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



In the last Australian mail we have received instructions from the Council of the Pharmaceutical Society of Victoria to supply them with a sufficient quantity of THE CHEMIST AND DRUGGIST monthly, that they may send a copy regularly to every member of the society. They will stitch up with it a "Monthly Supplement" in which they will report their own proceedings, and which will contain likewise contributions from Australian writers. The secretary of the society at Melbourne henceforth take the agency for our journal, and with the "Monthly Supplement" he has every hope of largely extending its circulation, not only in the colony of Victoria, where we necessarily go to almost every druggist, but also in the other Australian colonies. This arrangement begins with the current issue.

Considerable reductions in the duty on chemicals are proposed in the new Tariff Bill, now under consideration in committee of the United States Congress. Many goods now charged it is proposed to make free, and others are reduced. The following list reach us late:—Quinine, sulphate, 10 per cent. *ad valorem*; other salts, 20 per cent.; morphia and salts, two dollars per lb.; chloroform, 50c. per lb.; opium, 2 dollars per lb.; opium reduced for smoking, 8 dollars per lb.; all medicinal alcoholic preparations not specially provided for, 10 per cent. *ad valorem*; wine, crude 1c. per lb.; refined, 4c. per lb.; acid, citric, 5c. per lb.; tartaric, 10c. per lb.; gallic, 50c. per lb.; oxalic, arsenious

and boracic, 1 per cent. *ad valorem*; bromine, iodine, and chloride of lime, 1 per cent. *ad valorem*.

Following the system already explained of leaving every member to nominate whom he pleases, the Trade Association have completed their election of 130 members to serve as the General Committee. The General Committee now has the power of adding 30 to their number, but at present they have only chosen 7. The General Committee will next nominate an Executive Committee, the names being submitted for approval to the annual meeting.

Mr. Atherton, of Nottingham, and Mr. Brown, of Manchester, decline re-election to the Pharmaceutical Council. Mr. Frederick Andrews, of Bayswater, Mr. J. M. Fairlie, of Glasgow, and Mr. G. S. V. Wills, of Westminster, publish addresses in this number of our journal. They all stand on the Liberal platform. Mr. Richardson, of Leicester, Dr. Symes, of Liverpool, and Mr. Woolley, of Manchester, are also candidates. They would, no doubt, worthily represent their respective localities, and, we have reason to believe, might be trusted to vote generally on the side of a vigorous and progressive policy. The policies of Mr. E. N. Butt and Mr. James Slipper, both London pharmacists, are not particularly well known. Mr. Daniel Frazer, of Glasgow, is also a candidate. If, as we presume, this gentleman has not altered his views in respect to counter practice, which were formerly strongly in favour of the apothecaries' views, we can hardly desire his success. That question once settled, there is no one we should rather see again on the Council. The other twelve candidates are present members of the Council, offering themselves for re-election.

A heavy failure of a drug merchant is reported. Mr. Frank Wilton, trading as Frank Wilton & Co., at 66 Mark Lane, who has been established less than a year, has presented a petition for liquidation, returning his debts at about 27,000*l.* The assets, it is said, are considerable.

Twice during the past month eminent judges have had to expound very decidedly the view taken by the law in reference to unqualified medical practitioners. Mr. Justice Hawkins, at Leeds, and Sir James Fitzjames Stephen, at Exeter, have had before them criminal prosecutions against unqualified practitioners. In both cases their remarks amounted practically to instructions to the juries to acquit the prisoners.

Elsewhere we have given in summary form the features of the two Bankruptcy Bills now before our Legislature. Unless political affairs change very rapidly there will not be much chance of these getting the consideration which they should have before being passed into law.

Sir Dominic Corrigan has asked the Irish Pharmaceutical Society to accept his resignation of the presidency of that association. He considers that the time has come when the pharmacutists are competent to manage their own affairs. It is probable that some other of the medical members of the council will follow the example.

A lecture by Mr. John Simon, F.R.S., on "Cancer," was delivered in Birmingham some months since. We quote it from a medical contemporary, and may refer to it as a most interesting monograph, by a great authority, on one of the most curious subjects in medical science.

We give this month a large instalment of our Formulæ of Secret Medicines, including many of particular interest to English readers. We also conclude the Sketch of French Sorecery which we commenced in March.

The Chemists and Druggists' Trade Association will hold their second annual meeting on Tuesday, May 11, at the Banqueting Room of the Inns of Court Hotel. The meeting will commence at half-past twelve.

Pharmacalia.

THE CHEMICAL SOCIETY.

Two Presidents of the Chemical Society have had some trouble in arranging the internal affairs of its organisation. Not long ago Professor Abel had to defend the action of the Council in its executive capacity, and to protest against the exclusive spirit manifested by a certain number of the Fellows. The meeting then held was of a stormy character, yet the views expressed led to a better understanding on both sides. A repetition of a similar want of unanimity was expected on Saturday evening, March 30, the occasion of the Anniversary, when Professor Gladstone took the chair at Burlington House. Previous to that date the usual blue circular was issued containing the ballot list for the election of new officers. Scarcely had this been received when another blue circular was forwarded to a section (not to all) of the Fellows, the document being styled an alternative list. It bore no name of its promoter, and was so closely got up in imitation of its predecessor that it was accepted by many as an expression of the second thought of the Council, who were supposed to be anxious to widen the basis of the election. A printed notice followed immediately, disclaiming on the part of the Executive any participation in its issue. Hence there were anticipations of a skirmish on the Saturday night which it is our task to chronicle, and there were private missives despatched on both sides urging attendance. These surmises were not destined to be realised, for when eight o'clock, the hour of assembling, came, less than usual mot together, and there were even signs of a very limited attendance. Later on the lecture-room was well filled, and Dr. Gladstone, who still retains the presidential chair, proceeded to read his address to an attentive audience. He gave a sketch of the history of the Society during the past twelve months, and stated that the whole subject of the bye-laws had received the most careful consideration of the Council. A copy in their proposed amended form had been supplied to each Fellow, and though the verbal alterations were numerous, the real alterations affected chiefly the mode of electing Fellows and appointing Auditors. The constitution of the publication committee had been entirely changed: for the future it would consist of six members in addition to the five officers of the Society. A matter which had been strongly commented upon last year had been under careful revision; arrangements had been made for the quicker publication of the papers, and the editor had made a strenuous and successful effort to bring the work of abstracting fairly up to date. This had involved the printing of an extra number of the journal, which was on the point of being published. A sub-editor, Mr. C. E. Groves, had been appointed, as the duties connected with abstraction had become increasingly laborious. The Research Fund now amounted to 4,000*l.* Two papers, the result of assistance thus obtained, had been received; one, the joint work of Dr. Wright and Mr. Luff, "On some points in Chemical Dynamics"; and the other, "On certain Poly-iodides," by Mr. G. S. Johnson. Progress had been made with a third paper by Mr. Neison, particulars of which would be communicated during the current year. It was hoped that many other chemists, especially those to whom the pursuit of chemistry had become a source of wealth, would contribute handsomely to the fund. Allusion was made to the formation of an independent institute of professional chemists under the title of the Institute of Chemistry of Great Britain and Ireland. It had two objects: to promote and encourage a thorough study of chemistry and all branches of science allied thereto in their application to the arts, to agriculture, to public health, and to technical industry; and, secondly, to adopt such measures as may be necessary for the advancement of the profession of chemistry, and particularly for the maintenance of the profession of the consulting and analyti-

cal chemist on a sound and satisfactory basis. It would thus be seen that the two Societies were perfectly distinct, but might be mutually helpful. The President therefore wished all prosperity to the new Institute. During the past year sixty-five papers had been read and two lectures had been given. There were at present 965 Fellows, of whom 49 had been elected during the past year. The President read a short obituary notice on the members whose loss by death the Society has had to lament. Some of these have already been alluded to in this journal: the names of two will be familiar to our readers—J. J. Griffin, the founder of the well-known firm for the making of chemical apparatus; and W. Gossage, alkali and soap manufacturer. Dr. Gladstone hesitated a little to continue the reading of these biographical sketches, but he continued on receiving an intimation of approval. For the full note on the life and labours of the distinguished foreign member, M. Regnault, we shall still have to wait till May. Mr. De la Rue proposed, and Dr. Frankland seconded, a vote of thanks to the President. The latter referred for a moment to the creation of the new Society—the Institute. He was happy to state that his fears of the Chemical Society being possibly injured by the existence of a separate body had proved groundless, in fact his experience was that they would mutually benefit each other. Several while joining the Institute had wished also to become members of the Chemical Society. No sooner had the treasurer (Dr. Russell) given the financial and general statement of the Research Fund, than Mr. De la Rue handed in a sort of postscript which was to the effect that he would add a sum of 100*l.* on condition that it should be devoted to any one important research. Dr. Odling said there would be an *embarras de richesses* as regarding a choice, but Dr. Russell observed that no insuperable difficulty would be presented. From the report we gathered that the condition of the funds remained in about the usual condition—the life commutations had been fewer, which necessarily affected the balance-sheet, but that the amount had been brought up by legacies. It will have been observed that inadvertently the formal motion that the report now read be accepted had been omitted, though thanks had been conveyed to the President for his address. The deficiency was supplied by Dr. Odling, and was seconded by Mr. De la Rue who, however, gave place to Mr. Neison, who was anxious to undertake the task. Before so doing he wished to make some remarks on certain points. First, he appeared quite satisfied with many improvements that had been made during the current year, but the state of the preparation-room was unsatisfactory. It was described on the cover of their journal as being now provided with the ordinary chemical apparatus and reagents, and gentlemen who read papers before the Society were requested whenever possible to illustrate them experimentally and availing themselves of the resources of the preparation-room. The reagents provided were of the scantiest description. He should be glad if the Fellows were invited themselves to fill the bottles, and in this he would bear his share. The journal had been materially amended: he would call attention to the old question of a general index of papers, which had been drawn up and published at 5*s.* So little had it been in demand that the price had been reduced to 2*s.* 6*d.*, and in his opinion it should be offered for gratuitous distribution. With regard to the bye-laws, it had been decided that on the formal admission of a Fellow the prescribed form of obligation should be read aloud, in order to instruct the new member in his responsibilities, and to remind those present of their own. This, to his knowledge, had not been carried out in practice. Finally he begged to second the reception of the report. To the first complaint, Dr. Russell answered that reagents had not been supplied because no demand for them existed; and Professor Armstrong said that he made a point of communicating with writers, and that if any reagents were required they would without doubt be furnished. To the second question, respect

Dr. Odling said that he also would have liked to pro-
 gratuitous distribution, but that the difficulty had been
 half-way to prevent unfairness to the original purchasers.
 On the third observation, it was pointed out that the whole by-
 going under discussion it was thought advisable to defer
 alteration until they had been formally accepted by the
 members. We pass over with regret for the too brief allusion,
 a cordial vote of thanks proposed by Mr. Crookes and seconded
 by Mr. David Howard to Mr. Henry Watts, the able and un-
 derstanding editor of the journal of the Chemical Society. The resolu-
 tion was carried with much approval. Before proceeding to the election of
 a new Council, Dr. Odling rose and said he wished to ask for infor-
 mation respecting the appearance of a so-called alternative, but,
 in his opinion, an opposition list. It was printed in identically
 the same type to that issued by the Council, and was on the same
 colored paper. So close was the resemblance that several of
 the members were under the impression that both lists emanated
 from the same source. It could scarcely have come from one of
 our own body, but from an outsider. Dr. Armstrong could
 shed no light upon the matter, and Mr. Riley said that in his
 opinion in connection with the Society no such transaction
 had occurred. He was of opinion that the name of the person
 who drew up this list should have been appended. Mr. Neison, who
 made the speech of Dr. Odling had tried to get a hearing, now
 to take upon himself the sole responsibility of the affair.
 He had heard blame expressed by individuals, but the opinion
 of the majority here and there was not of consequence. It was
 possible that anyone could have thought that the alterna-
 tive list could have come from any other than himself, as
 he had last year nominated Mr. Kingzett, and his name
 appeared on the list. An additional name on the authorised
 list would have rendered the balloting-paper illegal, and
 regretted that any should have been deceived by his
 list. To these explanations there was a strong ex-
 pression of dissent, and Mr. Neison has lost credit as a tacti-
 cian. The members seemed under the impression of being
 deceived, and the Council gained a considerable increase of support
 as a consequence. Mr. Neison has the misfortune of being
 overheard, and he orates too frequently on things in general; he has
 many grievances, and thus tires his audience and weakens
 his position.

PROFESSOR ATTFIELD ON CHEMISTS.

Professor Attfield has contributed a very readable letter to
 the *Chemical News* on the word "Chemist." He contends that
 the word was applied originally to the body better known of late as
 pharmacists or Chemists and Druggists. He demonstrates that
 there is historical evidence to prove that these were the suc-
 cessors of the old alchemists. He quotes much documentary
 evidence in confirmation of this view, and traces the term "chymist" as far
 back as 1680, when it was popularly ascribed to Ambrose
 Paracelsus. A mass of the medical literature of the seventeenth
 century may be adduced to show the gradual but sure man-
 uer in which books on alchemy grew into books on pharmacy—a
 change which must be recollected when we are tempted to form
 a rash judgment on the compositions of this date. The
 alchemist, with his dream of transmuting the baser
 metals into gold, was so far a professional chemist; but no
 member of this class of speculation can fail to see that the
 tendency of his thoughts was to invent some marvellous
 remedy which would cure universal illness, prolong life, and be
 the ruler of all possible disease. Even gold, when got by
 the aid of alchemy, was not viewed so much as a chemical body, but
 as the basis of an elixir, *aurum potable*, *aurum mirifi-*
cum or otherwise. Time wore on, and for at least a century
 the word "chymist" (so spelt to the present day in the *Times*
 paper) was not a synonym for the man who was familiar
 with the science of chemistry. Now this science has assumed

such an importance, demands such exclusive study, and is so
 admirably cultivated, that the modern acceptation of the word
 "chemist" is used with a definite limitation. We are relieved
 from the necessity of entering further into the question by the
 lucid manner in which the professor has explained the case.
 One thing, however, we, as pharmacists, most gratefully acknow-
 ledge—we are indebted to the chemist proper for having won-
 derfully extended our horizon, and for having placed pharmacy
 itself on the basis of accurate research.

PATENT MEDICINES IN THE PHARMACOPŒIA.

Mr. Halberg, of Chicago, has ventured on a plan for diminish-
 ing what he terms the unanimously admitted evil of our pro-
 fession—the sale of patent medicines. He calls attention to the
 fact that if formulæ for a few staple preparations were admitted
 into the Pharmacopœia, it would tend to reduce the sale of
 nostrums of unknown composition. He would select a few
 remedies of true merit and efficiency, as, for instance, a good
 expectorant, a simple tonic bitter elixir, a cholera mixture, and
 recipes of a similar description. The introduction of such
 specifics would not only have a tendency to run patent medicines
 out of the market, but would lessen promiscuous prescribing by
 the pharmacist, and raise the standard of the profession. In
 what way these desirable results would be thus attained it is
 difficult to say. It is not the province of a Pharmacopœia to
 guide unauthorised prescribing, and the writer seems unaware
 that the sale of the best-known patent medicine depends, to no
 small extent, on the skill or frequency with which it is
 advertised. Drop publicity and the demand ceases. In any
 case we should deprecate the interference of a standard
 authority with trade pharmacy; low prices and suicidal com-
 petition, together with late hours, are evils which we should
 like to see amended first: essentially business matters must be
 left to the honourable feeling and discretion of the chemist
 and druggist.

SAFETY MATCHES.

A curious development of light literature has been the cor-
 respondence on the subject of the safety matches. It has been
 noticed that the intimation that they light only on the box is
 not quite accurate. One gentleman, not a pharmacist, discovered
 that a piece of smooth coal formed a substitute for the brown
 phosphorus paste in contact with which they are supposed only
 capable of being ignited; another has been successful with
 smooth glass; while a third has been able to strike a light by
 friction on the smooth surface of a railway platform. We are
 bound to say in spite of these striking illustrations of falli-
 bility that the manufacturers can still claim that they ignite
 far more readily on the spot indicated in the directions. A
 more serious objection is that the English safety matches,
 either from a fault in drying, or altered make, have lately
 exhibited an uncomfortable habit of violently exploding, and
 during the past year they fuse after the manner of children's
 fireworks. Hence the introduction of the Swedish matches,
 made without phosphorus, which are extremely cheap and which
 have been extensively employed.

MUSTARD.

Mr. H. G. Glasspoole has published, in *Science Gossip*,
 an article on Mustard, which is both of antiquarian and phar-
 maceutical interest. The plant was believed to have been in-
 troduced from Egypt. It was mentioned by Pythagoras, and
 was employed in medicine by Hippocrates B.C. 480; it has,
 moreover, been described by Pliny. The writer of the article
 imagines that the mustard-seed mentioned in Scripture was not
 a different plant from the one with which we are familiar, but
 was in reality the *Sinapis nigra*, which is indigenous to Pales-
 tine as it is to Britain. Dr. Thompson, in his "Land and the
 Book," states that he has seen this plant as tall as the horse and

his ridor in the plains of Aere. The story of the introduction of Durham mustard will probably be acceptable. Mustard used formerly to be largely cultivated in that county, but until the year 1720 it was pounded in a mortar, coarsely prepared, and sold in that rough condition. An old woman, of the name of Clements, resident at Durham, conceived the idea of grinding the seed in a mill and passing the meal through the several processes which are resorted to in making flour from wheat. A perfectly sharp and most scientific old lady. For many years she kept the secret to herself, and had the exclusive supply of the article in the principal parts of the kingdom, and particularly in London. George I. became a purchaser and helped to give the condiment a reputation. Twice a year Mrs. Clements used to travel up to town for orders, and was thus able to accumulate a small fortune.

BIBLE PLANTS.

The above reminds us that Mr. John Smith, ex-curator of the Reynl Botanic Gardens, Kew, has given an account of Bible plants, which may prove attractive to the young. Whatever widens their range of thought, and gives them more resources in themselves in after life, is a great gain. The plants of the Bible number about one hundred, and their history has been also attempted by many other botanists.

PRICES AND PROSPERITY.

Madame Rachel, an Israelite indeed, in whom there is some amount of gale, has been practising pharmacy in a manner peculiar to herself. The "Arabian Perfumer to the Queen" not only vends violet powder, but supplies a certain wash, which most judiciously is charged 1*l.* per bottle. One can scarcely gauge the limits of credulity after reading the story which is now notorious. The poor pharmacist, with the eye of the law perpetually upon him, is glad to put up with an exceedingly humble scale of remuneration; but the charlatan seems to thrive best the more extortionate the demand. "I hesitated," said the victim, "at first, but subsequently I purchased a bottle of this wash, and subsequently several other bottles, and paid defendant 3*l.* or 4*l.* for them." It is a well-known fact that there exists a large class—at least, in the metropolis—to whom high prices are a distinct attraction. We recollect the violent indignation caused to some irate customers when the price of senna was reduced in an historic house; and, as one of the curiosities of pharmacy, we may mention that when the price of arrowroot was lowered its sale comparatively disappeared. We leave the moral to be drawn by certain of our brethren who, judging from appearances, allow the stores to have too painful an influence on their scale of prices.

SEASONABLE THOUGHTS.

Manifold signs convince us that May is drawing near, notwithstanding the persistent inclemency of the weather, which would lead us to the supposition that winter was scarcely ended. One unmistakable indication is the list of nominations for the council and auditors. A change has come over personal feeling in this respect. For years there was an almost stereotyped group of auditors, and an unvarying five used annually to signify their willingness to accept office if elected. This time there are no less than nine nominees, and we shall be deprived of the services of Mr. Edward Horner and of Mr. Frederick Barron. That thirty nominations have been received to fill the fourteen vacant council seats may be taken as an indication of the increased prosperity of individual pharmacists, and we are glad to see that twenty-one are found willing to become candidates for this arduous post. Rightly interpreted this means that the social position of those engaged in pharmacy is decidedly advanced; and that far more have sufficient leisure to devote themselves to public business than has hitherto been the case. We rejoice over this fact, and over every proof of the

prosperity of our community. We would remind those who are under the impression that a seat on the governing board is solely a kind of dignified retirement, where the honour is great and the work minimal, that a few months' experience on committees will suffice to dissipate the error.

The Pharmaceutical Council.

THIRTY gentlemen have been nominated to fill the fourteen vacancies on the Council, and of these the following twenty-one have signified their willingness to accept office elected:—

Andrews, Frederick, 34 Leinster Terrace, Hyde Park, W.
 Atkins, Samuel Ralph, Market Place, Salisbury.
 Betty, Samuel Chapman, 6 Park Street, Camden Town, N.W.
 Butt, Edward Northway, 13, Curzon Street, Mayfair, W.
 Fairlie, James Mitchell, Charing Cross Corner, Glasgow.
 Frazer, Daniel, 113 Buchanan Street, Glasgow.
 Gostling, Thomas Preston, Market Hill, Diss.
 Greenish, Thomas, 20 New Street, Dorset Square, N.W.
 Hampson, Robert, 205 St. John Street Road, E.C.
 Hills, Thomas Hyde, 338 Oxford Street, W.
 Mackay, Jehn, 119 George Street, Edinburgh.
 Owen, John, 51 Holloway Road, N.
 Richardson, J. G. F., Houghton House, Stonygate, Leicester.
 Sandford, George Webb, 47 Piccadilly, W.
 Savage, William Dawson, 4 Park Road East, Brighton.
 Schacht, George Frederick, 7 Regent Street, Clifton, Bristol.
 Slipper, James, 86 Leather Lane, E.C.
 Synes, Charles, 14 Hardman Street, Liverpool.
 Williams, John, 16 Cross Street, Hatton Garden, E.C.
 Wills, George Sampson Valentine, 62 Lambeth Road, S.E.
 Woolley, George Stephen, 69 Market Street, Manchester.

The following nine nominees declined to accept office elected:—

Atherton, John Henry, Nottingham.
 Brown, William Scott, 113 Market Street, Manchester.
 Hills, Walter, 338, Oxford Street, W.
 Hodgkinson, William, 127 Aldersgate Street, E.C.
 Jones, Samuel Urwick, Chirtou House, Leamington.
 Mackenzie, James, 45 Forrest Road, Edinburgh.
 Morson, Thomas, 124 Southampton Row, W.C.
 Vizer, Edwin Bennett, Church Road, Cliftonville, Brighton.
 Whitfield, John, 113 Westborough, Scarborough.

Nine nominations for Auditors had been received, and following five had signified their willingness to accept office elected:—

Harvey, Edward, 6 Giltspur Street, E.C.
 Hodgkinson, William, 127 Aldersgate Street, E.C.
 Squire, William, 5 Coleman Street, E.C.
 Stacy, Samuel Lloyd, 300 High Holborn, W.C.
 Thompson, H. Ayscough, 22 Worship Street, Finsbury, E.

The following had declined to accept office:—

Barron, Frederick, 2 Bush Lane, Cannon Street, E.C.
 Horner, Edward, 20 Bucklersbury, E.C.
 Watts, Wm. Manning, 32 Lower Whitecross Street, E.C.

With the exception of the above list of names, the official report of the proceedings of the Pharmaceutical Council at the last monthly meeting, is meagre in the extreme. A long discussion is reported with considerable minuteness on the question whether the author of a paper published in the Society's journal should be supplied with twenty-five free copies, or more or less, and the sentiments of most of the members on this momentous subject are now matter of history. Another serious discussion is given in detail on the proposition to refer to a committee consideration of desirable modifications in the Pharmacy Act. The following was the division list:—

For a secret discussion:—Messrs. Bottle, Cracknell, Gest, Greenish, Hills, Rimmington, Sandford, Savage.
 For an open discussion:—Atkins, Betty, Churchill, Hampson, Owen, Schacht, and Shaw.

The Chemists and Druggists' Trade Association.

BURLINGTON CHAMBERS, NEW STREET,
BIRMINGHAM.

FIRST ELECTION OF GENERAL COMMITTEE.

England.

- Districts.
- 1.—Anthony, J. L., High Street, Bedford.
 - 2.—Stevenson, James, King Street, Reading.
 - 3.—Turner, John, Kingsbury Square, Aylesbury.
 - 4.—Throssell, John, Fitzroy Street, Cambridge.
 - 5.—Bates, W. J., Mill Street, Macclesfield.
 - 6.—Blades, C. M., Northwich.
 - 7.—McNeill, J. M., Victoria Street, Crewe.
 - 8.—Prockter, John, Market Place, Penzance.
 - 9.—Thompson, Andrew, English Street, Carlisle.
 - 10.—Greaves, Abraham, Chesterfield.
 - 11.—Frost, George, Corn Market, Derby.
 - 12.—Symons, William, 26, Joy Street, Barnstaple.
 - 13.—Balkwill, A. P., Old Town Street, Plymouth.
 - 14.—Delves, George, High Street, Exeter.
 - 15.—Tucker, Charles, Bridport, Dorset.
 - 16.—Mays, R. J. J., Market Place, South Shields.
 - 17.—Nicholson, J. J., King Street, Sunderland.
 - 18.—Robinson, James, Darlington.
 - 19.—Cole, F. A., St. Botolph's Street, Colchester.
 - 20.—Smith, Nathaniel, Cheltenham.
 - 21.—Stafford, William, Northgate Street, Chester.
 - 22.—Stroud, John, Wine Street, Bristol.
 - 23.—Clift, Joseph, Dorking, Surrey.
 - 24.—Randall, W. B., Southampton.
 - 25.—Pollard, H. H., High Street, Ryde, Isle of Wight.
 - 26.—Ellwood, M. J., Draper's Lane, Leominster.
 - 27.—Durrant, G. R., Old Cross Street, Hertford.
 - 28.—Provost, J. P., Huntingdon.
 - 29.—Green, Robert, Hare Street, Woolwich.
 - 30.—Barnaby, Henry, Star Hill, Rochester.
 - 31.—Bing, Edwin, St. George's Street, Canterbury.
 - 32.—Cotterell, W. H., Dover.
 - 33.—Bagnall, W. H., New Street, Lancaster.
 - 34.—Hogarth, William, West Cliff Terrace, Preston.
 - 35.—Farnworth, Wm., King William Street, Blackburn.
 - 36.—Thomas, Richard, Manchester Road, Burnley.
 - 37.—Dutton, Francis, Town Hall Square, Bolton.
 - 38.—Phillips, Jonathan, Wallgate, Wigan.
 - 39.—Robinson, Ralph, Yorkshire Street, Rochdale.
 - 40.—Hargreaves, H. L., High Street, Oldham.
 - 41.— { Bengier, F. B., Exchange Street, Manchester.
Brown, W. S., Market Street, Manchester.
Slugg, J. T., Stretford Road, Manchester.
Woolley, G. S., Market Street, Manchester.
 - 42.—Beecham, Thomas, Westfield Street, St. Helens.
 - 43.— { Abraham, John, Bold Street, Liverpool.
Dickins, Benjamin, West Derby Road, Liverpool.
Woodcock, Joseph, Scotland Road, Liverpool.
 - 44.—Clark, W. B., 15, Belvoir Street, Leicester.
 - 45.—Palmer, Enoch, Cleethorpe Road, Great Grimsby.
 - 46.—Maltby, Joseph, High Street, Lincoln.
 - 47.—Pilley, H. T., Strait Bargate, Boston.
 - { Andrews, Frederick, 34, Leinster Terrace, Hyde Park, London W.
Greenish, Thomas, 20, New Street, Dorset Square, London, N.W.
Hampson, Robert, 205, St. John Street Road, London, E.C.
 - 48.— { Owen, John, 51, Holloway Road, London, N.
Preston, Alfred, 88, Leadenhall Street, London, E.C.
Slipper, James, 86, Leather Lane, London, E.C.
Urwick, William W., 60, St. George's Road, Pimlico, London, S.W.
Wade, John, 174, Warwick Street, Pimlico, London, S.W.
 - 49.—Pearman, Henry, Commercial Street, Newport.
 - 50.—Atmore, George, High Street, Lynn.
 - 51.—Corder, Octavius, London Street, Norwich.
 - 52.—Poll, W. S. Regent Road, Yarmouth.

District. †

- 53.—Bingley, John, Bailiff Street, Northampton.
- 54.—Carr, W. G., Berwick-on-Tweed.
- 55.—Proctor, B. S., Newcastle-on-Tyne.
- 56.—Parker, W. H., Alfreton Road, Nottingham.
- 57.—March, William, Newark-on-Trent.
- 58.—Prior, G. T., Broad Street, Oxford.
- 59.—Cross, W. G., Mardol, Shrewsbury.
- 60.—Commans, R. D., Bath.
- 61.—Prinee, Henry, Fore Street, Taunton.
- 62.—Jones, Charles, Market Square, Hanley.
- 63.—Averill, John, Market Square, Stafford.
- 64.—Brevitt, W. Y., Pennfields, Wolverhampton.
- 65.—Anness, S. R., Westgate Street, Ipswich.
- 66.—Whaley, Edward, Kingston-on-Thames.
- 67.—Cortis, A. B., South Street, Worthing.
- 68.—Vizer, E. B., Cliftonville, Brighton.
- 69.—Rossiter, Frederick, George Street, Hastings.
- 70.— { Arblaster, C. J., New Street, Birmingham.
Barelay, Thomas, Bull Street, Birmingham.
Jones, William, Bull Ring, Birmingham.
- 71.—Walker, George, Coventry.
- 72.—Jones, S. U., Upper Parade, Leamington.
- 73.—Severs, Joseph, Stricklandgate, Kendal.
- 74.—Atkins, S. R., Market Place, Salisbury.
- 75.—Hollier, Elliott, Market Place, Dudley.
- 76.—Johnson, T. S., Great Malvern.
- 77.—Thompson, Thomas, Market Place, Richmond, Yorks.
- 78.—Robson, J. E., Linthorpe Road, Middlesborough-on-Tees.
- 79.—Whitfield, John, Westborough, Scarborough.
- 80.—Davidson, Ralph, Haysthorpe, Holgate Hill, Yorks.
- 81.—Earle, Francis, Market Place, Hull.
- 82.—Coupland, Joseph, Regent Parade, Harrogate.
- 83.— { Reynolds, Richard, Briggate, Leeds.
Yewdall, Edwin, Wade Lane, Leeds.
- 84.—Thornton, Hezekiah, Leeds Road, Bradford.
- 85.—Jessop, Jonathan, Corn Market, Halifax.
- 86.—Hunter, James, Westgate, Dewsbury.
- 87.—Hick, M. B., Wakefield.
- 88.—Hall, George, Kirkgate, Huddersfield.
- 89.—Shaw, H. W., Market Place, Doncaster.
- 90.— { Cubley, G. A., High Street, Sheffield.
Jervis, William, Fulwood Road, Broomhill, Sheffield.

Wales.

- 91.—Roberts, Meshag, High Street, Bangor.
- 92.—Edisbury, J. F., High Street, Wrexham.
- 93.—Jones, Evan, Bala, Merioneth.
- 94.—Davies, D. J., 8 Great Darkgate Street, Aberystwith.
- 95.—Davies, R. M., King Street, Carmarthen.
- 96.—Williams, Thomas, Bute Street, Cardiff.

Scotland.

- 97.—Storrar, David, High Street, Kirkcaldy.
- 98.— { Mackenzie, James, Forrest Road, Edinburgh.
Napier, Alexander, South Clerk Street, Edinburgh.
Raimes, Richard, Leith Walk, Edinburgh.
- 99.—Borthwick, A. J., Market Place, Selkirk.
- 100.—Allan, William, Dumfries.
- { Borland, John, 7 King Street, Kilmarnock.
Davison, Thomas, 126 Buchanan Street, Glasgow.
- 101.— { Fairlie, J. M., 1 St. George's Road, Glasgow.
Kinnimont, Alexander, 69 South Portland Street, Glasgow.
McAdam, Robert, 34 Virginia Street, Glasgow.
- 102.—Strang, Peter, High Street, Perth.
- 103.— { Burns, D. H., Arbroath.
Kerr, Charles, Nethergate, Dundee.
- 104.— { Ritchie, David, Market Street, Aberdeen.
Strachan, Alexander, George Street, Aberdeen.
- 105.—Ettles, John, High Street, Elgiu.
- 106.—MacRitchie, David, High Street, Inverness.

We hereby certify that we have examined the Voting Papers for the First Election of the General Committee of the Chemists' and Druggists' Trade Association, and that the Gentlemen named in the foregoing List are duly elected in accordance with the Scheme of Organisation.

(Signed) LAUNDY, HARRISON, HARRIS AND CALDICOTT,
Public Accountants, Auditors of the Association.
Birmingham, April 4, 1878.

ADDITIONAL MEMBERS OF GENERAL COMMITTEE.

Churchill, W. J., New Street, Birmingham.
 Holdsworth, T. W., Steelhouse Lane, Birmingham.
 Laird, G. H., 40 Queen's Ferry Street, Edinburgh.
 Matthews, William, 12 Wignora Street, London, W.
 Shaw, John, 24 Great George Place, Liverpool.
 Southall, William, 17 Bull Street, Birmingham.
 Walker, Robert, 95 Smallbrook Street, Birmingham.

We hereby certify that we have examined the nomination papers of the first general committee for the election of thirty additional members, as provided for in the scheme of organisation; and that out of fifty-five nominations, forty-eight gentlemen were nominated by one member only. We can, therefore, declare only seven members duly elected, the names of which gentlemen appear in the foregoing list.

(Signed) LAUNDY, HARRISON, HARRIS and CALDICOTT,
 Public Accountants, Auditors of
 the Association.

Birmingham, April 11, 1878.

INSTITUTE OF CHEMISTRY.

INAUGURAL DINNER.

(By your own Telephone.)

AMONGST the many varied and highly important capacities in which I have been employed, I can recall no instance where my services have been called into requisition for a more laudable purpose, or with a view to such interesting results, as on the occasion that I had the honour of placing myself at your disposal to report the proceedings of the Institute of Chemistry of Great Britain and Ireland, at its inaugural dinner. This eminent Association, true to its praiseworthy resolve to shroud its proceedings in mystery, and its members in seclusion, had determined, as most of your readers will be aware, to exclude from its festive board, with the utmost rigour and impartiality, every species of representatives of the Press. But, sir, when, in the historic tones of Mr. James G. Bennett, you commanded me to "go and find Frankland," I did not, as most of the members of the "Institute" would probably suppose, immediately dash away to the Admiralty and buy the *Pandora*, nor telegraph to the Montserrat Company for six million pipes of lime juice, and then frantically appeal through the second column of the *Times* for information as to the whereabouts of Sir George Nares. No, sir; for as the pensive gloaming gathered round the last hours of that day in the calendar, marked by so many sad experiences and chastened reflections, snugly sheltered beneath the arm of my great protector, Mr. Graham Bell, I was reposing in the bar parlour of the "Burlington Arms," whilst my noble guardian was cajoling a wily waiter into permitting him to view the feast, at which the sons of alchemy were soon to congregate. Once within the banquetting chamber it was but the work of a few moments for my good genius to secure me a safe retreat immediately beneath the president's dinner napkin. From this ambush, unseen and unsuspected by the guests, I was soon busily at work. For once the veil of secrecy was rent; a "chiel" had crept in within the mystical doors of the "Institute," diamond had cut diamond, and your readers are enabled to participate in the events of that festive night from the moment when the chairman's first burst of rhetoric sent my diaphragm vibrating away at the rate of six hundred million pulses per second (Benson's time), until the last faint strains of that classic ode "We won't go home till morning" were being gently wafted down the areas of Piccadilly.

The inaugural dinner of the members of the Institute of Chemistry of Great Britain and Ireland was held on the evening of April 1, at the Burlington Arms, Piccadilly, W., the President, Dr. E. Frankland, occupying the chair.

The band of the Canterbury company was in attendance, and by its high-class and patriotic music, contributed much to the enjoyment of the evening. The cloth having been removed, the Chairman rose and said:—

Gentlemen,—The first duty which I have the honour to perform to-night is to propose the toast of "The Queen." It was my hope that one member, at least, of the Royal Family would have been graciously pleased to join us at our inaugural dinner. Our Council addressed, as you may be aware, a letter to His Royal Highness the Prince of Wales acquainting him with the important nature of this meeting, and suggesting that His Royal Highness

would be adding another to the many deeds of glory which have marked his career, by associating his name on this occasion with the peers of the realm of chemistry. (Loud applause.) His Royal Highness, however, very gracefully replied that much as he appreciated the proffered honour, and constant as the welfare of our Institute was "uppermost in his mind," he must abstain from taking part in gatherings of this kind during the season of Lent.

(The company here joined in singing the "Te Deum.")

The Chairman then said: I must next ask you to drink to "The Army, Navy, and Reserve Forces." Such a toast, at a period as the present, needs, I am sure, no words from me. It is true that we have neither the Duke of Cambridge nor Admiral Hornby at our table; but, gentlemen, I venture to say that when the history of our first campaign comes to be written, the fame of Professor Abel will outvie that of Wellington or Nelson. (Cheers.)

Professor Abel, in a humorous speech, briefly responded. His name, he said, was a misnomer. From his proficiency in the art of knowing how to destroy his fellow-creatures on the most extensive scale, his godparents would have been better advised had they given him the name of "Cain." He also desired to point out that the gentleman on his right (Mr. Goro) was more at home on the field of glory than he was.

Mr. George Gore, F.R.S., at the request of the president then sang with great effect the new national anthem, "He stands a Post."

The Chairman: It is with unbounded pleasure that I rise to ask you to fill your glasses in honour of the toast of the evening, which I need hardly explain is "Prosperity to the Institute of Chemistry." (Vociferous cheering.) Gentlemen, I consider that the present occasion offers a fitting opportunity for a few remarks from myself with relation to the formation of this Institute. (Hear, hear.) We are, all of us, I fear, too well aware that, outside our own favoured circle, there exists an ill-disguised feeling of envy and discontent. A lying spirit is abroad, whispering uncharitable things of the philanthropic project upon which we are engaged, and attributing other than the most disinterested motives to our laborious efforts to float this Institute successfully. (Cries of shame.) Now, gentlemen, let me remind you how this association originated. In September last I received a communication from the Board of Trade, intimating its desire to form a company for the protection of the interests and the advancement of the position of the consulting and analytical chemists of Great Britain and Ireland, and requesting my advice and active assistance in carrying out the proposal. Well, gentlemen, for a long time I was sorely puzzled as to the course it would be best to take. I could see that, for any society of the kind to be successful, it must be, in the first place, exclusive, and in the second, that its members must be bound together by some common tie. At length, gentlemen, a happy idea seized me. (Cheers.) By means of two thousand postcards I communicated with every member of the Chemical Society for the purpose of ascertaining the number and names of those chemists who employed the organic carbon and nitrogen process for the examination of potable waters. I received a courteous reply to each of my applications, and had the satisfaction to find that no less than sixteen professional chemists were in the habit of using the process referred to. Need I say that these sixteen gentlemen, with myself, were immediately registered with the Board of Trade as a limited liability company "to promote the Advancement of the Profession of Chemistry and to maintain the Profession of the Consulting and Analytical Chemists on a sound and satisfactory basis." (Great cheering.)

The toast having been duly honoured,

Professor Redwood, in response to loud calls, sang, with telling effect, a song which he had composed for the occasion. The first verse ran:—

Come chemical lads, take leave of your "fads,"
 And away to the Institute hie,
 For every care will vanish there
 While Frankland's standing by.
 And Cartwright shall have his Way,
 And Smith will find his Brown;
 And puff it, puff it, puff it, puff it,
 Puff it up and down.

The Secretary (Mr. C. E. Groves), said that after the all and exhaustive speech of their President, he need not himself enter into any details respecting the reasons which led to the formation of the Institute. He desired, however, to offer a few remarks in reference to the malicious observations which were

time to time being made out-of-doors regarding the strictness which the directors of their company maintained on matters connected with its constitution, and its objects. It would in the first place remind them that every member of the Council had pledged himself by a most solemn oath not to divulge the motives which had induced him to join the company, and ever to preserve in public the most abject silence as to the policy and intentions of the executive. It needed but a slight acquaintance with history for them to perceive that an immense power was wielded in the political world by secret societies, and it was something akin to that authority for which they were craving. It would of course be necessary that the members should have some means of identifying each other, and it had been suggested that, in masonic fashion, some such as placing the fore-finger upon one side of the nose might be a convenient emblem of recognition. But after much deliberation they had decided that in future every member, on admission, be branded with the initials M.I.C.E.* (Member of the Institute of Chemistry, England). He should add that Mr. Fletcher, of Warrington, was manufacturing a very powerful hot blast blowpipe for the purpose. (applause.)

Michael Carteighe, as one of the promoters of their enterprise, in a speech which showed great mastery of detail, pointed out some additional qualifications which candidates for membership would in future be required to possess. They would be required to produce a certificate of vaccination, countersigned by more than three magistrates, and, amongst other things, give satisfactory evidence that they habitually consumed not less than three bottles of fluid magnesia per week.

C. T. Kingzett insisted that it should be a *sinè quâ non* condition that candidates should also be prepared to prove that they were, immediately before admission, thoroughly disinfected with carbolic acid.

C. R. Alder Wright was sure that no candidate was fit to be elected who had not published an original memoir upon the subject of Alkaloids and their Derivatives.

Professor Atfield, in a most pathetic speech, then proposed a toast, "Absent Friends." There were many faces, the speaker remarked, whom they would have welcomed at their banquet but who had not yet been brought to see the inestimable advantages which the Institute was prepared to convey. His object was to recognise as a friend the "Credulous chemist," and for Dr. Muter, he could assure them he yearned to clasp him in a fond embrace. He would conclude by calling upon the President to respond to the toast.

The Chairman appropriately replied, and to the great delight of the company, sang to the accompaniment of the band, a melody, commencing—

"O Wanklyn, we have missed you."

On joining in the Evening Hymn, the company separated.

FORMULÆ OF SECRET MEDICINES.

(Continued.)

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

CAFEE-SURROGAT VON PISONI—PISONI'S COFFEE-SUBSTITUTE.—A dry extract prepared by boiling roasted and ground coffee in water, evaporating the fluid to the consistence of a thick extract, and drying it. 125 grammes, 5*d.*—Wittstein.

CALIFORNIA VEGETABLE VINEGAR BITTERS (Dr. J. Walker).—Recommended for weak stomachs, sluggish digestion, diarrhoea, dyspepsia, and many other totally distinct and opposed affections. Each bottle contains 420 grammes of fluid weakly acid containing no spirit, which throws down, on standing, a white deposit. The well-shaken liquid gives, on evaporation, 100 grammes of residue, consisting of 12.6 grammes

of resin, and 8.9 grammes of extractive (including an organic colouring matter). It is a decoction in weak vinegar of guaiacum wood, sarsaparilla, China root, sassafras, and bloodwort* (*Hydrastis canadensis*), &c. 4*s.* 2*d.*—Hager.

NORTON'S CAMOMILE PILLS (Norton, Beccles, England).—A remedy for digestive troubles and all kinds of stomach complaints. They consist of equal parts of rhubarb and jalap made into a mass with extract of camomile. 30 pills, each weighing .23 grammes, cost 3 marks (2*s.* 9*d.*).—Schädler.

CAMPBOR CIGARS (Raspail, Paris).—A remedy for various chest diseases, such as catarrh, hoarseness, loss of voice, coughs, spasms, hooping cough, phthisis; also, if the saliva be swallowed, for heartburn, pains in the stomach, and gastritis. They consist either of a straw or quill filled with broken camphor, or of a bone or horn mouthpiece, furnished at the outer end with a little capsule for the camphor.—Wittstein.

COLER'S CAMPHOR MILK—A COSMETIC (Coler, 6A Schützenstrasse, Berlin).—It consists of 10 grammes precipitated zinc oxide, 180 grammes rosewater, and 5 grammes spirits of camphor. The maker attributes to the preparation much greater powers than it really possesses. The label announces:—"This preparation, manufactured entirely with harmless ingredients, removes with certainty all skin diseases, such as freckles, lentigo, heat-spots, red and yellow marks, herpetic and scrofulous eruptions, and gives the skin a natural clearness and bloom. It must be well shaken before using, and should be applied to the affected places with a fine linen cloth. For washing, the use of my glycerine and borax soap is recommended." 1*s.*—Schädler.

MOY'S CAPSULES.—Gelatine capsules filled with balsam of copaiba.

"CAPSULES LEHUBI" are gelatine capsules of different sizes, each consisting of two parts. To close them one half is pushed over the other.

"CAPSULES DE RAQUIN."—Copaiba balsam solidified with calcined magnesia, enclosed in a gelatine capsule.

CARBOLIC SALVE (John F. Henry).—This salve, a North American preparation, is recommended for healing all wounds, sores, skin diseases, &c. The recipe is much as follows:—Carbolic acid, .3 gramme; oil of bergamot, 2 drops; oil of lavender, 1 drop; wax ointment, 18 grammes; mix. The price of a small tin box of this salve is 1*s.* 1*d.*—Hager.

CARBOLEIN (Weschniakoff, St. Petersburg).—A fuel said to possess a greater heating power than pit coal, and to effect a considerable economy in cost, on account of the smaller quantity required. It consists of black, moderately hard pieces, containing 92 per cent. of pit coal and 8 per cent. of fat.—Kaiser.

CARIGNANO POWDER, made (according to a recipe said to have been given to MM. Pyat and Doyeux by the Princess Carignano) from gamboge, 250 grammes; amber, 375 grammes; red coral, 125 grammes; bole, 125 grammes; vermilion, 12 grammes; Kermes mineral, 12 grammes; boneblack, 12 grammes. The powder, when mixed, is divided into portions of .1 gramme each.

CASCARILLA DE CARACOL DE PERSIA (R. & C. A. Wright, Philadelphia).—Consists of calcium carbonate and some earthy substance insoluble in acids (alumina or steatite). No hurtful metals are present.—Chandler.

C.C.C.—CORDIAL DRINK (Dr. Cherwy).—A herbal lemonade to heal all chronic and scrofulous diseases. It contains 115 grammes water, 15 grammes spirit, 2 grammes potassium iodide, 5 grammes bitter almond water, 10 grammes sugar, and 3 grammes burnt sugar. 1*s.* 9*d.*—Hager.

CEBERN ESSENZ (Sommer).—A weak spirituous tincture (made with rum) of senna leaves, rhubarb, buckbean, saffron, and traces of spices, 50 grammes. 1*s.* 6*d.*—Hager.

GRAY'S CELEBRATED HAIR RESTORATIVE (Day, Hoagland, & Stiger, New York).—Contains in 100 grammes a trace of lead in solution, and .693 gramme in the precipitate.—Chandler.

CERESIN, the cheapest substitute for wax, specially suited for all pomades, ointments, cerates, and plasters (John Faulk,

* The German word is Blutkraut, and the Latin synonym is given in a bracket in the text. *Hydrastis canadensis* is known as orangeroor, but bloodroot in America is *Sanguinaria canadensis* only.

Vienna).—A slowly-cooled paraffin of high melting-point, in thin round cakes. One Vienna centner (about 120 lbs.), 10*l.*—*Hager*. Bleached Ozokerit.—*Dr. Ziurek*.

