THE CHEMIST AND DRUGGIST.

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

WE close our Fourteenth Volume with gratitude to the trade which has supported us so handsomely. We are not desirous to make either boasts or promises, but we may mention that we have spent far more money on our publication during the past twelve months than in any previous year. We shall not now commence a sparing policy, and we hope to be honoured with subscriptions for 1874 even more abundantly than heretofore. The green wrapper, in which most copies will be enveloped this month, indicates the termination of the recipient's subscription. An early remittance for 1874 will greatly lighten our office labours.

We beg to point out that the subscription for 1874 is 10s., which will include, as a thirteenth number, our diary for 1875. Readers will please not confuse this with our diary for 1874, now ready, price 2s. 6d. post free, which they are asked to order in addition.

The *Chemists' and Druggists' Diary* for 1874 is a most valuable book for chemists. It contains a ruled diary, skeleton pages for keeping a revenue and expenses account, quarterly statements, record of drugs, etc., purchased, and record of pharmaceutical operations. These pages have all been newly designed this year, in accordance with suggestions from practical gentlemen. All are interleaved with good blotting-paper. The literary matter includes a great deal of condensed information certain to be useful. The editor of the *Pharmaceutical Journal*, in a notice of this Diary (December 13, 1873), concludes by remarking that it is "capable of being very serviceable to every chemist and druggist."

The Adulteration Act has again occupied the chief place in the pharmaceutical history of the month. This time the scene lay in Westminster, and spirits of nitre was the point of attack. Messrs. Herring, Huskisson, and Preston came to the rescue, and completely overthrew the prosecution. The magistrate (Mr. Arnold) expressed himself somewhat strongly as to the vexatious and expensive character of these proceedings. Very full reports will be found in the following pages.

As to citrate of magnesia, Mr. Bishop has published a circular announcing that he has taken the opinion of the Attorney-General and of Mr. Poland, and on their authority he requests his customers to continue to sell his preparation as "Bishop's Granular Effervescent Citrate of Magnesia." He asserts that he has a proprietary claim to the title.

We have ascertained that Mr. Bishop redeemed his promise to pay the fine inflicted on Mr. McDermott, by handing him a cheque fully covering both the penalty and expenses. This was very handsome, considering that it was not Mr. Bishop's preparation that was sold. Indeed that gentleman's energetic action throughout deserves the hearty gratitude of the trade.

At Liverpool the chemists have been discussing the Adulteration Act somewhat vigorously. The president, Dr. Symes, was indignant with the Pharmaceutical Council for not taking prompt and definite action immediately after the citrate of magnesia case, instead of leaving the work to an individual. Mr. Shaw, the Liverpool representative on the Council, defended his colleagues and himself. He explained that the subject having been "carefully discussed by them they decided"—we love to hear of a *decision* on the part of the Pharmaceutical Council—"they decided that it should be discussed at the evening meeting!" apparently in the hope that something might turn up.

The Chemists' Ball is announced for Wednesday evening, January 21st. It will be held as usual at Willis's Rooms, and Messrs. Coote and Tinney will, as always, shed the "soul of music" into its proceedings. No doubt it will be a success.

At the last Pharmaceutical Council Meeting some important legal information respecting the position of a chemist's widow was given by Mr. Flux. We summarise it elsewhere. The committee appointed to consider new regulations for the preliminary and other examinations suggested a reduction of centres and the payment of superintendents, with other details. The report was adopted, four members dissenting, and was referred again to the committee for the arrangement of details, the scheme to be arranged next month.

The Pharmaceutical Register for 1874 is now being prepared, and it is extremely important that names and addresses should be accurately inserted in it, since this register is the only legal evidence of a person's right to carry on the business of a chemist and druggist. We therefore advise any reader who may be aware of any necessary rectification to write at once to the registrar, 17, Bloomsbury-square, London.

CITRATE OF MAGNESIA.

THE result of the spirits of nitre case, which we report this month, leads us to regret still more strongly than before the utter absence of any defence in the equally important citrate of magnesia case, at Bermondsey, last month. It is easy enough to compare Mr. Partridge with Mr. Arnold as a magistrate to the infinite advantage of the latter, but let us suppose that Mr. Arnold had had nothing to guide him but the confident and indignant assertions of Dr. Dupré, in respect to spirits of nitre, and it is likely enough that we should have had to bewail his apothekophobia also. Or, on the other hand, it is at least possible to conceive that if the truth respecting citrate of magnesia had been simply explained to Mr. Partridge he would have given a decision as much in accordance with justice and common sense as did Mr. Arnold more recently. Everyone of the medical journals has expressed views on this case opposite to those which Mr. Partridge enforced, and even the *Lancet*, which is usually distinguished above all papers for unreasoning acrimony towards druggists, regards the decision as "essentially unjust." With the interpretation of the Act as regards "citrate of magnesia," therefore, so extremely vague in its outline, and founded on such incomplete evidence, we cannot consider that any great danger threatens the trade in this respect. We know that this is the view of many prominent pharmacists, and at least until something worse befalls us, we might take courage and proceed. If anything were wanting to reassure us we have it in the bold and manly circular issued by Mr. Bishop. We direct attention also, to that gentleman's announcement in our advertisement pages this month. He claims a property in the name which cannot be affected by the Adulteration Act, and he is supported in this view by the opinions of the Attorney-General and Mr. Poland.

At the same time, as it seems to us, it is open to every chemist to use his best judgment in regard to the sale of this article, if he differs from the legal opinions of the authorities we have named, and surely he has before him a sufficiently abundant choice of suggestions.

Common sense cannot be eclipsed for ever by the Adulteration Act, and a day will dawn again when a tradesman will not be liable to prosecution for supplying customers with what they want.

We have no wish to excommunicate ourselves from the ranks of the strictest moralists, but surely the ultra-refined discussions of Bloomsbury-square are more adopted to Laputa or a sinless world than to this occasion. Zoologists have had to modify Adam's nomenclature very considerably; but if he made some mistake in naming the animals around them, it was not for that crime that he lost Paradise. Language teems with misnomers more or less palpable. We do not defend these, but for the present all our arrows are needed for malpractices and unjust law.

F. CRACE-CALVERT, PH.D., F.R.S.

IN Professor Calvert the scientific world has lost one of its most persevering and most practical members. To our readers his position was doubly interesting, first in that he had so closely identified his name with a product of special pharmaceutic interest, and secondly as the head of an important firm, having direct relations with the trade throughout the world. It was our intention and our hope to have presented this sketch during Dr. Calvert's life. It is with much regret that we find the record of that career, so active and useful, complete before us.

Dr. Calvert was born in London, in 1819, and was the son of Colonel Crace, a gentleman of fortune, who had added to his own name that of his wife. Hence the compound name of the subject of this sketch, Frederick Crace-Calvert. He was sent at the age of fourteen to be educated in France, and remained in that country until he was twenty-eight. During this period he became so intimately acquainted with the French language, that he never afterwards lost the accent nor the idiom. He married a French lady, who survives him, and to this fact, may, no doubt, be ascribed to a great extent his singular retention of a French style in his language and manner.

For a part of this time he studied chemistry under Girardin, at Rouen, but afterwards removed to Paris, and became a favourite pupil of Chevreul. His career as a student was distinguished by extreme industry and remarkable success. Indeed it has been stated that the value of the various honours conferred on him in the schools was sufficient to defray the cost of his education. While under Chevreul he was appointed assistant chemist at the famous Gobelin works. In 1846, with an already established reputation, he returned to England, and received the appointment of Honorary Professor of Chemistry in the Manchester Royal Institution, a position which had been held by among others, the celebrated Dalton, and the present Postmaster-General, Dr. Lyon Playfair. Soon he commenced lectures to popular audiences on scientific subjects, and he was moreover for some time lecturer on chemistry at the Manchester School of Medicine. With an excellent laboratory at his control he entered actively into chemical investigations, and took the highest interest in such applications of the science as tended to the promotion of sanitary and hygienic improvement. Thus he came to experiment on the preparation of carbolic acid, following up the discovery of the Prussian chemist Runge, and in 1857 he established the manufacture at Clayton, near Manchester, which, in 1864, was transferred to larger works still carried on by the firm at Bradford, near Manchester.

No doubt Dr. Calvert's great attention and enthusiasm in his desire to perfect his process were the main-springs of the great success of that establishment. The beautiful purity to which carbolic acid was brought, first of all in these works, is a boon for which the medical world must ever be grateful, and we think too that the public owes much to Dr. Calvert for his unceasing energy in publishing the virtues of carbolic acid as a disinfectant and antiseptic. The mere *dictum* of a manufacturer is not as a rule of the same value as the judicial expression of opinion of a disinterested observer, and Dr. Calvert, with his enthusiastic nature, was just the man who might have been led away by a spurious theory of his own if he had not also combined with his enthusiasm a peculiarly sound judgment, both in commercial actions and scientific theories. Although he advocated the claims of carbolic acid very warmly, he never wrote a line about it but was founded on conscientious investigation, and we believe it is not too much to add that everything he advanced has been abundantly supported by independent testimony. Besides carbolic acid he made several other applications of scientific processes.

One of his patents was for desulphurising coke by means of chloride of sodium, and this has led to an extensive business. In some other directions Dr. Calvert's persistent experiments were doomed to become commercially valueless just at the moment when they had attained to success in the laboratory. This was the case with a patent for sizing cloth, and with another for the production of aniline colours. His process for obtaining the aniline from coal tar was soon superseded by its more profitable preparation from benzine.

In scientific circles much interest attaches to some of Dr. Calvert's protoplasmic investigations. Some of the results were communicated in a paper read at the meeting of the British Association in Edinburgh some years ago, and they were published in the "Transactions" of the Royal Society. The object of these researches was to determine the origin of the germs of life, and also of the different gases of decomposing animal matter, and the temperature at which the germ life ceased to exist. Dr. Calvert showed the rapidity with which, under certain conditions, germs may be generated in organic fluids, such as the white of an egg mixed with water and exposed to the air. A portion of his protoplasmic researches still awaits publication, particularly that connected with the decomposition of eggs by different fungi. Some other of his investigations are left incomplete. In conjunction with Mr. Richard Johnson, he was endeavouring to test the velocity with which electricity passes along different kinds of wires, and also the suspending power of wires. For some years he had been engaged in perfecting an apparatus for the mixture of gases under great pressure. This was an undertaking involving serious risk from explosion, and it is doubted whether the results attained will be held to justify its continuance. His ardour for investigation had often led him into hazardous situations, and thus it happened soon after his first coming to Manchester that he was rendered blind for some time by an explosion that occurred while he was making experiments in the production of sulphuric acid.

Dr. Calvert was well known in London and Paris, as well as in Manchester. He delivered several courses of lectures to the Society of Arts, some of which we heard with great pleasure. His doctor's degree was sent him by the late Baron Liebig. He was a Fellow of the Royal Society of England, a Fellow of the Chemical Society, and an honorary Fellow of the Chemical Society of Paris. He was also a member of the Royal Academy of Turin, and of the Imperial Academy of St. Petersburg.

Dr. Angus Smith, presiding over the Manchester Literary and Philosphical Society at a meeting soon after Dr. Calvert's death, spoke of him with an affectionate remembrance as a man, and also referred to his scientific labours. He remarked that his knowledge of the literature of the science was some-

The Chemist and Druggist Portrait Gallery.

V.

(THE LATE PROFESSOR CALVERT, Ph.D., F.R.S.)

thing marvellous, and that a more diligent student of chemistry had, perhaps, never been found in any country.

He died on October 24th, at his residence, Clayton Vale House, near Manchester, at the early age of 54. Prior to the present year his health does not appear at any time to have failed him for he always seemed powerful, and of sound constitution, but during last spring he at times complained of weakness, and having arranged to benefit his health by a Continental tour, undertook to act as juror in the chemical department at the Vienna Exhibition during June and July, hoping that then he would be in sufficiently good health to bear the fatigues consequent thereon. Unfortunately he had not regained strength on his arrival at Vienna, where, despite the advice of his friends, he remained during extremely hot weather, most actively engaged in fulfilling the official duties that devolved upon him.

He returned by very short stages, and appears at some point of the journey, which occupied fourteen days, to have absorbed the germs of typhoid fever, that developed fully after arrival home, and from which he became convalescent in due course; but some ten or fourteen days afterwards, whilst still very weak, pulmonary consumption (quite unsuspected previously) set in, and ultimately caused his death.

Dr. Calvert had had one son, who died in early youth, so he leaves a widow, but no children. His courtesy was as marked as his activity, and all who knew Dr. Calvert, however slightly, recall his memory with pleasure and respect.

AUSTRIA.

(FROM OUR OWN CORRESPONDENT.)

VIENNA.

THE SOCIETY OF CHEMICAL AND PHYSICAL SCIENCE has elected Dr. Victor Lang, Professor of Physics in the University, president for the ensuing year; Dr. Ischermack, vice-president; Dr. Lippmann, secretary; and Mr. A. von Waldheim, apotheker, treasurer. The retiring president, Hlasiwetz, gave a long account of the proteine series, and also described a new method of obtaining chemically pure albumen, which we briefly abstract on account of its simplicity. A hard-boiled egg is freed from its shell, and cut into pieces. The white is then carefully separated from the yolk, washed with water if need be, and digested for a long time with alcohol of 90° in a retort. After several days the alcohol is removed, and its place supplied with ether, in which the white of the egg is again digested for some days. By this means is obtained a dazzlingly white chalky powder, which is chemically pure albumen.

THE PHARMACEUTICAL ASSISTANTS' ASSOCIATION held its first meeting on November 17th, when Dr. Richard Goddefroy, Professor at the laboratary of the Austrian Apotheker-Verein, gave a very interesting lecture on the products obtained from the refuse of the dry distillation of coal. We gather from this lecture that although the manufacture of gas is carried on in all the considerable towns of Austria, far too little attention is paid to the utilization of the waste products, such as tar, etc.

The Manufacture of Pharmaceutical and Chemical Preparations in Austria.—Everyone who visited our recent Exhibition must have been struck with the small number of large firms in Austria which contributed towards Group 3—chemical industry. Was this due to the fact that a large proportion of the chemical manufacturers held aloof from the Exhibition? We regret that we cannot explain the fact in this manner. The number of chemical factories in Austria is so insignificant as to bear no comparison to the number of other branches of industry. And yet no doubt the Crown lands of Austria are richer in natural products than any other country of Europe. In all directions are found the rarest minerals and stones, which only need to be worked on the spot to yield handsome profits. But these are either sent abroad, chiefly to Germany or Italy, or are allowed to decompose naturally. As a specimen we need only here refer to one mineral, of the extremest value to chemical industry, namely iron pyrites. There are large mountains of this mineral in Steiermark, Croatia, Hungary, and other places, where it is to be found either mixed with quartz, or wedged in solid blocks in the soil, perfectly free from arsenic, and yet these are hardly touched because there are so few factories in Austria engaged in the production of the precious sulphuric acid, and capitalists who seek to become rich by quicker means, cannot be sufficiently interested in the subject to establish new ones.

One of the most noteworthy factories of sulphuric acid in Austria is the K. K. Schwefelsaurefabrik, in Nussdorf, Vienna. Until recently this was the largest in the empire, now, however, it is celebrated rather for the purity than for the extent of its manufacture. In this factory the process followed is the ordinary lead chamber system. Sicilian sulphur, perfectly free from arsenic, is burned exclusively. The Government, which is the proprietor of these works, permits no pyrites to be used for fear of contamination with arsenic. Of course this makes the acid dearer than usual. It is sold at 30 florins the centner (56 kilogrammes, say 60s. the hundredweight). It is therefore only used by pharmaceutists and chemists. It has a sp. gr. of 1·845, and its only possible impurity may be a trace of lead sulphate. The Nussdorf factory has four lead chambers, of which the average size is 20 metres long and 5 metres broad. The annual production is about 12,000 centners. The retort, which is of pure platina, will contain about 85 litres. Formerly nitric acid and ammonia were also among the products of this establishment. Now liquid ammonia only, besides the sulphuric acid, is made here. This is of the utmost purity, of sp. gr. 0·910, and is only sold for pharmaceutical purposes. The works cannot be extended as they are already surrouaded by houses, and they are only permitted to exist by the sanitary authorities from the fact that they belong to the Government.

GERMANY.

(FROM OUR OWN CORRESPONDENT.)

BERLIN, Nov. 28, 1873.

THE German Pharmacopœia has now been in existence for a twelvemonth, and has lately been subjected to a somewhat severe attack, not from the apothecaries, but from the manufacturers of chemical preparations. In a circular issued by these gentlemen there is, among many unjustifiable statements, much truth. Complaint is made especially with regard to the directions given for testing purity. For example the Pharmacopœia requires that chromic acid should be in needle-like crystals, and should contain scarcely a trace of sulphuric acid. But with so little sulphuric acid it is impossible to obtain the preparation in crystals of this form, but as has been proved by Zettnow it can only be got in scales. Long crystals can only be produced when there is a somewhat considerable proportion of sulphuric acid also present. *Lactic acid* cannot be produced of the required specific gravity (1·24) without undergoing decomposition. *Dry extracts*, say the manufacturers, become moist if prepared with dextrine, which as ordered in the Pharmacopœia, contains no starch; but this is incorrect. Well dried and well preserved these dry extracts do not become damp. Therefore they should be prepared by the pharmaceutist himself, and should not be an article of commerce. *Citrate of iron* should be perfectly soluble in cold water. This, however, is not possible if the prescribed process is exactly followed. *Reduced iron* is required

to be chemically pure and black. As a matter of fact it is not possible to possess both qualities. *Glycerine* ought not to decompose caustic, and the Pharmacopœia admits only distilled glycerine. But even this will reduce the silver; it depends on which way the test is applied. It is desirable to render the test more exact. *Bromide of potassium* is to be absolutely free from chlorine, but it is only possible to get it so on a small scale, and after repeated recrystallization. The same may be said with regard to *sulphate of magnesia*, which in large quantities cannot be entirely freed from sulphuric acid. *Sulphide of gold* should possess no acidity, but it will not remain perfectly neutral, even though it be so when prepared. The manufacturers conclude their circular with the announcement that they will produce their preparations with the utmost possible purity, but they will not guarantee that they shall fulfil in all cases and on all points the Pharmacpœia requirements, and they beg pharmaceutists to note this.

In Berlin the assistants universally live in the house of the principal, and until within the last few years it was usual for them to take meals also at his table. Of late years, however, it has become frequent for a certain amount to be allowed for dinner and supper, which are taken at a restaurant. One hour has been generally allowed for dinner. Each assistant gets three evenings a week after six o'clock, and business closes at ten. One sleeps close by the shop; but the assistants are not quite contented with these arrangements, and have been agitating for one hour and a-half for dinner, an hour earlier for closing, and extra pay for night work. They want the charge for prescriptions at night to be doubled, they themselves to receive the half of the extra payment. At present there is not much prospect of the realization of their demands.

The Council of the North German Apotheker-Verein, which takes a lively interest in all professional affairs, has lately succeeded in cutting off another of the old pig-tails which once distinguished disunited Germany. We have already referred to the "director of the studies," who in all universities was appointed to superintend pharmaceutical students only. In consequence of the representation of the Apotheker-Verein all the universities agreed to abolish this institution, except the University of Rostock, in the Grand Duchy of Mecklenburg; but the concession has been granted at Rostock also after a special appeal.

