina sulphas	„	8	0
Ol. limonis opt.	„	6	0
Ol. olivæ secundum	per gal.	6	0
Ol. ricini ital., extra-extra	per lb.	1	3
Pills, Blaud's	per gross	0	11
Pulv. glycyrrh. co.	per lb.	1	2
Spt. ætheris nitrosi ang.	„	2	10
Succus taraxaci	„	3	3
Syrup. scillæ	„	1	0
Tr. aconiti	„	4	1
Tr. camphoræ comp.	„	2	11
Tr. nucis vomicæ	„	3	10
Tr. zingiberis	„	3	10
Ung. acid. borici	„	2	9
Ung. gallæ c. opio	„	4	6
Ung. simplex	„	2	9
Ung. sulphuris	„	1	9
Vinum ipecacuanhæ	„	3	3
Dispensing-bottles, 4-oz. ordinary ...	per gross	18	0
Dispensing-bottles, 8-oz. ordinary ...	„	24	0
Feeding-bottles, infants'	per doz.	12	0
White-glass bottles, stoppered, 6-oz.	each	1	0
White-glass bottles, stoppered, 40-oz.	„	2	0
Chip boxes, nested	per gross	6	3
Enemas, Ingram's, first quality ...	each	5	6

These examples may suffice to show what the contracts are but if any firm wish to see the *Gazette* we shall be glad to show them our copy.

The contracts are given for one year in the case of drugs and sundries, and for three years in the case of photographic chemicals. The following are the special conditions by which the contractors are bound:—

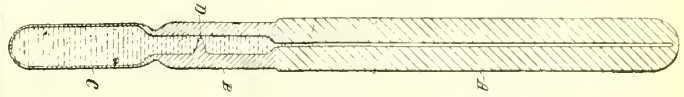
All articles must be of the best quality, and in cases where special manufactures are mentioned in the schedule the contractor is bound to supply the original packages. Oils, tinctures, and liquid preparations generally must be delivered in oval glass bottles; acids, ammonia, and deliquescent salts in bottles with ground-glass stoppers. All preparations and compounds are to be those of the new British Pharmacopœia, unless otherwise specially ordered.

Recent Patents.

THE following are abstracts of recent specifications of inventions for which English patents are applied for. The complete specification of any patent can be obtained by purchase through any money-order office, where postcards, price 8*d.* each, for ordering patents are obtainable. The number of the patent and year are specified at the end of each paragraph:—

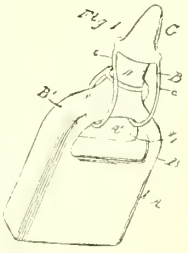
Inflammable Gas.—G. W. Lee, F. Elliott, and G. Tatham, of Sydney, claim protection for the process, apparatus, and composition for an inflammable gas. Moist atmospheric air is impregnated with the following composition:—Commercial sulphuric ether, 1; citronella oil, 1; and water 4. (30,689, 1897.)

Clinical Thermometers. — F. Cosser, 15 Clerkenwell Green, claims protection for a new method of making clinical thermometers, so that the mercury can be more readily shaken down after use. Between the capillary-tube



and the bulb the capillary space is broadened and provided with a constriction, which enables the mercury to be easily shaken down, but not so readily as to fall of its own accord after use. (27,730, 1897.)

Feeding-bottle.—J. C. Roach and R. J. Keeffe, of New York, claim an improvement in nursing-bottles, with the object of preventing the teat being detached or swallowed by the child, or air imbibing. The bottle has an opening through the upper part, and through this space elastic bands form a loop-attachment for the teat. It is claimed that the division of the neck of the bottle into two parts by the opening makes the child less liable to suck in air. (28,129, 1897.)



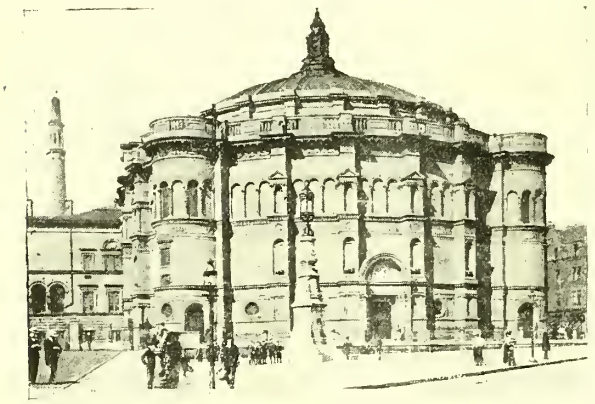
Photographic Developer.—J. Hauff, Feuerbach, Germany, claims the employment of the dialkylglycines of paraphenylene (tolylene or xylylene)-diamine and of α—α and α—β-naphthylenediamine as photographic developers. These bodies may be made into solutions which keep well, reduce the image rapidly in presence of sulphite, alkali carbonates, or hydroxides, do not stain the gelatin, and give a fine grain. A suitable formula is dimethyl-*p*-amidophenylglycine, 1 gr.; sodium sulphite, 5 gr.; "potash," 5 gr.; water, 100 gr. (28,596, 1897.)

Colouring Photographs: Improved Method of Applying the Colours.—F. von Bentivegni, San Francisco, claims a process for colouring photographic prints by fixing them face downwards upon a sheet of glass, sandpapering away the superfluous paper, making the picture translucent by immersion in a bath of wax, and applying some of the colours to the back of the picture and others to a second sheet of glass fastened behind. The waxing solution is as follows:—Refined castor oil, 1 pint; white vaselin, 1 dessertspoonful; spermaceti, 1 teaspoonful; rosemary, 20 drops; citronella, 20 drops; heated together to about 60° C., and coloured light red with alkanet-root. (30,115, 1897.)

British Medical Association.

ANNUAL MEETING IN EDINBURGH.

IT was fitting that the historic Scottish capital, which has given birth to so many masters of medicine, should have been chosen for this year's visit of the British Medical Parliament, the third time in the sixty-six years of its history. The event forms a significant and dignified celebration of the completion of the splendid range of buildings (part of the University of Edinburgh) forming the new Medical School, begun twenty years ago. These adjoin on the one side the Royal Infirmary—built within the last thirty years at a cost of half-a-million—one of the largest and best-equipped hospitals in the world. It accommodates 600 in-patients, and, like its predecessor founded two centuries ago, it is "open to the sick and hurt of all countries." On the other side of the College quadrangle is the magnificent McEwan Hall, opened in December last, and not yet quite



The McEwan Hall.

finished, which was gifted to the University by Mr. William McEwan, at a cost of 115,000*l.*, and intended to be used for academic ceremonials and important civic functions. It is designed in the form of an ancient Greek theatre, accommodates 3,000 people, and the auditorium is 90 feet high. The principal addresses in connection with the meeting were delivered in this hall.

One of Edinburgh's principal industries is the making of doctors. The number of students who matriculated at the University last year was 2,833. Of these 1,500 were medicos, just 500 less than ten years ago, and 250 fully-fledged physicians and surgeons are to receive their degrees on Saturday, July 30. Edinburgh also supplies the world with its chloroform and its morphine—of the former several hundred tons, and of the latter millions of ounces, annually. Besides some printing and shopkeeping, it does little else but luxuriate in philosophy, fashion, and wealth of the picturesque.

The Presidential Address.

The President (Professor Sir Thomas Grainger Stewart, LL.D., M.D.), the Queen's physician in Scotland, delivered his address on Tuesday evening in the McEwan Hall. He was accompanied to the platform by Dr. Roddick (Montreal), Dr. Saundby (President of the Council), Professor Philipson (Newcastle), Dr. Henry Baines (Carlisle), Sir William Stokes (Dublin), Professor Chiene, Sir Henry Littlejohn, Dr. Bruce Goff (Glasgow), and others. The subject of the presidential address was "The Reciprocal Duties of our Profession to the Community and of the Community to the Profession." The President said that the duty of the medical profession was to do its best to prevent disease, to cure disease, and to alleviate suffering in individual patients, to protect the community against preventable maladies, to advance knowledge, to train its successors, and to guard the portals of admission to its ranks. The duty of the community was to afford it every facility for so doing. The days are passed, he continued, in which medical men were accustomed to make great claims as to their powers, arrogantly pretending to control processes of nature which we are really unable materially to influence. Goethe puts

Sir Thomas Grainger Stewart, M.D., &c., the President.

into the mouth of a well-known personage a humorous description of the powers of our art—a description which has met with wide acceptance :—

> The spirit of medicine is easy to be grasped.
> One studies through the great and little world
> To let things go in the end as pleases God.

Were Goethe living now, he would be the first to recognise that our studying through the great and little world is, thank God, proving by no means fruitless. The annual death-rate in England and Scotland has since 1885 fallen by more than one-fifth. The President then proceeded to speak in succession on the prevention of disease, on the vaccination laws (in which he condemned the Government's change of front), on a curious observation of nitrogen loss in paupers (which he called "physiological bankruptcy"), and on the Public Health Executive, advocating the entrustment of all matters relating to the prevention of disease to the Local Government Board, and concluded with a peroration regarding the duties of the profession which "brought down the house."

The vote of thanks was moved by Dr. Roddick, ex-President, who, in the course of his speech, *à propos* of

The Royal Infirmary, Edinburgh.

the President's remarks on vaccination, related how in Montreal they had had two or three French Canadians, who persisted in carrying on a crusade throughout the city, and preventing their fellow-countrymen from be-

coming vaccinated. A case of smallpox occurred in the city of Montreal in 1885. This got into the French quarter, and made such havoc that in a population of about 180,000, of whom nearly two-thirds were French Canadians, between 3,000 and 4,000 French Canadians became victims of the epidemic, and only some fifty or sixty of the English people. They learned a lesson then that they had never forgotten, and now there was no trouble about vaccinating or re-vaccinating their French-Canadian fellow-citizens.

Later in the evening a reception was given by the Lord Provost in the Museum of Science and Art.

The address on medicine was delivered on Wednesday by Professor Thomas R. Fraser, and that on surgery on Thursday by Professor Thomas Annandale, F.R.C.S. In the department of pharmacology and therapeutics, Professor Fraser contributed "Further Observations on the Antitoxic Action of Bile Against the Toxins of Diphtheria and Tetanus"; Dr. Norman Kerr, on "Alcohol in Drugs and Drug-preparations"; Dr. J. C. McWalter, "A Note on the New B.P."; papers by Dr. C. D. F. Phillips, M.D., on "Hydrastis Canadensis and Hydrastine Hydrochloride," and on "Pharmacology of the Alkaloids of *Aconitum Napellus*," by Professor Cash, and on the "Mescal Plant," by Dr. Walter E. Dixon.

THE ANNUAL EXHIBITION.

This year's meeting has been a little less than usual of an annual medical picnic. The attendance has been about 10 per cent. of the membership, which is 17,000. To many it has been a foregathering round their *Alma Mater* after many days, and, coming at the close of the *Annus Academicus*, it has caught all the bright stars in the local medical firmament before the holiday exodus. This, and the fact that the Exhibition was most conveniently situated, has resulted in a good attendance of interested visitors.

PHARMACEUTICAL.

ALLEN & HANBURYS (LIMITED), whose business addresses now include Melbourne, Durban, New York, Toronto, and Hamburg, had a splendid central position, upon which they had erected a handsome stand, presenting several original features. The name of the firm appeared on the four side panels of the case, ingeniously worked in in variously-coloured medicinal capsules and perles, which with the electric light against them, was distinctly effective as a decoration and suggestive as an advertisement. A number of vigorous pharmaceutical plants in flower added realism to the general effect, which was completed by the high-class character of the pharmacy presented and the style of get-up. Perles of colchicine and methyl salicylate (now being used as a remedy for gout) are among the later additions to a long list of medicaments presented in this form and in the old-form capsules. Ammoniated quinine in perles is another useful idea. A series of gelatine-coated pills, showing the colours of the drugs through their transparent coating, was very pretty. The firm's newer soft pills—kapsols—are a distinct achievement in methods of neo-capsulation. "Cokay" is a coca-wine of aristocratic flavour, made by the infusion of coca-leaves with a fine Tokay wine. It is expensive, but a high-class article. A series of the compressed "Tabellæ" showed the well-known skill the old Plough Court firm display in this important department of their business. In the surgical-instrument section of the same exhibit, in addition to a selection of surgical instruments embracing all the newer improvements, the "Pneumachemic" multiple comminuter and compressed-air apparatus was exhibited for the first time in this country. This consists of an air-tank, which is filled by means of a simple hand-pump and a series of glass globes containing medicaments to be sprayed, to which the air-pressure can be applied and controlled with precision in the application of an air, watery, or oily spray. The inventor, Dr. Robertson, of Cincinnati, was present to explain the process. A sort of overflow stand was devoted to antitoxins and surgical dressings, Messrs. Allen & Hanburys having taken up the agency in this country for J. Ellwood Lee Company, manufacturers of surgical dressings. A hypodermic syringe, all metal, even the plunger, is surely the consummation of the aseptic idea. Mr. T. W. Tullett was in charge, assisted by Mr. W. Hustler and Mr. Jenkins, of the surgical-instrument department.