CHEMICAL INDUSTRY (J. Thein, Prague).—Under the heading of "Chemical Industry—Genuine Fountain of Profit," one can read in many recent journals a bombastic advertisement, the extent of which must astonish those who know what such announcements cost, and how profitable a business must be which can afford them. As for the rest Herr J. Thein, of Prague, by whom these advertisements are signed, evidently understands the art of advertising. He knows so well how to strike the confidence-awakening tone that we are convinced he pays himself for his advertisements and makes a good business besides. Herr Thein gives you, in consideration of an honorarium of 33*s.* per series, recipes, arranged in two series, for the manufacture of all imaginable things. He says of them, "Far from all useless recipes, the 'Chemisch-technischen Instructions' deal only with articles the manufacture of which requires no capital worth mentioning, nor any expensive plant; which will also in a very little while produce a corresponding profit." For a further 30*s.* you receive complete and practical instructions for the improvement (maturing) of wines; and whoever takes the whole receives a discount of 25 per cent., and can also, at the same time, lay a solid foundation for future wealth at the cost of 72*s.*—*Hager*.

CHINA-EISEN SYRUP (Grimault & Co., Paris).—Ammonio-citro-pyrophosphate of iron, 1 part (or $\frac{2}{3}$ part ferri pyrophosph., $\frac{1}{2}$ part acid citric, and $\frac{1}{3}$ part pyrophosphate of sodium) is dissolved in 22 parts of water, the solution filtered, 40 parts of sugar and 5 parts tincture of red cinchona are added, and a syrup is made by digestion.

CHINESE SECRET REMEDIES (Dr. Schöpfer)—

1. *Tsa-tsin*.—The very finely powdered leaves of a kind of Roman camomile, or a species of goose foot.

2. *Scheu-fu*.—Mugwort root disguised by the addition of turmeric.

3. *Ying-kwei-tsum*.—The mixed leaves and flowers of Roman camomile and wood sage, with but little else.

4. *Hienfong Tincture*, said to contain Hieufongin, and to be an ethereal spirituous tincture of the green leaves of the Hienfong camphor tree. It is, in fact, an extremely diluted spirituous tincture from the "Farbenintensivität," of a clear white wine of the dried fruits and leaves of the bayberry, mixed with about 8 per cent. ether, $1\frac{1}{2}$ per cent. camphor, 1 per cent. oil of spearmint, $1\frac{1}{2}$ per cent. oil of peppermint, and $\frac{1}{4}$ per cent. each oils of fennel, anise, lavender, and rosmary.

CHLORALUM (from London).—A harmless, inodorous, non-poisonous disinfectant, for disinfecting privies, water-closets, stables, slaughter-houses, gutters, &c., and for external and internal use in sore throat, diphtheria, scarlet fever, smallpox, and so forth. Half a litre of fluid, weigh 600 grammes and contains per cent. 82.32 water, 15 lead chloride, 10 copper chloride, 13.90 aluminium chloride, 42 chloride of iron, and 3.11 chloride and sulphate of calcium. It may be made either by dissolving a calcareous and slightly ferruginous hydrate of alumina in crude fuming hydrochloric acid (Fleck) or by the double decomposition of an impure alum with impure chloride of calcium.—*Hager*. 1*s.* 6*d.*—*Fleck*.

CHLORALUMINIUMHYDRAT (Erhardt & Alexander, New York).—A disinfectant. A yellow fluid, specific gravity 1.25, containing 28 per cent. solid constituents, made up of 21 per cent. aluminium chloride, with chlorides of iron and calcium.—*H. Endemann*.

CHLORALUM POWDER (from London).—Recommended as an absorbent of organic impurities; as an antiseptic and astringent, mixed with flour and taken; also as a disinfectant for railway waggons, ships, privies, stables, gutters, &c. An elegantly-labelled tin, containing 350 grammes of a white powder, consisting in 100 parts of 72 chloride of arsenic, 55 chloride of lead, 37 chloride of copper, 52.43 chloride of aluminium, 1.55 chloride of iron, 11.51 chloride of calcium, 72 gypsum, 32.15 alumina and siliceous earth. According to Fleck it is the precipitate which separates during the preparation of chloralum evaporated with the supernatant fluid in lead pans to dryness. Price 10*s.* 6*d.* (per cwt.?). According to Hager it is a dry, yellowish-grey powder, only partly soluble in diluted hydrochloric acid, smelling faintly of pure carbolic acid, and made from a clayey marl drenched with crude concentrated hydro-

chloric acid, and then mixed with enough of the marl to make a dry powder, which is finally sprinkled with a little carbolic acid.

CHLORALUM WOOL AND WADDING (from London).—Recommended for filtering air; as a styptic and antiseptic for green or suppurating wounds and ulcers; and as a disinfectant for coffins and corpses. A neatly-labelled package, containing 35 grammes wadding, mixed with 1.73 grammes solid chloralum or saturated with 9.8 grammes of the fluid, and afterwards dried. Price 2*s.*—*Fleck*.

CHLORALYDE.—A new English speciality, invented by Dr. Barr Mitchell and sold by Butler & Crisp. According to English authority it is a strong solution of chloral hydrate about the proportion of 1 to 1. The taste is well concealed and the solution is mixed with other ingredients, which give to a certain degree the character of chloro lyne.

CHLORODYNE (Dr. Brown's).—Acid muriat. conc., 5 parts; ether chloroform, tinct. cannab. Ind., tinct. capsici, of each, 10 parts; morphia, prussic acid, of each, 2 parts; oil of peppermint, 1 part; syrup, 50 parts; tinct. hyoscyami, tinct. aconiti, of each 3 parts.—*Hager*.

ENGLISH CHLORODYNE.—A filtered mixture of 5 grammes tinct. aromat., 4 grammes tinct. opii simp., 1 gramme morph. mur., 10 grammes aq. amygd. amar., 80 grammes syrup of liquorice, 1 gramme extract of liquorice, 40 grammes 90 per cent. spirit wine, 5 drops oil of peppermint, 10 drops ether, 30 drops chloroform.—*Hager*.

CHLOROFORMIC ANODYNE (George Harley) is said to be an alcoholic tincture of opium with prussic acid and chloroform.

GLOWER'S CHLOROFORMIUM PHOSPHORATUM.—A solution of part of phosphorus in 40 (?) parts of chloroform.

CHOCOLATE À LA MAGNÉSIE (Desbrierre's).—44 grammes of chocolate paste and 15 grammes of calcined magnesia, made into 10 tablets.—*Reveil*.

CHOLERA ESSENCE (Ed. Kantorowicz, Berliu & Posen).—Filtered tincture of 15 grammes lesser centaury and 15 grammes ginger, made with 500 grammes of alcohol and 250 grammes water, and mixed with 20 drops oil of wormwood. 50 grammes cost 6*d.*—*Hager*.

THE CHOLERA MEDICINE (Schneider, Chrostowo, near Uster).—The expressed juice of dandelion and milfoil mixed with brandy spirit.—*Dr. Horn*.

CHOLERATROPFEN—CHOLERA DROPS (A. Bastler, Vienna).—Oils of anise, cajuput, and juniper berries, of each 20 parts; spirit of ether, 60 parts, tincture of cinamon, 120 parts; Haller's acid elixir, 5 parts. Dose, 30–50 drops.—*Wittstein*.

CHRISTOFIA is a stomachic brandy or wine made of 1,500 parts white wine, 20 parts cinamon, 10 parts cloves, 60 parts bitter almonds, digested several days; 300 parts of sugar and 50 parts spirit are then added, and the whole filtered.—*Hager*.

CHRÔMACOME (Mr. W., Paris).—For dyeing the hair black. This is said to be prepared from harmless vegetable matter but really consists of pyrogallic acid and nitrate of silver.

CHRÔMACOME (obtained from Gustav Lohsé, 46 Jägerstrasse).—This is a French preparation which "contains nothing injurious to health." This hair dye consists of two fluids. The first, "Le chrômacome, teinture supérieure de William W. A. No. 1, Bonn," weighing about 45 grammes, is tincture of guaiacum. The other, No. 2, is a solution of acetate of iron with a little nitrate of silver. When grey hair is moistened first with No. 1, then with No. 2, it becomes blackish-brown or black. Terreur, hairdresser, 117 and 119 Rue Montmartre, Paris, is the chief agent for this preparation.—*Schädler*.

CIRCISSIA-WASSER—CIRCISSIAN WATER (A. Ruoff, Hildesheim).—A cosmetic consisting of strong alcohol, 60 parts; oil of cinnamon, cloves, and bergamot, of each, 9 parts; oil of lavender and balsam of Peru, of each, $4\frac{1}{2}$ parts. 5 grammes cost 5*d.*—*Wittstein*.

CIRCISSIAN HAIR REJUVENATOR (Pearson & Co., Brooklyn, New York).—A muddy solution containing about 4 per cent. sugar of lead.—*Chandler*.

COMACHROME FOR DYEING THE HAIR BLACK.—Nitrate of silver solution, with pyrogallic acid.—*Reveil*.

COMPENSATIONS EXTRACT.—One of C. Simon's fluid remedies (from Carl Simon, Veterinarian, Lissa, Poland). Recommended

ains in the joints, sciatica, lumbago, migrain, rheumatism, joints, pleurisy, and cramp. It contains 30 grammes on salt, 8 grammes ammonia, 15 grammes spirit of nor, 35 grammes tincture of arnica flowers in weak spirit, ed, but not filtered, 2 grammes ether, and 160 grammes . 3s. More lately it is found to contain 40 grammes on salt, 40 grammes spirit of ammonia, 40 grammes g water, 10 grammes Hoffman's balsam of life.—*Hager*.

POUND CHINESE TABLET OF ALABASTER (John Irvine).—Anesthetic powder for the skin. It consists of chalk, free from toxic metals.—*Chandler*.

POUND CHINESE TABLET OF ALABASTER (Shand).—Identical in use and composition with the last-mentioned powder.

POUND SUGAR-COATED MAY-APPLE PILLS (Dr. Scott).—Recommended as "antibilious, cathartic, chemical family pills." and wooden box containing 21 beautifully-made sugar-d pills, consisting of bitter extract, powdered podophyllum rhubarb, jalap, and pepper.—*Hager*.

MPRESSES DÉSINFECTANTES DE LE PERDRIEL.—Charcoal er incorporated with paper.

SCENTRATED CASTOR OIL IN CAPSULES OF GELATINE (Taylor).—gelatine capsules filled with castor oil, containing .5 per of croton oil. 3s.—*Hager*.

NDY'S FLUID (from Eng'land).—A weak solution of per- manganate of soda.—*Wittstein*.

NSERVATEUR FÜR HAARLEIDENDE. A preventative of hair ses (Edm. Bühligen, Leipzig).—Consists of 10 grammes arnicæ, 5 grammes glycerine, 10 grammes spirit, and ammes water. 6s.—*Schüdler*.

GETABLE CONSTITUTION BALLS (A. H. Böldt).—Two paral- ped hard brown balls, each of which weighs 58 grammes, s made by melting together 2 parts of aloes and 1 part ely-powdered gentian. 10d.—*Hager*.

PAHINE.—Copaiba balsam made into a mass with wax and red cubebs, divided into hard egg-shaped pills weighing 5 grammes each and sugar coated.

PAHINE MÈGE DE JOZEAU.—A fixed quantity of copaiba m is mixed with concentrated nitric acid, and constantly d as long as effervescence continues. The oxidised balsam en washed, first with warm then with cold water, till the ings cease to have an acid reaction. From one part of this gum copaivæ acido nitrico correctum with $\frac{1}{10}$ part powdered bs, $\frac{1}{10}$ part bicarbonate of soda, $\frac{1}{10}$ part calcined magnesia, s me mucilage, a mass is prepared and divided into oval which are afterwards coated with sugar, mixed with gum carmine.

SMETIC VINEGAR (Acetum cosmeticum) is a mixture of benz., 60 parts; bals. Peruv., 10 parts; eau de Cologne bals. vitæ Hoffm. ph. bor., aa 150 parts; aceti puri, 300 ; allowed to precipitate and filtered clear.

r. HENNY'S COSMETICUM:—for scalp diseases and an applica- for the hair. Spirit, 180 parts; oil of lemon, 3 parts; oil of amot, oil of rosmarj, and oil of lavender, of each, 1 part. grammes, 3s.; and with directions for use, 3s. 9d.—*Hager*.

SMETICUM (Siemerling) for skin affections, freckles, &c. t almonds, 30 grammes; bitter almonds, 15 grammes; led and emulsified with 330 grammes water; the emulsion ned and mixed with 25 grammes tinct. benzoin and ammes lemon juice.—*Wittstein*.

SMOLIN.—Under the names of Cosmolin and Vaseline some substances melting at 32° to 85° or even 95° C. have lately red in commerce. They are very variable mixtures of paraffin with the fluid introduced at various times as fin oil, neutral oil, lubricating oil, &c., and are the resi- left after the distillation of petroleum slightly purified by s of charcoal.—*Miller*.

SMOS POMADE (J. Pohlmann, Vienna), 1½ parts white wax, ts spermaceti, 2 parts castor oil, 8 parts almond oil, 2 parts rine, 9 parts extract of mignonette, ½ part eau de Cologne. ger.

ÈME DE BEAUTÉ.—A cosmetic consisting of an emulsion tter and sweet almonds.

ENPULVER—LADIES' POWDER (J. Pohlmann, Vienna).—A powder composed of 14 parts white lead, 7 of talc, 1 of esia, coloured with carmine and perfumed with volatile oil. M.

DAVIDS-TEE—DAVID'S TEA (B. Fragner, Prague).—Recom- mended as a domestic remedy for chronic catarrh of the lungs and air passages, and especially for tuberculosis. A mixture of equal parts of great centaury, hyssop, chervil (*Scandix odorata*), white horehound, milfoil, Iceland moss, and *carduus benedictus*. 50 grammes, 5d.—*Th*.

DAVIDS-TEE, ECHTER KAROLINENTHALER—GENUINE KAROLIN'S DALE DAVID'S TEA (Král).—Recommended for the same diseases as the preceding. A mixture of white horehound, milfoil, Iceland moss, great centaury, and ground ivy. According to a communication from a Bohemian apothecary the original pre- scription reads thus:—Herba cerefolii (*Scandicis*, chervil), hb. centaurii minoris (lesser centaury), hb. marrub. (horehound), flor. millefol. (milfoil flowers), lichen. Isl., of each, 6 parts; hb. hyssopi, 3 parts; hb. cardui benedicti, 2 parts.—*A. Selle*.

DELPHINEUM—A BOOT VARNISH.—Shellac, 7.5 grammes dis- solved in alcohol, 15 grammes, mixed with 20 drops fish oil, and .1 gramme lampblack. 6d.—*Geisse*.

DENBY CONDITION POWDERS (J. Tobias Simpson, New York). —Celebrated as a safe, infallible, and speedy remedy for glanders, coughs, colds, over feeding, worms, mouth disease, and loss of horns or hair, in horses and other valuable domestic animals. Tartar emetic, 2 grammes; black antimony, 20 grammes; sulphur, 10 grammes; nitre, 10 grammes; fenu- greek, 40 grammes; juniper berries, 20 grammes. 1s. 0½d.—*Schüdler*.

DERMASOT (Apotheker Bertschinger, Baden, Switzerland).— For profuse perspiration of the feet. Consists of acetate of alumina, 7.5 grammes; distilled water, 120 grammes; butyric ether, 2 drops; rosanilin to colour it slightly. 2s.—*Weber*.

DOUGLAS' DISINFECTING POWDER.—A mixture of sulphite of calcium, chalk, and carbolic acid, or of sulphite and carbonate of lime.

DEUTSCHE SIEGESTROPFEN — GERMAN TRIUMPHAL DROPS (Schmidt).—480 grammes of a brown fluid with an agreeably sweet spirituous and aromatic taste, containing in a hundred parts five parts of the portion soluble in weak spirit of cloves and orange peel, 29 parts sugar, 36 parts alcohol, and 30 parts water.—*Wittstein*.

DIAMANTKITT—DIAMOND CEMENT.—50 parts graphite, 15 parts litharge, 10 parts milk of lime, 5 parts slaked lime, in- definitely mixed with enough linseed oil to make a firm mass.—*Hager*.

DIAMANTTROPFEN—DIAMOND DROPS (Dr. Allinhead).—A com- bination of the juices of mysterious herbs of tropical climes, which has the power to make all men transparent. 5 drops sell at 4l.

DICTAMA.—A strengthening and restorative preparation. Arrow root, 6 parts; meal of triticum monococcum, 6 parts; chocolate, 4 parts; vanilla, ¼ part (Richter). Sugar, 217 parts; bran extract, 92 parts; starch, 125 parts; Caracas and Maragnan cocoa, 30 parts; vanilla, 1 part.—*Chevallier*.

CLARK'S DISTILLED RESTORATIVE FOR THE HAIR (C. G. Clark & Co.). For promoting the growth, strengthening, and dyeing the hair. This preparation contains .023 per cent. of lead in acetic solution.—*Chandler*.

DOG-BALLS (A. H. Böldt, Genf).—Hard pills, weighing .15 grammes, of irregular shape and unequal size, composed of aloes with $\frac{1}{3}$ of gentian, and strewed with a brown powder con- taining liquorice root. A box of 30 pills 10d.—*Hager*.

"DRAGÉES AU LACTATE DE FER" (Gélis & Conté).—100 grammes of lactate of iron made into 2,000 very small pills with powder and mucilage of marshmallow, and coated with cleosac- charate of anise.—*Reveil*.

DRAGÉES DE COPAÏU DE FORTIN.—30 grammes balsam of copaiba made into 72 dragées, with 1.2 grammes calcined magnesia, and coated first with gum arabic and then with sugar.—*Reveil*.

DRAGÉES DE CUBÈBE AU COPAÏU—CUBÉBINES (Labelonye).— 2 parts balsam of copaiba, 2 parts extract of cubebs, 1 part yolk of egg, with sufficient liquorice powder to make a mass, which is divided into oblong pills, each weighing 7 decigrammes. These are dried and coated with white or raw sugar.—*Hager*.

DRAGÉES DE POUQUES (Garnier).—Chloride of calcium, 50 parts; chloride of magnesium, 50 parts; chloride of iron,

10 parts; dissolved in water, and precipitated with sodium carbonate. The precipitate is washed, pressed, and mixed with 100 parts bicarbonate of soda. Of this mixture 25 parts are made into a mass with 475 parts of a paste of sugar, peppermint, oil, and mucilage. The mass is then divided into dragées weighing 5 decigrammes, which are coated with gum and sugar.—*Reveil*.

DRIFFIELD OILS.—For the prevention of gangrene and for healing incised and other wounds, bruises, sprains, swellings, and external inflammations. A dusky brownish-green clear oil, consisting of olive oil, digested with wormwood, savin, and arnica, and afterwards perfumed with a mixture of oils of rosemary, thyme, and juniper. 1 pint (474 grammes), 2s. 6d.—*Hager*.

DÜNGER—MANURE (Boutin, Paris).—A bluish-green fluid, containing about 190 grammes of solid matter per litre. The residue consists of sulphates of copper, iron, magnesia, and soda, sal ammoniac, nitrates of potash and soda, common salt, and none or a mere trace of phosphoric acid. The blue deposit which separates on standing is ultramarine. 10 litres, 18s.—*Keller, Karmrodt, and Nessler*.

DUTCH DROPS.—The dark-coloured residue left by the dry distillation of turpentine.—*Hager*.

DYNAMOM (Dr. Momma Düsseldorf).—A galvano-electric curative apparatus. A small capsule of horn, containing a disc secured to a pedicel. On the disc a number of sharp needles are fixed. By gently moving the apparatus, and afterwards withdrawing it, artificial pores are produced in the skin by punctures which are not very painful. These are then to be rubbed with a certain oil, probably containing cantharides. 18s.—*Wittstein*.

EAU ATHÉNIENNE (Hte. Bourgeois, Paris).—Pour nettoyer la tête et enlever les pellicules—for cleaning the head and removing scurf. An alcoholic solution of potash-soap, with some solution of potash and aromatic oil.—*Dr. F. Goppelsröder*.

EAU BERGER FOR DYEING THE HAIR.—Two fluids for consecutive application. No 1 is a solution of 1.3 grammes sulphate of copper, .25 grammes nitrate of nickel, 30 grammes distilled water, 4 grammes ammonia. No 2 is a solution of calcium sulphide, made by passing sulphuretted hydrogen into milk of lime until it ceases to be absorbed, and then filtering from the excess of lime.—*W. Engelhardt*.

EAU CAPILLAIRE PROGRESSIVE, POUR RÉTABLIR LA COULEUR NATURELLE DES CHEVEUX ET DE LA BARBE. FORMULE RATIONNELLE, SUCCÈS GARANTI—Progressive hairwash for restoring the natural colour of the hair and beard. Formula rational, success guaranteed (Dr. R. Brimmeyer, chimie-pharmacien, Echternach, Luxembourg).—4 grammes hyposulphite of lead and soda, with an insignificant admixture of bismuth oxide and 100 grammes rose water, 4s.—*Schüdler*.

EAU D'AFRIQUE, for dyeing the hair black. Three fluids to be consecutively applied. No. 1 is a solution of 3 parts nitrate of silver in 100 parts water. No 2 is a solution of 8 parts sodium sulphide in 100 parts water. No 3 is a solution of nitrate of silver like No. 1, but perfumed.—*Reveil*.

SECRET REMEDIES FROM AMERICA.

HENRY B. PARSONS, writing from the Chemical Laboratory, University of Michigan, sends the following notes to *New Remedies*.

1. **CONDITION POWDER FOR HORSES.**—The principal ingredients were: Fenugreek, liquorice root, resin, brimstone, common salt, nitrate of potash, and a green powder, probably senna. It contained traces of calcium and magnesium carbonates; silica, iron, alumina.

2. **FUMIGATOR FOR HEN-COOPS.**—Consisted wholly of coal-tar.

3. **MIXTURE FOR CLARIFYING CIDER.**—Half-changed cider, containing 4 per cent. commercial gelatin. The gelatin was partially coagulated by the alcohol in the cider.

4. **COMMERCIAL CARBONATE OF ZINC.**—Entirely precipitated sulphate of calcium, containing a trace of alumina.

5. **FOR LUNG DISEASES.**—To be used with an atomizer. Tincture of tolu, diluted as much as possible with water.

6. **RADWAY'S RENOVATING RESOLVENT.**—This may be very closely imitated by the following prescription. Take of

Potassic iodide	40 gr.
Fl. ex. sarsaparilla	4 fl.dr.
Essence of bitter almonds	2½ fl.dr.
Simple syrup	1 fl.oz.
Simple elixir (Parrish's)	3 fl.oz.
Distilled water, to make	8 fl.oz.
Caramel, q.s. to colour.	Mix.

7. **PATENT "BABY FOOD."**—Wheat starch and milk-sugar. Put up in bottles holding about 2 tr. oz. Sold at 50 cents.

8. **FOR DISINFECTING PURPOSES.**—Consisted wholly of ammonium nitrate crystals, dusted over with ferric oxide (rouge of colcothar). The directions were to place a small quantity on a hot shovel, or on coals. It is rather difficult to see much value in this powder. Nitrous oxide would probably be the chief product of the decomposition, although other nitrogen oxides might be liberated in small amounts.

R. ROTHER'S FORMULA FOR BAY RUM.—Another of our American exchanges publishes the following:—True bay rum is made from *Pimenta acris* (*Myrica acris*, Schwartz; *Myrica acris*, Willd), and not from *Laurus nobilis*, as commonly supposed; the method of its distillation not being known outside the West Indies, it has been customary to make it extemporaneously with the oil of bay distilled from the leaves of the former plant. This preparation is inferior in fragrance, however, to the genuine article. The following formula of R. Rother is said to give very good results. Take of

Oil of bayberry	1 fl.oz.
Jamaica rum	1 pint
Strong alcohol	4 pints
Water	3 pints

Mix the rum, alcohol, and water, then add the oil; mix a filter. (See page 93, March number, *C. & D.*)

SEDATIVE PILLS, GUNTHER'S.—These are composed of the following ingredients

	Parts
Asafetida powder	50
Extract of valerian	50
Extract of belladonna	3
Oxide of zinc	1
Castor	2

Make into a pill-mass, to be administered in doses of 3 to 4 grains, twice daily, in chorea, &c.

FATHER VINCENT.

A SKETCH OF FRENCH SORCERY.

BY M. EMILE GILBERT, PHARMACIEN, MOULINS.

THE French country districts are not too well provided with medical advantages. Here and there a locality may be found where a physician has established himself, but this occurs, as a rule, only when a member of one of the well-to-do neighbouring families has passed through the necessary curriculum in order to make for himself some occupation in life. In such a case, fees not being necessary to his existence, he practises his profession in a philanthropic manner, and his attendance on poor patients is not unfrequently more costly to himself than to them. But men like this are rare, and usually there is but a single physician for a whole group of villages. Rarer still is the pharmacy. There is but little chance that a pharmaceutical establishment can succeed except in a moderately populous town; and consequently the peasant with a member of his household taken ill must first lose half a day in bringing the doctor and then must sacrifice the remainder in taking the prescription to the nearest town to get it prepared.

This is one of the principal reasons of the success of our country wizard-doctors and bone-setters. What if deaths do sometimes follow consultations with these *pseudo-savants*? Do the regular doctors always cure? Ask their partisans. And the undiplomæd quacks are at hand; they wear no broadcloth which the patient has to pay for, and their fee is consequently lighter than that which *Monsieur* would expect. True the law prohibits this illicit practice, but sympathy or fear ensures the complicity of silence on the part of their clients, and legal evi-

of these irregular practitioners is only obtained with difficulty. Then they are skilful in keeping up the notion that they possess a "secret" for this disease, and a sovereign balm for another. Will the villagers be able to analyse the balm now if it contains any dangerous ingredients? Let them be permitted to take a little drop of wine to keep up their strength (and the sorcerer always orders this), and they will do anything else he may give them with their eyes shut. As illness gets worse the quack tells them that he is drawing them out of them, and this generally contents them until the doctor or skilful succour is past, and they pay for their blindness with their lives.

Father Vincent, whose veterinary reputation we have already mentioned, reigns without a rival as the human doctor in his district. His skill consists in knowing, as his Druid ancestors knew, to gather the simples of his garden, so that they will be armed the most fully with the celestial virtues which the stars can confer. In a corner of his little library is, no doubt, to be found the work of his compatriot Vigenère, whose title is, "He who has learned to marry the heavens with the earth can perform marvellous works outside the order of nature;" and adds, "This mysterious force is the means of gathering the virtues and the occult properties of the heavenly bodies to the matter of this lower world."

Father Vincent has the reputation of retaining the conditions in his service; and who can dream of doubting such as this?

Armed, perhaps, with the patient attention which we have to his teachings, the *savant* has permitted us to penetrate into some of his mysteries, and the formulas which follow are virtually the lessons which we have received from his own

Gout.—Eat, fasting, an omelet with which has been composed some matricary gathered at the hour of Mars and Venus.

Removing Smallpox Marks.—Make a pomade with crushed peas, elder-root gathered when Jupiter and Saturn are in conjunction, oil of almonds, and tallow. If the face be rubbed with this regularly night and morning the lost beauty will be restored.

Colic.—Drink a glass of white wine in which some ground cherries, gathered under Mars, have been infused.

Dropsy.—As soon as Mars and Venus are visible in the firmament drink the warm blood of a pheasant, which must have been previously shed by the sorcerer himself. The flesh of the pheasant will probably appear the next day on Father Vincent's dinner-table.

Pleurisy (or Punesi, as our hero calls it).—This is a simple remedy, and one in the preparation of which the stars have no active part. Ten or twelve pieces of horse's or mule's ears are to be macerated for several hours in a gill of white wine.

The resulting "elixir" is to be carefully expressed and run through a glass at the bottom of which has been placed a slip of paper with the words "Dia Bex Deobulha" inscribed on it. The draught must be drunk at bed-time, and the next morning the patient must be on his feet as if he had never been ill.

Fever.—"No quinine; your stomach cannot bear it," says Father Vincent. For tertian fevers apply to the belly a poultice made of powdered hounds tongue root plunged in boiling water. For quartan fevers drink a glass of white wine in which a pinch of powdered myrrh of the Bethlehem Magi has been infused. It is necessary to be very particular that the poultice is veritably the myrrh of the Magi.

Headache.—Apply a bandage which has been soaked in red brandy.

Cholera.—You need have no fear if this terrible scourge catches you; on the first symptoms appearing you will be cured by swallowing a draught of brandy and olive oil mixed.

Eye Diseases.—First, fervently invoke Saint Claire; then hold a lodestone backwards and forwards before the eye, bringing it gradually nearer. The evil will be drawn to the corner of the eye, and may be expelled by sneezing.

Hydrophobia.—The remedy in this case is, as might be expected, a very severe one. It is this: Take vinegar 1 oz., oil ½ oz., flour of sulphur 4 pinches, the yolk of three pigeon's eggs cooked hard. This incongruous collection of ingredients is to be formed into 64 pills, which the bitten patient is to swallow rapidly one after another, forced to be used if necessary. Sickness is pretty certain to ensue, relieving the patient of the fearful mess, and in the opinion of the astonished spectators expelling the "rage" at the same time. The proof of the efficacy of this astonishing remedy is that bitten people

have taken these pills and have not gone mad. The madness of the dog has not been questioned.

* *

A curious connection is traceable between certain diseases and the saints who are widely and devotedly believed to have control over these. This association is generally a more or less obvious play upon the names of the particular disease and its guardian saint. Saint Claire, for example, just quoted, is supposed to have the power of making one see clearly; Saint Marcou can cure a pain in the neck (*mal du cou*); Saint Cloud's speciality is boils and carbuncles, vulgarly called "clous"; Saint Oüen helps deaf people to hear (*ouïr*); Saint Luco gives light to the blind; Saint Etanche can staunch (*clancher*) the blood of hemorrhages; while Saint Servais is credited with a general ability to preserve life; Saint Eutrope has control over tumours, a gift due probably to the *trop* (too much) in his name; Saint Pancras has been dubbed through ignorance Saint Crampasse, and the reckless faith of the peasantry rushes to him for the rectification of cramp in the stomach.

* *

In the country districts of France the *gougneur*, a sort of bone-setter, enjoys considerable reputation. He often possesses a good deal of natural skill, and he is seldom dangerous until he ventures beyond his proper domain. Although he works his cures by the ordinary means he could not, without lowering himself in the eyes of his neighbours, abandon the magic apparatus and formulæ which have founded his importance. Consequently he adds to his frictions a compound of badger's fat with turpentine, and accompanies the performance of any surgical operation with mysterious incantations. He puts amulets within his bandages to conjure the evil fates. Sometimes to work on the imagination of the patient he traces on the injured limb cabalistic characters either with the thumb 'or, on great occasions, with the big toe. A lady of our acquaintance being taken with a violent toothache during a recent stay in the country was persuaded to accept the services of a noted *gougneuse* of the neighbourhood. When the old woman arrived and saw what was the matter she proceeded to unshoe herself, but our friend, observing the method of cure to be adopted, intimated that she would prefer the toothache. The old woman did her best with her fingers previously well soaped; but either the soap was not the right sort or the use of the toe was indispensable, for the toothache obstinately continued its course.

The *gougneurs* are particularly successful in the cure of a disease very general in our hamlets, known as *le décrochement de l'estomac* (detachment of the stomach). This disorder being entirely imaginary the cure always succeeds "where there is faith." The sufferers, perfectly ignorant of anatomy, are persuaded that the stomach hangs on a sort of hook—occasionally it slips from its attachment, and then result indigestion, cramps, and heartburn. The *gougneur* easily puts this right, and by the skilful employment of friction along with some magic words, faith aiding, he secures a scientific fame which all the schools of medicine in France could not bestow.

There is a famous old *gougneur* known as the sorcerer of Bruyères, whose reputation is well established. Numberless cures of simple fractures attest his skill. In his youth this old practitioner served as a marine on a ship of war. He had a quick eye and a retentive mind; and if he had had also a fair chance of education he might have become a distinguished *savant*. As it was he naturally fell into charlatanism. He has a good heart, and in his earnest desire to benefit his fellow-creatures he has formulated this recipe, which will ensure a hundred years of life.

1. Take every day fasting, in the morning, a drink of a decoction of ash leaves.
2. Every morning and evening brush the stomach and the feet with a very hard brush.
3. Take an occasional draught of decoction of angelica.
4. After 80 years of age take also an occasional cup of decoction of marsh trefoil.
5. After 90 years wear over the stomach a little bag full of salt.
6. Having reached 100 years it will be necessary to take every morning a draught of an infusion of the leaves of ash, angelica, and marsh trefoil mixed.

In making this recipe known we believe we are only fulfilling his fondest desires.

* *

The sorcerers have other work to do besides their medical

practice. It is they who are employed to conjure the anger of the wicked fairies who turn the brooks, who sow hail where they walk, break and uproot the fruit trees, carry off the dew from the meadows in the folds of their flowing robes, and with their burning breath dry up the vines and wither the corn; it is they who preserve the farms from the nocturnal dances of hurtful imps; who turn the famous "black huntsman" from the village; who reveal the spot where hidden treasures are concealed (for cupidity no less than fear rules over the minds of the peasantry); who can ensure the drawing of lucky numbers for the conscription or in the lottery; in a word, can conciliate the favour of the invisible powers in all the affairs of life.

Father Vincent is an adept in all the secrets of magic. If you have to pass the night near a wood or a marsh, he will give you an infallible recipe to guarantee you from the danger of the hobgoblin of the swamps (the Will-o'-the-wisp). You must keep your hand well closed over some pieces of money which have been "conjured" by Father Vincent, and when the imp comes near you must turn your back towards him and throw the money over your shoulder to him. Then while he is searching about for it you will have time to escape safely.

If a ghost prowls around your dwelling, it can be infallibly charmed away by the employment of this formula, accompanied by the sign of the cross:—"If thou comest in the name of God, speak! If thou comest in the name of the devil, return to hell!"

Do you want to be sure of killing your game when you go out shooting? The sorcerer will touch your shot and you will be a second Freischutz.

Are you a jealous husband? Go to the magician and he will show you the face of your enemy in a bucket of clear water, in which the moon is reflected. But do not rush too precipitately to your revenge, for the magistrate will hardly attach much weight to this kind of evidence.

But Father Vincent does his liveliest trade in preserving farms from the visits of imps. A few of these are useful; rubbing down the horses, cleaning out the stable, brushing the harness; but generally they amuse themselves by snatching the hay from the rack or the oats from the manger, jumping on the horses' backs to prevent them from sleeping, pricking them with forks and otherwise tormenting them. To guard against such injury an annual "conjunction" is indispensable. It takes place on the last night of April, and is carried out in this wise. All the men, women, and children of the farm assemble in the court, where a great fire is lit, round which they march to a deafening music of shovels and old kettles, and when the pantomime is at its height Father Vincent appears on the scene, grave and solemn, and throwing in the air some drops of oil of spike he mutters two or three magic phrases and the farm is safe for a year.

Father Vincent offers a good investment, for five francs, to the youth who is thinking of marriage. The latter brings to him a lock of his future wife's hair: the sorcerer throws it on some live coals, and after pronouncing some magic words he carefully gathers the ashes, which he mixes with a nearly fluid pomado, the secret of whose composition he carefully guards, but which is merely the honey of roses of our pharmacies, and hands the compound to the trustful lover. The lad takes this to the house where he and his wife are to dwell, and secretly anoints with it the chairs and table, the bedstead, and the rest of the furniture. As soon as the young girl shall seat herself on one of these charmed chairs all the virtues of a good and true housewife will arise in her, economy and order will reign in the little domain, and no thought of unfaithfulness can stir in her protected mind. All that for five francs! the youth is reckless indeed who misses such a chance.

It would be hardly fair if Father Vincent kept all his benefits for the lads. He has a talisman too for the lasses, and this is much sought after. It is a little branch of poplar which the girl must hang all day by a blue ribbon in front of her mirror. On retiring she places this branch under her bolster, and then rubs her temples with the blood of a peewit, pronouncing these three important words, *Babudeth—assarobi—abumcleth*. Then she must go to sleep straightway, and the god of dreams will in all probability send her a vision of some handsome lad, probably the one who pressed her hand at the recent village fair. If no such result occurs matters are serious, but she may try again the next Friday, and there is one last chance for her on the Friday following. If no such dream should come all those three Fridays she must resign herself, and Saint Catherine is sure of one more attendant.

So the profession of the sorcerer is a tempting one; money and honour are its sure accompaniments; but it can only be arrived at by two paths: hereditary transmission or initiation. If you are not the son of a sorcerer and you feel an irresistible vocation, you must resolve on passing through the rites of initiation. Many hesitate at the last moment, and no wonder for the privilege can only be conferred by Satan himself. Taking in your pocket a black venomous toad you set forth on a dreary, sombre night and proceed to the thick of a forest. There you must roam or till you come to where four roads meet. There you spread out some hempen cloths, and your toad must be made to make several journeys across these, so as to mark with his slime a double cross. Then, when midnight strikes you cry, with a loud voice: *Diabolos—telegrammas*. Beelzebub then appears, and you arrange the terms. The blood of a black chicken will answer instead of a toad.

Surely the Stato might do something to remove these miserable superstitions from our midst. Education is all that is needed. When light breaks in these empty phantoms will disappear, and with them all the pack of somnambulist *gougnours*, and sorcerers.

A century or two ago sorcery was as powerful in our large towns as it is now in our remote hamlets. The secrets of the mystery were given in some grim volumes, the circulation of which was carefully guarded, and most of them claiming to give traditions which had descended direct from King Solomon. The art of sorcery is always traced to the reign of this learned king, and it is curious to remark that the origin of freemasonry is also dated at the period of the building of the Temple. We have before us one of these singular volumes printed at Rome at the commencement of the 18th century, and illustrated with cabalistic figures in circles and triangles, black chickens, devils' heads with hauging tongues, and other somewhat cheerful adjuncts. It is divided into two parts—the first giving a series of "conjunctions" to call forth the devil, and the second consisting of "secrets" for curing diseases. It would serve as an appropriate appendix to the foregoing if we here reproduce a few of the formulæ of magic medicine which our ancestors believed in.

For the Mange and the "Haut-topin" in Animals.—*Gravement ferrant a faille le grand, c'est Cain que te fait cha.* Take flow of sulphur, with oil and a pinch of salt. Make an ointment and rub the animals with it, pronouncing the above words. Do again and again until they are cured.

For Breaking and Destroying all Enchantments.—Take a cupful of salt, more or less, according to the number of animals bewitched. Pronounce over it these words—*Il ergo gomel ha gubridans sesserant deliberant amei*. Go three times round the animals, starting in the east, always following the course of the sun and facing the animals, throwing pinches of salt on them and repeating the same words.

To Cure Strains and Bruises in Horses.—*Atay—de Satay Suratay—Avalde marche!* Repeat this three times, strike the horse's hoof. If the injury is on the side you mount from the strike the left hoof. Apply at the same time round the fetlock a compress of vinegar in which you have boiled sage and rosemary, and renew this as often as it cools. You would do well also to bleed the animal in the neck.

To Keep a Flock from touching a Grain while passing between two Sown Furrows.—Take a piece of silver and hang it to the sheep's neck, saying these words nine times—*Gricææur Saloda Voluptere*. I require and command and humbly conjure that thou mayst come and guard and watch over my little troop of woolly beasts in the evening, the daytime, and the morning, saying *Hurlupupin*.

Against a Sword-stroke.—Before going to battle write on a ribbon of any colour these two words, *Buoni jacum*. Bind the right wrist with this ribbon, be without fear, defend thyself, and the sword of thine adversary will not touch thee.

To Put a Stop to Eating at Table.—Place under the table a needle which has stitched the shroud of a corpse and which has pierced its flesh, then say, *Coridel Nardac Dagon*; then you shall throw a piece of asafœtida on burning charcoal and retire.

To Stop a Serpent.—Throw down behind him a scrap of paper soaked in alum, on which you have written with the blood of a goat, *Arrête belle; voilà un gage*—Stop, my beauty; there is my gage. Then brandish an osier switch in front of him; if he is touched by this switch he will die on the spot, or will promptly flee.

To Prevent Fatigue in Walking.—Write on three silk ribbons, *Gaspard, Melchior, Balthazar*. Fasten one of these ribbons

the right knee, without tying it tight; the second above left knee, and the third round the loins. Take, before going, a little glass of anisette in some broth, or a glass of wine, and rub your feet with rue bruised in olive oil. An admirable secret for preserving unbroken health, often by His Majesty King Charles XII. Take at the rising of the sun—the author of life—4 branches of rue, 9 juniper berries, 1 nut, 1 dried fig, and a little salt; bruise all together, and take it several times in youth. Tetragrammatos mentioned above is probably intentionally derived from Tetragrammaton, a Greek name for the Hebrew word of four letters, Jehovah.—Ed. C. & D.]

SUCCUS CONIL.

JOHN KENT SPENDER, M.D.

The *British Medical Journal*, July 24, 1875, I directed attention to some preparations in the *Additions to the British Pharmacopœia* of 1867, and I spoke of the value of the juices, or that had been lately introduced. It is remarkable how many of these win official acceptance. In 1864 Dr. Garrod had that these preparations (the *succi*) had been for some time in medical use; for the first time three were then made official, and two more were added in the Appendix. Five are the rather meagre resource which pharmacy has afforded us in this department of the *Pharmacopœia*. Of more importance, however, than the penury of pharmaceutical skill is the official dosage, which in this case is certainly misleading. The sort of value, asked the late Dr. Anstie, can be attached to the statement that the *succus conii* may be given in doses of thirty to sixty minims? It had been recognised for some time past that four or five drachms may be often given without production of any marked physiological phenomenon; and even ounce-doses of this juice (prepared by a first-rate manufacturing druggist) have been administered without producing any recognisable effect whatever. Considering the possibility of a substance having important peptic powers and yet causing little physiological disturbance in the healthy human body, it is at least very unlikely that a fluid drachm-dose of any drug will be of much use if an ounce-dose can be taken with impunity. Now, it has been asserted that no poison, except prussic acid, exceeds conia in the safety and rapidity of its operation; and, when introduced into a vein, the fatal effect is almost instantaneous. Hence we draw an approximate conclusion of the comparative inertness of the officinal preparations of conium. Dr. Stillé relates that Pliny Earle, that he took experimental doses of extract of conium in order to discover how much he could bear. Beginning with a grain three times a day, he gradually augmented the quantity until, on the fifteenth day, he took at each dose twenty-five grains. The effect was "such a fulness in the head that it was caused by a ligature around the neck, together with vertigo." Forty-five grains on the following day caused the repetition of the same sensations, "with the addition of weakness and weariness of the knees and a vacillating gait." And Hunter records that, in a case of phagædenic ulcer resulting from bubo, he administered extract of hemlock in doses gradually increased to two ounces and a half a day. Dr. Stillé remarks that the enormous doses of conium required to produce the effects described in Dr. Earle's experiments render it plain that the preparation used by him was very feeble. In a very early number of the *American Journal of Medical Science* Dr. Mountain tells us of very different and even dangerous results from taking twelve grains of an extract prepared from the conium at a temperature below the boiling-point. It was Dr. Neligan who first used or praised the *succus conii*; when the average dose recommended by so high an authority was only thirty minims, there may be an apology for the standard being misleading. In my last paper I gave the history of a case of violent "hysterical chorea," occurring in a young lady of forty-six or forty-seven years of age, so turbulent and exhausting as to induce some fears of the possibility of death. Three ounces of hemlock-juice were consumed daily for several days with a very happy therapeutic effect; and I am able to add that since this illness (in 1874) there has not been the slightest return of the malady. I may remark here that in the *United States Dispensatory* there are two preparations called respectively the alcoholic extract of hemlock and the fluid extract of hemlock.—*British Medical Journal*.

THE ADULTERATION OF FOOD IN GERMANY.

THE Berlin Correspondent of the *Daily News* gives the following sketch of the first reading of the now Adulteration Bill for Germany:—

It was the elder Pitt, if I remember correctly, who once silenced a noisy interrupter, and awed the House of Commons, by the tone and manner with which he repeated "Sugar! Mr. Speaker, I said sugar. Who will laugh now?" The Deputy Buhl has a different watchword. With him it is "Vinegar! Meine Herren, vinegar." During the whole session he has been trying to provoke a discussion on vinegar, whether because he is a great producer or a great consumer of that useful acid, I have not yet succeeded in learning. Yesterday he tried once more, but was again defeated. He was curious to know whether the Federal Council purposed to impose a temporary or transition tax upon vinegar in the South German States, pending their entrance into the so-called "Spirituos-liquor tax system;" but the President of the Chancellery postponed an answer until next Friday.

Other articles of food and consumption took up the rest of the sitting. The first reading of the Bill to prevent and punish the adulteration of food was begun, and the debate was unusually interesting. The Deputy von Staudy was in favour of extending the scope of the measure. He thought the police ought to interfere, not only to protect the public against the injury of their health, but also against frauds upon their purse. It was no worse to sell logwood for wine than to sell St. Julien for Chateau Margaux. This, he said, was the opinion of the Right. Herr Buhl insisted, like a true logician, on the necessity of exact definitions. What was wine? What beer? It was necessary to know what these things were before trying to ascertain by law what they were not. The Deputy Mendel, who seems to be a chemist, or a physician, or an expert of some sort—favoured the House with some details. A little strychnine in beer was not injurious, nor was prussic acid, nor carbonate of magnesia. It all depended, not so much upon what one drank, as the quantity; a truth which Captain Bunsby himself could not have spoken with more gravity. Count Luxemburg observed that the proposed Bill would give the police power to revise the stock of carpets at Gersons' warehouse every two weeks or oftener, and to this he would not consent. Carpets, I may remark, are not treated here as articles of food, nor are the green leather coverings of baby perambulators; but there are few other objects which the police and the Imperial Bureau of Health have pursued with such zeal, and as they say, with such good results. In both cases the difficulty was with chemical compounds used in dyeing. The leather tops, it was feared, might become as destructive as Herod himself to youthful Teutons, and large numbers of the carriages were seized. The carpets were dangerous through the poisonous dust that they sent into the lungs. In both of these cases it happened, singularly enough, that the obnoxious articles were foreign—the leather American, the carpets French—and the wise impulse of every patriot was at once to cover his child's perambulator with German leather, and his wife's salon with German carpets. Dr. Carl Braun stated that a wine merchant once sent Lord Palmerston a case of wine, with the assurance that it was good for the gout; but the steward soon afterwards returned it, with the explanation that his lordship had tried it and preferred the gout. He characterised admirably the fastidiousness of his countrymen. He knew respectable people, he said, who when they bought wine cared more about a neat and attractive label on the bottle than about the quality of the fluid inside the bottle. "After all," they say, "when I give an entertainment I like something showy and imposing, for my guests are no better judges of the quality of the wine than I myself." Here Braun made a long speech full of piquant stories and droll wisdom, not to speak of some very trenchant criticisms of the plan to endow the police with such inquisitorial powers. He also intimated that the evil had been exaggerated by the Board of Health itself. It was too active in the Prussia, he said, and frightened good people beyond the actual danger. There is perhaps something in this, but there can be no doubt that there is no other city where the alarm of people is more justly excited, and where measures of precaution are more necessary, than in Berlin. That the public would resent the discretionary powers to be vested in the police is certainly contrary to my experience. It is upon the police that they depend with the most childlike confidence, and for themselves they will do absolutely nothing.

CANADA BALSAM.

