



OFFICE,

COLONIAL BUILDINGS—44A CANNON STREET, LONDON, E.C.

For particulars of subscriptions, advertisements, &c., see the centre of the book.



WE call attention to the index of advertisements a few pages before this, which we introduce this month, and which we hope will be found to facilitate reference.

Our portrait gallery this month contains an admirable likeness of M. Eugene Rimmel, the well-known perfumer of London, Paris, "and elsewhere."

The Apothecaries' Hall of Ireland, in association with the Chemists' and Druggists' Society, have laid their case for a Pharmacy Bill before the Marquis of Hartington, as Chief Secretary for Ireland. The Marquis admitted the apparent desirability of such legislation, but decided to consult the medical department of the Privy Council. The recent accident to the Liberal party will necessitate a recommencement of the campaign on the part of our Irish *confrères*. It will be noticed that there is some opposition from certain sections of the medical body, as well as from some of the apothecaries themselves, which seems to have simply a selfish origin.

The Executive Committee of the British Pharmaceutical Conference has fixed August 5 and 6 for the next session in London. Mr. Siebold, of Manchester, has been appointed editor of the *Year Book*.

The Pharmaceutical Council met on February 4, and discussed a somewhat extensive range of subjects. Besides formal proceedings, the following subjects occupied attention:—The lot was taken for the seven members of Council who should retire in May next, and the following names were drawn: Bottle, Hampson, Hills, Mackay, Robbins, Sandford, Williams. The following seven, who remained in by lot last year, now retire by rotation: Frazer, Owen, Schaecht, Shaw, Stoddart, Sutton, Urwick. The following seven will remain in office for the ensuing year: Atherton, Baynes, Betty, Brown, Greenish, Radley, Savage.

The following results of the January examinations were presented:

ENGLAND AND WALES.

Examinations	Candidates		
	Examined	Passed	Failed
Major	6	4	2
Minor	56	15	41
Preliminary	232	115	117
Total	294	134	160

Certificate received in lieu of the Preliminary Examination:—

University of Cambridge 1

SCOTLAND.

Examinations	Candidates		
	Examined	Passed	Failed
Major	1	1	0
Minor	23	12	11
Modified	6	3	3
Preliminary	27	14	13
Total	57	30	27

Certificate received in lieu of the Preliminary Examination:

University of Edinburgh 1

At the same time some interesting statistics in reference to the examination and the register for 1873 were brought forward. The table below summarises the results of last year's examinations:

ENGLAND AND WALES.

	No. of Candidates	Passed	Per cent. of Rejections
Major	73	49	32.87
Minor	745	410	44.96
Modified	95	00	36.84
Preliminary	1,202	670	48.14

SCOTLAND.

	No. of Candidates	Passed	Per cent. of Rejections
Major	10	5	50.00
Minor	75	46	38.66
Modified	21	15	28.57
Preliminary	162	95	41.35

It was reported that the number of persons at present on the register is 13,288, of whom 2,392 are pharmaceutical chemists. This number shows an increase of 561 persons over last year's register.

Mr. Hampson asked if it were true that candidates for examination were interrogated as to whether they were students of the Society. It was replied that this information is asked for by the secretary, but simply for statistical purposes, but that the examiners themselves have not the slightest opportunity of becoming acquainted with the particulars thus furnished.

The next Preliminary Examination would, in the ordinary course of things, fall on Easter Monday, now a Bank holiday. It was therefore decided to postpone it until the *second* Monday in April.

The Special Benevolent Fund Committee gave in their report, and Messrs. Sandford, Robbins, and Bottle enlarged upon it. Subscribers of 5s. are henceforth to have one vote, of 10s. 6d. two votes, of 21s. four votes, and so on in proportion. It was not thought desirable to bind the Council to grant any special number of annuities at the next election, but it seemed to be unanimously agreed that, with an income of 1,200l. from subscriptions and interest on the invested fund, a much larger number of annuitants than heretofore might be safely taken. It is probable that if there are five deserving cases at the next June election, the Council will be prepared to recommend the election of that number instead of two only.

An International Pharmaceutical Congress is to be held at St. Petersburg next August, and a communication had been received relative to it from the secretary. The question as to whether two gentlemen should be deputed to attend on behalf of the Society, as was the case when the Congress met at Vienna in 1869, was referred to a committee.

The sum of 100 guineas was voted, on the motion of Mr. Bottle, to Professor Redwood, if he would undertake to complete the *Historical Sketch of Pharmacy* commenced by Mr.

Jacob Bell, and bring it down to the year 1869. It was thought that the *Year Books of Pharmacy* would be sufficient after that date.

Mr. Schacht brought forward a scheme for spending some of the superfluous funds of the Society, and introduced it in an elaborate speech. He proposes to establish ten scholarships (or some other number to be settled by the Council) similar to the Bell Scholarship. He thinks that such a plan would not only give the opportunity of annually training ten scientific pharmacists, but would stimulate the studies of perhaps fifty times that number. Mr. Stoddart, who seconded the proposal, seemed to think 500 too low an estimate, for he calculated on spurring on some 1,200 or 2,000 young men all over the country. It appeared that a scholarship of this kind costs 62l. 10s. per annum, 30l. of which goes to the student and the rest to the professors. The proposition was received with considerable favour, and referred to a committee for further consideration.

The second "semestre" of the School of Pharmacy (Bloomsbury Square) is announced to commence on March 2. A prospectus is published in our advertisement pages.

At the next meeting of the Chemical Society (February 19), Mr. J. Bell, F.C.S., of the Somerset House Laboratory, will deliver a lecture on "The Detection and Estimation of Adulteration in Food and Drinks."

Dr. Letheby has resigned his offices as public analyst and medical officer of health to the City of London. No appointment has yet been made, but Dr. Tidy is acting *pro tem*. We understand that Dr. Letheby has received an appointment under the Khedive of Egypt.

We continue to receive reports of prosecutions under the Adulteration Act from all parts of the country, chiefly referring to groceries and milk. Arrowroot is the newest article pouuced upon. It is very noticeable how continually the magistrates express their reluctance to convict, but find they have no choice in the matter. With the evident imperfections of the Act, as admitted in the highest quarters, we think the authorities might at least suspend operations against tradesmen, until there has been an opportunity of impeaching the Act in the House of Commons.

Messrs. Savory & Moore have made a gallant attack on the old legal remnant of feudality which gives peers immunity from the imprisonment to which the law subjects contumacious debtors of a lower order. The Earl of Winchilsea and Nottingham was the nobleman whose honourable person they irreverently sought to seize, and their counsel argued very cleverly that the "any person" of the recent Debtors' Act included even earls. The plaintiffs were quite willing to accept the risk of illegal arrest, but the judge of the Westminster County Court, who tried the case, refused to commit.

Professor Bone (suggestive name) has been committed by the Hitchen magistrates on a charge of manslaughter. In December the Professor sent a box of pills to a man named Cooper, who was suffering from cold; after taking the pills for a fortnight, Cooper suddenly died. A post-mortem examination revealed the presence of arsenic in the body—it was also found in the pills not taken.

At the Pharmaceutical evening meeting on February 4, Mr. Hills, President, mentioned that during the past 33 years he had not missed in his attendance more than six times, and he added that he had always gained some useful information by coming. On the same occasion an interesting dispensing question was raised and discussed, and some important information was extracted from Professor Redwood relative to the forthcoming Pharmacopœia Appendix. Both subjects are reported on subsequent pages.

Meetings of the Early Closing League have been held at Manchester and Sheffield in support of Sir John Lubbock's Shop Hours Regulation Bill. At the first-named meeting Mr. Plimsoll, M.P., spoke heartily in favour of the Bill, and Mr. Mundella, Mr. Trevelyan, and other members, also wrote letters supporting such a scheme. At Sheffield, Mr. McDonald, the "working man" lately elected M.P. for Stafford, also supported the idea, but wisely suggested that the meeting should not bind itself to a particular measure.

Mr. Hill, who has quite recently retired from the vinegar firm of Hill, Evans, & Co., on which occasion he distributed over a thousand pounds among his employes, has been returned to Parliament as a Liberal M.P. for Worcester.

EUGENE RIMMEL.

IT is by happy accident, and not by forethought, that we place the portrait of Mr. Rimmel on our page of honour this month, coincidentally with the festival of Saint Valentine. If all the young hearts which that gentleman (Mr. Rimmel we refer to) has helped to make happy this day should possess themselves of a copy of this portrait, we could easily give weight to all our daily contemporaries and then transfer the proud boast of "the largest circulation in the world" from Peterborough Court to Cannon Street.

It is not only as one of the most prominent representatives of the perfumery art in Europe, a field of labour closely allied to chemistry, that we claim the pleasure of introducing this gentleman to our readers. Mr. Rimmel is more than this; he is the proprietor of a large business in constant relation with the trade throughout the world: he has ever shown a hearty sympathy with all movements among the chemists and druggists of this country, and he is besides in many respects one of the most accomplished gentlemen we can number in or about our ranks.

Mr. Eugene Rimmel is a native of Paris, where his father was carrying on the business of a perfumer, having served his apprenticeship to the celebrated Monsieur Lubin, the *fournisseur* of the Empress Josephine, and the founder of the house in the Rue Ste. Anne which bears his name, and still justly ranks as the first *Parfumerie* in the French capital. Mr. Rimmel, senior, after a serious illness, resulting from a family bereavement, sold his business and bought a farm in the neighbourhood of Melun, where he endeavoured for some years to instil into the minds of the rude natives the new agricultural theories which he had deeply studied. He found them, however, so rebellious to all notions of improvement that he became weary of his thankless task, and was glad to seize an opportunity which occurred in 1830 to return to his former occupation. Mr. Joseph Delcroix, of New Bond Street, London, who had been for many years the leading perfumer in England, had then lately died, and his widow came to Paris in quest of a competent *manipulateur* to place at the head of the laboratory. She applied to Mr. Lubin, who recommended his former pupil. Mr. Rimmel remained in the house until 1834, when he established himself in Albemarle Street, soon after removing to Gerrard Street, Soho. He then sent for his son, who had been pursuing his studies at the Versailles College, and began to instruct him, at a very early age, in the mysteries of his art.

At the age of 16, Mr. Eugene Rimmel entered the counting-house of Messrs. Joseph Marryat & Sons, the eminent West India merchants, and during the three years he remained there he acquired a good share of commercial experience, and that spirit of enterprise which led him afterwards to give such an impetus to his shipping trade.

THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.

VII.



Yours truly
E. Rimmel

EUGENE RIMMEL.

He was nineteen when he left the quietude of the counting-house for the bustle of "the road," and through his untiring exertions he soon extended his father's business throughout the United Kingdom. During this period, too, he occasionally visited the Continent, reaping as the fruit of his exertions not only some important commercial connections, but also a familiar acquaintance with half-a-dozen European languages, which he speaks fluently, and which have so considerably aided him in after life to win the cosmopolitan fame for his house which it unquestionably enjoys.

Three years later, Mr. Rimmel married a French lady, the daughter of a manufacturer of chemical products, and soon after his father sold him the business and went to settle at Nice, where he founded a flower farm, which gave him an opportunity of indulging in his two favourite pursuits—the cultivation of flowers and their application to industrial purposes. He has now been dead for some years, and the establishment is carried on by his son-in-law, Mr. D. Séméria.

At the Great World's Fair in 1851, Mr. Eugene Rimmel made his first palpable hit in exhibiting a Perfume Fountain, which, as every one remembers, became one of the lions of the place. This was a novel and ingenious idea, inasmuch as it enabled the public to test the quality of the scent instead of leaving it

A liquid prisoner pent in walls of glass,

as Shakespeare has it, boasting of no other merits than those of pretty bottles and labels, which clearly belong more to the glass blower and printer than to the perfumer himself.

This fountain attracted so much notice that when the Crystal Palace was built at Sydenham, partly out of the remains of the Great Exhibition, the directors requested Mr. Rimmel to erect three ornamental perfume fountains, one under each transept, conceding to him in exchange the monopoly of the sale of perfumery on the ground floor, a monopoly which he has retained until the present day. The prominent positions occupied by these fountains in a place visited by thousands of admirers from all ends of the earth have contributed greatly, no doubt, to extend Mr. Rimmel's business, and make his name popular among all classes.

About sixteen years ago, Mr. Rimmel removed to the extensive and commanding premises previously occupied by Messrs. Ackermann, the printsellers, at the corner of the Strand and Beaufort Buildings, opposite Exeter Hall. Three years ago he took in addition Beaufort House, a large building overlooking the Thames Embankment, and established there his export department, for which an extension of room was required.

Mr. Rimmel possesses, besides retail branches in the City, at the West End, and at Brighton, export manufactories at Neuilly and at Brussels, and continental depôts in Paris, Brussels, Antwerp, Liege, the Hague, Amsterdam, and Florence. All these establishments he superintends himself, without the aid of any partner, and it is needless to add that he has a most laborious life of it. He has two sons, who are both in his business, one in London and one in Paris, and from whom he will probably soon receive material assistance.

Mr. Rimmel is *par excellence* the man of exhibitions. Wherever one of those peaceful contests takes place, you may be certain to find him ready for the struggle and armed to the teeth, or, more accurately speaking, to the *nose*. In 1862 he served as juror for the Perfumery Class, and had to draw up the Official Report, a task of which he acquitted himself in a very creditable manner. He filled a similar office at the Dublin and Havre Exhibitions, and was assistant-commissioner at that of Paris in 1867. His latest laurels were won last year at the Vienna Exhibition, where he had a magnificent floral temple in the Rotunda, of which we gave an illustration in one of our former numbers, and where he carried off the first medal for English Perfumery, that of Progress.

Not content with his commercial successes, Mr. Rimmo

has occasionally trodden the dangerous path of literature, and has thereby added materially to his repute. His "Book of Perfumes," published in 1864, is probably known to most of our readers as the most comprehensive and attractive work published on the history of perfumery, and the processes and ingredients used in its manufacture. It was compiled from voluminous notes he had been collecting for some years, and of which he had given the quintessence in a paper read by him in 1860 before the Society of Arts on the "Art of Perfumery." This book has already gone through seven editions, and the author has lately produced it in the French language.

It is certainly a rare and enviable talent to be able to manipulate the two languages with such ease and clearness as both of these works present. The result is that neither bears the slightest mark of a translation; the style is elegant in both, and well suited to the interesting subject on which they treat. The French edition is graced with a witty introduction from the pen of Alphonse Karr, the famed lover of flowers and poetry, and its value is enhanced by many additions of text and illustration, which, we believe, are to be incorporated in the next English edition.

Another interesting book has been written by Mr. Rimmel, also in English and in French, on the Paris Exhibition of 1867; and, as a complete, although summary record of this great industrial event, this work stands alone. Besides these, M. Rimmel has frequently contributed to English and foreign periodicals.

Doubtless, Mr. Rimmel owes much of his reputation and success to the advantages of his dual nature and training, combining the lively imagination of the Frenchman with the sound practical judgment of the Englishman. He has a clever knack of taking up popular articles and imparting to them a pleasing artistic appearance. His almanacs, Christmas cards, valentines, crackers, perfumed programmes, and the thousand and one other graceful fancies of his fertile brain, are too well known to require description; and it may be well said of him, although not quite in the sense meant by the poet—

"Nihil tetigit quid non ornavit."

The perfume vaporiser was one of Mr. Rimmel's "happy thoughts." Madame Celeste, who was then managing the Lyceum theatre, having asked him to diffuse the scent of the rose in a new fairy piece called "Chrystabelle; or the Rose without a Thorn," he thought of applying steam to produce a rapid and powerful evaporation, as the smell of roses could not be produced by the combustion of aromatic substances, the only means known previously of perfuming the air. The experiment succeeded so well that the system was introduced in most theatres, concert halls, and ball rooms. It was afterwards applied to disinfecting purposes by substituting the essential oil of plants, chiefly those of the labiate order, like rosemary or lavender, for those of flowers. In this modified form it was adopted in the wards of several hospitals, and at the dissections of the Royal College of Surgeons, where it was found to counteract completely the disagreeable effluvia arising from the body, especially in warm weather. The perfume vaporiser has also been made in the shape of a marine lamp to hang in the cabins or saloons of steamers, to correct the nauseous smell which generally pervades them.

We venture to reverse the usual order of the expression, by adding that Mr. Rimmel is not *merely* a man of practice, as regards perfumery. He has lately come forward as a theorist, and a rather bold one, too. At the Social Science Congress, held at Norwich last autumn, and again in our columns last November, Mr. Rimmel exposed a theory which is at least interesting and scientific, and which, if established, will elevate the art of perfumery to a higher position than to be merely

the minister of fashion. Very briefly this is Mr. Rimmel's argument:—

"It must be admitted that evil smells are more or less poisonous: could they not be fought by their natural antidote—fragrant smells. Why should not perfume be the counterpoison of miasma? And why should not then the odour of flowers be an anti-pestilential agent, which, by its special chemical composition, would be intended in pervading the atmosphere to combine with miasma or deleterious gases and neutralise them immediately. And when we say the odour of flowers, we mean the cause of the odour, viz., that essential oil which slowly evaporates from the calix of flowers in perfumed vapours. Essential oils dissolve sulphur and phosphorus, and it is well known that in many countries malaria proceeds from a certain quantity of sulphuretted hydrogen which mixes with the air. Yellow fever, for instance, is probably ascribable to phosphoretted gases; it is therefore natural to ask if the combination of the vapours of essential oils with those deleterious gases and others would not operate their neutralisation."

In a word, he would maintain that a pleasant perfume appropriately chosen will really *neutralise*, and not merely cover, certain effluvia.

We shall not assume for a moment that the trade has forgotten the energetic and chivalrous manner in which Mr. Rimmel maintained the celebrated contest against Mr. Betts, when this manufacturer declared war in such a terribly wholesale fashion against retailers of capsuled articles. Mr. Rimmel was, no doubt, very deeply interested as the chief defendant in the many suits planned by the enemy. But even when the danger looked most threatening—and at one time a perfect blockade of the trade seemed to have been established—Mr. Rimmel never lost heart. He fought for others no less than for himself; he exhausted every effort to satisfy Mr. Betts without resorting to law, in vain. At one time even he offered him 1,000*l.* clear, to sign a treaty of peace and protect his customers against further vexations, but this was refused. Then Mr. Rimmel prepared for defence in earnest. Leaving no stone unturned, he made a most unexpected discovery, and thereby completely turned the tables on his adversary. The only capsules of French manufacture which had been employed by him, and which it could be proved had infringed Mr. Betts' patent, were manufactured by Espinasse, of Paris. This Espinasse was traced to have been merely the paid servant of Betts. When the trial came on, and this fact came out, the prosecution collapsed, and the Vice-Chancellor indignantly rebuked the plaintiff, and gave judgment for all the defendants, with costs. Thus was defeated one of the most alarming attacks to which the trade had ever been subject; and the history might encourage to action those who now faint-heartedly survey the unjust, if not illegal, inroads which Civil Service stores are making on the pharmaceutical profession.

In this sketch we have necessarily confined our attention mainly to a review of Mr. Rimmel's career as far as it has been connected with business. It is impossible, however, to pass over entirely one very prominent instance of his public services. Few people in London know so well as he how frequent are the cases of destitution and distress among foreigners who have been tempted to seek their fortunes in this capital. Allured by stories of the fabulous wealth to be realised in the English metropolis, multitudes of trusting souls from other lands often ignorant of a word of our language, are continually arriving amongst us. How many of these would sink in the struggle if it were not for the benevolent societies established expressly to aid them, it is impossible to say. Even as it is the tide of London life rolls over many a starving and desolate soul, and not a bubble rises to the surface to record the sorrowful story. Mr. Rimmel is one who knows this, and in the midst of his own active and prosperous career has never lost sight of those less fortunate than himself, and has devoted a great deal of his time to the charitable societies founded for their relief. Some seven

years ago he exerted himself very earnestly, especially in association with Dr. Viutras, in promoting the establishment of a French hospital in London, at last with complete success. The institution is in Lisle Street, and is open to all nations, being also well supported by generous friends of all countries. From its foundation to the present time Mr. Rimmel has continued to act as its honorary secretary, and has never relaxed his efforts to ensure its efficiency and economical management. In recognition of this important service, Mr. Rimmel was decorated by the French Government with the high distinction of *Chevalier de la Légion d'Honneur*.



FRANCE.

THE ACTION OF CHLORAL.

Paris, January 31, 1874.

At the Paris Academy of Sciences, on January 19, M. Bussy read a note from M. Personne respecting the theoretical action of Chloral. M. Personne has for some years maintained that the special hypnotic effects of chloral hydrate are due to the formation from it in the circulation of chloroform, produced by the action of alkali. Other experimentalists have denied that the blood is sufficiently alkaline to produce such an effect. Some have failed to obtain the result with solutions of the alkaline bicarbonates, Vichy water, &c. M. Personne replies that such experiments could not have been carefully performed. He finds that even the weak alkalies, such as magnesia, phosphate of soda, blood, white of egg, will transform chloral into chloroform at a temperature of 40° (Centigrade). An argument against M. Personne's theory is, that the action of chloral is so much more persistent than that of chloroform, and some imaginative investigators have attributed this to the production in the system, from the chloral, and simultaneously with the chloroform, of formic acid, which, in its turn, undergoes a further decomposition, yielding carbonic acid, whose hypnotic action they suppose is added to that of the chloroform, and thereby accounting for the more permanent effects of chloral. But M. Personne repudiates these explanations submitted by his too eager disciples, and presents a much more scientific and probable theory. He says:—"The first effect of chloral hydrate on the albuminous substances of the body is to engender chloroform, at the expense of the alkali of those substances; then these albuminous bodies, deprived of alkali, combine with the remaining and uninjured chloral. This combination forms a sort of reservoir, from which chloroform is supplied gradually as the circulation demands it. This theory explains why so little chloroform is found in the blood of animals which have been subjected to the action of chloral, and also why the medicine acts so powerfully in modifying the tissues when it is used for dressing wounds."

M. Personne adds that chloral may be advantageously employed for the preservation of the most easily decomposed animal substances. He used a solution of 1 in 10, and with the admixture of glycerine with this, he says, anatomical specimens and such like bodies may be perfectly preserved, both in substance and appearance.

DISCOVERY OF BISMUTH.

M. A. CARNOT, mining engineer, reports the discovery of a bed of bismuth near Meyurac, in the mountainous region which separates the departments of Bresse and Dordogne. This had been observed by him since 1867, but only recently he has found that it could be profitably worked. It is found in combination with lead, antimony, iron, and calcium. M. Carnot has also derived

a better process for the extraction of the bismuth in a state of perfect purity. Already some 250 kilogrammes have been supplied to the Pharmacie Centrale, Paris. This discovery is very fortunate. The high price of bismuth is consequent partly on the increased appreciation of its value as a medicine, and partly on the fact that an important source of its supply, namely, the deposit of Saxony, is nearly exhausted. At present the Bolivian mines almost exclusively supply commercial requirements, but no country will grudge France a happy turn in this or in any other respect.

AUSTRIA.

(FROM OUR OWN CORRESPONDENT.)

VIENNA, Feb. 2, 1874.

THE clause hitherto existing in the rules of the Austrian Apothecaries' Society to the effect that at all meetings of the societies, chief and branch, a "Gremial-Commissioner" (notary of the medical faculty, town physician, parish doctor, &c., &c.) was to be present and preside, has been annulled during the past month by a decree of the Minister of the Interior, and the presidency at the meetings in question is allotted to the Gremial-Director; the Government, however, reserving to itself the right to depute a commission to such meetings when it may deem advisable.

By this decree a long expressed wish of the apothecaries has been fulfilled, the institution of Gremial-Commissioner having long outlived its time and grown unsuited to the present day, and diametrically antagonistic to the interests of the societies and corporations affected. The Gremial-Commissioners must long since have felt their position awkward, and may congratulate themselves on being relieved from the burden of presiding over a society to which they do not belong, and at whose meetings matters are discussed which usually possess no interest for physicians.

AUSTRIAN CHEMICAL MANUFACTURES—*continued*.

CHIEF among the chemical manufactories in Austria stand the Oesterreichische Verein für chemische und metallurgische Producte, in Aussig on the Elbe, and Kralup in Bohemia. The works were founded in the year 1867, and employ at the present day 1,200 hands, with a capital of two million gulden. Some brown coal mines in the immediate vicinity, the property of the Company, afford great facilities for carrying them on, yielding at once gas and motive power.

Dr. Max Schaffner, well known in the chemical trade, is the director of the establishment; he was the first who found a practical and paying method of recovering sulphur from soda refuse. He refined the deposited sulphur by melting it under water and high-pressure steam, with the addition of lime, the free sulphuric acid becoming incorporated therewith. The resulting sulphate of lime frees the arsenic, leaving thus gypsum and sulphur free from arsenic. All the chemical works which occupy themselves in the recovering of sulphur work by Schaffner's method; and even in Sicily the whole year through sulphur is produced from the stone by the same operation. The Aussig works produce principally soda and sulphur from soda refuse: of the latter, 600,000 kilogrammes are produced annually. Other products of these works are thallium, chloride of lime, &c.

Other Austrian soda works are those of J. M. Miller, at Erben, and C. Hochstetter, at Ilruschau (Silesia). The latter has existed since 1851, and produces some 100,000 cwt. of sulphuric acid, 25,000 cwt. of chloride of lime, besides soda. There are also the soda works of Count Leo Larisch, in Petrowitz (Silesia), established in 1853 with 200 hands and a capital of 500,000 gulden.

A very peculiar branch of industry has had its home for centuries in Bohemia, viz. the production of sulphur and fuming sulphuric acid from pyrites. The oldest undertaking of this sort was founded in 1630 in Lukamitz. Here, since 1746, the pyrites have been subjected to distillation in clay retorts, in gallery ovens, and the resulting sulphur received in cast-iron vessels, re-distilled and refined in bag-shaped cast-iron retorts of about 2 cwt. capacity, provided with clay alembics. The residue in the retorts is exposed in heaps to the air, and yields, on being treated with alkali, sulphate of iron, which is used for the production of oil of vitriol. A profitable method of pre-

ducing oil of vitriol direct from the burnt pyrites has been discovered by Mr. Johann David Stark (died in 1841), who erected at Silberbach in Bohemia a large number of stills, and introduced them into all parts of Northern Bohemia. In 1833, 15,845 cwt. of fuming sulphuric acid were produced, and in 1872 over 34,000. As this acid is no longer used as formerly for the solution of indigo, this branch of industry seemed at one time to be moribund, but now uses of the fuming sulphuric acid have given it new life.

Stark used for distillation a vitriol slate, which is a bituminous clay slate more or less stratified with sulphurous pyrites. The vitriol slate is broken into pieces as uniform in size as possible, and heaped together on a bed of clay: here it is left to the influence of the atmosphere for three years, by which means the sulphuret of iron is oxydised to sulphate of iron. This is now treated with water, and the lye heated first in pans, and then in iron kettles, until it crystallises. Finally, it is subjected to distillation in flaming furnaces. The residue in the retorts, which consists of large quantities of oxide of iron, is known by the name of *caput mortuum*. This was formerly sold just as it occurred, and was of an ordinary colour, and fetched a very low price. Now, it is divided into three sorts, and by heating, and in some cases by adding salt to it, there are obtained 41 sorts, of shades varying from red to brown, in all 19 different shades. In the year 1872 some 20,000 cwt. were disposed of. No other works have introduced such a variety of colour from such materials.

Besides the above large manufactories, there are in Austria the alum boiling works in Altsattel, the oil works in Tereschau, the blood-alkali salt works in Hochstetter, Brünn (Moravia), and sundry other smaller works, chemical, pharmaceutical, salt, glass-colour, and others.

GERMANY.

(FROM OUR SPECIAL CORRESPONDENT.)

BERLIN, January 27, 1874.

IN the course of the past month sundry events have occurred which appear calculated to lead to a highly satisfactory reform of the German code of laws affecting pharmacy. It has been resolved in the Chancellor's office that a commission of competent judges shall be formed, which shall lay before it for consideration the requisite proposals touching the prospective reform in question. Too much stress cannot be laid upon the fact that at length those interested and conversant with the trade will be heard, and that apothecaries may now aid in the formation of the laws affecting them, instead of such laws being, as hitherto, nearly always the fruit of consultations of physicians and Government officials. The Council of the German Apothecaries' Society had, one might almost believe prophetically, provided itself with statistics relative to the trade, seeing that no official ones existed, and the Government declining to assist. By means of so-called "Zählblättchen," the following questions have been put, confidentially to some extent, to every apothecary, viz. :—

1. The year of purchase.
2. Price of business including house.
 - a. For goodwill.
 - b. For stock and fixtures.
3. Amount of mortgage.
4. Yearly turnover.
5. Number of assistants examined and not examined.
6. " apprentices.
7. Other business carried on.
8. Remarks *re* foreclosing of mortgages, &c.

The results of these private statistics are now collected, and were laid before the President of the Chancellor's Office on January 24, after a postponement of the audience had been agreed upon to permit this to be done.

We may at any rate assume one thing: that in any modification of existing privileges apothecary proprietors may at all events depend on fair compensation. That this is the spirit of the Government is evident from the steps already taken to award compensation to the Alsatian advocates, and again, on the

motion of Herr Lasker in the House of Deputies, to make good whatever injury may be occasioned to the clergy by the introduction of civil marriages.

German pharmacy has yet another thing to look after—that is the quack medicine abuse. An interpellation has been brought before Parliament respecting the so-called "Thüringer Laborantenwesen." In sundry places in the Thuringian Forest, for instance, in the Schwarzburg Principality, and in the Dukedom of Gotha, many families have existed since the Middle Ages possessing a certain knowledge of medicine handed down from parent to child. The present generation of so-called "Laboranten" have been in their youth mostly artisans or pestle wielders (Stöszer) in apothecaries' shops, thus making a stride with the times. These are now the wise ones of the profession. Dependent upon these are the balsam hawkers, who look after the sale of the medicaments. Thus there are, for example, in the districts of Königssee, 20 laboranten and 350 balsam hawkers in a population of 1,300. One laborant alone prepares annually from 400 to 500 lbs. of pills, mostly so-called Emperor's Pills (Kaiserpillen), made principally from clay and a little rhubarb and opium, packed in chip boxes of about 30 each, and costing about 3*z.*, retailers of course getting a discount. Besides that the hawkers go from door to door with their wares, they establish themselves in barbers' and chandlers' shops and at midwives, who order the remedies for one and all, and thus arises the abuse complained of.