Since the practice of medicine has been free in Germany we have been over-run in the large towns, and particularly in Berlin, with a number of practitioners who have won their doctor's hat at Philadelphia. Among them there is one who was formerly a journeyman tailor. This gentleman has devoted himself chiefly to syphilitic diseases. He has got together a fair *repertoire* of Latin prescriptions, and has quite an important *clientèle*. Naturally his special business is to take money, but he not unfrequently prescribes powerful medicines. The regular pharmaceutists refuse to dispense his prescriptions, so the poor patients must needs take them to the so-called "wild" apothecaries. These are generally "approbirte apotheker," who are permitted to sell simple drugs, but may not prepare medicines. They do however dispense not only such prescriptions but also those of regular physicians, and of late serious cases of mischief have augmented very considerably. Unfortunately the laws do not seem to afford sufficient protection against these abuses.

Association of Apotheke-Proprietors.

The Berlin pharmacy-proprietors, about sixty in number, have had an association among themselves for many years past. They meet once a month to discuss professional affairs, and, when necessary, to decide on common action, to arrange for uniformity of retail prices, to read scientific papers, and generally to promote an *esprit de corps*. Two special meetings are held each year to which the Government inspectors are invited. These are concluded with a dinner, at which the retired as well as the existing *apothekers* frequently unite.

At the last monthly meeting Dr. Schacht (a councillor and recently president of the Apotheker-Verein) read a paper on "Pepsine and Schering's Pepsine Essence." He showed that pepsine only dissolves albumen in presence of free acid, but that a given small quantity of pepsine will effect the solution of any given larger quantity of fibrine, on the same principle as a small quantity of sulphuric acid acting upon alcohol will continue to produce ether. Further he showed that when the limits of its dissolving capacity are attained, yet by dilution with water and further addition of acid, more solution will be effected. He also maintained that a stomach had never been found without pepsine, that the natural pepsine was never entirely destroyed by the process of digestion. From this he concluded that the administration of the artificially obtained product could only be a work of supererogation. It is evident also from these premises that the value of a pepsine cannot be estimated by the quantity of fibrine which it will dissolve, but by the time it occupies in dissolving it. Dr. Schacht's experiments also went to prove that wine or alcohol were the worst possible vehicles for the adminstration of pepsine. It was probable that the tannin of wine almost entirely hindered the catalytic action of the pepsine. Some experiments were shown to prove that it was much more effective if dissolved in water. Of course in either case, hydrochloric acid is necessary. Dr. Schacht chastised the "pepsinomania" in England, and referred to such preparations as Mr. Lorimer's sauce (mentioned in last month's Chemist and Druggist) which however was, he thought, preferable to the pepsine essences or wines. The speaker concluded that the administration of pepsine or any of its preparations was altogether unscientific on the ground that no stomach had yet been observed in which the remedy was already absent.

CELESTIAL CHEMISTRY.

Translation of a Lecture read by M. Jahssen at the annual assembly of the five Academies of the Paris Institute.

GENTLEMEN,—Astronomy has now arrived at a very interesting, but somewhat curious point in its history. Hitherto this science has been exclusively a science of observation and of calculation—of calculation especially; observation has merely been employed to supply the necessary foundations. There was indeed a time when the title of astronomer and that of mathematician were almost synonymous. No doubt the invention of the telescope and the progress of physical science led to a new order of observation, prosecuted for its own sake, and not simply for bases of calculation; there existed, in short, a "physical astronomy;" but this was only a very modest and subordinate branch of the science, and it was universally admitted that the highest astronomical investigations were those which demanded mathematical analysis.

Well now, gentlemen, it has come to pass within the past few years that a new science—chemistry—whose objects seem at first sight very foreign to astronomy, has made a sort of invasion into its territory, and what is still more remarkable, has justified by the brilliance of its results, the boldness of its pretentions.

It was in the laboratory of two illustrious men, Kirchhoff and Bunsen, that the methods of investigation which had been for a long time deeply studied elsewhere, were at last finished and fully equipped, ready for surprising applications.

Permit me, therefore, to describe briefly the character of this scientific revolution, and to present a rapid sketch of the important discoveries which have resulted from it.

By aid of the new method known as *spectrum analysis*, the astronomer no longer looks on the light from a star merely as an index of the position of that star; he can now go further; he can decompose that light into its chief constituents; and this analysis, to him who knows the interpretation thereof, teaches the most important and the most unexpected ideas respecting that star.

Light is so subtle an agent, that if we take for example a beam of solar rays, we shall find it composed of an immense number of individual rays, each similar to the original beam. But further; each of these rays may in its turn, by the aid of a prism, be resolved into an almost infinite number of still more elementary rays, differing from each other in their properties. Some are especially characterised by their caloric power; others are peculiarly necessary to affect pho-

tographic substances; others, lastly, sensible to the eye, and giving us our special sensations of colour. It is with these elementary rays that *spectrum analysis* is concerned, because it is these that are engendered by the ultimate material elements of luminous bodies, and which faithfully retain their characteristics. Indeed, these elements of light have such an intimate connection with the material elements which have engendered them, and preserve so faithfully the impress of their origin, that to analyse them is really to analyse the body itself. Only to analyse the body necessitates its possession between the hands, while the analysis of of its light may be conducted, as we may say, across the diameter of the sky.

The first astronomical application of this wonderful method was made by Kirchhoff, on the sun. It was found that our great luminary contains most of our ordinary metals, especially iron; neither gold, silver, nor platina have been found there; but we must not forget that this analysis only reaches the exterior gaseous envelope, and does not penetrate to the body of the sun itself.

Such was the *debût* of *spectrum analysis*, solving at one step the great problem of natural philosophy as to the cosmic origin of our globe. It shows us that that origin is solar. Thus our world borrows from the sun not only its light and heat, but also the very materials of which it is formed.

Having obtained this beautiful result, it was very natural to enquire if this unity of material composition was limited to our solar system, or if it also extended to distant suns and groups of planets distinct from ours.

Before such a staggering problem, ancient astronomy would have stood powerless. *Spectrum analysis* alone could reach the question, and it solved it with perfect success. Messrs. Miller and Huggins, in England, submitted the light of the stars to the most minute analytical examination. It was found, that though the stars differed among themselves in respect to their constituent elements, these elements were invariably those which had been discovered in the sun, and which chemistry had taught us to isolate from their terrestrial compounds.

Add to this result the notions recently gained with regard to the nebulæ, and the unity of the visible universe is demonstrated.

By the nebulæ is meant those bodies which, in our telescopes, appear like a sort of luminous clouds, and which are now considered to be celestial bodies on the confines of our vision; of these some are resolvable—that is to say, the telescope shows them to us as formed of an innumerable number of stars. A sort of dust formed of suns. Others retain their bright cloudy appearance. But was this appearance due to their own constitution, or to the weakness of our instruments? The question was of the utmost cosmical importance, and it was finally settled by *spectrum analysis*. Many of these nebulæ have been proved to exist in the gaseous state; and not only so, but in all of them Mr. Huggins has been able to trace the presence of hydrogen.

So this hydrogen, which forms one of the bases of water, which burns in our gas—this subtle gas, the lightest of all bodies, is at the same time a sort of universal body. It envelopes the sun, as we shall see immediately; it is found in most of the stars; and now we trace it in the nebulæ, at distances which overpower the imagination.

Surely, gentlemen, these wonderful results must increase our admiration for chemistry, which penetrates so deeply into the womb of matter, and which has separated from the compounds of earthly origin such simple bodies, that we can readily recognise their characteristics, and can discover them everywhere as the base of the material system of the world. But let us not forget that we owe this idea of simple bodies, which has thrown so much light on chemistry, and which forms the necessary basis of the discoveries I am now analysing, to our great Lavoisier.

Having reached the nebulæ, spectrum analysis had touched the boundaries of the visible universe, and must now retrace its steps and return to the sun, there to consider new objects, and investigate more difficult problems. Until then the new method had only been applied to the sun for the purpose of recognising its chemical elements. But there were other questions, insoluble heretofore, which awaited its light.

When our sun is eclipsed by the moon, jets of light like tongues of fire are seen around its disc. These strange appearances form the most wonderful and most sublime spectacle imaginable. It was evident that we did not ordinarily see the whole of the solar globe, whose brilliant light is such as to conceal from us those dependencies which are only rendered visible during the brief moments of total eclipse. A few years ago, a total eclipse of the sun, visible from certain parts of Asia, enabled us to discover the real nature of these protuberances. But the spectroscope has done more; it has enabled us to dispense with eclipses, and to see at any time these protuberant flames, whose light is otherwise so weak. Hitherto we have seen it working as a chemist, and as a chemist playing with temperatures and distances. Now it takes an entirely new part. It has become an eye which can pierce amid the most blinding rays of light, can seize on the most delicate and transitory phenomena, and present to us a faithful image of them. Or we might liken it to an ear which can distinguish the buzzing of an insect in the deafening roar of artillery.

As soon as this discovery had been made in France and England, it was universally applied. Lockyer, in England, Secchi and Respighi, in Rome, Trechini, in Palermo, and others, turned to the sun from this point of view. I would wish to include France also, but I regret to state that we have no establishment where these observations were carried on in a systematic manner.

Now, in a few words let me tell you what has actually been discovered. Telescopic examination had already taught us that the sun consisted of a centre relatively obscure, and of an excessively luminous envelope, which gave it its brilliant aspect. But the spectroscope has shown us that around this bed of light there is, first, an incandescent atmosphere of hydrogen subject to violent agitations, and into which eruptions of metallic vapours are frequently cast from the outer body. This atmosphere again is surrounded with another envelope, also of hydrogen, extending an enormous distance; and it is this last chiefly which produces that splendid corona visible during total eclipses. But the most extraordinary objects which these investigations have revealed, have been those jets of hydrogen, which, departing from the centre, have burst through the photosphere and the atmospheres to heights of ten, twenty, and thirty thousand leagues, sometimes with a rapidity which confuses the imagination. I have myself seen these transformations acting in less time than it has taken me to describe them. All astronomers who have observed these phenomena have been struck with their analogy to our terrestial volcanic eruptions. But on what a different scale! In these solar eruptions, our whole earth would be only big enough to represent a stone! and these vast phenomena which can be watched through an ordinary telescope, can be followed through the spectroscope as easily, and assuredly with less danger than an eruption of Vesuvius or Etna.

If time permitted, gentlemen, I would like to have shown you the purposes of these various atmospheres, and especially to have indicated how, according to the beautiful theory of M. Faye, the photosphere can continually regenerate itself, and draw heat from the beds below, to enable it to shed forth for long periods the warmth and light on which our existence depends. But I must go no further; I have endeavoured to point out the part which chemistry has played in these astronomical investigations, and to show how fruitful in results is this beautiful alliance of the sciences. For my own part, as I think of the results which labour and genius have unfolded, I am profoundly convinced that notwithstanding the beauty of the astronomical edifice already reared, we have as yet but read the preface of the marvellous volume of the universe.

Taking Croton Oil in Mistake for Medicine. — On the 9th inst. the Liverpool coroner held an inquest on the body of Margaret Walker, 53 years of age, wife of a labourer living at No. 1, St. Martin-street. Deceased, who had been ailing for some months, was under medical treatment, and the doctor prescribed a lotion as well as medicine. On Saturday last the deceased took the lotion in mistake for a cough mixture. The lotion contained croton oil, and was labelled poison, but deceased was not able to read. It appeared that no doctor had been called until shortly before her death, and the jury, in returning a verdict that deceased was accidentally poisoned, censured the husband for not calling medical assistance at an earlier period.

Provincial Reports.

GLASGOW.

CHEMISTS' AND DRUGGISTS' ASSOCIATION.

THE third general meeting of the Association was held in Anderson's University, on Wednesday, 26th November, at 9 p.m. Mr. John Curril, President, in the chair.

The minutes of previous meeting having been read and confirmed, the Secretary read a note that he had received from the Secretary of the Andersonian Library, in which it was stated that the members of the Glasgow Chemists' and Druggists' Association could have the use of the library, only on the condition of their joining one of the lecture classes. The Secretary also read a letter from Mr. McDonald (Glasgow Apothecary Company) in reference to the case of Mr. Freeland, chemist, Bathgate, asking if the Association would undertake the getting up of a subscription to assist in defraying that gentleman's expenses connected with the law suit, and that he would start the subscription in the name of his firm.

It was finally agreed upon that it would not be advisable for the Association to have anything to do with the matter, but that it should just be left to individual members to subscribe if they felt so inclined, and were called upon.

At the same time the CHAIRMAN thought that it would be a good thing if a defence or protection fund could be established for the benefit of chemists in the West of Scotland.

Dr. NAIRN (Glasgow) then delivered an able and very interesting lecture on "The Brain and Nervous System," illustrated by anatomical specimens.

At the close, the lecturer was awarded a most hearty vote of thanks.

It was announced that at the next meeting of the "Assistants' Section" a paper would be read by Mr. John Foster on "Animal Substances Used in Medicine."

The meeting then separated.

HALIFAX.

HALIFAX CHEMISTS' AND DRUGGISTS' ASSOCIATION.

A MEETING of this Society was held on Friday, December 5, Mr. Jessop, President, in the chair. The meeting was called to take into consideration the following notice, viz. :—That in case of any prosecution arising from the operation of the Adulteration Act, with respect to the sale of drugs and chemicals, against any of the members of this Association, this meeting is of opinion that it would be desirable for this Association to support and assist such member by defraying the whole or part of the expenses in connection with the defence before the local courts in this town, subject to the following conditions, viz. :—That a full and honest statement of the particulars of the case be laid before the Committee, who shall then decide as to whether such case is deserving of the support of the Association, and that their decision shall be final.

Mr. J. B. BRIERLEY had great pleasure in moving its adoption. That something of this kind was imperatively called for was shown by the summoning of several druggists before the Westminster Police-court for the alleged adulteration of spirits of nitre, the particulars of which he read from the *Times* newspaper. No one now could feel absolutely safe from prosecution, and the idea was a good one, having an Association to confer with and advise as to what course would be the wisest to adopt should circumstances arise calling for its support.

Mr. ROBERT BROOK, Hon. Sec., in seconding the resolution, wished it to be clearly understood that while the Society should extend its support and sympathy to a member, it could not be held responsible for any penalty if unfortunately a conviction should ensue. He also thought the action of the Society should be confined as close as possible to drugs and chemicals. A good deal had been said about our being at the mercy of the wholesale houses to a large extent. In the 1849 edition of Mohr and Redwood's "Practical Pharmacy" the learned Doctor has a chapter on the manner of drying and grinding drugs, he shows how they may be, and are, adulterated with sawdust, from the loss of moisture by drying being greater than the wholesale houses would make allowance for. With the Adulteration Act hanging over our heads, if the same system is still in vogue, it is impossible to say whose turn may come next to figure in the police-court.

Mr. DYER, in supporting the resolution, thought the Society should not draw a hard and fast line with respect to drugs. Many articles largely dealt in by the trade, and for which we were dependent upon the honesty of the manufacturer, such as mustard, ought to be included. The latter part of the resolution, however, left a wide scope for the Committee, and he had no doubt they would act in each case in a generous spirit.

The PRESIDENT, in submitting the resolution for adoption by the meeting, stated that he had for some time held the idea that the wholesale houses should furnish a written guarantee as the purity of the drugs sent out, and if the same percentage allowance for drying was in use now it became more imperative than ever that the retail dealers should insist upon the plan being adopted. He was exceedingly glad that the whole subject had been brought under the notice of the trade. The resolution was carried unanimously.

HULL.

HULL CHEMISTS' ASSOCIATION.

THE annual meeting of this Society was held on November 13th, at the Cross Keys Hotel, the President (Mr. Anthony Smith) in the chair. The report was read by the Secretary, Mr. C. B. Bell, and the members seemed especially gratified at the great success which has attended the educational endeavours of the committee; and from extracts taken from the reports of Messrs. Parson and Niven, the lecturers to the Society, the classes both in connection with chemistry and botany have been of a most satisfactory character. Prizes were awarded for chemistry, materia medica, and botany. The Treasurer announced that, in addition to the ordinary expenses of the association, the prizes have this year been given from the funds of the Society instead of by private donors, still the balance in his hands was most satisfactory. A ballot took place for the election of officers for the ensuing year, when Mr. Anthony Smith was re-elected President, Mr. F. Earle, Vice-President, Mr. C. B. Bell, Secretary and Treasurer; Messrs. Myers and Pickering were re-elected on the committee, with Messrs. Oldham and Grindall. The officers of the Society received the hearty thanks of the members for their services during the past year.

IRELAND.

FROM OUR OWN CORRESPONDENT.

DUBLIN, Dec. 4, 1873.

I AM glad to be able to report to you that the Chemists' and Druggists' Society of Ireland do not appear to intend to let the grass grow under their feet. In the first place, they have taken a move in the right direction by appointing as their Vice-President, Charles R. C. Tichborne, Ph.D., F.C.S., &c., a gentleman whose reputation in the scientific world has travelled far outside the limits of our Emerald Isle.

A meeting of the Association was held at 44, Molesworth-street, Dublin, on Monday evening the 1st inst. The new Vice-President was inducted into office by taking the chair on this occasion.

The first subject brought before the meeting was the report from the deputation which waited on the Governor and Court of Directors of the Apothecaries' Hall, to confer as to what steps should be jointly taken to pass the new Pharmacy Bill (already drafted) through Parliament this coming session. One of the members having been called upon to tell the result of their mission, he spoke to the

effect:—"That the deputation from our Society was received with much courtesy by the Governor and Court; they discussed *seriatim* the amendments suggested by your Society, some of which they agreed to, and others they thought would not be advisable to adopt, but that the Chemists' and Druggists' Society had every reason to be satisfied with this result. It was also agreed that Dr. Lect (Secretary to the Apothecaries' Hall) should write to the Attorney-General to know if he would receive a joint deputation from the Apothecaries' Hall and Chemists' and Druggists' Society, to request his undertaking the conduct of the Pharmacy Bill through Parliament."

Messrs. Hodgson, Erson, Goodwin, and Hayes, were then elected to join with an equal number from the Apothecaries' Hall, to form this deputation.

The next matter brought under notice of the meeting indicates, that since the chemists and druggists have determined that they will obtain a Pharmacy Bill for Ireland, they show an equal determination to prove themselves worthy of it by insisting upon a high standard of education, both for themselves, their assistants, and apprentices, and at once applying themselves to this important task. There has recently been formed in connexion with the Apothecaries' Hall, a course of practical instruction in Chemistry, Pharmacy, and Botany (chiefly, I believe, through the energy of Mr. Tichborne). The Chemists' and Druggists' Society deputed six of its members to attend these classes, and report as to their suitability as an elementary educational course for their members. The reports being all of a favourable character, it was unanimously agreed to adopt them, and eighteen names were given in to the Secretary, of those present who wished to join the classes: I think I may confidently predict that before many days, there will be three times that number.

The Vice-President at the close of the meeting spoke at some length, giving much good and profitable advice to the members on the importance of at once applying themselves to study of a practical and useful nature, and strongly recommended perseverance in what might at first be only a drudgery, but would be much more useful to them in after life, than studies of a more pleasing character. He also recommended a short course of practical lectures from friends who take an interest in the Society, and intimated that he should not be backward in assisting in filling up this part of the programme. I have reason to believe that this and many other useful hints will not pass by unimproved.

LIVERPOOL.

CHEMISTS' ASSOCIATION.

(FROM OUR SPECIAL CORRESPONDENT.)

The third general meeting was held at the Royal Institution, Colquitt-street, November 6th, the President, Dr. Symes, in the chair.

The minutes of the previous meeting were read and confirmed.

Mr. Thomas Henry Morris was elected a member, and Mr. John Griffith an associate.