THIS article is largely collected in the province of Quebec, where the *Abies balsamea* grows in great abundance. It is gathered there not only in quantities sufficient to supply the needs of the Dominion, but also to export to a sufficient extent to form an important article of commerce. The writer is indebted to the kindness of Mr. W. E. Brunet, chemist, of Quebec, who is a large dealer in this balsam, for the following details in reference to collecting it:—

The whole family of balsam gatherers go into the woods in the Laurentine Mountains, at a distance of from seven to ten miles from the villages. There they encamp for two months, their baggage consisting of canisters, packages of pork, flour, a stove, and bed covering. The mother remains in the camp to do the cooking and to strain the gum, and it is she who transports it, upon her back, in canisters of five gallons each to the village, where she sells it at the rate of \$1.20 a gallon in exchange for flour and pork, which, on her return, she carries also on her back to the camp. The father, with his boys, goes to pierce the trees, each furnished with a small can with a tube proceeding from it at the top. This tube is of iron, sharpened, and with this portion of the instrument the blisters of gum are pierced one by one, the liquid flowing down the tube until the vessel is full. The children mount into the branches while the father works about the lower part of the tree. A large balsam tree, rich in gum, will yield as much as a pound of balsam; but one with another the yield of each tree is not usually more than eight ounces. The father, with the help of two children, can gather from sunrise to sunset a gallon of balsam, but the man who works alone has done a good day's work when he has collected half a gallon.

One cannot gather the balsam when it rains, or even on the same day, for the branches let fall drops of water, which, mixing with the gum, render it milky and unsaleable. The collection of the balsam is made from June 15, or about the time that the snow disappears from the mountains, up to August 15 or September 1, the date when the snow usually begins to fall, or the weather turns cold and the gum no longer flows. Near the villages and upon partially cleared land it is gathered in May, but this is only in small quantities. It is only the poorest inhabitants and the Indians who do this business. There have been gathered in the mountains nearly 3,000 gallons this year; the largest crop ever gathered was 5,000 gallons. A tree should not be pierced two years running, and requires two or three years' rest before being tapped again, and then it always yields very much less than the first time.—*Mr. William Saunders in Proceedings of American Pharmaceutical Association.*

ON CANCER.

By Dr. SIMON. C.B., D.C.L., F.R.S.

The address which follows was delivered at Birmingham, at the annual meeting of the Midland Medical Society, on November 9, 1877, and is, slightly abbreviated, copied from the *British Medical Journal* of February 16.

After a few introductory remarks, Dr. Simon said:—

Before I start, let me say that throughout my argument I shall always use the word "cancer" in its old-fashioned surgical sense, intending it to cover all the various tumours and ulcers which we familiarly class as malignant; and the word "tumour," which often may include "cancer," I use restrictedly, in its pathological sense, as meaning only tumour by process of growth.

I. The men who within our times have theorised on the evolution of cancer, have equally had before them for explanation certain broad facts in the natural history of the disease. They have seen that the tendency of persons to suffer cancer runs with marked excess in particular families, or, in other words, is in a great degree hereditary. They have seen that the natural course of a cancer, left to itself, is to pass into indefinitely extending processes of local destruction, which involve such flux of organic material as must sooner or later exhaust the general strength, and end the life, of the patient. They have seen that often before this course, as regards one cancer, can complete itself, other cancers are making progress in other parts of the patient's body, to the more rapid detriment of his life; or

that, at any rate, after his death, other cancers, more or less advanced, will generally be found in his body. And, not least, they have seen that surgical removal of cancer, whether by knife or caustic, is in general of no effect to cure the patient; often because of the just mentioned presence of the disease in various other parts of the body; often, also, because the disease recurs in or near the place of removal.

The older cancer theory of our times—the theory which was in full bloom some twenty years ago, and is even now not extinct, interpreted those facts as about the following effect. It conceived the patient to be *ab initio* the subject of a form of general ill-health or cachexia which disposed his entire body to form cancer, just as the entire body of a person incubating small-pox is disposed to form variolous pustules. His state before the cancer showed itself was a state of general cancerous tension. When a solitary cancerous tumour (say a scirrhus breast) came under surgical notice, it was regarded but as the partial effect of a diffused cause, the outward and visible sign of a tension to which it gave partial vent; and the many cancers, when they were seen, in lymph-glands and various other organs, were but the more perfect utterance of that original dyscrasy.

In this theory there was, as we now know, a large admixture of wrong inference. For the better theory which is now generally accepted in its stead, our profession has been mainly indebted to the staff of the Middlesex Hospital; in the first place, to Mr. Septimus Sibley's most instructive paper of pathological statistics, published in 1859, from the experience of the cancerwards and deadhouse of the hospital, to which he had then recently been house-surgeon and registrar; and afterwards to the admirable practical teachings (too soon silenced by death) of the late Mr. Charles Moore and the late Mr. Campbell Morgan, surgeons of the hospital.

The amended theory of cancer recognises no cancerous cachexia except such general ill-health as gradually results from the progress of cancer. It appeals to the fact familiar to us all—familiar even in a degree which often in a particular point of view makes the experience painful to us, that the person who comes to consult us with a cancer, a person whom we may at once see to be doomed to death within a year or two, is often of all appearance in rude general health. The theory does not necessarily pretend to explain the origin of the local disease which in such a case is brought to our notice; but, starting from that as fact, it argues what must result from it. Given (it says) one primary tumour, all other facts of the case follow from it by logic of humoral sympathy; just as, in the story of syphilis, secondary and tertiary consequences need only the one bad chancre to account for them. The cancerous cachexia, like the syphilitic cachexia, is but an affair of progressive infection; essentially by the juices of the body—the lymph and blood, but sometimes also accidentally in other ways; an affair only of infection, of ever-widening infection, from the one first established focus of disease. How that first focus came to be, and how it came to have its wonderful endowment of infectiveness, are questions which must be separately argued; but meanwhile (says the theory) let us frankly recognise that, where our cancer-patient shows certain general signs of disturbed health, presumably the "cachexia" is the effect, not the cause, of the cancer.

II. Of late years, too, there has been change in the point of view in which pathologists have regarded the Anatomy of Cancer. Thirty years ago, cancer was supposed to be a specific bodily texture, having (as cartilage or muscle has) an organisation proper to itself in contrast with other textures, and proper to it in all its forms. In those early days of modern histology not all men who had picked up a smattering of Schwann were competent to understand the real physiological significance of his doctrine; and many a microscopist of those days talked of "cancer-cells" as he talked of nerve-cells and fat-cells, professing that, by the visible presence or absence of these characteristic cells which he described, every tumour would declare itself malignant or non-malignant. This (in the sense in which it was meant) was an absurd twist to be given to pathology; and I remember that even in 1847, in the first pathological lecture which I gave at St. Thomas's Hospital, I ventured to raise my voice against it. From across the North Sea, however, there was then happily beginning to be heard a voice far stronger than mine; and Virchow, rapidly laying the foundations of his now well-known system of textural pathology, soon confined to the limbo of vanity those mere's-nest "cancer-cells" of the too easily satisfied preceding decennium. The profounder and permanent work which since that time has been done in the anatomy of cancerous and other tumours is of

immense amount—immense, even if we regard only the butions which have been made to it in the German lan-; but even yet it is far from complete, and the generalis- to which at present it seems to point must of course be d subject to correction by further contributions as they in.

is impossible that on this occasion I should attempt to do e in detail to even any of the more finished sections of mmeuse anatomical labour; and I will only venture to be in a few sentences what, up to the present time, to me their essential outcome. It seems that cancers ot, as was pretended, any one structure common to them all; on the contrary, different species of cancer have structures ssimilar as the structures of bone and muscle. One ple of similarity does, indeed, apply to them all; he principle of likeness *per capita*, but the principle of like- *cer stirpes*. Each primary tumour has characters impressed and for the most part very emphatically impressed, by we may call its particular local parentage. The different s represent different textural origins; each texture which a primary cancer having, so to speak, a cancer proper to

Mucous and cutaneous surfaces and involutions, connec- issues, pigment tissues, bone and periosteum, muscle-sub- , lymph-gland, nerve-substance, and so forth: each has n distinctive way or ways of growing primary cancer; s we study the whole range of cancerous tumours, from us to glioma, we seem to see that the growth of each itself only gradually divergent from the normal growth- of the texture which it represents. And as each sort of y cancer expresses in this way more or less clearly the which started it, so, of course, it is in intimate structural y with the non-infective tumours of the same organ; and I e that the best histologists, when they contemplate the xternal beginnings of a cancer in any affected organ, see uch simple signs of textural overgrowth as might equally e beginnings of a non-infective tumour.

a certain sense, however, though a sense widely different that of the doctrine of thirty years ago, we may still say the various sorts of cancer have morphological characters mon; but the likenesses to which I here refer are like- s rather of expression than of feature. Thus, for instance, ms general to cancers that the overgrowing textural nts of which they primarily consist do not develop into xture, but remain more or less immature; and that in cases they exhibit a marked reversion to very early em- ic type. It seems also general to cancerous, as compared non-cancerous tumours of respectively the same textural age, that, as they grow, their first textural type soon be- obscured: on the one hand, by the crowding of forms , in proportion as the process is vehement, will more and be immature or embryonic; and on the other hand by evi- , which are sometimes extreme, of the tendency of the growth to degeneration. On the whole, then, the know- which anatomy hitherto contributes to the explanation of is but indirect, and rather negative than positive in its sgs. The anatomical forms explain nothing in regard of roperty of infectiousness which is associated with them, hich, as I will hereafter show, constitutes the real puzzle e disease. The anatomical forms are matters of mere accident; but the infectiousness of the cancer represents y cause.

As regards the extremely difficult subject of the causes cer, it may, I think, be said that of late years we have o estimate more fitly the nature of some of the problems have to be solved; and that, in consequence, some defini- nes of study have begun to suggest themselves as tending, y or indirectly, to throw light on the origin of the disease. as this progress may seem, it is, I think, not to be ed; and those who are studying the ætiology of cancer erive the greatest encouragement, as also, I think, some nstructive suggestions, from a consideration of the won- advances which during the last dozen years have been n the etiology of tubercle.

A first and very strongly-marked ætiological character of is its preference for particular lines of hereditary succes- Superficially, it may appear that cancer in this respect llows the lead of the non-cancerous tumours, for they nd to run in family lines; but, on fuller inquiry, it seems less than certain (at least so far as some of the best known of cancer are concerned) that cancer and the non-cancerous s are hereditary in two different senses. In the non-

cancerous tumours the hereditary influence seems to be the true and entire cause of the phenomenon; whereas, in some of our best known types of cancer, it seems only or chiefly to supply that part of the causation compound which we familiarly call by the name of predisposing conditions: a distinction which, our studies of tubercles tend to show, may be one of most critical importance.

I have said that the hereditariness of the non-cancerous tumours, as compared with that of cancer, seems to be a simple matter. The non-cancerous tumours, in their most characteris- tic forms, belong, I believe, to the same pathological category as supernumerary toes and fingers; that is to say, they repre- sent the same sort of idiopathic fault in the embryonic ante- cedents of the animal. They are local quantitative "monstrosi- ties." True, they may not be ostensibly congenital, as tho toe or finger is; but, though a part have not at birth any ostensible pleonasm of texture, not the less it may have in reserve the endowment which will afterwards evolve such pleonasm, a waiting-power like that with which the sexual organs remain undeveloped for the first sixth or seventh part of life; and the growth of the tumour, perhaps not becoming manifest till years after birth, illustrates, I believe, when at last it comes, the deferred exercise of a congenital endowment. As to this sort of anomaly, it can be no wonder that, amid the infinitely complex movements of force and matter which fulfil the scheme of embryonic development, sometimes this or that molecule divides itself not quite normally, or sometimes this or that molecule drops ever so little out of line, or sometimes there occurs unduly this or that divergence, or this or that confusion, of molecules. It is easy to conceive that, in immeasurably small errors of this sort, germinal antecedents may establish themselves for even the most startling malformations which adorn our museums; and, among such supposed molecular irregularities, the simplest we can imagine would be that, in the distribution of matter and force among so many millions of molecules, sometimes there results here or there a supernume- rary or superpotential molecule. And, as regards the hereditari- ness of such errors, nothing is more certain as fact than that, when once the monstrosity exists, it is apt to be fixed and appropriated as part of the transmissible type of the animal. It is not only that the tendency to form (as the case may be) the super- numerary digit or the hypertrophic tumour runs in very marked degree in lines of hereditary succession, but that in both cases we sometimes see the local endowment cling to its place of manifestation with an obstinacy which is as characteristic as in- heritance,—we see, namely, that the amputated supernumerary digit, or the cut-out non-infective fibroma of skin, tends to re- produce itself locally, even again and again, as if in local resti- tution of a normal type.

The marked hereditariness of cancer is certainly not to be explained on hypotheses as relatively simple as those; and I do not think it to be yet proven that the hereditariness of cancer is (except sometimes in certain accidental respects) an attribute of the spot where the disease occurs.

2. A second ætiological character of cancer is the tendency which it apparently has, in some of its forms, to found itself (so to speak) on certain already existing local disorders. See, for in- stance, as regards epithelioma of the skin, the very numerous cases in which the chronic raw of a common mechanical irrita- tion, having existed perhaps on and off for years as a mere inflammatory phenomenon, has at last (as the phrase is) "taken on malignant action." And, in the same point of view, as re- gards the terrible liability of the female sexual system to cancer, and the conditions which make womb and breast such apt soils for the cancer-eventuality, see, and especially at the one critical period of life, how vast a quantity of common irritative un- healthiness is suffered by the two organs as incidental to their decline of function.

It is worth notice that, in this ætiological direction, cancer seems to diverge considerably from the non-cancerous (hyper- trophic) tumours; for, in the pathology of the latter, it can hardly be said that any important part is played by circum- stances of local irritation. It may, no doubt, be said that, in the vegetable kingdom, tumours on various parts of plants are found, in a very extensive range of cases, to arise where there is such irritant action as would in animals produce inflamma- tion. There are the well-known and numerous cases in which insects or acari give occasion to the tumours, on leaves and elsewhere, which are known by the name of "galls:" cases, indeed, in which the animal avails itself of the plant's vital irri- tability to get housing of suitable pattern built for its young

by the resentful efforts of the texture which it invades; and more recently it has been learnt that organic forms far below the status of insects and acari, and so minute as to be out of reach of any but skilled observation may cause tumours of the same sort. Thus M. Davaine, investigating the gall of the Alpine rhododendron, in which a parasitic animal had in vain been looked for, finds, as the apparent cause of the tumour, a very minute fungus, with mycelium, pervading it; and a Russian botanist, M. Woronine, finds that forms of the lowest (vibrionic) micro-fungi stand in apparently a large causative relation to tumours of the roots of certain plants—viz., of the alder and the garden-lupin. Cases like these are evidently frequent in the vegetable kingdom, and are perhaps to some extent represented among animals by those thickenings of texture which serve to encapsulate in the body for an indefinite time the cystic entozoa or the trichina; and also among animals a certain quantity of papillary or poly-pous outgrowth will sometimes be found associated with chronic inflammations of skin or mucous membrane: but barring such doubtful exceptions, it would seem that tumour-formation of the merely hypertrophic kind is not apt to arise in the textures of the animal body in consequence of common irritation; and the relation of cancer to irritated parts would thus far appear to be *sui generis*.

3. Of all the ætiological characters of cancer, that which I think incomparably the most important is the property of infectiousness which its cause imparts to it, and which in fact makes the identity of the disease.

I need not say that in a great variety of diseases which are primarily local (including many which we can ourselves start by inoculation for purposes of study) the primarily diseased part is able to infect other parts by means of the lymph and blood which it directly or indirectly transmits to them, and into which it has shed its contagium; and, in the case of cancer, evidence has long existed that those are the essential means by which the disease, when once started at any spot, tends to produce secondary and tertiary cancers in other parts of the body. Molecules, larger or smaller, of the primary cancer are always apt to be contained in the outflowing lymph and blood; and, in particular cases, the growth intrudes into veins with masses which are visible to the naked eye, and bits which detach themselves pass on with the blood till they become fixed as emboli in smaller vessels.

Secondary and tertiary cancers beginning to show themselves in the organs which have been infected from the primary seat of the disease invariably imitate in their structure the particular structure (whatever it was) of the primary cancer—the epithelioma, the glioma, the fibrosarcoma, or what not; and commonly they imitate it with an exactness which extends even to its minute individual peculiarities. When this remarkable fact is taken in connection with that other (which I just before mentioned) of the frequent passage of shaped texture-elements from the primary cancer into the lymph and blood, the simple theory at once suggests itself; that secondary and tertiary cancers are the outcome of a kind of natural budding-process from the primary; that living cancer elements, floated from the one place to the other, and carrying with them a strong germ-power of their own, affix themselves as parasites to the textures which they reach, and grow there to an unlimited extent, in forms which (from the nature of the case) repeat exactly, as would vegetable grafts, the features of their parent stock. This explanation of the secondary and tertiary growths in cancer would seem to have some warrant from its simplicity; but though, as matter of fact, it seems certain that in some cases transported bits of cancer-tissue do really engraft themselves in new sites in the manner which the theory describes, such graftings appear to be quite exceptional, and their result, as regards the growth of the grafts, is questionable.

The process in which the secondary and tertiary growths in general arise is apparently of a zymotic kind; and certain observations relating to it which have been made by Dr. Creighton seem to me of quite singular interest with regard to the ætiology of cancer. In the course, namely, of some elaborate cancer-studies which were made by him under the Lords of the Council—studies which it was my great good fortune to be able officially to promote—Dr. Creighton made much minute investigation of secondary cancer-nodules in liver and lymph glands, and of various other secondary and tertiary cancers; and the explanation, which this research has seemed firmly to establish, of the meaning of such consecutive nodules, is, not that they represent the primary

disease propagating itself by off-shoots to new parts, but that they are autochthonic growths of the parts where they occur. It appears that, under the contact-influence of matter from the primary cancer, the textural elements of the next affected organ pass, by successive changes of their own, into growth of a new sort, by which, as it advances, the secondary nodules are gradually evolved into their wonderfully close textural imitation of the distinctive texture of the primary disease. Almost invariably this imitative growth seems to be not in any degree modified by the anatomical type of the organ in which it occurs: Dr. Creighton's single (but only partial) exception being the case of the ovary; which organ, when secondarily cancerised, seems able to add more or less cyst-formation on its own account to whatever cancer type it has got by contagion.

The spreading of cancer by such a process as Dr. Creighton describes must certainly be regarded as one of the most curious of all hitherto observed facts of contagion. Pause and consider what it signifies. The primary cancer, anatomically regarded, is a definite original texture of the body, growing a modified process of growth, in which, notwithstanding its modification, the original type of the texture can be identified; and now this modified texture is seen to possess the marvellous endowment, that, coming into inoculative relations with other textures of the same body, it compels those second textures to abandon their own textural identity, and heterologise themselves to the textural pattern of the tumour. Think how, as we watch in different cases the workings of the contagium of cancer, we see the unity of that principle expressed in infinite variety of results—see the skirrhous of breast, or epithelioma of lip or tongue, counterfeited by the textural elements of the infected lymph-gland—see some melanotic sarcoma of the choroid, or some follicular form of bowel-cancer, reproduced by the cells of the infected liver—see the infected lung representing some osteosarcoma of the femur or some cysto-chondroma of testicles. And as we contemplate, in the light of Dr. Creighton's observations, the local progress of the primary disease (say some glioma of the retina, or some round-celled sarcoma in a limb), we become, I think, better able to understand the meaning of the singular co-called "infiltrativeness" which it possesses, as compared with the merely displacing power of (say) a large fatty tumour or a large collection of hydatids: an "infiltrativeness" with which it seems to abolish, but not by stretching, the various barrier-surfaces against which it comes; an "infiltrativeness" which, it would seem, may be nothing else than the circumferential contagious working of the cancer on the elements of each texture which it reaches.

I need hardly say that the ultimate meaning of these strange phenomena is beyond our present powers of explanation. Dr. Creighton's facts tend irresistibly to remind one of the molecular changes in sexual impregnation. As one sees the emigrant forms of the primary cancer melt away in the lymph-gland which they have been borne, and then the texture of that lymph-gland begin a series of developmental changes which will eventuate in a new presentation of the parent disease, one's mind recalls the original working of the spermatic form which called the whole organism into being, and one is tempted to speculate whether, perhaps, the essential power of the "male germ disease," its power of specific fertilisation, may really be that the part has in activity in it (under unexplained conditions) some normal or abnormal survival of that ever marvellous first ferment. But, if there are points of view in which that sort of speculation might seem to find encouragement from facts (and perhaps especially as regards the more fungific cancers of early life) other points of view, especially as regards the skirrhous and the other epitheliomata, seem to me to suggest a widely different, though not necessarily incompatible, line of speculation. As our patient in extremity of advanced syphilitic poisoning, with tertiary gummatous tumours widely diffused among the organs of his body, tells us of the little chancre-inoculation ten years ago from which this general tumour-formation has resulted; or as we call to mind the equally demonstrable contagium of tuberculosis, and the profuse, though only military tumour-formation which this contagium specifically promotes—can we, with those cases before us, feel sure that no unequal exterior influence, nothing of the nature of a mercurial poison, is concerned in the causation of cancer?

Our present ætiological position seems, in short, to be this. In the genesis of the primary cancer, we have evidence of two forces: one, the natural growth-power of the texture, the other a power which is at least relatively foreign; and the cancer, which will act zymotically on other organs, expresses the co-

ation of those two powers. Whether the process, as regards its unknown factor, depends, directly or indirectly, on contagium from the outer world, or is from first to last only the abnormal play of forces native to the body, is the question which waits to be solved. In our present imperfect state of knowledge with regard to many of the requisite elements for judgment, it would, I think, be unwise to attribute probability to either of the alternatives. In relation to them, as well as to other conceivable hypotheses of cancer, our scientific need and duty is to continue observing, as accurately as we can, every local and personal and hereditary condition which may seem to act, either attractively or repellingly, on the cancer which it is our aim to understand; and of such indications there are already some which I think valuable. Thus, for instance, the fact (above noted) that cancer has a decided affinity for organs which are already in certain accidental ways disordered, seems to show that the unknown exciting cause either is not native to the body, or at least is not specially an attribute of the texture in which the disease breaks out. And the fact (as it appears to be) that cancer, though eminently contagious from part to part in the affected body, can hardly, if at all, be communicated to any other body, even among animals of the same sort, by artificial relations, injections and transplantations, seems to say—that the unknown factor in cancer can only operate where in general predisposing conditions exist.—and, secondly, that cancer is perhaps not a hereditary disease, except as regards those predisposing conditions.

In coming now to the Treatment of Cancer, I come to what I cannot but describe as hitherto matter for most painful contemplation. We practically have no treatment of cancer (in the sense of curative or preventive treatment) except such consists in endeavours, in selected cases, to extirpate it with the knife or caustic. In a very large majority of cancer cases, probably more than three-fourths of the entire number, there can hardly be any serious thought of recourse to this one expedient; sometimes because of the original locality and perhaps visceral relations of the disease; sometimes because the cancer, since its origin, has made too much progress; and sometimes because of conditions concerning the patient's general health. To the knife or caustic, the sole present resources of our art, we therefore can only resort in favour of the much smaller proportion (probably not as much as one-quarter) of our cases. And, in regard of this favoured minority, what is the good which surgery promises? First, it can promise a microscopical hope—a hope which, on the whole, is so small as to be scarcely distinguishable from despair, that the disease will be radically cured by the operation. Secondly, it can hold out hopes of a different nature and the strength of which will differ very greatly in different cases, but which, at their very best, are only hopes of mitigation: sometimes the prospect that, under circumstances which otherwise threaten very speedy death, immediate, though brief, respite will be obtained; sometimes the possibility (more or less) that such real check will be given to the disease as may sensibly affect the duration and (for longer or shorter time) the comfort of life; sometimes the object that the peculiar local horrors of the disease will, if even only for a short time, be abated. All this, taken at its best, is but a measure of comfort for us to be able to give in respect of a disease so frequent and so dreadful as cancer. And even as regards this as this for but one-quarter of the cases!

In late years, hopes have been expressed that perhaps the general prospect as regards these cases may improve under a more vigilant and strenuous application of the doctrine which we owe to the Middlesex Hospital. The opinion that cancer is not a merely local disease implies, of course, that every favourable opportunity should be made to remove it before it ceases to be merely local; and the line of practice which has of late been recommended in that view is in substance this:—"Except so far as there may be in the individual cases special reasons to the contrary, operate, at the earliest possible moment, with knife or caustic, as searchingly and extirpatively as you can, on every sore or tumour which you think cancerous; and, if there be any reappearance of the disease, whether at its first site or in the lymph-glands or elsewhere, operate again to the like effect, should occasion arise, again, and again, and again."

As regards my estimate of that rule, I need hardly observe to the injudicious persons, purporting to give effect to it, that it is a very objectionable thing under the name of surgery; for you will observe what vastly important qualifications are involved in the exceptions of the rule. But I

would not seem to dispraise the rule merely because it is difficult to apply, and therefore leaves wide room to abuse. I would judge it as in dry principle, and as if it could always receive the best possible application—such application as it would have had at the hands of Mr. Moore and Mr. De Morgan themselves, if their lives had not been cut short. And, looking thus at the rule, what are we to say of it? Is it a rule which can be practically applied with any large measure of success?

So far as the arguments in its favour are speculative, I doubt whether they would justify much more hope of preventing the secondary cancerous tumour or sore than we should have of preventing secondary syphilis by removing the primary inoculation-spot when already it had declared itself a hard chancre; whether in the one case, more (or much more) than in the other, we could expect to interpose effectively between a diseased organ and its lymph-glands, or between it and the blood, at a time when the primary infective disease had already become manifest to our senses. And particularly I should doubt whether the repeated recurrence to operations could be expected often to succeed; whether the operators would not be too closely imitating Mr. Lowe's famous Hyperboreans, who, in their horror of the north wind, travelled ever more and more to the north, in hope that at last they would get to the rear of it.

But I would not pretend to answer the real question with arguments of a speculative kind. Whether a greatly more ardent practice of operating for cancer than was in favour with our best surgeons of twenty to thirty years ago would prove itself an advance in surgery; whether our operative policy towards cancer ought to be in general (subject to proper exceptions) *aggressive*, or in general (subject to proper exceptions) *expectant*: these are questions to which no safe answer can come, except from the teachings of experience; and many years must elapse, and the experiences of many men be put together, before the answer can be given in an exhaustive arithmetically exact manner.

But, be that answer what it may, we meanwhile have the pain of knowing that even the eminent authorities whose names are most identified with the advocacy of early and (in cases of relapse) repeated operations express almost no hope of radically curing the disease by such treatment. Mr. Moore, when last discussing in print (1870) the grounds on which, in his opinion, operations for cancer might be advised, expressly said that the notion of eradicating the disease by operation can but rarely sway the mind of surgeon or patient; for that, though there have been instances in which cancer of the lip, and more rarely of the breast, removed by operation, has not, even after many years, reappeared, such cases, on account of their rarity, can have but little influence in the decision. Mr. De Morgan, again, in the famous discussion on cancer of 1874, spoke of the "all but certainty of the disease's recurrence, remove it as we will." And this phrase of his drew an instructive comment from Sir James Paget: "I do not know," said Sir James, "what percentage almost means; but I will venture to say, speaking of ordinary typical cancer of the breast, or any other part which is its most frequent seat, that the number of cases in which it does not recur is not more than one in five hundred."

Now, accepting as of unquestionable authority those gloomy statements with respect to the relapse of primary cancers after removal, what but far gloomier statements can we expect with respect to the hopefulness of subsequent removals? And, returning from those details to the general statement with which I started, how can we not feel that the powerlessness of surgery in relation to cancer is a pain, if not even a reproach, to all of us?

It seems to me imperative, under the circumstances, that we should look about, with all the best intellect of our profession, to see if this state of the case cannot be amended. Little as I can myself hope ever to contribute to the object, I would at least desire at this opportunity to say how pressingly important an object I consider it; and I will even venture to make some remarks on the studies which I think should be made in the matter.

Unless we suppose cancer to be in its nature incurable and unpreventable, we may conceive its cure or prevention becoming possible in either of the two following ways. 1. In proportion as the natural history of the disease shall be scientifically understood, definite indications as to curing or preventing it will be the natural counterpart of its pathology, and the resources, as they may then be, of practical medicine will be

appealed to in an intelligible form; or (2) there is the chance—for it is no more than a chance—that, before full scientific insight is obtained, clinical experiments, more or less speculative, or even some discovery more or less accidental, may bring to light a specific antidote to the disease. Laboratory researches on the one hand, tentative therapeutics on the other, are, therefore, our two great lines of work.

NITRIFICATION.

MR. R. WARRINGTON in a recent issue of *Nature* discusses the origin of saltpetre, a subject which has vexed the minds of several generations of chemists. Nitrate of potassium, or saltpetre, is found in nature as a white crust, appearing on certain rocks, old walls, and even upon the surface of the soil; from this mode of occurrence the name "saltpetre" is doubtless derived. The largest natural source of saltpetre is afforded by certain soils in India. Soil having a white film of salt on the surface is collected from the neighbourhood of house drains and stables; the soil is washed with water, and the nitre crystallized from the solution. With this Indian saltpetre England has been, until quite recently, almost exclusively supplied. The countries of continental Europe, not having access to so considerable a source of nitre, have been obliged from early times to produce nitre for themselves. At first the earthen floors of cottages and stables were collected, washed, and nitrate of potassium obtained by treatment with wood ashes and crystallization; but the inconvenience of collecting such material, and its general poverty in nitre, soon led to attempts at producing saltpetre by artificial means. To Glauber, a chemist of the seventeenth century, apparently belongs the credit of first preparing nitre artificially. The process as carried out in the present day is in outline as follows:—Soil, containing more or less of vegetable mould and carbonate of calcium, is mixed with a certain proportion of stable manure or other refuse animal matter, and disposed in small heaps, care being taken that the mass of soil and manure shall be sufficiently porous to ensure the free admission of air; these heaps are protected from rain, and are from time to time watered with stable sewage. At the end of two or three years the earth is sufficiently rich in nitre to be worth extracting. This tedious process for manufacturing nitre has, during the last few years, been superseded to a considerable extent by the treatment of Peruvian nitrate of sodium with chloride of potassium, by which nitrate of potassium and chloride of sodium are produced.

It is evident that the artificial nitre-beds just described merely perform, on an exaggerated scale, an operation which occurs naturally in all ordinary soils. The chemical analysis of drainage waters has taught us that such waters are characteristically rich in nitrates, and that the amount of nitric acid present stands generally in close relation to the quantity of nitrogenous manure previously applied to the soil. The published analyses of the drainage waters from the experimental wheat-field at Rothamsted, show that ammonium salts applied as manure are rapidly converted into nitrates by the soil, the quantity of nitric acid in the drainage water being proportional to the amount of ammonium salt applied. The recent application of soil for the purification of sewage is another striking example of the same action. The sewage, as poured upon the soil, contains ammonium, and putrescible organic matter rich in nitrogen; the sewage which has filtered through a few feet of porous soil is found to contain nitrates, but only traces of organic nitrogen or ammonium.

What explanation can we give of this phenomenon of nitrification? It is clearly a process in which nitrogen is oxidised into nitric acid; but how is this oxidation brought about? The old chemists believed that a decaying organic body evolved more or less of its nitrogen in a free state, and that this nitrogen, while nascent, combined with the oxygen of the air to form nitric acid. This view has been held by some down to the present day. Hofmann, in his Exhibition Report of 1862, offers the same explanation, only substituting for free air the oxygen condensed on the surface of porous bodies. This theory has been extended by some to include the ordinary nitrogen of the atmosphere, so that on their view nitric acid may be formed in soil from the nitrogen and oxygen of the atmosphere, without the intervention of other nitrogenous matter. According to others the oxidation of gaseous nitrogen is brought about

not by ordinary oxygen, but by ozone. Other chemists have inclined to the belief that nitrogen is never oxidised in the soil except when in the form of ammonia, and that the nitrogen of organic matter is always converted into ammonia as a preliminary to nitrification. According to some experiments, the ferric oxide, which gives a red colour to so many of our soils, is itself an oxidising agent, and capable of converting ammonia into nitric acid.

We need not, however, enumerate all the opinions that have been held on this confessedly obscure subject. Many of the experiments which were thought to support certain views, now appear in the light of recent evidence, of little value. Before, however, discussing the new facts recently contributed to the subject, we may just indicate those points which have been most clearly established.

There is very little evidence for supposing that gaseous nitrogen is ever converted into nitric acid in the soil. Nitrous and nitric acid are indeed produced by electric discharges through the atmosphere, thus originating the small amount of nitrates brought to the soil by rain, but this appears to be the only reaction capable of producing nitric acid from the direct union of oxygen and nitrogen. According to Carius even ozone is quite incapable of oxidising gaseous nitrogen. Ammonia is, on the other hand, oxidised by ozone, nitric acid being formed; but that ozone is an agent in soil transformations is certainly unproved, and appears very improbable. There remains the action of ferric oxide, already referred to. This reaction deserves further study; it cannot, however, be considered as generally important, since nitrification certainly occurs with vigour in soils practically destitute of ferric oxide.

The researches of successive generations of chemists had thus failed to give any satisfactory explanation of the important phenomenon of nitrification. The subject has quite lately been attacked by Schloesing and Müntz from an entirely new point of view; their results, published in the early part of last year, plainly indicate that nitrification, instead of being brought about by purely chemical forces is, in fact, the work of a living organism. The evidence adduced in support of this new view is very simple. These chemists show that nitrification, however active, is immediately stopped by the vapour of chloroform, a substance which previous study has shown to suspend the action of yeast, and of all organised ferments. They also find that when nitrification has thus been suspended for many weeks, it can be restarted by the addition of a small quantity of a nitrifying body. In a second communication they further prove that the temperature of boiling water is sufficient to destroy all power of nitrification, and that soil which has been once heated to this point produces, in air free from germs, carbonic acid and ammonia, but no nitrates. If, however, this soil is moistened with water containing a little unheated soil, the production of nitric acid again commences.

This new theory of nitrification has been investigated at Rothamsted, with results completely confirmatory of the view put forward by continental French chemists. It was found that the vapour of bisulphide of carbon, and of chloroform, effectually prevented nitrification in a moist garden soil, through which air was frequently aspirated, while without these vapours the soil produced nitrates in considerable quantity. A solution of chloride of ammonium, containing a little tartaric acid, phosphate of potassium, and carbonate of calcium, was also completely nitrified in a few weeks by the addition of a small quantity of soil taken from the "fairy-ring" of a meadow. This solution, when nitrified, was successfully used as seed to produce nitrification in other similar solutions, which, without this addition, produced no nitric acid. It was further shown that light was prejudicial to nitrification; solutions kept in a dark cupboard producing nitric acid, while similar solutions standing in daylight produced none.

The evidence has thus become very strong that the nitrates in soil owe their origin to oxidation brought about by living organisms. That mycodermis, in their processes of life, may exert a powerful oxidising action upon organic matter, we have already learnt through the researches of Pasteur and others. The most familiar example is that of the acetic fermentation. Vinegar is produced by the oxidation of alcohol during the growth of a very simple organism, the *Mycoderma aceti*, without the growth of such an organism no vinegar is ever formed. It is by similar low organisms that fermentation of all kinds is brought about. Putrefaction has also been shown to be equally dependent on the presence of microscopic organisms, and

under the conditions suitable for their rapid development. putrefaction will not take place. With this abundance before us of the energetic decomposition of organic matter, brought about by what we may term microscopic fungi, we are hardly to be astonished to find that the same agency is capable of oxidising the nitrogen of organic matter and of producing nitric acid.

The organisms which produce these wonderful changes consist of colourless cells; they are independent of daylight, for they obtain their supply of carbon exclusively from organised matter, and from the decomposition of such matter they obtain the energy necessary for life and growth. In these respects they are entirely from green vegetation, in which sunlight is the source of all energy, and carbonic acid gas, decomposed by the sunlight, the material from which carbon is derived. The colourless and green organisms, however, equally require phosphoric acid, potash, and other ash constituents; and both are to be capable of assimilating nitrogen in the form of ammonia.

Not only are these simple organisms independent of the aid of daylight, but light is, in some cases at least, actually fatal to their existence. This fact has quite recently been established by Bownes and Blunt. They find that the bacteria present in gastric fluid may in many cases be entirely destroyed by exposure of the solution to daylight, and that even when this is the case, their development is much retarded by such treatment.

This observation is perfectly in accordance with the fact observed at Rothamsted, that nitrification did not proceed in soils exposed to daylight. In the last communication of Liebig and Müntz, it is stated that vegetable soil suspended in water by passing a stream of air through the mixture, undergoes nitrification both in light and darkness. No details of the experiment are given, but it seems probable that such a mixture would be more or less opaque, and the greater bulk of the material consequently at all times in partial darkness.

A microscopic organism producing nitrification has probably several distinctive characters, and might be isolated by cultivation under conditions specially suitable to its growth, but more or less favourable to the life of other associated germs. Pasteur pursued this method with success in the case of beer yeast, as shown that with the pure yeast thus obtained an unfermentable beer may be manufactured, the organisms producing the ordinary changes having been excluded. The subject of nitrification has clearly reached a stage which demands the aid of the able physiologist.

JAPANESE ISINGLASS.

By HARRY NAPIER DRAPER.

(Read at the Evening Meeting of the Pharmaceutical Society of Ireland, March, 1878.)

This product was given to me some time since by Dr. Aquilla Smith, who had procured it in the London Docks. It is in the form of flattened, somewhat contorted, and always curved shavings, the longest of which does not exceed 6 centimetres, and they may perhaps be as accurately as possible described by saying that they resemble in form Nelson's Opaque Gelatine, but are very much more opaque and have much less colour. The substance is not isinglass and may be at once decided by burning one of the threads, when it will be found that no odour of animal matter is evolved. Shortly summed up, the characteristics of this body are as follows:—It is turned blue by heat, and is insoluble in alcohol, water even after many hours' boiling, dilute potash solution, acids, ammonia, ammoniacal sulphate. My friend, Dr. Richardson, has been kind enough to make for me two sections of this substance. These sections, when viewed by the microscope show a ruptured cellular structure, but no indications whatever of starch granules. I forward this note in order that those whose attention may be called to it, and who may have met with similar or other allied substances, may be induced to communicate information of which they may be possessed. I myself have pronounced it to be the Gelose of Payen, and have extracted from Gelidium Cornutum and other Algæ, but not that this substance is described as being soluble in water, and as yielding a translucent jelly, while the "Japanese Isinglass" is quite insoluble. Nor in the descriptions of Payen's Gelose which I have seen is it mentioned

that it is coloured by iodine. At the time, now nearly a year since, when Dr. Smith gave me this specimen, I made several inquiries in London as to its existence, sources and uses, but without the slightest success.

Although not true isinglass, it seemed possible that the article under examination might be some other product of the animal kingdom. This would involve the question whether or not it contained nitrogen.

This point may be decided by a qualitative test, which, being applicable to all such cases, I may be excused for naming, though it is to be found in several modern text-books of analysis. This test is best applied as follows:—You cut from a clean lump of sodium a few parings with a knife, and intimately mix them on the bottom of a small porcelain crucible, with the suspected substance in as minute a state of division as possible. Then the mixture is ignited. When it has become cool it is heated with water, filtered and a mixed solution of a per- and proto-salt of iron added, and afterwards hydrochloric acid. Russian isinglass thus treated gives a copious precipitate of Prussian blue.

Since this paper was read Mr. Grindley has pointed out that this so-called Japanese isinglass dissolves readily in glycerine, and gives a clear and firm jelly. This jelly is coloured blue by iodine.

THE GERMAN UNIVERSITIES.

FROM an article in the *Boston Journal of Chemistry* we get the subjoined particulars. These universities offer to foreigners special facilities denied to youth of German birth, and in the matter of entering conditions this is particularly notable. A native must have pursued a suitable course of preparatory study, which includes six years in the gymnasium. A foreigner who brings the passport of his own country is at once admitted and no further questions asked. He may or may not understand the lectures which he engages to attend; he may attend one course or six; he pays only for the advantages he enjoys, and many usually enjoy these privileges for several weeks before paying anything. On passing a satisfactory examination he receives the degree of Ph.D. The lectures of the German professors are always open to the public, and the tourist or business man, as well as the scholar, can, while in Berlin, listen to the eloquence of such men as Hofmann, Kirchhoff, and Dubois Reymond; at Heidelberg, to Bunsen; at Leipsic, to Kolbé; and at Bonn to Kekulé. He is not stared at, no questions are asked, and his presence is scarcely noticed.

One of the youngest of the German universities, founded about 70 years ago, now stands at the head of the list—the Frederick William University at Berlin. The number of matriculated students last summer was 2,237. In winter the number is usually greater; last winter there were 2,490. Of the former number 1,862 were Prussians, 39 were from America, 6 from Asia, 4 from Africa, and 2 from Australia. The number of professors is 130, with 81 other instructors. In addition to the matriculated students there are 2,074 members of other institutions entitled to attend the lectures, making a grand total of 4,311.

Leipsic stands next to Berlin in point of numbers. This university was founded in 1409, being just four centuries older than that at Berlin. It has 118 professors and 40 other instructors, with 2,842 matriculated students. Both Leipsic and Berlin enjoy the advantages of excellent chemical laboratories with special facilities for organic research.

Munich, the capital of Bavaria, has an excellent university, which draws to it 1,267 matriculated students. Since the death of the great Liebig Professor A. Vogel has filled the chair of agricultural chemistry here, but the university is less sought by scientific men than either of the above-mentioned.

Several of the smaller universities are celebrated as offering advantages for pursuing some particular branch of study. Thus Heidelberg has a great attraction for the student of inorganic chemistry, from the world-wide reputation of Geheimerath Bunsen, a name familiar to every student of chemistry the world over. But Heidelberg has met with an irreparable loss in Bunsen's colleague and co-inventor of the spectroscopic, Professor Kirchhoff, now in Berlin. In the resignation of Blum, the mineralogist, too, it had a blow little inferior to the loss Berlin met with in the death of Gustav Rote. The Ruprecht-

Carl University in Heidelberg was founded in 1386. It has 64 professors and 46 other instructors, with only 766 matriculated students and 68 other listeners entitled to attend. There is no garrison here, and the students cannot serve in the army while attending lectures, as in Berlin, Leipsic, and other garrison towns.

Bonn, on the Rhine, has a university dating from 1818. It numbers 82 professors, among them the celebrated chemist Kékulé. Here, too, organic chemistry has special facilities offered for its prosecution, and many foreigners resort hither. The number of matriculated students is 897.

Göttingen is less sought by chemical students than at the time when Wöhler led in the investigation of inorganic substances. There are here 88 professors and 917 students.

The Vienna University, founded in 1365, is probably the largest in the world. It has 131 professors and 114 other teachers, making a total of 245 instructors, with 3,152 matriculated students. It is much frequented by students of medicine, divinity, &c. Tschermak, the celebrated mineralogist, is here.

The University of Prague, founded in 1347, is not particularly celebrated beyond the limits of Bohemia.

THE CHEMICAL SOCIETY.

Thursday, March 22, 1878.

DR. GLADSTONE, F.R.S., President, in the chair.

The following papers were read:—

"On Aromatic Nitrosamines," by Dr. O. N. Witt. The author gives an account of his study of some complicated reactions of diphenylnitrosamine. He has found that ordinary ethylic nitrite contains nitric acid, and has therefore used mixtures of pure amyllic nitrite and nitric acid for acting on diphenylamine; he has obtained mononitrodiphenylnitrosamine in light-yellow plates, melting at 133.5° C., and two bodies which on the removal of their nitroso-groups yielded two isomeric forms of dinitrodiphenylamine. The final product of the action of strong nitric acid is hexanitrodiphenylamine.

The next Paper was "On a New Process for the Volumetric Estimation of Cyanides," by J. B. Hannay. The cyanide is dissolved in water, and the solution rendered alkaline by ammonia. A standard solution of mercuric chloride is run in, with constant stirring, until the liquid is distinctly opalescent. The end reaction is sharply marked and very delicate. The presence of silver does not interfere, so that the process can be used for estimating the cyanide present in a plating bath.

The last paper was, "On Certain Bismuth Compounds," part VII., by M. M. P. Muir. The author has compared the behaviour of bismuthous and phosphorous chlorides in certain reactions; the latter substance acts as a reducing agent in some cases in which the former does not exert any such action. The author has also studied two oxalates of bismuth and the production of the so-called bismuthates, and made some experiments with bismuthous iodide.

Mr. Williams exhibited a fine sample, 24 oz., of natural salicylic acid, and about one gallon of pure methylic alcohol.

Thursday, April 4, 1878.

DR. GLADSTONE, President, in the chair.

A lecture "On the Application of the Microscope to some Special Branches of Chemistry" was delivered by Mr. H. C. Sorby, F.R.S. The lecturer confined his discourse to the application of the microscope for determining the refractive indices of liquids and solids. If an object be placed on the stage of a microscope and the focus be adjusted accurately, on placing over the object a plate of some refracting substance the object will be invisible; to bring it again into focus the body of the microscope must be moved further out. If this distance be δ and the thickness of the plate be τ , then the index of refraction = $\frac{\tau}{\tau - \delta}$. This distance can be measured either

by a scale and vernier attached to the body of the microscope, or by graduating the head of the screw which works the fine adjustment. The lecturer then described the various methods by which the two quantities τ and δ could be practically measured to 1-1,000th of an inch. The curious and diversified images seen by observing with a microscope a circle or a grating through transparent plates of various substances were then explained. Minerals having no double refraction are unifocal—i.e., both systems of lines in a grating can be seen at

the same focus. Minerals having double refraction are bifocal—i.e., only one system of lines can be seen at one focus, a new focus having to be found in order to see the lines at right angles to the first set. This method has enabled the author to identify various minerals in sections 1-500th inch thick and 1-100th inch in diameter. Thus in a dolerite 1-400th inch thick, a zeolite, labradorite, enclite, and augite were identified with almost absolute certainty. In sections of shells 1-1,000th of an inch thick calcite can be easily distinguished from arragonite. In conclusion the lecturer referred to the connection between the indices of refraction and chemical composition. The data are defective at present, but several points have already been made out. Thus of two minerals having similar composition, but one containing calcium and the other one of the alkalis, the first has a higher index of refraction. A lime garnet, on the other hand, has a lower index than a precious garnet, which contains iron instead of calcium. After a hearty vote of thanks to Mr. Sorby the society adjourned to April 18, when the following papers will be read:—"On Terpin and Terpinol," by Dr. W. A. Tilden; "The Poisonous Principle of Urechites Suberecta," by J. Bewrey; "On the Temperature at which a few of the Alkaloids Sublime," by A. Wynter Blyth.

Provincial Reports.

BRIDGEWATER.

A CHEMIST'S ASSISTANT ASSAULTING HIS MASTER.

LAST January Mr. Woodward, a chemist of this town, thought he had some reason to speak to an assistant, named Samuel Carter, a youth nineteen years of age, in reference to some robberies from his till and counter. The latter in reply used threatening language. Late that same night Mr. Woodward was brutally attacked in the garden of his private house by a man, who injured him severely by knocking him on the head. Mr. Woodward is very short-sighted, and assistance did not arrive in time to detect the assailant, but there was a powerful chain of circumstantial evidence, connecting Carter with the assault. At the Taunton Assizes last week Carter was tried. His counsel urged the absence of any direct evidence, but the jury found a verdict of *Guilty*, and Carter was sentenced to eighteen months' imprisonment with hard labour.

BURNLEY.

ON March 25 at 11 a.m., a serious fire broke out in the warehouse belonging to Mr. Richard Thomas, chemist and oil merchant, Manchester Road, Burnley. The warehouse was situated in Dugdale Street, and was chiefly used for storing oils. The fire brigade was on the spot in the course of a few minutes after the first discovery of the fire, but only succeeded in saving the contents of the cellar, which they effected by flooding it to a depth of 6 feet. The whole of the other contents of the building, valued at 3,000*l.*, were destroyed; and damage was done to the building itself estimated at 350*l.* The insurance entirely covers the latter, but that on the former will still leave Mr. Thomas a loser of 1,500*l.*

DUBLIN.