The *Gartenlaube*, the best circulated high-class journal in Germany, has the peculiar merit of having first brought this state of things into notice. The voices of the apothecaries have been raised in vain in appeal to the respective Governments; nay more, the Government actually encourages the abuse simply because it brings "grist to the mill."

The question of opaque glass vessels to protect chemicals from the influence of light has lately been conclusively settled by a Berlin apothecary, who has proved by experiment that santonin as well as silver and mercury salts have been discoloured or decomposed in six weeks, while the same preparations in yellowish brown glass vessels have remained unaffected during the same period; this was also the case with carbolic acid. Here I may remark appropriately that Hufemann has lately discovered an antidote for carbolic acid, in the alkalis and alkali-earths, and especially in sugar of lime, which is produced by the solution of three parts sugar in water with one part caustic lime. After filtration the solution is evaporated and deposits a non-deliquescent powder.

The numerous uses to which glycerine is applied render it interesting to know the following regular data respecting it when diluted with water:—

Glycerine with 1 per cent. water has a specific gravity of 1.263; this number is diminished in the third place of decimals by 3 units for each 1 per cent. of water added, so that glycerine with 10 per cent. water weighs 1.233, with 20 per cent., 1.203, with 30 per cent. 1.173, and so on.

There is now in use at various Berlin apothecaries and laboratories a highly perfected Bunsen burner, which may be thus described:—There are two or three concentric rings pierced with air holes, similar to the usual Bunsen burner, and from small openings in these springs a blue and highly intense flame; each ring is provided with a tap for turning the gas on and off at will, and therefore one can turn off the inner ring entirely, and so heat only the sides, if required, of a vessel, or if need be, it can be heated from the bottom.

This burner, which is usually called the Therlohnner, is highly recommended by practical men, and is procurable at Robbeck & Co.'s, in Berlin.

About the end of the past year a rather comprehensive pamphlet appeared, entitled "Beiträge zur Würdigung der heutigen Lebensverhältnisse der Pharmacie" ("Considerations on the Present Condition of Pharmacy") by Professor Phoebus, well known in England as associated with the "International Pharmacopœia," &c.

He commences his remarks by regretting that only a relatively

small portion of the public is enabled to judge of the occupation of the apothecary, even doctors and physicians being unable to form a proper idea respecting its requirements, so many questions having to be considered. The author then asserts his competency most emphatically, and explains in an introduction that the title of apothecary embraces the doctor, the manufacturer, the state official, and the retailer—the first from the beginning of this century, when the science of physics took a prominent position. This combination has both furthering and hindering effects, especially on the opinions of the public. To this must be added a want of statistic material.

The countries in which pharmacy is practised may be divided into three classes:

1. Countries in which the practice of pharmacy is open to all. Government supervision and a fixed rate of charge are wholly wanting, and medicines are dear and not guaranteed. Thus it is in some of the North American States, and in Ireland.

2. Countries in which the practice of an apothecary is only permitted to proved qualified persons, and is regulated by certain restrictions. The number of apothecaries is, however, unlimited, and a fixed rate exists only in name, so that medicines are dear and not always to be implicitly relied upon. This is the case in France, Belgium, Holland, England, Turkey, and some of the United States.

3. Countries in which there exist government examinations, rules for trading and revision of, as well as a limit to, the number of practitioners, according to the need, and a strictly enforced rate of charge, so that medicines are cheap, and as good as possible at always uniform prices. Thus it is in Austria, Russia, Sweden, and Germany.

In many essential points the two last classes are identical.

In a second part of the pamphlet the author demands that the oppressed state of pharmacy should be relieved by granting a greater amount of authority, honour, and money to the profession: this part is a panegyric on apothecaries in general. He then demands a governmental license to the number of practitioners in a third part, and closes with good wishes for the expected German pharmaceutical law code.

Many valuable propositions, interesting even to non-Germans, which the writer of the above pamphlet has brought forward respecting the organisation of the apothecaries' trade, we shall treat in detail in our next issue.

The *Western Morning News* of Thursday last contains the following curious and not quite creditable paragraph. The prize referred to we take to be the second prize in our "Corner for Students," which was gained last month by Mr. Phillips:—"Chemical Toxicology.—An international prize has been awarded by the proprietor of an eminent London scientific journal to Mr. Frank Leslie Phillips, son of Mr. Phillips (late of Falmouth), a pupil of Mr. Charles Fielding Palmer, chemist and druggist, of Isling Row, Birmingham, for chemical analysis of poisoned food."

The resignation of Dr. Letheby, as public analyst and medical officer of health to the City of London has in it something of the nature of a surprise. Last year Dr. Letheby was invited by the Khedive to visit Cairo for the purpose of giving advice to his Majesty's Government with regard to the cultivation and refining of sugar in Egypt. He accordingly went thither, and after having returned to England for a short time went back again. The unsatisfactory state of his health is assigned as the reason of Dr. Letheby's resignation of his appointment in London, but it is considered possible that the air of Egypt may prove sufficiently beneficial to him to induce him to remain in the country of the Khedive. In the meanwhile it appears the important posts which he filled in London have been put "in commission." His coadjutor, Dr. Tidy, medical officer of health for Islington, and Dr. Liddle, medical officer for Whitechapel, have been nominated medical officers for the City, *ad interim*, and the former has been appointed public analyst, also *ad interim*. Hopes, however, are expressed that this provisional arrangement will speedily terminate, and that the appointment will before long be definitely and adequately filled up. It would be most unfortunate if offices in which the interests of the public service are so deeply involved were to fall into incompetent hands, and the choice of Dr. Letheby's successor fixes a weighty responsibility on the Commissioners of Sewers.—*The Circle*.

CROTON CHLORAL.*

By ALFRED H. MASON, F.C.S.

(Vice-President of the Liverpool Chemists' Association.)

A NEW remedy, with chloral as its basis, and introduced by the discoverer of the therapeutical application of hydrate of chloral, naturally commands attention. At one of our general meetings in 1872 session I exhibited a specimen of this, then new, compound, named by Professor Liebreich croton chloral hydrate.

Within the last few months this medicine has commanded much more of the attention of medical men, so that the requirements of it somewhat exceed the first demand for its predecessor when sold at about the same price.

Crotonic chloral was discovered somewhat accidentally by Drs. G. Kraemer, and Dr. A. Pinner.† These gentlemen were undertaking experiments on the action of chlorine on aldehyde, chiefly in the hope of thus obtaining chloral, and of being able to utilize the valueless residue from the first runnings obtained in the distillation of crude spirit, which consists mainly of alcohol, aldehyde, and paraldehyde.

Chlorine was passed into aldehyde, at first carefully cooled in freezing mixture, and only heated to 100° at the close of the reaction. The first few bubbles caused the separation of a small quantity of solid met-aldehyde, whether originally present in the aldehyde, or formed by the reaction, is undecided. After a short time evolution of hydro-chloric acid set in and very trace of chlorine was absorbed. With 100 grains of aldehyde, at the end of 24 hours, no further absorption took place even at 100°. The resulting brown mass consists of two layers: a lower, darker, almost solid; and an upper, lighter coloured, liquid layer. The latter is a saturated solution of hydrochloric acid and the bodies of the lower layer in water. As it was found impossible to separate these two well, the whole was submitted to distillation. A considerable quantity passed over between 90° and 100°; the thermometer then rose rapidly to 160°, and the main product distilled over between this and 180°: the temperature again rose to about 240°, but only decomposition products were obtained, and a considerable carbonaceous residue remained in the flask. By means of fractional distillation the portion boiling at 160° to 180° was quickly purified, and a body boiling at 163° to 165° was isolated, which proved to be crotonic chloral.

The specimen I have here was produced by passing perfectly dry chlorine gas over pure aldehyde (C₂H₄O)—the action is very violent, and many precautions have to be taken to prevent explosion and to condense the volatile products of the reaction, and still to allow the enormous quantities of hydrochloric acid gas to escape. After a time the liquid thickens; at this stage the current of chlorine can be passed through the liquid. After another interval it becomes necessary to warm, and at last to boil the liquid through which the chlorine is passing. At length hydrochloric acid ceases to be evolved, and crude croton chloral is obtained—the process taking about 48 hours to complete. This crude body is mainly ordinary chloral, but mixed with a variety of other products. By fractional distillation and treatment with sulphuric acid—true croton chloral (C₄H₃Cl₃O)—trichlorocrotonic aldehyde is obtained. This is a dense oily liquid of peculiar odour, somewhat recalling ordinary chloral: treated with a considerable excess of warm water it hydrates and dissolves, and upon cooling, croton chloral hydrate (C₄H₃Cl₃O₂) is deposited, but still in a crude form, most rank and offensive in flavour. It has to be purified by rather a tedious process, and is obtained, when pure, in beautiful white silvery crystals, with a sweetish melon flavour, which melt at 8° C.

From this it will be quite evident (and it is probably wise to note it) that this body does not bear any relation to croton oil, or crotonic acid, obtained therefrom, although its chemical

constitution proves it to be the chlorated aldehyde of crotonic acid.

Croton chloral is the substance represented by the same term in the allyl (C₃H₅) group that chloral has in the ethyl (C₂H₅) group. Its outward appearance differs from hydrate of chloral by the salt being much lighter, and in flocculent silvery crystals—by its being almost insoluble in cold water and very soluble in alcohol: it is soluble in hot distilled water, and rendered more easily so by the addition of 25 per cent. of pure glycerine; it is insoluble in chloroform.

It will be remembered that hydrate of chloral owes its value as a medicinal agent to the supposed elimination of chloroform when it comes in contact with the alkalies of the blood, it having been shown that by reaction with alkalies chloroform is produced. Crotonic chloral, when subject to the influence of an alkali, first forms allyl-chloroform, a trichlorated body which is rapidly decomposed into a dichlorated substance called dichloro-allylene. In a communication to the *British Medical Journal*, December 20, 1873, Dr. Liebreich says:—"Both chloroform and trichlorated substances act in the first stage upon the brain—in the second, on the spinal cord—in the third, on the heart."

Although Dr. Liebreich's theory has met with and still finds general favour, there are many medical men who think it has not any valid support, believing that chloral exercises a specific action of its own upon the organisation, which is not to be reasoned out from an exclusively chemical basis.

The medicinal advantages of hydrate of croton chloral over ordinary hydrate of chloral are:—1st. In cases where hydrate of chloral is inapplicable on account of heart-disease (it does not interfere with the action of the heart). 2nd. In cases of neuralgia in the district of the nervus trigeminus (it is a remarkable phenomenon that when given in small doses it produces anaesthesia of the fifth nerve, singling out one nerve, and that one alone, while the sensibility of the body generally and pulse and respiration remain unaffected). 3rd. In cases where very large doses are necessary to produce sleep, here Liebreich recommends the addition of croton chloral to hydrate of chloral.

Dr. Burney Yeo, of King's College Hospital, London, &c., is making a systematic investigation on the value of this medicine, and he lays his first communication in a paper published in the *Lancet*, January 31, 1874; he administered it in six different classes of cases, and gives details of each. The results he has arrived at are, that in croton chloral we possess a remedy of remarkable efficacy in some cases of neuralgia of the branches of the nervus trigeminus, and that it also has the power of affording relief in other obstinate forms of neuralgia; that it is of use in certain cases of diffused muscular pain; that there is scarcely any remedy that is likely to prove more valuable for the relief of the distressing night cough of chronic phthisis. Its efficacy in procuring sleep seems very variable in moderate doses; its effect in purely rheumatic cases is scarcely appreciable, while for hysteria it is of little or no use.

Dose.—Dr. Yeo says:—"I am satisfied that in dealing with this substance we must give an unusually wide range to the dose, for its effects vary greatly. The doses I have given varied from 1 to 10 grains. In delicate females I have found very decided effects from doses of 2 and 3 grains; in strong males a dose of 10 grains is often required to produce any appreciable effect. As may be expected, persons who have been accustomed to the use of anodyne medicines require larger doses than others."

The dose must always be proportionate to the severity and long continuance of the pain. I would advise that it should be always given in moderate and quickly repeated doses, until the amount of "tolerance in the medicine in each particular case has been discovered. In severe neuralgias, from 2 to 5 grains may be given every hour, or the smaller dose every half-hour, until 15 grains have been taken. At present I do not think it safe to go beyond this dose."

I have made several experiments with different solvents to present this medicine in a convenient form for dispensing, and before seeing Dr. Yeo's paper I found that the addition of glycerine was of great assistance in making the solution. I can fully endorse his decision. The following formulary yields the strongest solution that is permanent:—

Croton Chloral Hydrate	..	..	64 grains.
Pure Glycerine	..	..	1 ounce.
Hot Distilled Water	..	..	1½ "

A syrup can be made containing 2 grains of croton chloral hydrate in the fluid dram, by adding 4 ounces of simple syrup to the above solution, and the disagreeable taste may be removed by any flavouring the pharmacist sees fit to add.

* Read at the evening meeting of the Liverpool Chemists' Association, February 12, 1874.

† *Ann. Ch. Pharm.* civiii. 37.

THE ISINGLASS OF COMMERCE.

By P. L. SIMMONDS.

ISLINGLASS, one of the purest and finest of the animal glues, is a product the preparation of which was long carried on almost exclusively in Russia, and chiefly obtained from the sturgeon. The value of the isinglass from this fish is chiefly due to its peculiar organic texture, on which the property of clarifying wines and beers depends. No artificial isinglass, however pure the gelatine, or identical as to chemical composition with the air-bladder of the sturgeon, answers the purpose of the preparers of fermented liquors.

Isinglass is brought to market in different forms; sometimes in that of plates or lumps, or in the form of a bag or purse, at other times rolled up in different shapes, which pass under the names of book, leaf, long and short staple, tongue or pipe, and it is cut into fine threads. When of good quality isinglass is of a whitish colour, thin, and semi-transparent, but tough and flexible, destitute of taste as well as of smell. The inferior kinds are thicker, yellowish coloured, opaque, and sometimes have a fishy smell and taste. When placed in cold water it becomes soft, then swells, and if held up to the light in this state is opalescent. In boiling water pure isinglass is entirely dissolved, with the exception of a very minute proportion of impurities. Though the best isinglass is thus completely dissolved in hot water, yet most of that found in commerce does not become so, in consequence of the presence of albuminous parts.

Isinglass, being mild and unirritating in nature, and at the same time nutritious, is much employed as an article of diet for the sick and convalescent, and the fine shreds into which it is cut and kept in shops, give great facility for making a jelly in the shortest possible time. This can be made palatable and nourishing by the addition of sugar and milk, acids or spices: about one-third or half an ounce is sufficient for a pint of water. It may also be taken in the form of a soup, with the addition of salt, spices, and sweet herbs, or it may be employed medicinally as a demulcent, either externally or internally. The best kinds of isinglass are alone employed in articles of diet and for the best confectionery, being added in small quantities to other, especially vegetable, jellies to give them a tremulous appearance; but gelatine is now frequently substituted. The sources and statistics of some of our isinglass supplies are not very well known in ordinary trade circles, and therefore some details may prove interesting.

The aggregate import of isinglass has largely increased in the last 20 years, and the sources of supply have much changed, for we are now less dependent on Russia, India, and the Eastern countries furnishing the largest amount we receive. In 1853, out of 2,284 cwts. received, 1,056 cwts. came from Japan, and in 1858 the proportion of Russian was 1,184 cwts. out of 2,026 cwts. It still fetches the highest price. In 1871 Russia only furnished one-fourth of our aggregate supplies. The total imports of isinglass into the United Kingdom in the five years ending with 1871 were as follows:—

	Cwts.	Value
		£
1867	2,732	79,746
1868	2,853	81,085
1869	3,287	84,755
1870	3,530	83,022
1871	4,266	72,189

Isinglass, in common with many other of the minor articles of import, has been struck out of the Board of Trade returns the last two years.

RUSSIAN ISINGLASS.—This principal kind is so well known, and has been so often described, that I shall not say very much respecting it, devoting the descriptive details chiefly to the other varieties which enter into commerce.

Isinglass is obtained in Russia from the interior lining of the swimming bladder of the sturgeon (*Accipenser*), the *Silurus*, and the large carps. The *Coregonus leucichtys* also furnishes some. The relative value of these may be judged of by the prices given in the Russian Exhibition Catalogue, per pound of 36 lbs. avoirdupois;—

Isinglass from the Sturgeon	120 roubles.
" " Sterlet	100 "
" " Stellifera	80 "
" " Coregonus	60 "

Our imports of isinglass from Russia were, in 1853, 1,056 cwts., and in 1858, 1,184. Of late years it will be seen that there has been a gradual decline, as we get more from the Eastern seas.

Imports from Russia:—

	Cwts.	Value
		£
1867	1,050	47,038
1868	1,018	45,601
1869	890	37,402
1870	873	32,359
1871	744	27,196

The bladders are left some days in water, which is frequently changed, in order to remove the fatty and bloody particles; they are then withdrawn and cut lengthwise into sheets, which are exposed to the sun and air, the outer part being attached to boards. The inside, which is formed of layers of pure isinglass, is carefully detached from the exterior layers, wrapped in linen, and pressed, in order to keep it from contracting; it is then made up into parcels according to size. The parcels of isinglass of the large sturgeon are composed of from 10 to 15 sheets, and weigh about 1½ lb.; those of the ordinary sturgeon contain 25 sheets, and weigh one pound. These parcels, to the number of 80, are packed in a linen bag, covered with rush matting, and sent away sealed with lead. 38lbs. are worth, at Astrakan, from 19l. 4s. to 28l. 16s., according to quality. The air bladder, although deprived of its internal parts, still contains a little isinglass, which is scraped off with a knife and kneaded; after being dauped with water, it is made into small tablets about the size of a five-shilling piece. The sheets of isinglass of the *Silurus glanis* are placed like leaves in a book, and are dried upon small cord; it is made up into bags of 152 lbs.

Carp isinglass (*Cyprinus carpio*), is made into parcels of 30; and lastly, a good fish glue is made at Astrakan from the scales of the fish.

VESIGA.—This is the name given to the dorsal cord or tendons of the vertebral column of the larger species of sturgeons, prepared in a certain manner, and much esteemed for the table. The quantity prepared reaches the value of 20,000l. annually. It is first carefully washed and pressed to extract the soft matter which it contains, it is then dried and put up in packets the entire length, and folded in the middle. It is used chopped up in the preparation of small fish cakes much esteemed in Russia. The Russian pond of about 30 lbs. is worth 2l. 10s. to 3l. 3s.

BRAZILIAN ISINGLASS.—From the province of Para the exports of isinglass might be very large. So far back as 1834, 255 barrels of isinglass were shipped from Brazil. In 1850, several tons of it came into Liverpool from Para and Maranhão, and about 28 tons of Brazilian tongue isinglass. In 1853, 662 cwts., and in 1858, 417 cwts. One or other of the Siluroid fishes common in Guiana probably yield the Brazilian isinglass, which comes chiefly in the form of lump or pipe. The quantity now received is considerable, as the following figures of the imports into the United Kingdom will show:—

	Cwts.	Value
		£
1867	761	15,763
1868	713	14,529
1869	741	16,494
1870	661	14,154
1871	883	14,356

The fish which produce this article are caught annually in great quantities at the mouth of the Amazon. The isinglass is almost all sent to Great Britain. The average price in 1866 was 30,000 reis the arroba of 32½ lbs. The shipments were in 1865 1,755 arrobas, and in 1866 1,544 arrobas. The fish caught in the rivers are not of first-rate quality. Great quantities of piracuru (*Vastris gigas*), highly esteemed by the natives, are taken on the Upper Amazon, and sent to the Para market.

WEST INDIAN ISINGLASS.—Under this name the isinglass obtained in British and French Guiana enters into commerce. It is the produce of one or two Siluroid fishes. In British Guiana it appears to be obtained from the Gilbackre or Gillbagre (*Silurus Parkerii*), a fish very abundant in the estuaries of the

ivers of the colony. A small quantity of this fish glue, as it is termed, is now exported from there:—In 1853 95 cwts. were shipped from British Guiana, in 1858 73 cwts. It was then worth about 20l. the cwt. In 1867 59 cwts. were imported, valued at 1,157l., and in 1871 95 cwts., valued at 1,645l.

In French Guiana some attention has also been given to the preparation of isinglass. The exports were, in 1865, 8,512 lbs., and 6,176 lbs. in 1866, at the average price of about 2s. 3d. the pound. The isinglass is that of the Machorian (*Silurus felis*), and is especially employed in the clarification of beer. Reduced into small shreds by the action of a mechanical plane, it dissolves completely in cold water, and is compared with Russian isinglass as two to three. Its cheapness gives it also advantages over the latter.

NORTH AMERICAN ISINGLASS.—Cod sounds, which are brought in great quantities from Newfoundland, are nothing more than the salted air bladders of these fishes. The Iceland fishermen, as well as those of America, prepare isinglass of a very excellent quality from cod sounds, though they are not acquainted with the method of clarifying it which the Russians practise in preparing that article from the sound of the sturgeon.

Occasionally ribbon isinglass is imported from New York. It is obtained from the air bladder of the common hake (*Merluccius vulgaris*), or probably from the fish passing under the name of hake on the coasts of America (*Phycis Americanus*). The air bladder is thrown into water to macerate for a little while, and taken out and pressed between two iron rollers, by which it is elongated to the extent of half a yard and more. It is then carefully dried, packed, and sent to market.

In the manufacture of ribbon isinglass from fish sounds it is customary to feed the softened and moist or macerated sounds on and between feed and compressing rollers, by which the viscid substance is compressed and joined and formed into a continuous sheet. Notwithstanding the constant injection of cold water into the rolls, the substance adheres tenaciously to the roll, and accumulates thereupon, and has to be cut away; so that the operation is slow and laborious, and productive of imperfect sheets.

Mr. James Manning, of Rockport, Massachusetts, has invented an improvement, designed to so strip the gelatinous substance from the rolls that the work may proceed continuously, the ribbon, as it is stopped, being again fed or guided by the operator into and between the rolls, until sufficiently reduced or elongated for removal, or for the action of other rolls set nearer together, to produce a thinner ribbon. He effects this result by placing at the side of each roll a scraper extending the whole length of the roll, and having an edge set up to the roll, so that the roll will run just clear of it, which scraper or cleaner strips from the whole surface of the roll the adhering gelatine in the form of a sheet.

Knowing that the sturgeon abounded in the North American rivers, and struck by the absence of isinglass from that quarter, in 1851, Professor Owen drew the attention of the Canadian Commissioner to the fact, and now a commerce has sprung up for this valuable product, which, previous to the first London Exhibition, had been rejected among the useless entrails of the sturgeon. Now some attention has been given to the preparation of the air bladder and the outer tunic of the alimentary canal, after the modes of obtaining the best Russian isinglass. In 1853, 33 cwts. came from Canada, but in later years no distinct returns seem to have been kept.

INDIAN ISINGLASS.—The attention of the members of the Zoological Society was first directed to this subject by Dr. Cantor. In Parbury's *Oriental Herald* for January, 1839, a writer, speaking of the Suleah fish of Bengal and the isinglass it affords, says: "This fish when at its full size attains about four feet in length, and is squaliform, resembling the shark in appearance, but exhibiting a more delicate structure. The meat of the fish is exceedingly coarse, and is converted by the natives, when salted and spiced, into 'burtah,' a piquant dish well known at the breakfast-tables of Bengal. The air bladder of the Suleah may be considered the most valuable part of it: this when exposed to the sun and suffered to dry becomes purely pellucid, and so hard that it will repel the edge of a sharp knife when applied to it. These bladders, when perfectly dried, vary in weight from half a pound to three-quarters of a pound avoirdupois. This fish abounds in Channel creek off Sangor, and in the mouths of all the rivers which intersect the Sunderbunds, and are exceedingly plentiful in certain seasons."

The discovery of isinglass as a product of India was so important that Dr. Cantor determined to investigate the subject, and to ascertain what were the fishes which yielded it. These seemed to be principally one or two species of *Polynemus*, especially the *Polynemus Sele* of Hamilton's "Fishes of the Ganges," and the Gol or Gheriah (*Corvinus niger*). *P. Sele* is supposed by Royle to be a variety of *P. lineatus*, which is said to be common on all the shores to the eastward. A larger species, *P. tetradactylus*, is also believed to furnish some of the India isinglass. Several of the Siluridae also afford it in large quantities, especially the species marked *Silurus raita* by Dr. Buchanan.

Dr. McClelland gives the following as the distinctive characteristics:—

"*Polynemus*.—The two fins on the back are distinct from each other. The tail-fin is forked, and there are five long tendrils under each pectoral fin."

"*Corvinus*.—The two fins of the back united; the tail-fins not forked, and no tendrils beneath the pectoral fins."

It may be useful, perhaps, to quote here the account furnished by the same gentleman to the Supreme Government of the method to be adopted in separating isinglass from the fish-sounds, and rendering it fit for market.

"The air-vessel is from eight to twelve inches long, pointed at each end like a double night-cap, hollow, but without an opening.

"It is merely taken out of the fish when caught, and thrown aside without further trouble by the fishermen. It is at first soft and doughy to the feel, and partially distended with air, but in time it becomes collapsed and hard outside, in which state it is sold to the Chinese.

"When fresh taken from the fish, it is covered by a thin cobweb of small blood-vessels, which are easily peeled off, as none of them enter the substance of the organ. When this is neglected, it is stained and spotted with blood, and the whole becomes hard and consolidated together, or the vascular membrane itself becomes putrid in places.

"Hence the vascular membrane should always be carefully peeled off the first thing by the fishermen, when the outside will then present an appearance like white satin, of a fine oblique fibrous texture. The edge should now be slit open, and the same kind of bloody cobweb peeled from within. The inner side will then present the same white satin appearance as the outside; but, if attentively examined, will be seen to consist of transverse, instead of oblique fibres. If it be allowed to dry, the whole becomes hard, horny, and partially transparent.

"The thickness of the organ is about one-third of an inch, and the best way to see its fibrous structure is to tear it across when it is dry. In this way it splits in the direction of the transverse fibre, of which 9-10ths of its substance consists, the oblique fibre forming merely a thin coat outside. If the mechanical division of the transverse fibre be thus continued, the outer oblique coat becomes readily detached, and falls off in plates and scales from the outside. Thus by mechanical means the organ may be separated into two very distinct parts, the first or transverse fibre, consisting of perfectly pure gelatine, comprising about 9-10ths of the whole; the second or oblique fibre falls off in broad plates, consisting of albumen, thus leaving the gelatine or isinglass perfectly pure.

"When cut open, cleaned, and dried as above, the Suleah sound weighs from 12 to 16 ounces, from which 90 per cent. of pure isinglass may be separated by mechanical means. With the aid of a common vice, I can in half an hour detach in shreds the whole of the isinglass from the impure, insoluble outer rind, which falls off in scales in the process of shredding.

"The fish being caught at a distance from Bombay and Calcutta, the sounds are usually sold unopened and uncleaned, as taken from the fish, with the cobweb of blood vessels hardened and dried upon the surface, which is frequently stained with blood.

"In this state it requires to be soaked for twelve hours in water, to overcome the horny consistence, so far as to be able to cut it open. The outer rind, being insoluble, is that on which soaking makes the least impression; so that when opened we frequently find much of the pure isinglass within dissolved; and if continued soaking and washing be practised after it is opened, with a view to soften and cleanse the outer insoluble rind, the article may become greatly impoverished and deteriorated from the solution of the inner parts, which thus become dissolved and washed away incautiously during the operation. A large

proportion of the Bengal isinglass hitherto sent home was much deteriorated by this cause.

"To obviate this, it is only necessary to induce the fishermen to open the sounds at once when taken from the fish, and strip them of their cobweb, when they should merely be rinsed with a little fresh water, and dried in the sun; after which, the longer they are kept exposed to dry in free air, the better."

The late Dr. Royle, in a work entitled "Observations on the Production of Isinglass along the Coasts of India, with a Notice of its Fisheries," gave a good deal of valuable information on this subject. At the first London Exhibition, in 1851, Dr. Walker exhibited a specimen of *Polynemus plebeius*, and isinglass made therefrom, and another undescribed fish from Arracan, affording isinglass, was also shown in the Indian collection. Dr. McClelland obtained a prize medal for Indian isinglass, which in quality, after repeated trials, proved to be fully equal to the finest Beluga samples.

The following have been the recent imports of Indian isinglass into the United Kingdom from Bombay and Scinde:—

	Cwts.	Value
		£
1867	347	5,598
1868	162	2,641
1869	454	7,699
1870	586	10,672
1871	525	5,460

From the Straits Settlements:—

	Cwts.	Value
		£
1867	255	4,248
1868	754	12,570
1869	911	15,708
1870	1,023	17,637
1871	1,703	26,897

CHINESE ISINGLASS.—Isinglass or fish glue is very extensively employed in China for a great number of purposes. This substance, which is obtained in Europe by treating principally the swimming bladder of the sturgeon, is made in China in another manner. There we meet in commerce with plates of a horny appearance, whitish and of a tissue resembling animal membranes. These plates are of different forms, and bear in China the name of ju-ka. This substance, dissolved in water, forms a glue of an excellent quality, which is specially employed by cabinet makers, furniture being an industry for which Niugpo is justly renowned. This glue has properties much resembling gelatine. Like gelatine, it is very nitrogenous, furnishing by distillation ammoniacal compounds and a bulky charcoal. This, incinerated, gives a whitish ash, composed probably of phosphate of lime.