DUNCAN, FLOCKHART & CO., Edinburgh and London, had another of the "premier" positions, which they occupied with a very practical exhibit. The house that gave Simpson's first sample of chloroform made a leading feature of that article. It is now sent out of sp. gr. 1 490, containing 1 per cent. of alcohol and practically non-decomposable. It was also shown in the form in which it is put up for exportation (hermetically-sealed flasks). Samples of the original chloric ether, still quite distinct from spt. chloroform., B.P., were presented to doctors. The D., F. & Co.'s gelatine capsules now embrace 1,500 varieties, and keep seventy girls employed filling them. One of the later ones is potass.-bichrom. capsules, which are given by Professor T. R. Fraser in gastric ulcer. Some high-class pharmacy was displayed in an extensive series of the new B.P. preparations and of the firm's specialities. Twelve tons is a good record for syrup. hypophosph. (Duncan's) last year. Caffanalide and peptopancreine, the latter a mixture of pepsin, pancreatin, and diastase, and a strong digestive agent, were also shown. A series of well-made plastic pills and a number of rare chemicals completed the exhibit, which was in charge of Mr. James Dawson. The medical profession was invited to visit the works in the Canongate on Wednesday afternoon.

PARKE, DAVIS & CO.—Few firms have the faculty of "getting there" in greater degree than the London branch of P., D. & Co. Now they are liberal with their display of pharmaceuticals, but there is not much that has not already been noted in these columns. Standard fluid extracts are, of course, their biggest line. Their antitoxin equipment in the United States embodies quite an extensive stud of animals. They are also strong on gelatin-coated pills.

T. & H. SMITH & CO., Edinburgh, emphasised the important position which they hold as morphine-manufacturers by an exhibit of the principal commercial varieties of opium —including Persian, in sticks—and of the chief alkaloids of that drug, adding also the xanthaline nitrate and muriate, the last-discovered alkaloid of opium, and still a chemical curiosity. Salicin and *Salix alba* and other drugs and their sources were similarly shown, and the firm's make of tannic acid in large crystals is worth noting. The original essence of coffee—still a leading article, in spite of its numerous successors—had also a place. Messrs. T. & H. Smith are also makers of chloroform.

WYLEYS (LIMITED), Coventry, were well to the front with a number of their pharmaceutical preparations, which we have noticed from time to time. Their ophthalmic-ointment tubes and aseptic ointments in tubes are good lines, and their neuracetin goes on increasing in medical favour. The non-alcoholic or glycerin tinctures interested a good many of the medical visitors.

RAIMES, CLARK & CO., Edinburgh, had a closed-in glass case, admirably arranged by Mr. George Coull, B.Sc., their chemist, and devoted to B.P. preparations, concentrated galenicals, the "Premier" extract of malt, and some of the newer synthetic remedies. Associated with them in a case adjoining was an exhibit by the SCOTTISH ACID AND ALKALI COMPANY (LIMITED), including a particularly fine specimen of iodine, and of some iodides and iodoform.

ALFRED BISHOP & SONS (LIMITED) have something distinctly unique for this occasion. A stand in cream and gold, modelled on the lines of the architecture of the Alhambra, was at once graceful and striking. A full range of granular effervescent preparations was shown, including iron and iron-and-arsenic combinations, and the best-known mineral-water salts. An extended series of the effervescent compressed tablets known as "Varalettes" has been completed, embracing in a portable form all the newest and best-known gout-remedies, and including lithio-piperazine citrate and urotropin. Piperazin citrate in a stable form, as it is presented in the "Varalettes," is a desideratum.

FLETCHER, FLETCHER & CO., Holloway, N., had a tastefully-decorated stand devoted chiefly to "vibrona"—"the ideal tonic wine." It is a true cinchona-wine, containing a definite proportion of a standardised hydrobromic extract of the bark in a high-class port wine, the bitterness of the drug being hardly perceptible, and the susceptibility of so many patients to quinism being effectually overcome. The "vibrona" champagne is a pure *brut* wine, also containing a definite proportion of the bark in the form of neutral hydrobromate. Fletcher's syrups of the hydro-

bromates and of the cinchobromates are well known in all dispensing-establishments. These and the liq. cinchonæ hydrobrom. were also on view, as well as the recently-perfected hydrobromate-cachets.

Baiss Brothers & Co., London, made a feature of Hopkinson's liquor colchicinæ salicyl., now more largely prescribed than ever in gout and chronic rheumatism. It contains $\frac{1}{32}$ gr. of salicylate of colchicine in each fluid drachm. Mist. bismuthi aromat. (Baiss) and the same mixture with pepsin are other preparations special to this firm and well known. Mr. F. A. Rogers, Oxford Street, W., showed a full line of his "Hypodermules," now perfected and considerably extended. They are very dainty specimens of pharmaceutic art. They insure absolute sterility, and the solutions cannot concentrate—great desiderata in hypodermic medication. They are now supplied in morocco-covered pocket-cases, with suitable and specially-designed syringes, suitable for presentation to medical men. Besides Messrs. H. C. Baildon & Son, who exhibited pharmaceutical products, samples of Dr. Unna's preparations, staining-solutions for microscopical work, and cremor. eucalypt. co. for diseases of the chest, the only Edinburgh retail chemist who rose to the occasion was Mr. John T. Coats, Ph.C., who had peptonised cream of cod-liver oil, glycerites, and pepsin liquors on a nicely-decorated stand.

Oppenheimer, Son & Co. (Limited) have put in their position a new stand, very richly decorated in a wealth of art plush, with a handsome fascia of clear bevelled plate-glass, supported on two brass pillars, and bearing the name of the house. It could be seen from anywhere. The pharmaceutical antiquities had on this occasion strayed to the Missionary Loan Exhibition. The cream of malt, palatinoids, and bi-palatinoids were, of course, all in evidence, and a line of well-designed pocket and carriage cases for these specialities looked practical. The firm's pepsin is standardised to three strengths—1 grain to 3,000, 6,000, and 10,000 grains of egg-albumen.

C. J. Hewlett & Son showed the familiar liquors, some of them popular all over the world. Liq. cinchon. rub. conc., 1 to 15, is a fine bright solution. Mist. cardam. co. is being used as a flavouring agent in mixtures. A practical-looking physician's test-case, offered at 35*s.*, contained the newer pathological tests, including the sulphanilic-acid test for typhoid, and the trichloracetic-acid test for albumen.

Synthetic.

The Elberfeld Farbenfabriken Co. (Limited) made a handsome display, with a background of crimson plush brightened by the German and British flags, of the principal Bayer products, including somatose, iron somatose, which is a combination of the former with 2 per cent. of iron and milk somatose, prepared from the albumosis of milk, the newer protargol, a silver preparation used in the treatment of gonorrhœa, and iodothyrine, formerly called thyroidine, and which is believed to contain the active principle of the thyroid gland. A series of very artistic cards in antique black and red, and deckle edges, is being used regarding these products, and chemists may have some of them.

Zimmer & Co. showed euquinine, eunatrol, a pure oleate of sodium put up in chocolate-coated pills, and validol, a combination of menthol and valerianic acid. "Its use is as an analeptic."

From the Pharmaceutisches Institut (Ludwig Wilhelm Gans), Frankfort-on-Main, came the halogenalbacids—halogen-albumen preparations claimed, from their albuminous nature, to be harmless to any organism. Iodalbacid is a brown powder containing 10 per cent. of iodine, which is slowly liberated in the body on the inhibition of the product. Similarly, with the bromalbacid, which contains 6 per cent. of bromine in "intimate intramolecular combination," and with the chloralbacid, which contains 3 per cent. of chlorine.

Mr. B. Kühn, 36 St. Mary-at-Hill, London, is introducing iodoformogen, a chemical compound of iodoform and albumen, with hardly any smell of the former, and only one-third of its weight. The chinosol preparations now include a tooth-powder liquid dentifrice and hair-wash, and other toilet requisites. Colchi-sal capsules and betul-ol (methyl-oleo-salicylate) are lines that promise to come into fuller favour.

A formidable list is that which we have classed together as

Dietetics.

Armour & Co., London and Chicago, have the coveted position facing the main entrance, and No. 1 in the catalogue. Mr. E. W. Jones, assistant-manager, was in charge of a carefully-arranged selection of the well-known Armour digestive-ferments and animal products. They have now three strengths of scale pepsin—B.P. (2,500), U.S.P. (3,000), and double B.P., a fine, bright, granular form, and an insoluble form for dispensing in powder or cachets. The firm have given much attention to the perfecting of their essence of pepsin, a nice-looking preparation of a fine sherry colour, of delicate flavour, and well suited as a *post-prandial* liqueur for dyspeptics. The newest point about Messrs. Armour's glycerole of pepsin is that glycerin pepsin, B.P., can easily be prepared from it, a formula for this being given in a neat little monograph on pepsin the firm are presenting to chemists. Other admirable preparations are glycerin pancreaticus, peptonising tablets, very prettily sugar-coated, and lactated pepsin, of which there is a quite new 1*s.* size. Preparations of the thyroid and the whole organo-therapeutic series are also a strong feature, and Messrs. Armour issue literature bearing on this to chemists wishing to cultivate the connection with medical men. Stand 1A was devoted to vigoral and Armour's extract of beef, the former being dispensed with soda-water after the American fashion.

The Fairchild Digestive Products (Fairchild, Brothers & Foster) had a prominent site occupying 78 square feet. The main points about the three principal products shown—panopepton, pepsencia, and the peptogenic milk-powder—were briefly detailed in these columns recently. The last is for making fresh humanised milk in the house; the second should be welcome for making junket and whey at this season. The first is a peptonised elixir, containing all the nourishment of beef and bread, preserved in sherry.

Another medicinal champagne was exhibited by Hertz & Collingwood—the coca-tonic champagne—which consists of an old matured wine of good quality with an added standardised extract of the leaves. Mr. Squire, of San Remo, was looking after the interests of the firm on behalf of this and of the "sans-sucre" Laurent-Perrier champagne.

Lipton (Limited) had a roomy pavilion specially erected for the dispensing of their extract of beef and fluid beef. Bovril had, of course, an advantageous position, and its qualities were scientifically explained to callers. Vimbos was also in evidence, and available for sampling. Brand's meat preparations for invalids were there to remind the profession of their genuine character, and the Valtine Meat Globules (Valentine's patent) had a good place. Hall's Wine appeared with its usual richly-appointed exhibit and the Astley-Cooper picture; and Glendenning's beef and malt wine, composed of Alto Douro port, Kepler malt-extract, and Mosquera beef-jelly; the same makers' kola and coca-wines, and Serravallo's ferruginous wine of Peruvian bark were also in evidence.

Maltine had an excellent position, as usual. There is nothing new to record about it, except that it differs from other malt-extracts in that it contains the principles of wheat and oats in addition to those of malted barley. In connection with the Carnrick products, a fine model in clay of a British beeve was attractive. The "D.C.L." Malt-extract was effectively displayed. The makers claim that, being extremely large buyers of grain, they have the best choice of the type of barley best suited to the purpose. Mr. M. Hoff was on the spot with the Johann Hoff Malt-extract. From malt to cod-liver oil is a convenient step. Möller's scientific work on the chemistry of cod-liver oil has identified the product associated with Peter Möller's name and revealed the distinct individuality and superiority of this oil. Mr. H. E. Hall had this exhibit under his charge. Accurate models of sound livers of cod, and of all kinds of livers (diseased and not belonging to the cod) were exhibited, in order to emphasise the fact that Möller's oil is only made from the first-mentioned. The medicinal value and the perfection of the pharmacy of Scott's Emulsion is established, if need be, in recent reports by the *Lancet*; the emulsion has the appearance of cream, and when shaken with water the liquid looks like milk.

Cadbury's cocoa had, as usual, a dignified position. G. Van Abbott & Sons showed foods for diabetics,

dyspeptics, and invalids, and in obesity. A hypophosphite of lime biscuit, each containing 5 gr. hypophosphite of lime has obvious advantages for delicate and rickety children. The process of the manufacture of gluten from wheat was illustrated, as was also the preparation of the soya bean for the manufacture of anti-diabetic bread. CALLARD & Co., 65 Regent Street, London, W., also exhibited starchless and sugarless foods for the diabetic, obese, and gouty. HORLICK'S malted milk had a good position. PROTENE, also shown, is a pure powdered preparation of milk-proteids, sterile, and free from any foreign substance. It is believed to overcome the insufficiencies of gluten preparations as a food for diabetes. NUTROA, another of the numerous food-products shown, is a starch-free food for the artificial feeding of infants and invalids, rich in fat and flesh-formers.