PHARMACEUTICAL SOCIETY OF IRELAND.

THE monthly meeting of the Council of the above Society was held at the College of Physicians, Kildare Street, Dublin, on Wednesday, April 3; Sir D. J. Corrigan, Bart., President, in the chair. The following were also present: Dr. Aquilla Smith, Vice-president; Mr. William Allen, Mr. J. G. Boileau, Dr. Collins, Dr. Frazer, Mr. J. Goodwin, Mr. William Hayes, Mr. E. M. Hodgson, Mr. J. T. Holmes, Mr. S. Oldham, Sir G. Owens, Dr. Ryan, and Professor Tichborne.

The following notice of motion appeared on the summons of meeting:—

Notice of Motion (Mr. J. T. Holmes):—"That the time has arrived for the Council of the Pharmaceutical Society to protect the Licentiates of the Society from infringements of their rights, and that a Committee be appointed to consider the best means of so doing."

Mr. Holmes, in bringing forward the motion, said that it would be in the recollection of the Council that this matter had been before them on a previous occasion, but after some discussion it was withdrawn; and it was suggested by the vice-president that prosecutions would be better dealt with by a local association. He (Mr. Holmes) had endeavoured to form an association, but had obtained only meagre support, the objection to joining being, that it was the duty of the Council to protect its licentiates. He was himself of that opinion, but by so doing they were only fulfilling the principal object of the Society's formation, viz., the protection of the public from unqualified compounders. It was notorious that in Ireland the provisions of the Pharmacy Act were infringed to a large extent, and it would be observed from his motion that he had fully avoided committing the Council to any particular mode of procedure. He should conclude by asking the members to vote for his motion, and thus adopt the principle that the Pharmaceutical Society is the proper body to prosecute in cases of infringement of the Act.

Mr. G. Owens seconded the motion, saying that he fully agreed with Mr. Holmes. The motion caused a lengthened discussion, the following speaking in favour of it:—Mr. Hayes, Mr. Oldham, Mr. Boileau, and Professor Tichborne. The President, the Vice-president, Dr. Frazer, and Dr. Ryan, however, strongly opposed it. A division was taken with the following result:—For, Mr. Holmes, Sir G. Owens, Mr. Oldham, Mr. Boileau, Mr. Allen, Professor Tichborne, Mr. Goodwin (3); Against, Sir D. J. Corrigan, Dr. A. Smith, Dr. Frazer, Dr. Ryan, and Hodgson (5). Dr. Collins did not vote.

A letter from the President was then read by the registrar, stating his intention to resign his position as President. Several members strongly urged the President to withdraw the letter, and the Council would willingly excuse his attendance if not convenient for him to be present. Sir Dominic said he thought that the time had arrived for the Society to conduct its affairs without external aid, and spoke in warm terms of the kindness he had always met with from each individual member of the board. He considered his being selected by the Council as the first President of the Society was the highest honour he had ever been favoured with. No decision was taken in the matter, but it is generally believed that his resignation will not be withdrawn.

An examination for the licence to act as pharmaceutical chemist was held on Wednesday, April 3; only one candidate presented himself for examination: he failed to pass. A preliminary examination was held on Monday and Tuesday, April 1 and 2.

APOTHECARIES' ASSISTANTS.

On March 20 the Lord Mayor of Dublin decided a claim for damages made by William Cunningham, a medical assistant, against Dr. Cahill, of Dame Street. The amount claimed was £5s.—three weeks wages at 5s., and a fortnight's board at 17s. The prosecutor had been engaged by Dr. Cahill, but made no inquiry into his fitness; he made several mistakes in dispensing, proved himself to be thoroughly ignorant, and was finally discharged without the stipulated fortnight's notice. The Lord Mayor was evidently interested in the internal economy of the apothecaries' shops, and the answers he got to his questions were not thoroughly reliable, fully calculated to cause considerable alarm. He was told in effect by the defendant and other witnesses, that it was customary to engage dispensers on their recommendation alone, that less than 3 per cent. of them passed any examination, that they were allowed to dispense without any responsible supervision, that in cases of accident some young gentlemen would treat the sufferers, and that the Lord Mayor really had the public at their mercy. The witnesses who testified spoke with perfect accuracy with regard to their own experiences, but they failed to show that they had the necessary knowledge or the authority to speak for others.

The Lord Mayor, in his remarks on the case, connected the claims alleged with the high rate of mortality at present existing in Dublin. He was surprised that no steps had been taken to protect the public in this matter, ignoring the fact that the apothecary is responsible for the acts of his servant. He expressed positively that the skill and judgment of the most eminent physicians, such as Sir Dominic Corrigan was often checked by unreliable dispensing at apothecaries' shops, an objection negated by the fact that physicians still send their prescriptions to apothecaries. He believed that dispensing regularly, and the public expected, great intelligence and a due

sense of responsibility, qualifications far more valuable than routine business. He did not state how much the public were prepared to pay for the desired qualifications. Judgment was given for the plaintiff for 15s. wages; but at the request of Dr. Cahill, the amount was raised to 21s., so that an appeal might be taken to the Recorder's Court.

KILKENNY.

At the last Kilkenny assizes Patrick Haynes, aged 85, a noted Kilkenny bone setter, was indicted for causing the death of one Patrick Keys by negligence, while acting for him in the capacity of surgeon. Found not guilty and acquitted.

The main facts of the case are as follows:—Patrick Keys fell out of a cart to the detriment of his right arm. P. Haynes bandaged it tightly with linen saturated with a mixture of tar and pitch, which was left on until P. Keys had almost lost the use of it. P. Haynes then ordered the bandage to be taken off; the arm was to be bathed with spring water and then bandaged with cream. The end was that (according to the evidence of Dr. P. Phillips) the man died from the effects of mortification brought on by the tar bandage; according to the evidence for the defendant, from internal hemorrhage and improper care by his family. The man's wife admitted that she had given him two tuggins of whiskey while he was in fever. The judge said he could not understand why people preferred bone-setters to qualified surgeons.

LINCOLN.

MR. FRANCIS JONATHAN CLARKE, of Lincoln, town-councillor and chemist, seems in some way to have seriously injured the feelings of his brother-in-law, George Mitchell Nicoll, a hair-dresser, in poorer circumstances than himself. On January 9, Mr. Clarke, or rather his wife, received a letter which said that the writer was going to give Mr. Clarke the contents of his pistol, one, two, three, four, five, and six charges, until he dropped. This profusion of threat was so alarming that George Mitchell Nicoll was arrested on a warrant, and at the March assizes was brought before Mr. Baron Cleasby, charged with feloniously and maliciously sending this threatening letter. His house was searched, with the result that the only weapon in his possession, doubtless that with which he intended to fulfil his sanguinary threat, was an old swordstick, with a roll of paper for an handle. M. Chabot, the handwriting expert, identified the writing of the letter with that of the prisoner. Several other witnesses spoke to the angry feelings the prisoner had towards the prosecutor, and finally, in spite of the clever quips and turns of his counsel, George Mitchell Nicoll was found guilty, and was sentenced to nine months' imprisonment with hard labour.

LIVERPOOL.

The Corporation of Liverpool are making a raid on tradesmen's signboards. One gentleman has been summoned to show cause why he should not remove his signboard, at present fixed 60 feet above the footway, on the ground that it obstructed the traffic. Publicans' lamps and other similar signs are not meddled with.

SHEFFIELD.

"VOX POPULI" AND UNQUALIFIED PRACTITIONERS.

We recently remarked on what appeared to be the partisan conduct of the Sheffield Borough Coroner in having encouraged two bodies of jurymen to send to the Leeds Assizes, on the charge of manslaughter, an unqualified medical assistant, named William Turner. The prisoner had for some time conducted the Attercliffe Provident Dispensary, as dispenser to Dr. O'Meara, and latter part of last year he vaccinated three children, who died. Inquests were held, and in two cases verdicts of manslaughter were returned against Mr. Turner. By his uniform courtesy and kindness, especially to the poor, Mr. Turner had secured a very large circle of friends, who waxed exceedingly indignant at the course taken towards him. Two months ago they appointed a committee and opened a "Turner Testimonial Fund," towards which upwards of 700 persons

contributed. A public meeting was called—preceded by the inevitable "meat tea"; and although it was held in the largest hall in the locality, accommodation could not be found for all who desired to be present. In the course of the proceedings Mr. Turner was presented with a purse containing forty guineas, and a handsomely-illuminated address. The balance of the Fund was retained to defray the costs of his defence at Leeds, and at the same time a requisition, signed by 3,890 persons who had received benefit under his treatment, was got up for presentation to the Court. Mr. Justice Hawkins referred to the case in his charge to the Grand Jury, and told them that the question whether Turner was a legally-qualified practitioner or not need not occupy their consideration. A man was only bound to bring ordinary sound professional knowledge to bear on the subject, and he was not supposed to be infallible. The question for the Grand Jury was whether the children were vaccinated with that degree of gross carelessness in the selection of the lymph which made him responsible under the criminal law. Unless Turner had not the means of knowing that the lymph was bad before he used it his Lordship did not think he was responsible.

Mr. Turner and his friends were highly elated at the tone of his Lordship's remarks, and expressed their confidence that the case would never go for trial. They were quite right, for the Grand Jury threw out the bill. The news was telegraphed immediately to Attercliffe, where the people were waiting in anxious suspense to hear the result. It was resolved to give Mr. Turner a hearty reception on his return in the evening. Thousands of people assembled at the station and on the road to his home. When the train arrived and Mr. Turner was recognised, he was received with such a shout as only those who have heard Yorkshiremen shout can form any idea of. With the greatest difficulty he was conducted to a waggonette, and a start effected. Hundreds of people followed, cheering as they went; and hundreds more turned out to swell the chorus. Handkerchiefs were waved from windows, hats and caps were flourished, and along the whole route Mr. Turner was received as if he had been a great hero or a successful Parliamentary candidate. The people, not satisfied with shouting, unharnessed the horses from the waggonette and dragged it to Mr. Turner's door. Then there was more cheering, louder and more deafening than before, and a little speech-making; and soon the vast crowd quietly dispersed. Thus the course the Sheffield Coroner adopted to put down the Attercliffe Dispensary has made it a more popular institution than ever it was before.

Pharmacy Abroad.

CALCUTTA.

CHEMICALS FREE OF DUTY.

THE new Indian Budget, published officially on March 19, frees from duty chemical products and preparations, instruments, and apparatus, soap, and certain other toilet requisites and brushes.

NEW YORK.

DRUG SALES.—The wholesale druggists of New York have instituted weekly drug sales like those of London. The first one, held February 12, was a failure, as the idea got abroad that goods were to be sold at a sacrifice, a most gratuitous mistake.

PHILADELPHIA.

FREE TRADE IN CHEMICALS.

At a meeting of the Philadelphia Drug Exchange, held on the 5th ult., to take into consideration the Wood tariff bill, a number of the beauties of the bill were exposed.

It imposes a duty of six cents per pound on argols, while tartaric acid and sal Rochelle would be admitted free.

Brimstone is taxed three dollars per ton, while acids made from it would be untaxed.

Lemon and lime juice, ten per cent.; citric acid, their chemical product, free.

Crude camphor, three cents. per pound; refined, free.

Quicksilver, 15 per cent; its preparations, free.

Seeds, now free, 20 per cent.

Cochineal, now free, 50 per cent.

Mr. Alexander H. Jones said: "Let us examine the bill. Crude camphor is to be dutiable three cents per pound. Refined camphor is to be free. What is crude camphor brought here for? To be refined. Nothing else. Who will import crude camphor at three cents per pound duty and refine it, if the foreign refined is free? No one! Then what is the result? 1. No camphor refined here. Works stopped. 2. No crude camphor imported at three cents per pound duty, hence no revenue. 3. Refined camphor alone imported—being duty free no revenue. So we have no revenue at all, and the refining of camphor stopped."

Following are two of the resolutions adopted by the meeting:

Resolved—

That we are at a loss to understand the policy which admits foreign chemicals and medicinal preparations free of duty, thus affording no revenue to the treasury; which places a duty on crude products, not produced in this country—thus taxing the home manufacturer, giving a premium to the foreign maker, and depriving the government of the revenue (estimated at over a million dollars) it now obtains by the tax on distilled spirits employed in the manufacture of a large variety of medicinal products.

Resolved—

That we deplore the customary manner in which tariff bills are hurriedly framed and pressed for legislation, without a hearing from the representatives of manufacturers and of commercial bodies who could point out the gross errors and inconsistencies with which they are generally encumbered, and enlighten our legislators upon unfamiliar points, showing how the various interests are affected, and supplying information which would guide to an avoidance of oppression to some, unreasonable benefits to others, and to a greater source of revenue to the treasury.

PANAMA.

A GREAT fire occurred at Panama on March 6, destroying property to the value of half a million dollars. The fire originated in a drug store of Messrs. F. C. Herbruger & Co., on the east side of the plaza under the Grand Central Hotel, about 9.40 a.m., in absence of Dr. Kratochwil, who has charge of the premises. The boy left in charge of the store lit a candle to seal a bottle of medicine, and carelessly throw the lighted match into a measure of bay rum that stood close to a tin of inflammable oil.

SAN FRANCISCO.

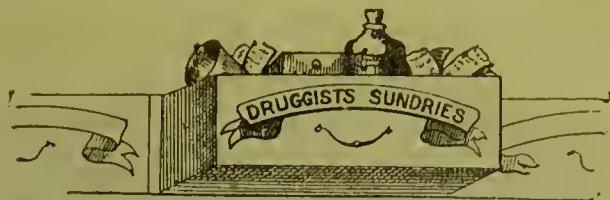
MEDICO-PHARMACEUTICAL ARRANGEMENTS.

THE following strictures on the relations existing between doctors and druggists in San Francisco are the pith of several articles which have lately been published in the *News Letter* of that city. The quackery which has found a congenial home in California, and the general flood of only half-qualified doctors which partially upset the system of qualification during the war, has a good deal reduced the tone of the medical profession in San Francisco, and lowered the esteem in which it was held. Following on the low public estimate of professional services comes the idea that the doctor should be engaged by the month or year, exactly like the cook. This arrangement is very properly denounced by the ethics of the profession, but is nevertheless practised by some doctors with high pretensions. It is obvious that it reduces the doctor to the domestic level, and puts his services on the same footing. The master sends for the domestic servant on the slightest occasion, just as he orders his domestic to clean his boots, and with the same right. But this, surely, is not the proper basis for professional service or professional remuneration. But this unwillingness to pay for medical services has led to a worse practice, on the part of the physician, viz., to secretly defraud his patient by collusion with the druggist. The wily doctor pretends that he has his patient's interest at heart. He tells him that his prescription will be best compounded at a certain store, where only pure drugs can be obtained. But he conceals from his credulous victim that the druggist has engaged to pay a commission of 20, 30, 50, and even 60 per cent. on the charge for the medicine prescribed. Not long ago a physician assigned this commission for the support of a relative, who brought an action for its recovery. In plain terms, this is downright robbery. It is obtaining money under false pretences, a conspiracy with the druggist to defraud the patient. And, as the chemist is bound to get his profit, he naturally adds the commission to the price of the prescription.

r, if he is as unscrupulous as the physician, he curtails the quantity of any valuable ingredient prescribed. We (*News Letter*) are pained to know that there are eminent physicians in his city who resort to this shameful and, we believe, criminal expedient to increase their fees. And our indignation boils over when we hear of frauds pretending to give gratuitous advice to the poor and needy, knowing all the time that they take their fee in the apothecary's store hard by. If there be nothing else, we beg that there may be common honesty practised between physicians and their patients. Some of the doctors we could name have certainly a reputation which should enable them to collect their fees without the assistance of the chemist, and the ill example they present to their younger and more needy brethren lowers the dignity of the entire profession, and diminishes public respect for their high calling. No wonder the public object to pay for medical advice, when they find that the doctor is interested in dosing them with drugs, and when drug bills are apparently large enough to include advice.

In a subsequent issue, the *News Letter* gave some further particulars of the illicit partnership. Not long ago, it says, a gentleman consulted one of our most eminent surgeons, and received a prescription for a bottle of Sprudel Salt, a well-known concentration of the celebrated Carlsbad Spa. For this, the druggist's, he was charged a dollar and a half. Some weeks afterwards he got another bottle, this time without a prescription. He was then charged one dollar, the regular price for this article in any good drug store. He concluded that the extra fifty cents had been posted to the doctor's credit. Another patient of the same surgeon thought fit to change his doctor, and, although he continued to patronise the same chemist, he found his medicines thirty per cent. cheaper than before, and he further noted that the number placed upon the bottles had changed, being many times higher than before. The explanation was apparent. In the first case, the prescriptions were numbered and filed to the special credit of the prescriber, in order that his commissions might be paid. In the second case, the prescriptions were filed with those of a hundred other physicians, not receiving commissions, and in this case they were charged at the ordinary rate.

In order further to compel the patient to have his prescription filled at a particular store, some physicians are in the habit of using private formulæ, which can only be filled at those stores where the particulars of the formulæ are known. The doctor has, in fact, so much business that he cannot find time to write out his prescription in full. By ordering mixture No. 1 or No. 5, or pills of a certain name, he compels the patient to buy his medicine at the store with which the partnership exists. In some instances the doctor keeps the store himself, getting his profit by the medicine, and giving his advice gratuitously. But this is a remnant of bygone times, and has been proscribed amongst physicians and surgeons of good repute. But still more dishonest practice, and one absolutely dangerous to the patient, has yet to be noticed. By a private understanding between the doctor and the druggist, it is arranged with respect to certain expensive remedies—of which quinine is one—that the druggist will dispense only half the quantity prescribed. By this proceeding the apparent value of the prescription is doubled, and the profit correspondingly increased. If, instead of the prescription being taken to another drug store, the price is enhanced and the patient made worse for the medicine. This transaction is so iniquitous that we could not believe it except on undoubted testimony. For the protection of the public, every physician should be required to describe in such a manner that the prescription can be filled at any respectable drug store. Of these there are many, and, with nearly written prescription, it is the patient's own fault if he is overcharged. Some of the most respectable druggists refuse to give commissions, as it gives them a reputation for high charges, and so injures their business in the long run. But there are quack chemists as well as quack doctors who are ready to give a high premium on the prescriptions dispensed by them. Nor is the physician debarred from recommending some stores in preference to others, when he is satisfied with the quality of the drugs and the ability of the dispensing clerks. He may possibly incur the suspicion of being interested in his recommendation, but unfortunately he knows how much his success depends on the faithfulness of the dispensary chemist, and he will best escape the imputation by naming at least more than one store where his instructions will be accurately carried



BORAX AND STARCH.—“Polaris” says in the *English Mechanic* that the addition of a very little borax to starch mucilage will make it as fluid as water.

YOU CAN GET a very good idea of “natural selection” in its practical workings by viewing a celery glass after it has been once round the table.

TEMPERATURE OF FLAMES.—F. Rosetti finds the temperatures of the flame of the Bunsen burner to be: In the external envelope, 1,350°; in the violet portion, 1,250°; in the blue, 1,200°.

HOME SCIENCE.—Mrs. Nag won't believe in physiology. She maintains that whatever the book may say her husband is a cold-blooded animal.

ENGLISH EARTH is the name given in America to terra alba or plaster of Paris, of which, according to an exchange, “tons upon tons are imported for the express purpose of adulterating white powders of various kinds, notably cream of tartar.”

ADULTERATED SODA.—Mr. J. H. Swindells writes to the *Chemical News*, to say that he has found all the samples of Scotch or bastard soda or washing soda which he has examined to be nothing more than sulphate of soda.

PURIFYING HYDROGEN GAS.—Eugène Schobig says that hydrogen gas may be purified from all impurities such as dust, H₂S, H₃P, H₃As., carbides and antimonide of hydrogen, by passing it through a concentrated solution of permanganate of potash.

CASTOR OIL BEANS are now grown as a crop in the United States. In one western county alone 2,773 acres were laid down in it last year, the average crop being 12 to 15 bushels per acre. A bushel of good seed is said to yield there about 2¼ gallons of oil.

ATOMIC WEIGHT OF ANTIMONY.—This has been variously stated by authorities at 122.3, 122, and 120.3. Mr. Josiah P. Cooke, of America, has been investigating the subject, and comes to the conclusion that sulphur being 32, antimony is most probably 120.

DENTAL SCIENCE.—Lord Stamford had about 50 trees blown down in his park some weeks ago. He blew their roots out of the ground with dynamite, and now offers long odds on a dynamite cartridge against any other agent for extracting decayed fangs and old stumps with certainty and dispatch.

AN EXTEMPORANEOUS BLISTER.—Put 10 drops liq. ammon. fort. into a watch glass, pill box, or similar receptacle, cover it with a bit of linen or cotton wool, and apply it at once to the skin, pressing it so that the vapour cannot escape; within half a minute a blister will be produced which may be dressed in the ordinary way.

TO CLEAN PAINT.—An ounce of pulverised borax, a pound of best brown soap in small pieces and three quarts of water are to be mixed and put on the fire. It should simmer until the soap dissolves, being frequently stirred. Do not allow it to boil. Use with flannel and rinse off as soon as the paint is clean. This mixture is also recommended for washing clothes.

SEA-WATER SOAP.—The new salt-water soap patented in Germany is simply common soap containing a certain quantity of phosphate of sodium. This addition enables it to form a good lather with almost any natural water. The oldest form of marine soap was made with coconut oil which needs no addition to make it useful at sea.

ONE PROFESSOR ON ANOTHER.—At the recent trial of the case of alleged poisoning in Galway, the following occurred in the examination of Professor Cameron by the Attorney-General: Prof. Cameron—I analysed Holloway's pills that were sent me; the deceased was not poisoned by the pills. I think the pills consist of aloes and some coloured matter—it might be *gamboge*. Seven of Holloway's pills would not injure him: 200 would not do him much harm.

Scientific Notes from Foreign Sources.

ALMOND OIL AND ITS SUBSTITUTES.

MR. HERMAN BETZ read before the Alumni Association of the Philadelphia College of Pharmacy a paper on oil of wild cherry kernels. The kernels of the *Cerasus serotina* are ground, dried very carefully, and then expressed by hydraulic pressure of 2,000 lbs. per square inch. The oil thus obtained has a slight odour of bitter almonds; the taste is sweetish, agreeable; the colour is dark green, and is not extracted by water or alcohol, hot or cold. Sp. gr. 0.906. It becomes solid at 15° Fahr.; it boils at above 600° Fahr., then takes fire, burning with a yellow flame, and leaving a pitch-like residuum. Vapours are given off at 280° Fahr., but are not disagreeable till the temperature reaches 600° Fahr.; it would for that reason be well adapted for an oil-bath. The oil is insoluble in alcohol, but freely soluble in ether, chloroform, oil of turpentine, olive oil and benzine. Its slight odour of bitter almonds and high boiling point are characteristic. It can be distinguished from oil of laurel, which has a somewhat similar colour, by alcohol, which takes up the colouring matter of the latter, and from linseed oil by becoming solid at a much higher temperature. At the same meeting Professor Maisch is reported to have said that it was quite a question how much of the commercial expressed oil of almonds was really such, as great quantities of apricot and peach kernels were annually expressed for their oil. The test recommended by Hager will detect the substitution; equal parts of 25 per cent. nitric acid and the oil are agitated and warmed to about 120° Fahr., when almond oil will form a white emulsion-like mixture, the other oils mentioned turning yellow or pinkish.

J. D. Bieber, of Hamburg, recommends in the *Apoth. Zeit.* the following as a good reagent for distinguishing between almond and other oils. Equal weights of pure concentrated sulphuric acid, red fuming nitric acid and water are mixed, and the mixture allowed to cool. The test is applied by mixing five parts of the oil with one part of the acid liquor, when almond oil will give a yellowish-white liniment; oil of peach kernels assumes the red colour of peach blossoms, turning to dark orange; benne oil turns pale yellowish-red, then dirty orange red; poppy and walnut oils yield a somewhat whiter liniment than almond oil. This test permits the detection of 5 per cent. of peach kernel and benne oil. Mixed with pure nitric acid, spec. gr. 1.40, almond oil yields a pale yellowish liniment; peach kernel oil a red, benne oil a yellowish-green, afterwards reddish, and poppy and walnut oils a white mixture. It was found that the oil expressed, cold or warm, from fresh almonds or such as had been kept up to ten years, gave the same reaction. Most of the commercial oil was found to be adulterated with the oil of either peach kernels or benne seed.

DISTINCTION OF NATURAL FROM ARTIFICIAL BUTTER.

THE *Pharmaceutische Central-Halle*, December 6, 1877, after pointing out the unsatisfactory nature of the ordinary microscopic and chemical tests, indicates the following olfactory reactions as at once decisive and simple. An ordinary cotton wick is dipped in clarified melted butter, ignited, and, after burning for two minutes, is extinguished. The vapour arising from the wick is then examined by the sense of smell; when, in the case of artificial butter, the characteristic disagreeable odour of an extinguished tallow candle will be perceived; but, in the case of natural butter, simply the well-known smell of fried butter. The other method is a little more complicated. Here one volume of melted butter is mixed in a glass retort with two volumes of a mixture consisting of one volume of concentrated sulphuric acid and two of spirits of wine. This is distilled by the flame of a spirit-lamp, and a few drops of the distillate are rubbed on the hand. In the case of natural butter this produces an odour of butyric ether; in the case of artificial butter the repulsive smell of old tallow. The "P. C." remarks, by way of caution, that in both cases the melted butter must have been freed from all traces of casein.

A SUBSTITUTE FOR MUSK.

So long ago as September of last year Dr. E. Bertherand, of Algiers, communicated to the *Journal de Médecine de Bruxelles* an article on a substance which he had found to possess the most important properties of musk.

Antelope Dorcas L. is a small antelope found in abundance in the desert of Sahara, and called *rezal* (retsai) by the Arabs. Its excreta smell strongly of musk, and are collected by the natives, who frequently wear sachets of it. The powerful musky odour noticeable where the animals had been, attracted the attention of the Doctor, and on one occasion, his stock of musk being exhausted, he used in its place a tincture of the droppings, with the result that his hysterical patient recovered as quickly as she would have done had musk itself been used. Analysis proves the product to contain 65 per cent. of undigested vegetable matter, 26.5 insoluble mineral matters, and only 10 per cent. of matters soluble in water and spirit. The latter consist of musk-like resin, benzoic acid, biliary acid, and biliary colouring matters. The active part of the substance cannot as yet be separated from the inert matter without serious loss of odour. The large quantity of useless matter present will prevent these excreta from completely replacing musk, but it is possible that they will come into use in the manufacture of perfumes, thus lessening the demand and reducing the price of the more expensive drug.

THE NEW METAL DAVYUM.

THE same periodical gives a short account of this new metal, which has been named in honour of Sir Humphrey Davy. A platinum ore, from which the contained rhodium and iridium had been separated, was heated with an excess of muriate and nitrate of ammonia. The dark red precipitate thus obtained yielded on ignition a grayish mass, resembling spongy platinum, which, when melted, gave a silver-coloured hutton of the new metal. Davyum has a sp. gr. of 9.385; it is hard, but malleable with the aid of heat. It is readily soluble in aqua regia, but sparingly in boiling sulphuric acid. From its acid solution it is thrown down by alkalis as a yellow precipitate. A concentrated solution gives a red precipitate with sulphocyanide of potassium. In the classification of the elements proposed by Mendeljeef, Davyum would occupy a place between Molybdenum and Ruthenium. Its chemical equivalent is probably 100. It is a rare element; the platinum ore in which it is found yielding no more than 0.045 p.c. of this metal.

EXTRACTION OF THE NATURAL COLOURING PRINCIPLE OF WINES.*

THE solid residue deposited from wines in the process of fermentation is treated while still fresh with four or five parts of alcohol at 60°, and allowed to macerate for about a fortnight; it is then filtered under pressure, and the filtrate distilled in a water-bath, so as to get rid of the alcohol; what remains behind is evaporated under a vacuum, at a moderate heat; the residue of this last evaporation, re-filtered, forms the natural colouring principle of wines. This is readily miscible with white or nearly colourless wines, imparting a pleasing natural hue, without introducing any injurious ingredient.

FORMULA FOR COPYING-INK.†

PROFESSOR GINTL proposes the following:—A concentrated solution of logwood is treated, first, with 1 per cent. of alum, and then with the same proportion of lime-water until a permanent precipitate is formed. A few drops of a weak solution of chloride of calcium are added, until a bluish-black colour is obtained; then hydrochloric acid is added drop by drop until the liquid turns red. A little gum, and about 1 per cent. of glycerine are then added, and the ink is ready for use.

A USEFUL GAS.‡

M. LOEWENTHAL proposes to manufacture from carbon a substance which in the gaseous state, may be employed either to extinguish conflagrations or as an antiseptic (gas astral) while the carbonaceous residue obtained will, he contends, act as an admirable disinfectant or purifier of the atmosphere after the same has been contaminated by respiration. For the manufacture of the gas he heats the following mixture:—4 parts (by weight) of bone-black, 15 of charred English fir, and 1 of ordinary furnace coke. The gas thus evolved, either in a pure state (gas astral) or in an aqueous or other fluid solution (astragone) is received in magazines, where it is kept under

* *Le Moniteur des Produits Chimiques*, February 25, 1878.

† *Le Moniteur des Produits Chimiques*, February 25, 1878.

‡ *Le Moniteur des Produits Chimiques*, February 10, 1878.

ssure until wanted for the extinction of fires. In order to
ify atmosphere which has been contaminated by respiration,
above mixture is suspended either in the form of porous
cks, or of granules of various size, enclosed in perforated
allic cases. To preserve animal or vegetable aliments, a gas
evolved from the same ingredients, but in the following pro-
tions:—Bone-black, 15 parts; charred English fir, 4 parts;
e, 1 part, the gas thus evolved being forced under pressure
closed vessels containing the aliments which it is desired to
serve. For the preservation of liquids M. Loewenthal recom-
nds that the gas be evolved from a mixture of 15 parts coke,
bone-black, and 1 of charred English fir.

A NEW PANACEA.*

learn that Dr. Addison, of Paris, is calling the attention of
public to the arseniate of gold, especially as prepared by
self, in the above capacity. If we are to trust Dr. Addison,
there is no drug which equals the arseniate of gold in the treat-
ment of chronic diseases of the breast, the stomach, the bowels,
the nerves. Anæmia, exhaustion, nervous affections, female
cases, chronic bronchitis, phthisis, asthma, chronic rheumatism,
disappear under the action of this valuable remedy. How-
ever, Dr. Addison takes care to inform his readers, that, *except*
dynamised by himself, the drug is of very inferior efficacy.

LEAD-POISONING BY MEANS OF BREAD.†

few years ago attention was called to some alleged cases of
poisoning above in one of the towns on the Rhine, the only explanation
of which that could be afforded was, that the baker from whom
the loaves were obtained, had employed in the heating of his
oven some broken-up doors and window-sills, which had been
painted white with a colouring matter containing lead. A pre-
cedent similar case, arising from the same cause, which oc-
curred in Paris last September, when no fewer than sixty-six
persons were sufferers, has been reported in THE CHEMIST AND
DRUGGIST.

CONDENSED MILK.‡

learn that the condensed milk of Cham contains 100 parts
albumen to 63 of butter and 375 of sugar; that of Hempfen,
100 parts of albumen to 66 of butter and 221 of sugar. The
milk of the human female contains 100 parts of albumen to
100 of butter and only 147 of sugar. The increased proportion
of saccharine matter is doubtless to be explained by the addi-
tion of quantities of sugar which are mixed with condensed milk
to make it keep better. Notwithstanding some assertions to
the contrary, the writer quotes high German and English
authorities to show that the use of condensed milk is never to
be preferred for children; that infants who have thriven on its
use have done so in virtue of their other hygienic conditions
being favourable—that, in fact, they have thriven not *by*
means of but *in spite of* the substitution of condensed milk for
maternal milk. It is admitted that, under this diet, children
lose some fat, probably on account of its abounding in saccharine
ingredients; but these are apt to pass into the intestines in the
form of lactic acid, giving rise to diarrhoea and other forms of
intestinal irritation. As a matter of fact it has been noticed
that children thus reared are defective in vital power, and fall
easily victims to measles, hooping-cough, bronchitis, and similar
diseases.

THE TRICHINA SPIRALIS.§

Inspector of meat has recently performed a series of ex-
periments on this subject. He fed a cat, during a period of six
months, with meat largely impregnated with the trichina, the
cat enjoying perfect health the whole time. At the expiry
of that period, he killed the cat, and, notwithstanding its pro-
nounced or apparent health, 25 trichinae were found in its body.
Certainly surprising the number was not greater, consider-
ing the length of time the cat had been fed on meat infested
with the parasites.

* Pharmaceutische Centralhalle, February 14, 1878.

† Pharmaceutische Centralhalle, February 14, 1878.

‡ Pharmaceutische Post, February 16, 1878.

§ Pharmaceutische Zeitung, February 27, 1878.

ACTION OF REMEDIES.

ALKALOIDS OF OPIUM—THEIR ACTION.—The well-determined
opium alkaloids now number sixteen. The effect of any one
differs from the rest or from that of opium itself. Dr. Isaac
Ott (*Journal Nervous and Mental Diseases*, January, 1878) re-
ports a large number of experiments which, added to our
previous knowledge, enable him to draw the following conclu-
sion:—

1. Cryptopia is narcotic; excites and then depresses reflex
action by an effect on the spinal cord, reduces power of motor
nerves, abolishes sensation by an action on the spinal sensory
ganglia and lowers the heart-beat by an action on its muscular
structure.
2. Thebaine is a spinal convulsivant; has no action
on motor or sensory nerves or striated muscle. It reduces
the heart-beat by an action on that organ, and increases
blood pressure by stimulating the cerebral vaso-motor centres.
3. Codeia is a narcotic and spinal convulsivant; produces
a veratroid contraction of striated muscle and depresses
the heart-beat by an action on the cardiac muscle.
4. Chloro-
codide is a tetauic agent.
5. Apocodia produces vomiting,
coma, and death.
6. Narceine is soporific to cold-blooded
animals but not to man, and is a spinal convulsivant. It
does not destroy the motor nerves, as they act on thrusting
a probe down the spine. It produces veratroid contraction
of the muscle, and reduces the heart-beat by stimulation
of the peripheral end of the pneumogastric.
7. Papaverine
is narcotic and convulsivant; the convulsions being partly
spinal and partly peripheral, the latter, it is highly prob-
able, from an action on the muscle. It diminishes the
heart's contractions by peripheral action on the cardio-inhibitory
apparatus. It also causes veratroid contraction of the muscle.
8. Narcotine is non-narcotic, and a spinal convulsivant; pro-
duces veratroid contraction of striated muscle and is a very active
agent to decrease the beats of the heart by an action on cardiac
muscle.
9. Cotarnine is soporific, and paralyses, like curare, the
motor nerves.
10. Hydro-cotarnine is narcotic and convulsivant.
11. Hydrochlorate of cotarnamic acid is a convulsivant, and
paralyses the pneumogastric.
12. Laudanosine and laudanine
are tetanic agents.
13. Morphia is a narcotic and spinal con-
vulsivant. It produces veratroid contraction of muscle and re-
duces the heart-beat.
14. Oxymorphia has an action like
morphia, only weaker.
15. Apomorphia is an emetic; excites
and reduces spinal reflex excitability and diminishes the number
of cardiac contractions.
16. Meconine is narcotic to cold
blooded animals, but not in doses of two grains by the stomach
in man. It causes hyperæsthesia and paralysis of voluntary
motion with general relaxation. It also produces a veratroid
contraction. The opium alkaloids all have a dominant action on
the nervous system, causing first increased exaggerated functions
and, if the dose is large enough, a paralysis of them. In the
warm-blooded animals this action is both on the spinal cord
and cerebrum.

THE MUSE OF CHEMISTRY.*

ALBERT SMITH, in his "London Medical Student," gives a speci-
men of a projected work in which the practice of medicine was
to be taught in verse. We find that this service has now been
actually rendered to the science of organic chemistry by Guido
Künstle, of Munich. He professes himself to have experienced
but little difficulty in bringing the crack-jaw names of organic
radicles, and so forth, within the limits of verse; but, at the
close of his work, deprecates criticism in lines of which the fol-
lowing doggerel may give some idea:—

Try not my verse by rules severe;
What can be done, I have done here.
What never yet in verse was told
Takes hardly the poetic mould.
Yet inspiration hath attained
What unachieved till now remained;
In rhythmic bonds to fetter thee,
Thou haughty muse of Chemistry!

Encouraged by this, we hope Mr. Tennyson may be persuaded
to publish a volume of "Idylls of the Dissecting-room," in
which the origins and insertions of the muscles, and the distri-
bution of the nerves and arteries, shall be taught in an easily
remembered and attractive manner, by the aid of those poetic
strains of which he is so accomplished a master.

* Chem. Zeitung, March 15, 1878.



For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.

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For confirmation of this assertion, see the opinions of such authorities as Dr. BARTLETT, Professor WANKLYN, and others, at page 74, December, 1876.

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EDITORIAL NOTES.

BANKRUPTCY.

THE necessity of amending the bankruptcy laws as they now stand is recognised and admitted on all hands, and practically there is not much difference of opinion as to the direction which a reform of this kind should take. The Act now in force has proved not so much a legislative as an executive failure. The intention of its authors was to give creditors the power of realisation more directly into their own hands, reserving certain checks. It is proved beyond all doubt that, as a matter of fact, creditors are either not competent or not willing to take sufficient care of their own interests when pitted against unscrupulous debtors, aided, it may be, by unscrupulous lawyers. This is much to be regretted, because the principle of self-government in such affairs as the realisation and distribution of a debtor's estate is one which it is very desirable to maintain; and on the part of the Legislature it might be fairly argued that if creditors will not avail themselves of such means as are offered them, they can have no claim to further assistance. But a commercial community like ours cannot afford to allow the rank growth of a pernicious and rotten system of trading; and such a system does exist among us to a disgraceful extent.

In the struggle for wealth, and unfortunately, too, in the struggle for existence, it is inevitable that some must fail. More successful competitors may fairly be required to treat their defeated comrades with forbearance and even with generosity, and it is one of the duties of a Court of Bankruptcy to see that no defaulting debtor is too hardly pressed. A man may fail through foolish enterprises, or by conduct which more able men could have foreseen must end in disaster. But for all that the man who *honestly* fails has the most righteous claim on the consideration and sympathy of his fellow men. This

principle it is quite essential should be kept in view, and in truth honest debtors have little, if anything, to complain of in the present day. But in their interests even, as well as for the sake of general commercial morality and soundness, it is necessary that the fraudulent contraction of debts should be closely watched for and severely punished. Provision should be carefully made to prevent the development of that system—examples of which we are all acquainted with—which makes a legal failure an actual commercial success.

Two Bills have been introduced into the House of Commons, one by the Attorney-General and the other by Mr. Annpson Lloyd, the latter being professedly the result of the deliberations of the Associated Chambers of Commerce.

It will be convenient to begin our brief notice of these two proposed plans of Legislation with the Bill brought in by Government, which has, of course, the greater chance of being passed this session. That Bill, though repealing the whole of the Bankruptcy Act, 1869, yet re-enacts it in great part, so much so, indeed, that some three-fourths of its sections are copied almost verbatim from the statute at present in force. This is, we think, a more convenient method of Legislation than the patching-up style of proceeding sometimes in vogue. The main points of departure between this Bill and the present system may be summed up very shortly and succinctly. In the first place the whole practice, as now in force, of liquidations and compositions is at once abolished. By this step a great scandal is got rid of, for there can be no doubt that many swindles are successfully carried out under the present mode of procedure. The new Bill proposes to return to the old-fashioned theory of bankruptcy, under which the bankrupt, his person and property, were entirely under the jurisdiction of the Court. The well-meant endeavour of the Act of 1869 to get creditors to manage the affairs of the debtor for and by themselves has not succeeded, nor could it ever succeed under provisions which practically render it necessary for each creditor to attend meetings at any time and place in order to protect his own interests.

Another principle of the Bill is that a debtor shall be able to petition against himself. This is a return to the law under the Act of 1861, and it is difficult to see why this principle was abolished, when at the same time a debtor was allowed to present his own petition in liquidation. The third main alteration proposed by the present Bill is the re-establishment of Deeds of Arrangement, upon substantially the same bases as those of the Act of 1861, as amended by the Act of 1867. These provisions taken together worked pretty satisfactorily, but as under the new system each deed must be confirmed by the Court, there will be this additional safeguard to creditors.

We now come to minor points; but as it is impossible to go through so lengthy a Bill in detail, we must confine ourselves to the more important alterations therein proposed to be effected. The acts of bankruptcy are really the same as under the present law, with two important exceptions. Formerly the execution levied against a trader by seizure and sale must have been for a sum over 50*l.* In the proposed Bill no such limit is mentioned; so that the smallest County Court execution may by this means become an act of bankruptcy. The second important exception is that a creditor presenting a petition must serve the debtor with a writ specially endorsed for a sum not less than 50*l.* (this being the sum upon which he can be made bankrupt as under the present law), and must have served him also with a bankruptcy notice, and must have obtained judgment on that writ before he can present his petition in this act of bankruptcy. This provision must act as a wholesome check upon the present pernicious practice of using the process of the Bankruptcy Court in a threatening manner, not for the benefit of creditors in general, but for that of one in particular, who may be the sharpest.

Proceeding further through the Bill we come upon arrange-

ments for granting a provisional order to the debtor as soon as may be after the presentation of a bankruptcy petition against him. The effect of this order is somewhat similar to that under the Insolvent Acts. Here, again, we find another important alteration, inasmuch that the provisional order is to stay all proceedings against the debtor in respect of any debt proveable under the bankruptcy. The result of this enactment would be to abolish the present wasteful system of injunctions to restrain creditors. Other new regulations relate to the holding of a private preliminary meeting of creditors to consult over the debtor's estate, where necessary, previous to the meeting at the Court. Provision is also made for the payment of trustees of a stated scale of percentage. There are, of course, many other clauses in this lengthy Bill, but we think we have pointed out those principally important, and which are least likely to be amended in committee.

The second and shorter Bill to which we have referred above proposes to amend the present Act in various particulars which are important to commercial men. The first point therein is the very serious one of reducing the amount upon which a petition can now be founded from 50*l.* to 20*l.* The Bill then proposes the appointment of receiver and managers in all cases unless the Court, for special reasons, rules otherwise, and makes practically the same provisions for the stay of actions and proceedings against the debtor after the presentation of a bankruptcy petition against him as are contained in the Government Bill above explained. Some rather stringent, and certainly necessary, restrictions are proposed to be placed upon trustees with regard to their detention of money and statements of account, and their charges may be taxed. The bankrupt is only to get his discharge upon a resolution in writing signed by, or on behalf of, a majority in number and three-fourths in value of all the creditors who have proved in the bankruptcy. It is also proposed that for the purposes of a composition under sec. 126 of the present Act there must be a majority in number and four-fifths in value of the creditors at a meeting which must be equal to, or exceed, a majority in number and not less than three-fourths in value of *all* the creditors. These and other clauses are well-meant efforts to improve the present law in the interest of creditors, but it is doubtful indeed whether this Bill can pass, having against it the weighty opposition of the Government proposals.

THE PHARMACEUTICAL ELECTIONS.

THE best friends of the Pharmaceutical Council which is now closing its year of office will hardly maintain that its actions during the past year have manifested views in harmony with those of the members of the society generally. Those whose occupation takes them up and down the country, and brings them in connection with pharmacists all over Britain, tell us that it is rare to hear a good word spoken for the Council, and we all know how freely and frequently it is unfavourably criticised. Of course the answer to this is very obvious. The members have the power remitted to them every year, when fourteen of the twenty-one Councillors go out of office and might be replaced from end to end if the society generally thought fit. There is no getting round this fact; and, with such a consideration before us, it is impossible to entertain much general sympathy for the mass of grumblers who never cease to complain of their representatives, and yet go on voting for them year after year.

On the present occasion, two members of the old Council decline re-election, and nine outsiders offer their services. It is not for us to remark on the peculiar merits of each candidate. As yet, three only of these have thought fit to publish their views. Some of the rest seem to think pharmaceutical councillorship too sacred an office for journalistic interference, and

they treat with silent contempt any suggestion that they should offer an exposition of their opinions on certain test questions. This temper sits well on the dignified Conservatives of the Council, and some of them have peculiarly good reason for keeping their views as dark as possible, but it is to be hoped that the members generally will manifest their approval of the course taken by those who do them the courtesy of submitting a programme of their pharmaceutical intentions.

The election will not succeed, we fear, in providing the Council with a backbone. Last year it commenced its career with a resolution which looked almost bold, announcing its perfect readiness to fight for the maintenance of the rights of chemists and druggists in the matter of counter practice. That youthful vigour soon died away, and since then the Council has distinguished itself above most of its predecessors by a course of conduct which may have had some purpose in it, but which to most onlookers seems like mere drifting. At the annual meeting next month the usual display of rhetorical fireworks from the recognised critics will no doubt recur, and the election a day or two after may be trusted to exhibit the same general hopeless apathy and indifference which it has always manifested.

BUYING SPIRIT.

PHARMACISTS habitually purchase spirit by the gallon and sell tinctures by the pound. The latter practice has the support both of reason and convenience. But the former may lead to considerable confusion. Spirit expands by heat more than twice as much as water. A hundred gallons of the former measured on a hot summer's day with the thermometer at 80° F. in the shade, if kept untouched till winter and then measured at 32° F., would seem to have decreased in bulk at least two gallons. Stock taken at Christmas when compared with that at Midsummer would show an apparent loss in large establishments of several gallons.

Another way in which this expansion may influence results, although it is of smaller significance, is in the manufacture of tinctures. Those made in summer will inevitably contain a larger percentage by weight of solid ingredients than those made in winter. We may safely say that owing to this circumstance alone rectified spirit tinctures have rarely been made of uniform strength.

The consideration of most importance to the pharmacist is that of buying. On small quantities the loss of three ounces or so of spirit per gallon may seem hardly worth noticing. But the custom of buying by a measure which confessedly varies in size is not a good one, and the variation, when multiplied, becomes of noteworthy importance. A difference in price equal to 2 per cent. would at once decide a purchaser which of two dealers he should patronise.

The remedy for this state of things is easily provided. By purchasing on the system by which we sell, namely, by weight, we at once cancel all possibility of gain or loss from this cause. In purchasing 56 lbs. of spirit we buy a quantity which does not vary, while in buying 56 gallons we might lose or gain a gallon. The customs of the English trade will make it difficult to introduce the reform, but perseverance on the part of druggists in asking for quotations by weight, and in giving preference to those dealers who will supply them thus, will help much to bring in a better state of things. The question is of far greater importance to spirit and wine merchants than to ourselves. We notice that the merchants of Silesia are fully alive to the importance of the question and have thoroughly discussed it. They are anxious to reform their practice in this respect, but they meet with much opposition on the ground of the great temporary inconvenience the change would cause, and of the sloth with which it would be adopted by foreign nations. The value of the innovation is not questioned; practical difficulties alone prevent its universal adoption.

FREE TRADE AND PROTECTIVE NOTIONS—MIXED.