Mr. A. NORMAN TATE delivered a lecture, entitled "Chemistry as a Branch of National Education, with Special Reference to Government Aid to Science Teaching, and the Teaching of Science in School Board Schools." The lecturer urged the more extended teaching of chemistry, and, alluding to the mode of study, remarked that being essentially a practical science, it was totally impossible to become even moderately proficient in it without a strictly practical course of study. There was a great absence of desire on the part of those who could and should lead the way in fostering the study of science to encourage the study, and this was especially noticeable at the Universities of Oxford and Cambridge. With reference to State aid, we certainly had one or two institutions receiving support from the State, but they were totally inadequate to do all that was necessary. There was, however, one institution that promised a better state of things, and that was the Science and Art Department of the Committee of Council on Education, which formed the focus from which would gradually radiate valuable work; and the further extension of its aid to national schools was desirable, and appeared to be foreshadowed. It was evident that to teach chemistry to the great mass of children in Board schools in a practical laboratory manner was a sheer impossibility. What in his opinion was required was the careful teaching of those leading facts of chemistry and other sciences that bore upon ordinary every-day life, and such matters could not be taught too early, and should come before other subjects that were now put prominently forward. Teachers in such schools should be compelled to carefully digest these leading facts, and accustom themselves to explain them in such a manner as to be easily understood by their youthful pupils. It should not be the dry, hard, uninviting teaching that was far too frequently offered, by means of which poor little children were compelled to cram into their puzzled brains a tissue of terms and facts without any explanation of their meaning—to learn off by rote, and repeat like so many parrots. It was quite possible to make scientific facts pleasing and interesting even to young children, and if science teaching was introduced into Board schools that was the only way in which it must get there, so far as the majority of the pupils were concerned. But before this could be done there must be trained teachers, not only chief teachers, but pupil teachers trained in science subjects; for it was useless to try to inculcate scientific knowledge in a useful, palateable form, unless the teacher was quite familiar with the subjects he had to teach. There were now but very few teachers trained in science subjects, and therefore before progress could be made facilities for training teachers must be provided; and he considered that the best policy was to look first to the teachers and their assistants, and to provide that they should be made fully conversant with the subjects which it was desired to teach.

A short discussion followed the reading of the lecture, and after an unanimous vote of thanks had been accorded to Mr. Tate the meeting adjourned.

The fourth general meeting was held November 20th, the President, Dr. Symes, in the chair.

Messrs. William Jones and John Brooks were elected members.

The PRESIDENT exhibited several new and interesting pharmaceutical and chemical preparations, and explained their composition, uses, etc.

Mr. ALFRED E. TANNER exhibited a hand drug-mill, manufactured by Messrs. Hanse Brothers and White, of New York, the one recommended by the Committee at the meeting of the American Pharmaceutical Association. He recommended it as of very great assistance to pharmacists in the various manipulations to which it was applicable, and also pointed out what improvements he considered desirable in it. Mr. Tanner also exhibited specimens of all the liquid extracts of the United States Pharmacopœia, detailing the process of manufacture of each, and their probable value.

Some discussion took place upon the various specimens exhibited, in which Messrs. Davies, Redford, Shaw, Tate, and others took part.

The PRESIDENT, having apologized for the absence of Mr. Murphy, who was announced to read a paper, then opened a discussion upon the bearing of the Adulteration Act upon the business of chemists and druggists, principally alluding to the injustice of the McDermott judgment and the further liability of the trade if similar prosecutions were to be repeated. He considered that the present administration of the Act was not at all in accordance with the spirit of its promoters when it was discussed in the House of Commons, and he thought some action should be taken to protest against the injustice of its present form of working. He strongly deprecated the action of the Pharmaceutical Council in the recent prosecution, leaving it for a single individual to take Counsel's opinion as to the legal bearings of the case, and wait the result, instead of taking prompt and definite action to get the judgment of the magistrate reversed. He invited the opinion of members upon the question.

Mr. DAVIES considered the principal evil in the Act was the way in which the public analysts were appointed without having to show any real evidence of competency for the position, which was most desirable when such enormous power was placed in their hands. He suggested as one remedy that all public analysts should be required to pass an examination before an unquestionably competent tribunal

before they obtained the appointment. At the same time, as far as the recent prosecutions for selling citrate of magnesia—which was shown did not contain a particle of magnesia—went, he considered it was quite justifiable. When such an article was sold the public were undoubtedly under the impression that they were getting magnesia in a palateable form, and if this was not so, then here was a case in which the necessity for the Act was shown. He disapproved of the idea of chemists and druggists raising any protest against the Act when an isolated prosecution occurs, as it would at once give the public an idea that they were afraid of the Act, rather than foremost to uphold it.

Mr. Shaw stated that the matter had been brought before the notice of the Pharmaceutical Council and carefully considered by them, and in Council they decided that the matter should be discussed at the evening meeting of the Society (which had been done), when Mr. Bishop volunteered to take Counsel's opinion as to his position, and lay the result before the trade. He reminded the members present that Mr. McDermott was not a registered chemist and druggist: hence the Pharmaceutical Council could not interfere in his case.

Messrs. Armstrong, Sharp, Mason, Sumner, and others, continued the discussion to a late hour, when Mr. Tate moved that the discussion be adjourned to the next meeting, which was carried unanimously.

The Fifth General Meeting was held on the 4th inst.; the President, Dr. Symes, in the chair.

Mr. Arthur C. Jones and Mr. Edward Edisbury Rowlands were elected associates.

Several donations to the library were announced.

Mr. Martin Murphy, F.C.S. read a paper on "The Adulteration of Food, Drink, and Drugs, considered in relation to Degal Repressive Messures, its Prevalence and the Means in Operation for its Detection." The author defined adulteration to be "the addition to, or removal from, any article of food, drink, or drug, of any substance or matter, wilfully and with design, which would lower the qualities of such article." As regarded the definition of the Act of 1872, he considered his definition as against the Act was the more comprehensive one, inasmuch as certain products from which their active principles might be removed (such as Peruvian bark, opium, &c.) could be sold without the seller becoming amenable. He regarded the adulteration measures as fiscal and popular, and he thought the Act of 1872 belonged to the latter order, inasmuch as its intent was to benefit the public without the Legislature deriving any emolument from it.

The Government, in passing the Act of 1872, had taken an exaggerated view of adulteration, being in some measure led to do so by the very sensational works of such authors as Frederick Ackam, Hassall, and other writers on adulteration. The natural products forming the staple of food and drugs always contracted more or less impurities during their harvesting, and from the other methods of preparation to which they were subjected. Such natural impurities had been gravely alleged by public analysts to be vile adulterations. He deprecated that view. Public analysts had unlimited powers under the new Act, a measure which was crude, ill-considered, despotic, and immoral—which was so utterly beneath an enlightened and popular Parliament that he was at a loss to account for the approval of it, otherwise than by inferring that the House of Commons had been imposed upon and cajoled into assent by designing and interested advisers. He thought the Act could not be a long-lived one, that it needed amendment, and that the powers of public analysts should be reduced to reasonable limits, more definite proofs of adulteration being demanded from them. He suggested that in all cases in which samples were purchased for the purpose of analysis, half the sample should be left with the trader under the seal and superscription of the inspector, in order to avoid the possibility of the question of the identity of samples being raised when the matter comes before a court of law.

The President thanked Mr. Murphy for his highly interesting and valuable paper, and stated that before proceeding with the discussion, the miscellaneous communications for the evening should be dispensed with. He wished to make a communication which was important as far as he was concerned, as upon the issue of that meeting depended the question whether he remained in office as President or not. Thinking it very desirable that *immediate* action should be taken in the matter, he had called a meeting of Council to hold a special meeting of the Association, at which all the chemists and druggists of the neighbourhood should be called "To consider the bearing of the Adulteration Act."

Mr. Murphy protested against the proceedings of Council being brought forward in this manner, and suggested they should continue the business of the evening.

The President proceeded to state that the Council had brought forward an amendment which simply nullified his proposal.

Mr. Murphy again protested.

Mr. Davies moved that as the meeting were not in possession of the whole facts of the case, the consideration of it be adjourned.

Dr. Cooke seconded the resolution, which was approved, and the business of the Meeting was continued.

Dr. Cooke approved the tone of Mr. Murphy's paper, but offered a few criticisms. He considered that the qualities of genuine articles should not vary, and in the gathering in of grain, he thought if skilled labour were employed the admixtures which generally presented themselves would be avoided. He did not think that druggists should condemn the Act, but he thought that a compulsory qualification of the public analyst was desirable, and that we must bear in mind that the Act wanted amendment, not destruction.

Mr. Davies recapitulated his views ststed at a previous meeting.

Mr. Tate condemned the administration of the Act, judgment was often given in ignorance of facts, and not in the spirit of the Act, but in the strict letter.

The discussion was continued to a late hour. Mr. Self moved a vote of confidence in the President, and the members adjourned.

MANCHESTER.

MANCHESTER CHEMISTS' ASSISTANTS' ASSOCIATION.

The second ordinary meeting was held on Wednesday evening, November 12. The Secretary, Mr. A. J. Pidd, read a paper on "Phosphorus and its Compounds." He explained at great length by equations on the black board the phosphites, hypophosphites, metaphosphates, and pyrophosphates. He also described the method for detecting phosphorus in poisoning cases.

The third ordinary meeting was held on Monday evening, November 24. Mr. Strickland read a very instructive paper on "Mercury and its Salts." An interesting discussion followed the reading of this paper.

The fourth meeting was held on Monday evening, December 8. Mr. Roebuck read a paper on "Leaves." He explained at length by diagrams and dried specimens the various forms of leaves and their uses.

CHEMISTS' AND DRUGGISTS' ASSOCIATION.

At the second monthly meeting of the session, held at the rooms of the Association, 37, Blackfriars-street, on Friday evening, December 5th, Mr. W. S. Brown, President, in the chair, a lecture on "Methods of Detecting Hydrocyanic Acid and Cyanide of Potassium, in Cases of Poisoning," was given by Mr. Louis Siebold. There was a good attendance.

Pereira and the Organ Grinder.—Apropos of the opening of the session we may retail an anecdote of Dr. Pereira which we picked up at Bradford, from one of his old students. During his demonstration one day the professor was much annoyed by a street organ just outside. With a prodigality born rather of vexation than of generosity, the lecturer sent out the porter with sixpence to bribe the nuisance into another street. The messenger quickly returned, and naively remarked to the astonishment of the doctor, and the diversion of the class "*Beg your pardon, sir, but he says he won't go for less than a shilling.*"

THE SALE OF SPIRITS OF NITRE.

Four Chemists Prosecuted under the Adulteration Act.

COMPLETE VICTORY.

THE excitement occasioned by the prosecution and conviction, under the Adulteration Act, of a druggist in Bermondsey for selling "citrate of magnesia," had by no means subsided, when it was announced that a crusade against pharmacists had been commenced in Westminster, the Metropolitan Board of Works being the prosecuting body, and their chief witness the official analyst, Dr. Auguste Dupré. In this instance spirit of nitre was the offending article.

We have heard that not less than sixty samples had been obtained in the district, and four gentlemen were served with summonses. These were Mr. George Fenton, surgeon and chemist, of Great Smith-street, Westminster; Mr. E. D. Doughty, of William-street, Knightsbridge; Mr. W. S. Saxby, of 11, Tothill-street, Westminster; and Mr. W. S. Barton, of 8, Moreton-street, Pimlico. Mr. Fenton had obtained his spirit from Messrs. Herrings and Co., Messrs. Huskissons had supplied Mr. Doughty, Messrs. Preston and Sons Mr. Barton. Mr. St. John Wontner appeared for Herrings, Mr. E. Draper for Huskissons, Mr. Poland represented Prestons, and Mr. Braithwaite appeared for Mr. Saxby. Mr. Warrington Rogers, the solicitor to the Board of Works, prosecuted.

Besides the parties directly interested in the case, a considerable number of London chemists were in the court, including the President of the Pharmaceutical Society, Professors Redwood and Attfield, Mr. Sandford, and many others.

Mr. Saxby's case was first called, but his representative was not present at the time, whereupon the prosecution passed on to the summons against Mr. Fenton.

At this point Mr. Flux, who had been instructed by the Pharmaceutical Society to watch the proceedings, attempted to address the magistrate. Before it was possible to ascertain the drift of the "question of principle" which he said was involved, Mr. Arnold stopped him, and declined to hear him on the ground that he appeared for none of the parties in the trial.

Mr. ROGERS opened the case in a few words, and called

Mr. OWEN WILLIAMS, one of the inspectors of the Board of Works. This witness deposed to having purchased four ounces of sweet spirits of nitre at the shop of Mr. Fenton, in Great Smith-street. At this point Mr. Wontner (who was "coached" by Mr. Umney at his side) showed his first card by asking the witness if sweet spirits of nitre was the same thing as spirits of nitre. The witness did not seem quite sure on this point, and then Mr. Wontner added that they were summoned for having sold spirit of nitrous ether. The magistrate at once saw this point, but it was passed on Mr. Rogers' assurance that Dr. Dupré would be able to give evidence as to the identity of the articles. The witness then continued to the effect that having purchased the spirits of nitre, for which he paid 1s. 4d. and 1d. for the bottle, he told the assistant to give his compliments to Mr. Fenton, and to say that he had purchased it for the purpose of having it analyzed. The assistant said he believed it to be perfectly pure. Witness then put another label on the bottle to conceal the name of the seller, and sent it to Dr. Dupré. Upon his certificate the summons had been taken.

The certificate was handed in, but Mr. Rogers explained that it was not tendered as evidence, because Mr. Woolrych had held that when the Board was the prosecutor, the analyst's certificate could not be accepted as evidence. When a private purchaser prosecuted it could be so taken. Therefore Dr. Dupré was in attendance. Mr. Wontner intimated that the defendant would have subpœnaed him had the prosecution not brought him.

Mr. WONTNER then cross-examined the inspector, who was unable to say for certain whether he had asked for "sweet spirits of nitre," or "spirits of nitre," but he believed it was labelled "sweet nitre." At any rate it was not labelled "spirit of nitrous ether." The magistrate remarked that the witness did not seem very exact in his evidence.

AUGUST DUPRÉ, the analyst appointed by the Board of Works, was then called, and examined by Mr. Rogers. At the commencement there was a discrepancy in the dates named by the inspector and the analyst, and Mr. Arnold again remarked on the inaccuracy. Witness said he received from Owen Williams a sample of spirits of nitre.

Mr. WONTNER: What did he receive?—You call it spirits of nitre, but we are summoned for spirit of nitrous ether.

Mr. ROGERS: Well, spirit of nitrous ether, then.

Mr. WONTNER: It is not that which was sold to him.

The witness then stated that having analysed the sample he found it considerably adulterated with spirit, and to a slight extent with water.

Mr. WONTNER then commenced his cross-examination by asking for the proportion of water.—Witness thought about 10 per cent.; it was not possible to say exactly. His certificate did not state the relative quantities of spirit and water.

Was he doctor of medicine?—No.

A pharmaceutical chemist?—No.

Had he an English degree?—No; a German degree.

Was the water in excess of the quantity which might have been expected from evaporation of spirit, after keeping four or five months?—Certainly, if moderately well kept. If in an open bottle, or put into a dish, he could not answer for it.

The idea he had formed was that water had been added?—Decidedly.

Witness declined to pledge himself as to the quantity added, but he would pledge himself that 10 per cent. was present.

What was the specific gravity?—·867.

Was it more than ·853?—Certainly.

Witness then stated that the correct specific gravity would be ·845. That was the standard of the British Pharmacopœia; and, in reply to Mr. Wontner, witness admitted that it was his contention, and the contention of the Board, that if the article in question were not up to the British Pharmacopœia standard was adulterated.

The next point was whether being a liquid it was a drug; which witness affirmed.

Next Dr. Dupré admitted that he did not take the specific gravity himself, but was present, and saw the temperature when it was taken.

Mr. WONTNER then asked if he (witness) had instructed the inspector what to ask for; and it appeared that he (Dr. Dupré) had written down on a piece of paper *Spiritus etheris nitrosi*. He had given no verbal instructions, had not even seen the inspector. In answer to the magistrate, however, he stated that spirit of nitrous ether and sweet spirits of nitre were the same article. "That," said Mr. Wontner rather confidently, "is what you say?" "That," replied Dr. Dupré, quite as confidently, "is what I say." But witness had to admit that "sweet spirits of nitre" was not named in the British Pharmacopœia.

Then followed a series of questions respecting the process of manufacture, the effect of which was amusing in the extreme. Mr. Wontner, always chemically under the care of Mr. Umney, but probably somewhat hazy himself in his ideas of the results of the distillation, pressed the analyst with the most curiously comic questions on the subject, while Mr. Arnold, who was most conscientiously endeavouring to follow the technicalities involved, became more and more confused at each fresh answer. At one moment he evidently brightened up with the idea that he had got at the crime charged against the chemists, when the analyst stated, in reply to Mr. Wontner, that he had found neither copper nor acid in the spirit of nitre, though among the ingredients ordered by the Pharmacopœia, were sulphuric and nitric acids, and fine copper wire! Mr. Arnold seemed to wonder where the acid had gone to, while Mr. Wontner repeatedly pressed for the copper; to such an audience Dr. Dupré, slightly irritated, and continually interrupted, found it impossible to explain clearly how spirits of nitrous ether resulted at all. But having at last got it out of the still, he explained that spirit was added to bring it down to the proper strength, or rather, as Mr. Arnold suggested, to the proper weakness.

Asked as to the relative value, commercially, of spirits of nitre and spirits of wine, the witness, not being a retail dealer, could not tell which was the dearer, but he thought the latter ought to be the cheaper; that, however, had nothing to do with the case. Mr. Arnold, however, remarked that it had to do with the motive the chemist might have.

Mr. Wontner then proceeded to question the witness very minutely as to the various processes which had been ordered in the different Pharmacopœias for the manufacture of spirits of nitre and spirits of nitrous ether, and the answers came to this :—that Dr. Dupré was not prepared to prove that the spirit in question had not been manufactured according to the London Pharmacopœia process. He took his stand on the British Pharmacopœia. Then a question arose as to whether the law required that medicines should be made by that standard. On this point Mr. Flux again rose, and, as *amicus curiæ*, volunteered the information that it was under the 15th section of the Pharmacy Act that a specific remedy was provided for such errors. Mr. Wontner remarked that that had nothing to do with this case, with which Mr. Flux agreed. Mr. Arnold said he did not wish to stop the case on this point [that the proceedings were taken under a wrong Act], but it was a difficulty. Having elicited this, Mr. Wontner said—We are not summoned here under the Pharmacy Act, nor if we were summoned under that section should we be within it. We have nothing whatever to do with the making up of medicine. This is simply selling a genuine compound. It is not pretended that is made up after the formula of the Pharmacopœia. We do not allege that at all; on the contrary, what we do allege is, that we are in no way bound by the Pharmacopœia. If the public taste is for such as we manufacture, in opposition to the Pharmacopœia, we fling the Pharmacopœia to the winds, and make what there is a trade for, and not what there is no trade for. Dr. Dupré was also questioned as to the purpose of the copper and sulphuric acid ordered in the British Pharmacopœia process, which he said were intended to bring out more nitrous ether. In the sample analysed he had found ·36 per cent. of nitrous ether. According to the Pharmacopœia test there should have been 2 per cent. The following questions and answers then occured :—

I should like to know, Dr. Dupré, whether it was by your advice these proceedings were taken?—I have nothing to do with these proceedings.

Was it by your advice?—No, I have no advice to give.

Did you give no advice to the local authorities?—No

Did not you suggest it?—I! No.

Did not you go before the Board?—I do not suggest. What I do is simply to analyse the specimens brought to me, and give the inspector a certificate, I have nothing further to do. I know not where it comes from. I do not know what is to be done with it; all I do is to give my certificate.