In an industrial point of view, it differs from isinglass by furnishing a glue of very considerable resistance. That of the best quality is reserved for the manufacture of furniture of the highest class, and is employed to unite pieces of wood which are required to resist great strain. Besides its industrial uses, this fish glue is highly esteemed for food purposes by the Chinese.

The three kinds of fish chiefly used for obtaining isinglass in China, are:—1. The My-yu (*Sciæna lucida*), having greyish scales; 2. Ta-houang-yu (*Otolithus maculatus*), the head, fins, &c., of which are of a bright yellow; 3. Mang-yu (*Anguilla (Muræna) pekrinensis*, Basilewski). To obtain the swimming bladder the gills are removed, and by introducing the finger into the interior the air bladder is obtained. The intestinal and membranous parts which surround this organ are separated, and with a knife it is split longitudinally; the two lips are lifted, and a whitish membrane which is found on each side is taken out. In this state it is sold for food purposes. It is boiled a certain time in water, but does not dissolve, forming only a gelatinous mass of an insipid flavour. With the third-named fish, of the eel species, the belly is opened, and the organ, which is often of great size, removed.

The glue which is made is of excellent quality, but often yellow or grey tinted, according to the inferior quality of the substance employed. It is thus prepared:—The ju-ka is

washed in water for about two hours, then taken out and placed in a water-bath for a certain time. When, by the touch, it is found to be soft, it is removed and beaten with a heavy iron hammer. This is said to be a delicate operation, which should be done at the proper time. The substance is then flattened and rolled by the hand, and horizontal incisions are made so that the air may more readily reach, and the drying be more rapid. When the glue is to be used, it is broken in pieces, put in a water bath, with a little water to dissolve it.

It is probable if the Chinese isinglass were treated with sulphurous acid a better commercial product might be obtained.

Besides its use for food purposes in China, isinglass is employed medicinally in cases of hemorrhage, in certain puerperal affections, to facilitate labour, and forms the base of many external applications; mixed with soot it is used in cases of leprosy and psoriasis.

Isinglass is most esteemed in China when it is very transparent. It is usually met with in long, channelled pieces, transparent, of a dull yellow colour. Gelatine is often substituted for it, which is in long, opaque tablets, of a deep brown, and which is made from the skins of different animals.

In many of the French colonies it is stated that large quantities of valuable isinglass are lost to commerce through carelessness and ignorance. At Souagal and at Mahé the swimming bladders are thrown away with the entrails. At Newfoundland they form part of the food of the scamen, and a few barrels are sent to France. From Cochin China a small quantity is shipped to China.

FISH MAWS are the swimming bladders or sounds of different fish, extracted and merely dried in the sun. They are extensively prepared on the Malabar coast and exported to Bombay, from whence large quantities are re-exported, principally to China and the Straits Settlements. In the official year ending 1872 9,008 cwts. of fish maws and sharks' fins, valued at 30,100*l.*, were exported from Bombay.

SHARKS' FINS (from *Rhynchobatus levis*, Mull.) are also largely exported from Bombay and Madras to China, where they are much esteemed, being used for making soup. So great is the consumption that on the average from 7,000 to 10,000 cwts. are annually imported there from Bombay. These fins are assorted into the "white" and the "black," the former being the dorsal fins, which are uniformly light-coloured on both sides, and are reputed to yield more gelatine than the other; the "black" fins are the pectoral, ventral, and anal fins. This variety is less esteemed than the white, and consequently realizes a lower price.*

Sole skins, if clean, sweet, well prepared and dried, can be used as a fining agent, and are sometimes employed in households to clarify coffee.

It may be mentioned that the stomach, the intestines, and also the skin of different kinds of fish, can be used as isinglass after being cut and submitted to the action of boiling water, and then pressed, which gives the substance the appearance of thin leaves, resembling parchment.

CAOUTCHOUC ELECTUARY.

DR. T. R. VARICK (*New York Medical Record*, Nov. 15) recommends caoutchouc as a remedial agent, in preference to cod-liver oil, in certain cases of pulmonary tuberculosis, chronic bronchitis, the winter coughs of old people, and in chronic rheumatism. Prepared in the following manner, the dose is a teaspoonful three times a day, about two hours after meals.

Solution of Caoutchouc.

R. Caoutchouc (in thin slices)	5j;
Oil of turpentine	ʒij. M.

Macerate until solution is effected, and strain through coarse muslin.

Electuary of Caoutchouc.

R. Solution of caoutchouc	ʒij
White sugar	ʒiʒss
Honey (strained)	ʒijss.

This mixture should be of opaque yellow colour, and thick enough to run very slowly off a spoon. It contains about two grains of pure caoutchouc to each teaspoonful. [What next?]—*London Medical Record*.

* Catalogue of the Indian Department, Vienna Exhibition.

Medical Gleanings.

DR. HOGG, formerly of Woolwich, now removed to India, whose lively communications to the *Medical Times* we have before this had occasion to notice, writes last over the signature of "A Bengal Tiger." He gives the following account of Hindoo medicine:—

"The Hindoos," he says, "were the first nation who, about the eighth century, gave minerals internally, besides using fumigations of cinnabar. In the list of medicaments figured arsenic for ague, preparations of antimony, copper, iron, lead, mercury, tin, zinc, as also sulphur, nitric and hydrochloric acids; they were familiar with bandaging, venesection, styptics, sutures, plastic operations, the treatment of fractures and dislocations, besides the operations for Cæsarian section, cataract, and lithotomy: about 130 curious instruments altogether in their category. Under a classification of alteratives, diuretics, cathartics, emetics, emmenagogues, salines, and stimulants collected from the vegetable and mineral kingdom, remedies adapted to the age, sex, temperament, and stage of disease were prescribed in heroic doses; the greatest attention meanwhile paid to the tongue, pulse, countenance, skin, temperature, evacuations, and dietetics; nor were the heart and lung sounds forgotten. On the authority of wise Ainslie and Royle, the Hindoos were well acquainted with variola, measles, epilepsy, and phthisis; with 11 varieties of headache, 20 diseases of the ear, 1 of the nose, 76 of the eye, 65 of the mouth. If a patient made faces taking a nauseous draught, the effect would be spoilt.

It was *most unlucky* to summon a doctor away from his dinner, and, the church, or the theatre—*most ill-omened*: an extraordinary and truthful fact which ought to be impressed on the minds of modern patients. To gain the confidence of families, the physician, clean and neat, should carry an umbrella, have a agreeable voice, a small tongue, straight eyes and nose, thin lips, short teeth, and thick bushy hair, which retains its vigour; should have a knowledge of books, and be kind to his pupils."

Again, quoting from a native work, he presents us with a description of a bilious patient. Says the writer:—

"A person with an excess of bile perspires much and has a bad smell. His skin yellow, the flesh soft; the nails, eyes, palate, tongue, lips, the palms of the hands, and soles of his feet, are copper-coloured. His fortune is bad; his hair soon becomes grey, the upper part of his head bald; he does not live long; his skin is wrinkled, as if by age. Eating much, he dislikes warm articles of food. Is soon angry, yet easily pacified. His memory is good; he is a precise man of business; speaks accurately, and has a fine appearance. Disliking salutation, angry when not saluted. Never content; his disposition resembles serpents, owls, cats, monkeys, tigers, and bears."

Surely Cockle would have had a good chance of securing divine honours in Hindostan.

.

The *Medical Times and Gazette* compiles from the obituary of the past year of Churchill's "Medical Directory" the following remarkable list of octo- and nono-genarians in the medical profession. They are given in alphabetical order: Dr. J. Ashley, 89; Mr. C. E. Bissett, 84; Dr. F. Borton, 83; Dr. T. Dickwell, 86; Dr. J. Campbell, 81; Dr. W. Cooke, 87; Mr. J. Crisp, 81; Mr. E. Daniel, 80; Mr. R. S. Eyles, 82; Mr. Griffiths, 81; Mr. J. Hardman, 85; Sir H. Holland, 86; Mr. Jordan, 87; Mr. S. Kerswill, 92; Mr. W. Mee, 81; Mr. T. Min, 93; Dr. J. Montgomery, 83; Mr. J. Moore, 87; Mr. J. North, 83; Dr. R. L. Pennell, 80; Sir Wm. Rae, 86; Mr. T. Rossfield, 80; Dr. J. G. Sparke, 85; Mr. G. Swann, 80; Dr. J. Thorne, 82; Mr. E. H. Vise, 84; Dr. J. K. Walker, 86; and Dr. S. White, 80. The same obituary, we are told, records the death of more than half a hundred septuagenarians, whose

united ages amounted to 3,997 years, giving an average of upwards of 74 years of age to each. And yet it seems that among the professions clergymen are, on the whole, the longest, and medical men the shortest lived. Dr. Casper, of Berlin, in his interesting work on the duration of human life, gives the following conclusions on the subject:—The average age of clergymen is 65; of merchants, 62; clerks and farmers, 61; military men, 59; lawyers, 58; artists, 57; and medical men, 56. The medium duration of life in Russia he states at about 21 years; in Prussia, 29; in Switzerland, 34; in France, 35; in Belgium, 36; and in England, 38.

.

To a new American medical journal, called *The Clinic*, which started with this year, is due the honour of discovering another outlet for the scrupulous morality which is such a marked feature among the medical profession. "Thou shalt not receive advertisements" was the fresh burden which its high-souled editor proposed to lay on suffering journalism. Accordingly, the first number (January 3) appeared free from those vain ornaments. But the downward road is paved with good intentions, and *The Clinic* affords only another example of this truism. The next number (January 10) contained a few, and the editor delivered himself of this plaintive wail. "It has been a cherished desire with us to abolish advertisements altogether, but, as it seems, the time is not yet. We console ourselves with the reflection that books and instruments are as much a necessity as the papers and items of a medical journal."

.

An attempt has been made, chiefly through the efforts of Lord Brabazon, son of the Earl of Meath, to inaugurate the Hospital Sunday movement in Dublin. A considerable drawback to its prospects of success, however, has occurred in the receipt of a letter from Cardinal Cullen, stating that he did not see his way to join in the movement, because he thought the two hospitals (Mater Misericordiae and St. Vincent's) in which he was interested, were likely to suffer. It would seem as if the shrewd Cardinal had made a mental calculation which resulted in the conclusion that, in a general division of contributions, the Catholic hospitals could not claim the lion's share. We uphold the right of every man to judge for himself in such a matter; but we regret, none the less, that for the first time sectarian difficulty should have injured this noble movement.

.

Historians of the recent election who wish to trace exactly the causes of Mr. Gladstone's defeat should consult the *British Medical Journal* of last Saturday. They will learn something from that. Some of them may have imagined that the licensed victuallers had had something to do with the Conservative triumph, while the Permissive Bill advocates, 25th clauseites, and tradesmen, have all been credited with more or less influence. But murder will out. In this case, like Brutus boasting over Cæsar's body, the assassin is eager to proclaim himself, and evidently jealous lest he should fail to secure his due share of the fame of the exploit. "There can be no doubt," says our contemporary, "that the weight of medical influence in the present election has been and is in favour of the Conservative candidates; and for this Mr. Gladstone is mainly indebted to the arrogance and the blundering of Mr. Stausfeld, and to the weak attempts of Mr. Cardwell to avoid rendering substantial justice to the Medical Department of the Army. We cannot affect, looking to those great social interests of which we are interpreters and advocates, to regret the result (!), or to see that a ministry which has done so little justice to these great questions is now in serious difficulties. These interests have, we believe, at present more to expect from Conservative than from Liberal enlightenment." So that "the result," that is the overthrow of the Liberal Government, is due to the fact that "the weight of medical influence in the present election has been and is in favour of the Conservative candidates."

Current Opinion.

THE CO-OPERATION BUBBLE.

OUR *quondam* foe, the *Globe*, thus sketches the rise and fall of the multitudinous co-operative societies which so lately threatened to swamp all retail trade in London: "At first the idea of applying the co-operative principle to retail trading seemed admirable. Every one welcomed a benevolent scheme, promising to supply unadulterated goods of the best description for cash, at 30 to 40 per cent. under cost price. Some liked the co-operative system because it contained an element of exclusiveness; others because by such pitiful economy great extravagances were partly indemnified; whilst a few seemed to take an inexplicable pleasure in helping to impoverish shopkeepers. Indeed, it became quite the fashion amongst members of co-operative associations to speak of ordinary tradesmen as natural enemies, for whom bankruptcy was only too mild a punishment. If they could not earn a living by selling goods at cost price, the doctrine of survival of the fittest evidently ordained their extermination by the great co-operative system. For a time there seemed some likelihood of this result. Tradesmen, naturally objecting to summary starvation, held indignation meetings, where some sense and a good deal of nonsense were talked. Having to support families and pay income tax out of trading profits, any successful rivalry with sublime concerns removed from such mean necessities was evidently out of the question.

"As time went on, the prosperity of the two original associations—they respectively started, we believe, on a chest of tea and a dead sheep—gave birth to a host of imitators, professing to trade on the co-operative system. But most of these introduced a new principle rather puzzling to the general public. They not only promised to sell goods at cost price, *plus* expense of distribution, but held out hopes of high dividends to shareholders. Whence these dividends were to come it was difficult to understand, although the promoters glibly assured inquirers that profits were sure to flow from combination of the cash and credit systems. On every hand sprouted up co-operative stores, whilst some cunning tradesmen erased their own names from the shop-front and substituted a catching co-operative title. In fact, there was such a mania for buying at cost price that the public did not wait to consider possibilities, but placed full faith in any concern styling itself co-operative. Thus the fever raged for a time, until a reaction slowly set in. People awaking from a pleasant dream began to ask certain questions hard to answer. Were goods really sold cheaper at the stores than they could be purchased elsewhere for cash, without delivery? Were promoters of the concerns actuated only by pure benevolence, and not by sordid cravings? Whence came the annual dividends to shareholders?" These questions the *Globe* answers in a manner unfavourable to the associations.

DENTISTRY.

THE *Saturday Review* thinks: "it has probably occurred to most people that dentistry is about the least enviable of professions. It is not merely the character of the work that makes it so, for all professions have unpleasant associations to which their members are inured by custom; taste is proverbially arbitrary; and it is even intelligible that a man who has the gift of delicate manipulation may feel attracted to a pursuit which affords so many opportunities for its exercise. But it is the feelings with which a dentist is regarded by his patient which, if he knew them, would render his position so peculiarly uncomfortable. A man may suffer many things of his doctor, and still regard him with gratitude and friendship. He may be ruined by lawyers without conceiving any personal antipathy towards the practitioners whom he has injudiciously employed, but may content himself with indulging in a diffused hatred of the law as a whole, and whatever has to do with it, and vent his rage in vague maledictions against lawyers in general; which can have only a very harmless incidence upon any one in particular. But let him once go to a dentist, and he is likely to come away with a definite and abiding horror of that dentist himself and not another. It is notorious that many people dread to meet their dentist in the street.

"And yet the dentist does not seem to deserve so hard a fate. Divested of the terrors with which imagination clothes him, he is seen to be our own flesh and blood. A judicious blending of mildness with firmness appears to be necessary to the ideal

character of his profession, and it is remarkable how many members of the profession realise this ideal, or make laudable approximations to it. Sometimes, indeed, a falling away from the standard may be noticed in either direction. Excessive sympathy may lead a dentist to sacrifice firmness to mildness, and this perhaps is the worst error of the two. For he ought to consider his patient's condition, how distracting pain renders it difficult for him to make up his mind, or else prompts him to determine rashly; how, too, he is probably quite ignorant of the true cause of his suffering, and equally ignorant of the proper remedy. It is, therefore, the part of a good practitioner to decide for him, and, if the worst must come and the last office be performed, to jog the elbow of his resolution. But other practitioners are either so sensible of this, or are of such an autoeratic disposition, so determined at any rate to have the game (if the expression be allowable) in their own hands, that, sacrificing mildness to firmness, with harsh voice and rough manner, they bully and intimidate their patients, as though the latter were not abject enough already, or as though the dread and fear of dentists needed any adventitious aid. The cunning middle course, however, seems to be this—knowing what treatment is best for the patient, to get him to adopt it as if of his own choice. He is then buoyed up and consoled during the operation by a flattering sense of mild heroism, whilst, if anything should go wrong, the operator is, to a great extent, absolved from blame. And to do this well, a character of mingled mildness and firmness, with some knowledge of human nature, is best adapted. And there is no profession in which the knowledge of human nature in relation to physical pain may be sooner gained, on which account dentists acquire earlier than other men a wise tolerance of human frailty.

"It is said that women bear going to the dentist's better than men; and the reason of this seems to be the same as that of their more patient endurance of many other bodily ailments. For during illness men are more fidgetty and morose than women because they are accustomed to greater activity, have a stronger passion for freedom, and feel the restraint of helplessness more oppressive. And if, when the worst has come, at the dentist's, seated in the chair of fate, with the last agony imminent, any one retains enough presence of mind to attend to his own emotions in those trying circumstances, he will confess, we believe, that the actual pain is not worth making a fuss about, but that the intolerable part of it is—O for a euphemism!—in plain English, it is the submitting to the first grip and putting oneself so utterly in another man's power. It is this 'representative' element of the torture that puts our virtue to the test; and let none pretend to make light of it. But, fortunately, it is of short duration, and is far better than the malady it cures. So that a man's loyalty to reason may almost be measured by his willingness to go to the dentist's when his time has come. No imaginary horrors deter the sane man, but he goes into the very chamber of horrors, like Rinaldo into the enchanted wood. And ever after, when passing the house, he will say to himself, 'I have been there, and still would go, on sufficient occasion.'

"Certainly, a good dentist deserves to be called the friend of man. And therefore we read with pleasure in the *Medical and Surgical Review* that during the last ten years no branch of surgery has made so much progress as dentistry has done; for during many dark ages, with respect both to science and to practice, it was in a very backward state. Not very long ago it is averred, blacksmiths were much in favour as operators in this department—a fact which seems to require explanation. It will perhaps be surmised that they were recommended for the work by their great bodily strength. But the obviousness of this account of the matter is delusive; the true theory must be sought in a more roundabout way. And if, in the first place we remark that the blacksmith anciently discharged the functions of a farrier, perhaps this will be thought not to cast much light upon the subject, but rather itself to need illumination. Remembering, however, that to the minds of our forefathers the offices of barber and surgeon seemed naturally to go together we cannot be surprised that to the same minds it should appear part of the fitness of things that the blacksmith who shod the horse should also doctor it. And, now, as Mr. Spencer would say, observe the implication. In doctoring a horse it was sometimes have been necessary to extract a tooth, and it was at once inferred that he who could extract a horse's tooth *à fortiori* could draw a man's. And that he did often draw, admiration, both the tooth and the man, may be imagined. Figure the blacksmith with his patient careering round a

ound the forge, emulating the dealings of Achilles with Hector, and then listen to those who deride what they call the merely material civilisation of the present day. Great is the transition from the blacksmith's shop to the modern dentist's ingenious armchair—we had almost written easy chair. On the other hand, it may be that the need of dentists has much increased with civilisation. It is commonly believed that savages have excellent teeth; and although we are nowadays in the habit of suspecting such beliefs, this one seems probable, if we consider how necessary good teeth are to them. To any one who is anxious to prove 'material civilisation' a mistake, the inquiry may be suggested, What effect has the invention of knives and forks had upon the teeth of those nations that have condescended to adopt the use of them? For these pernicious utensils plainly render good teeth less a necessary of life than they were before, so that people with bad teeth now survive, transmit their degenerate natural weapons to their descendants, and so on. And, therefore, to Mr. Galton and others who are anxious to ward the interests of the future by promoting marriage on scientific principles, we may suggest the propriety of including good teeth in the list of excellences required of those about to marry.

"We have said, perhaps somewhat hastily, that dentists are of our own flesh and blood; but, at any rate, this acknowledgment does not extend to those dentists who put horrible signs of their profession outside their houses in the public streets. What we refer to is too hideous to describe with decency, but every one must understand us. Such things can only be in place in a scientific museum. The only device to be compared to this one is the pirate's flag with its skull and cross-bones, but the flag is much the less revolting of the two. We should have thought such a mode of advertising would have been considered unprofessional, and we are sure it cannot be attractive."

SCIENTIFIC CLAIMS AND THE ELECTION.

Nature (of January 29), which represents what we may term the ultra-scientific view of every question, and will be happy when the Royal Society has the disposal of the British revenue, after showing the benefits which scientific investigators confer on the country, asks:—"Is the Sectarian or the Licensed Victualler to be the only man who shall require his candidate to render a reason—to state his views? Why should there not, among the numerous influential scientific societies which are spread through the country, be formed organised committees whose duty shall be to use their influence in representing their requirements to the candidates for parliamentary election, and doing all in their power to get their wants respected and complied with? Again, why should not those bodies, like the University of London, with a large number of scientific voters and a representative, do all in their power to return for their member one who has the interests of science and the higher education at heart, and who will do all he can to put these interests in the best light? That such will be done by the University of London at least, will be evident from Mr. Lowe's again returned as their member at the coming election; for his principles of action are understood; his views with regard to the Universities and the higher teaching generally are known; and his unwillingness even to consider the desirability of raising the salaries of the scientific officers of the British Museum to the level of those of ordinary Government officials is before the world. There is no doubt that he has forfeited all claim to the support either of the scientific or the medical graduates of the important corporation which he represents."

THE PROPOSED IRISH PHARMACY BILL.

The Medical Press, which probably represents a part, at least, of the medical body of Ireland, takes a very unfavourable view of the movement. Having given the report of the deputation to the Marquis of Hartington, the *Press* proceeds to criticise it from the point of view of medical practitioners. The cause of the anger is that the Apothecaries' Company should have ever gone beyond its proper functions, and undertaken not only to prepare pharmacutists, but doctors also:—

"The Company was incorporated for the express purpose of regulating pharmacy in Ireland, and examining and qualifying pharmacutists. In an evil day, and by evil counsellors, it was induced to retire from this function—it constructed a curriculum of medicine, surgery, midwifery, and anatomy, established a school, and set up to make physicians. Of the humiliating nature of the attempt our readers may judge when we say that

recent returns showed that their diploma fees, at 10s. per head, yielded just 10l. a year. The Company does not appear to have acquired wisdom by experience, for it still keeps its eyes upon the phantom doctor-apothecary, and continues to invite candidates for the nonde-cript qualification. The object of its application to Parliament is that it may maintain its legitimate licence in this position, and establish a second grade of licentiates to act as dispensers and pharmacutists. We entirely object to such a request being granted, inasmuch as the Company has at the present moment every authority which it asks, and its Directors, by striking their pen through the ridiculous curriculum which they have vainly endeavoured to force upon their licentiates, will not only be in a position to grant legal licences to pharmacutists, but will have an immediate and urgent demand for their degrees.

"It would be a monstrous and entirely unprecedented proceeding to give to the same corporation the power of making physicians to prescribe, and chemists to make up the prescriptions. Let the Company make its election. It has the choice of retaining its present disused function, and amusing itself with the idea that it is a doctor-making corporation, or it may enter at once on the active function of regulating pharmacy and licensing pharmacutists, but no corporation ought to be trusted with the double duty, and we trust the Government will lend no aid to such a request."

The British Medical Journal thinks that neither of the Irish Colleges will consent without a struggle to allow the Apothecaries' Company more extensive power than they already possess; and we think that the Irish Apothecaries' Company should show that they have already fulfilled the intention of their founder, by providing proper pharmacutists for Ireland, instead of abdicating their normal functions, and entering into an abortive competition with the Irish Colleges of Physicians and Surgeons, before any further powers are conferred upon them by the State. We believe the question will shortly be brought under the notice of the College of Physicians. Sir D. Corrigan, whose name seems to have been rather unwarrantably made use of at the Apothecaries' deputation, writes to the Dublin morning journals, denying that he had approved of the measures proposed by the deputation. We are glad to find that the Chief Secretary's remarks pointed to his opinion that the question should be taken up by Sir Dominic, if by any one. This shows an admirable disposition in the Irish Government to refer such matters to skilled opinion before acting thereon.

The Lancet and the *Medical Times* both report the movement, but make no comment on it.

IODIDE OF IRON WITH IODIDE OF POTASSIUM.

AT the recent evening meeting of the Pharmaceutical Society, Mr. W. Murton Holmes, of 338 Oxford Street, read a short paper in which he described an interesting dispensing difficulty and experiments consequent thereon. The following prescription had to be dispensed:—

R.	Potass. Iodid.	..	..	..	..	..	9j.
	Ferri Iodid.	..	..	..	..	..	ʒss.
	Syrup. Tolut.	..	..	..	..	..	ʒij.
	Aq. Destill. ad	..	..	..	..	..	ʒiv.
	M. ft mist.						

To prepare this the dispenser in the first place dissolved the iodide of iron and filtered the solution, adding next the iodide of potassium, and finally the syrup. In a few minutes a flocculent precipitate occurred, resulting from the separation of some hydrated oxide of iron, consequent on the slight alkalinity of the iodide of potassium. Mr. Holmes found afterwards that by mixing the iodide of potassium *last*, the mixture retained its clearness for several hours, which remarkably proved the preservative influence of sugar, but the only means he found of producing a permanently satisfactory product was to neutralise the iodide of potassium with citric acid before adding it to the solution of iodide of iron. Some discussion followed this paper, in which the President (Mr. Hills), Mr. Williams, Mr. Rimington, Professors Atfield and Redwood, Mr. Martindale, and Mr. Bland took part.

Professor Atfield maintained that a dispenser was perfectly justified in using the citric acid, as pointed out by Mr. Holmes.

He said the B. P. definition of Pol. iodid. was K. I., but if it had feeble alkaline properties it evidently contained something more than K. and I. Therefore, he thought the most conscientious dispenser might permit himself to add something in order to rectify the property which should not exist.

Professor Rodwood, however, regarded the admixture of an ingredient which had not been ordered more seriously. The Pharmacopœia recognised that iodide of potassium might contain a little excess of alkali, and when, therefore, iodide of potassium was ordered, it might be safely assumed that this "recognised" product was intended.

Mr. Martineale referred to the somewhat analogous case of spirit of nitre, which he thought a dispenser would surely be justified in neutralising when it was found too acid.

Mr. Bland believed that the occasion of the almost invariable alkalinity of iodide of potassium was that in an absolutely pure state it would not keep long, and, farther, that as such it could not be produced in such fine crystals.

This statement Mr. Williams confirmed from his manufacturing experience. If the solution were perfectly pure, you got, as a rule, bad and ill-formed crystals, which the public would not have. It seemed to be the rule that the more impure the solution the better the crystals. Probably the presence of impurities prevented the particles coming together so rapidly, and so made them arrange themselves more regularly when they did come together. It often happened that if some residual liquor were put aside as worthless, perhaps for some months, it would be found on examination to have deposited magnificent crystals. Pure bromide of potassium seemed always to crystallize badly.

Mr. Rimington mentioned that some years ago Messrs. Southall, of Birmingham, used to make pure iodide of potassium almost transparent, and with beautiful crystals, the largest he had ever seen. It always seemed moist also. There might be great difficulty in the process, and he believed the manufacture had been almost given up; they charged 3s. or 4s. a pound extra for it.

CACAO CREAM.

THE following formula is given by Mr. T. S. Gleun, of St. Louis, in the *American Journal of Pharmacy*:—

R Oleum theobroma, ʒxvi.
 " ricini, ʒxxvi.
 " bergamii, ʒvi.
 " limonis, ʒss.
 " citronelle, ʒiss.
 " lavandule, ʒiv.
 Spts. coloniensis, 95 per cent., lxiij.

Melt the oil of theobroma, warm the castor oil, and mix. Dissolve the essential oils in the Cologne spirit. Fill the bottles two-thirds full with the first mixture, and fill balance of bottle with the perfumed spirit.

This forms an elegant mixture for dressing the hair, and is quite popular with many. In very cold weather it becomes quite hard, but a little heat soon renders it fluid.

BENZOINATED OINTMENT OF OXIDE OF ZINC.

By OLIVER JESTER.

THIS ointment is one of the most popular productions of the apothecary, and regarded as a valuable remedy by the medical profession generally; yet there appears to be some little controversy as to its merits, which probably arises from certain irritating properties it is said to possess. Now this objection may be ascribed to impurities, or an improperly prepared ointment, either of which might aggravate instead of allay. Various modes for its preparation having been published, I also submit a process which gives satisfaction, although not strictly pharmaceutical:

Take of

Adeps	30 troy ounces.
Oxide of Zinc	5 troy ounces.
Tinct. Benzoin (1 oz. to pint)	5 fluid drachms.

Thoroughly incorporate the tincture with the lard in a porcelain vessel and set aside. On a piece of brown paper with a rough

surface, reduce the oxide with a spatula, until it passes through a No. 60 sieve and set aside. Heat the lard to the boiling point and strain. Add the oxide and stir until cold.

Although the process of heating to the boiling point is followed by a deposit of the resin, the alcohol is also dissipated, and while it still retains sufficient fragrance of the former to prevent rancidity, the necessity of the absence of the latter is obvious.

The effect following its application is all that can be desired. And I have to hear the first fault, after dispensing it three years in various affections.—*American Journal of Pharmacy*.

SYPHILIS AND MERCURY.

HERE are a few remedies which through a couple of centuries I have by turns been in disgrace and in great favour. Among these mercury holds the foremost rank, and so late as the 8th inst., at the Hunterian Society, Mr. Jonathan Hutchinson thought that additional testimony was needed to strengthen the faith of those who believe in the efficacy of this drug in lues venerea. The meeting was numerously attended, several of the London syphilographers being present, and much interest was evinced in Mr. Hutchinson's Paper, in which he, by facts and arguments, strove to prove that full reliance should be placed on mercury in the different stages of syphilis. The non-mercurialists did not muster very strong, only one representative of the sceptics being present, who, though he tried to make good a few points, did not succeed in carrying the audience with him. Mr. Hutchinson's supporters were more numerous, and plainly stated their confidence in the use of mercury. If this meeting may be taken as a tolerable criterion of the state of the question in London, the mercurial treatment of syphilis is decidedly in favour. But in controversies of this kind the *audi alteram partem* should be ever borne in mind; and it remains to be seen whether an anti-mercurialist champion will shortly bring the subject before a medical society, and throw the weight of certain facts and arguments, which have long been before the profession, into the scale. The latest book published on the cure of syphilis without the aid of mercury is by M. Desprès, of Paris. This author considers syphilis as a pyæmic affection, and treats it on hygienic and antiseptic principles. M. Desprès was for a series of years surgeon to the female Lock Hospital of Paris, and therefore deserves to be heard.—*Lancet*.