FELTOE'S "Specialité" lime-juice was there too. Milks must be noted next: there were the favourite MILKMAID BRAND and the combinations of cocoa, chocolate, and coffee and milk, and the "Ideal" milk, unsweetened, sterilised, and enriched with 20 per cent. of cream, which it exactly resembles in taste. NESTLÉ'S Swiss Milk and Food, and his special brand of unsweetened milk, the "Viking," "full of cream." The only filters exhibited were the PASTEUR-CHAMBERLAND, in the familiar patterns.

MELLIN'S FOOD should have been mentioned before. There is nothing new to say about it except that it goes on booming. A fairly recent introduction by the Mellin's Emulsion Company, although distinct from it, is "Vivis," and although we have described it before, we may say again that it is a milk-like beverage containing eggs and other nutritive ingredients flavoured with a *soupçon* of brandy. It is recommended to cyclists as a light nutritious beverage.

CEREBOS (LIMITED), Newcastle-on-Tyne, and pepsalia, well-known digestive adjuncts, were to be inspected; the former contains a definite proportion of mixed phosphates such as exist in bran. Turtle-soup and other specialities for invalids, made by Benvoist's, Piccadilly, London, and exhibited by Mr. H. Lawrence, 47 Strand, complete the list of comestibles, unless we include "ALBENE," the edible vegetable fat which is being advocated as a substitute for lard in ointments.

WATERS

THE APOLLINARIS COMPANY (LIMITED) made an excellent impression with their four waters — Apollinaris, Apenta, Johannis, Friedrichshall. The royal warrants granted to the company by the Queen and the Prince of Wales entered effectively into the scheme of decoration, which included the rather happy "Polly and Scotch" show-card, and the well-known Linley Sambourne one—"A great reduction on taking a quantity." This anti-obesic quality of "Apenta" the company are emphasising, and are issuing a neat card tabulating what is forbidden and permitted during treatment.

INGRAM & ROYLE (LIMITED) are re-introducing the barium water from the Llangammarch wells in Central Wales, and showed here also the natural Carlsbad salts and Hunyadi János. Mr. Andreas Saxlehner also exhibited Hunyadi János independently as usual, making much, and justly, of the highly satisfactory report of the *Lancet* commissioner on the spring and the constancy of its composition.

KRONTHAL WATER also made a good show—the three varieties were also here.

MESSRS. JEWSBURY & BROWN made a strong exhibit of their popular aërated waters in syphons, which are gaining in favour in Edinburgh and the North. Several medicinal waters were also included, one, which has been found of great value in gout, containing 5 gr. of piperazin and 5 gr. of phenocoll hydrochloride in each half-pint. AËRATORS, which were first introduced to the trade through the medium of the *C. & D.* fully two years ago, are rapidly gaining ground. They are little steel cylinders filled with carbonic-acid gas, and a bottle of special construction enables one to carry about one's soda-water machine in one's pocket. The natural mineral waters of Leamington Spa and Harrogate are advertised by the enterprising municipalities of these places.

STOWER'S lime-juice cordial and clarified lemon-squash was shown by Messrs. A. Riddle & Co., who also represented the Cusset-Vichy mineral waters from two of the richest and purest springs in the Vichy Valley.

DISINFECTANTS AND ANTISEPTICS.

SANITAS in its innumerable applications, IZAL, now officially adopted by H.M. Government, JEYE'S sanitary specialities, branalcane and creolin, had their usual places.-J. ROBERTSON & Co., chemists, Edinburgh, had their "Boro zine" cream and antiseptic dusting-powder. It combines the qualities of boric acid and oxide of zinc. They also showed pharmaceutical specialities. A. & M. ZIMMERMANN, in addition to exhibiting on behalf of Schering's, showed the FORMALIN HYGIENIC COMPANY'S specialities, the "Alformant" lamps and Trillat's autoclave, by means of which large quantities of formic aldehyde may be generated from a mixture of formalin and chloride of calcium (formochloral). PRICE'S PATENT CANDLE COMPANY may conveniently be taken here, as their principal feature, next to the pure glycerin, is that of sanitary soaps and a new "surgeon's" soap containing 2 per cent. mercuric chloride. The old familiar TIDMAN'S sea-salt had a good position. BROOKS & Co., Dublin, showed sol. iodi. (Downes), the advantage of which is that, while the iodine is freely absorbed, no irritation or vesication is produced. "AMIRAL" soap, shown at an adjoining stand, is said to reduce the measurement of the hips or waist 3 to 6 inches in a month or six weeks (retail price, 8*s.* a box of two cakes).

SURGICAL DRESSINGS.

J. F. MACFARLAN & Co., London and Edinburgh. The leading line here was chloroform and morphia, of both of which the firm are large manufacturers. They were the first to prepare antiseptic dressings for Lord Lister, when he was professor of surgery in the University of Edinburgh. A full range of surgical dressings and bandages was shown, including the plaster-of-Paris bandages in tins, and an improvement in catgut ligatures, which are now treated with formalin, and rendered capable of being sterilised by boiling, which was not hitherto possible with catgut as ordinarily treated. Catgut in balls, each containing 12 feet, is a suggestion of Dr. Charles Cathcart which the firm have adopted, and it is also put up in 9-inch tubes with rubber corks. "Holyrood" table-water is a pleasing localism which is taking well. Malted milk is another speciality of the firm.

ROBINSON & SONS (LIMITED).—The science of antisepsis, as applied to dressings, was well represented here, and Messrs. Robinson keep in touch with progress in this direction. The firm's "Mene" towels have proved a great success. A strong point about them is not only their absorbent, but their marked diffusive, quality. The "Mene" accouchement-sets at 10*s.* and 1*l.* 1*s.* are practical outfits.

THE LIVERPOOL LINT COMPANY had their usual business-like display of lints and cotton wools, bandages and dressings. A dressing that should prove useful for the application of ointments or for water dressings is "Protective" lint, which has attached to its smooth side a waterproof material. It is put up in a convenient closed tin case and hanger. The firm also do well in chest-protectors. The "Beraudine" patent natural antiseptic and deodorant wool was exhibited by BRION, PATÉ, BURKE & Co. This material is made into various dressings and into accouchement-sheets and hygienic "towelines."

HARTMANN'S wood-wool preparations were well displayed, with a nurse in attendance to explain their qualities. The regular series is well known; there is now a sterilised wood-wool wadding and tissue. The Hartmann halfpenny hygienic towelettes have become exceedingly popular.

In sanitary pottery C. T. MALING & Co., Newcastle, exhibited some improvements in earthenware bed-pans; and JOHN FORD & Co., glassworkers, Edinburgh, made a show of chemical glassware and glass urinals and douches.

Of the surgical-instrument makers there were many, but we cannot deal with them this week.

One feature of this annual museum was wanting, Messrs. Burroughs, Wellcome & Co. not having come north, for the reason, we understand, that the accommodation available was not suited to the scale upon which they prefer to appear. And the Celt on his native heath is "dour" when he makes up his mind.

Our Town Traveller

TRADE is dull with some sundries houses in London just now, and when you ask them Why? they speak about a recent event, holidays, and other interesting things of that nature. It has, however, been a good year's business on the whole, and I fancy no department has been so lively, certainly none brighter, than that of

Household Dyeing.

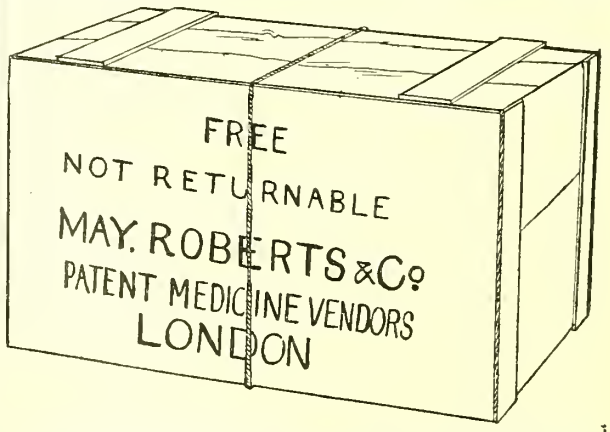
Thrifty women have found out that faded blouses and children's dresses, ribbons, hats, and so on can be made new again with a dip in a dye-bath. It seems to be a sort of renaissance, if I may be allowed to use the word, and the credit of the movement belongs to a gentleman called Mr. Deakin, who some three or four years ago, during the coffee-curtain period, discovered a soap which would give curtains the popular shade, and would not soil the hands in the doing thereof. Why not carry out the same idea in other colours? he asked; and the result was that he and his chemist worked hard, and soon they had a nice line of such soaps, and Maypole soap blossomed before the public with a clean hand and a dirty one to show the actuality of the new idea. I remember calling in at 98 High Holborn before Mr. Deakin had taken down his shutters, and matters looked a bit chaotic then; next time I passed on the knifeboard, the place was gay, and so it has gone on, the upright hands which o'ershadow the window apparently having shed a blessing upon the enterprise. I had a talk with Mr. Deakin one day last week, when he told me that of all the soaps they have made the most difficult colours to hit were navy-blue and black. The experiments upon these alone extended over a year and a half. The manufacture of the soap (by the way, all done in England) is a simple enough affair, the secret being in the art of selection of the dyes and combination of them with the basis. The compounds resulting differ from ordinary dyes in being cleaner to use; they are brighter in colour, give finer lustre to silks and satins, and the soaps may be used for any kind of material. The company have houses in New York, Capetown, Sydney, Brussels, Copenhagen, and agencies in nearly all continental centres. Shipments are made in large quantities direct to South America, where the bright colours produced seemed to have specially caught on. As to Australia, Mr. Deakin remarked to me, "The first year we went out there—'97—I reckon we sold one cake for every four people in Australia." While the quality of the article has no doubt brought it popularity, this also has been excited by clever and persistent advertising. What they have done by newspapers, magazines, and posters is known to all; but it may not be so well known that the company have a kind of peripatetic lecturers going about. These are young ladies, who give public demonstrations of the usefulness of the Maypole soap. There are also window-dressers engaged, who decorate retailers' windows at the rate of three hundred or four hundred a week. The distribution of samples is another plan of campaign which is assiduously pursued under the direction of commissionaires. A new department which the company have recently started is a "Free advice by letter" bureau. The object of this is to prevent householders from spoiling their garments by using the soap improperly; so they send free advice and full instructions to all inquirers. This department has only been instituted for a short time, but already there are four or five typistes kept busy writing advice-letters. I felt envious of the progress of woman when I heard that the American Maypole Company employ only lady-solicitors (out there that is, I understand, what they call a canvasser), who go from house to house and show what a cheer and charm to women are the Maypole soaps.

A Bonus for May, Roberts & Co.'s Customers.

"Just the man I wanted to see," said Mr. Roberts, as I hove to in Clerkenwell Bay; "come upstairs." He led the way, and I followed—floor after floor, and through avenues of patent medicines, labyrinths of pill-boxes, and thickets of feeding-bottles. "How many acres of floors do you fill, Mr. Roberts?" I asked, as we landed in a quiet little room at last where cripples are fitted. "Six floors, 60 feet by 100 each," he answered; "how much is that in acres?"

I could have told him a long way back in the century; now I depend for all that sort of lore on Sir George Newnes's monster table-book. Moreover, I don't believe Mr. Roberts knew himself, so we glided gracefully from trigonometry to business.

"What had you to say to me?" I asked with some trepidation, for the *C. & D.* has a rare faculty for getting into trouble. But there was nothing wrong this time. "We are to make a new departure," said Mr. Roberts. "From August 2 we shall not charge for packages to customers in the United Kingdom." "So you are getting too much profit?" "Well, not so much that as that we shall save both to ourselves and our customers endless bother." "How much does this mean to the customer?" "A minimum of 8*d.* on every package, and rising to two or three shillings. Besides which, we shall practically supply him with firewood. I ought to say this is only an experiment. We shall adopt it for two or three months at any rate, and if we find it appreciated I hope it will be a permanent system. Of course we shall still charge for cases exported. We can't afford to give them away. We shall save wages of several clerks and packers by this arrangement, but there is one respect in which we shall probably be worse off. It happens many times, when customers have written to us complaining of something being omitted from their parcels, that we have found the



article after we have allowed for it in the returned package. And this reminds me of another plan we have adopted. We always give the gross weight of every package we send out on the invoice as a check on the carriers."

"What sort of packages are you going to give?" "They are down on the packing-floor; will you come and see them?" So we traversed the 60,000 feet again, and found the cases all ready for August 2. They seemed strong enough for all ordinary druggists' sundries, but when heavy bottles of liquids, &c., are included in the order more substantial boxes will be used.

So one more of life's little troubles in the drug-trade is on the way to annihilation.

SOLUBLE ESSENCES.