The witness was then examined as to the medical virtues of spirits of nitre. He said in effect that it was an open question. Aldehyde was a substance contained in it, and aldehyde was liable to absorb oxygen from the air, and become acetic acid. Acetic acid was heavier than water. A bottle left open or half full might certainly in this manner produce a certain proportion of acetic acid. He believed this to be the first summons of the kind taken out in the country—For the purpose of experiment?—No, for the purpose of putting down a shameful adulteration.—Do you seriously mean that? Quite seriously.

At this point Mr. Arnold interposed and pressed the witness as to what he meant by "a shameful adulteration." He had not shown it to be deleterious to health, nor was he certain that the adulterated article cost less than the pure. He (Mr. Arnold) thought the observation a very improper one. Ultimately the witness withdrew it.

Mr. Wontner then asked if it was a fact that the article was used in almost every hospital and dispensary in the country, which Dr. Dupré believed to be the case. Then he supposed that every one using it was aiding and abetting the fraud? Ignorantly. The medical and chemical professions are all acting ignorantly, and Dr. Dupré is the only wise man? But, added Mr. Wontner, they have not all had the advantage of an education in Germany.

Mr. Arnold then questioned the witness somewhat closely as to the exact meaning of the word "drug," and suggested whether it was not derived from, or cognate to the word "dry." Dr. Dupre, however, declined to exclude all "wet" substances, and mentioned that recently he had been engaged by the medical department of the Privy Council to examine into the state of the retail drug trade, and among the list of substances given him was spirit of nitrous ether. Mr. Arnold thought a drug was an ingredient used in medicine, and Mr. Flux referred to the Apothecaries' Act where the words "drug, medicine, and medicinal compound" were used, thus apparently distinguishing the one from the other. Spirit of nitrous ether seemed to be a medicinal compound. Dr. Dupré, however, consided that it might be regarded as both, as a medicinal compound when administered by itself or as a drug when combined with other ingredients.

Mr. Wontner then addressed the magistrate. He submitted that the case must fail first on the ground that the substance was not a drug, and secondly that the spirit of nitrous ether never had any existence until after the process of distillation had taken place, and the fact of not complying with the British Pharmacopœia by putting in copper and sulphuric acid to assist the action of distillation in more strongly bringing out the nitrous ether is not an adulteration, because the article had no existence until after the distillation was completed. If after distillation something had been done to it, according to the terms of the Act, which rendered it injurious to life or health, then, taking it to be a drug, it would be clearly an infringement of the Act of Parliament. This case, he continued, is one of very serious importance; there are several to follow it, and no doubt, if successful, it is intended to make a general crusade throughout the country. And when I point out that in the case of the manufacturing druggists who produce this article, it is made by that one firm alone to the extent of tons every year, you will at once see that the issue to be decided is a very large one. In point of fact, the issue is, whether the Board of Works is to be able to impose upon any manufacturer, or class of manufacturers, of either articles of food or articles of medicine any terms they like, and say: We insist on your manufacturing in a certain way, which we prescribe, and in no other way. They hold up to you a book published in 1867—the British Pharmacopœia; they say, we do not charge you with fraud; we do not charge you with selling a spurious article for the purpose of making additional profit; we do not charge you under the terms of the Act with fraudulently increasing the bulk of the article, for the purpose of making additional profit, and so committing a robbery on the public. At the same time we cannot say with regard to this particular article whether that which you make or that which we prescribe in the British Pharmacopœia is the best; we cannot say which is the best, but we say as far as we can see that that which you make is not at all injurious to health; and as far as we can tell, it may be just as good a medicine as that which we prescribe. If that were the law, and if they could so impose, I am afraid that the growth of medical knowledge in the country would be extremely slow for the future; because, if that be a correct view of the law, nothing but what is contained in the British Pharmacopœia could be manufactured at all. If, from superior and advanced knowledge, as time goes on, a better way of manufacturing than is shown by the British Pharmacopœia is discovered as to the manufacture of any article, according to their theory that better process of manufacture cannot be adopted, but they must adhere to the old rule as laid down by the British Pharmacopœia. But such is not the law, and if it were, it would be a law grossly in restraint of trade, and against the public benefit. Going back to the thirteenth century, pharmaceutical chemists are able to trace this very product which is here to-day condemned. I can take you back and give you the authorities from the time of Lully, in the thirteenth century, to Basil Valentine, the celebrated alchemist, in the fifteenth century. But, coming to more modern times, I can show you by standard works, going back to 1746—Pharmacopœias then published—that this very product is recognised. In the way in which it was then made, it is now made, and I have no doubt will continue to be made. In 1864 when the British Medical Council first took upon themselves to publish a standard work for those who chose to follow it, they published a formula different from that which afterwards came out, and also differing from the old formula which Messrs. Herring make from. They found that that formula would never do; and, therefore, in the one of 1867, they completely altered their formula and adopted the present one. When the Pharmacopœia was published, Messrs. Herring, and not only Messrs. Herring, but all the large manufacturing druggists, endeavoured to fall in with the views of the publishers of the Pharmacopœia. Accordingly, for the first year they made large quantities of the new compound as propounded by the British Pharmacopœia. What was the result? The public liked the one, but they did not

like the other, and the result was that nearly all they manufactured was returned to them and lay upon their hands. Naturally enough, finding that was so, and finding there was no law in the land to enforce the formula of the British Pharmacopœia upon them, they said it was their business to supply what was wanted. They said the public demanded the old article, and they should have it. Therefore they made not only the new article as propounded by the British Pharmacopœia, but also the old one, in such quantities as it was wanted; the result being that at the present time, for one ton of that which they sell made up according to the British Pharmacopœia, the public demand is for ten of the other. That does not apply only to Messrs. Herring, but to all the wholesale manufacturers. When we come to look at the merits of this case, it really becomes essential to see whether in a pecuniary point of view they are any gainers by this. The learned analyst says it is an adulteration to put in spirit of wine. As a fact, the best spirit of wine, according to the proper degree of proof, is quite as expensive as spirit of nitrous ether. Therefore, there can be no possible gain to the producer, whereas by putting more ether he increases the specific gravity, so that if he followed the formula propounded by the British Pharmacopœia, he would be a gainer. Those are the facts of the case. You hear from the analyst that it is very doubtful what the medicinal properties are. He does not tell you the old compound is not quite as effective as that compounded by the British Pharmacopœia, and there being no possible law to enforce on the trade the formula of the British Pharmacopœia, the case really seems to be at an end. The preamble of the Adulteration Act states that the object was to prevent injury to health, and to come here and ask you to convict under that Act upon a summons of this description, when the principal witness himself says that no fraud has been committed, that there is no addition of bulk, but, on the contrary, what they call the adulteration makes the article lighter instead of heavier, and when in addition they admit that they cannot say that it is in any way injurious to health—to come here and ask you to convict under such circumstances, and so make a precedent for the rest of the magistrates in the country acting upon your opinion, is I think on the part of the authorities an unjust proceeding, and I am quite sure you will endorse that view by an adverse decision in this case.

Mr. Charles Umney was then sworn, and stated that he was a pharmaceutical chemist by examination, a fellow of the Chemical Society, an examiner of the Pharmaceutical Society, and that he had had the direction of Messrs. Herring's laboratory in Aldersgate-street, for the past ten years. He supported the statements made by Mr. Wontner, in his opening address in respect to the public preference for the old sort of spirits of nitre, and explained the process followed by Messrs. Herrings. It consisted, he said, in putting into a still six gallons of spirits of wine, fifty-six degrees over proof having a specific gravity of ·838, the strength prescribed by the British Pharmacopœia, and 4 lbs. of nitric acid, also of the strength prescribed by the British Pharmacopœia, ; then applying steam heat and slowly distilling until 50 lbs. of distillate be obtained This comes over in the form of vapour, and is condensed by cold water in passing through a worm. This quantity of 50 lbs. is about half a pound less in weight (or 1 per cent only) than the original spirit employed when put into the still. It is distilled until it is of the specific gravity of ·850. The distillation of 50 lbs. will produce such a specific gravity, or thereabouts. This preparation is, and has been known as sweet spirits of nitre for some centuries.

While Mr. Umney was continuing his evidence, Mr. Arnold addressing the solicitor for the prosecution, asked him if he could contend as a point of law that the difference between the two preparations constituted an adulteration. Mr. Rogers said he did not think he could, and would leave the case in the hands of the Court. Mr. Arnold said he would advise the Board of Works not to indulge in such expensive experiments. Mr. Rogers explained that when a certificate was received they were bound to prosecute. But Mr. Arnold thought they ought to exercise more caution in setting these proceedings on foot. One case would have quite enough as an experiment. He had a strong impression that the article was not a drug within the meaning of the Act of Parliament. On that point he should have taken time to consider his decision. But he was quite clear, on the evidence of the last witness, that the different method of manufacture did not constitute an adulteration. Mr. Rogers withdrew the summonses against the other defendants, and Mr. Arnold allowed £3 costs to Mr. Fenton, 21s. to Mr. Burton, and £2 12s. to Mr. Doughty, the difference being due to the fact that Mr. Draper who was engaged in the latter case was present in court, while Mr. Poland was not. Mr. Arnold refused to allow any costs to Mr. Saxby, as that gentleman's representative was not in Court when his case was called. The magistrate also expressed his opinion as to the ability with which Mr. Wontner had conducted the defence.

Current Opinion.

THE ADULTERATION ACT.

THE *Law Magazine* makes the following important remarks: Looking at the question as mere lawyers, we cannot help entertaining a suspicion that the recent statute is being too generally, too literally, and somewhat unwisely enforced. Take, for example, some recent prosecutions against the manufacturers of mustard. It is well known that mustard pure is not so agreeable a condiment as that admixed with turmeric and flour, which has also the advantage of keeping its colour and flavour for a longer period. The manufacturers make no secret of the admixture, and the public generally approve it. It surely cannot be said that in the terms of the preamble of the Act such an admixture is in fraud of Her Majesty's subjects, or to the great hurt and danger of their lives. It may not be absolutely pure within the meaning of the 23 and 24 Vict., cap. 84, but we apprehend the introduction of the word "fraudulently" in the Act of 1872, proves that to bring a manufacturer within the purview of the Act, some fraudulent intention must be proved. No government would ever endeavour to force traders to discover trade secrets by declaring the absolute quantities of each component part of an admixture. It seems to us that the only way to settle the considerable difficulties arising under the Act, is that a department of the State should certify what admixtures are lawful, and that so long as an article is manufactured within the conditions of the department, it should be considered pure.

The *British Medical Journal* (November 29th) quotes a passage from Mr. Savage's address to the Brighton Pharmaceutical Association, wherein this gentleman alludes to the possibility of the distinct analyst, who may be himself a chemist and druggist, overhauling the store of a brother in the trade. The *B. M. J.* saw this always. It pointed out in the beginning the danger of the appointment of tradesmen to official positions as analysts, where they might be called upon to sit in judgment on the wares of their rivals; and, judging from this address, the shoe is beginning to pinch. It was a characteristically erroneous interpretation of the law by the Local Government Board, which constituted local authorities the judges of what is "medical knowledge." The consequent troubles and scandals may give the board cause to regret their supercilious ignorance and arrogance in dealing with this, as with other medical subjects, without consulting their medical adviser.

The *Lancet* reminds us that when the Adulteration Bill was passing through the House of Commons, Lord Eustace Cecil stated, at a meeting of medical officers of health, that if after a fair trial had been given the Act, it was found that its operation was inefficient or beset with difficulties, he would endeavour to have it amended to meet requirements which could not then be foreseen. The Act has now been in force for some time, with the result of creating in several quarters a feeling of disappointment that its provisions should not have been found less vague and defective. The Act needs amendment. The chemist and druggist have already initiated an organized opposition to the Act, which they maintain is, as far as it relates to drugs, mischievous and ineffective; and they ask for nothing less than the repeal of that portion of it which relates to drugs and chemicals. The reluctance of certain vestries to appoint analysts, and the apathy shown by others

in complying with the requirements of the Act—going even so far as to discourage action on the part of the analysts—is clearly attributable to a belief and expectancy that the Act as it now stands is but tentative.

The *Grocer*, commenting on an important meeting of the wholesale tea trade, in reference to the Adulteration Act, remarks that it is certainly one of the greatest elements of injustice in this most unjust piece of legislation that its fines and penalties fall upon those who least deserve them—upon the innocent instead of the guilty, upon the vendor ignorant of the adulteration rather than upon the actual adulterator—in a word, upon the grocers. Well and truthfully may we describe this as one of the greatest injustices ever perpetrated by legislative enactment in this country!

Pity is only one point better than direct enmity, and it seems the Adulteration Act is to have the effect of adding this form of insult to the injury it has already inflicted on our trading classes. Says the *American Grocer*:—We are sorry for our English friends. They have got an elephant in the shape of an Adulteration Act, and it is proving a very troublesome animal to take care of. The analysing business has suddenly loomed up to vast proportions, and every town now has its own analyser, if not its own Mary Ann. Tea weakens under it, mustard is hot over it, chocolate is greatly stirred up about it. Wonderful statements about the immense amount of dam-aged (no pun intended) tea in England are published in the papers, enough to make Johnny Bull sick at his stomach, but we know they are not true. But they do say there is 10,000,000 pounds of such grossly adulterated abominable stuff as to be utterly undrinkable by even the healthiest British stomach, and that it shall not be distributed through their trade. Good for the descendants of the old Vikings.

THE SPIRIT OF NITRE CASE.

The *Lancet* thinks it a pity that the crusade against adulteration has been directed against an article that is harmless and of little consequence; and it was, perhaps, rather harsh in appearance to charge the tradesmen who sold the inculpated specimens with adulteration at all. On the other hand, there is a reason for which we do not regret that this business has been stirred up. It gives us the opportunity of informing the public that sweet spirits of nitre, whether made in the old fashion or the new, is of little worth; but that when made by the blundering old process it possesses absolutely no value whatever.

The *Medical Times* says: Surely, at a time when adulteration is being carried on to a large extent in articles of every-day use, it would be better to look out for cases of some utility to the public to be exposed, rather than to raise a legal question as to the method of manufacturing an officinal preparation, which the most liberal stretching cannot after all call actual adulteration.

To the *British Medical Journal* the prosecution appears as ill-judged and oppressive as the proceedings against a chemist for selling the well-known substance, commonly known as effervescing citrate of magnesia, but which, from the necessity of the case, is really a citro-tartrate of soda with magnesia. We considered those proceedings, says the writer, very oppressive and undesirable, and regretted that a conviction was obtained against, as we think, and as is now pretty generally admitted, the equity of the case. Proceedings so harsh and ill founded are quite contrary to the public interest, and can only tend to bring an useful Act into public odium.

The *Medical Press* thinks Dr. Dupré merited the rebuke of Mr. Arnold for the expressions he used in his evidence, which seemed to show the spirit of a partisan. He ought to have been desirous of acting only impartially. It is not the business of public analysts to be public prosecutors. The whole of the facts should have been impartially stated, and the magistrate should have been told that, in the preface to the Pharmacopœia, having referred to various preparations for which processes are given, "it is left optional with the manufacturer to use the processes given, or others by which products may be obtained that will accord with the descriptions and tests given for their identification." "Spirits of nitre" is *not* the Pharmacopœial name, therefore it can be no fraud to sell under that name an article that is not to be found in the national codex at all. Of course if "spirit of nitrous æther" were asked for, it would be presumed the new preparation was meant; and physicians who order *Sp. æth nitr.* of course intend the rather disagreeable and unstable compound brought forward as a substitute for "spirits of nitre."

CITRATE OF MAGNESIA.

The *Lancet* (Nov. 15th) decidedly thinks the prosecution which has been the immediate cause of the present excitement about "citrate of magnesia" bore hardly upon the druggist who was the unlucky subject of it, and that the fine inflicted upon him was essentially unjust. Mr. McDermott, the tradesman in question, evidently intended no fraud; and if (as we certainly think) it be desirable to put a stop to the practice of selling an article by a name which incorrectly describes its composition, his was eminently a case for magisterial warning and the infliction of a merely nominal fine. It has been perfectly well known, any time the last fifteen years, that the so-called citrate of magnesia does not necessarily contain any magnesia at all; in fact, the article which was originally called by that name was merely a citro-tartrate of soda, or rather, to speak correctly, a mechanical mixture of bicarbonate of soda with citric acid and tartaric acid, which only became a real citro-tartrate on mixture with water. So notorious was this, that the British Pharmacopœia of 1867 contained a "Citro-tartrate of soda," with the express comment that its popular name was "Granular effervescent magnesia;" and in Squire's "Companion" a note was appended—"*vulgo*, Granular effervescent citrate of magnesia."

Referring again to the subject (Nov. 29th) the *Lancet* says:—"At the Pharmaceutical Conference held at Norwich in 1868, when the expediency of changing the name of the article was discussed, a paper was read showing that when the inventor and original manufacturer, Mr. Alfred Bishop, first introduced it into notice, he used a large quantity of neutral citrate of magnesia in the preparation of the compound. In consequence, however, of its losing its effervescing power and colour, he was compelled to abandon this plan. Mr. Bishop has now published a statutory declaration setting forth the reasons why he declines to alter the name of his compound, which he states is always "a citrate," and contains magnesia. The declaration is supplemented by the opinion of the Attorney-General and of Mr. Poland, which would appear to sustain Mr. Bishop's contention that no misdirection exists in selling his article under the name of 'Granular effervescent citrate of magnesia.' This manifesto will probably have the effect of allaying any feelings of anxiety entertained by the sellers of the compound in consequence of the recent conviction."

Mr. Huskisson Adrian, F.C.S., writing in the *British Trade Journal*, a summary of the recent case, after alluding to the history of the misnomer, says:—"If chemical pedants are to be allowed to prevent the sale of innocent articles of well-understood composition whose names are from a scientific point of view objectionable, then the public must be content to do without not merely citrate of magnesia, but also Epsom salts, lemon and kali, seidlitz powders, cold cream, and a host of other substances. Even if the so-called citrate alone is to be forbidden, serious inconvenience to buyers and loss of trade to sellers may be anticipated. The manufacture of this article is no longer confined to chemists; the preparation which got Mr. McDermott into trouble, for example, it is understood to have been made by a wholesale confectioner. The quantities used are simply enormous. One London maker alone bought last year enough citric acid to make nearly 150 tons of the 'citrate of magnesia' and similar substances. Grocers in England do not yet seem alive to the importance of the matter; but druggists have held one or two meetings, and are now actively engaged in putting microscopic remarks above the name of the sub-

stance on their labels, and adopting various devices which will, I fear, in some cases lead their customers to class them with dishonest milkmen and other adulterators. Meanwhile the public are sublimely indifferent to the opinion of the analyst that this compound may injure their health, and persist in asking for it by a name which has now been sanctioned by many years' use. To attempt to supply now as citrate of magnesia the purgative salt which is properly entitled to the appellation will cause loss of trade to dealers, annoyance and trouble to the public, and possibly danger to persons who may be led to suppose that its effects are anything like those of the condemned preparation. It seems better, therefore, to adhere to the sale of the old mixture under the old name, at all events until chemical nomenclature is much more generally understood than at present."