CAMPHORATED PHENOL.

THE *London Medical Record* abstracts from an Italian medical journal the following respecting an apparently new compound, observed by Bufalini.

In making experiments with carbolic acid for the purpose of preserving animal substances from putrefaction, Bufalini met with a peculiar phenomenon when it was in contact with camphor. When about equal parts of carbolic acid and camphor are dissolved in alcohol, in about twelve or thirteen hours there arises to the surface of the solution a yellowish stratum of oil appearance; it does not mix with the liquid or with water, neither is the camphor contained in the alcohol precipitated by water. All this indicates that a chemical combination has taken place forming a substance which Bufalini calls camphorated phenol.

In preparing this compound, Bufalini prefers the two following methods. In the first, one part of carbolic acid and two of camphor broken into small pieces are mixed in a vessel allowed to stand for some hours, when a reddish yellow oil liquid will be formed; this is camphorated phenol, which purified by washing with cold water. The second method consists in dissolving three parts of carbolic acid in ten of alcohol and five of camphor in twelve of alcohol, mixing the solution in a wide-mouthed vessel, and allowing the mixture to stand for day or two: the camphorated phenol rises to the top, and may be removed by simple decantation.

Prepared in either of these ways, camphorated phenol is a liquid of oily appearance, reddish yellow or wine-red in colour.

having a smell of camphor, insoluble in water, but soluble in alcohol and ether.

Regarding its therapeutic uses, the author gives the following as his conclusions:—

1. Camphorated phenol produces the same effects as carbolic acid, but is less dangerous. It may be used both externally and internally—*e.g.* in enteric fever and other infectious disorders.

2. It has the power of modifying unhealthy wounds, and of destroying the parasites which are present in certain diseases, as septicæmia, typhoid forms of fever, &c.

3. The medical use of camphorated phenol is to be preferred to that of carbolic acid, as the former does not present the disadvantages of the latter.

4. Camphorated phenol, when applied to wounds, does not irritate them, or act as a caustic, or disorganising substance on them; and may be used in large doses, without producing symptoms of poisoning.



[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4 South Street, Finsbury, London; 10 Rue de la Fidélité, Paris; and 33 Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

2894. D. Macay, Doctor of Medicine, of 1 Inglis Street, Inverness. A new or improved manufacture of omphalic blisters. Dated September 3, 1873.
3169. W. Whitthread, of Liverpool, analytical chemist. A new disinfectant and oxydising agent. Dated September 30, 1873.
3572. J. Coxeter, of 23 and 24 Grafton Street East, Tottenham Court Road, surgical instrument maker. Improvements in the instrument used in the preservation or restoration of broken or decayed teeth. Dated November 3, 1873.
4013. H. Kenyon, manufacturing chemist, and J. Swindells, analytical chemist, both of Warrington, Lancaster. Improvements in the manufacture of nitrogen and its application to the production of ammonia, prussiates of potash and soda, and carbonate or caustic potash or soda, and in the manufacture and application of oxygen to the production of sulphuric acid and chlorine. Dated December 5, 1873.
4103. A. E. Damoiseau, of Paris. Improvements in the manufacture of sesquichloride of carbon and other chemical products. Dated December 13, 1873.
4114. J. Edwards, of New Garden Street, Hull, York, professor of music. An improved stopper and bottle for containing aerated liquids, such improved stopper being also applicable to ordinary bottles. Dated December 13, 1873.
4151. A. V. Newton, of London. Improved pneumatic apparatus for treating certain diseases of the lungs and heart. Dated December 17, 1873.
4153. W. H. O'Shea, of Beanford Gardens. Improvements in the extraction of sulphur from sulphur ores, and in the purification of sulphur. Dated December 17, 1873.
4164. A. R. Arratt, of Saint Helen's, Lancaster, chemist. Improvements in the manufacture of hydrochloric acid. Dated December 18, 1873.
4199. A. S. Stocker, of Horsleydown, Surrey. Improvements appertaining to bottles and other vessels, and in stoppers and articles to be employed therewith, and in their construction. Dated December 22, 1873.
4225. J. Castledaz, of Crumpall Vale Chemical Works, near Manchester, manufacturing chemist. Improvements in the preparation of products of aniline, and matters from which aniline is or may be derived, suitable to be used in dyeing and printing, and in the preparation of colouring matters. Dated December 24, 1873.
4231. J. B. Mitchell, of 14 Thistle Grove, South Kensington, Doctor of Medicine. An improved anodyne compound. Dated December 24, 1873.
4252. F. & W. W. Horner & G. Sibley, of Manchester, aerated water manufacturers. Improvements in bottles, and in the mode of stoppering or closing the same. Dated December 7, 1873.

4268. H. Codd, of Grove Lane, Camberwell, and F. Foster, of 23 Forston Street, Shephard's Walk. Improvements in constructing and stopping bottles. Dated December 29, 1873.
4290. B. Hunt, of London. A new or improved manufacture of nutritive hygiene compounds or preparations. Dated December 31, 1873.
49. S. H. Johnson, of Lea Bank Works, Stratford, Essex, manufacturing chemist. Improvements in the method of, and apparatus for, separating free sulphur from substances with which it is mixed. Dated January 2, 1874.
38. G. Chapman, of Glasgow, manufacturing chemist. Improvements in making sesqui-carb mate of ammonia. Dated January 3, 1874.
72. W. E. Newton, of London. An improved process for preparing hydrate of magnesia. Dated January 6, 1874.
79. G. Brnmwell, of the Junior Army and Navy Club, Pall Mall, Captain in the Bombay Staff Corps. Improvements in the production of agents for giving or restoring colour to or improving the appearance of the human hair. Dated January 7, 1874.
92. C. E. Blake, of San Francisco, California, U.S., dentist. Improvements in dentistry, the same consisting in a means of disguising the bright colour of gold filling for teeth, whereby the said filling is also rendered more durable; and also of an improved metallic foil for dental purposes. Dated January 7, 1874.
98. J. A. Miller, of Providence, Rhode Island, U. S. Improvements in rendering, purifying and bleaching tallow, lard, and other fatty matter. Dated January 8, 1874.
108. W. J. Vernon, of Belle Vue Mineral Water Works, Crewe, Chester. Improved means for effecting the closing or stoppering of aerated liquid bottles having internal stoppers. Dated January 8, 1874.

Letters Patent have been issued for the following:—

2318. J. Haithwaite, of 15 Brookfield Place, Belfast, Antrim, Ireland. Improvements in means or apparatus for extracting chlorine from chloride of lime. Dated July 4, 1873.
2343. F. R. Houghton, of 2 Onslow Villas, Richmond, surgeon aurist. An improved instrument or appliance for treating and curing deafness and noises in the head. Dated July 7, 1873.
2450. E. C. Hamilton, of Colchester, & W. R. Preston, of Harold Court, Romford, both of Essex. Improvements in the manufacture of artificial manure, and in apparatus employed therein. Dated July 16, 1873.
2454. F. Jacobsen, of 1 India Buildings, Victoria Street, Edinburgh, merchant. The clarification and purification of sewage, and the discharges of polluted waters from paper mills, printing works, dye works, and factories by means of precipitation. Dated July 16, 1873.
2455. F. Jacobsen, of 1 India Buildings, Victoria Street, Edinburgh, merchant. The clarification and purification of the polluted discharges from paper mills, printing works, dye works, and factories by means of precipitation. Dated July 16, 1873.
2483. S. H. F. Cox, of Cornwall House, Penzance, Cornwall, civil engineer. Improved apparatus for separating from each other matters of different densities or specific gravities. Dated July 19, 1873.
2691. E. G. Banner, of 11 Billiter Square. Improvements in disinfecting apparatus. Dated August 13, 1873.
2825. J. Durant, of Bristol, dealer in druggists' sundries. Improved means of administering medicines to horses, dogs, and other animals. Dated August 27, 1873.
3189. H. Sprengel, of Gloucester Street, Belgrave Road. Improvements in the production of sulphuric acid. Dated October 1, 1873.
3298. J. Paterson, engineer, 22 South Back of Canongate, Edinburgh, and J. Ritchie, of Roseburn Works, Murrayfield, near Edinburgh. Improvements in apparatus for fixing capsules on bottles. Dated October 11, 1873.
3847. J. A. Peer, E. Lundquist, and J. Rutherford, all of San Francisco, California, U.S. Improvements in concentrators, the same being applicable for separating substances of different specific gravities. Dated November 25, 1873.

Specifications published during the month:—

Postage 1*d.* each extra.

1873.

1036. H. A. Bonneville. Machinery for corking bottles. 10*d.*
1430. J. W. Gray. Reservoir for petroleum, &c. 10*d.*
1469. F. W. Colls. Treating rosin oil. 6*d.*
1500. L. Thiereclin. Recovering iodine from phosphate of lime. 1*s.*
1556. C. Russel. Manufacture of nitrate of soda. 8*d.*
1567. E. W. A. Bartlett. Electric socks. 6*d.*
1630. H. J. Haddan. Treating saltpetre. 1*s.* 2*d.*
1666. E. Gerant. Bottles and stoppers. 6*d.*
1702. W. R. Lake. Moulds for oleakes. 8*d.*
1852. J. Inray. Respiratory apparatus. 4*d.*
1934. R. Werdermann. Producing oxides, &c., of alkaline metals. 4*d.*
1969. J. L. Pulvermacher. Plates for forming medico electric batteries, &c. 4*d.*
1975. S. & T. Kay. Medicinal compounds. 4*d.*
2025. A. Simpson. Cattle food. 4*d.*
2102. D. G. Fitzgerald and another. Producing chromic acid, &c. 6*d.*
2103. D. G. Fitzgerald and another. Voltaic batteries. 4*d.*



COLONIAL BUILDINGS, CANNON ST., LONDON, E.C.

Subscription, 10s. per annum, including, at the end of each year, a handsome and valuable diary as a thirteenth number, all post free.

Single Copies, 1s. each.

Single Copies of the Diary, 3s. each.

Advertisements, Remittances, Subscriptions, Orders for Copies, and all communications must be addressed to "THE PUBLISHER OF THE CHEMIST AND DRUGGIST."

Cheques and Post-office Orders to be made payable to *Edward Halse* and crossed *Martin & Co.*

No one is authorised to collect money without production of the Proprietors' lithographed form of receipt.

Receipts not forwarded for subscriptions, nor for any sums under 10s.; unless the remittance be accompanied by a stamped envelope.

SCALE OF CHARGES FOR ADVERTISEMENTS.

One Page, 5l.; Half Page, 2l. 15s.; Quarter Page, 1l. 12s. Special Rates for Wrapper and the pages preceding and following literary matter. The above Scale of Charges will be subject to a discount of 10 per cent. upon six, and 20 per cent. upon Thirteen insertions. Seven lines and under, 4s. 6d.; every additional Line, 6d.

Advertisements of Assistants Wanting Situations (not exceeding 12 words) inserted at a nominal charge of 1s. each.

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

Subscribers are requested to observe that the receipt of THE CHEMIST AND DRUGGIST in a *Green Wrapper* indicates that with that number the term of subscription has expired, and that no further numbers will be sent until the same has been renewed. We issue the notice very respectfully, not that we distrust our Subscribers, but simply because we find it impossible to keep an immense subscription list like that we now have, extending to almost every town in the world, in order, without an exact system like this.

FOREIGN AGENTS.

ADELAIDE	Messrs. Faulding and Co.
AUCKLAND	" Kempthorne, Prosser, and Co.
BOSTON, U.S.	" Office of "Boston Journal of Chemistry."
CALCUTTA	" Bathgate and Co.
CHICAGO	" W. A. Weed and Co.
DUNEDIN	" Kempthorne, Prosser, and Co.
MELBOURNE	" Feltou, Grimwade, and Co.
MONTREAL	" Evans, Mercer, and Co.
NEW ORLEANS.....	" E. J. Hart and Co.
NEW YORK	Mr. P. M. Sherwood, 117 John Street.
PHILADELPHIA....	" W. M. Dickson, 619 Walnut Street.
SAN FRANCISCO ..	Messrs. Bancroft and Co.

Terms for Advertisements over the Leaders may be obtained on application to the Publisher

We beg to inform our foreign subscribers that the partially unstitched condition in which they receive this journal is in accordance with a regulation of the English Post-office. In common with our contemporaries, to all of whom the same law applies, we are totally ignorant of the purpose of this vexatious rule. We have in vain protested privately against a regulation which compels us to appear before our readers somewhat untidily; and now we feel it due to ourselves to make this public explanation.

DOMESTIC FILTRATION.

"WITH regard to the Silicated Carbon Filters, I have made many experiments upon them, and have been astonished at the energy and rapidity of their action. I passed through a small Filter of this make some of the worst description of water supplied by the London Water Companies, and found it, after filtration, to have become as pure as the very best London water. My experiments show that the Filter exercises a decomposing action—a chemical action—on the Organic impurities in Drinking Water. I have no doubt that water, which is dangerous from the Organic Matter contained in it, becomes safe on passing through the Silicated Carbon Filter. A point of some importance, shown by my experiments, is that a Second Filtration still further improves the quality of Drinking Water. After being in use for a considerable period, Filters lose their power and require renovation. I have found that the passage of a little Hot Water through the Silicated Carbon Filter, and afterwards blowing a little air through it, restores its power."

J. ALFRED WANKLYN, M.R.C.S., London,
Formerly Professor of Chemistry in the London Institution;
Joint Author of a Book on Water Analysis, and of the
Ammonia Process.

POROUS BATTERY CELLS

OF SUPERIOR QUALITY.

PATENT PLUMBAGO CRUCIBLE COMPANY,

Sole Makers of Morgan's Patent Crucibles,

BATTERSEA WORKS, LONDON, S.W.

RENDALL'S THEOBROMINE,

OR

CONCENTRATED COCOA.

THE Purity and Excellence of this Cocoa is obtaining for it an increasing demand.

Sold by most respectable Chemists in 1s., 2s., 3s. 9d., and 7s. 6d. tins.

To be obtained through the Wholesale Houses, or direct from the Proprietor,

J. M. RENDALL,

28 Queen Street, Exeter.

VICHY WATER COMPANY,

27 MARGARET STREET, REGENT STREET,
LONDON.

General Depot for all Mineral Waters.

NOTICE OF REMOVAL.

MESSRS. VAN DUZER & RICHARDS beg to inform their Correspondents that they have REMOVED from 266 High Holborn to their entirely New and spacious Premises, Nos. 114 and 116 SOUTHAMPTON ROW, RUSSELL SQUARE.

Messrs. V. D. & R. will be pleased to forward a Price List of their Proprietary Articles upon receipt of business card and address. Their List includes Mrs. S. A. Allen's Worlds' Hair Restorer, Hagan's Magnolia Balm Zyllo-Balsamum for the Hair, Powell's Rheumatic Embrocation, &c. &c.

TOO MUCH MONEY.

THERE is a very curious disease going about just now, and affecting several of our acquaintances. We regret to add, however, that it is not contagious, nor can we point out any direct method of inoculation for it. The trouble we refer to is what the French so well call an *embarras de richesse*. though as a nation, at any rate, they manage very successfully to escape its ravages. Her Majesty's present (or perhaps when these lines appear, it will be her late) Ministry has had the complaint violently. An enthusiastic Conservative of Chatham, with perhaps more accuracy than grammar, plaearded the walls of that town during the recent election with the announcement, "We don't want no more retrenchment." This seems to be the verdict of the country. At all events, no more of Mr. Gladstone's retrenchment is required for the time, and so it appears that the five millions of surplus on which he and his colleagues so prided themselves have helped to upset the Liberal cart. The Civil Service Supply Association, too, is very literally dangerously ill, and may die of this plethora of wealth, as will be seen from a report we publish elsewhere. And lastly, another patient is to be added to the list, whose case we wish more especially to consider in these remarks. The disorder has become quite chronic with the Pharmaceutical Society, and though all are

ingreed that profuse bleeding ought to be adopted, tho' doctors have not yet decided on the safest and most efficient means.

In the first place we wish to allude to the Benevolent Fund, and we do so, assuredly, with no spirit of opposition, and chiefly to take the opportunity of adding once again our tribute of honour and respect to such a noble institution. It may indeed be so described, and the Society has a right to be proud of its foundation, of its prosperity, and more than all, of the wise and generous manner in which it has always been administered. It was one of the prime objects contemplated when the Pharmaceutical Society was first formed, and men have never been wanting who have taken a warm interest in its success and in its operations. When the Pharmacy Act was passed in 1868, the fund which until then had necessarily been exclusively confined in its scope to members of the Society was generously made available to the whole trade. The Council in this followed the often-quoted dictum of the late Mr. James, of Birmingham, uttered we believe when the Hospital Sunday movement was first set on foot, that there was no sect in misery, and there should be none in charity. The annual subscriptions to this fund, which were not quite 50% in 1860, now reach nearly 1,000%. The accumulated investments amount to 14,000%, and in the report for 1872, which is the latest we have at hand, the managers are able to say that no genuine case of necessity (coming within the rules) had been left unaided. Besides temporary relief, which in 1872 amounted to 148%, the fund pays now 30% a year to 14 annuitants. This is certainly a good work, but those who know most intimately the demands which occur feel that even yet they are not rich enough. A committee of the council has lately been considering means of making the fund still more efficient, and they have come practically to the resolution, though it has not been formulated, of electing more annuitants, five if need be, at the next election. They have resolved, wisely we think, to trust to annual subscriptions to pay these annuities, for the interest on the invested amount is not sufficient for the present pensioners. There can be no doubt that this course will stimulate charity. There can be no greater mistake than to hoard up funds for benevolent purposes, and "too much money" is the surest way of killing a true charity. People who would otherwise subscribe dislike to help to swell an overgrown balance, and with reason; for it is well known how almost universally funds accumulated originally in aid of some benevolent object have in the course of some generations, when they become worth appropriating, been diverted to altogether different objects. In this way, and the case is very analogous, we find the London trade companies spending the interest of money which was originally a benevolent fund on costly and useless banquets, from which really hungry and deserving "poor brethren" are rigidly excluded. We are sorry that the committee has not considered, or at least has not recommended, the abolition of voting for candidates for annuities. Surely this might be done. The present system involves considerable expense to the fund, and is a cruel tax on the candidates. If a small committee of gentlemen, to be elected each year, would accept the honourable responsibility of acting as almoners, the charity would be administered with more economy, and certainly with no less discrimination than at present, and we cannot think that any appreciable section of the subscribers would object to this sacrifice of their voting privileges.

We shall touch very briefly on our last case of "too much money." It is indicated by Mr. Schacht's latest proposal to utilise the surplus income of the society in the promotion of pharmaceutical education. The suggestion is to establish ten more annual scholarships exactly similar to the Jacob Bell Memorial Scholarships, and the theory is that ten high-class pharmacists will thus be manufactured annually, and at the same time an immense stimulus will be given to pharmaceutical

education generally throughout the country by inducing a great number of other young men besides the winners of the prizes to prepare themselves for the competition. Now Mr. Schacht is such an authority on educational matters, and his views are generally so carefully conceived and so practical, that we generally assume their reasonableness without question, and in any case we hesitate to criticise his theories. But certainly if it had been any other than he who had propounded this scheme we should have been inclined to think it hopelessly bad. And even now, though it seems to have been looked upon with almost unanimous favour in the Council, we cannot believe it will be satisfactory to the pharmacists of the country generally. Mr. Schacht appears to deprecate criticism of this plan simply as a scheme for provincial education. But then it is provincial education simply that ought to be aided with this surplus money. That has been agreed upon long ago. No doubt local associations have ceased to be clamorous. The rapture of repose has unquestionably rested upon them of late, but it is the repose of despair, not of satisfaction. The inherent weakness of the proposal is suggested, if not proved, by the extent to which both its author and secondor drew upon their imagination for arguments in its favour. Mr. Schacht estimates that if ten gain the scholarships, five hundred may be expected to compete; while Mr. Stoddart, with a disregard for precision which is truly sublime, puts probable competitors at from 1,200 to 2,000. May we ask what has been the average number of competitors for the Bell scholarships? Something less than a dozen, we believe. And if they had been many more we should be hardly willing to admit that by multiplying the prizes six-fold, the number of competitors would necessarily increase in a like ratio. This plan, it seems, would cost 625*l.* a year, and would probably satisfy nobody, not even the successful candidates. What would be satisfactory would be for the Council to give really substantial assistance to such provincial associations as wish to provide pharmaceutical education, and do not know exactly how to set about it. And as we have said before in this journal, we believe no plan could be so efficient and so perfectly guaranteed as to train and endow a few pharmaceutical lecturers who could be "lent out" for shorter or longer periods.

EPSOM SALTS.—The human race, says the *London Medical Record*, will shortly be purged at a much cheaper rate than heretofore. We learn from *L'Union Medicale* that an enormous deposit of Epsom salts has been discovered at Alacandre (Spain), in a district traversed by the Tudela railway.

PEPSIN IN OYSTERS.—It appears from some experiments made by Mr. E. H. Haskins (*Boston Medical and Surgical Journal*) that raw oysters contain pepsin enough to digest themselves. No wonder oysters agree with most dyspeptics.—*London Medical Record.*

TO DETECT AN ADMIXTURE OF BRAZIL WITH RUSSIAN ISINGLASS.—Russian isinglass dissolved in hot water forms a clear solution; Brazil isinglass, an opaquesolution. A mixture will be more or less milky, according to the proportion of the admixture.

A RACE OF DWARFS.—The Geographical Society of Italy has received from Alexandria, with the news of the death of the explorer Miani, and various ethnological objects, two living individuals whom he had forwarded of the tribes of the Akka or Tikku-Tikki, and whom the learned traveller had bought of the King Munza. These individuals—of whom one is eighteen years old, and forty inches in height, and the other sixteen and thirty-one inches high—are stated by Miani to belong to the race of dwarfs described by Herodotus, and recently rediscovered by the German explorer Schweinfurth, who described them carefully. They are pot-bellied, very thin-limbed, and knock-kneed, spherical and prognathous crania, very long limbs, copper skins, and crisp, tow-like hair.—*London Medical Record.*

CARLYLE ON MODERN WORK.

THE closing words of the remarkable letter lately made public, addressed by Thomas Carlyle to Sir Joseph Whitworth, ought assuredly to arrest the attention and command the examination of the working and commercial classes of this country. The writer who has proclaimed *Tools and the Man* to be the epic of this century, the philosopher, or we should rather say the prophet, whose burning words have contributed so largely to elevate true labour to its rightful dignity, well deserves to be heard with respect when he addresses to the working world even his bitterest reproaches. "A sadder object," he tells us, "than either that of the coal strike or any considerable strike is the fact that, loosely speaking, all England has decided that the profitablest way is to do its work ill, slimly, swiftly, and mendaciously. What a contrast between now and, say, only 100 years ago! At that latter date, or still more conspicuously for ages before that, all England awoke to its work with an invocation to the Eternal Maker to bless them in their day's labour and help them to do it well. Now, all England, shopkeepers, workmen, all manner of competing labourers, awoken as if with an unspoken but heartfelt prayer to Beelzebub, 'O, help us, thou great lord of shoddy, adulteration, and malfesance, to do our work with a maximum of slimness, swiftness, profit, and mendacity; for the devil's sake. Amen.'"

Truly, we are not much accustomed to this sort of attack, and at first reading it half takes away our breath. We are more accustomed, and perhaps we prefer it, to read of the wonders which the nineteenth century has produced, and day by day some one or other of our enlighteners gives us a congratulatory summary of our progress; a Darwinite shows us how we are rapidly developing into archangels, and with a Nebuchadnezzar-like patriotism we rub our hands as we survey the empire on which the sun never sets, or the greatest metropolis in the world, and exclaim, "Is not this great Babylon which we have built?" But in the midst of all this complacency, Carlyle comes upon us with the disturbing burden we have just quoted. And extravagant in their ferocity though his words may be, there is yet an element of truth in them, without which they would never ring and linger in the mind as Carlyle's words have a custom of doing. Smile at it as we may for the moment, it is nevertheless a frightful truth that amusement and not work seems with some classes, to be becoming continually more and more the pursuit and end of their daily life. At the best, work is submitted to as the necessary means to attain that end. Ease, comfort, luxury, *pleasure*, these are what men seek, and if they work, it is that they may secure these. Then it follows too that work is to be as light as possible. Bank holidays are multiplied; shop hours are curtailed; manual and skilled labour, which was once man's glory, is everywhere neglected, and city clerks swarm and starve. And then it is also, that losing sight of the true idea of work, regarding it as an enemy to be fought, instead of a friend to be courted, men come to see that "the profitablest way is to do work ill, slimly, swiftly, and mendaciously." We will not venture to affirm, as our present text undoubtedly implies, that this is the almost universal character of modern work, nor if it be so will we at once admit that in this respect the former days were better than these. But this one thing we must maintain: that if it be true that humanity once had, and has now lost, its love for honest work and occupation *per se*, and follows these simply for the purpose of winning wealth and consequently ease and idleness, that same humanity has to that extent sadly, terribly deteriorated. Such a motive must needs produce the style of workmanship we are accused of, and is worthy only of the prayer attributed to us. It is a serious matter, not for England only, but for our entire race. If every

century finds our standard of honesty and morality shrinking, as Carlyle seems to think, then the sooner final decomposition closes the miserable career the better.

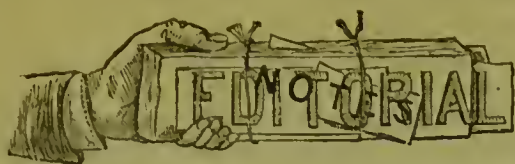
But we firmly believe these scathing sentences, scathing because of the tincture of truth they enclose, are yet not fully nor nearly justified. We have entered into the labours of all past ages; and it is only their solid work which has continued. Every generation has piled up its mound of rubbish, which has silently crumbled and rotted away. Shoddy, adulteration, and malfesance are by no means the special prerogatives of our age. Rénan, in his history of the early days of our era, tells us that in the East riches always have been regarded, and are to this day, as an almost certain index of moral degradation. A rich man is almost certain to have been, or to have descended from, a conqueror, a thief, an embezzler, or a villain. This method of winning wealth, then, has been the established custom in Syria for a couple of thousand years at least, and we may well judge that the platform of malfesance has not been in former times any more than now bounded by the Mediterranean Sea. In modern times, adds Rénan, especially among the English, honesty and wealth are almost associated ideas. This *liaison d'idées* is too liberal, no doubt, and the writer gives it ironically, but it is not without foundation, and though there are ugly excrescences on the grand old tree of British commerce, they are not deep enough to injure its vitality—they are but excrescences; its roots, its branches, its sap are healthy and sound.

In the same journals, Carlyle's letter met the announcement of Livingstone's death. We are not reduced to the necessity of seeking an isolated example to champion the honest workers of our age. The Anglo-Saxon race is alive with such; but we may well challenge 100 years ago, and the ages before that, to match our lost hero. All England, shopkeepers, workmen, and all manner of competing labourers, may thank Carlyle for the beacon he has set up, but we are convinced that they may regard their generation more cheerfully than he does. They cannot too thoroughly root up the shoddy, adulteration, and malfesance which indeed flourish abundantly. But when we see around us, as we do, thousands of our fellow-countrymen devoting their lives to unremunerative labour, thousands more maintaining intact on every shore the integrity of British commerce, and tens of thousands of labourers and artisans of every class honestly earning their bread from day to day, we can work on, looking hopefully both backwards and forwards, and say, as one of the most prominent of the ministerialist champions wrote recently, that though the night cometh upon all, we will not draw the curtain while it is still day.

TEST FOR GENUINE MUSHROOM KETCHUP.—Boil a little, and with genuine ketchup a large quantity of ammonia is evolved. Spurious ketchup does not give off any ammonia.

DETECTING TOBACCO SMOKE.—A German physiologist has discovered that tobacco-smoking by the boys "interferes with the molecular changes coincident with the development of tissues, and makes the blood corpuscles oval and irregular at the edge." Any parent may thus ascertain if his boy smokes by merely taking out a few of his blood corpuscles and observing their edges.—*Tennessee Pharmaceutical Gazette*.

We notice that Mr. John F. Henry, the largest dealer in patent medicines in America, lately appeared before the Committee of Ways and Means, at Washington, to protest against the annoyance of being required to stamp every bottle of medicine. He stated, as an example, that he had just imported 100 gross of Harlem oil at \$2 50 per gross. He paid a duty of 50 per cent. *ad valorem* on it, and then had to break open every box and stamp each bottle, using \$1 44 in stamps to each gross, and this was only one instance of a multitude.



THE BRITISH PHARMACEUTICAL CONFERENCE.

At a recent meeting of the executive committee of the above association, the time of assembly for 1874 was fixed for Thursday and Friday, August 5th and 6th. It was deemed impracticable to hold the Conference concurrently, or rather immediately after the regular pharmaceutical May-meetings, as was desired by some of the members. The time would be too short to make ready either for the scientific or the commercial requirements of the occasion, for, besides the reading of papers, an exhibition of products and sundries interesting to the members, is to be organised. Besides that, there is a danger that the special Society business which occupies the pharmaceutical mind in the May week might permeate into the Conference, to the detriment of its own peculiar features, and it is to be hoped that for the sake of its influence, and even of its existence, this body will scrupulously avoid any action which might tend to make it an appendage of the Pharmaceutical Society. In another column we give a review of the "Year-Book" recently issued by the Conference. We believe it is not generally known that the credit of this year's production is due to Mr. J. H. Baldock, F.C.S., of Norwood, who accepted the task when Mr. Wood somewhat suddenly removed to his Himalayan appointment. The editor elected for 1874 is Mr. Louis Siebold, of Manchester, a gentleman whose capacity for hard work and enthusiastic devotion to scientific pharmacy we readily acknowledge and recognise as rendering him eminently suitable for the position he has accepted. But in regard to this appointment it is necessary to say that *somebody* at any rate is to blame, in that Mr. Siebold was elected last September a member of the executive committee of the Conference, and must have been then, or have become soon after, a candidate for the editorship of the "Year-Book," an office of which the executive committee had the disposal.