Calling in at Stevenson & Howell's, 95A Southwark Street S.E., one day last week, I found the premises (redolent, as usual, of sweet-smelling odours) had been remodelled, with a view to facilitating increasing business. In the course of a walk round searching for novelties I picked up some interesting details of the progress the firm are making, the export department being the one which just now is advancing by leaps and bounds. Hanging in the directors' office I saw the original water-colour drawing of a new showcard (representing polo-playing), which is being issued to the export trade with a view of bringing the "Polo tonic" to notice. This essence has a well-blended taste and smell. It makes a beverage suited for high-class trade. Other essences recently introduced or just now finding favour in our colonies are the "Iron brew," "Cinchona tonic," "Kola champagne," "Ginger stout," and "Lemon squash." The last-named makes a cloudy beverage with a fine lemon flavour. Our conversation turned on ginger-beer brewing, which, as everybody knows, is the *pons asinorum* of the mineral-water trade. Worries on the score of spoilt batches need not now occur, for the firm have brought out a new essence of stone ginger-beer. Brewing and fermenting are entirely dispensed with, yet a product is made having the exact appearance and taste of brewed ginger-beer and absolutely free from alcohol. I tasted some of the beer made in this way, so can testify from personal knowledge of the resemblance to the brewed kind. When in the laboratory I was shown several novelties in soluble essences not yet quite ready for the market, and I tasted a remarkable non-alcoholic beer made from S. & H. essence. Up to this point in my life I had thought I could tell real beer when I tasted it, but this sample is calculated to deceive the very elect. I took away with me a copy of Stevenson & Howell's "Aërated Waters, Cordials, &c."—a standard work on aërated-water making, which no maker would wish to be without when once he had seen the scope of it.

PALATINOIDIA.

Messrs. Oppenheimer, Sons & Co. (Limited) have been flourishing close by the side of the Thames for some months, but on each of my previous calls carpenters and

painters were sharing the offices with the representatives of palatinoidal pharmacy. I called in again quite lately and found everything lovely. The ground-floor of the building is the Blackfriars Station of the District Railway, and is just on the City side of Blackfriars Bridge. The Victoria Embankment begins on the opposite side of the road at De Keyser's Hotel, and from Messrs. Oppenheimer's windows there is a fine view of the good old river, spanned by Waterloo and Westminster Bridges, with Northumberland Avenue and the Houses of Parliament in the distance, representing some of the finest of modern London architecture, only marred by the great roof of Charing Cross Station, which interposes its barn-like beauty into the perspective. Messrs.

Oppenheimer are to get us a photograph of the view from their window, and to get Charing Cross Station removed, if they can, before it gets a chance to offend my asthetic eye again.

Closing that inconvenient orbit for the moment, I turned its commercial fellow in the other direction. The office is nearly all I should wish for. Some years ago it was an Oriental Restaurant, but in that capacity did not catch on. Then General Booth acquired it for the Salvation Army. Messrs. Leafs, the great wholesale drapers, next made use of it as dormitories for some of their staff; and now it seems to have met with its rightful affinity in Messrs. Oppenheimer. One lofty, bright, spacious saloon with lincrusta decorations on the wall, and a very tastefully-adorned ceiling, furnished with a couple of dozen of large black oak tables, looks as if work in it must be a pleasure. And, as far as can be judged by appearances, the thirty or forty young lady-clerks, who do most of it, seem to find it so. There is another floor above, and there are a waiting-room, a sample-room, and a directors' room. But none of the manufacture is to be seen here. I am going down to the works at Kennington one of these days to see the palatinoids made, and then I may have something more to write about.

WINE-LICENCES.

Noticing the trade-note last week intimating that Mr. Holloway, of Holloway's Coca Wine Company, had been doing a lively thing in wine-licences, I called to ask that gentleman if he could give me a few hints as to procedure which would aid chemists in getting through the curriculum and examination by magistrates necessary before a retail wine-licence can be granted.

"Certainly," said Mr. Holloway. "The easiest way is to write to us, and we will supply the necessary notice-papers, and tell them exactly what to do." "That is, if they are going to buy from you?" "Naturally, we expect that." "Yes, but I am thinking of those poor unwise chemists who have not yet made up their minds to deal with you." "Well, I don't know that I am much interested in them," said Mr. Holloway, smiling. However, his humanitarian passion soon conquered his commercial instincts, and he went on to tell about his experience.

[As Mr. Holloway's hints are generally covered by the article on the subject which is printed on page 189 of this number, it is not necessary to repeat them here. It may be useful, however, to give his report of a typical conversation at the court when the chemist appears, as he must, to ask for his certificate.]

Magistrates' Clerk: Mr. Blank, I believe you are seeking to obtain a wine-retailer's licence. Have the usual notices

been posted?—Yes. One on my shop-door for two consecutive Sundays, one on the parish-church door for the same period, one has been sent by registered letter to the Superintendent of Police, and here are the local newspapers containing such notice for two weeks.

Did the Superintendent of Police have notice of this twenty-one clear days of this date?—Yes.

How long were these notices affixed to shop-door and door of the church, as mentioned?—Between the hours of 10 A.M. and 5 P.M. on each Sunday.

Where is your witness to these notices being exposed?—Here; my assistant, Mr. Jones.

Have you any references as to character, &c., Mr. B.?—Yes; but I should have thought it scarcely necessary the many years I have been in business here.

We must comply with the regulations, and the Magistrates can demand references.—Of course, I have come prepared.

Chairman: What wine do you want to sell?—Foreign wines; but principally medicated wines.

If you give an undertaking to sell only medicated wines, we can unhesitatingly give our consent.—I am sorry; but I do not think the law provides for any such condition. But my principal business will, no doubt, be in medicated wines.

[Whispered conversation between the Clerk and Bench.]

Chairman: You see, Mr. Blank, we have a strong objection to granting new licences, and there is a prejudice against chemists selling wine.—But my customers are going every day to the wine-merchant and grocer on either side of me for coca, meat and malt, and other wines prescribed for them by medical men. At the same time, I beg to inform the Bench that they cannot refuse my application without some valid reason.

Magistrates' Clerk: That is so. Your Worship cannot chop up a licence, and, as long as the details of the statute have been observed in making the application, as they have been in this case, there is no help for it.

Chairman: Granted.

Stipendum Stoppers.

While walking along Holborn I stood at a well-known chemists' window in which was a display of saline, &c. It was a hot day, and the effect of this upon the boxwood stoppers was frightful. The costly things were cracked in all directions, and what particularly struck me was that some "stipendum" stoppers were alongside them, and they were perfectly unimpaired. I mentioned the matter to the company when I called at their place in Lamb's Conduit Street, W.C., and they said that was one of the great advantages of all the stipendum goods. They stand heat and knocking about to any extent without breaking.

A £100 Shop.

Calling on Messrs. Philip Josephs & Son, of Old Street, E.C., I found, what I had not seen before, one of the firm's 100*l.* set of chemist-shop fittings, all set up as a temporary exhibit prior to being shipped to Durban, Natal. The set comprised two mahogany wall-cases, one 16 feet long, with drug-drawers, cut-glass knobs, and labels complete. A notable feature about these was the good finish and tastefully-carved pilasters or "trusses," as Mr. Josephs technically termed them. I saw several other carved trusses just out of the hands of the carver and before they were stained, and they were rather nice and made of good wood. The second wall-case had the usual cupboards, with glass fronts and movable shelves. On the top of the glass-fronted counter there was a 6-foot bent-glass case with velvet-lined sliding-trays, a tooth-brush case, perfume-case with a mirror-lined back, and a mahogany writing-desk. Dispensing-screen and window-enclosure completed the lot of cabinet-work. "Muranese" glass, which is used for the latter, is like "frosted opal," and it is a pretty variant and distinct improvement on the ordinary kind of glass used for the purpose. Besides all these things, the 100*l.* lot included "English hand-made bottles with handsome shield-shaped labels, pink dome-topped ointment-jars," and a multitude of other interesting items which Mr. Josephs detailed, and if I had not seen them all I should have thought it difficult to supply them for the money.

Novelty Notes,

To which are added some New Ideas, Comments on Price-lists, &c.

BEAUFOY'S ACETIC ACID.

A sample of this well-known acid has been sent to us by the manufacturers, Messrs. Beaufoy & Co., South Lambeth, S.W., to show that it conforms to the more stringent British Pharmacopœia requirement, especially in regard to the permanganate-test. The acid is beautifully bright and water-white. We find that it estimates 33 per cent. of real acid, and stands the permanganate-test admirably.

EUCRYL DISINFECTANT.

Eucryl is a new fluid disinfectant which Major & Co., Hull, are introducing. It is an oily-looking liquid, and mixes with water to form a slightly milky fluid. It is guaranteed to contain 50 per cent. of coal-tar acids. Eucryl is put up in square green bottles to sell at 9*d.* and 1*s.* 6*d.* Bath-eucryl is a form of eucryl for use in the bath. It contains 10 per cent. of pure phenol, and is sold in 1*s.* 6*d.* and 2*s.* 9*d.* bottles.

ROSBACH WATER.

The Rosbach springs are near Homburg, and it is evidence of the growing popularity of this table-water that the German Government have commenced the construction of a junction-railway which will pass close by the company's territory, and will have a siding into their works. Year by year the Rosbach water is gaining favour in this country, and well deserves its excellent reputation.

HIGGINS' PHOTO-MOUNTER AND TAURINE MUCILAGE.

are articles made under letters patent. A firm in the United States seemed not to appreciate the fact, and for nearly two years have been defending an action brought against them by Messrs. Chas. M. Higgins & Co., the patentees (whose London address is 106 Charing Cross Road, W.), for infringement of the patents. Now the defendants have admitted the validity of the patents. This interests all who sell Higgins' specialities, therefore we mention the matter.

VELOX PAPER.

Messrs. John J. Griffin (Limited), 22 Garrick Street, Covent Garden, W., are finding continually increasing demand for "Velox" paper, for which they are the British agents. We have previously mentioned the ease with which this new photographic paper can be manipulated, and can only add that further trials are calculated to make one think that the limit of perfection indeed has been reached. Photographic chemists should certainly stock "Velox," as the agents are doing all they can, by means of free samples, to make the paper known, and it is sure to be in great demand with the photographic public this year.

EUCAINE AND FORMALIN.

It may be well for dispensers to note that E. Schering's Company (agents, Messrs. A. & M. Zimmermann, St. Mary-at-Hill, E.C.) have changed the names of "Eucaine" A and B to "Alpha-Eucaine" and "Beta-Eucaine." In each case the hydrochlorides of the bases are implied. We received from the company the other day a pamphlet (in German) on the uses of formalin as an antiseptic and disinfectant. Similar information is obtainable in English from the agents, but in the German pamphlet there is described and figured a new cabinet for sterilising surgical instruments by means

of formalin. It is a metal cupboard with three wire-gauze shelves, with a space at the side for a formalin lamp. The cupboard may also be used for sterilising books, papers, banknotes, and other small articles; this system of sterilisation being as effective and infinitely safer than sterilisation by heat.

MERCK'S CHEMICALS.

Mr. E. Merck, 16 Jewry Street, E.C., sends us a sample of cocaine hydrochloride in large crystals, which he has now introduced at the request of customers. The hydrochloride is in crystals weigbing 1 gr. or more, a grain crystal being about the size of a 1-gr. pill. We find it to be a cocaine of exceptional purity, answering MacLagan's test, by giving the separation of hydrate crystals and leaving the supernatant solution quite free from opalescence—a sure indication of the absence of isatropyl cocaine, the toxic by-product.

Pulv. iodoform. leviss. is another new chemical made by Merck. It is a very light powder of crystalline appearance, reminding us in touch and lightness of pulv. acid. boric. The special advantages of this powder are that it dissolves with great rapidity in ether, and owing to its softness and lightness it is nicer than the ordinary powder for dusting wounds.

ADAPTING ARTIFICIAL TEETH.

Those who have the misfortune to require artificial teeth are aware that the preliminary treatment is about the worst experience that man or woman can go through. After the advanced dentist has worked his will on the mouth he leaves it toothless, or with big gaps, "until the gums have shrunk," which may mean anything from a fortnight to two months. The patient lives on slops, unless he is a Scotchman, when his favourite oats may sustain him more and give a better colour to life than the Englishman's slops do. The only way to avoid this misery is to let the artificial teeth have their chance by getting them put in a day or two after the extraction. Some lucky people have found that admirable, but to nine out of ten it is prolonged misery. The gums shrink here and swell there until the pain becomes unendurable; in most cases the teeth get into a habit of dropping down at a most awkward moment, or, if they do not, they press unduly upon the gums. There has been no remedy for all this, except repeated visits to the dentist, until recently, when a Dr. Clarke, who had gone through the trouble, devised what is called rubber-oil enamel, which is a composition similar in appearance (and, indeed, in composition) to the vulcanite of which "cases" are made. To make a bad-fitting set of teeth fit like a glove one has only to paint a few layers of the composition over the inner side of the case (previously heated), press it in the mouth, remove, and, when the composition sets, trim it. It is an excellent invention, which works well, and there is good business in the stuff for chemists. It sells in nice pink jars, at 3*s.* 6*d.* per jar. Messrs. May, Roberts & Co., Clerkenwell Road, E.C., are the wholesale agents.