The *Pall Mall Gazette* of December 1st finds it impossible to say what light may be thrown upon the ills of suffering humanity by the working of the Adulteration Act, provided that the Act is suffered by the vestries to work properly. We were all painfully aware before the Act came into operation that many of the articles called by courtesy "food," which were sold to us for consumption, were not "food" at all in the proper acceptation of the term, but injurious or poisonous compounds, out of which consumers gained their death and traders their living; but, as these mixtures sufficed to still the cravings of hunger or thirst by taking away the appetite, and as nothing more wholesome was to be procured for love or money, the public has accustomed itself to open its mouth and shut its eyes and swallow whatever the tradesman administered to it, frequently hurrying from the grocer's, baker's, or milkman's shop to that of the chemist for an antidote to neutralize the effects of the poisons on which it subsisted. A favourite remedy for the ills produced by eating unwholesome food is, or was, "citrate of magnesia," but now it is discovered that citrate of magnesia is not citrate of magnesia at all. What it is nobody seems to know, but it is agreed on all sides that it is not what it professes to be. Probably other drugs and mixtures which have hitherto been fondly swallowed by the sick and suffering will be found in like manner to be mingling in society under false pretences—in fact, the chemist and druggist's shop requires as much overhauling as that of the provision merchants, and if people have been saved from the effects of adulterated food by medicine, it has been on the homœopathic principle of "Similia similibus curantur." Poisonous physic has neutralized poisonous food, and perhaps *vice versâ*. There is little to choose between the chemist and the grocer, and it would be dangerous to reform one without reforming the other.

HOMŒOPATHY.

The *Monthly Homœopathic Review* argues that the allopathic profession has of late years shown a strong tendency to "absorb" homœopathic remedies and ideas without acknowledgment. Ipecacuanhas in simple emesis; arsenic in gastric irritation; and phosphorus in certain neuralgias are especially instanced. The following advantages have accrued to medical science in general by this plagiarism: (1) the addition to the armamenta of the physician of an occasional specific medicine for a given morbid condition; (2) a more simple method of prescription; and (3) an increased desire for therapeutic knowledge. But such a method of acquiring therapeutic facts has also disadvantages.

These facts are simply fragments of art, and teach nothing of science. Old school men, whether belonging to the pre- or post-physiological age, it matters not, have only one method of proving the value of a given drug in a given disease. Discarding the rational mode of asking nature by proving the medicine on the healthy, and thus picking the lock of nature's arcana, they employ the irrational mode of proving drugs on the sick—*i.e.*, attempting to force nature by pickaxe and crowbar. And this to the great detriment of the poor patient, of the blundering physician, and of science herself.

The *Review* then goes on to urge, that it would be more scientific as well as more beneficial, to accept the system of which these isolated facts are but proofs, instead of following a doubtful search after individual "specifics" without any method as a guide.

UNUSUAL DOSES.

The *Lancet* adds to the resolutions issued by the Pharmaceutical Conference—

It is due to the profession, as well as to the pharmaceutists and the importance of the subject, that the College of Physicians should consider this question and advise the profession. It seems to us that it would be enough to underline any unusual dose in a prescription. Initials are too ostentatious. It is not desirable to attract the attention of patients to the fact that they are taking unusual doses. We quite agree with the Conference as to the second resolution, urging the full name and address of the prescriber. This would require an alteration in the bye-laws of the College of Physicians.

In a subsequent issue of the same journal we read:—

The more we consider the question of the best method of emphasising or certifying the prescription of unusual doses, the more do we think it a question which should be considered and settled by the College of Physicians, if necessary, after conference with representatives of the Pharmaceutical Society. We have already expressed an opinion that an underline, being less ostentatious, is preferable to initials. The initials, too, even of good physicians, are often such a perfect puzzle to readers, that, in themselves, they would not be very informing. The question requires consideration; but a rule recommended by the College of Physicians would be respected. The third resolution of the Conference, which we published last week, is open to objection. It proposes that the chemist should keep prescriptions in which unusual doses are initialed. A prescription is the property of the patient, and it is the business of the chemist to return it. He should copy it, but not retain it.

The *Medical Press* thinks mere underlining would be preferable to the addition of initials, or suggests that the dose might also be written out in full, as, *e.g.*, *unciam semisse*. It fully agrees with the desirability of printing the name and address of the prescriber on the top of each prescription.

The *Canadian Pharmaceutical Journal* remarks that the inconvenience, or evil, of which our British friends complain, is felt to a proportionate extent in Canada. We feel assured that our readers will at once coincide with what has been said, and would welcome the introduction of a plan similar to that proposed. We think, also, that the medical profession would gladly fall in with any suggestion which would afford additional security, certainty and despatch, in the prescribing of medicine, and would thereby tend to the mutual benefit of all concerned.

THE DAUGHTER OF THE LATE JOHN BOND.

IMMORTAL BOND! thou man of mystery,
Who and what wert thou, ere thou wert "the late?"
How didst thou twine thy fame in English history,
Amid the illustrious ones the world calls great?
Why doth thy daughter, faithful to thy memory, claim
To share the honour of thy glorious name?

Stranger attend, this daughter, faithful, fond,
Hath reason strong to boast her lineage high;
For in "the daughter of the late John Bond,"
She hath a name the world will not let die.
He left a marking ink to other times,
And now his spirit groans to read these rhymes.

A NEW READING.

Adulteration is vexation,
Analysts are as bad;
Section 3 does puzzle me,
And Partridge drives me mad.

SUDDEN DEATH OF A DEWSBURY CHEMIST.—We regret to have to announce the death of Mr. Thomas Hadfield Gloyne, chemist, which took place suddenly on December 1. The deceased gentleman was dressing himself, preparatory to going down to his shop in the Market Place, when he suddenly fell to the floor and almost instantly expired, heart disease being the cause of death. He was sixty-eight years of age, and had been in business in Dewsbury, as a chemist and druggist, for exactly forty-six years.

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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.

CHEMISTRY AND LAW AT WESTMINSTER.

THE recent prosecution of some Westminster chemists for selling so-called "adulterated" sweet spirits of nitre raised some interesting points, a few of which we propose to comment upon briefly. First, however, we would remark that the trade is undoubtedly indebted to Messrs. Herring, Huskisson, and Preston for so promptly and efficiently defending the case.

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We need not recapitulate Messrs. Herring's defence. It is fully set forth in our report. But we may here say that it was so ably presented by Mr. Wontner, and had been so carefully elaborated by their chief witness, Mr. Umney, that the prosecuting counsel, who, to do him justice, "seemed to feel his position acutely," had to plead with the magistrate for a little leniency towards his employers. No case could have been more completely upset, and it was evident that the magistrate's sympathy went with the tradesmen from beginning to end.

It may be interesting to mention that Messrs. Huskisson were prepared to prove that though their spirits of nitre was not manufactured according to British Pharmacopœia process, but according to a formula used by them, we may almost say for centuries, yet that it would fully answer the requirements of the British Pharmacopœia. Messrs. Preston's case was even more remarkable. They had supplied spirits of nitrous ether prepared exactly according to the British Pharmacopœia, and they would have been ready with evidence in abundance to the effect that it was perfectly genuine and pure.

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We happen to be ratepayers as well as tradesmen, and we want to know who it is that is really responsible for the reckless waste of public money and public time involved in these prosecutions. In Court we had a veritable scene of Adam and Eve and the serpent, only there was no serpent. The Board was bound to prosecute when it received the analyst's certificate of an adulteration; the analyst was bound to analyse

and certify when he received a sample; and the inspector had only bought the articles according to instructions. It is true that the latter swore that he had gone by Dr. Dupré's instructions; that Dr. Dupré himself admitted having written down Spiritus Etheris Nitrosi for the inspector; that the magistrate was struck with the evident warmth with which the analyst characterised the spirits of nitre, almost universally sold, as a "shameful adulteration;" but at this point, when we think we have put our finger on the person from whom emanated the idea of the action, we are met with the answer sworn by Dr. Dupré, in reply to a question from Mr. Wontner, that he did *not* suggest these prosecutions. We wish to know who did then? We want his head; perhaps Dr. Dupré will kindly explain.

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Another gentleman, who would benefit his reputation by "explaining," is Mr. Flux, the solicitor to the Pharmaceutical Society. We are not by any means judging this gentleman, nor do we even doubt that he can clear up what seemed curious; but it is a fact that others in the Court besides ourselves were puzzled when they heard the solicitor to the Pharmaceutical Society "giving aid and succour to the enemy." Said a gentleman to us, "This is pleasant: we are paying a guinea a year to the Pharmaceutical Society, presumably for some sort of advantage, imaginary or real; and here is our own solicitor pointing out to our persecutors how they can annoy us further if they fail in this case." We do not say that this was Mr. Flux's intention, but it was certainly the reasonable construction of the information he gave as *amicus curiæ*, and we consider we are doing that gentleman a favour in calling his attention to an impression which has got abroad.

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The limits of the word "drug," as used by the legislature, are of considerable importance in reference to the Adulteration Act, and this fact was clearly very forcibly present to the mind of Mr. Arnold. Indeed, from his remarks, it is extremely probable that, if on no other ground than this, he would have decided in favour of the defendants. Mr. Flux this time gave a useful hint by referring the Court to the Apothecaries' Act, where the Legislature names *drugs*, *medicines*, and *medicinal compounds*, thus apparently recognizing a distinction. Mr. Arnold was certainly disposed to the opinion that spirits of nitre was a "medicinal compound," and that therefore it could not also be a drug, and therefore, further, that it could not be the subject of an action under the Adulteration Act. Mr. Arnold's expressed opinions on this point will be worth remembering, and will certainly have some weight with any Court. As to the etymology of the word, we believe Mr. Arnold's ingenious guess that it might be cognate to the word "dry," is not correct. As we stated in an article on *Nomenclature*, last June, we have little doubt that it is connected with the word "through," German, *durch*, and originally signified a purgative. The word "door" has the same origin, and means simply an opening *through* which one can pass. What we call the door is therefore, strictly a door-stop. We are glad the point was brought forward, but we are glad also that the case was argued and the decision given on the broad question of adulteration or no adulteration, and not on any mere technical objection.

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While discussing the legal interpretation of the word "drug," Dr. Dupré told the Court that early in the present year he was engaged by the Privy Council to examine into the state of the retail drug trade of London, and that among the substances named in his instructions was spirit of nitrous ether. We hope Dr. Dupré's report will be published, not that we expect any compliments from him to the retail drug trade, but that with the present case before us, in which every statement made by the analyst was subject to a keen scrutiny, and was not always found unimpeachable, it will be interesting to note how he expresses himself when he makes assertions *ex cathedrâ*.

***

One remark on the whole case. It is unnecessary to say that in anything we may write against the Adulteration Act, we are actuated by no sympathy with any system of fraud or robbery. Any man who mixes water with his spirits of nitre, or who buys it at a price at which he ought to know it cannot be genuine, is a cheat and deserves punishment. We will aid, and not hinder, the uprooting of such practices. But the Adulteration Act has a much wider range than this. It has been drawn up, or at any rate interpreted, with a reckless disregard to all fairness and justice. It assumes all tradesmen to be rogues, and all analysts to be endowed with miraculous knowledge. As we said last month, the utmost that can be said for it is that it has secured a small amount of good by the exercise of an enormous amount of injustice. It sweeps into its net innocent and guilty, and listens to no explanations. This spirits of nitre case is not to be quoted in opposition to these statements. A victory was won purely because the prosecution was refuted on its own ground. They happened to select a substance and ask for it under one name, while they prosecuted under another. Stripped of all additions, that was the naked case. But as a matter of fact, there is scarcely a product in our shops which is absolutely pure, or, at least, in which an analyst could not find some impurity. And unless magistrates let their common sense over-rule their strict adherence to Acts of Parliament, we may yet have many foolish, but not less injurious convictions. We hope the trade will think of this, and if the Pharmaceutical Parliamentary Committee, which ought to be the nucleus of action, will only take a decided stand, and press the question on the legislature until the Act is rectified, they will even yet win the gratitude of the entire trade.

GEBER AND THE ROYAL CHARTER.

IN a miserable room in a great city sat Geber the alchemist. His last experiment for the "philosopher's stone" had failed. Not a drop of the precious elixir was in the receiver, nor a grain of the more precious metal clinging to the calcined crucible. The efforts of a whole life had ended in smoke and vapour, so Geber like a true philosopher—smoked his pipe.

Under its soothing influence disappointments were forgotten, and the old alchemist indulged in a pleasant reverie of what he would have done had he but secured the key to the mystery he sought. Not only unbounded wealth to command, and vigorous health to enjoy, every luxury and gratification of both mind and body, but also fame for ever, and means to benefit all around him.

> "Auro pulsa Fides, auro venalia Jura,
> Aurum Lex sequitur, nox sine lege Pudor,"

muttered Geber with a patient sigh, as he knocked the ashes from his pipe.

Now some time before this the men of the city who sold drugs and like wares were dissatisfied and vexed because certain other men whose work it was to chop up sugar or to saw wood did interfere with their craft by selling all manner of poisonous drugs, though they scarcely knew the name of some of these, to the great hurt and detriment of the King's subjects. So while Geber was pondering over his failures and planning new experiments, certain of these druggists

came to him and asked him to aid them in procuring a Charter from the King to prevent any man from selling medicines or poisons other than those of whom Geber should approve.

Then was Geber delighted, and he resolved to go with these men, for he knew that the King thought much of him, and he saw that if this boon were granted he could gain more in fees from those who came unto him, than ever his crucibles had brought him. Then said he I shall be able to give unto him that needeth, to prosecute many good and useful works, and, above all, to raise the social status of chemists.

The Charter was obtained, and the chemists were happy. They studied under Geber, paid him his fees, and smiled hopefully while he instilled into their minds the solacing thought that the social status of chemists was rising.

Chapter II.

Geber's institution flourished, and the old chemist waxed sleek and fat; and the fatter he grew, the more he told his students that the "social status" of chemists was rising; but in time it was discovered that "social status" did not pay.

"What is honour?" demanded one of his old students. "What is honour to me without profit?"

Geber could never bear to hear the word "profit," so he kicked the student out of the laboratory and lighted his pipe.

At this moment there was a sound like the tramping of many feet, and in rushed a number of Geber's old students.

"Geber," exclaimed one, "come and help us; the King's servants have joined together, and are selling poisonous drugs to all the courtiers and nobles in the land."

"Moreover," said another, "contrary to our Charter, they are making up and selling medicines."

"I cannot help you," replied Geber, "you must fight the battle yourselves. My duty is to raise the 'social status' of chemists."

Then they were very dissatisfied, and Geber saw that he must do something to allay their rising wrath, so he called up his old servant whom he called Committee, and who was both blind and dumb, and he said to them, "Tell your grievances to Committee, and he will help you, for, though he is both blind and dumb, he is marvellously clever, and understands all these matters." So they told their tale to Committee, and then went their way.

Soon after these came another body of Geber's old students, more numerous and more excited than the others.

"Geber, Geber," exclaimed the men, "come with us to the King. One of our trade has been cast into prison."

"What for?" asked Geber.

"For selling the famous 'Elixir Angelorum;' and the physicians have reported there were no angels in it."

But Geber was wiser this time, so he did not refuse to help them, but immediately called up Committee. And he told Committee to do all he could to help them. But when Committee had gone he told the men that he could give them no hope. If they sold "Elixir Angelorum" they ought to have put some angels in it. But he said if anything could be done Committee would be sure to do it, for he was marvellously clever, and understood these things. For himself, Geber said, he was too much occupied in the duty of raising the "social status" of chemists to interfere.

So the chemists were very dejected and discontented, for they knew how Committee had served them in time past, and they had no faith in him now. But one of them bolder than the rest said to those around him—"This, then, is all that we have secured from our Charter!" then turning to the great chemist, he exclained, "Geber, Geber, you are an old humbug."

Such is the story which the old Arab Sheik told us as we moked our peaceful pipes together in the bazaar at Smyrna.

THE POSITION OF THE WIDOW OF A REGISTERED CHEMIST.

At the Pharmaceutical Council on December 3rd, in reply to some questions relative to the legal position of "executors, administrators, and trustees" of deceased chemists and druggists, Messrs. Flux and Co. advised, that they considered in carrying on the business such persons should use the following style on sign, prescriptions, envelopes, labels, &c.:—

The { Executors, Administrators, or Trustees } of A.B. { Pharmaceutical Chemist, or Chemist and Druggist. } deceased.

In the case of the sale of poisons, however, they consider that inasmuch as it is the intention of the law to require some personal responsibility, the full name of the executors, administrators, or trustees should also be attached to the label with the address where the business is conducted. In reply to many questions addressed verbally to the solicitor, Mr. Flux gave information to the following effect:—

A widow left without trustees would be entitled to letters of administration as the widow, and so long as she carried on the business *quâ* administratrix she would be protected by force of the Act of Parliament. But from the moment that she ceased to carry it on *quâ* administratrix, and by any means became possessed of the business as her personal property, and thenceforward carried it on for her personal benefit, she would infringe the law. The law gives the widow a right to administration, but it is only for the purpose of administration. If the deceased left children she is trustee of the business to the extent of two-thirds for the children. She has first to pay all the debts, and until that is done she is trustee for the creditors. From the moment that the debts are paid she is then trustee for the children, if there are any, to the extent of two-thirds. If there are no children, then she is trustee of a moiety for the next-of-kin. Then a day would come when she ceased to hold that position of trustee, but that day would only come by force of some act of her own terminating the position, or by force of some act of the children, or the other next-of.kin, which brought about a settlement of the accounts, and thus terminated the administration by force of some contract then entered into, not by force of being the widow. The business then would change hands, and if, by the change of hands she in her own capacity becomes the proprietress of the business she commits a breach of the law.

Mr. Owen: Is there any limit of time?

Mr. Flux: No; it is a question of fact to be determined in every instance. I have known trusts continue for half a century.

Mr. Savage: Suppose a man dies intestate?

Mr. Flux: Then the widow is the first person entitled to administration.

In reply to Mr. Brown Mr. Flux said that a widow left sole executrix without children and with no trusts to fulfil could not carry on the business longer than was necessary to wind up the affairs, get in the assets, and sell the business. In short, a widow may only retain a business as *trustee* and not as *beneficiary*. But if a chemist can get some one who will act as trustee for the widow the business can be carried on so long as that trust continues. Of course, in every case a duly qualified assistant must be appointed. Mr. Flux pointed out that this condition is no harder for chemists and druggists than for medical men, clergymen, or lawyers, with whom the personal qualification necessarily dies.

CHEMISTS AND THEIR GRIEVANCES.

The meeting of chemists held at the offices of the National Chamber of Trade, on Nov. 19, to discuss the Adulteration Act, especially in reference to the conviction of Mr. McDermott for having sold citrate of magnesia, was not by any means a successful affair. It was presided over by Mr. A. F. Haselden, was fairly attended, and included many influential gentlemen; but there was no unanimity as to the plan of action best to be adopted. The following resolutions were passed, but there was considerable difference of opinion in respect to the second:—

1. "That it is the opinion of this meeting that the late proceedings which were taken under the Adulteration of Food and Drugs Act, 1872, against Mr. P. McDermott, a chemist and druggist, for selling the citrate of magnesia of commerce, were not justifiable, and that the judgment was contrary to equity, and also that as far as it refers to the analyzation of drugs and chemicals, the said Act in its present shape is mischievous and ineffective, and ought to be repealed."

2. "That Parliament be petitioned to repeal that portion of the aforesaid Act which relates to drugs and chemicals, as the clause in the Pharmacy Act is quite sufficient for the protection of the public."

After considerable difficulty five names were obtained to form a committee to act with the National Chamber of Trade to give effect to these resolutions, but we doubt whether in face of the little interest shown, any further steps can be taken at present.

That business concluded, Mr. Mann, of New Hampton, referred to the grievance of suburban chemists in having to pay £2 annually for a patent medicine, but it was too late to start a discussion on the subject.

DR. LYNN.