The United States adopts such a consistent policy of protection that not only are foreign goods taxed when they enter the country but some of the Southern States levy a charge of \$100 per annum on all commercial travellers. This seems the *reductio ad absurdum* of the protection system. If the nation has a right to levy imposts for the protection and encouragement of national industries its component States must have an equal right to protect the trade of their inhabitants. *New Remedies*, however, formulates the following proposition:—"The most ardent advocate of a national tariff does not justify an impost for the advantage of 'middleman' or dealer, and our Southern friends will find in the end that they are suffering far more than being benefited by the collection of such a tax." We Englishmen can see by the light of the experience bequeathed us by our parents and grandparents why it is that the ardent advocates of protection do not justify its logical consequences. When a single State or country is concerned their minds are able to see the absurdity of their principles, and their common sense compels them to be inconsistent. When a nation is concerned they imagine some new factors and stick to the old dogmas we have long learnt to despise. The interests are so great that they fail to appreciate their proportions. With what wonderful acumen *New Remedies* is able to point out the loss protection brings the State! Why is it that the editor cannot see the loss the same rule causes to the Nation?

THE APOTHECARIES' SOCIETY AND THE EDUCATION OF WOMEN.

We have already recorded the fact that the Apothecaries' Society intended to offer prizes for botanical knowledge, competition for which would be open to young women only. The conditions of examination have been published since our last issue. They are as follows:—The competition will be open to all young women who shall produce from their teachers certificates that their age at the time of examination does not exceed twenty years. The examination will be in general and not medical botany, and will consist of questions both written and oral, in—Structural Botany, Vegetable Physiology, Description of Living Plants, and Systematic Botany—so far as these subjects are contained in Sir Joseph Hooker's "Science Primer—Botany," and in Professor Oliver's "Lessons in Elementary Botany." The first examination will take place in London on the third Wednesday and the third Friday in June, 1878. A portion of the second day's examination will be devoted to microscopical demonstration. Certificates of merit will be awarded, in the first instance, to a certain number of candidates to be determined by the examiner; and such selected candidates will be allowed to compete for the prizes, consisting of the Society's gold medal to be awarded to the first in order of merit, and of a silver medal or of books to the second. Candidates will be required to send their names and their addresses, at least fourteen days before the examination, to the Beadle, Apothecaries' Hall, Blackfriars, E.O., when they will receive tickets of admission to the examination.

EIN NEUE HUMBUG.

UNDER this title (a new humbug) which, to say the least, is a great compliment to our expressive English word, the Vienna Weekly Medical Journal attacks a Hemorrhoid paper, said to be prepared from pure vegetable materials, without the use of chemicals. The Vienna Journal does not quite "see" the value of the new product. The makers have also made another article which they call "Gesundheits Retiradenpapier" or sanitary retiring paper.

PHARMACY IN GREECE.

PROFESSOR X. LANDERER writes to the *Pharmaceutische Zeitung* that many islands in the Grecian Archipelago, with a population of 3000 to 4000, are still without a pharmacist, and that in many towns where the law would allow the establishment of two pharmacies only one is to be found. Our business is evidently not overcrowded in that district, and some of the restless spirits among us may find there a scope for their energies. The drawbacks of the necessity of acquiring a new language, and of passing an examination, to which the minor child's play, will not, we hope, deter any from trying to obtain footing.

SANDED SPONGES—AN EXPENSIVE FANCY.

THE most important exports of Rhodes and other islands in the East are sponges of different qualities. Nearly 150,000 lbs. worth are annually sent from Rhodes, which is the emporium of the district, to France, Austria, England, and other markets. England takes chiefly the finer grades; her imports from this island have an annual value of about 50,000 lbs. The sponges are collected by a special class of men, known as sponge-divers. Their boats are generally fitted out with capital borrowed from private money-lenders. England and France have, however, invested considerable sums in the trade during the last few years. The sponges grow on rocks, sand, and mud, at varying depths up to 50 or 60 fathoms, and are obtained by three methods: namely, by diving without apparatus; by diving with apparatus; and by drags. The finest sponges are obtained from the rocks by the first process, as the two latter are only used for depths which cannot be otherwise reached, and which produce only inferior grades. The sponges obtained by dragging are on sand and mud, and form the lowest quality.

The point to which we specially wish to call the attention of English druggists is that, when the sponges have been raised and cleaned, those intended for the English market are packed in boxes with about 10 lbs. of sand for every pound of sponge. The sand, by the time England is reached, has effectually embedded itself in the sponge. The sponges are depreciated in value in proportion to the amount of sand they contain, so that the duties they pay on leaving the island (about 8 per cent. *valorem*) are not materially increased. But the carriage from Rhodes to England is not a costless affair, and it is but reasonable that the Rhodians should charge something for their labour in collecting the sand, in making the cases secure enough to hold it, and for packing it in with the sponge. When English druggists buy it from the wholesale dealers, for every pound of sponge they have purchased they have to pay for the carriage of their doors of several pounds of sand, which they immediately need to throw away. For several years past the English representative at Rhodes, Vice-Consul Biliotti, has been endeavouring to acquaint Englishmen with the fact that, for every shillings' worth of sponge they buy from Rhodes, they pay when it reaches England a shilling more than they need. In his own words, "All sponges sent from these islands to Great Britain are overcharged with extra expenses of at least 10 to 15 per cent." The extra cost of carriage of the sanded sponges to England he does not estimate. This would probably add another 2 per cent. to the total.

The Vice-Consul points out that, during 1876, two or three English merchants have followed the example long ago set by French and Austrians, of buying first hand from the sponge-gatherers, so as to save all the extra expenses we have referred to.

Whatever view of political economy our readers may patronise, they will at least appreciate the forcible argument embodied in

12 per cent. of unnecessary expense, and will be willing to cooperate with our countrymen in introducing this reform. They should clearly understand that for every pound of sanded sponges they buy they pay 1-10th too much, just for the pleasure of paying for the carriage of a lot of worthless sand, of wasting the time of their apprentices or porters in beating it out of the sponges, and for the delight of throwing it away. Prejudices with the most venerable genealogy can hardly stand against such an assault.

A CURIOUS EXPLOSION.

THE *Scientific American* says: "A most inexplicable explosion took place recently, at the Pino Iron Works, in Montgomery county, Pa., when a teamster tipped a cart-load of hot cinders into a snow-bank. This apparently innocent action produced an explosion which is described as 'fearful.' Houses a hundred yards away were shaken, and persons near by burned and cut by flying cinders." Has the *Scientific American* ever tried to extinguish a coal fire by throwing cold water on it? We have. We once pitched a tumbler-full of water into the grate of a kitchen range. The effect was startling. For the moment we hardly knew whether we were in the grate or the grate in us, or both were somewhere else. That was the first and last explosion caused by putting hot cinders in cold water, or cold water on hot cinders, that we have ever felt surprised at. All subsequent ones have been most stupidly easy to explain. Steam is known to be somewhat explosive, and when water is thrown on hot cinders the steam produced begins to throw the cinders about. Sometimes it throws them too far. But all have not passed through our experience, and cannot be expected to understand the matter so thoroughly. The explosion does not strike us as inexplicable, but the notion of driving hot cinders about in a cart is one which does not quite fit in with our ideas.



AND

Literary Notes.

Industrial Chemistry: A Manual for use in Technical Colleges or Schools, and for Manufacturers, &c. Edited throughout and supplemented with Chapters on the Chemistry of the Metals, &c., by B. H. Paul, Ph.D. London: Longmans, Green & Co. Pp. 987.

A BULKY volume like the one before us, with nearly a thousand pages of very closely printed small type, professing to treat "the technical applications of chemistry in a concise and systematic manner," promises to fill a most decided want in our scientific literature. We have only received this work a few days, and must premise that our present comments are only preliminary to a more extended review of a work which we look upon as a very important one.

The book, of course, contains a vast mass of valuable information, but we cannot help feeling a little disappointed that the promise of the preface has not been more carefully regarded. It is a great improvement on many that have preceded it, or perhaps it would be more correct to say, that it differs from all its forerunners. But seeing that it aims at giving a systematic and concise account of the technical applications of chemistry we think it a pity that the editor has allowed so much to enter which is to be found in every textbook. By the latter course he has augmented the size and price, and decreased the special value of the work.

The original of this book first appeared in French under the title of "Payon's Précis de Chimie industrielle." This was translated into German by Stohmann and Engler, and has arrived at its English development by this somewhat circuitous route. The translation is due to Dr. T. D. Barry, an English chemist

established in Germany, and Dr. B. H. Paul has editorially supervised the present publication. Some chapters on metallurgical chemistry are original with the last-named gentleman.

We cannot think that the selections and omissions of subjects are always wise. For instance, under paper-making we have no mention of the use of esparto grass. Tannic acid is quite omitted, and the manufacture of leather has less than a page devoted to it. The manufacture of the coal-tar colours, of gnrancine, and the art of dyeing—all of which require a large amount of chemical knowledge for their successful accomplishment—are quite ignored. Many important applications of materials are not mentioned. Thus, the use of ammonia and ether in refrigerating, and of nickel in the German coinage, escape notice, and, what is perhaps excusable, hydrogen is said to be known only as a gas. On the other hand the article on camphor, essential oils, and resin, extending to only thirty-six pages, contains at least seven which are occupied by brief descriptions of substances such as gurjun balsam, podophyllin, ammoniacum, and oils of savin, cedar, and sandal wood, which are very unlikely to come under the notice of ordinary technical students. Then again, pages 530 to 540 inclusive are taken up with the description of platinum, palladium, rhodium, ruthenium, iridium, and osmium. The whole of these eleven pages is occupied with descriptions of the chemical properties of these metals and their compounds, with the exception of seventeen lines on the technical uses of platinum, eight lines on those of palladium, and one line on that of osmiridium. No notice seems to be taken of the use of gun-cotton in the manufacture of collodion. Another defect, which is rather a serious one, consists in the fact that most of the processes and factories referred to are foreign rather than English. Thus in the article on paper-making at least nine foreign patents and processes are referred to by name, while four are mentioned which are only doubtfully English.

To those who have not access to the larger works of Watts, Ure, or Muspratt this work will undoubtedly be useful: but while it contains so much matter to be found in books which are already in the hands of every student we cannot recommend it unreservedly as a handbook of technical chemistry. We may point out two rather serious misprints. On page 27 tubulure is spelt tubulus, a form not yet introduced into English works, and on page 510 Tutenag is transformed into Futeuang. We shall more fully notice the contents of the work next month, as we hope to get time previously to examine it more closely.

The Liverpool Chemist's Price List. 2nd Edition, revised and improved. Pp. 53. 1s. London: Silverlock.

This is a capital shilling's-worth. The articles are arranged alphabetically, as in Squire's "Companion." Thus, tinct. eubææ is under eubææ; spt. æth. nit. under æther nit.; tinct. opii under opium. The paper is good. It is blue lined at such distances that each entry stands on a line of its own. The margins are broad for M.S. notes, and the last half dozen lines on each page are left blank, so that additions may be inserted nearly in their correct places. Even if a chemist does not adopt all the prices quoted, he can easily alter them to suit himself; and a book of this kind would be a great boon to an apprentice or a new assistant.

What is Photographic Purity? A Guide to the most Novel Improvements in Photographic Chemistry. London: A. & M. Zimmermann.

This is a pamphlet of thirteen pages, which reveals its German origin by its literary style. It is devoted principally to the consideration of the photographic chemicals manufactured by Ernest Sehering, of Berlin. But over and above this it contains hints on the testing and purification of chemicals which will be valuable to the chemist who makes photography an amusement as well as to him who makes it a source of profit.

E. M. HOLMES, F.L.S., the curator of the Museum of the Pharmaceutical Society, is about to publish a Botanical Notebook. It will probably appear early in May.

MISS BETHAM-EDWARDS is engaged upon a popular manual on the "Eucalyptus globulus," which will summarise her contributions to the *Pall Mall Gazette* and other papers on the subject, and contain much new information and many illustrations.

BARON FERDINAND VON MULLER, the eminent authority on the "Botany of the Australias," is about to publish a magnificent Atlas of the Eucalypti. He is also engaged on an English edition of G. C. Wittstein's work on "The Analysis of the Ashes of Plants."

NEW REMEDIES announces that arrangements are being completed whereby Professor Flückiger will publish through William Wood & Co. an edition of the Pharmacographia specially adapted to the materia medica of the United States, Canada, and the West Indies.

PHARMACEUTICAL POETRY.—Many of those who once were schoolboys will remember Henry's "Latin Grammar," with its rules in rhyme.

A dative put, remember pray,
After envy, spare, obey—

and so on. On a similar plan, Mr. Judd, of the West Central School of Pharmacy, 43 Great Corn Street, W.C., has composed a set of Mnemonics, many of which are very ingenious, for the especial use of pharmaceutical students. The atomic weights, for instance, are all given in rhyme, and one or two examples will show how neatly this has been accomplished:—

BISMUTH heaviest, happy thought,
Atom weighing *two-one-nought* (210).
In your memory evermore
Enter CALCIUM at *two score* (40).
Two nought seven within your head
Carry for the weight of LEAD (207).
Pray remember when you're told
Joining PLATINUM with GOLD
One-nine-seven the former makes (197).
Point-five-less the latter takes (196.5).

The author also gives some ingenious rules for remembering the troublesome monads, dyads, and triads, &c., but we must not further infringe on his copyright. He offers to send the sheet free to any one who applies for it. It is rumoured that Mr. Judd is putting the Pharmacopœia into mellifluous verse. Perhaps the Medical Council will come forward to save their darling from this indignity.

NEW BOOKS.

- Complete American Farrier and Horse Doctor: showing plainly how to Breed, Buy, Sell, Cure, Shoe, and Keep the Horse. With Notes from the best English and American Authorities, with the Recipes of Dr. Chase, of Ann Harbour. By C. Forrest. 12mo., pp. 330. (Wakefield: Nicholson.) Simpkin 7s
- Human Eye: its Optical Construction popularly explained. Illustrated. By R. E. Dudgeon. 12mo., pp. 102. Hardwicke & Bogue 5s
- Notes on the Hygiene of Cholera. By C. A. Gordon. 8vo. Baillière
- Indigestion and Diet. By J. Dewar. 12mo., pp. 88. Hardwicke & Bogue 3s
- Landlord and Tenant: a Practical Guide for the Purchasing, Selling, Letting, Repairing, and the General Arrangement of Property; also treating of the Law of Landlord and Tenant, Building Societies, &c. With an Appendix containing useful Forms of Agreement, Notices, Lists of Prices for Work and Materials, &c. By G. H. Larnuth. 12mo., pp. 104. (Manchester: Heywood.) Simpkin
- Medical Etiquette: a Few Rules. By a Licentiate of the Royal College of Physicians. 32mo., pp. 30. Baillière 1s
- Money and Value: an Inquiry into the Means and Ends of Economic Production. With an Appendix on the Depreciation of Silver and Indian Currency. By R. Hamilton. 8vo., pp. 416. Macmillan 1l.
- Money: Lectures delivered in the John Hopkins University, Baltimore. By F. A. Walker. 8vo., pp. 550. Macmillan 1l
- Morbid Craving for Morphia. By E. Levinstein. Translated from the German by Chas. Harrer. 8vo. Smith & Elder 8s
- Payen's Industrial Chemistry. Edited by B. H. Paul, Ph.D. 8vo., pp. 987. Longmans & Co. 42s
- Aids to Surgery. Part I. By G. Brown. 12mo., pp. 70, sewed 1s.

AMERICAN NEW BOOKS.—PRICES IN LONDON.

- Homœopathy: the Science of Therapeutics. By C. Dnnham. 8vo. (New York) London 21s
- Lectures on Diseases of the Nervous System. By S. Wilkes. 8vo. (Philadelphia) London 2s
- Pneumo Dynamics. By G. M. Garland. Cr. 8vo. (New York) London 1.6s
- Therapeutics: a Clinical Guide to the Action of Medicines. By C. Binz. Translated by Edward I. Sparks. 12mo. (New York) London 10s

OTHER IMPORTANT BOOKS.—PRICES AT PLACE OF PUBLICATION.

- Daphne Mezereum: Eine physiologische Arzneistudie. By Von A. Gerstel. Verlag von Schwabe in Leipzig.
- (From "New Remedies.")
- Beltraege zur Chemie der wichtigeren Gummiharze, Harze und Balsame. By E. L. Hirschsohn. 8vo. Dorpat, 1877.

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thbestimmung des Wismuths und des Kuenftlichen Magisterium Bismuthi. By Jul. Loewy. Dorpat.

imentary Publications (Blue Books). East India. Cinchona Cultivation. Papers. 1877. 2/4.

uario di Botanica applicata alla medicina, alla farmacia, alla veterinaria, etc. By Ferd. Gazzuola. Pisa. 1877. Pp. 720. 16mo.

l's Grosses Illustriertes Kräuterbuch. In numbers. Neu-Ulm. Svo. Numb. 1-7. 50 Pfen. each.

Weinbereitung und Weinchenie in ihrer Theorie und Praxis. By Emil Roth. 2 vols. Heidelberg, 1877-78. Mark 8.20.

ficaciones de los Alimentos y Bebidas, ó diccionario de las substancias Alimentarias con sus alteraciones, etc. By F. Javier Agreda. Barcelona, 1877. Pes. 7.

ndo de Farmacia operatoria. By Dr. Fors y Coruet. 2 vols. Pp. 2,300, with 363 illust. Barcelona, 1877. Pes. 50.

wissenschaftlichen Ziele und Leistungen der Chemie. By Prof. Aug. Kekule. Svo. Bonn, 1877. Pp. 29.

ilbertitirung mit Schwefelcyanammonium, und deren Anwendung zur Bestimmung des Kupfers, Quecksilbers und der Halogene. By Prof. Dr. J. Vohlharl. Svo. Leipzig, 1877. Pp. 62.

en du Planteur d'Enealyptus. By A. Certaux. Svo. Algiers. 3 fr. 50 c.

ne critique de l'Homœopathie. By Dr. D. J. G. Ollivier. Svo. Paris. 1f. 25c.

é élémentaire de Chimie médicale. By A. Rabuteau. Part I., Chimie minérale. Avec 168 fig. 8mo. Paris. 11f.

eaux Eléments de Chimie médicale et de Chimie biologique, avec les Applications à l'Hygiène, à la Médecine légale et à la Pharmacie. By L. Engel. 12mo.; illustrated. Paris. 8f.

hemische Industrie. Monatschrift herausgegeben vom Verein zur Vahrung der Interessen der chemischen Industrie Deutschlands. Berlin. Editor: Dr. Emil Jacobson. Monthly. 4to. Price per year, 16 marks.

ndustrie der Fette und Oele. Die Seifen- und Glycerin-Fabrikation, etc. By H. Perutz. 46 illust. Svo. Berlin. 11 marks.

ivre et ses composés considérés au point de vue physiologique et toxicologique. By Dr. Laborde. Svo. J. B. Baillière & Fils. Paris. 1. 50c.

ibations à l'étude de l'action physiologique du chloral sur la circulation et la respiration. By Dr. Troquart. Svo. Avec figures. J. B. Baillière & Son. Paris. 3f.

rine et des séliments urinaires. Par Neubauer et Vogel. Traduit par Docteur L. Gautier. Svo. Pp. 520. Avec 4 planches. F. Savy, Paris.

MEDICAL CLEANINGS.

ERGOTINE HYPODERMIC INJECTION.—Professor Dragendorff, Dorpat, writing of the active principle of ergot, sclerotinic says that it is separated by means of alcohol, and is more powerful and less irritating than the preparation of ergotine for hypodermic injection.

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THE CAUSE OF SEX.—Dr. T. P. Tuckey, of Castletownroche, suggested that the position of the ovule and placenta in the uterus determines the sex of the child. In every one of eight cases he has found that the placenta on the left side of the uterine line has produced females, and that in five cases out of six the placenta on the right side has produced males. At present this is but a suggestion.

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CHLOROPHANY ACID STAINS.—Dr. Balmanno Squire has been enabled to remove the stains left by chlorophanic acid on the linen of his patients. The stains are purplish brown, and very difficult to remove. Acetic acid, which dissolves chlorophanic acid in a solution, has no effect on linen stained with it. Dilute nitric acid changes the colour to a bright moreen without removing it. Dr. Squire records, in the *British Medical Journal*, his final successful experiment. He immersed a towel, which had been stained at the British Hospital for Diseases of the Skin, in a solution of chloride of lime. Five hours after he tried to wash it out with his stick, but the stick went through the towel, and was with difficulty that the latter was raised above the surface of the liquid. The towel was most effectually rotted, and the result was a *ureka!*—it was white. Dr. Squire's advice to his numerous patients now is to have the linen properly bleached with chloride of lime, which will probably remove the colour but leave unimpaired the strength of the fabric. Dr. Walter Fergus, of Marlborough College, Wilts, writes to a later issue of the

British Medical Journal stating that he has found this method quite unavailing when the fabric stained is of linen, and he concludes that the acid dyes linen a "faster" colour than cotton.

* * *

DEGENERATED.—An eccentric individual named John Rhodes, of Pomona Terrace, Hounslow, was buried in Hounslow Cemetery on January 21. Although possessing immense wealth, he dressed like a tramp, and was exceedingly parsimonious, often denying himself the common necessaries of life. He has left the greater portion of his fortune, amounting to 100,000*l.*, to various metropolitan charities. Mr. Rhodes was nearly 80 years of age. His wife died some years since, and he has left no family. He was a chemist in early life, and derived most of his wealth from successful investments in gas companies.

* * *

A SIMPLE CURE FOR RHEUMATISM.—The *Gazette des Hôpitaux*, No. 92, 1877, states with great confidence that Dr. Liron has cured three cases of acute articular rheumatism by the subcutaneous injection of about twenty drops of cold water in the vicinity of the affected joint. The *Medical Press and Circular* works itself up into a fine state of indignation on this particular point, and condemns in most unqualified language the credulity of doctors which makes it possible for any journal to publish such statements without being held up to scorn and reprobation. There is a saying that "the wisest man is a fool at times," and it is hard on the doctors that the *Medical Press and Circular* should not allow their foolish tendencies full play at least occasionally. What a world it would be if we were all of us always wise!

* * *

DIALYSED IRON.—Dr. John Cavafy, Upper Berkeley Street, W., writes thus to the *British Medical Journal*:—"Dialysed iron" is the name given to a preparation recently introduced, which, judging from the frequency with which it is advertised, must be meeting with considerable favour. Now, to begin with, if "dialysed" means "that which has passed through a dialyser," it is not dialysed at all, as it consists of a solution of the colloid hydrated ferric oxide, which remains behind in the dialyser, being incapable of diffusing through organic membranes. This being the case, it is of course quite incapable of absorption; only the very minute portion dissolved in the gastric juice can be taken up, and consequently the preparation is practically inert. French physicians have already taken this view of it; but its true use seems to have been apprehended in America—viz., as a ready source of hydrated ferric oxide in poisoning by arsenic.

* * *

SPONGE AS A DRESSING.—Mr. Furneaux Jordan, of Birmingham, has written to the *British Medical Journal* in praise of sponges as most useful helpers to the surgeon. Not very long ago surgical advice on this matter was, "Whenever and wherever you see a sponge, burn it." That was in the ante-disinfection, or we might even say in the ante-Lister period, when sponges by their very virtues absorbed and preserved indefinitely all sorts of impurities from air and water and blood. Now a sponge—soft, cleansed, moist, antiseptic, and sufficiently large—is more efficacious than the "royal touch." Listering (the Germans have coined the verb "Listern" for our professor's well-known process) requires the presence of many hands and much apparatus. When these are absent a sponge well washed and wrung out in carbolic acid forms one of the best of substitutes. The Lister process cannot be applied to some parts of the body—such as the face. Here again an antiseptic sponge is invaluable. It exerts soft, uniform, diffused, elastic, and measurable pressure. Slight pressure will keep a wound clean; moderate pressure keeps up efficient drainage of all deep-seated fluids. When put within a wound the sponge speedily creeps into every corner, crevice, or recess from which blood may flow, and a pressure not at all severe will check all hemorrhage except from the larger vessels. Moderate sponge pressure keeps the deep parts in apposition and promotes their more solid union. Protracted pressure with lint or cotton sufficient to arrest hemorrhage would cause sloughing; not so with sponge. Through a sponge dressing, we may apply hot or cold or any desired lotion to the skin; those, however, which leave deposits, such as lead lotion, make the sponge hard. Sponge dressings may be removed as often, or almost as rarely, as convenience may dictate, and their softness and bulk protect the wound from injury and friction. Sponges which have been

used, if completely cleaned and disinfected, are better than new ones. For a wound in the palm, bleeding profusely, no dressing is better than a sufficiently large piece of Turkey sponge, washed and wrung out in dilute carbolic acid, and fastened over the wound with one or two turns of baudage.

* *

LONGEVITY OF QUAKERS.—According to an official statement, the number of deaths among the Quakers in Great Britain and Ireland during the last year was 308—125 males and 183 females. There are 14,500 Quakers in Great Britain and 3,000 in Ireland. The mortality, consequently, bears a very favourable contrast to that of the population generally. There were only nineteen deaths of children under one year, and but forty-nine under twenty years of age. It may here be remarked that the regulations of the Society respecting the registering of children provide that none shall be considered as members unless both parents are in membership at the time of birth. This is frequently not the case, and a large number of children of Quakers are thus not included in the statistical tables. To this fact may partly be attributed the general idea of the small number of births in the community. Many of these children are received into membership as they grow up, but others, of course, die, and the number of deaths of children thus seems below what it really is. Out of the total 308 deaths, the largest number in any one decade of life was in that which included those aged between seventy and eighty, and the next (fifty-five) those who died between eighty and ninety years of age. Eight died aged between ninety and one hundred. The average life of Quakers in the last year was, therefore, over fifty-eight years.

* *

THE SUICIDE OF TRINITY COLLEGE, DUBLIN, MEDICAL SCHOOL.—The officials of the Medical School of the University of Dublin have just created considerable excitement in their profession, by an act which can hardly be otherwise characterised than as suicidal. As everyone knows, in 1876 an Act was passed forbidding experiments on living animals, except in registered buildings always open to the inspectors appointed by the Act. Experiments on living animals include not only vivisection properly so called, but investigations into the action of poisons and antidotes, of new remedies, or of foods, the illustration of the circulation in the web of a frog's foot, and hundreds of other things which make up a large portion of the most successful and valuable training accessible to medical students. Holding this view of the matter, all the London and nearly all the provincial medical schools have had their laboratories or dissecting-rooms registered. Those that have not done so have necessarily crippled their own power of teaching their students, and have made it impossible for their professors to conduct any original investigations which the most stupidly tender-hearted person could imagine to be painful to the subjects operated on. It would seem to be a logical consequence that both pupils and professors should abandon the schools thus weakened. Nevertheless, the authorities of the medical school at Trinity College, Dublin, at a full meeting, and after a prolonged discussion, have decided by a casting vote of one not to register any of their buildings, and they thus deny their pupils the inestimable advantages which the law admits to be necessary, and which, under proper restrictions, are to be had elsewhere.

* *

ASCARIS LUMBRICOIDES AND ITS EFFECTS.—Dr. E. M. Boddy, of Camberwell Road, S.E., has given, in the *Medical Press and Circular*, an account of some remarkable cases of simulated diseases caused by the presence of *Ascaris lumbricoides* in the human intestines. These parasites are frequently present at all ages, and they are generally unsuspected. The symptoms they produce are sometimes so grave and so variable that the patient may be thought to be suffering from dangerous and incurable diseases. A child one day may appear to be suffering from some marked lung affection; the next day it is in a high state of fever; on the third day it may appear quite well; on the fourth day something else equally mysterious turns up; and no clue can, at first, be obtained to the cause of the conflicting symptoms. In one case, a girl, aged 13, was emaciated and weak, and afflicted with a constant dry, hacking cough. She was treated for commencing phthisis, with marked improvement in her general condition, but the cough continued as bad as ever. The natural ejection of two large round worms revealed the cause, and the cure was almost immediate. A similar case,

complicated by a rash like that of scarlatina, gradually assumed under treatment the appearance of typhoid fever. No suspicion of the real cause was excited till the patient vomited a large round worm. The treatment was immediately changed, calomel and santonin were given at night, followed by castor oil in the morning. This treatment was most effectual: the parasites were ejected, and the patient recovered almost miraculously. In another case, a girl of 18 had for six years been subject to attacks so frequent and so closely simulating true epilepsy, that she had been pronounced by many authorities a confirmed epileptic. Certain anomalous symptoms directed Dr. Boddy's attention to intestinal irritation. On treating the patient for parasites, a week had not elapsed before the fits vanished, and she is now in excellent health.

* *

HÄHNEMANNISM.—The *Organon*, to which we have before referred as a new Anglo-American journal, whose mission is to advocate the extreme homœopathic views, enters a sensible protest against the undignified whinnings which moan perpetually in the other schismatic journals. We have frequently said that when a doctor voluntarily separates himself from the orthodox body, and teaches, rightly or wrongly, that the orthodox practice is erroneously based, he can hardly complain with reason if the orthodox party cuts him professionally. This is how the *Organon* puts the same idea. Referring to a recent article by Dr. Drysdale, the editors say:—As for persecution, we fail to see that it exists, except to the small extent of refusing to meet us in consultation, &c., and this, so far from being a hardship, is simply in accordance with the "eternal fitness of things"; for, if our law is true at all, we can dispense with allopathy altogether, and a consultation between two physicians holding diametrically opposite views on the art of healing would be a mockery. As for their dishonesty, in the name of the allopathic body, from whom one of us has, within the last few years, separated himself, by the adoption of Hahnemann's teaching, we indignantly hurl back the foul charge. Dishonest! And why? Because they have dared to use some of "our remedies" without acknowledging that they act homœopathically! And why should they acknowledge what they do not believe? They use homœopathic remedies, it is true, but they explain their action on different principles. Have they not a perfect right to adopt that theory of drug-action which seems to them the best?

CORRESPONDENCE.

THE TELEPHONE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—In your February number you kindly gave instructions how to make a telephone. I followed the instructions as per designs Nos. 1 and 2. I dispensed with the soft iron rod, and find it answers first class, the distance from my two instruments being about 80 yards away from my sitting room and connected by a single gutta percha covered copper wire, having an earth wire at each end to complete the circuit. I have taken it to a friend's house, and we are able to have songs and conversations together, &c., with very fair results. I think I shall be able to make a great improvement yet, so as we may hear very distinctly. Should I make any improvement worth mentioning I will let you know. Your designs are first-class, as the instruments can be taken to pieces at any time easily, which is a great advantage to experimenters. The spools in mine are fixed on the end of the magnets (as soft iron rod is done away with in this case). Place the magnet as close as possible to the ferrotype-plate in each telephone, care being taken not to touch the ferrotype-plates (this can be ascertained by pushing down a slip of card between the plate and the magnet); then fix the magnet firm by means of the three screws, then withdraw the slip of card. I have made a rough mouthpiece with a No. 12 turned wood pill box with the bottom cut out and the mouthpiece to be glued over the opening. I have sent you word because I thought you would like to know your designs had been of some use. I have made mine out of mahogany and have polished them: altogether it looks very scientific. Thanking you very much for your information and designs,

I remain, yours respectfully,

Grimsby: April 11, 1878.

Wm. ROUSSEY.

AN APPEAL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

R.—Your obituary of the current month will probably record the melancholy death of Mr. William Dixon, aged 49, who committed suicide at Bristol, with prussic acid, a few weeks since. I would fain enlist the sympathy of any who may be favorably disposed on behalf of his widow, who, left with eight children, is in great pecuniary distress. Five of the children dependent upon her for support, the youngest of whom is 3 years old, and the eldest thirteen, who has just been removed from school, because of the mother's inability to keep there.

Mr. Dixon was educated at Christ's Hospital. He carried on the business of a pharmaceutical chemist in Southampton for 25 years, and during three of those years (1861-3) was a member of the Town Council. In 1864, owing to pecuniary difficulties, he was obliged to resign his business. For two years afterwards he obtained no employment; and during the past seven years the family has experienced, more or less, much trouble and suffering. I am in a position to state that throughout all those sad years Mrs. Dixon has been most diligent as a wife and a mother. I will say no more than that my subscriptions on behalf of her and her family will be cheerfully received by me, and acknowledged by your kind person in *The Chemist and Druggist*. Mr. Dixon was a Freeman, and as members of the Craft and Old Blues and chemists are proverbial for their generous sympathy with distress and suffering, I feel sure I shall not have appealed in vain to hundreds of your numerous readers for aid for his widow in her time of need.

I have already received the following:—

.. ..	£1 1 0	F. Beresford Turner	.. £1 1 0
Randall, J. P.	.. 1 1 0	Thos. Summers	.. 1 1 0
Worn, M.D.	.. 1 0 0	W. Patterson	.. 1 1 0
Downman	.. 1 1 0	Miss White	.. 1 0 0
Spearing	.. 1 1 0	Wm. Barron	.. 0 10 6
.. ..	.. 0 10 6	Fredk. Barron	.. 3 3 0
.. ..	.. 1 0 0	J. D.	.. 0 2 6
.. ..	.. 0 2 6	G. B.	.. 0 10 0
Le Fenve, J.P.	.. 1 0 0	"Charity"	.. 0 5 0
.. ..	.. 0 2 6	J. Adams	.. 0 1 0
Dawson	.. 1 1 0	P. C.	.. 0 5 0
Cooksey, J.P.	.. 0 10 6	B.	.. 0 2 0
Graham	.. 0 5 0	J. Attfield, Ph.D.	.. 2 2 0
Ellyath	.. 0 10 0	T. Jeeves	.. 1 0 0
.. ..	.. 0 2 0	J. W. Harman	.. 0 2 6
.. ..	.. 1 0 0	H. T. Peake	.. 1 1 0
Bachan, J.P.	.. 1 0 0	W. T. G. S.	.. 0 10 0
.. ..	.. 0 1 6		
Rogers, J.P.	.. 0 5 0		

Your obedient servant,
ROBT. CHIPPERFIELD.

Southampton: April 11, 1878.

The Poison Cupboard.

OPIMUM SEEDS have been detected in a parcel of Russian opium imported by a Hamburg firm.

THE LEAVES OF THE CASTOR-OIL PLANT (*Ricinus communis*) are reported by a California newspaper to act as poison upon grasshoppers, which, after eating a small portion, are unable to fly, and speedily die. If the statement is true, the leaves are possibly be of utility in clearing kitchens of cockroaches.

POISONING A HERD OF CATTLE.—A fine and valuable herd of highland cattle belonging to the Earl of Lovelace were lately destroyed last month, in his park at East Horsham, Surrey, in consequence of their having eaten the leaves of a large number of yew trees which abound in the park.

LARGE DOSE OF CHLORAL HYDRATE.—The *Boston Medical Surgical Journal* supplies us with the following facts. A man, forty years old, suffering apparently from *delirium tremens*, the result of a fortnight's drinking bout, was ordered 10 drachms of chloral hydrate, ten grains to be taken at once, and ten more in half-an-hour, if required. Instead of this, the nurse gave the patient the whole of it in ten hours, and next day he was quite well, with the exception of a slight headache. It would hardly be safe, however, to repeat the experiment.

SOLANUM DULCAMARA L.—Is it POISONOUS?—F. H. writes to *Science Gossip* for April, stating that two fatal cases have occurred in the neighbourhood of Athyl, through children eating the berries of the bitter-sweet, *solanum dulcamara* L. Dr. Garrod says he has given half a pound of a confection of the berries without producing tangible effect. Further information on the matter would be interesting.

ARSENIC IN RUBBER STOPPERS AND TUBES.—We gather from the *Medical Examiner* that Herr Filhol has found that vulcanised india rubber stoppers and tubes, used in the apparatus for testing arsenic by Schneider's test, will vitiate every experiment. Schneider's test depends on the conversion of arsenic into volatile arsenious chloride by distilling the suspected substance with sulphuric acid and sodium chloride. But when hydrochloric acid gas comes in contact with vulcanised rubber it almost invariably extracts from it an appreciable quantity of arsenic.

DEATH FROM CHLORATE OF POTASH.—The *American Journal of Pharmacy* for March contains an account of a case of poisoning from chlorate of potash, said to be only the second recorded in which death has resulted from the action of the drug. The sufferer in the present case was a little girl of 2½ years, daughter of Dr. Kauffman, Minersville, Schuylkill County, who ate about half an ounce of the salt while "playing doctor." Vomiting ensued, which continued till the patient died, seven hours after taking the salt. The other case mentioned is that of Dr. Fountain, of Davenport Town, who took an ounce of the chlorate and fell a victim to his temerity.

DIALYSED IRON AN ARSENIC ANTIDOTE.—Dr. T. B. Reed tells his profession, through the medium of the *Philadelphia Medical Times*, that he has cured a case of poisoning by arsenic, using only dialysed iron. Miss S.— mixed up in her pocket quite unwittingly some arsenical vermifuge with gum-drops and bonbons. She noticed an unusual amount of powder on the lozenges, and carelessly brushed it off without delaying her treatment. An hour and a half after she was seized with a pain which felt, as she said, "like a pure-mustard plaster on the inside of her stomach." To relieve this she filled herself with warm water, without any effect, but on hurrying to the doctor's he gave her half a tablespoonful of Wyeth's dialysed iron, which relieved her almost instantly. The dose was repeated in 10 minutes, and then at intervals of half an hour and an hour. Mucilaginous treatment, with an occasional dose of the iron, completed the cure in a few days.

OPIUM-TAKING IN THE UNITED STATES.—A correspondent of the *Cincinnati Inquirer* has stated that in one town of the district less than 20 persons are free from the opium habit. The majority of the clergymen of the place and most of the pupils in the school for young ladies are said to be among the inebriates, some of the latter spending \$6 00 a week for opium. It is furthermore declared, on the authority of a druggist, that 100 lbs. of opium a week is the average consumption, and another claims to have dispensed 79,593 doses of morphia last year. Those druggists and the correspondent of our inquiring contemporary seem like to spend a good share of their ultra-mortal career in company. There is a little anecdote about George Washington and an apple tree, which we commend to their careful notice.

POISONED BY MEDICINE.—Three men, named Teague, Crane, and Thompson, were drinking together at an inn in Kidderminster, during the last week of March. Teague mentioned that he had a bottle of medicine in his pocket. Thereupon Crane took it out, saying that if it had done Teague good it would certainly do him good, and he proceeded to drink some of it, Thompson following his example. They had previously been told the contents were poison, and it appeared the bottle contained a preparation of aconite and belladonna. The result was that Crane died whilst being removed to his home, but Thompson is slowly recovering. The *Medical Times and Gazette*, in commenting on this case, says a fondness for medicine may be considered the exception rather than the rule. Here we think the editor is mistaken. If he had had an opportunity of watching the immediate effects of dispensary practice, he would have noticed that the old women who attend invariably coagulate by the nearest luncheon, or at some convenient corner, for the express purpose of tasting and disussing the merits of the physic dealt out to them. At least, we know where an exhibition of this character is to be seen.



TRADE RIGHTS IN STAMPED BOTTLES.

A SUIT was heard by Sir R. Malins on Wednesday, between Messrs. Rose & Co., of Leith, and Mr. Loftus, of London.

The plaintiff applied for an injunction to restrain the defendant from selling his own manufactured lime-juice in bottles stamped with the name of the plaintiff, "Rose and Co., Leith." The allegation was that the defendant had purchased and collected bottles with the plaintiff's name stamped upon them, and had filled them with his own lime-juice. There was no proof that the defendant had made a practice of collecting the plaintiff's bottles, but the defendant admitted that on one occasion four dozen of the plaintiff's bottles were brought to him by a publican in Oxford Street to be filled, and the defendant, having filled them with lime-juice, put his own label upon them, and sold them to the publican.

Mr. Glasse, Q.C., and Mr. Gardiner appeared for the plaintiff; Mr. Higgins, Q.C., and Mr. Byrne for the defendant.

The Vice-Chancellor said it was no doubt an improper act of the defendant to fill the plaintiff's stamped bottles with lime-juice of his own manufacture, because it enabled any person who purchased from him to deceive the public and make them believe that the lime-juice so sold was actually manufactured by the plaintiff; but in this case there was no evidence whatever that the defendant had systematically adopted the practice complained of, and the plaintiff might have discovered without much difficulty the real facts of the case, and should not have brought this action, making charges against the defendant which amounted to fraud. On the other hand, the defendant had omitted to give the plaintiff an explanation of the circumstances when he had the opportunity of doing so. If the defendant would give an undertaking not to sell his own lime-juice in the bottles used by the plaintiff, he would give no costs on either side.

Mr. Higgins having given the undertaking required, no order was made except that each party should pay his own costs.

THE LAW IN REGARD TO UNQUALIFIED PRACTICE--ALLEGED MANSLAUGHTER AT BAMPTON.

At the Exeter Assizes on March 26, before Sir James Fitzjames Stephens, Q.C., Commissioner-Judge, Charles Hornsey (on bail) was indicted for the manslaughter of Rhoda Burge, at Bampton, on August 18. Mr. St. Aubyn prosecuted, and Mr. Clarke defended.

James Burge said the deceased was his wife, and she died on August 18 last. For some time before her death she had been suffering from bad legs. The prisoner was at his house on July 28, and in his presence his wife said she should like him to try if he could cure her legs. The prisoner replied that he had no doubt that he could cure them, adding that he had "done great cures." Witness then left the house, leaving the prisoner with his wife. On the following day he saw in the house a bottle containing some liquid, and he also observed on that day that his wife's legs were in blisters. From that time the prisoner visited his wife from two to three times a week, and he heard him say he had no doubt she would get on all right after a time. He had seen the prisoner dress his wife's legs with a lotion. Shortly after his first visit witness noticed that his wife's mouth and tongue were swollen, and she was unable to take any solids. One side of her face was also swollen. Witness asked the prisoner at various times if he thought his wife would get on, and prisoner said he had no doubt she would. His wife got so ill by the 17th, the day before she died, that witness called in two doctors, and they said they could not save her. She died on the following night. On the morning of August 18 (when she died), and about 12 hours before her death, he asked prisoner how it was he came to make such a mistake. The

prisoner asked "What mistnko?" and witness said, "You have killed my wife, and ruined me." Prisoner replied, "Oh, Mr. Burge, I have practised this for thirty years and never known anything go wrong." The prisoner then administered an injection in his presence. His wife had a very delicate constitution, and suffered from ulcerated legs.

Cross-examined: The prisoner was very kind and attentive to his wife, and the people in the district had every confidence in him.

Mary Corner, widow, residing at Bampton, said she was at work at the house of the deceased, and on July 31 she saw that her legs were in a complete bladder. The prisoner "let" the bladders, and said she was poisoned all over, and that the poison had gone through her whole system.

Cross-examined: The prisoner said to the deceased, "You have taken some poisonous medicine."

Ann Paviour, another widow, of Bampton, deposed to seeing the prisoner apply a lotion to the legs of the deceased, and handing over samples of it to the sergeant of police.

Dr. Attwater, practising at Bampton, said he was sent for to see the deceased on August 17. He found her in a dying state and past human skill. In consequence he did nothing at all for her. He saw her twice on the following day, when she died, and she was then in the same state, and on the occasion of his second visit was convulsed. Three days after death he made a *post mortem* examination. The brain was in an advanced state of decomposition, the lungs were congested, but otherwise healthy, and there was no trace of any organic disease. The appearances which he saw, and described at length, led him to form an opinion that death was caused by the use, in some shape or form, of an irritant poison. He should say mineral poison.

By his Lordship: In no case and under no circumstances would it be proper to apply corrosive sublimate either in the form of lotion or ointment to ulcerated legs. It is commonly known to medical men that it would be dangerous to use. There is no case whatever that I am aware of in which medical men are in the habit of applying corrosive sublimate in the form of a lotion to the human body. Supposing it was applied to a person and taken up by absorption the greater portion of it would find its way into the liver.

By Mr. Clarke: We don't use corrosive sublimate now. We used to formerly, applying it externally in cases of syphilis and such diseases.

His Lordship: It was once used by the profession, then?

Witness: Yes, at one time.

Mr. Clarke: Is it not still used constantly for application in cases of rheumatism?

Witness: Some people do use it, undoubtedly.

His Lordship: Then you have misled me by your former answers.

In reply to his Lordship, Mr. St. Aubyn said the only additional evidence he had was that of Dr. Blythe, who would say that the lotion contained a small admixture of corrosive sublimate.

His Lordship: I don't think that will be sufficient. Addressing the jury his Lordship said he did not think it safe to leave this case to them, and it was important that they should know why he took the course he now did, and that the law on this subject should be publicly known. The charge against the prisoner, who was not a regular practitioner, was that he had committed the offence of manslaughter. Manslaughter meant causing death either by an unlawful act or by unlawfully omitting to do that which it was a person's legal duty to do. When a man undertook to treat disease it was his legal duty to employ, in the treatment of that disease, a common amount of professional knowledge and skill, and if he failed to employ that, and the result of the failure was to cause the death of the person treated, then he was guilty of manslaughter. He might add that in all cases the prosecution had to show the absence on the part of the accused person of that common knowledge and skill, or, in other words, he had to show gross and culpable negligence or ignorance, and the law applied just the same whether the person who was charged with causing death was a regular practitioner or wholly unqualified. A man might make great professional mistakes, attended with the most lamentable results, even causing death, and yet not be guilty of manslaughter, just as a lawyer might make a great mistake in his practice, and might ruin his clients without making himself liable for negligence. When doing difficult and delicate things, the most skilful man

make a mistake, an error of judgment, and if he did so he had in reputation and in other ways, but he was not morally and not always even civilly responsible for what he did in order to make a man criminally responsible, grossly negligent, and ignorance of the common rudiments of professional knowledge must be shown. In this case the others who could be called would prove nothing more than this: the lotion which the prisoner supplied was found to be corrosive sublimate, and that a small portion of it was in the woman's liver. They would then have to depend on the evidence of Dr. Attwater, and before they could convict the prisoner it would be necessary to show two things—first, that he did cause the woman's death; and secondly, that he did shew such a degree of ignorance as to make it probable. The evidence that the woman actually died from this corrosive sublimate, and that she did not die from some of the other complaints from which she suffered, was very far indeed from being proved. He had done his best to explain the law on this important subject, and he would now tell the jury that he did not think they could safely convict the prisoner of manslaughter on the evidence given to them, and therefore they should find a verdict of "Not guilty." The prisoner was discharged.

ENO'S FRUIT SALT.

The case of *Eno v. Stephens* came on before Vice-Chancellor James Bacon on April 11. It was a motion in an action by the proprietor of "Eno's Fruit Salt" against a chemist in Hereford which had been registered by the plaintiff under the Trade Marks Registration Act, 1875, and from offering for sale a chemical preparation with wrappers so resembling the plain wrappers as to induce the public to believe that it was the same as that of the plaintiff. It was proved that the defendant had a bottle under the title of "Fruit Saline." Mr. H. Jackson, Q.C., and Mr. J. Cutler were for the plaintiff. Mr. Emming, Q.C., and Mr. H. A. Gifford, for the defendant. It was proved that there was no actual deception or intention to deceive.

Vice-Chancellor Bacon held that it was sufficient for the purpose of the plaintiff's case that the plaintiff had proved the use of the title "Fruit Saline" on one occasion. The more important questions in the case were those which the plaintiff and the defendant might have to be decided hereafter, but the defendant must be restrained from using the plaintiff's trade-mark by using such a combination of words as that which had been proved.

BANKRUPTCIES AND LIQUIDATIONS.

G. HOWARD, Rochdale.

A creditors' meeting of the creditors of George Howard, Rochdale, Manchester, chemist and druggist, was held on April 11, at the office of Mr. Vaughan Jones, solicitor, Bridge Street. The statement of affairs, prepared by Mr. William Poole & Co., Bond Street, showed liabilities of £1,135l., and assets (including securities in hands of the creditors) estimated to produce £1,155l. The principal creditors were represented by Mr. W. Poole and Mr. Milneson & Milne, accountants, King Street. Liquidation by Mr. Vaughan Jones was resolved upon, the debtor's discharge being granted on the trustee certifying he is entitled to the same, and Mr. Vaughan Jones to register the resolutions.