CHLOROBROM.

We understand that the manufacturers of this well-known hypnotic are making arrangements for pushing its sale, and chemists would do well to be prepared for a demand. We have had the opportunity of noting the beneficial effects of the preparation in insomnia, when other remedies, supposed to be the same, had failed; and the late Professor Charteris was enthusiastic about its efficacy in sea-sickness. Messrs. Burgoyne, Burbidges & Co., Coleman Street, E.C., print a neat pamphlet on "Sleeplessness and its Cure," which chemists should write for.

NEW TRADE-LISTS.

Messrs. Bourne, Johnson & Latimer have lately published a new edition of their illustrated priced catalogue of druggists' sundries.

Messrs. Davies, Gibbins & Co., of Derby, have issued a third edition of their price-list of pearl-coated pills, granules, cachets, tablets, capsules, lozenges, and veterinary preparations. In a compact compass they quote for over 500 formulæ.

The London Photographic Supply Company, 134 Borough, S.E., have sent us a copy of their new price-list. It is a bulky list of some 600 pages, and will be sent free to photographic dealers in any part of the world on receipt of trade-card.

Mr. H. F. Purser, 33 Hatton Garden, E.C., is the English agent for the Rathenower Optische Industrie-Anstalt (late Emil Busch). The lenses of this firm are only supplied through photographic dealers, so that chemists will do well to get a copy of the new price-list just issued, and be ready to answer inquiries from prospective buyers.

We have just to hand a copy of Voigtländer & Sohn's catalogue of photographic lenses. Many of our readers will be quite familiar with Voigtländer lenses, as they have been before photographers for many years, and were first made in 1756. This firm make a point of keeping in the front in all matters of lens-construction, and claim to be the first opticians to make use of Jena glass for photographic lenses. The works at Brunswick were rebuilt in 1893, the factory being one of the most complete and up-to-date ones in the world. The London office is at 92 Hatton Garden, E.C.

Mr. Max Hilbert, for many years in the trade in London, has established himself at Hamburg as a general merchant and exporter of soapmakers' machinery and materials. We have received from him a very finely-produced illustrated catalogue showing all the varieties of machines, moulds, and materials, including essential oils, compound perfumes, and colouring matters, required in the soapmaking industry. These are all priced, and the machines are so clearly illustrated that they explain themselves. Mr. Hilbert is open to reciprocate with his British customers by introducing their manufactures to the German market, and he further offers a "zone system" of discounts, ranging from 1 per cent. on business amounting to 100*l.* a year, to 3½ per cent. on business reaching 1,000*l.* a year.

* * * *

We learn from Messrs. Singleton & Cole (Limited), Birmingham, that since the conversion of their business into a limited company it has been going on well. In about two months they will complete their extensive new premises, which will enable them to cope more effectively and expeditiously with increasing trade.

* * * *

The secretary of the General Electrolytic Parent Company (Limited) informs us that the diaphragm of the Hargreaves-Bird's process, which we illustrated and described last week had been in continuous use for eighty (not thirty) days of twenty-four hours each. He adds:—"Thirty days is the period we have allowed in our estimates for the average life of the diaphragms, but it is evident from the results given by this one that in all probability their lives will be very much longer. As to the thickness, we generally make them ⅛ to ¼ inch thick, but the extreme edges appear to be thicker, and this fact may have misled your representative to say that they are ½ inch thick."

ENTERIC FEVER is now being successfully given in Meerut for enteric fever. Half a pint at a time is the dose. It is a favourite Spanish-American remedy.

Correspondence.

In writing letters for publication correspondents should adopt a concise, but not abbreviated, style. They are requested to write on one side of the paper only. Letters, with or without a nom-de-plume, must be authenticated by the name and address of the writer. Queries should be written on separate pieces of paper, and the regulations printed under the sections to which they apply should be strictly observed.

Notice to Correspondents.

Dr. Tanner, M.P., on the Poisons Bill.

Sir,—In reply to yours *re* Poisons Bill brought from the Lords on July 4, I see by this day's Parliamentary list of public Bills that, first, no day is named for its introduction into the Commons, and, second, that no name is down as backing it. We shall probably hear no more about it; if we do I shall take steps to oppose it, and would then trouble you for further facts. I am very faithfully,

House of Commons, July 25. Charles K. D. Tanner.

[Dr. Tanner has apparently overlooked Mr. Balfour's statement that the Poisons Bill will not be proceeded with. All the same, chemists will be glad to know that he is to oppose it if it comes forward next Session.—Ed. *C. & D.*]

A Peacemaker.

Sir,—Now that the Pharmacy Amendment Acts have become a reality, the last stumbling-block has been removed that may have prevented many qualified chemists from joining the Pharmaceutical Society. In future, chemist and druggist members will have an equal voice with the pharmaceutical chemist members in the direction of pharmaceutical affairs. I consider it the duty of every registered man to avail himself of this privilege. With a numerically stronger organisation, one that should consist of every registered chemist, the Pharmaceutical Society could go with much greater authority to Parliament and introduce a Bill that would vindicate our position, amongst other things kill that parasitic growth the drug company, exempt us from jury-service. They could bring pressure to bear on the sale-regulation of carbolic acid, and further any other just interests that might arise. Through your influential journal—for it reaches many who are non-members—I appeal to all registered chemists outside the pale to join the ranks of the Society, and I also appeal to you, in your capacity of influence, to use it for the same purpose and strengthen the mutnal alliance. Much is lost by division but much more by derision, so bury the hatchet. Yours truly,

July 25. F. W. Taplin.

Weed-killer.

Sir,—It is evident from frequent cases of poisoning by liqnid weed-killer that an amendment of the regulations relating to the sale of arsenic is necessary. At present, soot and indigo are the only colouring-substances recommended, and neither of these is any use in a dilute solution. If aniline green or blue were added in such proportion as to give a decided tint to even the weakest solution, there would be no chance of accidental poisoning such as happened at Crieff last week. W. C.

Dundee, July 23.

Wake up, London Wholesale Druggists.

Sir,—Allow me through the medium of your well-known weekly to call attention to a failing that might be remedied on the part of some of our first-class London export firms—viz., the great length of time taken to execute an order for France, which often is the cause of much annoyance and inconvenience, both to the pharmacist and his *clientèle*.

We, as Britishers, are considered to be first, and above all, good business men. In general, this is the one point in which a foreigner will acknowledge our superiority.

Now, it cannot be that this state of perfection has been attained in that branch of commerce connected with us—the export drug department—since, if it were so, four or five weeks would not elapse between the "ordering" and "arrival of goods for such a short distance even from England as the seaside resorts on the northern littoral of France—towns which are only the matter of a few hours' run from our southern ports. In the South as well as the North this delay is justly a cause of complaint on the part of French pharmacists, and when hoping for a more prompt execution of orders I feel that I echo the sentiment of everyone who is, like myself, An English Assistant. (251/42.)

Boulogne-sur-Mer, July 25.

Liquor Strychninæ Hydrochloridi.

Sir,—Mr. Martindale could quite well understand from the context of my letter that 1 in 108 and 1 in 110 referred to grains and minims. There are none so blind as those who do not want to see. Ten per cent. of a dividend is not more appreciable than 10 per cent. difference in a potent preparation. Yours truly,

Edinburgh, July 23. George Lunan.

The Company Clause.

Sir,—Mr. Farrow, in his letter in *C. & D.* of July 23, perhaps asks too much of you; but a crusade initiated by you against company pharmacy must, at this moment, suggest itself to many.

I should be happy to subscribe a guinea to a fund for that purpose, and, should it "come off," further subscribe myself. Yours gratefully,

Chas. C. H. Cadge.

[No journal or individual can do anything with Parliament if the representative body of pharmacy is pulling the other way.—Ed. *C. & D.*]

Sir,—By abruptly cutting short the correspondence under the heading of "Drug Companies Threatened" the *Daily Mail* doubtless deprived some chemists of the opportunity of answering Mr. Boot's triumphant blast. I consider it only just to chemists and fair to the public that certain errors conveyed by his letter (advertisement I had almost said) should be pointed out. It is only fair to the public, inasmuch as they cannot be expected to rightly judge the matter should their reasoning be based upon inaccurate premises, or their minds be biassed with the incessant vilification of that unfortunate member of society—the chemist and druggist.

Mr. Boot's assumption of the "new championship" is hasty; but his self-gratification at his imaginary victory is ludicrous and, of course, theatrical. His allusion to the *Harmsworth Magazine* and his modest claim for Harmsworth sympathy are ingenious, but totally irrelevant.

Mr. John Burns has said that no community could grant free trade in poisons, and has expressed his surprise that chemists were not better recognised by the State. Many members of Parliament have lately been greatly astonished at the long-suffering exhibited by chemists when they were made acquainted with the practice of pharmacy as it is conducted in other European countries.

It is a great pity that the new clause was withdrawn from the Pharmacy Acts Amendment Bill, for these limited drug-companies have simply existed through an erroneous interpretation of the word "person." It remains to be seen whether any Government will find it worth while to be satisfied with a condition of things that will gradually stamp out much valuable individualism and responsibility. Mr. Boot is emphatic in prejudging the result; but I, for one, consider it will be to the interests of the State to retain that useful member of the community—the chemist and druggist.

Policy. (250/22)

Legal Queries.

We do not give legal opinions by post. Information regarding most legal matters in connection with pharmacy will be found in The Chemists' and Druggists' Diary, *and in "Pharmacy and Poison Laws of the United Kingdom," and Alpe's "Handy-book of Medicine-stamp Duty."*

251/50. *Major.*—Difficulty in getting a certain proprietary article would not justify you in putting up an imitation n a style likely to deceive. You may imitate the medicine

as closely as you can, but you must make it quite clear that it is not made by the original manufacturer.

250/6. *G. T. J.*—You can make soap, compound camphor, belladonna, or aconite liniment with methylated spirit without special permission from the Board of Inland Revenue. But if you want to make a special kind of embrocation with methylated spirit you must send your formula to the Board of Inland Revenue, Somerset House, and get their authority. You may use rectified spirit in such preparations. You need not stamp any preparation which is advertised or recommended exclusively for veterinary use; but the "family embrocation" would require to be stamped. So would the others if in any advertisement or on any label you intimated that they might be used for human ailments.

247/71. *W. H.*—It has been decided in a case tried before Justices Hawkins and Wills in 1891 that the statutory exemptions from jury-service apply as much to coroners' juries as to others. The case was an appeal from a fine imposed by the Coroner for the Kingston division of Surrey on a solicitor's managing-clerk. (See "Pharmacy and Poison Laws," page 45.)

244/32. *Pater.*—A dentist, who happens to be a chemist and druggist, is quite competent to give an apprentice or pupil a certificate that the latter has been practically engaged with him in mechanical dentistry for the time he was with him after registering as a dental student; one year before registration is also permitted. The fact that the dentist is registered as being in practice before the Act, and that he is also a chemist and druggist, does not affect the matter, and the law does not say that a pupil must devote his whole time to mechanical dentistry; it simply places a check upon the extent of the mechanical skill by instituting an examination.

Miscellaneous Inquiries.

Notice to Querists.

We reply to subscribers and their employés only upon subjects of interest to other readers generally. When more than one query is sent write each on a separate piece of paper. When a sample accompanies a query full particulars regarding the origin and use of the sample must be given, and it must be distinctly labelled. Queries are not replied to by post, and those sent anonymously are disregarded.

251/32. *Felix.*—The syrup of black currants you send is of good flavour and colour. You should not, however, have used boiling water in preparing it, as you then dissolve out a quantity of pectin, which is the cause of the subsequent gelatinisation. To the cold water you use add a little formalin to prevent decomposition.

241/72. *S. R.*—W. T. Brannt's "Practical Scourer and Garment-dyer," 10*s.* 6*d.* (Low), will, we think, be what you require.

244/39. *S. C.*—**Wanklyn's Soap-solution** is made by dissolving **10** grammes of best Castile soap in **1** litre of alcohol. Each c.c. = ·001 calcium carbonate. As the solution does not keep well it is standardised by titrating with a standard hard water, made by dissolving 1·11 gramme calcium chloride in 1 litre of water.

244/18. *Ferrum.*—The pill you send is a Blaud's pill. Any pill-maker can supply them pearl-coated. Look in the buyers' index of the 1898 DIARY.

239/47. *H. P. J.*—You should give us the full formula of the mixture containing mag. carb. and mag. sulph. you complain of. There may be some chemical reaction from the other ingredients or in the tap-water, if such was used in this case.

244/55. *Lyndhurst.*—"Cérésine Jaune" is paraffin-wax, coloured to resemble beeswax.