We hope to be pardoned at this season of the year if we deviate a little from our beaten track, and devote a line or two to the marvellous entertainments which Dr. Lynn is presenting twice daily at the Egyptian Hall. This gentleman's feats of mystery are assuredly the most astonishing which have ever been exhibited in England. His sleight of hand is exquisitely dexterous, and is performed apparently without apparatus or assistance. But this is surpassed by his incomprehensible ability to read names secretly written by the audience and concealed in waistcoat pockets in all parts of the room. In full presence of his audience he produces names selected at random in blood-red characters on his bare arm, and when finally he introduces his unfathomable box trick, the company has become so accustomed to miracles as almost to cease to wonder "how it is done." The performance is considerably enlivened, too, by the sparkling and humorous lecture with which Dr. Lynn accompanies it.

AN AUSTRALIAN CURE FOR DIPHTHERIA.

On the 11th of August last the Hon. J. W. Grant got up in the Victorian Legislative Assembly and seriously asked the Colonial Government to vote 5,000*l.* for the purchase of a specific for diphtheria, which had been discovered by a person named Greathead. The application was referred to the chief medical officer, who seems to have treated the matter in much the same fashion as might be expected from the Right Hon. Robert Lowe if such a request were preferred to him. The "person named Greathead," however, feeling impelled to relieve the world from "that direful disease diphtheria," published his cure in the Melbourne daily papers, and put his trust in Parliament to reward him if the cure should be found effectual. The disease, he says, "is one of hydatid growth; the insects breed in millions in a few days under a film they make, which swells up in the throat and completely stops respiration." The remedy is four drops of sulphuric acid in a glass of water; by drinking this the film is instantly broken, the insects are promptly slain and washed down the patient's throat. This "discovery" seems to have been received as a heaven-sent vision by the Australians, who immediately stocked their cupboards with sulphuric acid enough to kill all the insects south of the equator. As the *Australian Medical Journal* remarks, nothing, however, preposterous, if propounded as an absolute specific for a disease, is too absurd for people to believe. If Mr. Greathead had asserted that white mice, instead of "insects," formed in the throat, in diphtheria, and that the playing of a hurdy-gurdy would cause the patient to vomit them, he would have been just as easily believed, as now he is when he asserts that diphtheria means "millions of *insects*" in the throat! and the profession would have been just as much abused for not giving the "remedy" a fair trial.

ADULTERATED LITERATURE.

The very laboured piece of smartness which we quote this month from the *Pall Mall Gazette* respecting citrate of magnesia need hardly be taken *au serieux* as a true reflex of public opinion. If the *Pall Mall* writer's stomach is so constituted that a remedy, which restored its functions at other times will no longer relieve him now that he is uncertain of its exact chemical composition, we may console ourselves with the remembrance that his is a literary, and not an ordinary stomach. If it be a fact, as implied in this paragraph, that virtue resides even in the name of citrate of magnesia to make it "a favourite remedy for the ills produced by eating unwholesome food," surely there cannot be a stronger argument in the public interest for the retention of the title, somewhat inaccurate though it be. The Adulteration Act is wide enough in its scope in all conscience, but we are still inclined to think it a perversion of its functions when it is stretched to the task of rectifying the whole of our nomenclature. How would the *Pall Mall* fare if a magistrate should decide that nonsensical literature was an adulteration within the meaning of the Act?

PHARMACEUTICAL ELIXIRS.

A correspondent of the *American Druggists' Circular* write to the editor as follows:—

"As there is such a malady as chronic elixir on the brain abroad in the country, and a prospect of its never being checked as long as there is a root, herb, or leaf left in the ground or on top of the ground, I enclose you the following in advance, for some of your querists may want it, and 'twill save you the trouble of looking it up.

ELIXIR OF BENZINE, ASSAFŒTIDA, AND SMART-WEED.

℞ Smart-weed, benzine, and assafœtida, in fine powder, of each, a handful.
Sweetened water,
Sour cider, of each, 2 cupfuls.
Mix, and season to suit the taste.

I would further state that the originator of the above died in the effort, but that I can furnish you any amount just as good. M. W. Ballard.

P.S.—I have also a formula for elixir of Wahoo, watermelon, and sorghum, with phosphate of pumpkin seeds; and several others not less desirable.

QUERY.

The *Medical Press* states that Dr. Letheby, public analyst for the City of London, has been appointed joint public analyst for Windsor; 21s. per analysis for first 100, 10s. 6d. per second 100, and 6s. per analysis beyond.

How is this, when according to the Adulteration Act 10s. 6d. is the maximum allowance to analysts?

THE STEREOSCOPIC COMPANY'S CHRISTMAS NOVELTIES.

AS in past years the Stereoscopic Company is again in the field with an attractive variety of scientific and amusing novelties, many of which will be sure to attain popularity at this season. The Jewel Kaleidoscope which this firm brought out last year, and which won such universal admiration, may well hold the chief place for two years. It is guaranteed to present new beauties for a certain numbers of billions of years, and the company now produces the instrument in various styles of outer embellishment. The *repertoire* for this year is more extensive than usual, and several of the novelties are excellent.

The PRAIRIE BIRD, a sixpenny article, we should imagine will be immensely saleable. It is a little instrument which imitates the song of a bird with surprising accuracy. By swinging it with more or less force pretty variations are produced.

HERE AND THERE, or the Mystic Photograph, is a well got up piece of magic, and includes four handsome *cartes-de-visite* of celebrities for a shilling.

The CHINESE PICTORIAL PYROTECHNICS which "start into light and make the lighter start," are quite new and very amusing. These will doubtless have a good run.

The BIJOU PERFUME FOUNTAIN, with which three bottles of perfume are supplied, is not quite up to the standard of the productions of the Company.

The NAME MYSTERY and the ENCHANTED COFFER will not greatly credit the amateur *prestidigitateur*, but the GOBLET OF CAGLIOSTRO is an excellent trick, which with a little practice may easily become a surprising feat of legerdemain.

The WILL-O'-THE WISP is an excellent chemical toy. By dropping a small capsule into a glass of water slight explosions and flames are produced on the surface, to the great delight and wonderment of those who are not versed in chemical marvels. This is a cheap and saleable article.

The PATENT CHROMOSCOPE is an instrument which produces pleasing optical effects by the rapid revolution of curious coloured discs.

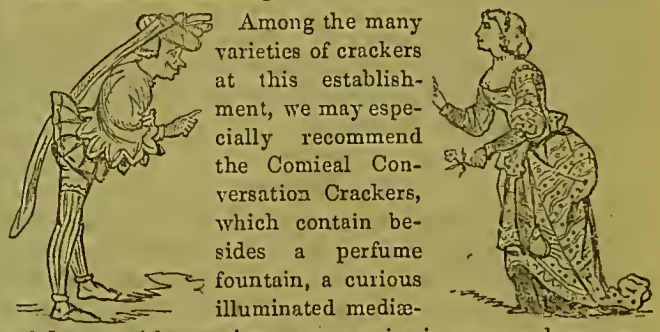
The Company of course prepares the Guinea Box as heretofore, and, besides these novelties, has an immensely varied store of wonderful and beautiful articles, a great many of which, as we have before remarked, are well suited for chemists' sale.

PERFUMERY NOVELTIES.

THERE are three great perfumery houses established between Temple Bar and Charing Cross, Messrs. Low, Son, and Haydon, Mr. Rimmel, and the Crown Perfumery Company, and we might occupy a considerable space in expatiating upon the tempting and artistic beauties displayed by either of these firms. Mr. Rimmel, however, cultivates seasonable novelties with the greatest perseverance, and we find in his gigantic emporium this year, a variety and freshness which equal any of his former efforts. First, we may mention the very elegant new smelling bottles, designed in the forms of acorns and thistles, and with little chains to hang on a lady's guard. These are very suitable for presents, and should be known by the trade. A charming little scent bottle designed for a similar purpose, but resembling a pearl shell, will please everybody, and sells for 2s. 6d. only. Some little sixpenny Florentine flasks of scent are also attractive.

Quite new, very cheap, and sure to be popular, are the little baskets of "Sour Grapes," which "are found very sweet on close examination." These sell for 1s. each, and we can strongly recommend them.

Mr. Rimmel's Almanack for 1874 is as sweetly scented as ever, and this year gives portraits of the German Poets, with scenes from their masterpieces.



Among the many varieties of crackers at this establishment, we may especially recommend the Comical Conversation Crackers, which contain besides a perfume fountain, a curious illuminated mediæval figure, with question or answer, in six or seven languages.

Some Japanese Scent Caskets of curious straw mosaic work are new and attractive, and are put up in all styles.

The multitude of former novelties and the costlier designs we must pass over for want of space; we need not add that they are here in abundance.

Messrs. LOW SON and HAYDON have a fine assortment of fancy boxes, caskets, miniature portmanteaus, &c., stocked with their famous soaps and scents.

The CROWN PERFUMERY COMPANY, whose products are all marked by excellent taste, have just brought out a new perfume called the Tanglewood Bouquet, which is of rare sweetness and permanence. We have not before had an opportunity of mentioning the now popular "Opaline" face powder of this firm. Ladies are very pleased with this article on account of its invisibility and its delicate perfume.

When in Dublin recently we noticed the fine show of perfumery made by Messrs. Frederick Lewis and Co., of that city. Their speciality, the "Waters of Eblana," is a well-named and very sweet scent. Messrs. Lewis and Co. have a great speciality, too, in their bottles of pure trotter oil, of which they announce that they sold 219,000 bottles last year.

We must also mention the cheap but good quality perfumes put up in circular boxes holding a dozen, by Messrs. T. F. Bristow and Co., of Bishopsgate-avenue. These show well on the counter. Messrs. Bristow and Co. are also sending out perfumes in vase, and other fanciful shaped bottles, which are not only cheap but also very good. The same firm has recently brought out a "Glycerine and Oatmeal Soap," with

very emollient properties. Oatmeal really seems to be contained in this soap, for it appears to be visible to the eye. Doubtless there is some glycerine also, therefore retailers need not fear the now dreadful "inspector." A lavender soap is another novelty from the same firm.

COCOA AND CHOCOLATE.

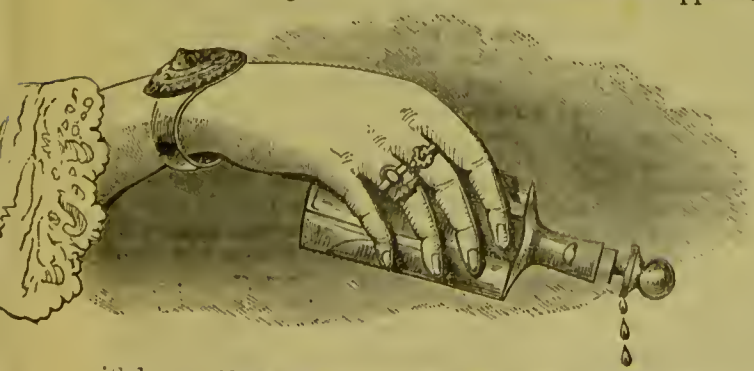
The display of a counter for Christmas or the new year is not complete without some of the tasteful boxes of chocolate and chocolate *bon-bons*, of late years so artistically produced by some of the chief firms in that line of business. Messrs. Cadbury Brothers, of Birmingham, and Messrs. J. S. Fry and Sons, of Bristol, especially distinguish themselves in this respect. The pictures on these boxes are often very attractive. This year we have noticed a very pretty one of Messrs. Cadbury's, of a little girl lying asleep on the shoulder of a big dog. Messrs. Fry have a very amusing one of a juvenile party. The *bon-bons* themselves are excellent additions to dessert. Cadbury's cocoa essence, Fry's extract of cocoa, cocoa paste with milk, and other preparations of the two firms, are too well known to need further mention here.

TAPIOCA BOUILLON.

Tapioca bouillon is composed of tapioca and fresh meat seasoned with vegetables combined, and reduced to a dry state by special means. Neither keeping nor climate affects it, and the facility of carrying and preparing renders it a useful provision for ships, armies in campaign, colonists, travellers, and all who, from necessity or choice, traverse countries where good food is scarce. Julienne bouillon, less nutritious, but more refreshing, is composed of vegetables cut up, reduced to a dry state, and combined with meat soup by the same process as the tapioca. M. Boudier is both the inventor and manufacturer of these two soups. During the siege of Paris he placed his entire stock at the disposal of sick persons and children—a service which was found of great value. Messrs. Morgan, Allsopp, and Co., of 42, Cannon-street, London, are the English agents.

ELLIS' PATENT STOPPER.

We have before us a novelty likely to be of considerable use. It is a glass stopper, which can be applied to various purposes, and which partially draws out from its cork jacket so as to admit of pouring or dropping the liquid. The flow is regulated according to the distance to which the stopper is



withdrawn. When pushed quite down, the bottle is perfectly closed. The manufacturers supply them to chemists on cards for sale, or sell them in quantity to bottlers. They seem excellently adapted for perfumes, eau-de-cologne, sauces, disinfectants, benzine, &c. The manufacturers are Messrs. R. J. Ellis and Co., 6, Castle-street, Holborn.

GIBBS' ODOURLESS SOFT SOAP.

We have before us a sample of Messrs. D. and W. Gibbs' pure odourless soft soap. It is certainly very sweet, and very different from that usually sold, manufactured from fish oils. For many household and general purposes soft soap would be a great convenience, if it were not for its disagreeable smell. Messrs. Gibbs have certainly obviated that difficulty. It is sold retail in 7 lb. tins for 3s. 6d. We may at the same time just mention Messrs. Gibbs' Composite Houschold Soap, in ½ lb. squares and 3 lb. boxes, convenient for chemists' retail. Messrs. Gibbs have also introduced a convenient metallic soap tablet case, containing a square of transparent soap, very useful for travellers.

HINDOO PENS.

Macniven and Cameron's newest pens, which are responsible for most of the rubbish which has appeared lately in this journal, have a special character. They write with peculiar freedom, almost like a quill, and they are a long time wearing out. Why they are called the "Hindoos" we cannot say. Perhaps it is a riddle for the season.

CHEMICAL SOCIETY.

PROCEEDINGS of the Chemical Society, Thursday, 20th November, 1873.

Dr. Odling, F.R.S., President, in the chair. The names of visitors having been announced, and the minutes of the previous meeting read and confirmed, a paper "On the co-efficient of expansion of carbon-disulphide," by J. B. Hannay, was read by the secretary. Dr. Russell then communicated his researches "On the action of hydrogen on silver nitrate," giving an account of the precipitation of metallic silver in the crystalline state by means of hydrogen. There were also a "Note on the action of zinc-chloride on codeine," by Dr. C. R. A. Wright; "On the chemical properties of ammoniated ammonia nitrate," by E. Divers, M.D.; and "On the analysis of a meteoric stone and the detection of vanadium in it," by R. Apjohn. The meeting was finally adjourned until Thursday, 4th December.

Thursday, 4th December.

Dr. Frankland, F.R.S., vice-president in the chair. When the minutes of the preceding meeting had been read and confirmed, and the nomination and election of Fellows had taken place, a paper entitled "Mineralogical Notices," by Professor Story-Maskelyne, and Dr. W. Flight, was read by the former, treating of the composition of caledonite and lanarkite. Mr. John Williams then exhibited some fine specimens of crystallised phosphorous acid and metallic phosphites, and gave a short account of their reactions. After which Professor Church made a communication to the Society on the composition of the mineral autunite. Professor Lawrence Smith, of the United States, whilst describing a modification of the Bunsen gas burner, employed by him for heating the crucible in determinations of the alkalies in silicious minerals, gave a short sketch of the process he had devised for that purpose. In the course of the evening a gas burner by Mr. Fletcher, of Warrington, was also exhibited. The meeting was finally adjourned until Thursday, 18th December, when the following papers will be read:—1. "Researches on the action of the copper-zinc couple on organic bodies No. IV. on allyl iodide," by Dr. J. H. Gladstone, and Mr. A. Tribe. 2. "On a new compound of nickel and phosphorus," by Dr. R. Schenck. 3. "On the preparation of Standard Trial Plates," to be used in verifying the composition of the coinage, by Mr. W. Chandler Roberts.

Pharmacy.

ANTIMONY PERCHLORIDE AS A RE-AGENT FOR OILS.

Dr. Isidor Walz (*American Chemist*) finds the following reactions occur. He used (Merck's) solution of terchloride of antimony, sp. gr. 1·345, concentrated on the water bath to a syrupy consistence. The experiments were made by putting to 3 c. c. of the oil into a test tube, adding a few drops of the re-agent, and shaking until mixture was effected.

In the case of the animal and vegetable oils, there ensues generally a rapid darkening, the colour turning to a reddish, greenish, or dirty brown, accompanied generally by a perceptible rise in temperature, and increased consistency of the oil, the latter becoming viscid, and in one or two cases solidifying altogether. After the lapse of a little time a stratum of antimony chloride solution separates at the bottom of the test-tube, which has a greenish-yellow colour. The oils for which this general description may suffice are rape seed, poppy seed, tallow, neat's foot, and sperm.

Some characteristic reactions were observed with the following:—

1. Olive oil (three samples). Forms a whitish emulsion, rapidly passing through light to dark green. No perceptible rise in temperature.

2. Cotton-seed oil (two samples). Turns chocolate brown, with evolution of considerable heat. One of the samples solidified a few minutes after the test was applied, so that the tube could be inverted, while still warm, without the oil flowing out.

3. Neat's foot oil. Turns pink; subsequently darker and thicker. The temperature rises.

4. Rosin oil. Turns purple. Though the colour becomes gradually darker, the peculiar purple tint can be recognised even after a long time.

Of the petroleum oils gasolene, benzine, and kerosene were tried. After shaking, two strata separate in the test-tube. A portion of the oil is resinified, the resin adhering to the sides of the tube as a thin, peculiarly coloured, bluish-green-purple coating. The lower stratum is of a bright red colour. Antimony terchloride is, therefore, a very good reagent for the petroleum oils.

With oil of turpentine a very violent reaction occurred, attended by the evolution of great heat and the deposition of a yellowish resinous mass.

VEGETABLE WAX OF CHINA AND JAPAN.

According to the *Gaceta Industrial*, this wax is found on trees in pieces the size of a hen's egg, and has, therefore, been called vegetable, but it is really the secretion of an insect of about the size of a grain of rice. After gathering, it simply needs to be melted and strained a few times to clarify it, when it is ready for shipment. In 1870, 1,234,390 kilos. of this Laktchong, as it is called, were exported from China.

EXT. AURANT CORT. FLUID.

Mr. Munroe Bond (*American Journal of Pharmacy*) makes this flavouring extract thus:—

Sweet orange peel in moderately fine powder,	℥ xvi.
Glycerine, ...	f℥ iij.
Alcohol,	
Water, each a sufficient quantity.	

Having mixed 14 fl. oz. alcohol with 2 fl. oz. glycerine, the peel is moistened in a wedgewood mortar with 12 fl. oz. of this mixture. After standing twelve hours percolation is conducted in the usual manner. The percolation is finished with a mixture of two parts alcohol and one water. Reserving the first 14 fl. oz., add one fl. oz. of glycerine to the remainder, evaporate to 2½ fl. oz., which mix with the reserved portion. The author describes this preparation as possessing all the aroma of the orange peel. One fl. oz. mixed with 15 fl. oz. of syrup gives an excellent syrup. aurant. quite clear. By adding to a pint of simple syrup, f℥ iv. of the extract, and a few drops of solution of citric acid, a most delicately flavoured and unfermentable syrup for mineral waters is produced.

PILLS OF OIL OF TURPENTINE.

The *American Journal of Pharmacy* gives the following translation from the *Journal de Pharmacie et Chimie*:—Lachambre has modified Danneey's formula, and operates as follows:—20 grams of white wax are fused together with 3 grams rectified oil of turpentine; the mixture is poured into a mortar; and after cooling mixed with 9 grams of powdered sugar; the mass is now divided into pills, weighing 25 centigrams, each of which contains 5 centigrams (¾ grain) of oil of turpentine. The addition of 2 drops of oil of lemon improves the odour. The pills are rolled in powdered starch and preserved in well-stoppered vials.