EAR TRUMPETS AND TRUMPETEERS.

WHEN Mr. Spurgeon has been dead for a few centuries, and either officially or popularly canonised, some future enthusiastic historian will probably be found to argue that the 19th century saint was endowed with miraculous healing as well as preaching powers. At any rate, if he should rummage up last week's copy of the *Christian World*, he will find an advertisement therein which will support such a view. A Mr. E. J. Silverton, Baptist Minister, of Nottingham, who proudly proclaims himself to be "C. H. Spurgeon's second student," offers to a sick and sorrowful world a "wonderful ear-trumpet," a "medical energiser," and a "cough-curer." This affectionate disciple's boast naturally leads us to conclude, first that Mr. Spurgeon teaches therapeutics and physiology in his college, as well as elocution and theology; and secondly, that his power of imparting gifts of healing is being gradually exhausted, or why would the second student have an advantage over the fiftieth. We are glad to be able to help Mr. Silverton in the work to which he seems to feel himself "called." But we hope the wonderful ear trumpet, which he assures us enables people who have been deaf for twenty years to hear sermons preached, assists them also to hear something better than his discourses, or we should imagine deaf people are not to be greatly congratulated on this new discovery.

SPIRITUAL THERAPEUTICS.

IN an American organ of the Spiritualists, called the *Religio-Philosophical Journal*, a Mrs. Robinson, of Chicago, calmly advertises that she "has just been furnished with a sure and harmless specific for curing the appetite for opium and all other narcotics, by the Board of Chemists in spirit-life, who have heretofore given her the necessary antidote for curing the appetite for tobacco, and the proper ingredients for restoring hair to all bald heads, no matter of how long standing." Five dollars will buy her prescription, a percentage of which we hope will be handed to the aforesaid Board. To this announcement the Editor, who is elsewhere styled Brother Jones (Brown probably keeps the books) adds a patronising paragraph. He says, "We have so much confidence in the ability of the Board of Chemists and Doctors who control Mrs. Robinson's mediumship, that we unhesitatingly guarantee a faithful execution of the above proposition."

THE NEMESIS OF CIVIL SERVICE TRADING.

THE Civil Service Supply Association is following the example of Jeshurun in respect both of waxing fat and kicking. A very violent meeting was held on the 22nd ult. at the Cannon Street Hotel, when the two parties in the Association came out in very marked contrast. A proposal was put forward by a special committee, the object of which was to enable the Association to set apart its profits for division among the shareholders under certain rules. The proposed plan was to pay the proportion of profits to a shareholder's widow or other heirs at his decease, thus making the property a sort of insurance investment. To its honour, be it said, the committee of management has most strenuously opposed this advice, and at the meeting resisted the proposition with all possible force. The chairman (Mr. Rait) considered the proposed scheme of the special committee most selfish, and he would not be a party to it. If it was adopted a large number of Civil servants would feel it an act of duty to retire from the Association, as they could not at the same time be civil servants and persons trading for profit. Mr. Houghton thought it would be a more manly course at once to dissolve the Association and form a limited liability company. By adopting the recommendations of the special committee they would violate the principles of co-operation and descend to the level of a common trading company. Another member of the committee of management artfully alluded to the Court of Chancery as the probable arbitrator in the event of the scheme being carried out, as it would be a complete reversal of the principles of the Association as a co-operative society. But when the vote was taken the friends of Mammon seemed to be in large majority. A ballot was demanded, which was fixed for February 11, 12, and 13. We confess that we cannot place ourselves on the pedestal of the observer who cannot read in these dissensions the ultimate prospects of co-operative trading as opposed to private enterprise.

CAUTION.—FALSE SOVEREIGNS.

THE *Times* says that false sovereigns, chiefly composed of platinum, are in circulation, and are not to be distinguished from the genuine coin except by the process of ringing, when the difference in sound can immediately be detected. A specimen—taken by Mr. Harrison, of Wardour Street, dated 1856, which was discovered to be false only by chipping off a portion—was shown at the Bank a few days ago, and admitted, alike as regards weight and appearance, to be a perfect imitation.

ADDITIONS TO THE PHARMACOPŒIA.

At the Pharmaceutical Meeting (February 4) some particulars respecting the forthcoming appendix to the Pharmacopœia were given by Professor Redwood in response to enquiries by Professor Bentley. The appendix has for some time been in type, and has been in circulation among the various members of the Medical Council, who are supposed to be engaged in investigations and enquiries as to the merits of the newly proposed additions to the Pharmacopœia. Professor Redwood hoped that the work would soon now be circulated. There had been much more delay than had been at first anticipated, but this had arisen from the fact that the members of the Medical Council wished to have the proposals in their hands, in order that they might judge for themselves, and obtain such information as they could before giving their sanction to them. Besides the substances named by us last month, Professor Bentley secured the information that *larch bark* and *areca nuts* are among the successful candidates for official honours. The former was first recommended by Dr. Groenhow, in the form of tincture, in order to check profuse perspiration and in certain bronchial affections. It seems to have been chiefly adopted in Irish pharmacy, but from what Mr. Mackay said it would also appear to have become somewhat popular in Edinburgh. With regard to the areca nut it is stated that certain members of the Medical Council have found it the best remedy for the expulsion of tape-worm known to them. Professor Bentley remarked that the Indian Pharmacopœia had treated the root somewhat slightly, but this may be only another instance of the disregard proverbially attaching to native prophets and products. In this country it has long enjoyed a reputation as a worm medicine for dogs. Dr. Redwood states that it is administered in doses of from four to six drachms in powder mixed with milk. Professor Atfield said it had been stated that areca nut depended for its efficiency as an anthelmintic on the degree of coarseness in which it was administered, that is to say, that in fact its virtues are purely mechanical. This remark was corroborated by Mr. Urwick, who had experimented with it on some pointer dogs and had found it quite worthless in fine, but effectual in coarse, powder.

PHARMACY IN BELGIUM.

THE Pharmaceutical Association of Belgium (L'Association Generale Pharmaceutique de Belgique) held its annual session on Sunday, January 31 last, at the free library of Brussels. Not less in their subjects of discussion than in their day of assembly did our neighbouring *confrères* illustrate the difference existing between their practices and ours. In all cases the papers read were of a commercial character, and indicated an amount of avarice and self-seeking which at any respectable meeting of English chemists and druggists would not be tolerated. The method adopted by this Association is to refer a subject to two or three gentlemen, or perhaps to a local society, for investigation, and this committee brings up its report at the next meeting. Messrs. Gille and Van Basklaer reported on how the Government might benefit by the chemical knowledge of pharmacists in respect to the discovery of the falsification of articles of food and drink—a euphemistic way of showing how pharmacists might get something more out of the government. Then the Pharmaceutical Society of Antwerp reported on the best means (we translate literally) of making re-enter into the domain of pharmacy the numerous substances sold by unauthorised persons (druggists, grocers, &c.) contrary to the legislation regulating the sale of medicaments. Then M. De Banque and another M. Gille examined the legality of the supply of medicaments to bodies of people by the Minister of War, as

for example, to the workmen on railways, &c. One may well wonder what the Minister of War has to do with such a service until it is explained that the distribution is made by the military pharmacists. The Society of Bruges "went for" the country doctors, the veterinary surgeons, and the dispensaries, in their habit of supplying medicines; and other gentlemen pointed out various means of squeezing from legislation, dated 1808, protective of pharmaceutical interests, the utmost drain of monopolistic advantage. The society then adjourned to a banquet that same evening, at which no doubt the members congratulated one another on the aid they had that day given to the progress of pharmacy and the benefits they were conferring on the universe.

CHEMICAL SOCIETY.

Thursday, January 15, 1874.

PROCEEDINGS of the Chemical Society, Dr. Odling, F.R.S., President, in the Chair. After the customary business of the Society had been transacted, Mr. W. C. Roberts handed in a table supplementary to his paper read at the last meeting, and containing complete analyses of all the Standard Trial Plates still extant, dating from A.D. 1477, namely, 17 gold plates and 14 silver ones. The first Paper was "On the Action of Trichloroacetyl Chloride on Amines: I. Action on Aniline," by Dr. D. Tommasi and Mr. R. Meldola. This reaction gives rise to a substance called *phenyl-triacetamide*, which crystallises on lustrous plates. It is acted on by nitric acid, with production of *dinitrophenyl-triacetamide*, crystallising in yellow needles. The next Paper, by Dr. H. E. Armstrong, was entitled "Note on the Action of Sodid Ethylate on Ethylic Oxalate and other Ethereal Salts;" and the last, "On the Products of Decomposition of Castor Oil: I. Sebacic Acid," by Mr. E. Neison, giving an account of the preparation and properties of pure sebacic acid and of many of its salts.

The meeting finally adjourned until Thursday, February 5.

Thursday, February 5.

Professor Odling, F.R.S., President, in the chair. After the ordinary business of the Society was completed, a "Preliminary Notice on the Action of Benzyl Chloride on the Camphor of the Lauraceæ (Laurus Camphoræ)," by Dr. D. Tommasi, was read by the Secretary. Dr. C. R. A. Wright had a paper on the "Isomeric Terpenes and their Derivatives. Part III.: On the Essential Oils of Wormwood and Citronelle," being a detailed account of his experiments on these substances, a preliminary notice of which was communicated to the Society some time since. The other communications were, a "Preliminary Notice on the Perbromates," by Mr. M. Pattison Muir, F.R.S.E., and "On the Coals from Cape Breton, their Cokes and Ashes, with some Comparative Analyses," by Henry How, D.C.L. the latter paper giving the amount of coke produced by slow and quick coking from the main seam coal of Sydney Mine, Nova Scotia, and the Luigan coal, also analyses of the ashes left by these coals.

The meeting was finally adjourned until Thursday, February 19, when there will be a lecture "On the Detection and Estimation of Adulteration in Food and Drinks," by Mr. J. Bell, F.C.S. Lectures are also announced for March 19, "On Dissociation," by Mr. J. Dewar, F.R.S.E., and for May 21 on "The Sewage Question from a Chemical Point of View," by Dr. W. I. Corfield, F.C.S.

Obituary.

AGENT.—December 28, 1873, Mr. George Baigent, Chemist and Druggist, of High Street, Winchester.

BARROW.—January 8, 1874, Mr. William Palmer Barrow, Chemist and Druggist, of Ipswich.

BOYE.—September 25, 1873, Mr. Henry Boye, Pharmaceutical Chemist, of High Wycombe.

BUCKLEY.—January 28, 1874, Mrs. Mary Buckley, Chemist and Druggist, of Leas, near Manchester.

GOULD.—December 20, 1873, Mr. Edward Gould, Chemist and Druggist, of Moorgate Street, London.

MASON.—January 29, 1874, at 2 Ockenden Road, Kingsland, Mr. James Mason, aged 34, for some years manager in the laboratory of Davy, Yates, & Routledge, by whom he was much respected.

TARGETT.—December 30, 1873, Mr. William Charles Targett, Chemist and Druggist, of Leicester.

WIGGLESWORTH.—January 26, 1874, Mr. Thomas Wilson Wigglesworth, Chemist and Druggist, of Sleaford.

PHOTOGRAPHIC IMPROVEMENTS.

WE give below the particulars of some of the chief scientific novelties of the photographic art, for which we are indebted to the *British Journal Photographic Almanac*.

A NEW DRY PROCESS.

A dry process, said to be as sensitive as wet collodion, has been published by M. A. Poitevin. It is a modification of collio-albumen, and the following is a sketch of it:—

A preliminary coating of albumen is first applied to the plate. Common collodion, thinned with a little ether, is then poured over it, and it is excited in an ordinary bath, and well washed. The plate is then coated with bromo-iodised albumen composed thus:—

Albumen	120 cubic centimetres.
Distilled water	25 "
Iodide of ammonium or potassium ..	1 gramme, 25.
Bromide	5 decigrammes.
Ammonium	10 cubic centimetres.
Sugar candy	3 "

is then dried and exposed to light, which may be full sunshine. It is now excited a second time in a bath containing eight per cent. of nitrate of silver and one per cent. of acetic acid; then washed with rain water, and the following preservative applied to it:

Rain water	1 litre.
Quinquina in powder	50 grammes.
White sugar	30 "

This mixture must be warmed once a day for a week at a temperature of 60° Centigrade, and occasionally shaken; then decant it, and add—

Gallic acid	1 gramme.
---------------------	-----------

As soon as the solution is complete, filter, and add—

Alcohol at 36°	50 cubic centimetres.
Phenic acid	5 drops.

dry in the dark. Expose the same as for wet collodion, and develop by the alkaline method.

AN IMPROVEMENT IN PIGMENTED GELATINE PAPER.

No person who has had a modicum of experience in working with pigmented or carbon paper requires to be told that it will not keep for any length of time after being prepared. But M. Depaquis has discovered the reason of this want of keeping,

and has prepared tissue that remained good for four months. Finding that some kinds of gelatine gave a better keeping tissue than others he was led to investigate the difference between them, and discovered that keeping properties were only obtained when the gelatine was quite free from fat. Using gelatine of this kind with bichromate of ammonia—not of potash—and aniline colours, or China ink if desired, he says that he can prepare a paper which will not only be exceedingly sensitive, but will keep for months.

REDUCING THE STRENGTH OF NEGATIVES.

A method of reducing the strength of negatives proposed by Mr. Latelle, promises to be of much value for other purposes than a mere reduction of an over-dense negative, the process being one that may be termed suggestive. He operates as follows in the case of pictures that have been under-exposed and over-developed so as to force out the shadows:—

The negative, after having undergone all the ordinary operations, is cleaned and washed, remarking the want of harmony or too much opacity. He pours upon it *quant. suff.* of a solution of 15 grains of chloride of gold in one pint of water. This is poured alternately from the negative into a glass, and from the glass on to the negative, till the picture is properly darkened. He then washes and pours on a corner of the negative sufficient nitric acid to cover it. The whole of the silver of the negative is dissolved instantly, and the picture appears to be totally gone. On washing it carefully there is left in the texture of the collodion, however, an image, exceedingly delicate, of reduced gold. This picture can be intensified with the greatest facility by means of sulphate of iron, in the first instance, the picture coming forth with the greatest transparency, the mezzo-tint more intense, and the high lights remaining transparent; or by means of pyrogallic acid in the second instance, the primitive connection between the mezzo-tint and the high lights being the same, and the advantage in this case lying in the ability to check the reinforcement on this side of the first, carried on too much. The golden, delicate picture which remains after the use of the nitric acid seems very excellent for enlargements by the solar camera, on account of its great transparency and delicacy.

PRODUCING ENLARGED NEGATIVES.

The process now to be described is one that will be recognised as an old acquaintance by some who have paid large sums for the introduction. It is given, however, in its most recently improved form, as described by Mr. Foxlee at a meeting of the South London Photographic Society. Make a transparency at once the size required for the enlargement, and from this take the negative. By whatever means we employ in doing this, there will be no more loss than in making the small transparency from the original negative. The transparency should be fully exposed and containing detail in all its parts, having no baro-glass except the *extreme* high lights, and even these may be slightly veiled. This may now be retouched to any extent before making the negative—much more easily than a negative can, as the light and shades are according to nature and not reversed. The eyes may also be made sharper, shadows can be put in, and, in fact, by retouching the shadows in the positive and the lights in the negative, it is quite possible to print enlarged proofs superior to the originals. Now, having finished the positive, it only remains to make the negative. There are many ways of doing this—either by copying in the camera, or, more conveniently, by printing by superposition on a dry plate, or on a wet one, separated by a piece of card placed at each corner. If the precaution be taken to make the exposure at the bottom of a rather deep box there will practically be no loss of sharpness. A large negative handed round for illustration

was produced by printing on that kind of carbon tissue supplied by Messrs. Spencer, Sawyer, Bird & Co., known by the name of "transparency tissue." After printing it is mounted on the glass and then developed; if only a few copies be required it need not be varnished, if care be taken that the paper is perfectly dry.

PRINTING ON CANVAS.

The following is added by Mr. Bachrach to the various methods for printing on canvas that have been published:—

Prepare the following solutions, and keep them separate, mixing them only when about to be used:—

No. 1. Citric acid pulv.	250 grains.
Alcohol	8 ounces.
No. 2. Pure gum benzoin	200 grains.
Alcohol	8 ounces.
No. 3. Chloride of strontium	200 grains.
Alcohol	8 ounces.

A little water will have to be added to the latter to dissolve the chloride. When chloride of strontium is not to be had, other chlorides, such as ammonium, for instance, may be used, but the former is best. Also keep on hand an ammonia nitrate silver solution of 60 grains to the ounce, made slightly acid with nitric acid. It must turn litmus paper red. To prepare the canvas, rub on with sponge or cotton a solution of one part liquor ammonia to twelve parts water a few moments, or *until the paint commences to rub off*; then immediately rinse and pour over a solution of 30 grains citric acid to the ounce of water, or some acetic acid, and then rinse again and dry. This operation is necessary; the first to kill the oil on the surface, the second with acid to check the action of the alkali (ammonia), and prevent its injuring the canvas, and also to form a surface layer of citrate or acetate of lead, instead of the carbonate of lead, the action of which is detrimental to photographic printing. When dry mix equal parts of Nos. 1, 2, and 3, enough to flow over the canvas, or, if a very large canvas, to apply with a brush or wad. When this is dry the canvas is ready to be silvered as soon as you are ready for it. Silver in the usual manner with a wad or brush, using the solution recommended. Print while still wet. The quality of the print will be improved if half an ounce of glycerine which has been purified by having a little silver solution added to it, and exposed in the sunlight until clear, be added to eight ounces of the silver solution. It has the effect of keeping the whites clear and preventing it from drying rapidly. To tone, brush on a solution of one ounce of hyposulphite of soda in six ounces of water, to which two grains of chloride of gold have been added. This fixes as well as tones the print. Tone until the print is light enough, then wash several hours in water. This, says the author, is the only process published for printing on canvas which can be relied upon in all cases.

PREPARING CHLORIDE OF GOLD FOR TONING.

At a meeting of the Photographic Section of the American Institute, Mr. H. J. Newton, the President, gave the following description of his method of making chloride of gold:—

I take two drachms of nitric acid and three drachms of hydrochloric acid; in that I can dissolve a five-dollar gold piece. That is pure enough; the copper is an advantage rather than a detriment. In this way you have 135 grains of gold. Reduce that so as to have eight grains of gold to the ounce, or one grain to each drachm, and you will always know when you pour it out how much you have. That will give you about 16 or 17 fluid ounces to a five-dollar gold piece. That will keep. You may put in salt if you choose; I sometimes do that. This solution will go farther than any you buy. A few hours before

you use it neutralise it with bicarbonate of soda, borax, or any of the alkalis you have a fancy for, or according to the tone you desire. Bicarbonate of soda will give you a brown tone, and borax a black. Make it up a few hours before you want to use it, so that it will turn litmus paper blue, and I do not believe you can prepare gold to make better tones. When you make this solution it is acid, but you can neutralise it with bicarbonate of soda down to the point where a drop of it will turn green, or you can make it perfectly neutral, and add a little *aqua regia*.



THE YEAR BOOK OF PHARMACY.*

THE issue of *The Year Book of Pharmacy* is now annually looked forward to by the pharmaceutical world as a matter of much interest, collating, as it does, the records of the progress made during a period of twelve months in pharmacy and in branches of science having a bearing upon them.

The arrangement of the contents of the *Year Book* for 1873 is the same as in the previous year's issue. The whole matter is divided into two chief divisions, the first of which includes abstracts of papers published in various journals during the twelve months previous to July 1873, while the second portion consists of a very full report of the transactions of the Conference held last year, in September, at Bradford. The abstracts of published papers are divided into four sections, the first of which is composed of *Materia Medica*, the second of *Pharmaceutical Chemistry*, the third of *Pharmacy*, and the fourth of *Notes and of Formulæ*. The whole is preceded by an introduction by the editor, and it is to this that we would first pay our attention. It must be said of it as a whole that it is a clear and comprehensive digest of the contents of the book. All the more important of the substances recently brought into prominence before pharmacists are considered and treated in a most impartial manner.

We particularly commend the editor's injunction, *à propos* of Mr. Pecklington's papers, to every pharmacist "to commence, if he has not done so already, the study of how to use a microscope, resting assured that in time he will find it a pleasant if not a fascinating occupation." The value of the proper use of the microscope cannot be overrated, and we are glad to see its use so well advocated here. We quite agree with the editor's remark with regard to the formulæ for elixirs contributed by our *Transatlantic confrères*. We, with him, cannot at all admire the undue multiplication of the forms of preparation of medicines, and though we are glad to see that only two new formulæ have been added to the formidable list with which we were overwhelmed and bewildered last year, we think that even these, with all due deference to their author, are no gain to pharmacy. The many annoyances arising from the fact that on one day a physician may prescribe the elixir of one manufacturer and on the next that of another, and so compel the pharmacist to keep an almost infinite variety of professedly identical preparations, must nearly drive American dispensers to the verge of desperation.

We are compelled to say that a few of the remarks included in the introduction are open to some objection, but we contend that these do not at all render the whole deserving of the condemnation it has received in a review that has recently appeared in the *Pharmaceutical Journal*. We think the observations there altogether tend to be unfair, as they laboriously point out the slightest misconstructions on the part of the editor, without

* *Year Book of Pharmacy, with the Transactions of the British Pharmaceutical Conference.* London: J. & A. Churchill, 1873.

rawing any attention to the undoubted merits of the introduction as a whole.

In support of this statement we bring forward the fact that the author of the review goes somewhat out of his way to quarrel with the editor's remark concerning Mr. Howie's test for turmeric in rhubarb, "that the colouring matter obtained by chloroform) from turmeric is imperceptibly different from that of rhubarb," but does not notice that the editor further states that "certain chemical tests are therefore given to enable the one to be distinguished from the other."

Now, on reference to Mr. Howie's paper, it will be found that the exact words used by him are as follow: "Should turmeric be present in quantity in any sample, it will at once give a brilliant yellow stain in tint undistinguishable from that of the rhubarb, but which may be readily identified by the following tests." We consider, therefore, that the editor represents in the most complete manner the author's meaning, and that the reviewer's remark is uncalled for and unjust.

Again, at the risk of being considered somewhat dense, we must say that we entirely fail to see any point in the following remark: "Mr. Allen's recent experiments have led him to conclude that exhausted tea leaves . . . had been added to genuine tea, in confirmation of which, &c. (*then Mr. Allen must have been very late in making up his mind*)." We are quite at a loss to understand how any confirmation subsequently brought forward by the editor could possibly affect Mr. Allen's previous state of mind. We are finally compelled to come to the conclusion that the reviewer's smartness, in these two instances at least, has overreached itself, and has made itself appear in a somewhat ridiculous light.

Turning to *Materia Medica*, the first section of the abstracts of published papers, we find that it occupies considerably more space than in the previous *Year Book*, and, we venture to say, possesses superior interest. The articles that attract our attention most are those by Mr. Hanbury on the botanical source of the true Pareira root, on the botanical and geographical sources of myrrh, and his historical notice of African ammoniacum in conjunction with Mr. Moss's careful experiments on the same. We are glad to see that Mr. Hanbury's important papers are printed in full, as we are of opinion that any attempt at their condensation would necessarily detract from their great value.

Professor Baillon's paper concerning the sources of the officinal rhubarbs, and M. Blanchon's distinction of what has hitherto been usually included under the general name of striated ipecacuanha into two varieties, are well worthy of especial notice.

We must not forget to state that Mr. Pocklington's admirable papers on the microscopical characters of the various articles of the *Materia Medica* are continued from last year, and deservedly form a prominent feature of this portion of the book.

In the section devoted to Pharmaceutical Chemistry, the amines and their salts and the salts of the compound ammonium bases occupy a large area. M. Rabuteau's important observation of the vastly different physiological effects of the salts of the amines from those of the ammonium bases is worthy of all attention.

The production of a tasteless compound containing iodide of iron, and of another containing ferric chloride, is a progressive step made by our American friends, who are ever to the fore in anything approaching elegance in pharmacy. The therapeutic effects of each is said to be fully equal to the ordinary iodide or chloride, with the exception that the styptic properties of the latter are wanting in the new compound.

The notes on Chloral have sensibly diminished in number and bulk this year; but the preparation of sulpho-vinate of sodium seems to have attracted increased attention.

In the Pharmacy section we are first confronted by two articles on Percolation diametrically opposed to each other, the one by Mr. J. Schweitzer, and the other by Mr. Saunders.

Pharmacists perhaps differ in opinion as to the mode of procedure and the form of percolator to be used in the operation, more than on any other subject, with the exception, possibly, of preparation of suppositories and their proper excipients. In each case they cling to their own peculiar opinions with a tenacity that almost deserves the name of obstinacy. With regard to the excipients for suppositories, we have a valuable paper by Mr. Martindale on a new excipient, and we must say that the advantages enumerated by him as arising from the use of a mixture of oleic and stearic acids seem to far outweigh any objections that may be raised.

Since Professor Marshall's first notice on the uses and mode of preparation of the oleates of mercury, and of mercury and morphia, considerable attention has been paid to them, and they this year form the subjects of several interesting papers. The superiority of these preparations over the old mercurial ointment is unquestionable, and we are glad to see that they have attracted the notice they deserve. In addition to what we have already alluded to, the modes of preparing hypodermic injections so as to form stable solutions, the contributions by Mr. Umney on extracts and syrups, the notes by various authors on the tinctures of quinine and of orange peel, and the modes of preparation and administration of the lacto-phosphates, form the most noticeable features of this section.

It is to be regretted that the Notes and Formulæ, which constitute the fourth part, do not come up to the high standard of the remainder of the book. Although the subjects embrace a very wide range indeed, we are compelled to say that there is but little of practical value to the pharmacist. In thus speaking of the whole it must not be supposed that each individual note or formula is considered worthless by us, for on going through the twenty-four pages devoted to this section we meet with a few eminently good suggestions, but unfortunately these are not sufficient to leaven the whole.

It is a much more pleasurable duty for us to state that Dr. Attfield is to be congratulated on the manner in which he has presented the report of the Conference meeting held at Bradford last year. Although some of the matter brought forward and discussed at that meeting is of rather too abstruse a nature to be appreciated by chemists and druggists generally, there is a very fair infusion of what is of everyday use to them. As an instance we need not go further than the very first communication addressed to the meeting, which was "a proposition for a sign to be used by medical men to mark unusual doses in prescriptions." We must say in conclusion that the *Year Book of Pharmacy* for 1873 is an admirable production, and that no pharmacist's library could pretend to be complete without it.

ON COMMENCING THE STUDY OF CHEMISTRY.*

This book is based upon Dr. Worthington Hooker's "First Book of Chemistry," and is "intended to convey information in respect to changes which are likely to attract the attention of young persons who observe and inquire." The communication of accurate scientific ideas to the youthful mind is an exceedingly difficult task. And considering the persistence of early impressions, it must be admitted that it is a very important part of our education. Few of us can look back on our early education with feelings of unalloyed pleasure. How satisfactory it would be could we move the shadow on the dial back, and begin anew. Supposing such a desirable consummation were possible, let us see if we should select Mr. Rigg's "Easy Introduction to Chemistry" as a suitable foundation for our chemical knowledge.

The book begins with a few chapters on the important Metalloids and some of their principal compounds. The chemistry of combustion is explained, and that of the metals and

* *An Easy Introduction to Chemistry*. Edited by the REV. ARTHUR RIGG, M.A. London: Rivingtons.

their oxides; also, the chemistry of acids and of salts. Finally, there are several chapters on different branches of organic chemistry. The language of the text is very simple, and appears to indicate some experience of the youthful mind. The most important thing, however, is the matter; and viewing it from a scientific stand-point, we find some great defects. The chapter on nitric acid, aquafortis, and laughing-gas, is very carelessly written. It is first correctly stated that oxygen and nitrogen combine with hydrogen to form nitric acid; afterwards nitric acid is referred to as a compound of *two* gases. Again, in comparing nitric acid and nitrous oxide, the former is stated to be a liquid, and the latter a gas. A line or two further on we find that—"The reason of this difference is in the proportions of the ingredients. Nitric acid has more oxygen in it than the other gas (*sic*) has." This is not a good preparation for the student who has yet to learn that nitric acid is a compound of the elements of water with nitric anhydride, which is a crystalline solid at ordinary temperatures, and not a gas. The graphic representation of the composition of the atmosphere (Fig. 11) is altogether wrong, the large cube, representing the proportion of nitrogen, being eight times the size of the smaller one intended to represent oxygen. A child of average intelligence would at once see that it would take eight of the smaller cubes to make the large one. The author has evidently confused the square of two with the cube of this number. As an example of the vitality of error, we may mention that the old mistake about water dissolving in air occurs in the chapter on solution and crystallisation, where it is stated that "as water dissolves solids, so air dissolves water," and, "water is dissolved in air, and hot air dissolves more water than cold, just as hot water dissolves more alum than cold water." In reality, the vapour of water diffuses more rapidly in a space quite free from air than it does in air; the quantity of the vapour, and its tension, varying with the temperature. So that, instead of the air acting as a solvent, it really checks the diffusion of aqueous vapour. The term chemical affinity is greatly abused in this book; it would have been better to omit it altogether. It is stated that the reason why sulphuric acid expels carbonic acid from carbonate of lime is because sulphuric acid has a greater affinity for lime than carbonic acid has. On the same principle, the reason why carbonate of lime is precipitated from a solution of sulphate of lime by a soluble carbonate is because carbonic acid has a greater affinity for lime than sulphuric acid has. Chemical affinity being only one of several forces operating in these reactions, it is obviously an error to attribute the results of the reactions to chemical affinity alone.