245/58. *J. F. L.*—Sperm oil answers well for lubricating typewriting-machines.

245/26. *Antipyrine.*—Spray the medicated flannel with the following solution to give it a suitable odour:—

Pinol	℥ss.
Terebine	℥ss.
Eucalyptol	℥ss.
Alcohol (90 per cent.) to	℥iv.

243/60. *Cinnamon.*—Your sample of **Heading and Preserving Powder** for beer is a mixture of sodium sulphite 4 parts and powdered extract of quillaia 1 part. There is no "finings" in it.

249/57. *Shampoo.*—Your **Shampoo-liquid** consists of—

Yellow soap	℥iij.
Solution of potash	℥iij.
Oil of verbena	♏x.
Oil of lavender	♏x.
Burnt sugar	q.s.
Rectified spirit	℥x.
Distilled water to	Cong. j.

There is a rather better recipe in "Pharmaceutical Formulas," page 111.

248/16. *X. Y. Z.*—**Pomade.**—The following recipe gives a product resembling your sample:—

Yellow beeswax	1½ oz.
Benzoated lard	12 oz.
Olive oil	12 oz.
Palm oil	½ oz.
Oil of lemon	2 dr.
Oil of lavender	1 dr.
Oil of bergamot	2 dr.
Oil of rosemary	1 dr.

There are many other excellent recipes in "Pharmaceutical Formulas."

246/1. *F. E. R.*—You are using your aniline yellow (as lemon-squash colour) too strong. You must make allowance for the deepening of colour on adding acid. There are, however, yellows—such as thioflavin T, and quinoline yellow—which are not affected by acids.

249/12. *Cream.*—The **Cream-preservative** is a mixture of borax (3), boric acid (1), sugar (4). The "nutty flavour" exists only in your customer's imagination.

240/27. *Rex.*—The sprain-liniment is a mixture of green oils, turpentine, and oil of thyme; the female pill, an iron one. Your inquiry hardly comes within the scope of this column.

243/27. *W. E. H. E.*—**Calorific Fluid.**—Your sample consists of—

Menthol	℥j.
Oil of peppermint	℥j.
Spirit of ether to	℥ij.

Mix.

244/41. *Alpha.*—**Inhalation-fluid.**—The following is the nearest we can get to your specimen:—

Bromine	♏v.
Camphor	gr. xvi.
Creosote	℥ss.
Carbolic acid...	℥ij.
Oil of calamus	♏v.
Ether	℥ij.
Rectified spirit to	℥j.

Mix.

249/33. *Oleum.*—Petroleum can be thickened and solidified by means of soap (formed in contact) and vegetable saponifiers, such as quillaia; all the known processes, however, are covered by patents. Would not the addition of heavy petroleum oil be sufficient for your purpose? The oil used need not be of high quality.

249/38. *Nigel.*—**Slake Varnish.**—There was a formula for this in *C. & D.*, July 9, page 63.

246/40. *Quispel.*—You will find the *best* formulas for most things in "Pharmaceutical Formulas." There are good

recipes for nursery hair-lotion in *C. & D.*, April 2, 1898, page 563, and September 11, 1897, page 472.

246/51. *Birmingham.*—We cannot trace your query. Was it sent anonymously? We always drop such into the waste-paper basket unanswered.

222/13. *Radix.*—Linctus Glycerini:—

Acet. vel vin ipecac.	♏v.
Tr. camph. co.	♏xv.
Glycerini	℥ss.
Aq. ad	℥j.

248/71. *Hair-wash.*—We cannot trace the sample of hair-wash you sent.

246/3. *In Doubt.*—We should give a simple dilution of calomel with sugar as a **Children's Aperient-powder**, in place of the unpleasant-tasting vegetable powders you prepare. If you make the dilution 1 in $2\frac{1}{2}$, a child of 4 will need 5 gr.

248/18. *Ovum.*—**Preserving Eggs.**—Thin the water-glass to the consistence of thin syrup and immerse the eggs in it; let them remain in a day or so, then drain off the liquid and let them dry.

246/33. *Floored.*—You will be able to make a good combined stain and varnish for floors by dissolving nigrosin, Vandyke brown, and Bismarck brown in spirit-varnish. Dissolve 1 dr. of each in a pint of varnish, and dilute to colour required.

250/16. *Yankee.*—If you can wait till September, when we publish our Educational Number, you will find full particulars of the books required for Minor study.

250/9. *Much Obliged.*—(1) **Hair-oil Perfume.**—See *C. & D.*, January 22, 1897, page 133. **Spiced-vinegar Essence.**—*C. & D.*, October 16, 1897, page 641. But why not turn up this information in the indexes yourself?

250/23. *Ian.*—We should use iodine followed by cyanide of potassium for the stain you mention.

250/38. *Alpha.*—The course of training for an analyst consists of pupilage with an analyst for three years, study of sciences in a college, and working for the fellowship of the Institute of Chemistry. Our forthcoming Educational Number will give you fuller particulars.

249/15. *J. B. P.*—There is no trouble about getting goods from New York. The manufacturers there will see to the shipment.

251/65. *A. G. W.*—"How to Open a Pharmacy" was published in *C. & D.*, January 25, 1896.

251/67. *Dark-room.*—A usual charge for use of dark-room for developing is 1*s.* (with 1*s.* as a minimum). Developer is charged extra.

252/1. *Cinchonidine.*—**Quinine-pessaries.**—See *C. & D.*, April 16, 1898, page 653.

252/18. *Lace.*—You had better address your inquiry to the Maypole Soap Company, as we do not know what the soaps are made of.

252/4. *A. Z.*—Tincture of cudbear will give a nice pink colour to the acid mixture.

Information Supplied.

242/24. *Mr. J. H. Crane*, dispenser at the Brompton Hospital, writes to say that the following is the correct formula for **Mist. Gent. Alk. (Br. H.)**:—

Sodii bicarb.	gr. xv.
Ac. hydrocyan. dil.	♏iij.
Inf. gent. co. ad	℥j.

231/31. **Glass gall.**—This is the froth of molten glass, and forms a white or grey mass. It consists chiefly of potassium sulphate, with a little potassium carbonate and chloride.—Fritz Haselstein (Misslitz).

Information Wanted.

The Editor will be obliged for replies to the following from any who can furnish the information.

253/46. Name and address of maker of celluloid artificia eyes.

249/72. Wholesale agents for Lyons' American tooth-powder.

250/5. Address of proprietor of Laird's carbolic soap, put up in wrapped tablets.

253/23. A subscriber asks if "The H. N. Wales Company Patent Sound-discs" for deafness are satisfactory articles. Perhaps some of our readers have had experience of them, and will tell us.

Personalities.

Dr. Treub, of the Buitenzorg Botanic Gardens, Java, and his curator, Mr. Wegman, are at present on a visit to Ceylon.

Professor Roberts-Austen, C.B., F.R.S., Deputy-Master of the Mint, has been elected President of the Iron and Steel Institute.

It is reported that Mr. T. P. Barrett, managing director of A. & F. Pears (Limited), is to be a candidate for the Shrievalty of the City of London.

Dr. Ernst Schmidt, director of the Pharmaceutic Institute of Marburg University, has just completed the twenty-fifth year of his professorship.

Dr. Messel, the ex-Chairman of the London Section of the Society of Chemical Industry, Mr. Oscar Guttmann, the well-known authority on explosives, and Mr. Wood, of Nottingham, are attending the International Congress of Chemistry in Vienna this week.

Mr. Henry Jenkins, the manager of Messrs. Allen & Hanburys' (Limited) surgical-instrument department, 48 Wigmore Street had the honour of attending at Marlborough House on Friday last, to take pictures by means of the Röntgen rays of the injured knee of his Royal Highness the Prince of Wales.

A life-size portrait of Dr. Perkin, F.R.S., was shown at the banquet given to the ladies by the Leathersellers' Company at their Hall on July 13. Dr. Perkin is the ex-Master of the Company. The portrait, which was thought a perfect likeness of the doctor, represents him giving an address to the Society of Arts.

Mr. G. J. Knight, chemist, 452 Edgware Road, complains that a report published by us last week, page 109, headed "Fining the Chemist" was incorrect. The heading he regards as libellous, as it was his daughter who was fined, not himself. The alleged mispronunciation was a myth. The Magistrate made no correction, but only laughed and said, "Put it in language he can understand." Nor did Mr. Plowden say, "There is still 5*s.* to pay." It was the gaoler who said that, and Mr. Knight replied that he quite aware of it, and should easily get over it. Our report was taken from a local journal, and we are quite willing to accept Mr. Knight's version of the incident.

The Borax Company (Limited). — An extraordinary general meeting of this company was held on July 21. The Hon. H. A. Lawrence, who presided, explained that it had been called to consider special resolutions—(1) consolidating the capital so that every three of the existing 700,000 shares of 6*s.* 8*d.* each should constitute one share with three votes at a poll; (2) authorising the directors to raise money by way of debentures, subject to the rights of the present debenture-holders; (3) reducing the number of directors to not less than three or more than five, the present number being ten; (4) fixing their remuneration at 200*l.* per annum each, with 300*l.* for the chairman; and (5) providing for a new form of annual report and balance-sheet. He moved resolutions to effect these changes in the articles of association. These were seconded and carried unanimously, and will have to be confirmed at another meeting fourteen days later.

Westminster Wisdom.

THE ROYAL ASSENT.

In the House of Lords on Monday, July 25, the Pharmacy Acts Amendment Bill received the Royal Assent by Commission.

FREE-TRADE IN CRIMINAL ADVERTISEMENTS.

In the House of Commons on Monday, Mr. Channing (Northants) asked the Secretary for the Home Department whether he had considered the facts disclosed in the recent trial of Dr. Collins, and in many previous trials of similar character, and the use made in the St. Neots case of a notorious advertisement; whether he was aware that an enormous number of advertisements inciting to criminal offences of this nature are regularly being inserted in the metropolitan and provincial Press, and that a vast amount of social mischief and crime was alleged to arise from these advertisements; and whether he would introduce or support effective legislation to prevent the insertion in the Press or other distribution of advertisements of this class, and strengthen the law in dealing with incitements to these offences.

Sir M. White Ridley: I am fully aware of the character of these advertisements, but I am afraid that legislation on this subject would be a matter of great difficulty, and I am not prepared at present to give any undertaking to introduce it. I will bear the matter in mind.

Mr. Channing: I beg to give notice that at the earliest opportunity next Session I will introduce a Bill upon this subject myself. (Hear, hear.)

A FOREIGN DEGREES BILL.

A Bill has been introduced into the House of Commons which seeks to regulate the use of foreign University degrees in the United Kingdom. It bears the names of Mr. J. W. Sidebotham, Mr. Carson, Dr. Farquharson, Sir William Houldsworth, Sir John Lubbock, Mr. MacNeill, and Sir William Priestley. The object of the Bill is to enable the public to distinguish between persons who have taken degrees in the various faculties at the Universities of the United Kingdom, or have had degrees conferred upon them *honoris causa* by due authority in the United Kingdom, and those persons who have received degrees from other sources; and it is proposed that "any person who attaches to or who is responsible for the attachment to his name of the degree of bachelor, master, or doctor of any faculty in which degrees are granted, or letters or usual abbreviations signifying such degrees, shall place and clearly indicate after such degrees or letters the source from which it has been received if it is not a recognised degree of the United Kingdom." A penalty of 40*s.* is attached to infringement of this provision.

Business Changes.

MESSRS. LEWIS & BURROWS (LIMITED) have opened branch premises at 162 Piccadilly, W.

MESSRS. LEWIS & BURROWS (LIMITED) have opened branch premises at 17 Broadway Parade, Crouch End.

TAYLOR'S DRUG COMPANY (LIMITED) have opened a branch at 81 Duke Street, Barrow-in-Furness.

MR. W. BLACKBORNE, chemist and druggist, has opened a pharmacy at 183 Eastbank Street, Southport.

MR. R. F. WRIGHT, chemist, Northampton, has opened new premises at 60 Kettering Road in that town.

DAY'S METROPOLITAN DRUG COMPANY have recently opened a pharmacy at 128 King's Street, Hammersmith, W.

MR. T. HIRST, of the Parade Drug-stores, Boscombe, has opened branch premises at 361 Holdenhurst Road, Bournemouth.

PARKE'S DRUG-STORES (LIMITED) have added a photographic and optical department to their premises in Electric Avenue, Brixton Rise.

MR. E. A. KEMPTON, chemist and druggist, has purchased the business lately carried on by Mr. John Moore at 110 Blackheath Road, Greenwich, S.E.

MESSRS. E. MARRIOTT & CO., Hastings and Leamington, have transferred their Hastings pharmacy to Mr. Arthur Eustace Marriott, son of the proprietor.

MESSRS. JOHN MACINTYRE & CO., chemists, North Berwick, have removed their aërated-water business to larger premises, and can now turn out 2,500 dozen per day.