BITTER WINE OF IRON.

Mr. C. L. Mitchell gives a formula in the *American Journal of Pharmacy*, which he says yields a preparation handsome, efficient, and pleasant to the taste. It runs thus:—

Grd. Cinchona Calisaya	192 grs.
" Gentian Root	128 ,,
Soluble Citrate Iron	192 ,,
Sherry Wine	13 f. oz.
Brandy	1 ,,
Alcohol	1 fl. oz.
Oil Orange	12 minims
Sugar	2 ozs.
Solution Tersulphate of Iron	2 f. ozs.
Water of Ammonia	q. s.

Dissolve the oil of orange in the alcohol, and mix with the sherry wine and brandy. With this menstruum percolate the ground drugs, recovering 15 f. ozs. tincture by pouring on water. Dilute the iron solution with twice its bulk of water, and add ammonia until in slight excess. Wash the precipitate until the washings are tasteless, and drain thoroughly. Mix this precipitate with the percolated tincture, and allow to stand, shaking frequently, until a portion filtered off has a light yellow colour and does not blacken with tincture of chloride of iron. Then filter, dissolve the citrate of iron and the sugar, and bring up the measure with a little water to 16 f. ozs.

Each fluid ounce contains 12 grs. cinchona calisaya, 8 grs. gentian root, and 12 grs. of soluble citrate iron.

TRADE MARKS—IMPORTANT DECISION.

IN a recent case of Raggett *v.* Findlater (November 10th, 1873), an important decision was pronounced by Vice-Chancellor Malins, holding that a person using the English adjective "nourishing" as a trade mark has no remedy against another who uses the same descriptive word. Mr. Raggett is a brewer manufacturing a certain stout which he labels "Nourishing London Stout," and he filed a bill in Chancery against Findlater, Mackie and Co., who also sell a "Nourishing Stout," to restrain them from using the title.

The Vice-Chancellor said "the case involved a question of considerable public importance, because on the one hand every protection should be given to trade marks within just limits, and, on the other hand, the right to use a trade mark should not be. The plaintiff had put his case on the ground that he had a right to the exclusive use of the word 'nourishing.' Had then a person the, right to use an English adjective, and make it his trade mark? The word 'nourishing' was a word in common use and generally understood. Upon principle, could a man have the right to use as his trade mark a word simply descriptive of quality? If the particular quality of stout was nourishing, why could a man be prevented from selling it as a 'nourishing' beverage? Why could not the defendants call their stout 'nourishing' as well as the plaintiff? His Honour was therefore of opinion that the plaintiff's case wholly failed, and dismissed the bill with costs."

CURIOUS CASE IN SCOTCH BANKRUPTCY.

Late in November a Judgment was given by the Court of Session at Edinburgh, the Supreme Civil Court of Scotland, which gives a serious warning to Scotch bankrupts, who fail in the punctual payment of a composition.

Mr. Yuille, an oil merchant and chemist in Glasgow, was sequestrated as a bankrupt in September, 1871, and by a deed of arrangement agreed to pay his creditors a composition of 4s. in the pound, in three equal instalments at four, eight, and twelve months respectively, from the date of the arrangement, and the bankruptcy was declared to be at an end on the 8th of January, 1872.

Messrs. Alexander and Austin, glass bottle manufacturers in London, were creditors to the amount of £109.

The first two instalments were not paid to them until after the dates on which they fell due, but were accepted by Messrs. Alexander and Austin.

The third instalment was not paid when it became due, and on the 3rd of March last they commenced an action against Mr. Yuille, not for payment of the unpaid composition, but for the full amount of the original debt, under deduction of the two instalments made.

Mr. Yuille contended, in defence, that the claim for the full amonnt of the original debt was excluded by the composition arrangement; and he paid into Court £8 7s., the amount of the third instalment of the composition. The Lord Ordinary (Mackenzie) held that the condition of the deed of arrangement was, that Yuille should pay the agreed-on composition at the stipulated periods; that it was in respect of that obligation that the pursuers and the other creditors agreed to accept the composition in discharge of their whole debt: that they did not accept the deed of arrangement as a satisfaction of their debts, and in consideration of granting the deed discharged Yuille; that payment of each of the instalments at the stipulated periods was therefore an essential condition of the contract, the non-fulfilment of which would annul the composition and revive the original debt. And on these grounds Lord Mackenzie found for the pursuers, with costs. The defender appealed to the Court, and, after hearing counsel, the Court unanimously affirmed the judgment of the Lord Ordinary.

POISONING WITH ESSENTIAL OIL OF ALMONDS.

A strange case of child poisoning came before Mr. Aspinal, the coroner for Liverpool, on the 18th inst., the subject of inquiry being a little girl, named Jane Orr, six years of age, the daughter of David Orr, a fireman at present at sea. At the inquest, the following evidence was given, to the effect that a man named Robert Williams, lodging in the house of the child's mother, had compelled her to drink some essential oil of almonds mixed with water. The child only lived about twenty minutes. There seemed no motive for the act. Williams was committed for manslaughter.

Correspondence

CITRATE OF MAGNESIA.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I cannot resist the temptation of writing to you upon this subject, with the view of drawing the attention of the trade to a few particulars in connection with the settlement of this question, which may be considered important as affecting our interest in trade, and our status as an educated and scientific body.

After perusing the circular issued by Mr. Bishop, I cannot think the opinion of her Majesty's Attorney-general and Mr. Poland, or the line of conduct they suggest, is such as to merit our approval or practical observance.

The evil appears to be in the article having a misnomer which cannot readily be withdrawn, and in order to guard against penal consequences arising therefrom, we are asked to participate in the awkward task of undeceiving the public upon whom we have for so long a time been playing a discreditable trick, and acknowledge henceforth our past shortcomings, by informing our customers that the compound with which we have supplied them and known as "granular effervescent citrate of magnesia," is not citrate of magnesia, but something else, and that a conviction under the Adulteration Act has been the means of finding us out and bringing us to our senses. We are thus expected to breed public criticism and discontent, to give our customers a smattering of the technicalities of our calling, and to admit and publish the existence of practices of deceit and fraud in transacting businesses, which should of all others be most cautiously and uprightly conducted.

What a humiliating position to be placed in! This surely cannot be admitted! The remedy recommended becomes worse than the disease; and better would it be to throw up the sale of the article altogether than make such concessions, or be pestered with the routine of questioning every little urchin who inquires for a pennyworth of citrate of magnesia, and forcing upon him explanations which he neither cares to know nor expects to receive.

The public are not chemists, and invariably know nothing of the composition of medicaments; they know the popular English names of most remedies they require, and upon asking for them with a view to purchase, expect to be supplied with them. The trader uses his discretion, supplies the article he understands to be wanted, and the customer is satisfied he does not expect to ask a dozen supplementary questions; as to what the customer means or requires, he already knows from the application first made, and if the article supplied be properly labelled, the customer can at once see whether he has been supplied with what he wanted.

As far as regards the naming of the article, and the *modus operandi*, of meeting the difficulty, I have determined to simplify the matter as follows:—To label the article, after having satisfied myself that it contains citric acid and magnesia (if not I would introduce some) "compound granular effervesent citrate *and* magnesia." The copulative conjunction here takes the place of the preposition, and makes no material difference in the actual pronunciation of the name of the article, and the public may not even notice that it has been altered, or in other words, so great a distinction made without a difference.

I submit, further, that no question need be asked the customer, inasmuch as "magnes citras" is not generally known, and before supplying this article should naturally expect to be asked for it in technical language, the Latin synonym being the means of deciding between the salt simple and the salt compound; there cannot possibly be the necessity for making a ridiculous inquiry, when called upon to supply an article known only by the name given.

We may thank the framers of the Adulteration Act for these apparent inconsistencies, and have no reason to compliment those who carry its provisions into execution with exhibiting more than an ordinary instinctive desire to abide by its intentions. It is thus made a stumbling block to traders of all clases, a bugbear to society, the instigator of lying and every species of deceit. The public analyst certifies and swears as being "injurious to health" articles which he knows *are not so*, simply because he must swear according to the formula prescribed by this "Act of Parliment." Such "Acts" and doings want repealing, and before the honesty of upright and honourable members of society—the traders of Great Britain—is questioned, it behoves our legislators to see that penal measures are in *their construction* honest, and in their intention practicable and sound. The present Act admits of so many abuses of construction that repealed it must eventually be.

I am, Sir, your obedient servant,

JAMES PHILLIPS.

Church Stretton, December 4th, 1873.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

DEAR SIR,—In regard to the recent proceedings taken against Mr. McDermott, of Bermondsey, it appears to me that the trade has been unnecessarily frightened. According to the report, the analyst stated that the sample of so-called "citrate of magnesia" obtained from Mr. McDermott, contained no magnesia whatever. Now the question is, if there *had* been any magnesia in it, would there have been any case? Mr. Bishop, in his statutory declaration, states that his preparation *does* contain magnesia, is granular, effervescent, and a citrate. It was under the name of "mag. cit. eff. gran." that Mr. McDermott sold the article, therefore I think it is very probable that had Bishop's manufacture been sold, no prosecution would have been instituted.

However, whatever view may be taken of the case, the fine was undoubtedly too severe, considering the circumstances. A few words of explanation from Dr. Muter to the magistrate, would no doubt have materially altered his (the magistrate's) decision.

There is little doubt that had there been an appeal, the case would have ended in a totally different way. And if the Pharmaceutical Council, at their evening meeting, had arrived at some decision respecting the affair, we should have been saved a deal of trouble and annoyance.

St. John's Wood, N.W. I am yours, etc., C.B.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—So many different names have been proposed and adopted that confusion and difficulty are sure to be experienced, especially by retailers and their customers. The name which I would suggest is "Citrated Magnesia," or "Granular Effervescing Citrated Magnesia." It is highly desirable that a common name be adopted, and it appears to me that the one I suggest would retain a resemblance to the old sufficient to prevent any serious doubt in the minds of purchasers, would for all business purposes sufficiently indicate the character of the article, while it would convey no idea of definite chemical composition, and would protect dealers from prosecution, always assuming that the article sold contains citric acid and magnesia. GEORGE SMITH.

112, Renfield-street, Glasgow, Dec. 6, 1873.

Trade Memoranda.

Mr. H. Lloyd, of Rosemary Hair Cleaner celebrity, and formerly of Dawlish, Sandgate, and Totnes, has succeeded to the business of the late Mr. W. Green, Newton Abbot.

One of the handsomest pharmacies in London has just been completed by Messrs. Treble and Son, for Mr. Cooper, the proprietor of the Sinapine Tissue. It is situated in the Gloucester-road, Brompton, very near the Gloucester-road Station of the Metropolitan Railway, and close to the Cromwell-road. Mr. Cooper has, we should think, wisely judged that a liberal investment of capital would not be wanted in this wealthy neighbourhood, and both his shop and laboratory have been fitted up with great thoughtfulness, as well as with effect. The fittings are executed in Spanish mahogany, with ebony mouldings and enrichments, and the general character of the design we should suppose to be Grecian. The lobby at entrance has a very imposing effect, and the inside of the shop is fitted in a very chaste but elaborate manner. The window is furnished with two large carboys, supported on massive carved ornamental mahogany and ebony pillars; also one large specie jar, with a kind of tripod stand, of the same character as the carboy pillars supporting it. There are also crystals under glass shades, of choice description. The flooring is of encaustic tiling. The execution of the work reflects the highest credit on Messrs. Treble. Mr. Cooper's other establishment in the Abingdon-road, has been much admired, but in this one he has surpassed himself.

Messrs. Neave, of Fordingbridge, have just removed into extensive premises, adjoining the railway-station, which they have erected for the preparation of the well-known Infant's Food that bears their name.

Mr. Tom P. Wood, chemist and aërated water manufacturer, is the new Mayor of Chesterfield.

As will be seen from an advertisement, Messrs. S. Maw, Son, and Thompson announce that they will close their establishment the two days following Christmas, thus giving a clear holiday from the Wednesday to the Monday. From what we have gathered, this example will be very generally followed by the wholesale houses in our line.

Messrs. Tidman and Son, of Wilson-street, Finsbury, inform the trade that they have been reluctantly compelled, owing to the steady advance of materials of every description, to increase their price for their well known sea-salt. For particulars, refer to the advertisement.

Patent Notes.

[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4, South-st., 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:—

2638. J. Leigh, of Manchester. Improvements in the manufacture of manure. Dated 6th August, 1873.
2016. D. Brown, of Henry-street, Bath, Somerset. Improvements in apparatus for stoppering bottles. Dated 4th September, 1873.
2920. J. J. Perry, of Red Lion-square. Improvements in the manufacture of stoppers for bottles and other articles. Dated 5th September, 1873.
2944. W. Hunt, of Castleford, near Normanton, York, manufacturing chemist. Improvements in apparatus for the manufacture of sulphate of soda and sulphate of potash. Dated 8th September, 1873.
3012. W. R. Lake, of London. Improvements in adjustable brackets for use in dental operations, supporting reading and writing desks and the like, and for other similar purposes. Dated 13th September, 1873.
3013. E. T. Hughes, of London. Improvements in the manufacture of the salts, carbonates, and hydrates of baryta and strontia caustic. Dated 13th September, 1873.
3071. P. Spence, of Manchester, manufacturing chemist. Improvements in the treatment of phosphates of iron and alumina for the purpose of obtaining certain useful products therefrom. Dated 15th September, 1873.
3002. H. Deacon, of Appleton House, Widnes, Lancaster. Improvements in the manufacture of alkali. Dated 20th September, 1873.
3187. N. Thompson, of Southampton-buildings, marine engineer. Improvements in means for stopping bottles and other similar hollow articles. Dated 1st October, 1873.
3189. H. Sprengel, of Gloucester-street, Belgrave-road. Improvements in the production of sulphuric acid. Dated 1st October, 1873.
3101. R. S. and J. Dale, of Manchester, chemists. Improvements in evaporating and concentrating solutions of caustic soda, potash, and their salts, acid liquors, occurring in the manufacture of oxalic acid, and also solatine. Dated 2nd October, 1873.
3253. H. Deacon, of Appleton House, Widnes, Lancaster. Improvements in apparatus for the manufacture of chlorine. Dated 7th October, 1873.

Letters Patent have been issued for the following:—

1430. J. W. Gray, of London. A new or improved reservoir for storing petroleum or other inflammable oils or spirits. Dated 19th April, 1873.
1451. A. J. Amneus, M.D., of Upsala, Sweden. New or improved modes and means for preparing medicines. Dated 22nd April, 1873.
1500. L. Thiercelin, of Paris, Doctor of Medicine. Improvements in recovering iodine from phosphates of lime during the manufacture of superphosphate of lime, and in apparatus therefore. Dated 25th April, 1873.
2114. E. C. Hamilton, of Camp House, Colchester, Essex. Improvements in the manufacture of manure. Dated 14th June, 1873.
2240. W. Betts, of Wharf-road, City-road, capsuls manufacturer. Improvements in stoppering and capsuling bottles. Dated 27th June, 1873.
2463. J. Hickisson, of Southgate-road, Hackney, Marking Ink Manufacturer. Improvements in teats, rings, and other articles sucked by infants. Dated 16th July, 1873.
2833. J. Romanes, of Worthing, Sussex. Improvements in machinery employed in the manufacture of capsules. Dated 28th August, 1873.

Specifications published during the month:—

Postage 1d. each extra.

1873.

214. J. and S. Cox. Extracting and recovering oils, fats, etc. 8d.
243. G. W. B. Edwards. Drills for manure and guano. 10d.
327. W. Wharldale. Stoppers for bottles. 8d.
500. J. Sallsron. Manufacture of corks and stoppers. 6d.
511. S. W. Maguay. Manufacture of manures. 8d.
513. H. Campbell. Manufacture of manure. 4d.
570. H. Y. D. Scott. Treating excreta. 6d.
680. J. Hargreaves and another. Manufacture of sulphate of soda and sulphate of potassa. 4d.
752. J. Buchanan. Treating alkali waste. 4d.
764. J. Hargreaves and another. Manufacture of soda and potassa. 4d.
799. B. Hunt. Extraction of iodine. 4d.
809. L. O. Durruthy and another. Treating blood for the manufacture of manure. 4d.
827. H. B. Barlow. Apparatus for the concentration of sulphuric acid. 4d.
828. J. Hargreaves and another. Manufacture of the sulphates of soda, etc. 4d.
841. J. Wadsworth. Manufacture of fuel and manure. 4d.
847. F. Kuhlmann. Utilizing acid residues. 4d.
854. E. Galeer. Hair wash. 4d.
868. W. Weldon. Manufacture of chlorine. 4d.
894. R. J. Jones. Drying down waste alkaline solutions, etc. 6d.
928. C. M. White. Stoppers for bottles, etc. 4d.
958. C. T. Hughes. Manufacture of the salts, etc., of baryta and strontia, etc. 4d.

BANKRUPT.

BURTON, WILLIAM, High-street, Sutton, chemist and manager of &c. Nov. 21.

ARRANGEMENTS OR COMPOSITIONS.

Notices of first meetings *in re* the following estates have been issued. The dates are those of the notices.

BUXTON, JOSEPH HOLMES, 9, Compton-terrace, Islington, surgeon. Dec. 2.

RILEY, RICHARD CHARLESWORTH, Little Town, Birstal, Yorks, manufacturing chemist. Nov. 19.

SANT, JOHN, Lincoln, veterinary surgeon. Nov. 7.

SENNON, EDMUND, 10, Dock-street, Fleetwood, chemist. Nov. 12.

SPIERS, WILLIAM, High-street, Leyton, chemist. Dec. 18.

WALKER, EBENEZER, and WALKER JAMES, trading as WALKER BROS., Malmesbury, chemists and grocers. Nov. 12.

WATSON, WILLIAM, trading as THE CITY OF LONDON PERFUMERY CO., 47 and 61, Old Broad-street, chemist and perfumer. Nov. 12.

BANKRUPT DISCHARGED.

COLEMAN, WILLIAM W., Plumstead-road, Woolwich, surgeon. Discharge granted Nov. 11.

SCOTCH SEQUESTRATION.

HARRISON, GEORGE COOPER, late George-street, Glasgow, manufacturing chemist. Nov. 11, with protection.

DISSOLUTION OF PARTNERSHIPS.

BLACKIE and WARING, Leeds, surgeon-dentists. Nov. 11. Debts by William Blackie.

ELLIS and MOORE, Blackstock-street, chemical manufacturers, and Cranmer-street, both Liverpool, fire-bar manufacturers. Nov. 10. Debts by Robert J. Ellis.

MILLER and RONGER, 37A, Charlton-street, Clarendon-square, M.D.'s. Nov. 11. Debts by James Rodger.

THE ORIGIN OF DISEASE.*

ENTHUSIASTIC young physicians, enamoured of the "germ theory" of disease, and looking wistfully forward to the tempting prospect which it holds out of an opportunity of meeting and battling with the "pestilence that walketh in darkness," *in propria persona*, will do well to read over carefully Mr. Jabez Hogg's thoughtful and tersely written treatise, entitled "Parasitic Origin of Skin Diseases." The author investigated this subject some years ago, and the small book before us is to some extent a *résumé* of his experiments and reports at that time. In 1833 Myar had propounded an attractive theory of certain skin diseases being originated by fungoid attacks, and many eminent physicians supported and still support the idea. Elaborate attempts have been made to prove the special connection of certain parasites with certain diseases of the skin, and these parasites have been recognised and labelled in many instances. Mr. Hogg maintains that the disease originates from a constitutional cause, and that the fungus which in certain skin affections is invariably present, is there because it has found a congenial soil, and not as the originator of the evil. We shall not attempt to abstract Mr. Hogg's reasonings on the cases and investigations narrated. But we may mention that his treatise presents in a condensed style a very instructive little manual on skin diseases generally.