WILTON, Drug and General Merchant, 66 Mark Lane. The proprietor, trading as Frank Wilton & Co., has presented a petition for liquidation, and the case was brought before Mr. Murray on the 3rd inst. Mr. Willis said that he was asked to apply for the appointment of a receiver and manager of the estate. The business was a large one, the assets amounting to about £27,000l., and acceptances for a considerable amount were overdue, in respect of which proceedings were threatened. Goods were continually arriving from all parts as well as remittances, and orders were daily being sent to Mr. Rabidge, accountant, King Street, Cheapside, who acted as receiver and manager, the necessity for the appointment being shown not only by the affidavit of the debtor,

but also of Mr. Van Sandan, the solicitor to the proceedings, the debtor's engagements being very extensive, and it being desirable that the business should be continued until the meeting of creditors. In reply to Mr. Registrar Murray, Mr. Willis said that the application was supported by creditors, and His Honour made the desired appointment. The following creditors have been scheduled:—

	£	s.	d.
The City Bank	900	0	0
The Agra Bank (Limited)	650	0	0
John Conning & Co., Exchange Buildings, Liverpool	485	4	2
Clifford, Christopherson & Co., Great Tower Street ..	394	3	4
Dale & Stubbs, Great St. Helens	341	19	6
Reynolds & Sellers, 2 Fen Court, E.C.	297	18	0
T. & H. Smith & Co., Worship Street	292	9	9
Bonde Fils, Marseilles	120	0	0
Baiss Brothers & Co., Jewry Street, E.C.	58	2	1
Phillips & Webb, Great St. Helens	32	0	0
Lander & Crosbie, New North Road	21	0	0
McFarlane & Co., Barge Yard, E.C.	20	15	6
Burgoyne, Burbidge & Co., Coleman Street	18	14	0

HENRY HOLLAND, Birmingham.

A MEETING of the creditors of Henry Holland, chemist and druggist, of 97 Highgate Lane, Birmingham, was held on April 2, at the offices of Messrs. Hawkes & Weekes, Temple Street. The statement of affairs showed total liabilities of £1,272l. 14s. 10d., and assets 10l. Mr. O. Minster, solicitor, Coventry, and Mr. Balmer, Newcastle-on-Tyne, represented the creditors. Mr. Weekes, on behalf of the debtor, offered a composition of 1s. in the pound, payable in three months from the date of registration, which was accepted.



NEW SUBMARINE LAMP.

Messrs. BARNETT, SON, & FORSTER have invented a simple and ingenious lamp for use under water. The diver carries at his back a wrought-iron bottle filled with oxygen, at a pressure of 450 lbs. to 600 lbs. to the square inch. This bottle is connected by a simple tube with a blow-pipe urging the flame of a spirit lamp upon a piece of carbon. The latter gives almost as much light as if burning in pure oxygen. The ordinary supply materials last about four hours, and all is enclosed in a case looking much like an ordinary bull's-eye. Its advantage over all other submarine lamps is its portability and the absence of all pipes and connections with the surface.

E. SCHERING'S PATENT CELLOIDIN.

This is an improved form of pyroxylin or gun cotton for use by photographers, which differs from all others in being guaranteed to be free from all the secondary products of the nitric acid bath. It is specially adapted for the manufacture of collodion by its absolute uniformity, each sample being identical in properties with all others, by its freedom from acid, either free or combined, and by the absence of organic impurities which would lessen its usefulness. It at once dissolves in pure alcohol and ether, giving a bright solution, which may be immediately iodised and used without loss of time or material by filtering or settlement. It is non-explosive, burns like paper when ignited, and simply chars when heated in a test tube. It is made in tablets, each one of which represents one ounce nett of pure dry celloidin, so that time is saved which would otherwise be spent in weighing. Celloidin was first manufactured by E. Schering, a member of the well-known firm of German chemical manufacturers, and is introduced to English commerce by Messrs. A. & M. Zimmermann, 21 Nincing Lane, London, E.C. The name Schering's Patent Celloidin is given it only to

distinguish it from other forms of pyroxylin. The manufacturer, by fulfilling the promises of his announcement, will make a valuable step towards the perfect control of the process of photography; and the material seems well worthy of the patronage of all photographers and dealers in photographic chemicals. Photography, goes but lamely while one of its chief supports can so little be depended on as gun cotton has been as yet.

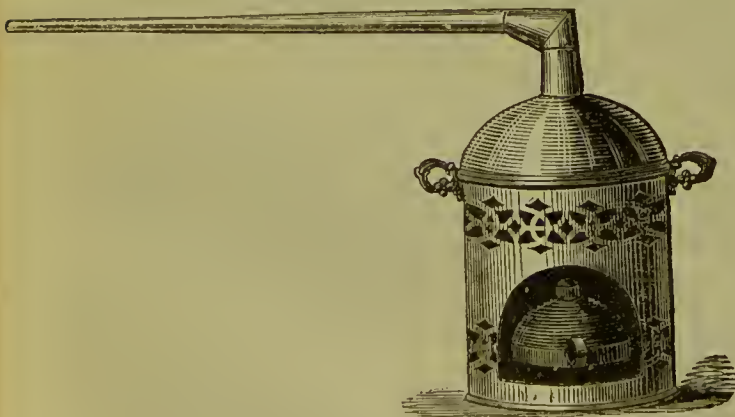
ALLEN'S BRONCHITIS KETTLES.

We have had the opportunity of examining two forms of a "bronchitis kettle" invented and manufactured by Messrs. J. Allen & Sons, of Marylebone Lane, whose "Food Warmer" we illustrated and described in our December issue.

These could hardly fail to attract the attention and ensure the approval of any medical practitioner who should see them. He well knows the great benefit which is often afforded in bronchial and asthmatic affections by the production of a warm, moist atmosphere for the inspiration of the patient. This condition is frequently aimed at in a rough sort of way by conducting the steam from an ordinary kettle as near to the



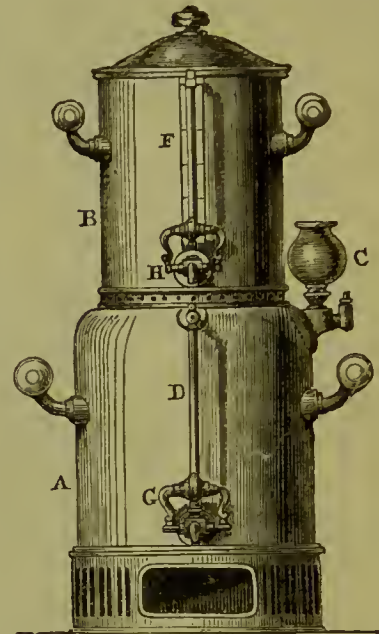
patient as may be conveniently done. These apparatus are constructed with a view of accomplishing that result in as perfect a manner as skilful appliances will afford. The apparatus No. 1 is for use over a fire. The second one is specially adapted for use by the bedside. It is provided with a spirit-lamp, and can be set on a table close by, the steam being conducted direct to the sufferer. Each apparatus is provided with a cavity immediately below the exit-pipe, into which medicinal substances



may be introduced. The steam passing over these would be impregnated with their vapour. The tubes for either apparatus can be had with jet ends, or provided with a rose for diffusing the vapour. The water is introduced through an aperture secured by a brass screw, which is not shown in the drawings. The only defect we notice in the kettles is that the cavity for medicines cannot be readily got at for cleaning, and damp leaves would stick about the sides in a troublesome manner. The workmanship of the kettles is of the best character.

ETZENSBERGER'S PERCOLATOR.

At the Grand Midland Hotel, St. Pancras, tea and coffee are made on a system which differs considerably from that generally in use, the apparatus for which is the patented invention of the manager of that establishment. The lower part of the vessel shown in the drawing is the boiler, which is nearly, but not quite, filled with water. This is heated to boiling point, and the pressure of the steam thus generated forces the water up a pipe nearly to the top of the upper vessel. There the water passes into the box containing coffee or tea, through which it percolates, and is retained in the upper vessel,



where it can be measured by means of the gauge *F*. The apparatus is so constructed that the steam circulates all round the upper vessel *B*, and thus during the whole of the process the water is kept constantly at boiling temperature, though the coffee or tea itself is not boiled. The infusion is drawn off at cock *E*, and clean boiling water can at any time be drawn from cock *G*. The necessary heat may be obtained from gas, a hot plate, or from steam; the latter, when available, being by far the most convenient and economical. It is not unlikely that the apparatus might prove serviceable in certain pharmaceutical processes, especially in cases where steam was available.

WORDSWORTH'S NEW PATENT WASHABLE RESPIRATOR.

This is a very ingenious improvement on existing forms made by H. Wordsworth & Co., 5 Sloane Street, Knightsbridge, London. It is of vulcanite, and is split longitudinally into four separate parts. The shell nearest the air has a level surface pierced with minute holes. Close behind it is a layer of cotton wool, the thickness of which may be varied at pleasure. A perforated plate of ivory retains the wool in its place, and is rivetted itself to a frame of vulcanite, which is the only part in immediate contact with the mouth. This frame fits neatly and firmly into the outer plate, and is retained by its own elasticity and the tension of the bands which fasten the respirator in its place.

The advantages of the new design are several. It dispenses with the expense of gold and silver and the annoying corrosion of the baser metals. Its parts can be separated, and those that are permanent may be cleaned when desired, while the cotton wool may be renewed indefinitely at an insignificant cost. The

ing power of the respirator may be increased or diminished measure by varying the thickness of the layer of cotton wool. Dropping volatile materials on this layer the respired air be medicated in many ways, and the respirator may in cases replace the inhaler. It seems to be finding favour the doctors.

Trade Notes.

R. HENRY TURNER, wholesale homœopathic chemist, formerly of 77 Fleet Street, now carries on business at 170 Fleet Street.

* * *

R. H. KEELEY, formerly of St. Leonard's, has lately purchased the business successfully conducted for many years by Mr. Frost, 214 Devon Road, Bromley-by-Bow.

* * *

R. JOSEPH SPENCER, late assistant at Morris, Banks & Co., 3 Ring, Birmingham, has purchased the business lately sold on by Mr. A. J. Orme, 225 Great Colmore Street, Birmingham.

* * *

MESSRS. KILNER BROTHERS have handed us a copy of their latest price list of dispensing and other bottles. In purchasing large quantities cannot do better than refer to a list for comparison with others. It will not be to the disadvantage of Messrs. Kilner's fault if the correspondence does not end in their favour. Their office is at the Great Northern Goods Station, Finsbury Cross.

* * *

THE BUSINESS OF MR. PIKE, Amersham, has been transferred to Mr. N. Smith, of Lynn. The valuers for the former were Messrs. Orridge & Co., and for the latter Messrs. Collis & Son, Leamington, Staffordshire.

* * *

MR. W. K. BOURNE, of Kentish Town, has purchased the business and business lately occupied by Mr. W. Sutton, Lavenham, Suffolk. The transfer was effected by Mr. Floyd, of Ipswich, and Mr. Grimwade, of Ipswich.

* * *

FRESH WATER FOR THE PARIS EXHIBITION.—The Royal Commissioners have instructed the Silicated Carbon Filter Company, London, to purify the whole of the water supplied for drinking purposes to the various offices and workshops connected with the British section.

* * *

THE CROWN PERFUMERY COMPANY have yielded to the irresistible impulse which seems to drag most of our perfumery establishments to Bond Street, and they have therefore removed their establishment to No. 177 of that thoroughfare. They have also opened a city office at 97 Cheapside.

* * *

ESSENCE OF CLOVES.—A special make of this product has recently been introduced on the London market by Mr. Rubek, of Mark Lane, under the title of the Excelsior brand. It is English made, and does not seem to be in any respect inferior to any of the other makes which have been established for many years, and this opinion has been endorsed by some of the best chemists. The maker, however, claims to have a special process of production, and he sells his oil at a lower price than it has ever before been bought at. There has consequently been some talk about it. Chemists can order it through any wholesale dealer, as will be noticed by advertisement.

ACCORDING to the thirty-first annual report of the directors of Price's Patent Candle Company (Limited) the sales last year amounted to 8,335 tons, against 8,068 tons in 1876, but the profits were only 25,522*l.* against 32,554*l.*, the lower profits being attributed to the high price of palm oil, and the impossibility, in existing circumstances, of obtaining a commensurate increase in the price of the manufactured articles, although the low price of coals benefited the company to some extent. After having taken into account the previous year's surplus and provided for the preference dividends, the directors recommend a distribution of 16*s.* per share, or 4 per cent., leaving 5,839*l.* to be subsequently dealt with.



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, successor to L. de Fontaine-moreau & Co., 4 South Street, Finsbury, London; and at Paris and Brussels.]

Applications for Letters Patent:—

- Ammoniacal Salts.**—No. 891.—J. Barrow, of the Dalton Chemical Works, Clayton, near Manchester, manufacturing chemist. Improvements in manufacturing ammoniacal salts and utilising certain waste products. Dated March 5, 1878.
- Bottle.**—No. 1204.—T. Davies, of Clifford's Inn, London, and W. H. Staepoole, of the Inner Temple, London. An improved construction of bottle or vessel for containing two or more fluids in various proportions. Dated March 27, 1878.
- Bottles.**—No. 923.—M. Staepoole, of 1 Norris Street, Pall Mall, London. Improvements in bottles for containing certain proportions of aerated or other liquids, and of spirits or other liquors. Dated March 7, 1878.
- Bottles and Stoppers.**—No. 874.—W. Wharldale, of Knottingley, Yorkshire. Improvements in bottles for aerated or gaseous liquids, and in closing or stoppering the same. Dated March 4, 1878.
- Carmine of Alizarine.**—No. 1117.—W. L. Wise, of London, "Carmine of alizarine." Dated March 20, 1878.
- Celluloid, &c.**—No. 878.—W. R. Lake, of London. Improvements in the manufacture of celluloid and of articles formed of the same, and analogous compositions or compounds, and in apparatus or machinery therefor. Dated March 4, 1878.
- Corking Machine.**—No. 1259.—J. T. Willett, of Old Kent Road, London. Improvements in bottle-corking machines. Dated March 30, 1878.
- Dental Operations, &c.**—No. 1177.—J. G. Fisher, of 37 Ella Street, Leeds, Yorkshire, oil merchant. An improved instrument for concentrating artificial light, applicable to dental and surgical operations, or to other purposes. Dated March 25, 1878.
- Filtering.**—No. 925.—E. C. Roettger, of 36 Finsbury Park Road, Finsbury Park, London, civil engineer. Improvements in filtering presses for expressing the more liquid parts from the more solid parts of semi-liquid matters. Dated March 7, 1878.
- Filters.**—No. 901.—A. Browne, of London. Improvements in filter presses. Dated March 5, 1878.
- Filters.**—No. 907.—E. S. Ginn, of the City Road, London. Improvements in filters. Dated March 6, 1878.
- Filters.**—No. 989.—G. Jennings, of Palace Wharf, Stangate, and G. J. Hinde, of 8 George Street, Wolverhampton. Improvements in filters for filtering and purifying water. Dated March 12, 1878.
- Filters.**—No. 1006.—A. J. Bernays, Ph.D., F.C.S., Professor of Chemistry at St. Thomas's Hospital, Lambeth, London. Improvements in filters for purifying water. Dated March 13, 1878.
- Filters.**—No. 1911.—J. H. Johnson, of London. Improvements in filtering apparatus. Dated March 14, 1878.
- Filters.**—No. 1123.—H. Rawlings, of 108 St. Martin's Lane, Westminster, London, filter manufacturer. Improvements in filter presses. Dated March 21, 1878.
- Filters.**—No. 1154.—H. Rawlings, of 108 St. Martin's Lane, Westminster, London, filter manufacturer. Improvements in filters for water and other liquids. Dated March 23, 1878.
- Invalid Bedsteads.**—No. 1010.—J. Carter, of New Cavendish Street, London. Improvements in bedsteads or couches, chairs and exercising apparatus, for the use of invalids and others. Dated March 13, 1878.

- Invalid Couches.**—No. 961.—L. Robinson, of Ilkley, Yorkshire, cabinet maker. Improvements in invalid and other couches. Dated March 9, 1878.
- Lard.**—No. 971.—J. Daddy, of 15 Bowl Alley Lane, Hull, foreman. Improvements in the manufacture of lard and other articles of a similar nature. Dated March 11, 1878.
- Lids and Stoppers.**—No. 856.—E. W. Ingles, of Gray's Inn Road, London. Improvements in lugged lids or covers and stoppers for cans, bottles, and other receptacles. Dated March 2, 1878.
- Measuring Liquids.**—No. 1037.—C. A. Bourne, of Euston Square, London. Improvements in the mode of and apparatus for measuring liquids in and by the act of drawing them from their receptacles. Dated March 15, 1878.
- Oil Cake, &c.**—No. 881.—G. E. Selby, of Church Street, Kingston-upon-Hull, Yorkshire, oil mill foreman. Improvements in the means or apparatus employed in the manufacture of oil, seed, corn, or other cakes, and in extracting the oil or other liquid therefrom. Dated March 4, 1878.
- Paring Linseed Cake.**—No. 1144.—F. Virtue, of Hull, Yorkshire. Improvements in machinery for paring linseed or other cake. Dated March 22, 1878.
- Photographs.**—No. 906.—A. Prager, of Euston Square, London. A new or improved chemical process for converting or transforming paper photographs into oil paintings upon canvas, wood, metal, or other materials. Dated March 6, 1878.
- Pigments.**—No. 1281.—C. Leech and T. Neal, manufacturers, of Derby. An improved process and apparatus for calcining sulphate of iron or other compounds of iron oxide and sulphuric acid or the like for the manufacture of pigments, and the utilisation of the sulphurous acid in such compounds. Dated April 1, 1878.
- Preserving Food.**—No. 1188.—S. Pitt, of Sutton, Surrey. Improvements in preparing and preserving fish and other articles of food. Dated March 26, 1878.
- Purifying Oils.**—No. 886.—F. Wirth, of Frankfort-on-the-Maine, Germany. Improvements in the method of purifying gum (rosin oils) oils. Dated March 5, 1878.
- Purifying Water.**—No. 924.—E. Hopcraft, of Windsor Villa, Brackley, Northamptonshire. The purification of water by filtering through animal charcoal, and for the purification of the animal charcoal by oxidation. Dated March 7, 1878.
- Refrigerators.**—No. 1095.—W. R. Lake, of London. Improvements in refrigerators for preserving food and other perishable substances. Dated March 19, 1878.
- Respirators.**—No. 829.—R. L. Johnson, of Bloomsbury, London, Physician. Improvements in the manufacture of respiratory shields or respirators, such improvements being also partly applicable to the manufacture of other surgical appliances. Dated March 1, 1878.
- Soap.**—No. 934.—J. B. Mackey and John Sellers, manufacturing chemists, of 1 and 2 Bouverie Street, Fieet Street, London. Improvements in the manufacture of soap. Dated March 7, 1878.
- Soap.**—No. 945.—C. B. Cooper and C. W. Smith, of Birmingham, manufacturers. Improvements in toilet soaps and disinfecting soaps. Dated March 8, 1878.
- Spray Producers.**—No. 1082.—J. Hammond, of Manchester. Improvements in or applicable to steam spray producers, for surgical and other purposes. Dated March 19, 1878.
- Stoppers.**—No. 890.—W. H. Hicks, of Brooklyn, N. Y., United States. Improvements in stoppers and stopper fastenings for bottles and other similar vessels. Dated March 5, 1878.
- Stoppers.**—No. 1211.—J. Warne, of 113, 114, and 115 Blackfriars Road, London, manufacturer. Improvements in stoppering bottles. Dated March 27, 1878.
- Sulphate of Ammonia.**—No. 1136.—W. L. Wise, of London. The production of sulphate of ammonia ($\text{SO}_4\text{NH}_4\text{O}$), from the nitrogen of marshy moors or meadow land moors, and apparatus therefor. Dated March 21, 1878.
- Sulphocyanides, &c.**—No. 1148.—W. E. Newton, of London. An improved process of and apparatus for manufacturing sulphocyanides and ferrocyanides. Dated March 22, 1878.
- Sulphur.**—No. 955.—G. W. Von Nawrocki, of Berlin, Germany. Improvements in the manufacture of sulphur from soda residues, gypsum, barytes, and sulphurous acid, and in the simultaneous production in the form of carbonates of the earths combined with the sulphur. Dated March 9, 1878.
- Sulphur.**—No. 1131.—J. Hollway, of 7 Jeffreys' Square, London. Improvements in the production of sulphur from pyrites, and the separation of metalliferous substances therefrom and thereby, and in the means employed therefor. Dated March 21, 1878.
- Sulphuric Acid.**—No. 1084.—W. J. Blinkhorn, of St. Helen's, Lancashire, chemical manufacturer. Improvements in the manufacture of sulphuric acid. Dated March 19, 1878.
- Sulphuric Acid.**—No. 1201.—R. Messel, of Silvertown, Victoria Docks, Essex, chemist. Improvements in the production of monohydrated sulphuric acid. Dated March 26, 1878.
- Tannin Solutions.**—No. 1224.—G. F. Redfern, of the General Patent Office, 4 South Street, Finsbury, London, patent agent. Improvements in aqueous solutions of tannin or tannin oxide. Dated March 28, 1878.
- Treating Fatty Matters.**—No. 1186.—C. N. May, of Devizes, Wiltshire. Improvements in the treatment of oily or fatty matters or materials containing the same, and in the apparatus employed for such treatment and connected therewith. Dated March 26, 1878.
- Vaporising Liquids.**—No. 1286.—D. J. Kennedy, of 8 King's Bench Walk, London. Improvements in vessels for vaporising liquids and in apparatus for preventing the explosion and incrustation of such vessels. Dated April 1, 1878.

Letters Patent have been issued for the following:—

- Ammoniacal Liquids.**—No. 3992.—F. Wirth, of Frankfort-on-the-Maine, Germany. Improvements in apparatus for and in the treatment of ammoniacal liquids. Dated October 29, 1877.
- Bottle Capsules.**—No. 3705.—G. De Sainte Marie, of Boulevard Strasbourg, 23, Paris, manufacturer. An improved apparatus for applying metallic capsules to bottles, flacons, and similar vessels. Dated October 5, 1877.
- Bottle Stoppers.**—No. 2692.—H. Brooks, of 31 Cumberland Way, Regent's Park, pianoforte action and key manufacturer. Improvements in stoppering apparatus for scent and other bottles or vessels. Dated October 4, 1877.
- Bottle Stoppers.**—No. 4263.—J. Cooper, of Huddersfield, Yorkshire, keeper, and C. H. Pugh, of Birmingham, stamper and piece machine-screw manufacturer. Improvements in apparatus connected with the stoppers of bottles and jars. Dated November 14, 1877.
- Bottles.**—No. 3903.—H. Codd, of Grove Lane, Camberwell, London, glass bottle manufacturer. Improvements in bottles for containing aerated liquids. Dated October 22, 1877.
- Decolorising Oils, &c.**—No. 372.—F. L. H. Danchell, of Osney Crescent, Camden Town, London. Improvements in the method of refining and decolorising oils, spirits, and syrups. Dated January 29, 1878.
- Diffusing and Inhaling Apparatus.**—No. 3516.—C. B. Robson, of 10 Boleover Street, Portland Place, London, harrister's clerk. An improved diffusing and inhaling apparatus for medical purposes. Dated September 19, 1877.
- Farinaceous Food.**—No. 4514.—G. Lockie, of St. Danstan's Buildings, London, merchant. Improvements in the preparation of farinaceous food. Dated November 30, 1877.
- Filters.**—No. 376.—F. L. H. Danchell, of Osney Crescent, Camden Town, London. Improvements in filter presses. Dated January 1, 1878.
- Filters.**—No. 202.—J. C. R. Okes, of Maida Vale, Marylebone, and W. Robinson, of Westminster Chambers, Victoria Street, Westminster, London. Improvements in filter presses. Dated January 1, 1878.
- Food for Animals.**—No. 3806.—W. Clark, of London. An improved food for animals. Dated October 15, 1877.
- Hernia Truss.**—No. 3660.—H. Loewy, of Berlin, Germany, manufacturer. An improved hernia truss. Dated October 1, 1877.
- Hydrated Peroxide of Iron.**—No. 3867.—F. Wirth, of Frankfort-on-the-Maine, Germany. Improvements in the manufacture of hydrated peroxide of iron, and various colours. Dated October 1, 1877.
- Moving Invalids.**—No. 4628.—A. Barlow, of Pakenham Street, Gower Street, London, and Mary Burtushaw, of 26 Eadsleigh Street, Euston Square, London. Improvements in apparatus for moving invalids. Dated December 6, 1877.
- Nitro-glycerine.**—No. 304.—T. T. Jones, of Basinghall Street, London, merchant. Improvements in the manufacture of nitro-glycerine. Dated January 23, 1878.
- Pessaries.**—No. 3613.—W. R. Lake, of London. Improvements in pessaries. Dated September 26, 1877.
- Raising Casks and Barrels.**—No. 4069.—H. B. Taylor, of Bishop Castle, Shropshire. Improvements in and relating to apparatus for automatically tilting or raising casks and barrels. Dated November 2, 1877.
- Refrigerating.**—No. 108.—E. Turness, of 74 Fleet Street, London, engineer. Improvements in apparatus for refrigerating. Dated January 8, 1878.
- Treating Aniline Red Residues.**—No. 243.—C. D. Abel, of London. The treatment of the residues resulting from the manufacture of aniline red, for the production of valuable substances therefrom. Dated January 18, 1878.
- Treating Sewage.**—No. 511.—H. Baggeley, of Kensington, London, chemist. Improvements in the treatment of sewage and in the manufacture of manure therefrom, also in the apparatus or means to be employed therein, partly applicable to the treatment of noxious vapours from chemical and other works. Dated February 1, 1878.

bra Instrument.—No. 3818.—W. R. Lake, of London. Improvements in the manufacture of instruments for introducing medicinal substances into the urethra. Dated October 15, 1877.

Washing Bottles, &c.—No. 31.—W. Thompson, of Clare Hall, Raheny, Dublin, Ireland. Improvements in apparatus for washing bottles and other receptacles. Dated January 2, 1878.

White Lead.—No. 4142.—W. Thompson, of 120 Stainsbury Road, Limehouse, East, London. Improvements in the manufacture of white lead. Dated November 7, 1877.

Publications published during the month:—

Postage 1d. each extra.

1877.

- J. S. Clarke. Machines for washing and soaking bottles, &c. 10d.
- W. T. Roche. Apparatus for folding and beading leather. 6d.
- W. E. Gedge. Pad for trusses. 6d.
- A. B. Waehhansen. Colour or dye. 2d.
- W. Morgan-Brown. Flask and syringe combined. 2d.
- G. W. Von Nawracki. Manufacture of ferro-manganese. 6d.
- E. Solvay. Treatment of bicarbonate of soda, &c. 6d.
- A. C. Hempel. Pin fasteners and springs for artificial gums and palates. 6d.
- J. Hanson. Treating sewage, &c. 4d.
- A. Brown. Refrigerators. 2d.
- G. W. Von Nawracki. Treating faecal matters for the production of manure therefrom. 4d.
- J. H. Johnson. Syphon for bottles. 2d.
- C. S. Gorman. Manufacture of chromates of potash and soda. 4d.
- R. U. Etzensberger. Apparatus for making infusions or extracts. 2d.
- W. S. Taylor. Apparatus for generating carbonic acid. 4d.
- E. Ruel. Wine bins. 2d.
- P. P. E. M. Koch. Preservation of food, &c. 6d.
- R. W. Wallace and C. F. Clans. Utilising gas liquor in the manufacture of carbonate of potash, &c. 4d.
- C. J. Wollaston. Treating sewage. 2d.
- J. S. Campbell. Fabric for filtering chemicals, &c. 4d.
- W. J. Bonscr. Preserving meat, poultry, and fish. 4d.
- A. A. Croll. Manufacture of sulphate of alumina. 4d.
- J. H. Wright. Refrigerator. 2d.
- J. Twentyman. Distilling. 6d.
- W. R. Lake. Stopping bottles. 6d.
- E. Breffit and J. Edwards. Measuring liquids for bottling. 6d.
- J. D. McBane. Securing stoppers in bottles, &c. 6d.
- J. Mason. Production of sulphuric acid. 2d.
- J. Mason. Treatment of residues resulting from the production of sulphuric acid. 2d.
- J. and S. J. Coxeter. Galvanic batteries. 4d.
- J. H. Johnson. Treatment of amylaceous substances. 6d.
- J. H. Johnson. Preserving animal and other substances. 2d.
- A. G. Sonthly. Apparatus for refrigerating, evaporating, and desiccating. 6d.
- J. and J. E. Carter. Stopping bottles, jars, &c. 6d.
- W. Mather. Warming and ventilating pavilion, hospitals, and buildings. 2d.
- W. R. Lake. Manufacture of caustic alkalis and their carbonates, and chlorine and various sub-products. 4d.
- J. W. Lister and A. E. Shepherd. Apparatus for tilting and emptying vessels containing liquids. 2d.
- C. Morfit. Food preparations. 4d.
- G. Fournier. Manufacture of agents for the purification of sewage, &c. 4d.
- F. Wirth. Manufacture of tartaric acid, &c., from residues of wine. 4d.
- F. Irwin. Food for cattle. 4d.
- W. E. Nickerson. Sour tannin solutions for pulping hides. 2d.

Obituary.

- 1878.—February 21, 1878, Mr. Robert Denoon, chemist and druggist, Mess. Aged 31 years.
- 1878.—March 21, 1878, Mr. George Hick, pharmaceutical chemist, Bradford, Yorkshire. Aged 26 years.
- 1878.—March 12, 1878, Mr. Joseph Hick, pharmaceutical chemist, Bradford, Yorkshire. Aged 56 years.
- 1878.—April 6, 1878, Mr. Bartlett Hooper, of 43 King William Street, London. Aged 65 years.
- 1878.—March 9, 1878, Mr. Charles George McCarthy, chemist and druggist, Cardiff. Aged 43 years.
- 1878.—March 14, 1878, at Kennett Lodge, Simeon Street, Ryde, Mr. Charles Taylor, pharmaceutical chemist. Aged 55 years.



BANKRUPTS.

- REED, HENRY WILSON, Binfield, surgeon. March 23.
- SNAPPE, JOHN, Swinton, and High Street, Newton-le-Willows, provision dealer, baker, and druggist. March 30.

LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

Notices of first meetings of creditors have been issued in re the following estates. The dates are those of the "London Gazette" in which the notices first appeared.

- CAFFERATA, WILLIAM MADDEN, and EDWARD PARKER DUNN, trading as W. M. Cafferata & Co., 33 Commercial Street, Whitechapel, and 14 America Square, Minorities, cork merchants. March 14.
- CORKHILL, GEORGE, trading as Corkhill Bros., Conway Street, Birkenhead, cork manufacturer. March 14.
- EVANS, EDWARD CHARLES, Tirphil House, Tirphil, Glamorganshire, surgeon. March 23.
- GOODCHILD, FREDERICK, Leamington Spa, doctor of medicine. March 21.
- GREENWOOD, THOMAS, Britannia Mill Foundry, blacking and cattle food manufacturer, and Calverley Bridge, near Leeds, farmer, also Bradford, night soil contractor. April 6.
- HERD, JOHN WILLIAM, 2 Bridgman Street, Bolton, surgeon. April 2.
- HOLLAND, HENRY, 97 Highgate Lane, Birmingham, chemist. March 19.
- HOWARD, GEORGE, 72 Rochdale Road, Manchester, chemist. March 19.
- JACKSON, JOHN HENRY, Finkle Street, and 1 Nelson Terrace, Stockton, druggist, drysalter, and commission agent. March 28.
- LEYS, HENRY, 5 St. Thomas Street, Melcombe Regis, dentist. April 2.
- POWELL, SAMUEL, 4 Pellatt Road, Sutton, glass surgical instrument maker. March 12.
- ROBINS, THOMAS, 82 Whalley Road, Accrington, herbalist. March 22.
- RUDD, JOHN, Dale Street, South Shields, grocer and druggist. March 13.
- WALKER, RALPH DEARLOVE, 26 Church Road, late 78 Lancashire Hill, Heaton Norris, druggist. March 29.
- WEBB, CHARLES, trading as Jenkins & Co., 18 Eastgate Street, Gloucester, chemist. April 6.
- WILTON, FRANK, 66 Mark Lane, drug and general merchant, and commission agent. April 2.

DIVIDENDS.

The dividends are payable at the office of the respective assignees or trustees named at the end of each notice. Bkt., Ins., Liq., or Assg. following the name indicate whether the dividend is under a Bankruptcy, Insolvency Liquidation, or Assignment.

- ASHBY, JOHN (Liq.), Hastings, mineral water manufacturer. 1st and final div. 7s. 7d. T. J. W. Bennett, 51 Moorgate Street, London.
- LANGFORD CHARLES, 5 Norfolk Street, King's Lynn, chemist. 1st div. 6s. 3 Crosby Square, London, and Market Square Chambers, King's Lynn.
- SARR, DAVID PROTHEROE, Main Street, Pembroke, surgeon. 1st and final div. 2s. Gwynne and Stokes, solicitors, Pembroke.
- SMITH, A., Kingston-upon-Hull, manufacturing chemist. 1st div. of 1s. 9d., any day, at Messrs. Josolync, Clarke & Co.'s, King Street, Cheapside.

SCOTCH SEQUESTRATION.

- CUMMING, WILLIAM, Rose Street, Edinburgh, veterinary surgeon. March 18

PARTNERSHIPS DISSOLVED.

- BARNETT, ELMERS, & COUTEUR, Teddington, aerated water manufacturers.
- BATTERSBY & PARKER, Lancaster, chemists, druggists, and Italian ware-housemen.
- CHIVERS & JACOB, Pontithel, manufacturing chemists.
- COWBURN & CROWTHER, Gomersal, York, manufacturing chemists, dry-salters, and farmers.
- FULLER, R., & Co., 233 Walworth Road, Surrey, druggists, grocers, &c.
- PARSONS & CADOUX, Leicester, chemists.
- PAUL, KINGZETT, & ACWORTH, 106 Fenchurch Street, London, and 1 Victoria Street, Westminster, analytical chemists.
- PEARCE, ALLEN, & Co., 11 Bath Street, Bristol, druggists' sundrymen.
- STONE & EAGER, Woking, surgeons.
- TOWNSEND & HARRIS, Spon Lane, West Bromwich, soda-water manufacturers.

EXCHANGE COLUMN.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

One dozen Comalino Restorer, 12s. Lockwood, Chemist, Sheffield.

Lynch's leech aquarium, new, 13 inches diameter, 7s. Highway, chemist, Walsall.

Cooley's "Cyclopaedia," by Tuson, 5th edition, quite new, cost 28s. What offers? 156/19.

Potassii iodidum, Howard's, 12s. net, in one-pound howls or small pottles. 14/162.

Microscope, cost 6l., locked mahogany cabinet, cheap. Sharp, Chemist, Sunderland.

Maw's water bath, fig. A, never been used, cost 6s. 6d., price 5s. Casely, Chemist, Camden Town.

Herbarium, over 200 mounted specimens, useful for Minor, 10s. 6d. Artbur, 35 High Street, Crediton.

Two hundred and fifty ounces Howard's quinine, and same of morphia. Harrop, Middleton, Manchester.

Avery's 50s. brass pillar scale, agate centres, polished mahogany slab, equal to new, price 32s. 6d. G. Briggs, Chemist, Goole.

Ten 1-oz. lactopeptine, nine 4s. 6d. hydroleine, perfectly clean; offers wanted. Craven, Batley Carr.

Barth's 5 guinea economic gasometer, for 45s., or exchange. Leary, Dentist, 49 Chippingham Road, Harrow Road, London, W.

16-inch counter-scales, as Maw's Fig. 1, with hook-end beams; price 21s. Butler, Chemist, Tunbridge Wells.

The *Pharmaceutical Journal* from commencement. Herbert Roberts, 3 Celars Terrace, Edith Road, West Kensington.

Handsome dispensing screen, cheap. See No. 133, Treble's catalogue, for style. Turner, 110 City Road, Manchester.

Fownes' Chemistry," 11th edition; good condition; not soiled; price 6s. 6d. E. Hall, 4 Eastgate Row, Chester.

Offers wanted for 250 ozs. Howard's quinine, and same of morphia. Harrop, Middleton, Manchester.

Offers wanted for the *Chemist and Druggist* for the last nine years. McIver, Chemist, Dugwall.

Four large marble mortars; 5 cwt. and 25 cwt. weighing machines; quantity of 4 and 6 gull. iron drums; 3 handsome specie jars. H. 41 Chancery Lane, Ardwick, Manchester.

Pharmaceutical Journal for the last 10 years, only a few numbers missing, unbound. What offers. W. H. Sell, 11 High Cross, Barnstaple.

Several dozens of round bottle caps, suitable for ordinary wide-mouth bottles, japanned green, with gold bands, very handsome, diameter 2½ inches by 3 inches deep, price 2s. per dozen. W. J. White, 123 London Street, Reading.

I have two pairs (Oldham's and Simpson's) mid-wifery forceps, in excellent condition; offers in cash wanted for either or both. Arch. Paterson, 6 Camden Place, Glasgow.

Beam-scales, good condition, cost 5l. new; counter-scales, on mahogany stand, with drawer. Open to suitable exchange or sell cheap. Stead, Lees, near Manchester.

Street lamp; Hearson's patent automatic gas lamp, makes gas from benzoline, price 30s.; one 11s.; Clarke's Blood Mixture, 7s., or exchange. Evans, Chemist, Moretonhamstead.

Two specie jars, gilt covers, cost 4l. 16s., sell or exchange for flat counter case; Kenrick's American drug mill, Hancock's mixing machine, and Pindor's piping machine. Hambridge, chemist, Highworth.

Chemist and Druggist from 1861 to 1867, and from 1870 to 1877; also the *Pharmaceutical Journal* from 1869 to 1877 (a few Numbers missing), 4s. or offers. Matthews, chemist, Ashby-de-la-Zouch.

Buchan's "Domestic Medicine," 2s. 6d.; "London Dispensary," 2s. 6d.; Ure's "Dictionary of Chemistry," 2s. 6d.; Hood's "Vade Mecum," 2s.; Courtenay on "Diseases of Generative Organs," 3s. Geo. Snowden, 15 Bootham, York.

Steam-engine, vertical table, in working order, with bright, 4 feet diameter strap-pulley, fly-wheel 9 feet diameter, 2 feet stroke, 9½ inches diameter cylinder, about 12 horsepower; a bargain at 50l. N. G. Wilcocks, 19 Broad Street, Bath.

Horizontal steam-engine, 5½ inches diameter cylinder by 9-inch stroke; vertical boiler with one cross tube, 6 feet high by 2 feet 6 inches diameter; complete; new last year; can be seen at work; price 45l. Apply to N. G. Wilcocks, Bath.

Bargain.—140 feet shelving; 12 feet nest painted drawers; 7 feet side counter; two 50-gall. tanks; three 2-gall. show carboys, cut stoppers; specie jars; desk; 3 feet by 1 foot 7 plate-glass show case; glass cupboard. 15l. C. Sharpe, Madeley, Sulop.

A single vertical soda-water machine, to make about 250 dozen per day, with gas-works and bottling rack, second hand, in working order; price 30l. Particulars of N. G. Wilcocks, 19 Broad Street, Bath. Recipes for nanking all the aerated drinks with the machine included.

HYDRAULIC PRESSES FOR SALE.—One hydraulic press, for experimenting; ram 4", opening 8" by 9", 3 press boxes and horse-hair mats; one ditto, ram 6", rise 33 inches, table 30 inches by 28 inches, wrought iron columns; one ditto, ram 6", rise 12 inches, table 24 inches by 16 inches, with single hydraulic pump and connections. R. H. Williams, South Bermondsey Railway Station, London, S.E.

Dows Clark's American aerated water machine, consisting of generator, bottling cylinders and rack; needs very trifling repair. Thompson & Walton, Maidenhead.

Botany.—Belladonna, hyoscyamus, aconite, henlock, colchicum, and 129 more official and leading plants, beautifully mounted, only 10s. 6d. Higginson, Newferry, Birkenhead.

Nests of drawers, window enclosures, glazed cases, shop jars, all sizes and colours, show bottles, specie jars, black store bottles, shelving, and other requisites, together or separately; also tobacconist's handsome show cases, jars, &c.; a capital Wheeler & Wilson's sewing machine, price 2l. 10s.; also a handsome vase of satin flowers, price 3l. 10s. Apply, 294 Old Kent Road.

What cash offers? *Pharmaceutical Journal*, January 1, 1870 to March 3, 1877; *Chemist and Druggist*, January, 1873, to December, 1876. The above complete and in good condition. Also 31 odd monthly numbers *Pharmaceutical Journal*, previous to 1870. Would exchange for Bentham's "British Flora," illustrated (latest edition) with something else useful or a microscope of equivalent value. Henry M. Hughes, 29 Moseley Street, Newcastle.

To mineral-water manufacturers, chemists, and others.—A 2-horse power combined vertical engine and multitubular boiler, occupies but little space, is a good and economical steam generator, only had a few months' work, and is in every respect equal to new; will be sold a bargain to effect immediate sale, as it must be removed at once. Can be seen under steam by appointment. 27/167.

Reagent labels for bottles, showing at a glance how to make the reagents required for practical analysis of the Minor, decompositions which occur (expressed by equations), symbolic formulæ, with other useful information for students, 1s. 6d. per set; fifty questions asked of a successful candidate at the last Minor, 2s. Saunders, private tutor, 97 Gaisford Street, N.W.

Stopped rounds, 15 pints, 7s.; 12 wide-mouth, 8-oz., 4s.; 42 8-oz., 10s. 6d.; *Pharmaceutical Journal*, 1872, 1873, 1874, half-price, or offers. A lot of photographic apparatus, very cheap. List on application. F. G. Bond, Fore Street, Tiverton.

Quinine potass. iodid.—Thirty ounces quinine, and 12 lbs iodide of potassium, bought of a first-class house for export, but not forwarded. Offers invited by "Exporter," care of A. Peacock, 2 Farringdon Road, London W.C.

Southall's "Materia Medica Cabinet," 30s.; Attfield's "Chemistry," 6th edition, 15s.; Haubury's "Science Papers," 18s.; all quite new and in good condition. What offers. "Veritas," Mr. Scholefield, Chemist, Ravensthorpe, Yorkshire.

pairs aqua-crystal spectacles; 15 1/2 potted meats; 6 1s. fancy pots potted; 12 Swiss condensed milk; 16 tins fish sardines. Offers wanted for all or will exchange. Williams, Longfleet, E.

o (Tomlinson), as Maw's 40, 4 ft. long, 9 in. high, 8 in. deep, 3 glass doors, lifting shelves, and 2 fixed shelves at, good condition, cost 6l. 10s., price 3l.; her, Maw's 16, circular glass, two doors (one cracked), 4 ft. long, cost 4l. 7s., 30s.; pair counter scales, Maw's No. 1, condition, cost 50s., price 20s., or 5l. three lots. William Mount, Canterbury. arboys—two 10's, one 2, one 1/2 gall.; lamp iron, with 3 solid ruby lenses; two spare es; board for window, with brass plate, chemist and Druggist"; glass frames for low enclosures; gas fittings; quantity of feeders. Cash offers, or part exchange dispensing scales. C., 20 Sussex Street, Wick Square, S.W.

Wilkie Gallery," folio edition, 67 large engravings, cost 3l. 18s., price 25s.; Illustrated Official Catalogue, Exhibition of 1861, new condition, 8s. 6d.; Squire's "Skin Cases," many coloured lithographic plates, 10s. 6d., cost 24s.; powerful microscope 24 slides in rack case, 20s., slides cost 1e. Halford, Chemist, Hockley, Birmingham.

Chemist and Druggist for 1866, '71, '72, '74, '76, '77, complete; for '67, '68, '69, '70, '73, number of each lost. The Pharmaceutical Journal for '65, '66, '67, '69, '73, '75, '76, complete; for '68 and '71, one lost; '74 and '77, one lost; '70, twenty-six lost; and '74, seven lost. What offers? A. Z., Post Office, Brentwood.

Books. — Attfield's "Chemistry," new, 10s. 6d.; "Dictionary of Materia Medica and Therapeutics," 7s.; Human Osteology," 2s. 6d.; Pereira's "Selections from Prescriptions," 2s. 6d.; or of above valuable works forwarded on receipt of post office order. James, 77 Old Street, Plymouth.

Shop, bottles, drawers, counters, jars, for 35l.; dispensing screen, 5 1/2 feet long, for centre, 130s.; one also 6 feet long, 2, 4, and 6 lbs. ointment jars, gold lined, 2s. each; lot of 20 and 40 gallons coppers; wall case, 7 feet long, 6 1/2 feet high, 130s.; one ditto, 9 feet long, 9 feet high, bent-glass case, a long centre, with mirror back; bent front case, 3 feet long, mahogany case, with desk at back, glass cases, from 1s. 6d. upwards. Write for lists. R. Tomlinson, 15 St. Paul's Church, Birmingham.

"Snrgeon's Vade Mecum," 4s. 6d.; Key's "Perfumery Receipts," 2 vols., 9s.; Sieveking's "Pathological Anatomy," 7s.; Atkinson's "Gannot's Physics," 7s.; Kirke's "Physiology," 7s., published 1864; Guy's "Forensic Medicine," 3s. 6d.; published 10s. 6d.; Meade's "Student's Manual," 3s.; Bell's "Surgery," handsomely bound copy, 7 vols., complete, interleaved to quarto size, 20s.; Chemist and Druggist, 8 parts, 12s. 6d.; Copland's "Dictionary Practical Medicine," 6 parts, 5s., published 2l. 0s. 6d.; Cooper's "Lectures on Surgery," 5s., published 21s.; Edwards' "Materia Medica and Pharmacy," 4s., published 12s.; M. Percy, 11 James Street, Haymarket, London, S.W.

ousand two hundred gold-labelled shop bottles, all sizes; 38 patent oil bottles, with caps and japan caps; 66 blue syrup bottles, 80 black glass stock bottles, labelled; 7 1 and 2-lb. handsome gold-labelled jars, as fig. 2 Maw's; 12 handsome

3-lb. gold-labelled lozenge jars, with gilt covers; 39 handsome gold-labelled show jars, with gilt covers, as figs. A and D Maw's; 4 handsome cut-glass vases, as fig. C Maw's; 13 handsome specie jars, royal arms, &c.; 30 pear-shape window show earboys; 3 pill machines, 6 pairs dispensing scales, 3 pairs counter scales, four 10-gill oil cisterns, six 2-gall. japanned varnish tins, 6 tea bins, eight 112-lb. japanned store canisters, complete; mortars and pestles, all sizes up to No. 12. Lloyd Rayner, 333 Kingsland Road, London.