MR. ALBERT DIAPER, pharmaceutical chemist, formerly of Wanstead, has purchased the business lately carried on by Mr. H. B. Sharman at Potters Bar.

MR. CHARLES BRADLEY, pharmaceutical chemist, 46 Market Place, Reading, has taken over the business lately carried on by Mr. W. H. Milton at 1 Castle Street, Reading.

BROADBENT'S "BON MARCHÉ," at Southport, have recently added a drug and dispensing department to their list, for which a qualified manager has been engaged.

MR. WOODRUFF, chemist and druggist, of Withington, a fashionable and populous suburb of Manchester, is about to open a new pharmacy in the adjoining parish of Didsbury.

MR. J. WILLIAMSON, chemist and photographer, of Church Road, Hove, has secured extensive branch premises in Western Road, Hove, almost opposite to the co-operative stores.

MESSRS. WATSON & WATES, wholesale homœopathic chemists, of 93 Leadenhall Street, have taken into partnership Mr. E. G. Bishop, who has lately and for many years been manager for Messrs. Leath & Ross.

MESSRS. IDRIS & CO. have purchased the business of the Yarmouth Aërated-beverage Company, which has been carried on at Great Yarmouth by Mr. A. Stanger for the last eighteen months. Mr. Stanger will remain as local manager.

MR. W. T. DAWSON, 74 Prince of Wales Road, Norwich, has, owing to increasing business, taken adjoining premises, which he is devoting to sponges, perfumery, and photographic goods. An assistant capable of giving lessons in photography is in charge.

Sponge-windows

seem to be getting popular. This is a photograph of Dodd's drug-stores in Edgware Road. The same firm have made a similar display in their Tottenham Court Road branch. The windows were dressed by Messrs. Cresswell Brothers & Schmitz, Red Lion Square, W.C., who are making quite a

feature of this work now. It may interest the curious to know that 250*l.* worth of sponges are used in making such a display. The cases at the back are not dummies, but ordinary fully-packed original cases of Turkey and honeycomb sponges.

Trade Report.

Notice to Retail Buyers.

It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk, and, for crude drugs, without charges. For fuller particulars see the article "Lowest Trade Terms" in The Chemist and Druggist, March 19, 1898, p. 473. *C.i.f. quotations are for London unless when otherwise stated.*

Buyers of essential oils are particularly requested to note that low quotations, especially for Sicilian essences, are rarely, if ever, accompanied by guarantee of genuineness.

This section of The Chemist and Druggist goes to press a day earlier than usual this week, so that what follows here covers the markets up to Wednesday evening only. A report of what may happen on Thursday will be printed in the Coloured Supplement (wherein situations, &c., are advertised). There is not likely to be much, for trade is uncommonly dull, and were it not for the little excitement that floats round opium and the unending uncertainty of quinine, the markets would be deadly dull. We note that quinine has been in better inquiry since our last, and a few small parcels of ipecacuanha, sarsaparilla, and rhubarb have found buyers. In heavy chemicals there is a fair amount of activity for the time of the year. The following are the principal movements up to date:—

Higher	Firmer	Lower
Acid, citric	Cream of tartar	Oil, castor
Ammonia sulphate	Quinine	Oil, sweet orange
Codeine	Oil, peppermint	Oil, rape
Copper sulphate		Olibanum
Damiana		Potash, bichromate
Morphine		Soda, bichromate
Opium		
Pepper		
Quassia		

Zambesi Cardamoms.

In a few years we may be looking for cardamoms from the Zambesi district. The Central African colony, founded by Sir H. H. Johnson, is exceedingly go-ahead, and threatens to rival Ceylon and Brazil in the supply of coffee, so successful have the planters been up to the present in the propagation of the plant. Now we hear that active steps have been taken to cultivate cardamoms, and the Scientific Department at Zomba, B.C.A., is particularly interesting itself in the matter, recommending the Mysore variety to be tried.

Cloves and Pepper at Pemba.

The freeing of slaves in Pemba goes on apace, and anxiety is being felt about the coming clove crop, says the *Shamba*. In fact, the cry is, where are the gatherers to be got? All the growers at Pemba had been looking forward to a bumper crop this year, but it is by no means certain that expectations will be realised, as the failure of the rain cannot but have a serious effect upon the crops. Overseers are by no means so sanguine now as they were two months ago. One correspondent, referring to this, speaks of an "overwhelming disaster, apparently impending over the clove crop." However, it is yet too early to form any definite conclusion.

Ere long we may look for pepper from Zanzibar, as the vine has recently been planted there, and is now seeding. Mr. Bomanji Maneckji, of Mwera Bridge, is the pioneer, and he hopes to make it prove a useful auxiliary to other Zanzibar products. For many years (we are still quoting from the *Shamba*) pepper has formed a favourite investment for Indian nabobs, who dig it into the ground during the monsoon in order to produce it at the opportune moment.

Vanilla by Parcel-post.

At a meeting of the Postal Service Committee of the London Chamber of Commerce, held at Botolph House, Eastcheap, on July 27, a communication was read from the Seychelles asking the Committee to consider the new regulations of the Seychelles postal authorities, whereby the transmission of large quantities of vanilla by parcel-post is prohibited, and no sender or firm shall be allowed to forward by any particular mail more than 10 kilos. of vanilla as a postal parcel. The Chairman stated that he had called on several vanilla-merchants for the purpose of finding out something about the matter, but each one said he had no opinion to offer. It appeared that the postal authorities at Seychelles objected to the flooding of their service with parcels, especially as this took place in one or two months of the year during the vanilla season, and this measure was meant to restrict overcrowding at these seasons and the pecuniary loss to the post-office entailed thereby. It was ultimately decided to write to the General Post Office asking them if they could suggest any way out of the difficulty.

Heavy Chemicals.

A rather better feeling all round is to be reported this week in the heavy-chemical market, and values have a firmer tendency. Both on the Tyne and the Clyde orders are more numerous and heavier, but the actual new business passing is not of any great moment. In the Lancashire district also a better tone is prevalent.

Alkali Produce.—Soda crystals are in good demand and firm the hot weather having to some extent interfered with their production. Bicarbonate of soda and ammonia alkali in steady request; but for bleaching-powder and caustic soda the inquiry is only moderate. Chlorates are firmer: potash, London and Liverpool, 3¾*d.*; soda, 3⅝*d.* per lb. Saltcake very firm, at 25*s.* per ton, free on rails in bulk.

Ammonia Sulphate.—Prompt business done is not very heavy, but there has been a decided improvement in its position, and prices are firmer.

Copper Sulphate.—Anchor, 16*l.* 15*s.*, and Liverpool, 17*l.*

Yellow Prussiate of potash maintains a firm tone, and remains at 6¾*d.* to 7*d.*

Sulphur, recovered, scarce, and value firm at 5*l.*

Copperas, green, rather quiet. Best Lancashire, 38*s.* to 40*s.*, f.o.b. Liverpool.

Arsenic.—White powdered still dull.

Alum Compounds.—A better demand has been experienced for alum and best makes sulphate of alumina, and they are firm, at unchanged rates.

Linseed and Cottonseed Cakes.—Very little doing at the moment, but values are fairly steady, and scarcely likely to decline.

Saltpetre.—British refined kegs, 20*s.* 6*d.*; barrels, 19*s.* 6*d.* German kegs, 19*s.* 6*d.*; barrels, 18*s.* 9*d.*

Benzols are quiet, and 50 and 90 per cent. each stand at 10*d.*

Sal Ammoniac.—Unchanged, at 35*l.* and 33*l.* for firsts and seconds respectively.

Liverpool Drug-market.

Liverpool, July 26.

Gums.—Inactivity continues, all descriptions of arabic being more or less neglected. Soudan sorts are steady, with limited supplies offering at 70*s.* to 80*s.* per cwt. Niger has met with a better demand, as a few tons of the better class have sold at fully previous prices. Another import of gum direct from Senegal has just taken place, and will shortly be offered.

Castor Oil.—Notwithstanding the arrival of 600 cases per *Historian*, the market for good seconds Calcutta has remained steady, and the price is still 3¼*d.* per lb. Madras is now quoted 3*d.*, and even less might be taken. French first-pressing is held from 3*d.* to 3⅛*d.* per lb., and second-pressing a trifle less.

Beeswax is selling steadily at last prices for Chilian; but Gambia has been in better demand, and during the week a sale has been reported at 6*l.* 15*s.* to 6*l.* 17*s.* 6*d.* per cwt.

Quillaia-bark is very firmly held by importers, although the stocks in their hands are accumulating somewhat. They look for better prices. The value to-day is 18*l.* to 18*l.* 10*s.* per ton.

Russian Aniseed is offered at 18*s.* per cwt., but little business is reported.

Honey continues to move off steadily, 140 packages of pile 3 Chilian realising 20*s.*, and a small parcel of pile X. at 28*s.* per cwt. Holders of Californian are looking for good prices, especially for the better grades, in the near future.

Turpentine is held for 22*s.* 9*d.* per cwt., and good business is passing at the rates now ruling.

Copper Sulphate is selling freely at 16*l.* 10*s.*, and for nex month more is asked.

Hamburg Drug-market.

Hamburg, July 26.

Our drug-market is still very quiet, and shows little business.

CAMPHOR (REFINED).—A shade firmer, sellers now holding for 227.50 to 230m. per 100 kilos.

CASCARA SAGRADA.—Firm and scarce at 38m. per 100 kilos.

CHLORATE OF POTASH.—Firmly held at 60m. per 100 kilos.

CUMIN (MALTESE).—Firm at 42m. per 100 kilos.

ERGOT OF RYE.—Without business. To-day's quotation, 130m. to 160m. per 100 kilos., according to quality.

HONEY.—Firm. There are buyers of Chilian Pile III. at 21¼m. to 22m. per 50 kilos.

QUININE.—Very quiet, and but little business doing. Boehringer and Brunswick make is held at 27m. per kilo.

WAX (JAPAN).—Quiet. Spot delivery at 65.50m. per 100 kilos. Carnauba 70m. to 130m. per 100 kilos., according to quality.

OILS (FIXED).—Cod-liver shows hardly any business; non-congealing oil is quoted at 84m. per barrel. Castor is neglected and slow of sale: first pressing, in barrels, spot, 56m.; July-December, 54m. per 100 kilos.

OILS (ESSENTIAL).—Peppermint is quiet, HGH at 5¼m. per lb. Japan oil, 6½m. per kilo. Russian anise is quiet at 13m. per kilo. Star-anise 15.25m per kilo. Cassia is firm. Clove firm at 6m. to 7m. per kilo

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42 Cannon Street, London, E.C.: July 27.

ACID, CARBOLIC is firm at 6 7/8*d.* per lb. for 39° to 40° C., and 6⅜*d.* for 34° to 35° C. Crude, 60 per cent., is 2*s.* per gallon.

ACID, CITRIC.—On Friday the quotation was advanced to 1*s.* 2½*d.* per lb. for English crystals on the spot, and the market is very firm. *Concentrated juice*, 16*l.* 10*s.* to 17*l.* c. and f. terms.

ACID, OXALIC.—May still be obtained at 3*d.* to 3⅛*d.* net per lb., according to quantity, on the spot.

ACID, TARTARIC.—English firm and unchanged at 1*s.* 1*d.* per lb. for crystals, foreign 1*s.* 0½*d.* to 1*s.* 0¾*d.* per lb. on the spot.

AMMONIA SULPHATE.—Dearer, Beckton 9*l.* 10*s.* October-December delivery 9*l.* 7*s* 6*d.*, and January-March 9*l.* 10*s.*, Beckton terms, prompt, 9*l.* 6*s.* 3*d.*; London, Hull and Leith, 9*l.* 7*s.* 6*d.* Exports from the latter ports last week amounted to 385 tons.

BALSAM TOLU.—Small sales have been made at 1*s.* 8*d.* per lb.

BENZOLS.—Dull of sale; 90 per cent. or 50 per cent, 10*d.* per gal.; pure, 1*s.* 2*d.*

BORAX has been in better demand recently at the old quotations of 13*s.* 6*d.* for crystals and 14*s.* per cwt. for powder. *Boracic acid* is 23*s.* and 25*s.* respectively.

BUCHU.—Although three steamers have arrived from the Cape this week they have brought no buchu-leaves, and the market remains bare. There is no stock in first hands, and only a few bales of medium green are available in second hands, for which 6*d.* is asked.

CALUMBA.—Sales have been made this week of good picked washed root at 35*s.* per cwt.

CAMPHOR.—The exports of crude from Canton and Hong-Kong from January 1 to June 25 were 10,937 boxes (all of which went to the Continent), against 13,253 in 1897, and 11,765 in 1896.

CARDAMOMS.—The exports from Colombo for the week ending July 5 were 16,320 lbs., made up as follows:—London, 12,802 lbs.; New York, 1,100; and Bombay, 1,208. From January 1 to July 5, 1898, the imports were 252,583 lbs.; 1897, 281,748 lbs.; 1896, 21,152 lbs.; and 1895, 220,760 lbs.