There is a peculiar feature in this book which requires notice. It is professedly an introduction to a branch of science which has to do with facts. Hypothesis, "the torch of induction," may be called into requisition to aid in the search after truth, but that which is employed in the search must never be confounded with the thing sought. It is a grave mistake to associate scientific facts with statements given as facts, but which, notwithstanding the importance that may be attached to them, are unfortunately based upon considerations which cannot give them the guarantee of scientific truth. In almost every chapter we find one or more pious dogmatisms which are quite out of place amongst the truths of an exact science. The Rev. Mr. Rigg tells his readers that "the Creator alone knows how diamonds are made." Investigation in this direction is, of course, useless. He shows, on page 107, what a splendid idea of the Creator's it was to make sulphur so different from phosphorus and carbon that we can burn a sulphur match without having sulphuric acid dropping from it and destroying whatever it falls upon. Is it not possible that the author may be less intimately acquainted with the mysteries of creative forethought than he professes to be? Or are we to accept the verdict of his unerring judgment when he tells us, in referring to the relative solubility of carbonate of soda and of carbonate of lime, "You see the Creator has made this exactly right?" These humanised conceptions of Divine intelligence remind us of the far-seeing Zeus of Homeric times. But things are changed since then, and science teaches us that our profound ignorance of nature is wisdom in comparison with what we can expect to know of the purposes of the great Unknown. Without disputing the truth of the statement that "the Creator fits everything exactly for the place in which it is to be, the company it is to keep, and the thing it is to do," we take the liberty of doubting whether the writing of an easy introduction to chemistry was exactly what the Rev. Mr. Rigg was intended to do.

Literary Notes.

Messrs. H. S. King & Co. will shortly publish "The New Chemistry," by Professor Josiah P. Cooke, of Harvard University, with numerous illustrations.

In their series of Text-Books of Science, Messrs. Longmans have just published a treatise on "Organic Chemistry," by Dr. Henry E. Armstrong, Professor of Chemistry at the London Institution. We shall review this work more closely in our next.

The first number of the *Tennessee Pharmacal Gazette* has reached us, with the impress of health and liveliness on its pages. The editor announces that he has neither foreign correspondents nor special artists engaged at enormous expense, nor can he offer chromos or sewing machines as inducements to subscribe. But his journal promises to be a practical and useful one, and as such it is thoroughly welcome.

"The largest circulation in the world." Messrs. John F. Henry, Curran, & Co., the great patent medicine house of New York, announce already the publication of an Almanac for 1875, of which they threaten to circulate "fifty editions of 100,000 each edition, or a total of five million almanacs." It is called "The Farmers' and Mechanics' Almanac," and it is to give reliable information on diseases, their symptoms and cure. Somebody beat that, please.

"The British Journal Photographic Almanac" (London: Greenwood, York Street, Covent Garden) is a remarkably complete annual and compendium of photographic science. It is edited by Mr. J. T. Taylor, and contains short but practical articles by nearly all the leading photographers. Readers interested in the art will find much valuable matter in this year-book, together with an exquisite specimen of photographic printing.

We can hardly praise too highly the admirable digest of English law, published by Messrs. Longmans, under the title of "The Cabinet Lawyer." The twenty-fourth edition of this valuable work has just appeared. It is an octavo volume of some 850 pages of small but clear type, into which is compressed a most intelligible summary of the civil and criminal codes which govern the administration of justice in these realms. The whole of this information is so well classified and indexed that the unskilled layman can in a moment turn to the subject he wants, and the chances are, we should say, fifty to one that he will at once get a definition of the law on the point in question, stripped of technicalities, and perhaps supported by the quotation of some decision. There is only about one page of the volume which we feel ourselves competent to criticise. That is the chapter (page 246) entitled "Pharmaceutical Chemists." In this we are sorry to observe one important error. In summarising the Pharmacy Act, after explaining that persons selling or compounding poisons or assuming the title of chemist and druggist, must be registered, the author adds, "Apprentices and assistants must also be registered." In this particular the author would seem to have confounded the bye-laws of the Pharmaceutical Society with the Pharmacy Act.

Provincial Reports.

GLASGOW.

The annual festival of the Glasgow chemists and druggists was held in the Crown Halls, on Thursday evening, January 29, Mr. John Currie, President of the Chemists' Association, in the chair.

The chairman was supported on the platform by the following gentlemen:—Drs. A. M. Robertson, R. C. Moffat, and J. S. Nairne; Messrs. Young, Gilmour, Mackay, Ainslie, and Taito (Edinburgh); Kinnimout, Davison (ex-President), Clarke (Secretary), J. L. Hatrick, Fairlie, Galbraith, &c.

After tea the chairman gave an address, in which he alluded to the work that had been done during the session that was drawing to a close. He also referred to the "Assistants' Branch," and stated that several excellent papers had been given by some of its members, these papers being given in competition for a prize offered by a gentleman connected with the drug trade.

A concert followed, at the conclusion of which Mr. Alexander Kinninmont, in an admirable short speech, moved a vote of thanks to the strangers from Edinburgh. Mr. Young (Pres. N. B. Branch Phar. Society) responded. Dr. R. C. Moffat then proposed a vote of thanks to those who had taken part in the concert, which was carried. Mr. Gilmour (Edinburgh) proposed a vote of thanks to the committee who had got up the evening's entertainment. Mr. Jos. A. Clarke, Secretary, replied. After which Mr. Taite (Edinburgh) moved a vote of thanks to the chairman, which was carried by acclamation. The chairman suitably replied. At the conclusion of a short speech from Mr. Mackay, the company parted after singing "Auld lang Syne."

An assembly afterwards took place.

GLASGOW CHEMISTS' AND DRUGGISTS' ASSOCIATION. SESSION 1873-4.

THE fifth general meeting of the Association was held in Anderson's University on Wednesday, January 21, at 9 P.M., Mr. John Currie, President, in the chair.

The Secretary having read the minutes of the previous meeting, Mr. Kinninmont said that he had an objection to make against them in so far as they made him say that "every chemist in the kingdom should do his utmost to get the 'Adulteration Act' repealed." What he said, or intended to say, was that everyone should endeavour to have the Act amended. He by no means objected to the Act: what he condemned was the manner in which it was being carried out.

Dr. Thorpe, Professor of Chemistry, Andersonian University, Glasgow, then delivered an able and extremely interesting lecture on "The Life and Works of Thomas Graham." The lecturer gave a brief sketch of the life of Graham, and then explained some of his more interesting and valuable investigations. The second part of the lecture was illustrated by numerous experiments.

On the motion of the chairman, the lecturer was accorded a hearty vote of thanks.

LIVERPOOL.

(FROM OUR SPECIAL CORRESPONDENT.)

February 10, 1874.

THE so-called political *coup d'état* of Mr. Gladstone had almost made us throw physic to the dogs whilst the struggle lasted, but now all is over we remain n.a., the rejected candidates probably q.s. We had scarcely hoped that "Hospital Sunday" would do better than last year, but the aggregate of the Sunday collections in aid of the local medical charities has nearly reached 11,000*l.*, of which nearly 9,000*l.* was raised amongst the congregations in the various places of worship, and 2,000*l.* collected by means of boxes distributed amongst the managers of large establishments, for contributions from workmen, &c., on Hospital Saturday.

Liverpool is, I hope, desirous to throw off that apathy towards anything scientific which has hitherto been too evident: the lectures given (by first-rate men) under the auspices of the Science Lecture Association are growing in public favour, the attendances becoming evidence of success.

Our Microscopical Society is well worthy of more support than it receives from our pharmaceutical brethren. A very able discourse was delivered at the opening meeting by the president, Dr. Drysdale, on "Protoplasm," with illustrations contributed by Dr. Lionel Beale, F.R.S., &c.

The abortive attempt at "harassing legislation" which a new comer wanted to introduce to our "Chemists' Association" having been put down, the papers for the new half session, if not having the appearance of a scientific nature, certainly bid fair to be more instructive than some of the sensational and debatable subjects of the previous half (perhaps all very well to draw members together, but with what result?). To show how much the pharmacists here care to make a hubbub about the Adulteration Act, I hear that at a meeting of the whole of the members on the register (*viz.* 76), summoned by the local secretary, only twelve responded to the invitation, and

no resolution was arrived at, further than an adjournment for one month.

Our public analyst reported that during the last quarter he has examined eleven samples of drugs and found one mixed with flour. I am informed that ground ginger, powdered borax, red precipitate, bismuth, citric acid, and syrup of poppies were amongst the samples analysed, and that they were obtained from various retailing chemists about the town.

Co-operative stores, in spite of good report and evil report, are on the ascendancy. Some report profits and favourable balance sheets, others remove to larger and more convenient premises, whilst the old Civil Service and Public Supply Association has been replaced by the new, which has dispensed with the services of an official liquidator, reduced its working expenses by about 2,000*l.* per annum, and is just about commencing again. Whether ticket holders are liable for losses to creditors has been a subject for paper war, and the glorious uncertainty of the law has been appealed to, resulting in a verdict for both sides.

At a recent meeting of the Toxteth Local Board, Liverpool, the clerk read a memorial to the Local Government Board complaining of the deleterious effects which result from the noxious gases emitted by the various alkali works at Runcorn. The memorial, which was received with a view to the Board co-operating with other Boards mentioned in memorialising the Local Government Board on the subject, made the following suggestions:—1. A reduction of the maximum emission of hydrochloric gas allowed at any works from five per cent. to two per cent. 2. That other gases equally hurtful to vegetation or health, such as sulphurous and sulphuric acids, be put under limitation and control. 3. That an amendment of the law be made so as to enable those who sustain damage from noxious gases to recover for the same by some simple and inexpensive mode of procedure.

LIVERPOOL CHEMISTS' ASSOCIATION.

THE seventh general meeting was held on January 15, in the large Lecture Hall of the Royal Institution, Colquitt Street, the President, Dr. Symes, in the chair. Mr. Edward Davies, F.C.S., delivered a lecture on "The New Gas," illustrated with experiments.

There was a large attendance of ladies and visitors. Messrs. Potts & Semple, of London, exhibited a large variety of pharmaceutical and chemical utensils, consisting of fine balances, horn utensils, German card-board boxes, certain new kinds of syringe, and a large steam apparatus as used in pharmaceutical laboratories in Germany, &c.

The eighth general meeting was held on January 29. The President, Dr. Symes, in the chair. Dr. Cook read a paper on "Animal Charcoal." The paper was of a technical character, with special reference to the application of animal charcoal in sugar refining. Messrs. Alfred Payne, Martin Murphy, Edward Davies, A. H. Mason, the President, and hon. sec. took part in the discussion which followed, and after an unanimous vote of thanks to Dr. Cook the meeting adjourned.

IRELAND.

THE PROPOSED PHARMACEUTICAL LEGISLATION.

AN important step has been taken towards the promotion of the desired legislation which should give the Apothecaries' Hall of Ireland powers to examine and certify a qualified body of pharmacists, without at the same time granting the medical qualification which the Apothecaries' Hall diploma also includes. On January 15 a joint deputation from the Apothecaries Hall and the Chemists' and Druggists' Society of Ireland waited on the Chief Secretary for Ireland, the Right. Hon. the Marquis of Hartington, at the Castle, for the purpose of urging upon him the propriety of bringing in a pharmaceutical bill similar to that already passed in England. The deputation consisted of the following gentlemen:—

Dr. O'Neill, Governor of the Apothecaries' Hall; Dr. Ryan, T.C., Deputy-Governor; Dr. Leet, Secretary; and Drs. Collins, Montgomery, and Charles P. Moore, Directors; Mr. F. M. Hodgson, President of the Chemists' and Druggists' Association; Mr. J. M. Goodman, Treasurer; Mr. Wm. Hayes, Secretary; and Mr. W. Ledger Erson, J.P.

Dr. LEET, on behalf of the Apothecaries' Company, explained the object of the deputation, which was to endeavour to enlist the co-operation of the Government in having a legislative enactment regulating the profession of pharmacy in Ireland similar to that adopted in England passed for this country. It was of the most urgent necessity, for while it gave the apothecaries and druggists no pecuniary advantage, it would be a great benefit to the public at large. He mentioned the fact that what they now wanted was merely the second part of the bill introduced by Mr. Baron Dowse when Attorney-General, the first part of which, known as the Poisons Act, had already passed into law. He believed that had time permitted, and had Mr. Baron Dowse not been meanwhile promoted to the Bench, the measure would have passed in its entirety, as it seriously concerned the safety of the public. There were, to his knowledge, from 28 to 30 of the most important market towns in Ireland, with populations varying from 10,000 to 50,000, wherein there was no apothecary or competent person qualified to compound medicine, consequently causing great inconvenience. The General Medical Council, seeing the peculiar circumstances of the case, had adopted a resolution expressing their approval of such an Act as was now sought, which was intended to enable the Apothecaries' Company to grant certificates to persons who properly qualified themselves by a prescribed examination to compound medicine. The diploma of the Hall at present not only gave the recipient authority to compound medicine, but also to practise as a physician—in fact, it was equal to a degree of surgery. In Tyrone, Armagh, and other large and populous districts in the North of Ireland, there were very few licensed apothecaries. It was strange that though they annually sent out the usual number of qualified apothecaries, there was a great dearth throughout the country of persons qualified to compound medicines; but that was accounted for by reason of the introduction of the Medical Charities Act, under which dispensary doctors were appointed, and that apothecaries having such high qualifications sought other and more remunerative spheres of practice. It was to meet this want that they proposed this bill, so as to give the public a guarantee that the persons who received a modified qualification from the Apothecaries' Hall were competent to make up prescriptions. They wished for power to grant a pharmacy licence without compelling candidates to undergo the present apprenticeship, which carried the double qualification. To be able to compound medicines required a certain scientific knowledge and education, considerable intelligence, and much training, and that would be looked after by the Apothecaries' Hall before granting any certificates. Any opposition that had been previously offered to the bill had been withdrawn, and the Druggists' Association now gave the proposed measure, as altered in one clause so as to meet their views, their fullest concurrence.

Mr. HODGSON, on the part of the Chemists' and Druggists' Society, stated to his lordship that that body deeply felt the necessity for the proposed bill, which was simply a modification of the qualifications at present required by the Apothecaries' Company. On the part of his association he felt himself at liberty to state that the chemists and druggists of Ireland would offer no opposition to the measure promoted by the Apothecaries' Hall.

Dr. LEET (in answer to the Chief Secretary) explained the powers conferred by the Act of Parliament in 1792, and stated that the additional power now sought was to grant pharmaceutical licences alone.

The Marquis of HARTINGTON called the attention of Dr. Leet to his suggestion, contained in a letter, to the effect that the bill should be introduced by a private member. No better man could undertake such a measure than Sir Dominic Corrigan.

Dr. LEET said Sir Dominic Corrigan had been consulted, and he had expressed himself satisfied.

The Marquis of HARTINGTON inquired if any overtures had been made to Sir Dominic Corrigan as to the introduction of the bill.

Dr. LEET thought the bill should be taken up by the Government.

The Marquis of HARTINGTON replied that perhaps it ought, but the Chief Secretary had a great many matters at present to occupy him, and hitherto he had not given his attention to the medical question. He had listened with great attention to what had been stated. He admitted that there appeared to be a very strong case in favour of legislation on this subject. It would be necessary for him to make some inquiries, and to

got assistance, which he would ask from the medical department of the Privy Council in London.

Dr. COLLINS remarked that, from the support given to the measure by Mr. Warren, when Attorney-General, he believed the Government were pledged to take up the question.

The Marquis of HARTINGTON said he did not think that the present Government were bound by Mr. Warren's action (a laugh). If he saw his way to the passing of such a bill, and that there was no very serious opposition, he should be very glad to introduce such a measure, but he would immediately place himself in communication with the medical department of the Privy Council, and having got all the information required from them, he would, if necessary, communicate with the Apothecaries' Company, through Dr. Leet, and the chemists and druggists, through Mr. Hodgson.

The deputation then thanked his lordship, and withdrew.

On Friday evening, January 23, a meeting of the Association of Irish Licentiate Apothecaries was held in Belfast, the object being to pass resolutions condemnatory of the proposal of the Apothecaries' Company to issue a new pharmaceutical license. The meeting was largely attended, and the chair taken by Dr. Hodges, the Professor of Medical Jurisprudence in Queen's College, Belfast. About 120 letters opposing the action of the Society were read. Resolutions in favour of the object of the meeting were passed, and copies ordered to be forwarded to the various licensing bodies, including the Apothecaries' Company of Ireland. A deputation was appointed to wait on the Company, with a view of enforcing the opinions of the licentiates. It was stated at the meeting that the Irish apothecaries did not claim to be more than pharmacutists.



PRIVILEGE OF PEERAGE.

At the Westminster County Court, on January 15, before Mr. F. B. Bayley, judge, an application was made in the case of "Savory & Moore v. the Earl of Winchilsea and Nottingham." Mr. Venn, solicitor, appeared for the plaintiffs; the defendant was not represented. In July last, plaintiffs (who are the well-known chemists, of New Bond Street,) obtained a judgment against defendant in this court for goods supplied, and as this judgment remained wholly unsatisfied, the present summons had been issued under the 5th section of the Debtors' Act, 1869, calling upon defendant to show cause why he should not be committed to prison for a term not exceeding six weeks for default in payment. His Honour intimated to Mr. Venn that it would be useless to call evidence or proceed with the hearing of the summons, as the defendant, being a peer, enjoyed immunity from arrest. Mr. Venn said that owing to recent legislation this point was now open to discussion, but that if defendant relied upon his privilege, he was bound either to appear to the summons and claim his privilege, or to sue out his writ of privilege. By the 5th section of the Debtors' Act, 1869, the Court was empowered to commit to prison, for a term not exceeding six weeks, "any person" who made default in payment of any debt due from him in pursuance of any order or judgment. The words "any person," as quoted, were positive, comprehensive, and without any exception expressed, and therefore the "onus" rested upon defendant to prove conclusively that he did not come within the operation of the enactment. In support of this particular view he cited the judgment of Lord Westbury in the case of the "Duke of Newcastle, appellant, v. Morris, respondent," 40 *Law Journal Reports*, where the argument as to the liability of a peer to be adjudicated bankrupt rested upon the interpretation of the 69th section of the Bankruptcy Act, 1861, which enacted that "all

obtors, whether traders or not," should be subject to the provisions of that Act, and where upon giving judgment, Lord Vestbury said that the onus rested upon the appellant to prove that he was not included within the comprehensive words, "all debtors, whether traders or not," and in that case the decision was adverse to the privilege of the peer, and the adjudication in bankruptcy was confirmed. His Honour remarked that, notwithstanding the liability of a peer to be adjudicated bankrupt, he was still privileged from arrest or attachment for non-payment of money. Mr. Venn admitted that at common law, and under certain decisions of an early date in the Term Reports, his privilege had been recognised, but contended that now the privilege must depend upon the interpretation of the two statutes at present in force—viz., the Bankruptcy Act, 1869, and the Debtors' Act, 1869, which for this purpose must be construed together. It was clear that under the 120th section of the Bankruptcy Act, 1869, a peer could be adjudicated bankrupt, and dealt with generally under that Act as if he had no privilege whatever; and inasmuch as in the interpretation clause of the Debtors' Act, 1869, it was expressly set forth that the Debtors' Act should come into operation on the same date as the Bankruptcy Act, and that words and expressions defined or explained in the Bankruptcy Act should have exactly the same meaning in the Debtors' Act, he contended that a "person" coming within the provisions of the Bankruptcy Act must fall within the words "any person" in the Commitment Clause of the Debtors' Act. His Honour here remarked that there was some doubt as to the due service of the summons, but, upon inquiry of the registrar, it appeared that defendant had called with the commitment summons at the court, and said that he hoped they would imprison him, and his Honour suggested that, as defendant had plenty of leisure, he might not object to imprisonment. Mr. Venn said he hoped that his honour would not disappoint the defendant on this head, as it was clear that he had received the summons and was determined not to pay his debts; but in any case defendant should be required to set up and prove his alleged privilege. His Honour replied that, notwithstanding defendant's omission, the privilege still existed, and, in his judgment, it would be of no avail to have defendant committed, as he might subsequently claim his release, and perhaps take legal proceedings for his arrest. Mr. Venn remarked that plaintiffs would accept the risk if the Court would commit defendant, or even compel him to come there and rely on his privilege. He was quite able to pay plaintiffs' claim, but would not do so. The application for committal was refused.

ADULTERATED ARROWROOT.

THE following cases under the Adulteration Act are reported from Tunstall, Staffordshire, and are of importance:—

Hugh Mountford, grocer, Smallthorne, was charged by Mr. Knight with selling a quarter of a pound of adulterated arrowroot. The certificate of the county analyst went to show the adulteration to be to the extent of 90 per cent. of starch, but as such adulteration was not injurious to health. Mr. Ackrill, who defended, urged that the defendant had not the slightest knowledge of the arrowroot being adulterated; he had sold it as bought from a respectable person. A fine of 2s. 6d., and costs of 17s. 6d., was imposed.

Benjamin Wedge, grocer, Smallthorne, was charged by Mr. Knight, the inspector under the Act, with selling on December 6 a quarter of a pound of arrowroot which was found to be adulterated. Mr. Knight produced the certificate of Mr. Scott, the county analyst, which stated that he found the sample to be very largely adulterated, with from 90 to 100 per cent. of starch, other than that of the Maranta or true arrowroot. The analyst adds that the sample of spurious arrowroot was, in his opinion, not so adulterated as to be actually injurious to health. The defendant's reply to the charge was that he had not the slightest knowledge that the article was adulterated. He had purchased it from a most respectable person at Burslem, but he sold a little of it that when he was asked for it he scarcely knew where it was. The magistrates felt that they had no alternative but to convict, which they did in the nominal penalty of 2s. 6d., and 17s. 6d. costs.

Geo. Bradbury, grocer, Smallthorne, was charged with a similar offence—selling adulterated arrowroot. The certificate of analysis showed the adulteration by starch to be in this case to the extent of 100 per cent. The defendant strongly denied the slightest knowledge of any adulteration, stating that he had purchased it from a most respectable establishment, the labels

on the packets describing it as "Plumbo's Genuine Arrowroot." The defendant also produced a list of testimonials from Dr. Lothby and other eminent scientific and professional men as to the purity of the article sold in the above-named establishment. It was here suggested from the Bench that there was no proof before the Court that the article referred to was identical in quality with that analyzed by the county official. Mr. Wood said that the magistrates did not consider the defendant had any complicity in the adulteration, and suggested that he might have grounds for an action in the County Court against some party. As in the other cases, the magistrates felt they had no alternative but to convict in a nominal penalty. A fine of 2s. 6d., and 17s. 6d. costs, was imposed.

CHARGE OF MANSLAUGHTER.

GEORGE MORRIS BONE, a quack doctor, was brought before the Hitchin Bench of Magistrates on the 3rd inst., charged with manslaughter. It appeared that in the early part of December last he sent a box of pills to a young man named Arthur Cooper, who was suffering from cold and cough. After taking the pills for about a fortnight Cooper suddenly died. A *post mortem* examination was made by Mr. R. Shillitoe, local surgeon, and an analysis made by Dr. Harley, Harley Street, London. In the result arsenic was found in the body, also in the pills that had not been taken. The coroner's jury returned a verdict of "Manslaughter." The magistrates, after hearing evidence, committed the accused for trial at the Assizes, taking bail. After the accident the prisoner had left the neighbourhood and was lost sight of for a time, but was apprehended on January 22, at Newbury, in Berks, just as he was about to commence an oration in the market place. He passed there under the title of Professor Morris.

FRAUD BY A COMMERCIAL TRAVELLER.

At the Leeds Police Court on January 31, Archibald J. Graham (21), commercial traveller, was charged before Mr. Bruce with obtaining 17s. 9d. from Thos. Turner, provision dealer, 15 Robson Street, Newtown, with intent to defraud. Up to the 16th of December the prisoner had been in the employ of Mr. J. J. Holroyd, wholesale druggist, Meanwood Road, as commercial traveller, but was discharged from his service on that day. On the 31st of the same month he went to the shop of Mr. Turner and asked for payment of the account the latter owed Mr. Holroyd for drugs. Mr. Turner at first demurred to paying the account, as it was not then due; but on the prisoner pressing for it and stating that Mr. Holroyd, his employer, was wanting money to meet some bills, Mr. Turner paid him 17s. 9d., the amount of the account, less overcharges, which the prisoner deducted. It afterwards transpired that the prisoner had no authority from Mr. Holroyd to apply for or to receive the money, no account of which had been given to Mr. Holroyd. It was stated that there were other similar charges against the prisoner, who was remanded.

Trade Memoranda.

Mr. Preece, of Cheltenham, has purchased the business of Dr. Symes, Birkenhead.

Mr. Johnston, chemist, has opened a business in Shield Street, Shieldfield, Newcastle-on-Tyne.

Mr. Richardson, chemist, has purchased the business of Mr. Reed, surgeon and chemist, Elswick Lane, Newcastle-on-Tyne.

Mr. Sanderson, chemist, of Stockton-on-Tees, has removed from there to the village of Norton, on the road to Hartlepool.

A new and well illustrated catalogue of brushes of all kinds has just been published by Mr. W. H. Child, of Worship Street, Finsbury.

Messrs. G. B. Kent & Co., of Great Marlborough Street, have bought a new factory at Victoria Park, where they manufacture tooth-brushes exclusively.

Mr. Myers, chemist, Northumberland Street, Newcastle-on-Tyne, has retired from the drug trade. He has been in business in Newcastle nearly a quarter of a century.

Mrs. Beaumont, who as wife and widow has been in business as a chemist and druggist at Scarborough for a period of nearly fifty years, has retired. Mr. Hackett has purchased her business.

Mr. F. M. Rimmington, F.C.S., pharmaceutical chemist, has been appointed Public Analyst for the Borough of Bradford, at a salary of 100*l.* per annum.

Messrs. Johnson & Sons, manufacturing and export chemists, at present of Basinghall Street, are about to remove to Cross Street, Finsbury.

Mr. Councillor Clark, of Lincoln, chemist, and proprietor of the celebrated blood mixture, during Christmas week gave away a thousand bags of coal to the poor widows and spinsters of the city.

During the late ravages of scarlet fever in the North of England, Mr. Stainthorpe, chemist, of Gatoshead, had the misfortune to lose five children (out of a family of six) within the space of four weeks.

Messrs. Van Duzer & Richards, the proprietors of Mrs. Allon's Hair Restorer, and other preparations, have removed their London depôt from 266 High Holborn to 114 and 116 Southampton Row.

The General Apothecaries' Company, of Berners Street, is about to open a branch shop in Oxford Street, opposite Harwood Place, which will be placed under the management of Mr. Curtis, lately with Messrs. Corbyn & Co., Bond Street.

The postmaster of Pateley Bridge, Joshua Longfield, chemist and druggist, has disappeared, and has not been heard of since Friday last. Monetary difficulties (says the *Leeds Mercury*) appear to be the cause of his absconding. No trace can be discovered of his whereabouts.

Notwithstanding the fact that Scarborough has been for some time said to have been overdone with chemists' shops, yet another aspirant for public favour has appeared in that town in the person of Mr. Webster, chemist, who has opened a very nice shop in Eastborough.

Mr. Alfred Hume, chemist, of Grey Street, Newcastle-on-Tyne, has retired from the trade, and has assumed the management of the gigantic trade of Hume & Son, corn and flour millers. The house has its centre in Newcastle, and branches in every town in Northumberland and Durham. Mr. Wilson, chemist, has bought the business.

Messrs. Mays & Sons, of South Shields, have at last opened their very magnificent shop in the Market Place. It may be remembered that early last year Messrs. Mays built a new shop, which was quite an ornament to the dingy, smoky, and badly built square. It had not been opened more than a week or two when it was mysteriously set on fire and totally destroyed. We wish them better luck this time.

In the course of the recent general election the National Chamber of Trade issued placards and handbills thus worded:—"Traders of England. Assert your influence, and return only such men as will pledge themselves to support the interests of trade. Ask your candidates whether they will vote for—1. The prohibition of 'Civil Service trading?' and, 2. The amendment of the Adulteration of Food Act?"

SIXPENNY SAUCES are among the movements of the present day. Among these we may recommend to the notice of our readers, besides the Yorkshire Relish of Messrs. Goodall, Backhouse & Co., Leeds, which they know so well, the Lorne Sauce made by Mr. Sleggs, of Queen's Road, Everton, and Mollor's Worcestershire Sauce, introduced by Messrs. Mellor & Co., of Malvern.

Dr. Symes, of Birkenhead, in conjunction with Mr. Joseph Hallawell, has purchased the extensive dispensing business of Mr. F. D. Delf, Hardman Street, Liverpool, and the business will henceforth be carried on under the style of Symes & Company. They have also assimilated the export business of Hallawell & Co., College Lane, Liverpool, where the firm will be styled Hallawell & Symes.

CORRUGATED RINGS AND PADS FOR INFANTS' GUMS.—Mr. Hickisson, the proprietor of "the daughter of the late John Bond's Marking Ink," has introduced a very useful addition to the sundry stock in the shape of these corrugated rings and pads for children cutting tooth. Everyone will recognise that the sort of *smooth roughness* which is thus provided in place of the dead level of the old india-rubber ring is just what will please the babies, and will also be better calculated to assist the passage of the teeth.



BANKRUPT.

BUXTON, JOSEPH HOLMES, 9 Compton Terrace, Islington, surgeon. Jan. 5.

ARRANGEMENTS OR COMPOSITIONS.