Four feet long, 6 ft. long, 7 ft. long, 7 ft. 8 long handsome mahogany plate-glass dispensing screens, as figs. 40, 153, and 154 Maw's; 3 handsome mahogany upright counter cases, with desks, as 38 and 39 Maw's; upright plate-glass screen, written in gold, "Prescriptions carefully prepared," with desk, 2 ft. 6 long; upright mahogany counter-case, 2 1/2 ft. long; Maw's fig. 3 upright case, with bent glass front, 2 ft. 6 long; 8 1/2 ft. long flat mahogany plate-glass counter-case, 2 1/2 ft. wide, with divisions for stationery, &c.; 25 mahogany flat counter-cases, all sizes, from 1 ft. to 4 ft. long; one 5 ft. 4 long, one 4 ft. 4 long flat mahogany plate-glass counter-cases, with trays; two 2 ft. long, two 2 1/2 ft. long, three 3 ft. long bent glass counter-cases. Lloyd Rayner, 333 Kingsland Road, London, N.

2 ft. 6 long, 8 ft. long, 9 ft. long, 10 ft. 9 long, 20 ft. long, handsome mahogany wall cases, with cupboards under; 2 ft. 9 long, 3 ft. long, 4 ft. long, 5 ft. 2 long, 6 ft. long, 7 ft. long, 8 ft. long, 10 ft. long, 12 ft. long, 15 ft. long, nests mahogany-fronted gold-labelled shop drawers, with lockers under; 5 ft. 3 long nest 18 counter drawers, with divisions for labels, &c.; 2 mahogany label chests, as 26 Maw's; 18 mahogany-top counters, from 3 ft. to 26 ft. long; 7 superior mahogany window enclosures; 1,500 ft. mahogany-faced shelving; 10 ft. 9 long, 10 ft. long, 12 ft. long, 13 ft. long, 15 ft. long, 16 ft. long, handsome mahogany nests gold-labelled shop drawers, with lockers under, shelving, pilasters, and cornice above, forming complete fittings. Lloyd Rayner, 333 Kingsland Road, London, N.

Carriage or postage payable by purchaser.—"Year Book Medicine and Surgery," 1859, 2s.; Dr. Spurgeon's "Physician for All," 1s. 6d.; Dr. Davis "On Acute Hydrocephalus," 1s.; Dr. Johnson's "Incurable Diseases," 1s.; Dr. Green's "Diseases of the Skin," plates, 1s. 9d.; Godfrey's "Nature, Prevention, Treatment, and Cure of Spinal Curvatures without Artificial Supports," 2s.; Coulson's "Diseases of the Spine," plates, 1s. 9d.; Leonard Koecker's "Dental Surgery," 1s. 6d.; Tison's "Curvature of the Spine and Diseases of Vertebral Column," plates, 4s.; Dr. Thompson's "Clinical Lectures on Pulmonary Consumption," 1s. 6d.; Dr. Burslem's "Pulmonary Consumption and its Treatment," 1s. 6d.; Dr. Cotton's "Nature, Symptoms, and Treatment of Consumption," 2s.; Donovan's "Treatise on Chemistry," 1s.; Innes "On the Muscles," 9d.; J. Timbs', F.S.A., "Year Book of Facts," 1859, 1s. 3d. Clark "On the Teeth," 1s.; Dr. Birch's "Therapeutic Action of Oxygen," 1s.; Dr. Meyrick's, "New Family Herbal or Domestic Physician," 1s. 6d.; "Truths in Relation to Homœopathy," 1s. 3d.; Charles "Practice of Homœopathy," 1s. 6d.; "Additions to Homœopathic Materia Medica," 6d.; Chepmell's "Domestic Medicine," new, 1s. 9d.; Hering's "Domestic Medicine," new, published 7s. 6d., 3s.; Gunther's "New Manual of Homœopathic Veterinary Medicine," published 10s. 6d., 3s.;

Garth Wilkinson's "Ministry of Health," 10d.; T. Massy's "Mild Medicine," 1s. 3d.; S. Cockburn's "The Two Systems of Medicine Cure," 1s.; "Concise View of Homœopathy," 1s. 6d.; Dr. Marsden's "Notes on Homœopathy," 1s. 3d.; Chambers' "Information for the People," 2 vols., 5s.; "The Visitor or Monthly Instructor," 8 vols., 5s.; Marshall Hall's "Circulation of the Blood," 1s.; R. T. H. Laennec's "Diseases of the Lungs and Heart," plates, 3s. 6d.; Jeaffreson's "Diseases of the Eye," 2s. 9d.; Dr. Teldban's "Homœopathy in Venereal Diseases," 1s. 4d. F. Clifton, Chemist, Derby.

WANTED.

A form for true scarlet ink. 23/167

Several 6 and 12 doz. Burrow's racks for mineral waters. Bray, Chemist, Buntingford.

Three or four grain Cocking's pill-piping machine, small size. 25/163.

Stopped rounds 60 oz. and 80 oz. Kershaw Gloster Road, Birkdale, Southport.

Bell-metal mortar, from 6 to 12 pints, perfect condition. Send capacity, weight, and lowest price. C. Weston, Chemist, Ventnor.

A 5-grain 24-pill machine; must be in good condition. Price to Goodman, Chemist, Bath.

Chemist and Druggist for December, 1877, by Joseph Syms, 118 West Street, Boston, Lincolnshire.

Pharmaceutical Journals wanted, last six months complete of 1875, for Roscoe's "Chemistry," new. G. Brisley, 13 Mildmay Park, N.

The Chemist and Druggist for 1876 and 1877 complete. The Publisher C. & D. 44A Cannon Street, E.C.

Glass case, to stand on floor; about 3 feet long, 2 feet 6 inches high, 12 inches deep. Gare, Bampton, Devon.

Dental lathe and tools, also specimen case and specimens. Address Mr. Longshaw, 3 Elizabeth Street, Goodier's Lane, Salford.

The whole or part fixtures and fittings of chemist's or surgeon's, with or without stock. Thomson, 1 Nile Terrace, Trafalgar Road, Old Kent Road, S.E.

Two or three 6 or 12 dozen Burrow's patent racks; also a plate-glass mirror, 40 feet by 3 1/2 feet. State lowest price, &c., to Geu, Chemist, Swindon.

A (24) 2 or 3 grain pill machine, in good condition; would give in exchange a 5-grain one, nearly new, with double rollers. Address, G. L. Douthwaite, Rhosymedre, Deubhishire.

Second-hand wrought-iron tank, either round or square, capacity from 100 to 600 gallons; also glass labels (gold-lettered) for letting into druggist's drawers. Full particulars to J. Wiggin, Ipswich.

FORMULÆ.

A pearl pill coating. Recipe for the above on receipt of 3s. 22/161

First-class receipts for perfumes—Ambrosia, Richmond Bouquet, Queen's Bouquet, Spring Flowers; all are really splendid perfumes; 5s. each. 31/163.

Furniture paste, very superior, cleans and puts a brilliant gloss on polished or other furniture, &c., 2s. 6d.; baking powder (original), worth 10s., 2s. 6d. The excellence of these preparations secure for them a good sale. Reference or sample post free. H. Hare, 81 South Street, Goole.

ADDRESSES WANTED.

Mrs. Higgs; tall; wears spectacles. 39/185
Thos. Duffon, late of Florence Street, Leeds Road, Bradford. 29/165

0 pkgs, 100l.—Gibraltar: *Mdcns*, 1 cs, 3l.; 1 cs, 30l.—
 hai: *Mdcns*, 10 pkgs. Bombay: *Mdcns*, 6 cs, 35l.—
 ama: *Mdcns*, 4 pkgs, 50l.; 4 cs, 50l.—Hamburg:
 1 cs, 30l.—Genoa: *Mdcns*, 5 pkgs, 40l.; 8 cs, 56l.—
 rdam: *Mdcns*, 3 cks, 25l.; 1 cs, 10l.—Valparaiso:
 62 pkgs, 420l.—Calcutta: *Mdcns*, 3 cs, 25l.—Adelaide:
 3 cs, 25l.—Grenada: *Mdcns*, 7 cs, 40l.—Mauritius:
 4 cs, 30l.; 41 pkgs, 200l.—Natal: *Mdcns*, 4 pkgs, 40l.;
 gs, 135l.—Nelson: *Mdcns*, 2 cs, 25l.—Auckland:
 15 pkgs, 130l.—Lisbon: *Mdcns*, 4 pkgs, 50l.; 1 cs,
 Cape: *Mdcns*, 3 cs, 30l.—Rio Grande: *Mdcns*, 2 cs,
 Penang: *Mdcns*, 4 pkgs, 30l.
 DICKINSON.—Sydney: *Epsom Salts*, 100 kgs, 27l.
 DIXON.—Naples: *Drugs*, 2 cks, 20l.
 DRAYTON & Co.—Valparaiso: *Mdcns*, 13 cs, 120l.
 F. LAST & Co.—Mauritius: *Mdcns*, 100 kgs, 16l.
 DURRANT & Co.—Calcutta: *Mdcns*, 4 cs, 31l.; 4 cs
 Natal: *Mdcns*, 3 cks, 48l.; 5 cs 48l.; 2 bls, 1l.
 RULLER, SOLOMANS & Co.—New York: *Drugs*, 2 cs,
 10l.
 ELKIN & Co.—Barbados: *Mineral Waters*, 15 brls, 22l.
 ELLIOTT.—Calcutta: *Mdcns*, 10 cs, 62l.; 1 cs, 32l.
 iver Oil, 8 cs, 46l.; 10 cs, 70l. *Mdcns*, 3 cs, 130l.; 9 cs,
 5 cks, 36l.
 OMBE BROS. & Co.—Calcutta: *Mdcns*, 1 cs, 20l.; 3 cs,
Mineral Waters, 15 cs, 25l.; 6 cs, 12l. *Drugs*, 3 pkgs,
Quinine, 1 cs, 47l.—Bombay: *Mdcns*, 4 cs, 22l.
 NS, LESCHER, & EVANS.—Shanghai: *Mdcns*, 3 cs, 58l.;
 7l.—Santander: *Mdcns*, 2 cs, 10l.—Bordeaux: *Mdcns*,
 10l.—Marseilles: *Mdcns*, 3 cs, 25l.; —, 10l.—Cal-
 : *Mdcns*, 114l.; —, 139l.—Adelaide: *Mdcns*, —,
 Madras, *Mdcns*, 3 cs, 27l.—Naples: *Mdcns*, 1 pkg, 34l.
 ombo: *Mdcns*, 6 cs, 45l.
 B. FASTNEDGE.—Madras: *Cod Liver Oil*, 4 cs, 26l.;
 0l.
 H. FAULDING & Co.—Adelaide: *Mdcns*, 4 cs, 50l.;
 gs, 311l. *Drugs*, 4 cs, 50l.
 AUST & Co.—Alexandria: *Drugs*, 4 cs, 325l.
 AY, CAMPBELL & Co.—Bombay: *Mdcns*, 6 pkgs, 97l.
 V. FISHER.—Lisbon: *Drugs*, 1 sron, 10l.; —, 24l.;
 2l.; 1 cs, 7l.—Revel: *Drugs*, 2 cs, 37l.—Barcelona:
 5 cs, 51l.; 2 bls, 10l.; *Peruv. bark*, 1 sron, 17l.—
 en: *Drugs*, 2 pkgs, 35l.; 2 cs, 56l.; 5 cs, 37l.—Antwerp:
 1 cs, 12l.—Hamburg: *Drugs*, 4 pkgs, 7l.—Hambro':
 3 cs, 25l.; 4 pkgs, 460l.; 40 bls, 38l.; 1 cs, 2l.; 2 bls,
 pkgs, 19l.; 5 pkgs, 22l.; 1 ble, 3l.; 1 cs, 28l.; 1 cs, 27l.;
 2l.; 2 cs, 27l.; 31 pkgs, 34l.; 1 cs, 29l.; 4 pkgs, 51l.;
 7l.; 3 cs, 18l.; 3 cs, 20l.; 5 pkgs, 36l.; *Peruv. bark*,
 , 25l.; 1 cs, 13l.; 1 sron, 19l.; 2 srns, 29l.—Rotter-
Drugs, 2 cs, 30l.; 5 pkgs, 74l.; 1 cs, 13l.; 4 cs, 216l.;
 29l.
 GEL & Co.—Rotterdam: *Castor oil*, 20 cs, 73l.
 FORSEY.—Bombay: *Mdcns*, 2 cs, 37l.; 1 ch, 15l.;
 e, 5 cs, 226l.; 10 cs, 428l.; 5 cs, 225l.
 WOOD BROS. & Co.—Madeira: *Mdcns*, 1 cs, 31l.
 J. FOWLER.—Adelaide: *Castor Oil*, 60 cs, 63l.
 W. FOX.—Natal: *Mdcns*, 4 cs, 38l.
 & A. B. FREELAND.—Marseilles: *Mdcns*, 5 cs, 271l.;
 itius: *Mdcns*, 5 cs, 75l.; 10 pkgs, 72l.
 GARRETT.—Shanghai: *Mdcns*, 1 cs, 85l.
 BERT & METCALFE.—Leghorn: *Drugs*, 2 cs, 14l.—
 a: *Drugs*, 1 cs, 13l.; *Peruv. Bark*, 1 ble, 19l. Ham-
Drugs, 8 pkgs, 71l.; 18 cs, 54l.; 5 pkgs, 120l.—Rotter-
Peruv. Bark (8 tons 9 cwt), 10 bls 50 bls 25 srns 74 srns
 2,680l.; 100 bls, 2,200l.; 4 srns, 67l.; 92 bls, 1,180l.;
 80l.; 127 pkgs, 1,150l.; 100 bls, 950l.; 2 srns, 39l.;
 11 bgs, 75l.; *Opium*, 5 pkgs, 485l.; *Mdcns*, 1 cs, 20l.—
 illes: *Drugs*, 20 bls 2 cs, 36l.; 9 pkgs, 125l.; 5 srns,
 10 bls, 54l.—Brussels: *Drugs*, 2 cs, 14l.; 2 cs, 19l.
 l: *Drugs*, 4 pkgs, 24l.—Copenhagen: *Drugs*, 2 cs, 15l.;
 s, 1 cs, 10l.—New York: *Drugs*, 19 bgs, 23l.—Yoko-
 : *Mdel Oil*, 50 cs, 100l.; *Mdcns*, 50 cs, 100l.—Hambro':
 , 3 cs, 270l.; *Drugs*, 2 srns, 70l.—Bremen: *Drugs*,
 96l.
 LATLY & Co.—Madras: *Mdcns*, 6 cs, 33l.
 GERHARDT.—New York: *Mdcns*, 4 cs, 82l. *Drugs*,
 2l.
 GRAF.—Bremen: *Peruv Bark*, 32 serons, 46l.; 4 bls,
 3 bls, 20l.; 65 bls, 850l.; 1 bg, 6l.
 R. GRANT.—Bombay: *Mdcns*, 4 cs, 39l.; 5 pkgs, 59l.
 GREGORY.—Gothenburg: *Drugs*, 1 cs, 69l.

H. GREY, JUN.—Marseilles: *Peruv Bark*, 1 seron, 30l.—
 Hamburg: *Peruv Bark*, 1 seron, 34l.; 3 serons, 33l. *Aloes*,
 2 cs, 16l. *Senna*, 12 bls, 21l.—Venice: *Drugs*, 1 cs, 8l.;
 4 brls, 5l.—Brussels: *Drugs*, 1 cs, 5l. *Senna*, 2 bls, 30l.;
Peruv Bark, 1 seron, 30l.—Trieste: *Drugs*, 8 bags, 16l.—
 Konigsburg: *Peruv Bark*, 2 serons, 72l. *Rhubarb*, 1 cs, 25l.
 Odessa: *Sarsaparilla*, 20 bls, 123l. *Castor Oil*, 27 cs, 100l.
Drugs, 45 bls, 55l. *Star Aniseed*, 15 cs, 67l. *Cardamons*, 1 cs,
 48l.—Leghorn: *Senna*, 10 bls, 17l.—Havre: *Castor Oil*,
 50 cs, 190l. *Peruv Bark*, 2 serons, 50l.—Antwerp: *Castor*
Oil, 20 cs, 71l.—Rotterdam: *Drugs*, 2 cs, 51l.; 6 bls, 16l.;
 1 cs, 3l.; 3 bls, 4l.; 4 cs, 38l.; 7 cs, 92l. *Aniseed*, 5 cs, 23l.
Peruv Bark, 50 serons, 1,000l.; 1 seron, 37l.—Amsterdam:
Opium, 1 cs, 108l.—Hambro': *Drugs*, 1 cs, 1 seron, 1 cs, 41l.;
 8 cs, 155l.; 167 bgs, 800l. *Squills*, 3 bgs, 7l. *Aloes*, 3 cs, 29l.
Senna, 2 bls, 10l. *Peruv Bark*, 2 serons, 61l.—Bremen; *Senna*,
 20 bls, 30l.

GRIMWADE, RIDLEY & Co.—Port Philip: *Drugs*, 1 cs, 19l.;
 8 cs, 74l.; 1 cs, 14l.; 37 cs, 318l.; 6 pkgs, 12l.; 27 cs, 460l.
 Sydney: *Drugs*, 5 cs, 123l.; 2 cks, 46l.; 3 cs, 45l.; 3 cs, 23l.;
 16 cs, 291l.; 19 cs, 96l.; 17 pkgs 4 cs, 87l.; 4 cs, 57l.; 30 cs,
 177l.; 8 pkgs, 89l.—Auckland: *Drugs*, 49 cs, 275l.; 11 cs,
 66l.; 2 pkgs, 3l.—Gibraltar: *Drugs*, 2 cs, 30l.—Wellington:
Drugs, 9 cs, 88l.; 2 cs, 33l.

G. T. GROOME.—Oran: *Drugs*, 10 bls, 10l.

J. A. HADDON & Co.—Colombo: *Quinine*, 1 cs, 23l.

HAMBERGER, BROS. & Co.—Sydney: *Mdcns*, 1 cs, 31l.

HARRIS, GOODWIN & Co.—Hong Kong: *Mdcns*, 1 cs, 21l.
 Shanghai: *Mdcns*, 1 cs, 21l.

J. HARRIS & Co.—Dantzic: *Senna*, 15 bls, 13l. *Drugs*,
 6 pkgs, 45l.; 5 bags, 7l.—Hamburg: *Peruv. Bark*, 3 serons,
 36l. *Drugs*, 2 cks, 11l.—Hambro: *Drugs*, 3 cs 1 chst, 75l.—
 Stettin: *Peruv. Bark*, 1 seron, 28l. *Drugs*, 10 bags, 12l.—
 Rotterdam: *Peruv. Bark*, 286 pkgs, 4,8000l.; 101 bls 1 bg,
 2,650l. *Magnesia*, 1 hhd, 10l. *Drugs*, 1 chest, 22l.—Brussels:
Drugs, 1 cs, 12l. *Peruv. Bark*, 7 bgs, 18l.—New York:
Drugs, 4 pkgs, 25l.—Copenhagen: *Iodine*, 1 keg, 88l.—St.
 John's, N.B.: *Mdcns*, 1 cs, 30l.; b brl, 1l. *Castor Oil*, 8 cs,
 28l.—Halifax: *Mdcns*, 1 cs, 8l.—Odessa: *Drugs*, 4 bls, 28l.;
 1 brl, 27l.; 3 bdls, 6l. *Castor Oil*, 10 cs, 35l.

H. & J. HART.—Sydney: *Mdcns*, 8 cs, 73l.

T. HARVEY.—Amsterdam: *Drugs*, 150 tubs, 677l.

T. HAVISIDE.—Bombay: *Drugs*, 1 cs, 5l.; 1 ck, 6l.; 1 ck,
 15l.; 1 ck, 18l.; 4 cs, 44l.; 4 cs, 102l.

H. HEAD & Co.—Smyrna: *Mdcns*, 5 cs, 37l.—Hong Kong:
Drugs, 2 pkgs, 15l.

W. J. HELDER.—Hamburg: *Myrabolans*, 100 bgs, 81l.

HERF & Co.—Yokohama: *Drugs*, 6 pkgs, 8 cs, 142l.

HERRINGS.—Calcutta: *Mdcns*, 5 cks, 141l.; 4 pkgs, 184l.;
 4 cks, 45l. *Pruv. Bark*, 3 pkgs, 30l.—Port Philip: *Mdcns*,
 15 pkgs, 102l.

A. C. HITCHCOCK.—Copenhagen: *Drugs*, 3 cs, 81l.—Ham-
 bro': *Drugs*, 2 cs, 96l.; 10 bgs, 45l.—Rotterdam: *Opium*,
 1 cs, 113l.

O. HITZSCHOLD.—Ghent: *Aloes*, 1 cs, 10l. *Drugs*, 1 ble, 12l.

HODGKINSON, STEAD & Co.—Port Philip: *Mdcns*, 24 pkgs,
 70l.—Mauritius: *Mdcns*, 3 cs, 12l.; 3 cs, 20l. *Berbice*:
Mdcns, 4 pkgs 3 cs, 70l.—Barbados: *Mdcns*, 6 pkgs, 51l.
 Malta: *Mdcns*, 5 pkgs, 45l.—Leghorn: *Mdcns*, 2 cs, 15l.
 Demerara: *Mdcns*, 3 pkgs, 7l.; 1 pun, 33l.; 5 pkgs, 55l.;
 9 pkgs, 212l.—*Mineral Waters*, 20 bsks, 34l.; 5 bsks, 4l.;
 2 brls, 6l.—St. John's: *Mdcns*, 52 pkgs, 481l.—*Apothecaries'*
Wares, 6 pkgs, 81l.

F. A. HODGKINSON & Co.—Yokohama: *Mdcns*, 1 cs, 27l.;
 1 cs, 7l.—Colombo: *Mdcns*, 3 cs, 30l.

A. HOFFNUNG & Co.—Sydney: *Castor Oil*, 18 cs, 45l.

T. HOLLOWAY.—Kingston: *Mdcns*, 1 cs, 10l.—Valparaiso:
Mdcns, 3 cs, 64l.—Sydney: *Mdcns*, 9 cs, 450l.

T. HONYCHURCH & Co.—Port Philip: *Drugs*, 1 cs, 18l.;
 1 cs, 200l.; 14 cs, 97l.; 3 cs, 40l.—Rockhampton: *Drugs*,
 14 cs, 120l.—Leghorn: *Drugs*, 2 cs, 61l.

HOULDER BROS. & Co.—Sydney: *Mdcns*, 11 pkgs 92l.

HUDSON'S BAY Co.—Vancouver's Island: *Mdcns*, —,
 11l.; 2 cs, 22l.

HYSLOP & SYMONDS.—Bombay: *Drugs*, 1 cs 70l.

ISAACS, SON & Co.—Jamaica: *Mdcns*, 10 pkgs, 82l.; 3 pkgs,
 11l.

W. JAMES.—Aden: *Mdcns*, 4 cs, 33l.

W. G. H. JAMES.—Odessa: *Castor Oil*, 20 cs, 70l.

JESSOP & HUMBLE.—Calcutta: *Quinine*, (1,000 oz) 10 cs,
 500l.

- C. JOHNSON & Co.—Rio de Janeiro: *Mdens*, 15 cs, 24l.
Drugs, 1 ck, 27l.
- JOHNSON & SON.—Shanghai: *Mdens*, 5 cs, 58l.—Hong Kong: *Drugs*, 34 cs, 40l.—Calcutta: *Mdens*, 3 cs, 25l.—Bombay: *Mdens*, 5 pkgs, 47l.
- JONES, SEARLE & Co.—Calcutta: *Mdens*, 1 cs, 3 cks, 37l.
- B. JONES.—Genoa: *Peruv Bark*, 36 s-rons, 1,000l.
- E. H. JONES.—Naples: *Drugs*, 2 bls, 55l.
- J. W. JONES.—Bombay: *Mdens*, 2 cs, 39l.
- KELLY, MARTIN & Co.—Jaffa: *Mdens*, 3 cs, 18l.—Sydney: *Mdens*, 4 cs, 25l.
- H. S. KING & Co.—Calcutta: *Mdens*, 7 cs, 76l.—Hong Kong: *Drugs*, 5 cs, 49l.
- W. G. KINO & Co.—Yokohama: *Drugs*, 5 cs, 205l.
- KNOWLES & FOSTER.—Bahia: *Epsom Salts*, 10 cks, 12l.
- LAMBERT & MORRISON.—Adelaide: *Drugs*, 2 cs, 57l.; 10 pkgs, 32l.—Canterbury: *Drugs*, 10 cs, 55l. *Mdens*, 2 cs, 15l.
- LANE, CRAWFORD & Co.—Shanghai: *Apollinaris Water*, 30 cks, 63l.
- LANGTON, EDDEN & Co.—Singapore: *Drugs*, 9 pkgs, 141l.; 1 cs, 10l.; 1 cs, 15l.
- LARKINS & HADLAND.—Genoa: *Quinine*, 1 cs, 53l.—Shanghai: *Drugs*, 9 pkgs, 320l.—Calcutta: *Mdens*, 4 cs, 9 pkgs, 2 cs, 203l.; 1 cs, 16l.; 1 cs, 119l.; 1 cs, 112l.—Oporto: *Mdens*, 15 pkgs, 238l.; 1 cs, 48l.—Lisbon: *Mdens*, 4 cs, 191l.; 10 cks, 2 cs, 132l.—Port Philip: *Mdens*, 9 pkgs, 54l.—Hamburg: *Mdens*, 1 cs, 16l.; 1 ck, 24l.; 3 cs, 30l.—Brisbane: *Mdens*, 9 pkgs, 75l.—Auckland: *Mdens*, 5 cs, 44l.
- LEDGER, SMITH & Co.—New York: *Cod Liver Oil*, 15 cs, 160l.
- LEINHARDT & Co.—Yokohama: *Drugs*, 4 cs, 12l.
- G. LESLIE.—Genoa: *Drugs*, 2 bls, 35l.; 3 bls, 40l.
- J. LEWIS & Co.—Penang: *Mdens*, 1 cs—Auckland: *Mdens*, 20 cs, 20l.—Adelaide: *Mdens*, 1 cs, 25l.
- D. LINDO.—Jamaica: *Mdens*, 4 cs, 25l.; 2 pkgs, 23l.
- B. S. LLOYD & Co.—Brisbane: *Chlorodyne*, 2 cs, 20l.
- J. LYON & Co.—Bombay: *Quinine*, 5 cs, 212l. *Drugs*, 5 cs, 99l.; 5 cs, 175l.—Calcutta: *Mdens and Drugs*, 9 cs, 52l. *Drugs*, 1 cs, 4l.; 22 cs, 148l.; 5 pkgs, 34l.; *Mdens*, 7 cs, 36l.; 2 cs, 24l.
- R. MARTIN & Co.—Colombo: *Mdens*, 2 cs, 43l.; 3 cs, 22l.
- S. MAW, SON & THOMPSON.—Brisbane: *Mdens*, 6 cs, 61l.—New York: *Apothecaries' Wares*, 3 pkgs, 27l.; 10 cs, 201l. *Mdens*, 2 cs, 7l.; 10 cs, 58l.—Yokohama: *Mdens*, 17 cs, 3 cks, 140l.—Natal: *Mdens*, 1 cs, 12l.—Algoa Bay: *Mdens*, 3 cs, 26l.
- MCCABE & Co.—Calcutta: *Drugs*, 20l.
- T. MEADOWS.—New York: *Mdens*, 4 cs, 124l. *Drugs*, 7 cs, 207l.
- MERTENS & Co.—Port Philip, *Mdens*, 5 cs, 35l.
- MICHAELIS, HALLENSTEIN & Co.—Port Philip: *Myrabolans*, 1 bag, 107l.
- E. MORITZ.—Penang: *Mdens*, 1 cs, 14l.; 1 cs, 10l.
- J. MORRISON & Co.—Nelson: 2 cs, 11l.; Hiogo, *Mdens*, 1 cs, 4l.
- J. T. MORTON.—Bombay: *Drugs*, 35 cs, 36l.; 9 cs, 10l.; 25 cs, 25l.—Brisbane: *Drugs*, 40 cs, 42l.; 22 cs, 24l.; 50 cs, 53l.—Natal: *Mdens*, 1 cs, 11l. *Drugs*, 20 cs, 20l.; 15 cs, 10l.; 27 cs, 24l.—Algoa Bay: *Mdens*, 1 cs, 17l.—Sydney: *Drugs*, 10 cs, 11l.—Otago: *Drugs*, 30 cs, 32l.; 25 cs, 27l.; 30 cs, 31l. *Mdens*, 10 cs, 36l.—Napier: *Drugs*, 15 cs, 16l. *Mdens*, 2 cs, 21l.—Calcutta: *Drugs*, 55 cs, 56l.—Adelaide: *Drugs*, 20 cs, 21l.—Belize: *Drugs*, 50 cs, 54l.—Wellington: *Drugs*, 20 cs, 21l.
- J. NATHAN & Co.—Wellington: *Mdens*, 1 cs, 8l.
- NEGRETTI & ZAMBRA.—Yokohama: *Drugs*, 4 cs, 20l.; 4 cs, 10l.; 3 cs, 95l.; 1 cs, 15l.; 2 cs, 10l.
- W. NICHOLSON & Co.—Bombay: *Mdens*, 1 cs, 14l.; 1 cs, 10l. *Calcutta: Mdens*, 4 cks, 18l.; 3 cs, 23l.; 2 cs, 1 ble, 14l.
- NIXON & KING.—Port Philip: *Mdens*, 1 cs, 10l.
- NOLLEN, HENRY & Co.—Boulogne: *Peruv Bark*, 160 pkgs, 2,750l.; 373 pkgs, 8,950l.; 205 pkgs, 3,650l. *Drugs*, 1 cs, 6l. *Mdens*, 1 cs, 12l.; 4 pkgs, 33l.
- W. S. PARTRIDGE.—Colombo: *Drugs*, 70 pkgs, 558l.
- A. W. PATERSON.—Berbice: *Apollinaris Water*, 5 brls, 12l.
- J. PENNY.—Rotterdam: *Drugs*, 67 bags, 60l. Hamburg: *Drugs*, 5 cs, 34l. Gothenburg: *Drugs*, 1 cs, 45l. Konigsberg: *Drugs*, 5 cs, 200l.
- PHILLIPPS, GRAVES & Co.—Bremen: *Drugs*, 5 cs, 39l. Hambro'.—*Peruv Bark*, 4 brls, 61l. *Drugs*, 3 bls, 10l.; 1 brl, 27l. Revel: *Mdens*, 2 cs, 24l.
- S. PHILLIPS.—Rotterdam: *Peruv Bark*, 44 bls, 1,000l.
- PICKFORD & Co.—Hamburg: *Mdens*, 3 cs, 31l.—Bremen *Mdens*, 8 cs, 78l.
- E. PINK.—Port Philip: *Castor Oil* (500 g), 150 cs, 166l., 75 cs, 82l.—Bermuda: *Castor Oil*, 3 cs, 4l.—Canterbury *Castor Oil*, 40 cs, 45l.
- E. A. PITTS.—Calcutta: *Mdens*, 5 cs, 36l.
- J. P. PLATT & Co.—Odessa: *Mdens*, 1 cs, 64l.—Carthage: *Mdens*, 1 cs, 36l.—Port Philip: *Mdens*, 1 cs, 40l.
- Colombo: *Mdens*, 1 cs, 68l.
- POKORNY, FIELDER & Co.—Hamburg: *Drugs*, 1 cs, 45l.—Rotterdam: *Drugs*, 2 cs, 27l.
- J. POTTER & Co.—Sydney: *Mdens*, 6 cs, 135l.
- A. POUND.—Hambro: *Drugs*, 1 cs, 15l.—Copenhagen *Drugs*, 3 cs, 23l.
- C. J. PRATT.—Harbour Briton, Newfoundland: *Mdens*, 1 cs, 15l.
- PRICE, BOUSTEAD & Co.—Colombo: *Mdens*, 19l.
- PRICE BROS.—Demerara: *Mdens*, 3 cs, 24l. *Drugs and Mdens*, 2 cks, 3 cs, 42l.; 5 cs, 2 puns, 1 ck, 111l.
- T. PURVIS.—Port Philip: *Mdens*, 23 cs, 319l.; 15 cs, 185l., 62 pkgs, 268l.; 2 cs, 18l.; 10 cks, 3 cs, 87l.; 1 ck, 18l.; 3 cs, 36l.; 2 cs, 63l.
- REDFERN, ALEXANDER & Co.—Canterbury: *Mdens*, 7 cs, 29l.
- REHDER & Co.—Hong Kong: *Mdens*, 4 cs, 46l.
- G. RAHN & Co.—Boulogne: *Epsom salts*, 10 cks, 15l.
- H. C. ROBERTSON.—Calcutta: *Drugs*, 4 cs, 25l.; 1 ck, 12l., 5 cs, 21l.
- ROSENTHAL & Co.—Port Philip: *Mdens*, 1 cs, 22l.; 10 cs, 228l.
- M. C. L. ROZAS.—Oporto: *Mdens*, 1 cs, 25l.
- SADBROOK, LUNG & Co.—Hamburg: *Peruv Bark*, 1 lle, 25l. *Drugs*, 6 cs, 110l.—Hambro: *Drugs*, 2 cs, 25l.
- J. SALA & Co.—Madrid: *Sarsaparilla*, 5 bls, 40l.—Barcelona: *Castor Oil*, 12 cs, 40l.
- W. H. SAMPSON & Co.—Riga: *Drugs*, 2 bgs, 60l.; 1 cs, 10l.—Hamburg: *Drugs*, 1 cs, 25l.
- D. SASSOON & Co.—Bussorah: *Sarsaparilla*, 2 bls, 19l.
- SAVAGE & HILL.—Natal: *Mdens*, 1 cs, 43l.; 2 cs, 20l.—Algoa Bay: *Mdens*, 6 cs, 22l.
- J. SCHWEPPE & Co.—Malta: *Mineral Waters*, 10 cks, 20l.—Hong Kong: *Mineral Waters*, 12 cks, 25l.—Foochow *Mineral Water*, 10 cks, 25l.
- SCOTNEY & EARNSHAW.—Sydney: *Mdens*, 23 cs, 830l., 18 cs, 268l.—Yokohama: *Drugs*, 36 cs, 217l.; 2 cks, 2 bls, 32l.; 10 cks, 48l. *Drugs*, 12 cs, 84l.; 12 cs, 84l. *Mdens*, 10 cs, 54l.; 20 pkgs, 81l.—Otago: *Mdens*, 25 pkgs, 12l.
- SENDALL & WADE.—Berbice: *Mdens*, 1 cs, 25l.
- SHORT, SHORT & Co.—Madras: *Mdens*, 5 cs, 23l.; 5 pkgs, 67l.
- SHORTER & Co.—New York: *Drugs*, 2 cs, 39l.
- SMITH, SUNDIUS & Co.—New York: *Mdens*, — 12l.
- F. C. SMITH.—Hamburg.—*Mdens*, 3 pkgs, 9l. *Drugs*, 1 tin, 75l.
- T. & H. SMITH & Co.—Konigsburg: *Mdens*, 7 pkgs, 27l.—Yokohama: *Mdens*, 2 cs, 110l.
- G. N. SOURATTY & Co.—Smyrna: *Drugs*, 2 bgs, 45l.
- G. SPICER.—Adelaide: *Mdens*, 2 cs, 103l.
- STAINES, WATSON & Co.—Madras: *Mdens*, 1 cs, 10l.
- H. STAR & Co.—Sydney: *Mdens*, 2 cs, 45l.
- J. STEWART & SON.—Cadiz: *Mdens*, 1 ck, 15l.
- STONE & SON.—Calcutta: *Drugs*, 3 cs, 30l.; 4 cs, 21l. Colombo: *Mdens*, 4 cs, 54l.
- D. TAYLOR & SONS.—New York: *Drugs*, 6 cs, 45l.; 4 bls, 16l.; 30 pkgs, 333l.; 16 bgs, 17l. *Mdens*, 3 cs, 86l.; 5 cs, 81l.; 1 cs, 11l. San Francisco: *Mdens*, 6 cs, 32l.
- R. D. TAYLOR.—Rotterdam: *Drugs*, 1 cs, 30l.; 1 box, 15l. Copenhagen: *Drugs*, 1 cs, 46l.
- C. TENNANT, SON & Co.—Trinidad: *Mdens*, 1 cs, 2 cks, 31l.
- J. TERRY.—Yokohama: *Drugs*, 3 cs, 74l.; 1 cs, 45l. *Aloes*, 5 cs, 45l.
- J. THREDDER & SON.—Port Philip: *Drugs*, 13 cs, 75l.
- TILBROOK, UPTON & Co.—Cape: *Drugs*, 8 cs, 111l.
- TRACHER & Co.—Bombay: *Mdens*, 2 cs, 60l.
- G. D. TYSER & Co.—Wellington: *Mdens*, 1 cs, 10l.
- VIRGOP, SON & Co.—Port Philip: *Mdens*, 16 pkgs, 105l.—Sydney: *Castor Oil*, 35 cs, 40l.
- J. VOSS & Co.—Otago: *Seidlitz Powders*, 12 cs, 43l.; *Mdens*, 29 cs, 250l.—Sydney: *Mdens*, 9 pkgs, 100l.
- J. WALTER & Co.—Rio de Janeiro: *Mdens*, 24 brls, 29l.; 1 cs, 25l.

Monthly Price Current.

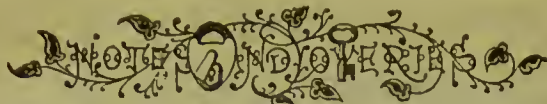
prices quoted in the following list are those actually obtained in Mining Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.	1878.		1877.	
	s. d.	s. d.	s. d.	s. d.
ACIDS—				
Acetic .....per lb.	0 2½ to	0 0	0 3½ to	0 0
Citric	2 2½ ..	0 0	2 7 ..	2 7½
Hydrochlor.....per cwt.	5 0 ..	7 0	4 0 ..	7 0
Nitric .....per lb.	0 4½ ..	0 0	0 4½ ..	0 0
Oxalic	0 4½ ..	0 5	0 5 ..	0 0
Sulphuric	0 0½ ..	0 1	0 0½ ..	0 1
Tartaric crystal. "	1 4½ ..	1 4½	1 5½ ..	0 0
powdered ..	1 4½ ..	1 4½	1 5½ ..	0 0
ANTIMONY ore .....per ton	240 0 ..	300 0	240 0 ..	300 0
crude .. per cwt.	37 0 ..	0 0	0 0 ..	0 0
star..... "	50 0 ..	51 0	54 0 ..	0 0
ARSENIC, lump	26 0 ..	0 0	26 0 ..	26 6
powder..... "	8 9 ..	9 9	9 3 ..	10 0
BRIMSTONE, rough ..per ton	110 0 ..	115 0	115 0 ..	120 0
roll .. per cwt.	9 9 ..	10 6	9 9 ..	10 0
flour..... "	11 6 ..	13 6	11 9 ..	14 0
IODINE, dry .....per oz.	0 10½ ..	0 0	0 10½ ..	0 0
IVORY BLACK, dry ..per cwt.	8 6 ..	0 0	8 6 ..	0 10½
MAGNESIA, calcined ..per lb.	1 10 ..	0 0	1 10 ..	0 0
MERCURY .....per bottle	142 6 ..	0 0	155 0 ..	0 0
MINIUM, red .....per cwt.	19 9 ..	0 0	23 3 ..	24 3
orange ..	31 6 ..	0 0	35 0 ..	35 6
PRECIPITATE, red . per lb.	3 6 ..	0 0	3 9 ..	0 0
white ..	3 5 ..	0 0	3 8 ..	0 0
PRUSSIAN BLUE ..	0 0 ..	0 0	0 0 ..	0 0
SALTS—				
Alum	130 0 ..	135 0	145 0 ..	150 0
powder..... "	150 0 ..	0 0	157 6 ..	160 0
Ammonia:				
Carbonate..... per lb.	0 6½ ..	0 6½	0 5 ..	0 5½
Hydrochlorate, crude,				
white	580 0 ..	720 0	560 0 ..	670 0
British (see Sal Am.)				
Sulphate..... per ton	420 0 ..	425 0	375 0 ..	385 0
Argol, Cape .....per cwt.	75 0 ..	92 0	80 0 ..	90 0
Red..... "	67 0 ..	73 0	65 0 ..	75 0
Operto, red. "	32 6 ..	33 0	0 0 ..	0 0
Sicily ..	60 0 ..	65 0	0 0 ..	0 0
Ashes (see Potash and Soda)				
Bleaching powd.....per cwt.	6 0 ..	6 3	6 9 ..	7 0
Borax, crude "	27 0 ..	38 0	30 0 ..	40 0
British refined. "	36 0 ..	37 6	38 0 ..	40 0
Calomel .....per lb.	3 1 ..	0 0	3 4 ..	0 0
Copper:				
Sulphate	19 6 ..	0 0	21 9 ..	22 0
Coppers, green. per ton	50 0 ..	55 0	60 0 ..	65 0
Corrosive Sublimate p. lb.	2 7 ..	0 0	3 1 ..	0 0
Cr. Tartar, French, p. cwt.	99 0 ..	100 0	102 0 ..	0 0
brown ..	0 0 ..	0 0	95 0 ..	0 0
Epsom Salts .....per cwt.	4 3 ..	6 0	4 9 ..	5 6
Glauber Salts	3 0 ..	4 6	3 6 ..	4 6
Lime:				
Acetate, white, per cwt.	11 0 ..	20 0	11 0 ..	20 0
Magnesia: Carbonate "	47 6 ..	0 0	47 6 ..	0 0
Potash:				
Bichromate ....per lb.	0 3½ ..	0 3½	0 4½ ..	0 4½
Carbonate:				
Petashes, Canada, 1st				
sort	24 6 ..	0 0	24 9 ..	0 0
Pearlashes, Canada, 1st				
sort	32 0 ..	0 0	37 6 ..	0 0
Chlorate	0 7½ ..	0 0	0 9 ..	0 0
Prussiate	0 10 ..	0 10½	0 11½ ..	1 0½
red	1 8 ..	1 9	2 1 ..	2 2
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Bromide	2 2 ..	0 0	0 0 ..	0 0
Chloride.....per cwt.	6 6 ..	0 0	0 0 ..	0 0
Iodide	13 0 ..	13 6	13 0 ..	13 6
Quinine:				
Sulphate, British, in				
bottles	14 6 ..	0 0	16 0 ..	0 0
Sulphate, French ..	14 0 ..	0 0	16 0 ..	0 0
Sal Acetos	0 7 ..	0 0	0 7½ ..	0 8
Sal Ammoniac, Brit. cwt.	42 0 ..	43 0	44 0 ..	45 0
Saltpetre:				
Bengal, 6 per cent. or				
under	22 0 ..	22 6	21 0 ..	21 6
Bengal, over 6 per cent.				
per cwt.	21 0 ..	21 6	19 9 ..	20 6
British, refined ..	25 6 ..	28 0	23 6 ..	25 0
Soda: Bicarbonate, p. cwt.	10 0 ..	10 1½	10 9 ..	11 0
Carbonate:				
Soda Ash .. per deg.	0 0 ..	0 0	0 1½ ..	0 2
Soda Crystals per ton	77 9 ..	0 0	80 0 ..	0 0
Hyposulphite, per cwt.	0 0 ..	0 0	0 0 ..	0 0
Nitrate	15 6 ..	16 0	12 6 ..	0 0
SUGAR OF LEAD, White cwt.	37 6 ..	0 0	37 6 ..	38 0
Brown, cwt.	26 6 ..	0 0	27 0 ..	0 0
SULPHUR (see Brimstone)				

DRUGS.	1878.		1877.	
	s. d.	s. d.	s. d.	s. d.
VERDIGRIS per lb.	1 1 to	1 6	1 1 to	1 5
VERMILION, English ..	2 8 ..	0 0	3 2 ..	0 0
China ..	2 2 ..	0 0	2 9 ..	0 0
ALOE, Hepatic ....per cwt.	80 0 ..	160 0	70 0 ..	160 0
Socotrine ..	85 0 ..	200 0	65 0 ..	170 0
Cape, good..	38 0 ..	41 0	49 0 ..	50 0
Inferior	25 0 ..	37 6	41 0 ..	48 6
Barbadoes ..	40 0 ..	160 0	47 6 ..	190 0
AMBERGRIS, grey.....oz.	80 0 ..	90 0	60 0 ..	75 0
BALSAM—				
Canada.....per lb.	0 9 ..	1 6	1 1 ..	0 0
Capivi	1 6 ..	1 6½	1 7 ..	1 9
Peru	4 9 ..	0 0	5 0 ..	5 3
Tolu	3 0 ..	3 3	7 6 ..	8 6
BARKS—				
Canella alba.....per cwt.	18 0 ..	22 0	21 0 ..	28 6
Cascarilla	15 6 ..	23 0	17 0 ..	21 0
Peru, crown & grey per lb.	1 0 ..	2 10	1 9 ..	3 3
Calisaya, flat ..	3 0 ..	4 6	2 3 ..	7 6
" quill ..	4 6 ..	8 0	3 6 ..	8 8
Carthagena ..	1 5 ..	3 9	4 0 ..	6 0
Columbian ..	1 5 ..	4 0	2 0 ..	7 6
E. I.	1 2 ..	4 10	2 6 ..	4 6
" good & fine ..	5 0 ..	12 7	5 0 ..	10 2
Pitaye	0 6 ..	1 6	0 0 ..	0 0
Red	3 3 ..	9 0	1 10 ..	4 0
Buchu Leaves	0 2½ ..	0 3	0 3 ..	2 0
CAMPION, China ..per cwt.	80 0 ..	0 0	82 0 ..	85 0
Japan ..	82 6 ..	0 0	82 0 ..	0 0
Refin. Eng. per lb.	1 1½ ..	0 0	1 2½ ..	0 0
CANTHARIDES	2 0 ..	5 0	2 5 ..	8 0
CHAMOMILE FLOWERS p. cwt.	50 0 ..	290 0	45 0 ..	200 0
CASTOREUM .....per lb.	9 0 ..	30 0	9 0 ..	30 0
DRAGON'S BLOOD, Ip. p. cwt.	100 0 ..	280 0	140 0 ..	250 0
FRUITS AND SEEDS (see also Seeds and Spices).				
Anise, China Star per cwt.	75 0 ..	90 0	92 0 ..	100 0
Spanish, &c. "	45 0 ..	50 0	30 0 ..	35 0
Beans, Tonquin.....per lb.	1 9 ..	5 0	1 9 ..	2 7
Cardamoms, Malabar				
good	4 9 ..	6 3	3 7 ..	4 2
inferior..... "	1 9 ..	4 5	0 10 ..	3 6
Aleppy	2 0 ..	6 0	2 0 ..	3 9
Madras	2 0 ..	3 9	2 0 ..	3 5
Ceylon	3 6 ..	4 9	3 6 ..	4 6
Cassia Fistula.....per cwt.	80 0 ..	89 0	10 0 ..	32 0
Castor Seeds	0 0 ..	0 0	5 0 ..	10 6
Cocculus Indicus ..	8 3 ..	10 0	9 0 ..	11 0
Colocynth, apple ..per lb.	1 0 ..	1 9	0 6 ..	0 11
Creton Seeds	26 0 ..	31 0	37 0 ..	35 0
Cubeb.....	32 0 ..	35 0	27 0 ..	28 0
Cummin	20 0 ..	35 0	11 0 ..	26 0
Dividivi	12 0 ..	16 0	12 6 ..	16 6
Fenugreek	6 0 ..	12 0	8 0 ..	13 0
Guinea Grains	28 0 ..	0 0	27 0 ..	0 0
Juniper Berries ..	6 6 ..	9 0	8 0 ..	10 0
Nux Vomica..... "	9 6 ..	14 0	8 9 ..	13 3
Tamarinds, East India, "	12 0 ..	19 0	10 0 ..	15 6
West India ..	21 0 ..	26 0	10 0 ..	15 6
Vanilla, large	20 0 ..	27 0	27 0 ..	30 9
inferior	15 0 ..	19 0	12 0 ..	19 9
GINGER, Preserved , per lb.	0 4½ ..	0 7	0 5 ..	0 6½
HONEY, Chili ....per cwt.	30 0 ..	50 0	40 0 ..	47 6
Jamaica ..	38 0 ..	43 0	35 0 ..	47 0
Australian ..	0 0 ..	0 0	0 0 ..	0 0
IPECACUANHA ....per lb.	5 4 ..	5 11	5 2 ..	5 9
ISINGLASS, Brazil.				
Tongue sort ..	2 9 ..	4 10	2 6 ..	4 7
East India ..	3 7 ..	5 7	3 0 ..	5 4
West India ..	1 9 ..	5 4	1 10 ..	5 0
Russ, long staple	3 9 ..	4 7	3 9 ..	4 5
" inferior ..	8 0 ..	15 0	8 0 ..	14 9
" Simavia ..	0 0 ..	0 0	0 0 ..	0 0
JALAP, good "	1 6 ..	3 0	2 0 ..	3 3
infer. & stems ..	0 8 ..	1 0	0 8 ..	0 9½
LEMON JUICE ....per degree	0 1 ..	0 1½	0 1 ..	0 1½
LIME JUICE .....per gall.	0 0 ..	0 0	1 3 ..	1 8
LIQUORICE, Spanish per cwt.	34 0 ..	39 0	0 0 ..	0 0
Liquorice Root ..	0 0 ..	0 0	12 0 ..	30 0
MANNA, flaky .....per lb.	3 6 ..	4 0	5 6 ..	6 0
small	1 4 ..	1 6	1 6 ..	1 9
MUSK, Pod..... per oz.	20 0 ..	52 6	14 6 ..	43 6
Grain	25 0 ..	50 0	38 0 ..	45 0
OILS (see also separate list)				
Almond, expressed per lb.	1 9 ..	0 0	1 4 ..	0 0
Castor, 1st pale ..	0 5½ ..	0 5½	0 4½ ..	0 0
second ..	0 4½ ..	0 5½	0 3½ ..	0 4½
Cod Liver	4 0 ..	5 0	6 6 ..	8 0
Creton	0 2½ ..	0 2½	0 2½ ..	0 0
Essential Oils:				
Almond	25 0 ..	0 0	20 0 ..	0 0
Anise-seed	6 9 ..	0 0	6 6 ..	6 4½
Bay	0 0 ..	0 0	65 0 ..	70 0
Bergamot	10 0 ..	15 0	10 0 ..	15 0
Cajeput	3 0 ..	3 6	3 0 ..	3 6
Caraway	9 0 ..	9 3	9 0 ..	9 3
Cassia	3 0 ..	0 0	3 10 ..	3 11
Cinnamon	4 6 ..	5 6	2 6 ..	6 6
Cinnamon-leaf ..	0 1½ ..	0 2½	0 2½ ..	0 3
Citronelle	0 2½ ..	0 3	0 2 ..	0 0
Cloves	8 0 ..	0 0	8 9 ..	0 0
Juniper	0 0 ..	0 0	0 0 ..	0 0
Lavender	1 8 ..	7 0	1 8 ..	7 0
Lemon	5 0 ..	8 6	7 0 ..	9 6
Lemongrass	0 2½ ..	0 0	0 2½ ..	0 0