COCAINE.—Steady, at 9*s.* 3*d.* to 9*s.* 6*d.* per oz. for the hydrochloride in 100-oz. lots. There is very little crude coming forward.

CODEINE.—The makers have raised their price to 12*s.* 6*d.* per oz., nominally, for pure crystals.

DAMIANA-LEAVES.—Higher. Holders on the other side this week quote 16c. per lb., c.i.f., for good green leaves.

GLYCERIN is very firm, at 52*s.* per cwt. for English, sp. gr. 1·260, on the spot, and 54*s.* for German in tins and cases. The German market for the crude material remains very firm. An estimate of the 1899 production leads to the belief that prices will go higher.

IPECACUANHA.—Since the drug-auctions a few bales of Cartagena root have been sold at 5*s.*, and a small business in Rio is also reported at 9*s.* per lb. for fair quality.

KOLA-NUTS.—Sales of West African quarters have been made this week at 2*d.* per lb.; for fine bold West Indian nuts 4*d.* is wanted.

MORPHINE.—Manufacturers have raised their prices to 5*s.* per oz. for the *Hydrochloride* in powder, in consequence of the advance in opium. There are second-hand sellers at slightly below this figure.

OIL, BERGAMOT, is very firm at 8*s.* 6*d.* per lb., f.o.b. Messina, for genuine oil.

OIL, CASTOR.—There has been a fair amount of business doing. French, first pressing, is 26*s.* to 26*s.* 6*d.* per cwt., f.o.b. terms. Belgian, first pressing on the spot, 28*s.* per cwt.; August delivery, 27*s.* 6*d.*; second pressing, 25*s.* 6*d.*, ex wharf, for August shipment.

OIL, COD-LIVER.—From Bergen, under date of July 23, we hear that the market is unchanged and without business, although the tendency is firm and the prospects considered favourable; 81*s.* per barrel f.o.b. terms will still buy best Lofoten non-congealing medicinal oil. The exports from Bergen up to date have been 4,700 barrels, against 4,619 barrels at the corresponding period of last year. Nothing doing in London.

OIL, EUCALYPTUS.—Owing to the scarcity of good Eucalyptus oil and the increasing demand for oil complying with the new B.P., the price of "Platypus" Brand has been raised to 2*s.* 6*d.* per lb. in original cases.

OILS, FIXED.—*Linseed* quiet, at 16*s.* 7½*d.* to 16*s.* 9*d.* in pipes; barrels, 17*s.* 1½*d.* on the spot. *Rape*, 3*d.* lower—viz, 21*s.* 9*d.* on the spot; refined, 23*s.* 3*d.*; and Ravison, 18*s.* Ceylon *Cocoanut* is 23*s.* 6*d.* in pipes and 24*s.* 6*d.* in hhds. on the spot; Cochin, 28*s.* 6*d.* per cwt. Lagos *Palm* oil, 22*s.* 6*d.* *Cotton seed* easier, at 15*s.* 3*d.* to 16*s.* for ordinary refined.

OIL, LEMONGRASS.—Quiet at 4*d.* to 4¼*d.* per oz. on the spot.

OIL, NEROLI.—A correspondent in the Grasse district writes to the following effect, *à propos* of our quotation of June 25:—"The lowest price for oil of neroli is 350f. per kilo. (7*s.* 9*d.* per oz.), but it is sold as the best oil on the market. Other brands, from 225f. to 250f. per kilo. (5*s.* 9*d.* per oz.) can be had, though they are more or less mixed with petitgrain."

OIL, PEPPERMINT.—There has been more inquiry this week, and *American* HGH has been sold at 5*s.* 6*d.* per lb. on the spot, at which figure there were further sellers on Tuesday. The so-called *Wayne County* has also been in slightly better demand at 3*s.* 9*d.* *Japanese* dementholised oil is 2*s.* 9*d.*, and 40 per cent. 4*s.* 6*d.* per lb.

OIL, STAR ANISE.—The speculative demand appears to have eased off somewhat this week, and there is little business to report at 7*s.* to 7*s.* 1½*d.* on the spot.

OIL, SWEET ORANGE.—Lower. Genuine oil is obtainable at 7*s.* 10*d.* per lb., f.o.b.

OLIBANUM.—Lower. Good pale drop, for which 48*s.* to 50*s.* per cwt. was asked some little ago, has sold at 45*s.*

OPIUM.—The market this week is very firm, but as buyers will not pay the advanced prices little business has been done. Druggists' can be had at 11*s.* 6*d.* to 11*s.* 9*d.* on the spot, and seconds at 10*s.* 6*d.* to 10*s.* 9*d.* Persian is quiet at 12*s.* for fine on the spot, and sales have been made for arrival at 11*s.* 6*d.*, but 11*s.* 9*d.* is now wanted. Soft shipping is quiet, and without change.

From Constantinople, under date of July 22, we hear that during the past fortnight upwards of 280 cases have changed hands at 10*s.* to 10*s.* 9*d.* per lb., f.o.b. terms. The market closes very firm at 10*s.* 6*d.* to 10*s.* 9*d.* per lb., f.o.b., for druggists' quality. The depletion of stock in America is said to be the cause of the recent activity, and the firm position is, to some extent, due to the fact that new crop is not yielding as much as was expected though, of course, if it had not been for the heavy American demand these prices would not have been touched.

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Phenazone.—The expiry of the French and German patents, as announced last week, has not yet brought about any reduction in price. There is very little business passing at the current quotations of 11*s.* to 12*s.*, according to make.

Potash, Bichromate.—The convention price has been reduced to 3½*d.* per lb. in wholesale quantities, ex wharf London.

Quassia.—Recovered somewhat; 5*l.* 15*s.* per ton is reported to have been paid this week on the spot for a small parcel, otherwise the market is quiet.

Quicksilver.—A firmer tone has been apparent this week, and a fairly large business has been done at 7*l.* 12*s.* per bottle. Last week 3*d.* under this price was accepted.

Quinine is firm at 10*d.* per oz. for good German brands, and a small business has been done at this figure. There are still second-hand sellers at 10*d.* From New York we hear that a recent arrival of Java quinine, amounting to 16,500 oz., has been sold to a manufacturing consumer at 18½c. per oz.

Rhatany.—The lot offered in auction last week was sold privately at a price which has not transpired—something above 5*d.*

Rhubarb.—Small sales are reported privately at the somewhat easier rates paid at last week's auctions.

Sarsaparilla.—Since the drug-auctions a fair quantity of grey *Jamaica* root has sold at 1*s.* 10*d.* per lb. One broker has now only 3 bales of this variety. For good *Honduras* 1*s.* 7*d.* is wanted; and *Lima-Jamaica* is firmly held at 1*s.* 3*d.* to 1*s.* 4*d.* for sound.

Seeds.—Further sales of Morocco *Fenugreek* at 8*s.* 6*d.* per cwt., and of *Coriander* at 5*s.* 6*d.* per cwt. There is more inquiry for *Cumin*, but sales are small. *Canary* steady. *Caraway* quiet.

Shellac.—The market this week, so far as we are able to report, has been very quiet, with only small sales at steady prices. There are sellers of TN, for August delivery, at 64*s.* 6*d.* per cwt.

Soda, Bichromate.—The convention price has been reduced to 2¾*d.* per lb. ex wharf, London.

Soda, Caustic.—The spot price for 70 per cent. is 7*l.* 10*s.*; Liverpool, 7*l.* 5*s.*; 60 per cent., 6*l.* 5*s.*; 76 per cent., Liverpool or Tyne, 8*l.* 5*s.* per ton.

Soy.—Quiet, but firm, at 1*s.* 4*d.* per gal. on the spot. The exports from Canton and Hong Kong to the U.K. from January 1 to June 25, were 942 casks, against 736 in 1897, 975 in 1896, and 885 in 1895.

Spices.—There has been a good speculative inquiry for *Zanzibar cloves*, resulting in a large business at dearer rates. Fair, on the spot, at 4*d.* to 4¼*d.* per lb; October-December delivery at 4⅛*d.* to 4⅜*d.*; and January-March at 4⅜*d.* to 4½*d.* per lb. Reports of the crop state that it promises to be of average size, unless the drought continues, in which case only a moderate supply would be obtained. Both black and white *Pepper* show a hardening tendency, and prices are fractionally dearer—Singapore black on the spot at 4⅝*d.*, and September-November shipment at 5*d.* per lb.; Penang white at 7⅝*d.*, and at 8*d.* per lb. to arrive; Singapore white at 9*d.* per lb. for shipment. *Pimento* is firm, but little doing. *Cassia lignea* looks like going dearer for old import; 52*s.* per cwt. is now the price. Nothing doing in *Ginger*. Other spices quiet, and unchanged.

Tonca-beans.—Steady, but no sales. Good frosted Paras are reported to be scarce.

Turmeric has been in better demand, but there is little fine quality to be had. Business has been done in *Bengal* at 21*s.*; and in *Chinese* finger at 19*s.*; for *Madras* and *Cochin* higher figures are asked.

Wax, Japan.—Is slow of sale at 32*s.* to 33*s.* per cwt. on the spot for good pale squares.

"Mother: "What on earth are you doing to the child, Bridget, to make her cry so?" Bridget (who has just slapped her): "I s'pose it's the medicun, mum; th' label says as how children cries for it."

Scientific Notes.

Preparation of Menthol Carbonate.

The use of menthol being sometimes limited on account of its caustic action on the mucous membrane has led to the suggestion that menthol carbonate may prove an efficient substitute. The pyridine method used to effect substitutions of the functional hydrate of the terpenic alcohols gives a rapid and convenient method of preparing it. The method of preparing is as follows:—To a solution of menthol 30 grammes, chloroform 30 c.c., pyridine (anhydrous) 25 c.c., add, by small portions, a chloroformic solution of phosgene containing 10 grammes of $COCl_2$, stirring the whole time. Leave to stand twenty-four hours, then, without separating the two layers of liquid, treat by steam. Traces of uncombined menthol pass off at the same time as the pyridine. The residue consists of crystalline carbonate of menthol, which is washed with warm water and re-crystallised from a large quantity of warm alcohol.

Nicotine in Tobacco and Cigars.

The percentage of nicotine varies greatly in tobacco, and is not always a measure of strength, as the following percentages determined by Mr. C. C. Keller show:—

	Nicotine p.c
Imported Havana cigars	
La Flor de Donato Campo, Regalia britannica, medium	1·231
Intimidad, Vegueros chicas, strong	2·333
Por Larranaga, Brevas del Regalo, very strong	1·717
La Nueva Luna de Ceferiano Lazaro, Manila, strong	1·782
W. D. & H. O. Wills's "Capstan" navy-cut ...	3·620
Finest Turkish cigarette-tobacco, mild	3·499
" " medium... ...	3·013
" " very strong ...	2·333

These figures we take from a paper by Mr. Keller on the estimation of nicotine in tobacco which he communicated to the German Pharmaceutical Society, and which is printed in the *Berichte* of the Society (No. 5, 1898).

Messrs. Thomas Tyrer & Co. (Limited) are announcing by circular the conversion of their business at the Stirling Chemical-works, Stratford, into a limited company, "for family reasons." No public issue of shares will be made, and Mr. Thomas Tyrer will be managing director; his son, Mr. C. T. Tyrer, will continue to have charge of the manufacturing department; while Mr. C. Lye and Mr. T. Tucker will remain as representative and chief of the office respectively.

Bovril Promotion.—During the public examination o Mr Hooley, on July 27, the following are the sums said to have been paid as promoters'-fees in Bovril (Limited):—Mr. J. Lawson Johnston and Mr. A. Walker, 50,000*l.*; Lord De la Warr, unknown; Mr. F. Gordon (for introducing Lord Duncannon), 5,000*l.*; Mr. Maconochie (for introducing Mr. Gordon), 5,000*l.* The gross profit on Bovril was 468,000*l.* The directors of Bovril (Limited) have declared an interim dividend of 5½ per cent. on the preference and 7 per cent. on the ordinary shares.

A Decaying French Colony.—The report on the trade of Pondicherry in 1897, which the British Consul has furnished to the Foreign Office, emphasises the fact that the commerce of the colony is in a parlous state. The trade of Pondicherry has been rapidly dwindling for the past ten years, and now it has shrunk to quite insignificant proportions. The total value of imports last year was 2,601,917f., and the exports 8,694,636f. A decade since the value of the trade at this port alone was 32,696,000f. The Governor attributes the cause of the decline to an oversanguine confidence in the cultivation of ground-nuts (*Arachis hypogœa*), the output of which has completely failed during the past two years. The export of peeled husks in 1897 was but 1,051 sacks, as compared with 128,433 sacks in 1896. The ground-nut trade, it appears, has been deflected to English ports on the Coromandel coast.