Notices of first general meetings of creditors have been issued in relation to the following estates. The dates are those of the petition:—

- ASHWORTH, JAMES, 7 Blackburn Road, Accrington, chemist. Jan. 8.
 BEECH, JAMES B., Wharton, otherwise Winsford, Cheshire chemist. Jan. 5.
 BETTS, JOHN, Sheraton Magna, Wilts, surgeon. Jan. 26.
 BRITAIN, THOMAS JOHN, 50B New Street, Birmingham, photographic material dealer. Jan. 28.
 BROWN, JOHN, Wyke, Birstal, Yorks, chemical manufacturer. Jan. 19.
 DYER, JAMES, Combe Mill, Somerset, and Bristol, chemical manufacturer (separate estate). Jan. 10.
 HALL, HENRY JOHN, Combe Mill, Somerset, and Bristol, chemical manufacturer (separate estate). Jan. 10.
 LEWIS, DAVID WILLIAM, Aberdovey, chemist. Jan. 7.
 LIDWELL, JOSHUA EDWARD, 130 High Street, Notting Hill, chemist. Jan. 4.
 LOCKWOOD, WILLIAM, Ribbleson Lane, Preston, druggist. Jan. 10.
 LYON, FRANK, trading as B. & F. LYON, 41 Knight Ryder Street, perfumer and fancy soap maker. Jan. 14.
 MANFIELD, HENRY ARTHUR, 29 Poland Street, Oxford Street, pickle and sauce manufacturer. Jan. 7.
 MAUGHAM, THOMAS, 47 Clapham road, mineral water manufacturer. Jan. 14.
 MILDER, FREDERICK, Wellington Place, Hastings, chemist. Feb. 2.
 MOSS, JOHN, Loughton, Essex, veterinary surgeon. Jan. 8.
 TRACY, ANTHONY W., Bury St. Edmunds, surgeon and dentist. Jan. 28.
 WILLIAMS, JOHN, 38 Chester Street, chemist's assistant, late Yorke Street, both Wrexham, chemist. Jan. 10.
 WILLIAMS, THOMAS LEWELLYN, Tunstall, Staffs., druggist and seedsman. Jan. 24.
 WRIGHT, MORDEN, 128 Walworth Road, surgeon. Feb. 3.

DIVIDENDS.

- HUTTON, EDWARD (Liq.), Hartlepool, chemist. Div. of 3*s.* 6*d.*; H. C. Thompson, 64 Church Street, West Hartlepool.
 MEEARS, JOB WILLIAM (Bkt. 1855), Croydon, chemist. Final div. 20*s.*, and interest at the rate of 4 per cent.; Wednesday next, and two Wednesdays, between 11 and 2; P. Paget, Bankruptcy Court, Basinghall Street.
 PHILLP, NICHOLAS C. (Liq.), 5 Market Street, Devonport, chemist. Div. of 3*s.*; R. Conway, 44 George Street, Plymouth, accountant.
 TESH, SAMUEL, and ARTHUR O'NIEL (Liq.), Sheffield, drysalter. 1st div. 1*s.*; C. Corbridge, Norfolk Street, Sheffield.

DISCHARGES GRANTED.

- ADAMS, HARVEY H. (Bkt), 23 Graffon Street, Mile End Road, and Cannon Street Road, chemist. Discharge granted July 20, 1866.
 DARROCH, WILLIAM, St. Thomas Street, Southwark, surgical instrument maker. (Divs. amounting to 3*s.* have been paid.) Bankruptcy closed Jan. 7.
 GLOVER, WILLIAM M., Middlesbrough, druggist. (A div. of 4*s.* has been paid.) Bankruptcy closed Jan. 13.

DISSOLUTIONS OF PARTNERSHIP.

- BELL & HOLLAND, Manchester, analytical chemists. Dec. 31. Debts by Philip Holland.
 GARDINER & CRAWFORD, Moldgreen, near Huddersfield, surgeons. Dec. 31.
 GIBBS, FORD, & CANNING, trading as JAMES GIBBS, Bristol, Cwmbran, and Plymouth, sulphuric acid and chemical manufacturers. Dec. 20. As regards Thomas Canning.
 GIBBS, JAMES, & Co., Plaistow, sulphuric acid and chemical manufacturers. Dec. 20. As regards Thomas Canning.
 JOHNSON & BLACKMAN, 2 York Road, Lambeth, surgeons. Dec. 31.
 ORR, J. B. & Co., Pollockshaws-road, Glasgow, chemical manufacturers. Jan. 28. As regards W. Mills and F. A. Paul.
 PATRISON, WILLIAM & MONTGOMERY, Glasgow and elsewhere, manufacturing chemists. April 4. As regards William Paterson, deceased.
 PEARS, A. & F., Isleworth, and Great Russell Street, Bloomsbury, perfumers and soap refiners. Dec. 31. As regards F. Pears.
 TAYLOR & LANGLEY, Cirencester and Crickdale, surgeons. Dec. 31.
 WALTON & SCOTT, Halifax, chemists. Jan. 8. Debts by Stephen Walton.
 WILDASH & HACKNEY, Hythe, Kent, surgeons. Dec. 31. Debts by John Hackney.

SCOTCH SEQUESTRATION.

- MORRISON, THOMAS CHARLES, Burnside Chemical Works, Newton-on-Ayx. Jan. 5, with Protection. Tr. and C. m. Queen's Hotel, Ayr, Feb. 12 at 1. Claims by May 5. Agents, Philp, Jaing & Menro, 140 Princes Street, Edinburgh.



REVISED 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 added. 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 addressed 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.

- Safe, cost 40s.; take 20s. Lea, Folkestone.
- Six dozen Leaveness's Food, not unpacked. 43s. 223/33.
- What offers in Patents for Diamond Ring? Cost 22l. 23/224.
- Two Winchester Quart Ol. Lavand. Aug., 1872. 32/224.
- Opium Turc.—to be exchanged for saleable Patents or Goods. 23/224.
- Pharmaceutical Journal," posted day of arrival. What offers. "Fides," 2 Parade, Northampton.
- Six Black Gallon Bottles, six 3-pound Blue Ointment Jars, two dozen Quart Rounds. Apply to Publisher.
- A number of Leeming's Essence. Clean. Sample bottle for 14 stamps. Fortune, Chemist, Anstruther.
- Pharmaceutical Journal," posted day of arrival. Offers invited. W. G. G., 39 High Street, Sittiuibourne, Kent.
- Woodall's Machine Mortar; perfect. Cash offers wanted. Humphries, Garston, Liverpool.
- Will send "Pharmaceutical Journal" weekly in exchange. Offers wanted. Apply M. P. S., 35 Fore Street, Saltash.
- A 3-Horse Power Engine and Boiler in working order. Only 5 months in use. Price 12l., or offers. 20/224.
- Morphia Mur. (Macfarlane's) 3 x 50 oz. bottles. Offers wanted for whole or part. 15/223.
- About 4 dozen 4-oz. Dispensing Screen Bottles, quite new, with gold labels. 15/224.
- Books, Sundries, Microscopes, Hydrometers, for cash or exchange. R. C. Mason, Bromsgrove.
- Pharmaceutical Journals," unbound. Bell, Chesshire & Co., Chemists, East Brixton, London.
- Free by post for three nine half-dozen Stedman's powders. B., 11 Bridge Street, Goole.
- Barnett's No. 4 Soda Water Machine, with bottling apparatus and dial indicator complete. Nearly new. F. J. B., 122 High Street, Winchester.
- Pharmaceutical Journal," from April 29, 1871, to December 27, 1873. Perfect. What offers? Cash or exchange. Charles Saunders, chemist, Bromley, Kent.
- For 45l. Complete Sodawater Plant, hand or power, Gaswork Presses and Water Gauge, and Bottling Machine, New. 12/224.
- A splendid Herbarium, 112 Specimens, mounted, 9s.; Barber's "Pharmaceutical Guide, First and Second Examinations." 4s. 6d. George Story, Bourne.
- One Gross Porous Plasters, 8s. 3d. dozen; Whelpston's Pills, 5s. 3d., 8s. 9d.; Holloway's Pills, 8s. 10d.; Brown's Troches, 8s. 7d.; Brandreth's Pills, 8s. 6d. 14/224.
- A small Steam Engine and Boiler; Soda Water Machinery, all very compact and in working order. To be sold cheap. Apply to Mr. James Watts, Post Office, Frome.

Four New Copies Mayhew's "Illustrated Horse Management" (1873), 400 illustrations. Published 18s. 6d. Price 12s., post free. Judson, Kirbymoorside.

A complete Series of the "Pharmaceutical Journal," from commencement. First 15 vols. bound in cloth. Perfect, clean, and cheap. Thos. D. Walker, Dresden, Staffordshire.

Mahogany Sponge Case, with marble top and plate-glass sides, four feet long, two feet wide, and two feet ten inches high. H. Robinson, Canning Street, Liverpool.

"Caesar," with Vocabulary; Tomson's "Conspectus;" "Manual of Pharmacy." Offers wanted. "Day," 123 Gray's Inn Road, London, W. C.

Books, cheap. Comprising Chemistry, Analysis, Medicine, Surgery. "Fowne's," 1873; "Pereira," 1865. Guest, chemist, Nottingham.

Bentham's "British Flora." New, uncut. 31s. 6d. (published at 3l. 10s.) Mohr's Redwood's "Pharmacy," 7s. 6d. 10/224.

Chemists' and Druggists' Soda Water Bottles. About 150 gross of tried bottles for sale, at 16s. per gross; not lettered. Apply to Barnett & Foster, 23 Forston Street, London, N.

"Pharmaceutical Journal," 3rd series. Vol. 1, complete; vol. 2, 10 numbers missing; vol. 3, complete; vol. 4, first 20 numbers. "Chemist and Druggist," July to December, 1873. Offers wanted. Jenner, Bury St. Edmunds.

77 Mahogany-Fronted Drawers, 12 ft. 3 in. long, 3 ft. 1 in. high, 1 foot front to back, 4l. 4s. Brewer's Isinglass Chips, 2s. 6d. per lb.; Brazil Pipe, 4s. 8d. J. Floyd, Bury St. Edmunds.

Set of Sealing and Stopping instruments. About two dozen 2 lb. W. M. Stopped Shop Rounds. "Pharmaceutical Journals," July 1868, to February 1869, inclusive. Andrews, Pembroke Dock.

20-gall. Cistern, with lid and brass tap, suitable for paraffin or turpentine, 10s.; large Bath, with plug (block tin), 6 feet long, 2 feet wide at the head, in good condition, 20s. Address F. W., 140 Embden Street, Hulme, Manchester.

Colossal Bust Hahnemann, 10s.; lot Mahogany Carboy Stands, cheap; lot Patents at 7d., list for stamp; quantity Brazil pipe Isinglass at 4s. 6d.; Isinglass Pickings at 2s. 6d. J. Floyd, Bury St. Edmunds.

Sodawater Makers. A Bargain: Copper Gasometer Pipes, fitted in oak tub, good condition; size, 80-gallon; suitable for Nos. 1 to 4 Machine. Offers wanted. Dalwood, chemist, Sherborne, Dorset.

An Electro-Magnetic Coil in Mahogany Box, with 4 Smee's battery, in separate box with brass rackwork. Cost 5l. 10s. Equal to new. Price 3l. For particulars apply, S. Hulbert, Marine House, Clevedon.

Two 6-gallon pear-shaped Carboys; Two 1-gallon do.; Bentley's "Botany;" "Pharmaceutical Journal," 1871-2-3, unbound. What offers? Also, Case of Stopping and Sealing Instruments, &c. Thomas Wilson, Lenton, Notts.

A Soda-water Machine, Boiler, and Steam-engine might be exchanged for equal value. Drawing-room suite, horse and trap, harmonium, household furniture. E. C., 44 Avon Street, Bath.

Attfield's "Chemistry" (last edition), will exchange for Garrod's "Materia Medica" (last edition), Bentley's "Botany," or offers. Churchhill's "Midwifery," new 9s. W. B., Medical School, Sheffield.

A Dentist's Latho, by Ash and Sons; several Corrunaum Wheels and Circular Brushes; vulcaniser, with thermometer and powerful press; three Flasks, with rings; all in good order and nearly new. Cost 10l.; price 6l. 10s., or offer. A. B., 28 Union Street, Stowhouse.

A Spanish Mahogany Case, two ft. six in. square, enclosed with six panels of semi-obscure glass, 20 inches high, with sliding panel and shelf in front, in perfect condition; been used as a post-office desk. H. Robinson, Canning Street, Liverpool.

Surplus Stock of very saleable Patents, in good condition, such as Alcock's Plasters, Steodinan's Powders, &c., in exchange for Patents in general demand. 9d. per dozen allowed for the barter. Also surplus drugs and chemicals. For list, apply to C. & S., 17 Market Place, Norwich.

Gray's "British Plants," 2 vols. half-bound, Plates, good condition, 1821, 10s.; "Pharmaceutical Journal," 121 numbers, from July 1841, to December 1851, complete except seven numbers, 1l. Smith, Queen Street, Carmarthen.

Three sets of Forceps, Tomes' pattern, circular joints, best chequered handles, 30s. Vulcaniser, with Thermometer, 35s. Two Globes, six gallons each; cheap. A very large Coffee Mill, in good condition, 30s. Ten Boxes Farden Fire Lighters, 20s. Six 2s. Bottles Golden Ink, 5s. J. Garforth, 14 Netherthorpe Street, Sheffield.

Fowne's "Chemistry," 9th edition, 7s.; Royle's "Materia Medica," 3rd edition, 5s.; Lindley's "School Botany," 3s. 6d.; "Year Book of Pharmacy," 1870-71, 7s. 6d.; "British Pharmacopœia," 1864, 4s.; Beasley's "Druggists' Receipt Book," 2s. 6d.; Steam-engine, 2½-horse power, 6l.; 72 Drawers, mahogany veneered fronts, gold labelled, 13 feet long, 3 feet 9 inches high, good condition, 6l.; or exchange for counter cases or shop bottles. John Harrison, 7 Central Beach, Blackpool.

To Chemists commencing or enlarging.—For immediate disposal, and may be had at the end of March, the **Fixtures** of a Chemist giving up business at that time, comprising capital Counter, Panelled Mahogany Top with Drawers, Shelves, Mahogany Fronted, bevelled, with Turned Mahogany Pillars and Cornice, Shop Bottles and Jars, gold labelled, Tincture Press, 2 Paraffin Cisterns, 2 Flat Counter Cases, Show Globes, Specie Jars, &c., &c., and a quantity of Deal Shelving. Apply, S., Mr. Foggitt, Chemist, Thirsk.

Three mahogany-fronted nests of drawers, as follow:—No. 1, in excellent condition, 4 deep, containing 39 drawers 8½ inches by 8½ inches back to front, and 10 drawers 11 inches by 8½ inches back to front, labelled. No. 2, smaller set, 2 deep, good condition, containing 12 drawers, 8 inches by 7 inches back to front, and 10 drawers 9¾ inches by 7 inches back to front, labelled. No. 3 set, 3 deep, containing 40 drawers 5½ inches by 8½ inches back to front, and 14 drawers 8½ by 8½ back to front, labelled. One pair scales, same style as Fig. 7, Maw's list, French polished mahogany pillar and stand, with drawer 17 inches by 8½ inches, chains, brass pans, &c., excellent condition and accurate. Z. Z., Post Office, Brentwood.

Powerful Microscope, by Matthews, mechanical rotary stage, polarising apparatus, condensor, 3 eye-pieces, first-class ¼ by Wray, 1 inch by Crouch, and set of combination powers and apparatus, in case, price 12l.; a really good instrument. Powerful Air Pump, large, with receiver; a pair of Madeburgh's Hemisphere's, 4l., cost 8l. new. A first-class Phantasmagoria Lantern, with 100 slides, tales, views, comics, chromatropes, only 10l., cost double. A magnificent Masical Box, with bells accompaniment, cheap. An expensive Chemical Chest, 42 by 32, filled with compartments containing 6 dozen stoppered bottles, and powerful gas making apparatus, troughs, jars, trays, &c., &c., only 6l., cost 12l. Clearing out, room wanted, great bargains. Apply, Chemicus, 151 Hoxton Street, London, N.

Stephenson's "Medical Zoology and Mineralogy," 16s. 6d.; Tyndall's "Natural Philosophy," 1s. 6d.; "Chemists' Diary, 1874," New, 2s.; "Scarpa Malattie Degli Oculi," Portrait, Plates, 5s.; Copland's "Dictionary of Practical Medicine," Parts 1 to 13 (part 2 wanting), 10s. 6d. (cost 3l. 7s. 6d.); Stephen's "Manual British Beetles," 5s. 6d.; Cragie's "Pathological Anatomy," 4s. 6d.; Bourger's "Minor Surgery," 3s.; Watt's "Dictionary Chemistry," 23s.; Spratt's "Obstetric Tables," coloured moveable diagrams, Rare, 35s.; Quain's "Anatomical Plates," 5 vols. folio, Vessels coloured, 4l. 4s.; "Practitioner," complete set, 50s. (published 90s.); Quin's "Pharmacopœia Homœopathica," 2s. 6d.; Abernethy's "Surgical and Physiological Essays," 3s.; Main's "Illustrations Vegetable Physiology practically applied," 3s. (published 8s.) Send title of any book wanted (second-hand) in any branch of literature. A. Davis, 161 Seven Sisters' Road, London, N.

Entire Fixtures Two Chemists' Shops (nearly new), consisting of Spanish mahogany counters, side counters, doors, 300 feet shelving, uprights, bearers, cornices, &c., dispensing and counter scales, Lipscombe's stone filter. Five Thousand 4, 6, 8, 10, 12, 20, 30, 40, 60 oz. new or second-hand gold labelled or engraved shop bottles. Blue and white syrup, acid, patent oil and æther with glass caps. Half, one, two-gallon black glass stock bottles, gilt or japanned caps. 500 earthenware blue and white shop jars, gold labelled, all sizes; specie jars, show carboys, &c. Jars, shop lamps and brackets, pill machines, composition, marble, and iron mortars and pestles. Upright, bent, and flat show cases. Tooth brush, snow, and various other cases. Silvered plate-glass stand, 7 feet long, for window. 3 cwt. Socotrine and Barbadoes aloes, 28 lbs. calomel, 28 lbs. prussiate potash, 12 lbs. corrosive sublimate, 1 ton gum acaciæ, Turc. sorts; 5 cwt. superior arrowroot, 14 1-lb. original tins finest Manna, 6 doz. boxes transparent glycerine soap, 120 lbs. triple essence vanilla, jasmin, violet, Ess. Limouis; super. finest oil, rose, geranium and origanum; and an immense and varied stock drugs, chemicals, sundries, &c. Cockle's, Norton's, Parr's, Holloway's, Steedman's, Dr. Scott's, Winslow's, Alcock's, Browne's chlorodyne, troches, Whelpton's, Powell's, 9s. doz. Stedman's, 7s. 3d. Dentocrete tablets, 20s. Hard's food, 7s., 14s. Liebig's Extract Company's, 14s. 9d. Tooth's, 14s. Ramornic's, 12s. 10d. Stamp for list. State what you require. Lloyd Rayner, 309 New North Road, Islington, London.

WANTED.

Mahogany Cigar Case, as Fig. 53 or 53A Maw's Catalogue. March, Chemist, New Brompton, Kent.

"Chemist and Druggist" for February 1872, and title page for 1870. S. G., 304 Regent Street, W.

Attfield's "Chemistry." John T. Newton, 250 Langsett Road, Sheffield.

Key to Pharm. Lond., 1851. M. Leigh, 9 Sussex Street, Middlesbro'.

Nest of Mahogany drawers, 11 feet by 3 feet 10 inches. John Smythe, Medical School, Sheffield.

"Pharmaceutical Journal," bound, for 1873. W. Panton, Post Office, Kintore, Aberdeen.

Bentley's "Botany," "British Pharmacopœia." State lowest price. Day, 123 Gray's Inn Road, W.C.

"Pharmaceutical Journal," a few days after publication. CHEMIST AND DRUGGIST Office. 223/34.

A fine Outside Lamp and Bracket. In good condition. Offer wanted. Chant, Langport, Somerset.

A One-Gallon Glass Percolator. Graduated quite perfect. Z. Z., Post Office, Brentwood.

Syke's Hydrometer, with Book complete. Lowest price. Cocher, Lynn, Norfolk.

Petroleum cistern, good condition, 50 to 80 gallons, preferred square to round. Macpherson, Stornoway.

Small founts fancy type, about one pound, for amateurs, not battered. "British Pharmacopœia," clean and cheap. 17, 22

Attfield's "Chemistry," "Selecta præscriptis." F. Saunderson, Chorlton Dispensary, Manchester.

Immediately, a nest of twenty small drawers, about four inch deep and seven long. Apply to F. T. Allatt, Chemist, Frizington.

Two oil cisterns, holding 40 or 50 gallons and one 80 to 100 gallons. State lowest price, &c., to T. G. Austin, Green Bridge, Tipton.

ty or Sixty Gallon Cisterns, suitable for Paraffin, in good condition. Address, W. W., Post Office, Preston Street, Manchester.

Barnett's or Hayward Tyler's Soda Water Machine. Must be in perfect working order. J. Ruston, Chemist, Maryport.

Desk and Glass Case as Fig. 21 Maw. Must be in good order with silvered glass at back preferred. H. Robinson, Canning Street, Liverpool.

ature Printed British Ferns," by Thos. Moore, complete, and good condition. Send price. Also other good book on Ferns. E. Taylor, Chemist, Droitwich.

est Editions of Fowne's "Chemistry" and Ganot's "Physic." Second hand, and state price. W. Hannaford, 1 White Ladies' Gate, Clifton, Bristol.

all Soda-water Stand, Window Carboy, 20 inches Top Stopper, Good Counter Confectioner's Glasses, Brass Scales, 12 inches beam. Cheap. G. Briggs, Goolo.

electa e Prescriptis" in exchange for "Pharmaceutical Latin Grammar," or would give half price. E. Stevenson, corner of Neville Street, Southport.

ler's "Chemistry," complete; Fowne's "Chemistry"; Fresenius' "Chemical Analysis"; and other first-class works. M. P. Hopps, Sowerby Bridge.

small hand-truck. To be sold cheap, a large Plate Glass Electrifying Machine, with some apparatus. Also Leech Aquarium, with glass cover, 13 in. Price 5s. Apply, Thomas Taylor, 81 High Street, Peckham.

anter, mahogany-top, deal panelled front, with drawers 8 or ten feet long. One ditto, with or without drawers, 8 feet. Desk with glass case in front. 250 to 300 feet shelving, 8 in. by 1 in. Will take whole or any part from one party. Must be cheap. Secondhand will suit. Particulars and price to Donaldson Brown, Sutherlandshire.



Anticipations of last month as to Mr. Gladstone's intentions with regard to the income tax proved singularly true, as indicated in the address with which that minister afterwards startled the country. The somewhat surprising completeness of the Conservative victory in the late general election was achieved in spite of, and assuredly not in consequence of, the tempting financial programme which the Liberal Premier felt himself secure in promising. The skilfulness of Mr. Gladstone's scheme of vaguely publishing his real intentions will hardly be fully realised until the details of his opponent's budget come to be announced. In every respect this may differ from what has been hinted at, especially if any remnant of the income tax be allowed to remain, dissatisfaction and disappointment is certain to result, and that the "happy thought" has once been officially published. Apart from all questions of election tactics, or of party politics, we can but regret that the Conservative triumph had not been delayed until the budget had been settled, so that we might have had the advantage once again of the services of a minister in a department in which he is acknowledged on both sides to be *facile princeps*. It is proverbially wise, however, to mourn over spilt milk, and no Tory Chancellor of the Exchequer is likely to occasion more apprehension in commercial circles than has the ingenious gentleman who has held that office for several years past.

With a general election occupying the country, it is almost needless to add that there can be but little to report as to the various markets.

The chemical trade of January was considered fairly satisfactory, and makers having to a great extent limited their production, there has been a decided tendency towards firmness in prices. The next three months are looked forward to as the likeliest period for export orders, and if American and other foreign demands keep up to the average there is little doubt that a higher scale of prices will result. Manufacturers, at all events, are doing their best to bring about such a state of things.

The demand for citric acid is active, and it seems to be anticipated that higher rates than have yet been known are to result. Tartaric, too, is firmer; oxalic dull; bleaching powder somewhat higher. British quinine has advanced to 8s. 9d., but French still maintains the supremacy at 9s.

Quicksilver is still obtainable at 19l. per bottle, and market dull.

In a circular issued by M. Gaetano Ainis, a merchant of Messina, the writer intimates that a system of deception has been noticed in respect of lemon juice. "The pipes," he says, "have been found deficient, but are so constructed as to deceive the best gaugers. For my own part," he adds, "I have had to adopt the expensive alternative of emptying each pipe and measuring its contents." This article has advanced at Messina at least 4l. a pipe, and may be expected to go up still higher, as the produce this year is reported lower than usual. This of course accounts for the stronger position which citric acid has assumed.

Drugs have experienced no important change since we last wrote. Cloves and the essential oil have advanced considerably, as we recently anticipated; peppermint oil, both American and English, is dearer; aniseed, on the other hand, is slightly reduced. Opium is without fluctuation; and the slight variations in other quotations are due only to the different shades of quality which have been presented.

Shellac shows indications of rising, as reports from Madras and other Indian ports state that the late crop of stick-lac has been rather considerably deficient, and holders are very confident and decided.

A considerable advance has been established in spirits of turpentine. In the course of last week American touched 38s., but scarcely maintained that figure. French spirits have again been sold here. Price for arrival, 34s. to 35s. 6d.

Liuseed Oil has been in less demand and easier, ruling at 29l. 10s. to 29l. 15s. on the spot here, and at 30l. 5s. to 30l. 10s. for March-April. Last week, however, the tone of the market became firmer, there being buyers at the close at 29l. 15s. on the spot, whilst 31l. was paid for the next two months. English brown rape, too, seems slightly on the advance, 33l. 5s. having been obtained on the spot, 33l. 10s. to 33l. 15s. quoted for March-April, 34l. and 34l. 10s. paid for May-August, and 35l. 10s. for September-December, closing buyers. Refined is 33l. 5s. for English, and 35l. 10s. to 36l. for foreign. A good business has been done in Lard Oil, which has continued to advance, the best English refined being now quoted 52l. The market for Olive has exhibited no activity, and prices are nominally 41l. 10s. for Mogador up to 45l. for Gioja.

Petroleum, owing to the continued rise of quotations in the United States, has had an upward tendency, a large business having been done in all positions at advancing prices, and sales have been effected at 1s. ½d. up to 1s. 1½d. on the spot, at 1s. 1d. for March, and at 1s. 3d. up to 1s. 4d. for September-December.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing 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.