1878.		1877.	
s. d.	s. d.	s. d.	s. d.
Essential Oils, continued:—			
Neroli per oz.	3 0 to 6 6	3 0 to 6 6	
Nutmeg "	0 4 .. 0 4½	0 6½ .. 0 8½	
Orange per lb.	4 3 .. 7 0	6 0 .. 9 0	
Otto of Roses per oz.	35 0 .. 41 0	13 0 .. 25 0	
Patchouli "	1 6 .. 3 0	2 0 .. 3 6	
Peppermint:			
American per lb.	10 9 .. 12 6	13 0 .. 14 3	
English "	24 0 .. 25 0	34 0 .. 35 0	
Rosemary "	2 0 .. 2 6	2 0 .. 2 6	
Sassafras "	2 3 .. 2 6	2 3 .. 2 6	
Spearmint "	12 0 .. 15 0	12 0 .. 15 0	
Thyme "	0 0 .. 0 0	0 0 .. 0 0	
Vanilla, expressed per oz.	0 6 .. 0 10	0 6 .. 0 10	
Vanilla, Turkey per lb.	16 0 .. 17 0	20 6 .. 22 0	
Vanilla, inferior "	10 0 .. 12 0	10 0 .. 18 0	
Woods (bitter wood) per ton	100 0 .. 130 0	100 0 .. 140 0	
Woods (BARK, China, good and fine) per lb.	3 3 .. 4 1	2 5 .. 4 0	
Woods (Mid. to ord.) "	1 0 .. 2 6	0 8 .. 1 4	
Woods (Dutch Trimmed) "	0 0 .. 0 0	0 0 .. 0 0	
Woods (SITS—Calumba) per cwt.	25 0 .. 50 0	32 0 .. 33 6	
Woods (Sina) "	25 0 .. 30 0	30 0 .. 32 0	
Woods (Siretta) per lb.	0 3 .. 0 4	0 2½ .. 0 3	
Woods (Santalal) per cwt.	21 0 .. 22 0	20 0 .. 26 0	
Woods (Santientian) "	19 0 .. 21 0	23 0 .. 24 0	
Woods (Sellebore) "	0 0 .. 0 0	0 0 .. 0 0	
Woods (Siris) "	55 0 .. 65 0	26 0 .. 75 0	
Woods (Silitory) "	70 0 .. 76 0	70 0 .. 76 0	
Woods (Sank) per lb.	0 0 .. 0 0	0 0 .. 0 0	
Woods (Santany) "	0 4 .. 0 8	0 4 .. 1 0	
Woods (Sneka) "	3 6 .. 3 9	3 6 .. 3 9	
Woods (Sneak) "	0 10 .. 1 0	0 6 .. 0 7	
Woods (SFRON, Spanish) "	20 0 .. 32 0	33 0 .. 37 0	
Woods (SFR) per cwt.	240 0 .. 300 0	0 0 .. 0 0	
Woods (SAPARILLA, Lima) per lb.	0 6 .. 0 7	0 5 .. 0 7	
Woods (Sapayaquil) "	2 2 .. 2 6	1 10 .. 2 0	
Woods (Sonduras) "	0 11 .. 1 5	1 1 .. 1 6	
Woods (Sonia) "	1 2 .. 2 6	2 6 .. 3 0	
Woods (SAPFRAS) per cwt.	9 0 .. 11 0	0 0 .. 0 0	
Woods (SIMPONY, Virgin) per lb.	0 0 .. 0 0	2½ 0 .. 30 0	
Woods (Sond & ordinary) "	0 0 .. 0 0	6 0 .. 22 0	
Woods (Sona, Bombay) "	0 1 .. 1 5	0 1 .. 0 4	
Woods (Sonnively) "	0 1 .. 1 0	0 2½ .. 2 0	
Woods (Saxandria) "	0 5 .. 1 6	0 5 .. 2 5	
Woods (SARMACSTI, refined) "	1 4 .. 0 0	1 4 .. 0 0	
Woods (Sarmican) "	1 3 .. 0 0	1 0 .. 1 2	
Woods (SALLS) "	0 2½ .. 0 4	0 2 .. 0 3	
Woods (S.S.)	£ s. £ s.	£ s. £ s.	
Woods (SALIC) drop per cwt.	1 18 .. 2 0	2 2 .. 2 10	
Woods (Sump) "	0 15 .. 1 15	1 0 .. 1 14	
Woods (S, fine washed) "	13 0 .. 14 10	11 0 .. 12 15	
Woods (Sboldscraped) "	10 10 .. 12 15	9 15 .. 10 15	
Woods (Ssorts) "	6 5 .. 9 10	6 15 .. 9 10	
Woods (Sdark) "	5 10 .. 6 10	4 0 .. 6 10	
Woods (SABIC, E.I., fine) "			
Woods (Sboale picked) "	2 18 .. 3 14	3 3 .. 4 0	
Woods (Ssirts, md. to fin.) "	2 5 .. 2 17/6	2 15 .. 3 2	
Woods (Sgarblings) "	1 5 .. 2 0	1 5 .. 2 9	
Woods (SKEY, pick. gd. to fin.) "	6 0 .. 9 10	6 10 .. 10 15	
Woods (Ssecond & inf.) "	3 0 .. 5 15	3 0 .. 6 10	
Woods (Sin sorts) "	2 10 .. 3 16	2 5 .. 3 5	
Woods (SGedda) "	1 14 .. 1 19	1 6 .. 1 10	
Woods (SBARY, white) "	0 0 .. 0 0	2 4 .. 2 8	
Woods (Sbrown) "	2 7 .. 2 12	2 0 .. 2 2/6	
Woods (SFRALIAN) "	1 19 .. 2 15	1 15 .. 2 7	
Woods (SFRUTIDA, cm. to fin) "	0 15 .. 2 0	0 18 .. 2 11	
Woods (SFRAMIN, 1st & 2nd) "	45 0 .. 80 0	27 0 .. 45 0	
Woods (SFRmatra 1st & 2nd) "	5 10 .. 14 0	6 15 .. 12 0	
Woods (SFR3rd) "	2 4 .. 5 5	3 10 .. 5 5	
Woods (SFRAL, Angela red) "	6 0 .. 6 15	6 0 .. 6 15	
Woods (SFRBenguela) "	4 0 .. 5 0	4 0 .. 5 0	
Woods (SFRSierra Leone, per lb.) "	0 6½ .. 0 9	0 6 .. 0 11	
Woods (SFRManilla) per cwt.	18 0 .. 27 0	15 0 .. 27 0	
Woods (SFRMAR, pale) "	75 0 .. 79 0	66 0 .. 68 0	
Woods (SFRSingapore) "	72 6 .. 79 0	65 0 .. 67 6	
Woods (SFRBORBIUM) "	9 0 .. 15 0	9 0 .. 15 0	
Woods (SFRBANUM) per lb.	0 9 .. 1 3	0 5 .. 1 3	
Woods (SFRBOGE, pkd. pipe) per cwt.	180 0 .. 260 0	220 0 .. 270 0	
Woods (SFRACUM) per lb.	1 8 .. 2 5	1 3 .. 3 0	
Woods (SFR) per cwt.	81 0 .. 86 0	40 0 .. 50 0	
Woods (SFR) "	20 0 .. 43 0	20 0 .. 45 0	
Woods (SFR) "	44 0 .. 55 0	47 0 .. 60 0	
Woods (SFR) per lb.	4 0 .. 5 0	4 0 .. 5 0	
Woods (SFR) per cwt.	150 0 .. 200 0	160 0 .. 220 0	
Woods (SFR) "	89 0 .. 130 0	90 0 .. 150 0	
Woods (SFR) "	46 0 .. 49 0	60 0 .. 70 0	
Woods (SFR) "	40 0 .. 55 0	55 0 .. 60 0	
Woods (SFR) "	16 0 .. 29 0	24 0 .. 30 0	
Woods (SFR) "	60 0 .. 65 0	65 0 .. 67 6	
Woods (SFR) "	82 0 .. 100 0	95 0 .. 110 0	
Woods (SFR) "	62 0 .. 77 0	85 0 .. 127 6	
Woods (SFR) "	60 0 .. 64 0	84 0 .. 90 0	
Woods (SFR) "	20 0 .. 21 6	20 0 .. 21 6	
Woods (SFR) "	240 0 .. 400 0	240 0 .. 400 0	
Woods (SFR) "	25 0 .. 175 0	25 0 .. 175 0	
Woods (SFR) per ton	£ s. £ s.	£ s. £ s.	
Woods (SFR) "	32 10 .. 33 0	35 10 .. 0 0	
Woods (SFR) "	30 10 .. 32 0	32 0 .. 34 10	
Woods (SFR) "	23 0 .. 29 0	31 10 .. 0 0	
Woods (SFR) "	73 0 .. 0 0	86 0 .. 0 0	
Woods (SFR) "	0 0 .. 0 0	0 0 .. 0 0	
Woods (SFR) "	32 10 .. 0 0	39 0 .. 0 0	

1878.		1877.	
£ s.	£ s.	£ s.	£ s.
Oils, continued:—			
WHALE, South Sea, pale, per tun	32 0 to 0 0	35 0 to 0 0	
WHALE, South Sea, pale, yellow "	31 0 .. 0 0	33 10 .. 34 10	
WHALE, South Sea, pale, brown "	28 0 .. 29 0	31 0 .. 0 0	
WHALE, East India, Fish "	0 0 .. 0 0	25 0 .. 26 0	
OLIVE, Galipoli per ton	0 0 .. 0 0	48 0 .. 0 0	
OLIVE, Gioja "	0 0 .. 0 0	48 0 .. 0 0	
OLIVE, Levant "	50 0 .. 0 0	46 10 .. 47 0	
OLIVE, Mogador "	50 0 .. 0 0	0 0 .. 0 0	
OLIVE, Spanish "	50 0 .. 0 0	0 0 .. 0 0	
OLIVE, Sicily "	0 0 .. 0 0	48 0 .. 0 0	
COCOANUT, Coch. "	47 10 .. 0 0	42 0 .. 0 0	
COCOANUT, Ceylon "	39 5 .. 0 0	36 0 .. 36 10	
COCOANUT, Mauritius "	39 0 .. 40 0	31 0 .. 37 0	
GROUND NUT AND GINGELLY:			
Bombay "	0 0 .. 0 0	0 0 .. 0 0	
Madras "	0 0 .. 0 0	42 0 .. 0 0	
PALM, fine "	39 10 .. 40 0	37 10 .. 0 0	
LINSEED "	26 16 .. 0 0	25 0 .. 26 5	
RAPESEED, English, pale "	35 15 .. 0 0	37 15 .. 0 0	
RAPESEED, brown "	33 15 .. 0 0	35 0 .. 0 0	
RAPESEED, Foreign, pale "	0 0 .. 0 0	37 0 .. 0 0	
RAPESEED, brown "	0 0 .. 0 0	0 0 .. 0 0	
COTTONSEED "	31 10 .. 0 0	29 10 .. 30 10	
LARD "	45 0 .. 0 0	55 0 .. 57 0	
TALLOW "	43 0 .. 44 0	31 0 .. 54 0	
TURPENTINE, American, cks.	33 3 .. 0 0	27 0 .. 27 6	
TURPENTINE, French "	0 0 .. 0 0	0 0 .. 0 0	
PETROLEUM, Crude "	0 0 .. 0 0	0 0 .. 0 0	
PETROLEUM, refined, per gall.	0 9½ .. 0 0	0 11½ .. 1 0	
PETROLEUM, Spirit "	0 9½ .. 0 8	0 10 .. 0 0	
SEEDS.			
CANARY per qr.	45 0 .. 52 0	50 0 .. 60 0	
CARAWAY, English per cwt.	43 0 .. 45 0	44 0 .. 45 0	
CARAWAY, German, &c. "	48 0 .. 49 0	0 0 .. 0 0	
CORIANDER "	18 0 .. 23 0	0 0 .. 0 0	
HEMP per qr.	0 0 .. 0 0	33 6 .. 35 0	
LINSEED, English "	0 0 .. 0 0	53 0 .. 68 0	
LINSEED, Black Sea & Azof "	0 0 .. 0 0	0 0 .. 0 0	
LINSEED, Calcutta "	51 0 .. 0 0	51 0 .. 0 0	
LINSEED, Bombay "	52 0 .. 0 0	53 6 .. 0 0	
LINSEED, St. Petersburg "	0 0 .. 0 0	51 0 .. 0 0	
Mustard, brown per bshl.	0 0 .. 0 0	12 0 .. 15 0	
Mustard, white "	13 0 .. 16 0	13 0 .. 16 0	
POPPY, East India, per qr.	4½ 6 .. 0 0	51 0 .. 0 0	
SPICES.			
CASSIA LIGNEA per cwt.	44 0 .. 50 0	55 0 .. 65 0	
CASSIA LIGNEA, Vera "	22 0 .. 45 0	22 0 .. 45 0	
CASSIA LIGNEA, Buds "	66 0 .. 0 0	75 0 .. 80 0	
CINNAMON, Ceylon:			
1st quality per lb.	1 10 .. 3 1	1 9 .. 3 7	
2nd do. "	1 8 .. 2 6	1 6 .. 2 8	
3rd do. "	1 5 .. 1 11	1 2 .. 2 3	
Tellicherry "	0 0 .. 0 0	0 0 .. 0 0	
CLOVES, Penang "	1 7½ .. 1 11	2 4 .. 2 5	
CLOVES, Amboyra "	1 3 .. 1 5	1 7 .. 1 8	
CLOVES, Zanzibar "	1 2 .. 1 3	1 2 .. 1 3	
GINGER, Jam., fine per cwt.	91 0 .. 202 6	91 0 .. 202 0	
GINGER, Ord. to good "	53 0 .. 90 0	54 0 .. 90 0	
GINGER, African "	24 0 .. 0 0	29 0 .. 0 6	
GINGER, Bengal "	21 6 .. 22 6	27 0 .. 27 0	
GINGER, Malabar "	26 0 .. 28 0	28 6 .. 0 0	
GINGER, Cochin "	50 0 .. 115 0	50 0 .. 115 5½	
PEPPER, Blk, Malabar, per lb.	0 4½ .. 0 5½	0 4½ .. 0 4½	
PEPPER, Singapore "	0 3½ .. 0 0	0 4 .. 0 4	
PEPPER, White Tellicherry "	0 10 .. 1 4	0 10 .. 1 0	
PEPPER, Cayenne "	1 4 .. 3 0	2 0 .. 3 3	
PEPPER, MACE, 1st quality "	2 2 .. 3 3	2 3 .. 3 2	
PEPPER, 2nd and inferior "	1 0 .. 2 1	1 0 .. 2 9	
NUTMEGS, 78 to 60 to lb.	3 11 .. 4 6	3 9 .. 4 8	
NUTMEGS, 90 to 80 "	3 0 .. 3 10	3 2 .. 3 1	
NUTMEGS, 132 to 95 "	1 10 .. 2 11	2 3 .. 3 4½	
PIMENTA "	0 4 .. 0 4½	0 4 .. 0 0	
VARIOUS PRODUCTS.			
COCHINEAL—			
Honduras, black per lb.	2 2 .. 2 6	3 0 .. 3 3	
Honduras, silver "	2 0 .. 2 1	2 9 .. 2 11	
Honduras, pasty "	1 10 .. 0 0	2 8 .. 0 0	
Mexican, black "	2 0 .. 2 1	2 11 .. 3 0	
Mexican, silver "	1 11 .. 2 0	2 9 .. 0 0	
Tencriffe, black "	1 11 .. 2 10	3 0 .. 3 9	
Tencriffe, silver "	1 11 .. 2 1	2 10 .. 2 11	
SOAP, Castile per cwt.	26 0 .. 33 0	33 0 .. 34 10	
SOAP, China , gall.	2 2 .. 0 0	1 8 .. 1 9	
SPONGE, Turk. fin. pkd prlb.	0 0 .. 0 0	12 0 .. 16 0	
SPONGE, Fair to good "	0 0 .. 0 0	4 0 .. 11 0	
SPONGE, Ordinary "	0 0 .. 0 0	1 0 .. 3 0	
SPONGE, Bahama "	0 0 .. 0 0	0 6 .. 3 0	
TERRA JAPONICA—			
Gambier per cwt.	18 6 .. 18 9	20 0 .. 20 3	
Frec cubes "	29 6 .. 30 6	34 0 .. 36 0	
Cutch "	23 0 .. 25 0	25 0 .. 26 6	
WOOD, DYE, Bar per ton	£3 10 .. £3 0	£3 5 .. 3 7	
WOOD, Brazil "	14 0 .. 20 0	0 0 .. 0 0	
WOOD, Cam "	18 0 .. 34 0	18 0 .. 34 0	
WOOD, Fustic, Cuba "	8 0 .. 8 10	8 10 .. 9 0	
WOOD, Jamaica "	5 5 .. 5 10	5 0 .. 5 10	
WOOD, Louwood, Campeachy "	8 15 .. 9 0	9 10 .. 10 0	
WOOD, Honduras "	6 10 .. 6 15	6 5 .. 6 15	
WOOD, St. Domingo "	5 10 .. 6 0	5 10 .. 6 10	
WOOD, Jamaica "	5 0 .. 5 10	5 5 .. 6 0	
WOOD, Lima, first pile "	9 15 .. 10 0	8 10 .. 9 0	
WOOD, RED SANDERS "	6 0 .. 6 10	6 0 .. 10 0	



N. Lincoln (Norwich).—A really permanent crimson show colour is a desideratum which has not yet been met with in the flesh. The formula usually given is this:—Iodine and iodide of potassium, of each 2 drams; triturate with 1 dram water; then add 3 gallons of water and 4 ozs. of muriatic acid. We cannot, however, give this recipe a strong recommendation. A rich purple is obtained from cobalt, which, though rather expensive at the first outlay, is perhaps the cheapest in the end. It is made thus:—Dissolve a quantity of chlorido or nitrate of cobalt in water using a proportion equivalent to the depth of colour desired. To this solution add solution of carbonate of ammonia until the precipitate at first formed is fully dissolved. Then add gradually to this a solution of ammonio sulphate of copper until you obtain the requisite tint. The ammonio sulphate of copper is made by adding to a solution of sulphate of copper enough ammonia to dissolve the empiric hydrate which the first additions precipitate. Show colours should be filtered before being placed in the carboy, but this should not be through paper. Powdered glass or glass wool is the best material to use.

Three Colours in One Bottle.—One of our correspondents asked us a few months ago for a plan for procuring this result. We were unable to find the receipt at the time, but we now give it. It comes from America, and was published in THE CHEMIST AND DRUGGIST some years ago. First of all, put in the vessel a quantity of water coloured blue or purple; pour over this clear uncoloured turpentine, q.s.; then fill up with alcohol tinted red.

Esperança (Rio Grande do Sul).—*Depilatories.*—You must forgive us if we mention formulae you have already tried, as you do not tell us all your experiments. Redwood's depilatory, the safest and best, is a saturated solution of barium sulphide thickened with starch paste. Spolaseo's, nearly as good, consists of equal parts fresh calcium sulphide and quicklime made into a paste with water and applied at once. Mahon's is made of calx ustn, 1 part; soda subcarb., 2 parts; lard, 8 parts, m. fiat. ung.; to be used as an ointment. All these are recommended by their designers as effectual preparations. Should the first application fail it is desirable to try a second and third, prolonging the time the depilatory is left in contact with the hair. Should all chemical means fail it will be better to extract the hairs mechanically, either by pincers, or by a mixture of pitch and resin applied as a plaster.

A Strait Throat.—"Paracelsus" writes:—"I have an old lady customer who is troubled with a strait throat. She has tried many of the faculty and has got no relief. If any kind-hearted subscriber knows of a good remedy I should be very glad if he would communicate it through the medium of THE CHEMIST AND DRUGGIST, as it is a pity for the old lady to die if anybody knows anything that will do her good. Her general health and appetite is good." We feel ourselves quite incompetent to offer any advice as to the treatment of this strange symptom. All our readers are kind-hearted, we are quite sure, and possibly some of them may have less distrust than ourselves.

P. S.—An assistant who has served an apprenticeship of four years, and has not yet passed the Preliminary, would not be valued in any high-class business; but there places, no doubt, in which a capacity for hard work might compensate for other deficiencies. The salary for such a one can only be decided by arrangement. Should he decide, as you suggest, to go to America, let it be as a settler or in any other capacity than that of a druggist. The latter we can hardly believe to be his forte, and the struggle for existence is quite as keen there as here. It just occurs to us to ask why he does not pass his examination? Other men have done it: why should not he?

Saffron Paste.—Mr. W. S. Harvey sends us a sample of saffron paste with a request that we, or our correspondents, will tell him its constituents, properties, uses, and value. It is in rolls about the size of those of annatto, and is apparently composed of a dark, dull red paste, containing numerous shining particles of various shades of deep orange red. Its consistence is that of a crumbly pill mass. Its smell is faintly acetous. Its taste is somewhat saline, and both smell and taste recall those of capsicum. We have never met with it before, but it seems very likely to be some speciality introduced to replace cayenne in feeding canaries whose colour is to be changed to orange-red.

Tumblers Breaking without Cause.—W. C. D.'s note on page 136 of our last issue has called forth the two following letters, which are very relevant to the subject. *J. H.* writes:—"In reply to your correspondent W. C. D., I beg to say that about 14 years ago I was mixing up a Seidlitz powder in a tumbler. While doing this I heard it giving a crack, and sure enough on looking at the tumbler it was cracked. Had an assistant told me this had happened in my absence I am afraid I would have thought the assistant was trying to impose upon me. But there was no one present except the party getting the Seidlitz and myself, so that it could not have happened but in the way I mention. This seems to confirm the account of W. C. D." *Hyde Park* writes:—"The letter of your correspondent W. C. D. recalls to my mind a circumstance that occurred to me a little while since. About two o'clock one morning I was roused by a noise in the adjoining

room. Upon going to see what was amiss, I found that a tumbler had fallen into two parts, and the spoon that had been in it had fallen on the floor. I must leave some one more clever than myself to explain this, merely presuming that the noise must have been considerable, that the two pieces were nearly identical in size and shape, that the edges of the fracture were clean and almost as if they had been polished, that the glass was quite cold and had been so for some time, and that the domestic cat and household dog were unknown in my house. I do not know that the nature of the liquid that had been in the tumbler is necessary to a solution of the problem, but that none of the elements should be wanting I annex the recipe:—Sp. V. Hybern. Opt., Aque Bullent., Sacchar. Albi, et Cort. Lilionis, q. quant. suff. Misce secund. artem., ut ft. haust., hora somne sumend., N.B.—It will be found of better flavour than W. C. D.'s nauseous compound. We hope these letters may stir up any of our readers who have similar experiences to tell us all about them. They suggest an explanation, which, however, we will defer in the hope of getting fresh cases.

Dental asks for a good formula for homœopathic dentifrice. The following makes a good quinine tooth powder:—

Creta precip., pulv. os. sep., of each	..	..	..	1 oz.
Pulv. cinchon. pall.	..	..	..	1 "
Quinine sulphate	..	..	..	3ss.

Otto rose and ol. lavender, to taste.

W. P. Mackenzie, Jun.—It is impossible to compare the strength of P and syrupy phosphoric acid without knowing the sp. gr. of the particular sample of the latter which is under consideration. The relative colouring power of extract and liquor hæmatoxyli can only be determined for an individual sample, as no two specimens either of extract or liquor are alike in this respect.—The following are said to make good stains:—Green.—3 pints strong vinegar, 4 ozs. best verdigris, 1 of sap green; mix. Purple.—1 lb. chipped logwood, 3 quarts water, 4 ozs. pearlash, 1 oz. powdered indigo; boil the logwood in the water an hour, then add the pearlash and indigo. Cherry.—3 quarts rain water, 4 ozs. annatto; boil in a copper kettle till the annatto is dissolved, then add 1 oz. potash, simmer for an hour and bottle for use. Mahogany.—Wash wood with dilute nitric acid (1 in 10). Rosewood.—The same glazed with carmine, or Munich lake. Another form for mahogany stain is asphaltum mixed with turpentine, and diluted to fancy. Blue.—Brush the wood with acid solution of nitrate of copper, then go over it with hot solution of potash (1 in 10) until it acquires the desired tint.—Heat is not necessary in the manufacture of spirit varnishes, and if applied by a naked fire would be dangerous. Still it shortens the process of solution to place the varnish in a warm room. The finished product should be allowed to settle, and be poured off bright. The proportion of gums and spirit entirely depends upon the intended use, and we must refer you for them to Beal's "Druggists' Receipt Book," or Cooley's "Cyclopædia."—In making ink it is advisable to macerate the galls in cold water, and when they are sufficiently exhausted to boil the strained infusion, to precipitate any traces of solved albuminous matters.—Mr. W. H. Cranstone, engineer, Hemel Hempstead, will supply you with better information on paint-mixing apparatus than we can give you.

J. S. Barnes says:—"Will you kindly tell me the best method of removing marking ink from very thin handkerchiefs? I have tried iodine and cyanide without effect." It is extremely difficult to give any trustworthy advice in cases of this kind, for the simple reason that being at a distance we do not know all the circumstances. We think the best plan in this case would be to try and get a specimen of the ink used, and find out if it is made of silver. If so, a patient repetition of the attempts to remove it with iodine and cyanide is sure to be rewarded with final success. Tincture of iodine is the best form of applying the former, and we much prefer hyposulphite of soda to cyanide of potassium. If the marks are first moistened with iodine, then rubbed with a lump of hypo., and then rinsed with water, the process repeated as often as necessary, there is not the slightest chance that all marks made with silver inks will be removed.

Cinchona.—It seems to us that a limited liability company desirable to carry on the business of a chemist and druggist should consist entirely of registered chemists and druggists. In the case you suggest, J. Smith is registered, and the other shareholders not registered, we have no doubt the title "J. Smith & Co. (Limited), Chemists," would be an infringement of the Pharmacy Act. But the company might call itself by a special name, and might then establish J. Smith in a chemist's shop, the latter being a responsible party to the law. The Pharmaceutical Society should have placed this difficulty beyond question long ago, but it must be admitted that they have managed to secure as minute a benefit for the trade from the Pharmacy Act as could by any ingenuity be arranged.

R. T.—Spanish clay is a name given by wine merchants to fillers used for clarifying wines.

A. T. M. writes:—"Living in a colliery district, where clean water is scarce, would anyone suggest a quick, cheap, and easy method of filtering rain water, which is almost as black as ink from washing sooty roofs?" The simplest method we are acquainted with is the following:—Take a good flower-pot, in which first place a stone to cover the hole at the bottom, and half fill the pot with gravel covered with a layer of clean sand. Then remove a considerable portion of the sooty impurities, and the sand will be renewed from time to time. The water, however, is only strained by this method, and must not be considered fit to drink until it has been filtered. We believe the Silicated Carbon Filter Company, of Battersea, manufacture a filter specially adapted for this purpose, the flower-pot with its contents being placed on the top so as to form one apparatus.

Lycopodium, Revalenta.—Du Barry's Revalenta is said to be essentially composed of the flour of red lentils and barley, with the addition of a flavouring ingredient.

The Chemist and Druggist

SUPPLEMENT.

APRIL 13, 1878.

THE ELECTION OF THE PHARMACEUTICAL COUNCIL.

MEMBERS of the Pharmaceutical Society are slowly but surely awakening to the fact that it is possible for them to make their Council a truly representative body. The system of the present elections is based on this principle: every year the power is committed to the members of substituting fourteen radicals for fourteen Tories, or *vice versâ*, out of the twenty-one members of which the Council consists. No system of election could more effectively provide for a representative character than this, or more justly recognise the right of the members to govern their own affairs. If we have been tyrannised over or controlled by a man hitherto, we have no one to thank but ourselves. The "queue" consists of the men who have taken sufficient interest in public affairs to be active and energetic.

But the fact that some 60 or 70 per cent. of the members of the Society do not interest themselves sufficiently in the affairs of the Pharmacy is not a healthy sign. Some few are beginning to do so, and they see too that unless more life can be infused into the elections and general business of the Council the apathy will react on the Council itself, and sooner or later the Society will sink into a state of stagnant existence as a second or third-rate scientific association. Deprived of political energy—and some of the present members of the Council are very eager for such a consumption—the Society will have lost its chief *raison d'être*. The result will have brought forth a very small mouse indeed, and its only result shall be about half-a-dozen semi-scientific meetings and a coffeeless *conversazione* once a year.

It is gratifying to see that three of the candidates have already issued addresses to the voters, explaining their views, and a course which must to most people seem at once reasonable and courteous to those whose suffrages are asked. We hope to see yet to see other addresses published, for it is quite possible that some of the candidates may use other forms of publicity than that offered by this Journal. We shall have no jealousy in the matter, for we are contending for a principle and not for advertising.

Some of the other candidates, we know, think the publication of an address in some sense degrading, whether to the Council or to themselves is not quite clear. Why, having once offered themselves for election, there should be any disgrace in stating what they regard as their qualifications is outside of our comprehension. But there is a sort of dim theory in some of their views similar to the Divine Right notion of the Stuarts, or the Ritual Vocation assumption of various churches.

The present moment is opportune for recalling attention to some remarks made by one of the freest spokesmen of this theory. At the July meeting of the Pharmaceutical Council last year during a discussion which occurred on the motion to admit a reporter from this Journal to the Council meetings Mr. Betty is reported to have asked if the Council was "to be like a criminal at the Old Bailey, afraid of what people might say of him, and constantly on his defence? So long as the Council did its duty, why, in the name of independence, should it trouble itself about what other people said?" If members of the Society are satisfied to be represented in the style indicated by this absurd speech, if, in fact, they desire to pay divine honours to Mr. S. C. Betty, they will please to express their wishes in the usual manner by placing that gentleman at the head of the poll. But if they think they have a right to criticise, and even to disapprove, of any councillor's action, they will carefully avoid recording their votes for one who holds them and their opinions in such contempt.

The chances are that the pharmaceutical elector who reads this never fills up his voting-paper. We hope he will mend his ways. But let him rather avoid touching the paper than fill it up in the mechanical manner so frequently followed. The first fourteen on the list are not necessarily the best men. There is no compulsion to re-elect the retiring councillors; long possession of a seat at the Board does not constitute a prescriptive right. These maxims seem absurd when written down, but practically they are necessary. The important point to bear in mind is that we want a Council with a policy, a figure with a backbone, with limbs and with brain, with the power of movement and the will to move. We have got a Pharmacy Act, and the Council is afraid to run it out for a little exercise, fearing that if the Government should see us using the very moderate privileges which it affords, they would take it away from us again. At the last annual meeting an almost unanimous, and a most distinct, expression of opinion was formulated in respect to the sale of poisons by co-operative stores. By a little diplomacy certain members of the Council managed to avert a vote which, as they said, would have bound them hand and foot, but the understanding between them and their constituents was not the less clear. How have they carried out their part of that understanding? Take again the counter-prescribing question. The pharmacutists of Great Britain from one end of the kingdom to the other, with exceptions insignificant in number, are unanimously determined to fight for their rights in regard to counter practice, right up to Parliament if necessary. So long as the

judgment of the County Court stood against the trade, that representative body at Bloomsbury was calm and happy. No sooner, however, had one of the highest courts in the land made it clear that high judicial opinion was likely to be in our favour, than that Bloomsbury representative body stepped in and did its utmost to confuse the simple question at issue, by making public all sorts of irrelevant matters, and by openly parading the benevolent and disinterested motives of the prosecutors.

We hope that the election now coming on will at least provide us with a Council which will not repeat as their policy a course of conduct so utterly devoid of any apparent object, so entirely opposed to the views of three-fourths of the chemists of Great Britain, and so inconsistent with the ordinary civilities of professional intercourse as that which culminated in the recent negotiations carried on with the Apothecaries' Society, which formed the one distinguishing event of the present Council's year of office.

At the annual meeting it seems that the question of admitting women to membership is to be put forward for discussion. This plan will serve very well to divert attention from other more troublesome topics. But it will not be allowed, we hope, to prevent an unmistakable advocacy of the two points in which the Council has proved itself unequal to the demands of its constituents; first, the rigorous maintenance of the Pharmacy Act against large as well as against small offenders; and secondly, the support of a policy which should maintain intact the rights of a chemist and druggist to such counter practice as the Apothecaries Act of 1815 and all other medical Acts since seem to have declared legitimate. If such a policy as this would make a trades-union of the Pharmaceutical Society, then to such extent must that lofty body be degraded.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

ELECTION OF COUNCIL, 1878.

To the Members and Associates in Business.

GENTLEMEN,

At the urgent solicitation of friends, both in England and Scotland, I have agreed to act as a Member of Council if I have the honour to be elected.

As I believe no one should aspire to such an office without making the electors aware of his opinions on the more prominent questions of the day, that they may judge as to his fitness to represent them, I place before you, briefly, the leading principles that will guide me at the Council Board, should I be entrusted with a seat there.

The members of Council should be the representatives of the entire trade, and, as such, it is their duty to protect it from all undue harassments, and, in all their deliberations, while having due regard to individual or sectional interests, to act so as to secure the welfare of the greatest number. Every inducement should be held out to Chemists and Druggists, at present outside the Society, to become members; and, to this end, the discussions in Council should be freely and impartially reported.

In financial affairs I shall advocate a wise economy, and will oppose all expenditure where I think the interests of the Society or of the trade are to receive no tangible benefit in return.

The time has arrived when, in my opinion, some amendments should be made in the Pharmacy Act by better protecting the trade against the inroads of unqualified persons, whether co-operative societies or individuals, so that offenders may be dealt with speedily and effectively, and, amongst other things, to establish on a sound and lasting basis the undoubted right of chemists and druggists to perform minor dental operations, and carry on legitimate "counter practice." In Parliamentary and legal matters generally I think the Council should exercise much greater influence and act with more promptitude and firmness than has hitherto appeared to be the case.

With respect to the examinations, I think some slight modifications might be made, such as unsuccessful candidates being informed of the subjects in which they have failed, and obtaining credit for subjects in which they have secured a high percentage of marks. This system is adopted by the Examining Boards of many professional bodies throughout the country, and there is reason for such a rule being made applicable to Pharmaceutical candidates, especially when the candidates are deficient in one or two subjects only.

In the matter of Provincial Pharmaceutical Education, I regret that the action of the Council in the past has been unsatisfactory. As Secretary to the Glasgow Chemists and Druggists' Association, I have long advocated and endeavoured to the best of my ability, to obtain the permanent establishment of local classes suited to the wants of students. I have found the bulk of young men anxious to study, and teachers willing to give their services; but until greater inducements are held out to provincial towns, I feel sure no satisfactory result can be attained. I therefore maintain that the Council should do more for provincial education than has yet been done.

As a member of the Executive of the Chemists and Druggists' Trade Association, I have given that body my cordial support from the first. The necessity for its existence has been clearly established in the successful defence of several vexatious prosecutions under the Adulteration and Apothecaries Acts, and I see no reason why the Pharmaceutical Society should not work harmoniously with the Trade Association. I do not look upon it as a rival to the parent institution, but rather as a helper in every way; and, if elected, I should do my utmost to prevent official jealousy interfering with the good relations which should exist between both bodies.

I shall be glad to answer any question addressed to me by letter affecting the interests of the Society or of the trade generally; and should I be honoured with a seat at the Council Board, I shall ever be ready to attend as far as possible to the wishes of the members of the Society.

Soliciting your vote,

I beg to remain, gentlemen.

Your very obedient servants.

JAMES M. FAIRLIE.

Charing Cross Corner, Glasgow, April 15, 1878.

Advertisements received too late for Classification.

TO BE SOLD, the entire Fittings, with some Stock, of a small Chemist's Shop, in a good locality of a market town, 30 miles from London, for removal or occupation; rent of convenient house, £18 per annum; price £35. Address, A.B., Mr. G. Stapleton, Ratcliffe Road, Hitchin.

LABORATORY.—Wanted, a Practical Man, to take the lead in the laboratory work of a Wholesale House in London. H. W., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street, E.C.

A JUNIOR, or one who has just completed his apprenticeship, of steady habits, obliging manners, and willing to make himself generally useful. Apply, stating usual particulars and salary required, to D. T. Wilkes, Pharmaceutical Chemist, Upton-on-Severn.

AS JUNIOR; aged 20; height, 5 ft. 9 in.; disengaged May 12th "Chemist," Ford, Devonport.

TO THE MEMBERS OF THE PHARMACEUTICAL SOCIETY.

GENTLEMEN,—

Having, at the earnest request of several Members, been put in nomination for the Council, I beg to solicit your votes at the forthcoming election.

I have been a Member of the Society for more than twenty years, and have always taken a deep interest in its progress and welfare; but though a strong advocate for educational advancement and scientific progress, I think that trade interests should be carefully watched, and our rights and privileges jealously, but judiciously, maintained.

I believe that it is illegal for limited liability companies and co-operative associations to keep open shop for the sale and dispensing of poisons, and will support any well-considered motion to test their right to do so.

The important question of "counter practice" has been a subject of anxiety to most of us during the past year. In my opinion we have an undoubted right to prescribe in simple cases, and I trust that the question will soon be legally decided in our favour; it is obvious that no mere friendly arrangement can be permanently satisfactory.

I should oppose any attempt to interfere with the present standard of examinations.

I am, Gentlemen, faithfully yours,

FREDERICK ANDREWS.

34 Leinster Terrace, London, W., April 12, 1878.

TO THE ELECTORS OF THE PHARMACEUTICAL COUNCIL.

GENTLEMEN,—

I beg to inform you that I am a candidate for a seat at the Council of the Pharmaceutical Society, and for the following reasons beg the favour of your votes and interest.

Having been for many years connected with the Profession I am fully acquainted with the requirements of Chemists in business, and if elected I should exert myself to further in every way the interests of Pharmacy. I think the time has now arrived when some decisive steps should be taken to stop the unauthorised practice of dispensing medicines, selling poisons, patent medicines, &c., by co-operative societies and other unqualified bodies, and if honoured with a seat at the Board I should endeavour to put some effective check on this most objectionable custom.

I will not trouble you now with any longer address; but with this expression of my views I trust that I may rely with confidence upon your support.

GEORGE S. V. WILLS.

62 Lambeth Road, S.E.

CHEMISTS AND DRUGGISTS' TRADE ASSOCIATION.

NOTICE OF ANNUAL GENERAL MEETING.

NOTICE IS HEREBY GIVEN that the SECOND ANNUAL GENERAL MEETING of the Members of this Association will be held in the Banqueting-room of the INNS OF COURT HOTEL, Lincoln's Inn Fields, London, W.C., on Tuesday, May 14, 1878, at Twelve noon, for Half-past Twelve.

Office of the Association, 23 Burlington Chambers,
New Street, Birmingham.

W. F. HAYDON, *Secretary*.

LONDON COMMITTEE.

The Partners in the Firm of Allen & Hanburys.
Frederick Andrews, 34 Leinster Terrace, Hyde Park, W.
Edwin Applegate, 5 Hereules Terrace, Holloway Road, N.
The Partners in the Firm of Baiss Brothers & Co.
The Partners in the Firm of Barron, Harveys & Simpson.
The Partners in the Firm of Barron, Squire & Co.
The Partners in the Firm of Burgoyne, Burbidges, Cyriax & Farries.
N. Butt, 13 Carzon Street, Mayfair, W.
The Partners in the Firm of Davy, Yates & Routledge.
Thomas Greenish, 20 New Street, Dorset Square, N.W.
Robert Hampson, 205 St. John Street Road, E.C.
The Partners in the Firm of Hearon, Squire & Francis.
The Partners in the Firm of Herrings & Co.
The Partners in the Firm of A. S. Hill & Son.
The Partners in the Firm of Hodgkinson, Prestons & King.
The Partners in the Firm of Hodgkinsons, Stead & Treacher.
The Partners in the Firm of Horner & Sons.
John Horneastle, 17 Craven Road, Westbourne Terrace, W.
W. Lake, 63 Lupin Street, Belgravia, W.

W. N. G. Lauce, 207 Copenhagen Street, Islington, N.
The Partners in the Firm of Langton, Edden, Hicks & Clark.
The Partners in the Firm of Langton, Harker & Stagg.
T. W. Leuty, Kensington, W.
Henry Long, 48 High Street, Notting Hill, W.
The Partners in the Firm of Lynch & Co.
William Matthews, 12 Wigmore Street, W.
The Partners in the Firm of S. Maw, Son & Thompson.
The Partners in the Firm of Meggeson & Co.
Frederick Nicholson, 216 St. Paul's Road, N.
John Owen, 51 Holloway Road, N.
George Pattison, 139 St. John Street Road, E.C.
A. W. Postans, 35 Baker Street, W.
James Slipper, 86 Leather Lane, E.C.
W. W. Urwick, 60 St. George's Road, Pimlico, S.W.
John Wade, 74 Warwick Street, Pimlico, S.W.
Thomas Wells, 91 Charlwood Street, Pimlico, S.W.
Alfred Wigginton, 148 Sloane Street, Sloane Square, S.W.
The Partners in the Firm of Wright, Layman & Umney.
G. H. Wright, 103 Borough High Street, Southwark.

The Chemist and Druggist.

IMPORTANT ANNOUNCEMENT.

'THE CHEMIST AND DRUGGIST' THE ORGAN OF THE
PHARMACEUTICAL SOCIETY OF VICTORIA.

By the last Australian mail we have received definite instructions to supply the CHEMIST AND DRUGGIST to the Pharmaceutical Society of Victoria every month in sufficient quantity that they may furnish a copy regularly to every member and associate of that Society. The following extracts from letters will show the position the CHEMIST AND DRUGGIST now holds in Australia:—

From Messrs. FELTON, GRIMWADE, & Co., Melbourne.

(OUR AGENTS HITHERTO.)

23rd January 1878.

" . . . By this mail the Secretary of the Pharmaceutical Society of Victoria addresses a letter to you on the subject of the Agency for the Journal. They are desirous of sending a copy to each member of their Society, **which comprises, we might say, the whole of the respectable Druggists in the Colony.** We think it would be wise to transfer the Agency to them; the circulation would be materially increased. Anything in connection with it that you should authorise us to do will receive our immediate attention. . . ."

From H. SHILLINGLAW, Esq., Honorary Secretary to the Pharmaceutical Society of Victoria.

20th February 1878.

" . . . We are in receipt of your esteemed offer of 20th December, which, after due consideration, the Council have accepted, and herewith I forward you the order. . . . It is intended to issue your paper gratis to all members and associates of the Pharmaceutical Society, and to publish with it a COLONIAL SUPPLEMENT of sixteen pages, or larger if necessary, containing all matters of interest, not only in Victoria, but in all the neighbouring Colonies, such supplement to be headed COLONIAL SUPPLEMENT TO THE CHEMIST AND DRUGGIST, and to be included and stitched up in one cover. . . . Of course it will be our endeavour to make the supplement as popular as possible, and invite the neighbouring Colonies to furnish articles and information; so that after a time no doubt similar societies in the other Colonies and New Zealand would become large subscribers, and the circulation greatly increased. . . ."

Besides the official circulation thus ensured in Victoria, a very thorough canvass of the other Australasian Colonies will also be commenced, and the following, from a non-official letter by Mr. Shillinglaw, will show the prospects of success:—

" . . . My position as Secretary of this Board,* although a semi-official one, will not prevent my acting as your Agent here. In conjunction with Mr. Blackett, I am editing the COLONIAL SUPPLEMENT, and I trust that, if matters turn out as I expect, **we shall be able to take at least three times the number of copies now ordered.** I have already written to Sydney, Adelaide, Queensland, Dunedin, Wellington, and Auckland, and when our arrangements are perfected, our circulation must at least treble itself. . . ."

From the foregoing correspondence it will be seen that

A circulation to practically the whole of the respectable Druggists in the Colony of Victoria is now ensured; and that

The CHEMIST AND DRUGGIST, in association with the COLONIAL SUPPLEMENT just referred to, which will be a commercial enterprise, will be spread throughout Australia in a more efficient manner than we have yet been able to accomplish.

We have written to Mr. Shillinglaw to express our willingness to supply specimen copies **by Thousands** if desirable.

In addition to its important circulation at home and elsewhere, the CHEMIST AND DRUGGIST will therefore be henceforth by far the most valuable and effective journal in existence for cultivating Australian trade.

* The Pharmacy Board of Victoria is a Government department, and is distinct from the Pharmaceutical Society.