	1874.		1873.	
	s. d.	s. d.	s. d.	s. d.
CHEMICALS.				
ACIDS—				
Acetic	per lb.	0 4 to 0 0	0 4½ to 0 0	
Citric		4 6 .. 0 0	4 6½ .. 0 0	
Hydrochloric	per cwt.	4 0 .. 7 0	4 0 .. 7 0	
Nitric	per lb.	0 5 .. 0 5½	0 5 .. 0 5½	
Oxalic		0 7½ .. 0 0	0 10 .. 0 10½	
Sulphuric		0 0½ .. 0 1	0 0½ .. 0 1	
Tartaric crystal		1 7½ .. 1 7½	1 7½ .. 1 8	
powdered		1 7½ .. 1 7½	1 8 .. 0 0	
ANTIMONY ore	per ton	200 0 .. 240 0	360 0 .. 400 0	
crude	per cwt.	0 0 .. 0 0	40 0 .. 42 0	
regulus		0 0 .. 0 0	0 0 .. 0 0	
star		52 0 .. 53 0	61 0 .. 64 0	
ARSENIC, lump		20 6 .. 0 0	18 6 .. 19 0	
powder		10 0 .. 10 3	9 0 .. 9 3	
BRIMSTONE, rough	per ton	127 6 .. 145 0	125 2 .. 147 0	
roll	per cwt.	10 0 .. 0 0	10 0 .. 10 6	
flour		11 6 .. 12 6	11 6 .. 12 0	
IODINE, dry	per oz.	1 1 .. 0 0	1 0 .. 0 0	
IVORY BLACK, dry	per cwt.	8 6 .. 0 0	8 6 .. 0 0	
MAGNESIA, calcined	per lb.	1 6 .. 0 0	1 6 .. 0 0	
MERCURY	per bottle	330 0 .. 0 0	250 0 .. 0 0	
MINIUM, red	per cwt.	25 0 .. 25 3	21 3 .. 21 6	
orange		37 0 .. 0 0	32 6 .. 0 0	
PRECIPITATE, red	per lb.	6 0 .. 0 0	4 3 .. 0 0	
white		5 6 .. 0 0	4 2 .. 0 0	
PRUSSIAN BLUE		0 0 .. 0 0	0 0 .. 0 0	
SALTS—				
Alum	per ton	175 0 .. 185 0	170 0 .. 180 0	
powder		195 0 .. 0 0	190 0 .. 0 0	
Ammonia :				
Carbonate	per lb.	0 7½ .. 0 7½	0 7 .. 0 7½	
Hydrochlorate, crude, white	per ton	650 0 .. 0 0	640 0 .. 0 0	
British (see Sal Am.)				
Sulphate	per ton	340 0 .. 355 0	400 0 .. 0 0	
Argol, Cape	per cwt.	87 6 .. 96 0	75 0 .. 90 0	
Red		77 6 .. 85 0	67 0 .. 70 0	
Oporto, red		32 0 .. 32 6	32 0 .. 33 0	
Sicily		52 6 .. 57 6	67 0 .. 70 0	
Ashes (see Potash and Soda)				
Bleaching powd.	per cwt.	10 9 .. 0 0	14 6 .. 0 0	
Borax, crude		40 0 .. 85 0	55 0 .. 75 0	
British refnd.		75 0 .. 0 0	105 0 .. 0 0	
Calomel	per lb.	5 7 .. 0 0	3 10 .. 0 0	
Copper :				
Sulphate	per cwt.	30 6 .. 31 0	31 0 .. 31 6	
Copperas, green	per ton	60 0 .. 62 6	60 0 .. 62 6	
Corrosive Subbimate p. lb.		4 10 .. 0 0	3 3 .. 0 0	
Cr. Tartar, French, p. cwt.		110 0 .. 0 0	107 6 .. 0 0	
brown		95 0 .. 100 0	97 6 .. 102 6	
Epsom Salts	per cwt.	5 9 .. 6 3	5 9 .. 6 3	
Glauber Salts		4 6 .. 5 6	7 6 .. 0 0	
Lime :				
Acetate, white, per cwt.		14 6 .. 21 0	14 0 .. 22 6	
Magnesia: Carbonate		42 6 .. 45 0	42 6 .. 45 0	
Potash :				
Bichromate	per lb.	0 8½ .. 0 0	0 8½ .. 0 0	
Carbonate :				
Potashes, Canada, 1st sort	per cwt.	35 0 .. 0 0	38 0 .. 0 0	
Pearlashes, Canada, 1st sort	per cwt.	47 0 .. 0 0	50 0 .. 0 0	
Chlorate	per lb.	1 1 .. 0 0	1 8 .. 0 0	
Prussiate		1 2 .. 0 0	1 5½ .. 1 5½	
red		2 10 .. 2 11	3 1 .. 0 0	
Tartrate (see Argol and Cream of Tartar)				
Potassium :				
Chloride	per cwt.	6 9 .. 7 0	9 9 .. 10 0	
Iodide	per lb.	17 0 .. 0 0	16 0 .. 0 0	
Quinine :				
Sulphate, British, in bottles	per oz.	8 9 .. 0 0	7 9 .. 7 10	
Sulphate, French		9 0 .. 0 0	7 9 .. 7 10	
Sal Acetos	per lb.	0 10½ .. 0 11	1 1½ .. 0 0	
Sal Ammoniac, Brit. cwt.		44 0 .. 45 0	48 0 .. 49 0	
Saltpetre :				
Bengal, 6 per cent. or under	per cwt.	23 6 .. 24 6	29 3 .. 30 0	
Bengal, over 6 per cent. per cwt.		22 6 .. 23 3	28 6 .. 29 0	
British, refined		26 3 .. 28 0	33 0 .. 36 0	
Soda: Bicarbonate, p. cwt.		16 3 .. 16 6	18 3 .. 0 0	
Carbonate :				
Soda Ash	per deg.	0 2½ .. 0 0	0 3½ .. 0 3½	
Soda Crystals per ton		107 6 .. 110 0	150 0 .. 0 0	
Hyposulphite, per cwt.		16 0 .. 0 0	16 0 .. 0 0	
Nitrate	per cwt.	12 6 .. 13 0	16 6 .. 0 0	
SUGAR OF LEAD, White cwt.		47 0 .. 48 0	45 0 .. 0 0	
SUGAR OF LEAD, Brown, cwt.		33 0 .. 34 0	30 0 .. 0 0	
SULPHUR (see Brimstone)				

	1874.		1873.	
	s. d.	s. d.	s. d.	s. d.
VERDIGIS	per lb.	1 1½ to 1 6	1 1½ to 1 6	
VERMILION, English		5 2 .. 0 0	3 8 .. 0 0	
China		5 0 .. 0 0	3 7 .. 0 0	
DRUGS.				
ALOES, Hepatic	per cwt.	80 0 .. 200 0	100 0 .. 240 0	
Socotrine		110 0 .. 240 0	160 0 .. 320 0	
Cape, good		30 0 .. 38 0	30 0 .. 33 0	
Inferior		20 0 .. 30 0	20 0 .. 29 0	
Barbadoes		80 0 .. 200 0	70 0 .. 200 0	
AMBERGRIS, grey	oz.	24 0 .. 46 0	25 0 .. 26 0	
BALSAM—				
Canada	per lb.	2 8 .. 2 10	1 0 .. 1 0	
Capivi		2 9 .. 2 10	2 10 .. 2 10	
Peru		7 10 .. 8 0	9 2 .. 9 0	
Tolu		2 2 .. 2 4	2 0 .. 2 0	
BARKS—				
Canella alba	per cwt.	15 0 .. 28 0	15 0 .. 28 0	
Cascarilla		25 0 .. 30 0	24 0 .. 37 0	
Peru, crown & grey	per lb.	0 9 .. 2 4	1 0 .. 2 4	
Calisaya, flat		2 11 .. 4 6	2 10 .. 4 6	
" quill		3 0 .. 4 6	2 10 .. 4 6	
Carthagena		0 9 .. 2 0	0 10 .. 2 0	
E. I.		1 0 .. 5 0	0 0 .. 5 0	
Pitayo		0 6 .. 2 2	0 4 .. 2 2	
Red		1 7 .. 5 0	1 10 .. 6 0	
Buchu Leaves		0 1 .. 1 0	0 2 .. 1 0	
CAMPHOR, China	per cwt.	90 0 .. 0 0	84 0 .. 0 0	
Japan		0 0 .. 0 0	84 0 .. 0 0	
Refin. Eng. per lb.		1 3 .. 0 0	1 2 .. 0 0	
CANTHARIDES		5 9 .. 6 0	5 9 .. 6 0	
CHAMOMILE FLOWERS p. cwt.		20 0 .. 66 0	40 0 .. 50 0	
CASTOREUM	per lb.	4 0 .. 20 0	6 0 .. 20 0	
DIAGON'S BLOOD, Ip. p. cwt.		100 0 .. 300 0	100 0 .. 240 0	
FRUITS AND SEEDS (see also Seeds and Spices).				
Anise, China Star	per cwt.	130 0 .. 135 0	120 0 .. 127 0	
Spanish, &c.		20 0 .. 35 0	18 0 .. 35 0	
Beans, Tonquin	per lb.	1 9 .. 2 6	1 6 .. 2 6	
Cardamoms, Malabar good		5 0 .. 6 0	4 2 .. 6 0	
inferior		3 6 .. 4 11	2 6 .. 4 11	
Madras		2 6 .. 4 0	2 0 .. 4 0	
Ceylon		4 0 .. 5 3	4 8 .. 5 3	
Cassia Fistula	per cwt.	10 0 .. 20 0	12 0 .. 20 0	
Castor Seeds		5 0 .. 10 0	5 0 .. 10 0	
Cocculus Indicus		14 0 .. 15 0	12 0 .. 14 0	
Colocynth, apple	per lb.	0 4 .. 0 10	0 3½ .. 0 10	
Croton Seeds	per cwt.	52 0 .. 60 0	55 0 .. 60 0	
Cubebs		25 0 .. 30 0	25 0 .. 30 0	
Cummin		19 0 .. 25 0	21 0 .. 25 0	
Dividivi		11 0 .. 15 0	11 3 .. 15 0	
Fenugreek		8 0 .. 18 0	10 0 .. 18 0	
Guinea Grains		26 0 .. 30 0	24 0 .. 30 0	
Juniper Berries		9 0 .. 10 6	10 0 .. 10 6	
Nux Vomica		8 0 .. 12 0	10 0 .. 12 0	
Tamarinds, East India		10 0 .. 18 0	5 0 .. 18 0	
West India, new		14 0 .. 22 0	20 0 .. 30 0	
Vanilla, large	per lb.	64 0 .. 70 0	58 0 .. 70 0	
inferior		30 0 .. 60 0	25 0 .. 60 0	
Wormseed	per cwt.	0 0 .. 0 0	0 0 .. 0 0	
GINGER, Preserved, in bond (duty ¼d. per lb.)	per lb.	0 7 .. 0 10	0 6 .. 0 10	
GUMS (see separate list)				
HONEY Chili	per cwt.	34 0 .. 61 0	30 0 .. 61 0	
Jamaica		40 0 .. 53 0	30 0 .. 53 0	
Australian		35 0 .. 45 0	18 0 .. 45 0	
IPECACUANHA	per lb.	3 6 .. 3 11	2 4 .. 3 11	
ISINGLASS, Brazil		3 2 .. 5 0	2 6 .. 5 0	
Tongue sort		3 3 .. 5 3	3 4 .. 5 3	
East India		2 1 .. 4 9	1 0 .. 4 9	
West India		4 2 .. 4 9	4 0 .. 4 9	
Russ. long staple		8 6 .. 12 6	8 0 .. 12 6	
" inferior		4 0 .. 8 0	3 6 .. 8 0	
" Simovia		3 6 .. 5 0	2 6 .. 5 0	
JALAP, good		1 2 .. 1 6	1 4 .. 1 6	
infer. & stems		0 10 .. 1 1	0 10 .. 1 1	
LEMN Juice	per degree	0 2 .. 0 0	0 2 .. 0 0	
LIME JUICE	per gall.	2 3 .. 3 0	0 0 .. 3 0	
LIQUORICE, Spanish	per cwt.	40 0 .. 80 0	0 0 .. 80 0	
Liquorice Root		11 0 .. 18 0	19 0 .. 18 0	
MANNA, flaky	per lb.	2 6 .. 3 0	3 0 .. 3 0	
small		1 2 .. 1 5	1 2 .. 1 5	
MUSK, Pod	per oz.	20 0 .. 41 0	19 0 .. 41 0	
Grain		50 0 .. 55 0	45 0 .. 55 0	
OILS (see also separate list)				
Almond, expressed per lb.		1 0 .. 0 0	1 0 .. 0 0	
Castor, 1st pale		0 5½ .. 0 0	0 5½ .. 0 0	
second		0 5 .. 0 5½	0 5 .. 0 5½	
infer. & dark		0 5 .. 0 0	0 4½ .. 0 0	
Bombay (in casks)		0 4½ .. 0 0	0 4½ .. 0 0	
Cod Liver	per gall.	4 0 .. 5 6	3 6 .. 5 6	
Croton	per oz.	0 3 .. 0 4	0 3 .. 0 4	
Essential Oils:				
Almond	per lb.	25 0 .. 0 0	30 0 .. 0 0	
Anise-seed		9 6 .. 9 9	9 0 .. 9 9	
Bay	per cwt.	0 0 .. 0 0	65 0 .. 0 0	
Bergamot	per lb.	7 6 .. 18 0	8 6 .. 18 0	
Cajeput, (in bond)	per oz.	2 4 .. 2 6	0 0 .. 2 6	
Caraway	per lb.	5 3 .. 6 0	5 6 .. 6 0	
Cassia		5 0 .. 5 3	6 10 .. 5 3	
Cinnamon	per oz.	1 0 .. 7 0	1 0 .. 7 0	
Cinnamon-leaf		0 3½ .. 0 4	0 4 .. 0 4	
Citronelle		0 1½ .. 0 0	0 2 .. 0 0	
Clovo	per lb.	10 9 .. 11 0	4 6 .. 11 0	
Juniper		1 10 .. 2 0	1 3 .. 2 0	

	1874.		1873.	
	s. d.	s. d.	s. d.	s. d.
Essential Oils, continued:—				
Lavender per lb.	1 10	5 6	2 6	5 6
Lemon	10 0	12 0	6 0	15 0
Lemongrass per oz.	0 2½	0 3	0 3½	0 0
Neroli	0 4	0 6	0 5	0 6
Nutmeg	0 7½	0 8	0 7½	0 9
Orange per lb.	8 0	12 0	7 0	8 0
Otto of Roses per oz.	13 0	22 0	15 0	28 0
Patchouli	3 6	4 0	4 0	0 0
Peppermint:				
American per lb.	19 0	20 0	12 0	0 0
English	30 0	34 0	26 0	28 0
Rosemary	1 4	1 10	1 11	0 0
Sassafras	2 4	3 6	3 2	3 8
Spearmint	6 0	19 0	4 0	16 0
Thyme	2 0	2 2	1 10	1 11
Mace, expressed per oz.	0 3	0 3½	0 1½	0 4
Oil of Turkey per lb.	26 0	28 0	25 0	27 0
inferior	11 0	24 0	12 0	20 0
CASSIA (bitter wood) per ton	70 0	100 0	85 0	90 0
RUBARB, China, good and fine				
..... per lb.	8 0	4 6	2 9	6 0
Good, mid. to ord. "	0 6	2 6	0 8	2 6
Dutch trimmed "	0 0	0 0	9 0	9 6
Russian	0 0	0 0	0 0	0 0
ROOTS—Caiumba. per cwt.				
China	18 0	24 0	23 6	35 0
Galangal	25 0	28 0	20 0	27 0
Gentian	17 0	20 0	18 0	20 0
Hellebore	30 0	33 0	30 0	32 0
Orris	36 0	80 0	30 0	36 0
Pellitory	38 0	39 0	38 0	39 0
Pink per lb.	1 0	1 3	0 10	1 0
Rhatany	0 6	1 0	0 5	0 11
Seneka	4 0	5 0	4 3	4 6
Snake	1 8	1 9	1 1	1 2
FRON, Spanish	24 0	28 0	24 0	32 0
LEP per cwt.				
.....	170 0	200 0	170 0	180 0
SAPARILLA, Lima per lb.				
Para	1 0	1 3	1 3	0 0
Honduras	1 2	1 8	1 2	1 8
Jamaica	1 10	2 6	1 6	2 6
SSAFRAS per cwt.				
.....	14 0	17 0	0 0	0 0
AMMONY, Virgin. per lb.				
.....	25 0	30 0	26 0	30 0
second & ordinary "	8 0	24 0	18 0	25 0
ANNA, Bombay	0 1	0 5	0 2	0 5
Finnivelly	0 1	1 0	0 2	0 11
Alexandria	0 4	1 10	0 2½	1 0
ARMACETI, refined	1 5	0 0	1 6	0 0
American	1 0	0 0	1 2	1 3
WILLS	0 1	0 3	0 1	0 2
MS.				
MONIACI drop. per cwt.				
lump.	60 0	70 0	100 0	160 0
.....	50 0	60 0	80 0	130 0
MI, fine washed				
bold seraped	245 0	270 0	280 0	330 0
bold seraped	220 0	240 0	220 0	280 0
sorts	120 0	210 0	140 0	230 0
dark	70 0	110 0	90 0	130 0
RABIC, E.I., fine				
pale picked	60 0	77 0	65 0	77 6
.....	70 0	78 0	75 0	84 0
srts., gd. to fin.	40 0	58 0	60 0	69 0
garblings	20 0	46 0	23 0	50 0
KEY, pick, gd. to fin.				
second & inf.	150 0	220 0	160 0	230 0
in sorts	80 0	140 0	85 0	150 0
Gedda	50 0	75 0	0 0	0 0
.....	21 0	35 0	30 0	42 0
RBARY, white				
.....	30 0	45 0	50 0	57 0
brown	25 0	38 0	34 0	40 0
STRALIAN				
.....	28 0	48 0	42 0	45 0
SAFETIDA, cm. to gd.				
.....	55 0	70 0	45 0	110 0
NJAMIN, 1st qual.				
2nd	180 0	480 0	160 0	400 0
3rd	140 0	240 0	135 0	210 0
.....	70 0	85 0	60 0	80 0
PAL, Angola red				
.....	115 0	125 0	125 0	140 0
Benguela	110 0	115 0	110 0	115 0
Sierra Leone, per lb.	0 4	0 10	0 3½	0 10
Manilla, per cwt.	15 0	23 0	17 0	37 0
MMAR, pale				
.....	41 0	47 0	45 0	57 6
PHORBUM				
.....	11 0	15 0	12 0	15 0
LRANUM per lb.				
.....	1 6	2 0	0 0	0 0
MOGGE, pkd. pipe per cwt.				
.....	220 0	320 0	240 0	300 0
AIACUM per lb.				
.....	0 8	2 6	0 8	2 6
NO per cwt.				
.....	20 0	35 0	20 0	28 0
seraped sorts	36 0	52 6	29 0	37 6
ASTIC, picked per lb.				
.....	5 0	6 6	6 0	7 0
RRH, gd. & fine per cwt.				
sorts	120 0	240 0	120 0	200 0
.....	80 0	110 0	78 0	115 0
IBANUM, p. sorts				
amber & ylw.	70 0	75 0	75 0	80 0
garblings	62 0	68 0	67 0	74 0
.....	22 0	38 0	22 0	39 0
NEGAL				
.....	60 0	65 0	60 0	80 0
NDARAC				
.....	70 0	105 0	50 0	100 0
ELLAC, Orange..				
Liver	240 0	260 0	187 6	200 0
.....	220 0	235 0	175 0	190 0
.....	19 0	30 0	23 0	25 0
AGACANTH, leaf				
in sorts	200 0	400 0	270 0	440 0
.....	30 0	150 0	70 0	180 0
S.				
l, pale per tun	36 10	37 0	40 0	0 0
yellow tinged	32 0	36 0	37 0	39 0
brown	30 0	32 0	33 0	0 0
.....	97 0	0 0	0 0	0 0
.....	33 10	0 0	38 0	38 10

	1874.		1873.	
	£ s.	£ s.	£ s.	£ s.
Oils, continued:—				
WHALE, South Sea, pale, per tun	23 10	0 0	40 0	0 0
yellow	32 10	33 0	37 0	38 0
brown	30 0	31 0	34 0	35 0
East India, Fish	26 0	26 10	28 0	0 0
OLIVE, Galipoli ... per ton				
Trieste	48 0	0 0	46 0	46 10
Levant	46 0	0 0	44 10	45 0
Mogador	42 0	42 10	42 10	43 0
Spanish	41 10	0 0	42 0	42 10
Sicily	42 10	43 10	43 10	44 0
COCOANUT, Cochin. "				
Ceylon	43 0	43 10	33 10	0 0
Sydney	40 0	0 0	36 0	39 0
.....	36 0	0 0	34 0	34 10
.....	31 0	35 10	29 0	34 10
GROUND NUT AND GINGELLY:				
Bombay	0 0	0 0	0 0	0 0
Madras	36 0	0 0	35 10	0 0
PALM, fine.				
.....	35 0	36 0	38 0	0 0
LINSEED				
.....	29 15	30 0	33 0	0 0
RAPSEED, English, pale ..				
brown	35 5	0 0	41 0	0 0
Foreign, pale ..	33 5	0 0	39 0	0 0
brown	35 10	36 0	41 10	42 0
COTTONSEED				
.....	26 5	26 10	39 0	0 0
LARD				
.....	48 0	52 0	29 10	30 0
TALLOW				
.....	27 0	34 0	44 10	45 10
TURPENTINE, American, cks.				
French	37 0	0 0	32 0	0 0
.....	0 0	0 0	49 0	0 0
PETROLEUM, Crude				
refined, per gall.	1 1½	0 0	1 8	0 0
Spirit	0 10½	0 0	1 4	0 0
SEEDS.				
CANARY				
per qr.	60 0	68 0	48 0	56 0
CARAWAY, English per cwt.				
German, &c.	39 0	44 0	36 0	44 0
.....	26 0	36 0	29 0	36 0
CORIANDEE				
.....	8 0	16 0	16 0	18 0
HEMP				
per qr.	40 0	44 0	40 0	44 0
LINSEED, English per qr. "				
Black Sea & Azof	66 0	70 0	0 0	0 0
Calcutta	59 0	62 0	61 6	62 0
Bombay	61 0	63 0	66 0	0 0
St. Petersburg. ,,	63 6	65 0	64 6	0 0
Mustard, brown. per bshl.	56 0	58 0	60 0	60 6
white.	10 6	15 6	13 0	16 0
POPPY, East India, per qr.				
.....	8 6	11 0	8 0	9 0
.....	65 0	66 0	70 0	0 0
SPICES.				
CASSIA LIGNEA. per cwt.				
Vera	70 0	82 0	80 0	90 0
Buds	30 0	61 0	25 0	60 0
.....	115 0	117 6	117 6	122 6
CINNAMON, Ceylon:				
1st quality per lb.	2 0	4 3	2 9	3 11
2nd do.	1 8	3 5	2 3	3 6
3rd do.	1 6	3 1	1 10	3 3
Tellicherry	0 0	0 0	2 9	3 2
CLOVES, Penang				
Amboyna	2 3	2 4	1 4	1 5
Zanzibar	1 5	1 6	0 6½	0 11
GINGER, Jam., fine per cwt.				
Ord. to good	1 6	1 7	0 8	0 8½
African	110 0	252 0	100 0	200 0
Bengal	69 0	105 0	50 0	90 0
Malabar	60 0	0 0	44 0	45 0
Cochin	56 0	0 0	41 0	0 0
.....	55 0	0 0	42 6	0 0
PPER, Blk, Malabar, per lb.				
Singap. re	75 0	120 0	48 0	125 0
White Tellicherry	0 8	0 8½	0 6½	0 7
Cayenne	0 7½	0 0	0 6½	0 0
.....	2 0	0 0	0 0	0 0
MACE, 1st quality				
2nd and inferior ..	1 6	2 0	1 6	2 0
NUTMEGS, 78 to 60 to lb.				
90 to 80	3 4	3 11	3 7	4 3
132 to 95	2 6	3 2	3 2	3 6
.....	3 5	4 7	3 3	4 1
.....	3 0½	3 4	2 11	3 2
.....	2 6	3 1	2 4	2 10
.....	0 3½	0 0	0 2½	0 3
VARIOUS PRODUCTS.				
COCHINEAL—				
Honduras, black .. per lb.	2 1	3 0	2 5	3 4
silver	2 0	2 4	2 3	2 7
.....	1 9	1 11	2 0	2 2
Mexican, black	2 1	2 5	2 5	2 8
.....	2 0	0 0	2 3	2 4
Teneriffe, black ..	2 2	3 10	2 4	4 2
silver	2 1	2 3	2 3	2 6



Indian Brandee. Mr. J. Moore, of Skipton, has kindly furnished us with the following recipe for this composition, about which "Italic" enquired last month:—

R Spirit Ether Nit.
Tinct: Rhei Co. ñā ʒviij.
Syrup: Simplicis ʒij.

Mix.

Steedman's Powders.—In reply to "B. C., Chicago," a correspondent writes to say that in addition to the ingredients mentioned in our last number, these powders contain powdered ipecacuanha and starch.

An Apprentice.—We are glad to see you turning your attention to the utilisation of any waste substance, although in this instance we think you will find some difficulty in obtaining Tinct. Ferri Perchlor. at a price which will enable you to recover the spirit by distillation and make a profit out of the operation. Roast Pig may be a tantalising delicacy; but when it comes to burning down a house to get it, it is an expensive one also. However, the idea was a smart one, and next time your cards may turn out trumps. The Pharmacopœia Tincture is, as you know, made by adding three volumes of rectified spirit to one volume of the strong solution of perchloride of iron. It is this absurd substitution of alcohol for water only which produces the decomposition you refer to, since, if the solution be neutral the iron becomes reduced to the ferrous state, various chlorineted ethereal bodies being formed at the same time, or if excess of acid be present, causing the precipitation of insoluble oxychloride of iron. The distillate which you obtained would of course consist of weak spirit, contaminated with other volatile bodies, produced previous to and during the distillation, and could be used for any purpose where its purity was no object.

C. F. R.—The statement to which you refer was entirely false, and miserably absurd. A moment's consideration would have shown you that (putting everything else out of the question) in an examination—wherein the conductors have no more idea of a candidate's antecedents than your informant has of common sense—partiality to students of a particular school is a mute impossibility. If defeated candidates would apply that surprising neuteness which they manifest with regard to other people's affairs to the remedy of their own defects, and abstain from malicious slander, they might possibly find it an employment eventually more remunerative.

Inquirer would be very glad if any of our correspondents could refer him to the publisher of a little pamphlet, entitled "Teeth Extraction, by a Surgeon."

J. B.—Graham's "Domestic Medicine" is a standard work, and would, we think, furnish you with all necessary information.

F. C. S. sends us the following—written, we may observe, on the margin of a page torn from the Journal of his society:—"What are the remarkable features of the new Conservative reaction? It dissolves Parliament, precipitates Gladstone, absorbs Disraeli in Malacca, and evaporates the gush of the *D. T.* to dryness." If *F. C. S.* sends us any more such ghastly productions of his irreverent brain, we shall feel it our duty to lay the matter before the Council of the Chemical Society with a view to his immediate degradation.

A Concentrated Hospital.—Mr. Selkirk, of Cork, sends us a specimen of Irish grievances as they are sometimes met with in the chemist's shop. The following is an exact copy of a paper sent to us and lately received by our correspondent: "I have a very bad stomach and sickness about my hart and great heat rising up trne me and sweeting in my face and at the bet of the troth (throat) alys stiffing me and all the trouble of the wourrid in it and very bound in the bowels and a pain in my head, and i douse aKways be incline to d'scharge my stomach, and i never can, and i have often a great griping and a great bast (?) in my lung, and i dose bi belshing up every minut." We should advise the gentleman to make one more attempt to discharge such a stomach as that. An artificial one would be far less trouble.

Dispenser.—The following is Dr. Skinner's formula for effervescing carbonate of iron:—

R Ferri Sulph. ʒx.
Acid. Citric. ʒij.
Acid. Tartaric ʒij.
Sodæ Bicarb. ʒv.
Pulv. Sacch. Alb. ʒij.

Powder each of the ingredients finely, and let them be thoroughly dried. Mix the sulphate of iron with the sugar, then add the acids and soda. Pass the mixture through a fine sieve, and then heat it in a metal vessel over a water bath, and stir assiduously till it granulates.

Stuck Fast.—You will find that the application of a little paraffin to the ground surface of the stoppers will prevent the action of the caustic alkalis on the glass, and they will then always remain loose.

X.—Meerscham is a silicate of magnesium combined with silica. It is very soft when first dug up, and as it absorbs grease and lathers like soap. It is used by the Tartars for washing linen. Pipes carved from it are soaked in melted tallow, then in wax, and afterwards polished. The so-called meerscham-washed pipes are made of ordinary clay, and afterwards soaked in a strong alcoholic solution of benzoin; this is decomposed by subsequent heat, giving the bowl the characteristic brown appearance.

A Novel Prescription.—The following prescription was brought to a chemist in Yorkshire a few days since:—

Two pennyworth Oil of Vermilus
Wan pennyworth Scrapp of Eglets
Wan pennyworth Scrapp of Sgeels

This is worthy the attention of the Bloomsbury Square examiners as a prescription.

G. B. We know of no book which would exactly supply you with the mechanical details for the construction of an electrical machine, but you will find ample descriptions of such apparatus in Pepper's *Cyclopaedia Scientia Simplified* (Warne & Co.) or Brooke's *Natural Philosophy* (Churchill). From the full explanations which you would find in either of these books we do not think you would have much difficulty in making whichever variety of machine suits your purpose best.

J. C. E.—Scheffer's process for preparing pepsine as described by *Rgt.* in the *Chicago Pharmacist* for March is as follows:—"Take fresh pig's stomach well cleansed, which cut into moderately thin shreds with scissors. Macerate each stomach in 1 gallon of water, acidulate with ½ ounce of muriatic acid for two days. This liquid poured off, the stomach may be macerated a second, third, and even a fourth similar supply of liquid. The liquid obtained from each maceration are to be immediately treated with cornstarch, which will precipitate the pepsine. This will float in curdy flakes on the surface, and can be separated by means of a ladle. It is then to be mixed with a weighed quantity of sugar of milk, and the mixture spread out to dry on blotting paper. When as nearly dry and free from salt as possible, a sufficient quantity of sugar of milk is to be added to make the gross weight ten times that of the pepsine. The process can only be carried out in cold weather on account of the rapidity with which the stomachs decompose. Mr. Rother states that from six stomachs and with 10 macerations he obtained 40½ ounces of this saccharated pepsine, the equivalent to 4 ounces of pure pepsine."

B. asks for formulæ for syrup for aerated lemonade and ginger beer. We will keep well. Perhaps some gentleman with special experience will kindly oblige.

A Master.—Your case illustrates how very unwise it is to leave vagueness in the terms of an agreement. Such an arrangement as yours almost inevitably certain to produce the difficulty you now experience. Take your statement just as it stands, we should say that you have done your duty towards the youth fully, but that your offer is not sufficient as based upon the words of the agreement which you quote.

Lex.—We decline to answer queries "to decide a wager" when we know

Curious.—You certainly do justice to your pseudonym. When Orfila celebrated French chemist, was on one occasion a witness at a trial for poisoning, he was asked by the President if he could state the quantity of arsenic requisite to kill a fly. "Certainly, M. le President," replied the expert; "but I must know beforehand the age of the fly, its sex, its temperament, its condition, and habits of body, whether married or single, widow or maiden, widower or bachelor." Perhaps you will be good enough to furnish us with similar particulars, and you may then expect our opinion.

H. J. B.—Linen and cotton goods may be rendered noninflammable by immersing them in solutions of either ammonium sulphate or sodium tungstate. Neither of these liquids affects either the tissue or colour of the fabric. The tungstate is most applicable to laundry purposes, as it does not interfere with the process of ironing. Muslins, &c., steeped in a 10 per cent. solution of sulphate of ammonium or a 20 per cent. solution of tungstate of sodium may be held in a flame without taking fire.

Opifer.—No; the word "apothecary" has in itself no connection with drugs. It is obtained from *ἀποθήκη*—which signified neither more nor less than a "storehouse." Fosbrooke tells us that "among the Greek Romans, though the physicians also were collectors and dealers in herb medicines, yet the "apothecarii" were confectioners. Causus de Galand is said to have been the first apothecary ever appointed to royalty upon him Edward III. (1344) settled a pension of threepence per diem for taking care of him during his illness in Scotland. In bygone times when the trade done in herbs was something prodigious, great deals were carried on in the Grass Market, where "Grace"-church Street stands. The thoroughfare of Bucklersbury, too, was always so sweetly perfumed with herbs that it is said on that account to have escaped the ravages of the Plague. The Apothecaries' Company was first incorporated with the Company of Grocers in the year 1606—but they were separated by a charter granted by James I. in 1617, and styled "The Master, Warden, Society of the Art and Mystery of Apothecaries of the City of London."

R. J.—A dull black varnish, which you will find admirable for the interior of telescopes, &c., is prepared by dissolving three ounces of shell-lac in a pint of methylated spirit, and adding lamp-black sufficient to colour it