Two papers are appended to the volume, one on "A Fungoid or Organic Germ Theory of Cholera and other Diseases," and the other with the popular title "Dust and Disease." Mr. Hogg shows that many links are wanting to perfect this hopeful "germ theory." His arguments are interesting and forcible. We give a few sentences from his conclusions:—

"Aristotle found no difficulty in believing, and in inducing others to believe with him, that worms and insects were generated by dead bodies: and it was only towards the end of the seventeenth century Redi succeeded in demolishing this theory, and proving that worms and insects which appear in decaying bodies are produced from the ova deposited there by the mature parent. Driven from the insect world where such an hypothesis could have no chance of success, the disciples of Aristotle sought refuge in the world of fungoid life, or 'organic germs.' But here we arrive at an immense gulf, which requires to be bridged over before we arrive at the portal of truth. I have no doubt that the hypothesis of the production of disease by 'organic germs' first obtained credence simply because we know of something analogous occurring in the flight of insect life, and the propagation of swarms which inflict blight on vegetable life. To associate such a phenomenon with the occurrence of disease in animal bodies is most unreasonable and unsatisfactory. From an 'organic germ' to a 'specific germ' theory seems to be a natural transition; and certainly the most plausible affiliation of a disease with the 'specific germ' theory is cholera; but even here it is seen that opinions are more and more divided."

"I do not therefore deny the probable influence exercised by minute organic particles mixing in the air we breathe, in the *summum malum* of human ills; but what I contend for is, that as yet it has not been demonstrated that such bodies hold any precise relation to any special form of disease."

"If any one is determined to furnish a formula for cholera, he may take 'bad air, bad water, sewer emanations, floating stinks, germs if you please, bad ventilation,' with perhaps a dozen or two more evils, which are all more or less concerned in originating the disease. But, after all, the prime occasion for its development is a mass of human beings aggregated together, either in towns, in barracks, or the country, into a sufficiently limited area of mud, gravel, granite, large and imposing structures, crowded courts, alleys, cellars in St. Giles's, or attics in Glasgow; and the necessary conditions for cholera as well as other zymotic diseases are provided."

* "Skin Diseases, an Inquiry into their Parasitic Origin," etc. By JABEZ HOGG. London: Baillière, Tindall, and Cox.

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 paid. A number will then be attached to the advertisement by the publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertisor, and with that his share in the transaction will cease.

DISPOSAL.

Dr. Hilaro Barlow's "Practice of Medicine." Post free. 5s. 6d. 35/220.

14 lbs. of Howard's Calomel, price 5s. 10d. per lb. Carriage paid. Scott, Chemist, Rochdale.

Twelve Ounces of Argent. Nit. Crystals. 2s. 10d. per oz. Warranted best quality. 13/221.

Cæsar VII. Books, Eton Latin Grammar. "C.," Mr. Crook, Mirfield.

Missisquoi Water, just imported; Pot. Iodid., 18s. 6d. Reevill, Clifton, Bristol.

One of Wightman's best Amateur Printing Presses, very little used; will be sold cheap. 2/161.

Dispensing Scales, Maw's Catalogue, Fig. 7; almost new. Cash offers or patents. Mills, Dartford.

Fifty pounds Finest Turkey Opium (well kept). Price nett, 24s. 6d. 10/220.

Three Bottles Ol. Menth. Pip. (H. G. Hotchkiss.) Packed. Carriage paid. 17s. 6d. per lb. Iliffe and Sons, Nuneaton.

Four Pair of Forceps, One Revolving Tooth Key. Offers wanted. Taylor, Charrington's, Lichfield.

Eighteen Bottles Leeming's Essence, clean, 20s. Carriage paid. Fortune, Anstruther.

Three pounds Ammonio, Tartrat, or Citrate Ferri (Howard's). 16/220.

Job Watches, English, modern style; good time keepers; Nickel Silver. Price 17s. 6d. cash. 21/220.

Two or three gross Alcock's Porous Plasters, at 8s. 3d. per dozen. 23/219.

About 17 lb. Sem. Hyoscyam. (English). For price and sample, or offer, apply, Foster, Burford, Oxon.

Bentham's "Flora," new; 31s. 6d. Published at £3 10s. 18/220.

Three Vols. Burdin's "Medical Studies;" "Pharmaceutical Journals," half-year's. Taylor, Charrington's, Lichfield.

Cooley's "Cyclopædia. Cost 28s.; for 15s. Excellent condition. Latest edition. Chambers, Haddenham, Cambridge.

Maw's Electro Magnetic Machine, as Fig. 6, page 73, Maw's Catalogue. Very powerful double magnet, equal to new. 25s. 220/25.

P. B., full of Notes, for the Minor; what offers? Also books. Send stamp for list. A. P. S., County Analyst's Office, 2, Cornhill, Lincoln.

Sewing Machine. Pill Machine, Surgical Instruments, Sundries, Oxy. Scillæ, 6d. per lb. P. B., Carrington's, Wincanton.

Fowne's "Chemistry," 1868; Attfield's "Chemistry," 1869; Bentley's "Botany," 1870; Selecta e Præscriptis. Offers required. M. B., 54, London-road, Lynn.

A small Printing Press, suitable for bill-heads, circulars, cards, &c.; type, roller, &c., complete. Orchard, Chemist, Salisbury.

Lescher's "Introduction," 5s. 6d.; "Pharmaceutical Latin Grammar,"3s.6d. Address A.P.S.,16,Osborne-st., Oldham.

Fourteen 2-Gallon Carboys with Colours. 5 Grain Pill Machine. Highest bidder. Ernest Matthews, Chemist, Royston, Herts.

Barnett's No. 4 Soda Water Machine. Bottling Apparatus and Dial complete. Nearly new. P. Y. M., care of Barron, Harvey, and Co., Giltspur-street, London.

Bordeaux, St. Julien, St.Emilion Clarets. Quarts 14s.,20s.,26s. per doz., less 20 per cent. Mandley, Fore-st., Teignmouth.

A Three Gallon Show Globe, cut stopper; Baywood Steps, similar to Maw's, Fig. 85; Treble's Universal Bent Glass Case, 8 inch high, 14 inch back to front, 2 feet long. Botham, Higher Broughton, Manchester.

Binocular Microscope, first-class, quite new, with Polariscope and other apparatus, in handsome polished mahogany cabinet. Only £10 10s. Apply, "B." 151, Hoxton-st., London, N.

Two and a half lb. Gum Tragac. Elect; 2½ lb. Hyd. Ammon Chlor.; 3 lb. Acid Citric; 4 lb. Rouge; 7 lb. Ærugo Æris Exot.; 1 grs. Calvert's Pig Powder; 6 lb. Tinct. Ferri. Perchlor. £3 10s. the lot. Or offers. 34/220.

Coffee Mill, 12s.; few Casks Paraffin, 1s. per gallon; 8 lb. Stavesacre Seeds 7½d. lb.; 2 cwts. No. 5 Emery, 20s. cwt.; Cask Mineral Lubricating Oil, 1s. 9d. a gallon. Address, "Thresh," Dukinfield.

Three Nests of Drawers Labelled, a Counter, Shelving, Bottles, Jars, Utensils, and Implements, outside Lamp, all in good condition. Particulars on application to Mr. Jacobson, 38, Walbrook, London.

Six pounds of Dixon, Dean, and Company's Gutta Percha Tissue, at 6s. per lb. A few pounds of Turkey Sponge, in pieces about 12 to the pound, 6s. per pound. Cash with order. Hatch, Isaac, and Co., Clifton, Bristol.

Pereira's "Materia Medica," good condition, published at 21s.; Smith's smaller "Latin-English Dictionary," almost new; "Pharmaceutical Journal," shortly after publication. Offers wanted. E. H., 2, Russell-street, Liverpool.

In consequence of declining agency about £100 worth of Standard Measure Company's Wines, at 30 per cent. off retail list. The whole or in lots. Lists on application. 20 lb. G. Opii. Tky. Elect, 27s. 6d. per lb.; 10 lb. Pot. Iodid. (Howard's), 19s. per lb. W. Parrington, Batley.

Christmas Treat. A Chemist having taken up the Litre Wine Agency, and not caring to introduce it in his business, offers it at 20 per cent. under invoice price. Port, Sherry, and Claret from 8s. per dozen. Great sacrifice. List on application. Mandley, Fore-street, Teignmouth.

Very handsome Plate Glass Tablet, in maple gilt frame, 40 in. by 30 in. lettered "Prescriptions Carefully Prepared," and three other lines, Royal arms in centre; Desk Counter and Fittings of Small Office, nearly new; Small Tin Copper-jointed Liebig's Condenser; all at half cost price. J. B., 46, Churton-street, Belgrave-road, London.

Judson's Dyes, 3s. 3d. doz.; Lord's Marking Ink, 3s. 3d. doz.; Perk's 1s. Essences, 6s. 6d. doz.; 6d. Perfumes, Best, 3s. 3d. doz.; 6d. Powders, Best, 3s. 3d. doz.; 1s. ditto ditto, 6s. 6d.; Bailey's Sulphine, 8s. doz.; 1s. pkts. Brecknell's Skin Soap, 7s. doz.; Lineham's Hair Dressing Balsam, 10s., 20s., 30s., 40s.; Atkinson's Champion Plate Polish, 3s. per dozen. 10/221.

Two and a Half dozen Steedman's Pulv., 1s. 1½d.; 1 dozen Cockle's Pills; 1½ dozen Scott's (Lambert's); 1 dozen Morrison's; ½ dozen Brown's Troches; ½ dozen Alcock's Emp.; ½ dozen Parr's Pills, at 8s. 9d. per dozen. One-sixth dozen Holloway's Pills, 2s. 9d.; ¼ dozen Morrison's, 2s. 9d.; 1-12 dozen Scott's, 2s. 9d.; 24s. a dozen. All clean, and in saleable condition. 220/19.

Cheap Dispensing Bottles, flat and oval, several gross; 8, 6, and 4 oz., at 8s. 6d.; 10 and 12 oz., 10s. 6d.; 16 oz. 12s. a gross. Also a quantity of odd bottles, 6, 8, and 4 oz. (chipped, lettered, &c.), at 4s. 6d. a gross. All clean. Fowne's "Manual of Chemistry," 7s. Druitt's "Surgeon's Vade Mecum," 7s. Walshe's "Diseases of the Lungs and Heart," 7s. Andrews, Chemist, Eastbourne.

Twelve Silk-leggings, good condition, 2s. each; 24 Trusses soiled, otherwise perfect, 1s. each; 3 Mahogany Carboy Stands, octagon 9-in. × 2½-in., 2s. each; 2 Ditto, 10-in. × 2-in., 2s each; Stained Carboy Stands, circular, 9-in. diameter, 5 for 4s.; lot Photo. Frames, &c., at nominal price; 2 Glass Jars, 19-in. high, 15s. 6d. each. J. Floyd, Bury St. Edmunds.

Halse's Battery, new, £4; 1 set of Tomes' Forceps, 30s.; 2 sets of Forceps, 15s. per set; 2 Tin Cisterns, with two divisions in each, fitted with brass taps, painted, holding about 10 gallons, 20s.; Mill on block, very heavy, suitable for grinding seeds, 7s. 6d.; a Stove to burn coke or coal, with a great quantity of piping, 20s.; a Galvanic Battery, New, 20s.; a Magnetic Machine, in Box, 15s.; Muspratt's "Chemistry," 25s. Address, J. G., 14, Netherthorpe-street, Sheffield.

Bourgery's "Minor Surgery," 3s.; Cooper's "Dictionary Surgery" (wants binding), 5s.; Craigie's "Pathological Anatomy," 4s. 6d.; Copland's "Dictionary Practical Medicine," Parts I. to XIII. inclusive (part II. wanting), 15s. (costs £3 7s. 6d.); "Doctor," 99 numbers, bound, 3s.; Clarke's "Diseases of Females," 2 vols., plates, 7s. 6d.; Sander's "Manuale Medicum," 1s.; Henry's "Epitome Chemistry," 1803, 1s.; Topham's "Epitome Chemistry," 1s.; Abernethy's "Surgical and Physiological Essays," 3s.; Gooch's "Chirurgical Works," 3 vols., scarce, 10s. A. Davis. 161, Seven Sister's-road, London.

Two Shillings each. Postage 3d. Enclosure. Phillip's "Indigestion"; Main's "Vegetable Physiology;" Cullen's "First Lines Physiology;" Cullen's "Materia Medica;" Clarke's "Diseases Children," First Part; Davis's "Acute Hydrocephalus;" Bingham "On Bladder;" Rowland's "Softening of Brain;" "Homœopathic Truths;" Thomas's "Guernsey's Homœopathic Practice;" Dudgeon's "Lectures Homœopathy;" Sampson's "Homœopathy;" Hahnemann's "Exposition Homœopathique;" Quin's "Pharmacopœia Homœopathica;" "London Pharmacopœia," 1809; Smith's "Pharmaceutical Guide;" Bateman's "Magnacopia;" "Celsus," Four Books; Scott's "Diseases Joints;" Quincey's "Medical Dictionary," 1726; Jahr's "Manuel Médicaments Homœopathiques;" Rennie's "Supplement Pharmacopœias," 1829. T. Floyd, 2, Paddington-street, Poole's Park, London, N.

Handsome Mahogany Glass Show Case, about 6 feet long. Suitable for shop or library. Several Glass Cases suitable for outside shop, or to fix round counter. Quantity of Carboys, cut glass stoppers, and Specie Jars. Shop Bottles, labelled, 20, 30, 40 oz., 9s., 11s., 14s. per dozen. Maw's Court Plasters, Perfume Fountains; Calvert's Pure Carbolic Acid; Barracco Liquorice Juice; Varied Stock of Drugs, Chemicals, Sundries, Horse, Cattle Medicines, Handsome Tooth Brush Show Case, Pill Machines, Tincture Presses, Lathes, Coppers, Refrigerators, Bell's "Surgery," illustrated, cost £5 5s.; a bargain. Cockle's, Norton's, Powell's, Steedman's, Winslow's, Allcock's, Browne's Troches, Browne's Chlorodyne; 9s. dozen. Allen's Restorer, 42s.; Mexican, 24s.; Zylobalsamum, 22s.; Floriline, 20s.; Ext. Carnis (Liebig's Company), 14s. 9d.; Tooth's, 14s. 3d.; Ramornie, 12s. 10d. Stamp for list. Lloyd Rayner, 309, New North-rd, Islington, London.

One Nest Shop Drawers, veneered, containing 40 drawers, 5¾ in. by 8¼ in., and 14 drawers 8¼ in. by 8¼ in., labelled. One Nest ditto, containing 12 drawers 8 in. by 7 in., and 10 drawers 9¾ in. by 7 in., labelled. One pair Scales, same as Fig. 7 Maw's List; French-polished Mahogany Stand and Pillar, with drawer 17 in. by 8½ in., brass pans and chains. One Salmon and Ody's Double Truss, best quality, 28 in. One Cranstone's Patent Mill. One Specie Jar, fancy moulded top, Royal arms, labelled rhubarb, 28 in. high by 40 in. circumference. Two 2-gallon and Two 4-gallon White Glass Carboys, with stoppers complete. Two Brass Gas Pillars, 17 in. high; and two ditto, 12 in. high. Irrigateur, Dr. Equisiers, one pint size; new, complete, in wood case, as Fig. 18 Maw's List. One Treacle Cistern, labelled, 10 in. square, 13 in. high, best 2-in. tap; quite new, with stand, same as 142 Gilbert's List. One India-rubber Scrotal Truss, for child, 14 in., new, right side. Nine Bottles Crews' Rinsing Liquid. Nine Bottles Twelvetrees' Washing Preparation. Beasley's "Druggists' Receipt Book," 3s. A Mahogany Counter Front, 10 feet long, 3 feet 1 inch. high. A Nest of Mahogany Shop Drawers, containing 39 drawers, 8½ in. by 8½ in. and 10 drawers, 11 in. by 8½ in. Gas Furnace, by Swan and Nash, 1 foot 9 inches high, 1 foot 8 inches circumference. A Potter's Leech Aquarium, square, glass sides and top, 17 in. high, 8 in. square. A Gas Meter, 10-light. Address, Z. Z., Post-office, Brentwood.

WANTED.

"Selecta e Præscriptis." "C.," Mr. Crook, Mirfield.

A fine outside Lamp and Bracket. In good condition. Offers wanted. Chant, Langport, Somerset.

Sykes's Hydrometer, complete. John Fisher, Bank-street, Carlisle. Also an air pump.

Specimens of "Materiæ Medicæ." Address, W. H. Reedman, Bletchingley, Surrey.

Du Barry's Revalenta, 12 tins wanted, or smaller sizes, fresh. State price. Ellithorne, Netherfield-road, Liverpool.

Pharmacopœia; Selecta Præscriptis; Cook's or Lindley's Botany; Muter's Materia Medica. Richard Woods, Chemist, Jersey.

An upright Dispensing Case. Length not to exceed 5ft. 7in. In fair condition, and moderate price. H. Lloyd, Newton Abbot.

"Mamma" Feeding Bottles, complete. Send prices. Petroline Cisterns, slate or metal. Send sizes and prices. Taylor, Droitwich.

Shop Bottles, Pots, Drawers, &c. Also Soda Water Machine. "Alpha," "Chemist's and Druggist's" Office, 44a, Cannon-street, London, E.C.

8 Hooped Lids for casks, such as are used by grocers, 20 inches in diameter. A Forrest's Measuring Apparatus, with reservoir attached, holding about 10 or 12 gallons, quite perfect. Z. Z., Post Office, Brentwood.

A Mahogany Show Case, 4 to 6 feet long, 3 feet high, and 6 to 9 inches deep to stand on counter front. Desk and glass case combined. Two neat Specie Jars. L., Mr. Faull's, Westgate, Bradford.

Dispensing Counter, with shelves, drawers, &c.; dispensing screen (preferred with glass case at back); and other Counters and Shop Fittings, if suitable and cheap (for a second-class shop); two-grain (24) Pill Machine. Macpherson, Stornoway.

A one-gallon graduated Glass Percolator. Quite perfect. Some bent glass Counter Cases. Various sizes. Say size and lowest price. Some glass show jars for counter, with japanned covers. About 18 inches high by 33 in. circumference. Z. Z., Post-office, Brentwood.

TRADE REPORT.

THE return to a normal condition in the financial markets makes business possible again, but it is certain that the American dead-lock has very considerably affected our markets. In proportion to the extent of business done we believe no class of English manufacturers have suffered so much as the proprietors of chemical works. But no doubt the year has been an unfortunate one not only for manufacturers, but for all who have ventured in any way to interfere with this class of goods. Towards the close of last year, after an exceptionally good shipping season large quantities of goods were bought "for a rise." Speculators, however, had not allowed for a coincidence of opinion among their brother-operators, nor for the fact which has been clearly proved since that consumers themselves had also been preparing "for the rise." This year both foreign and home demand fell off, and such as there was, was not sufficient to make holders confident. In this condition of affairs makers might have soon regulated the mistake by partially suspending operations, but they, on their part, seemed unable to check the impetus which last year's business had given, so continued to pour their productions on to markets already supplied to excess. The consequence has been that from one end of the year to the other there has never been a clear board, and though business can hardly be said on the whole to have been bad, yet it must be evident that chemical manufacturers have been working at a much lower rate of remuneration than they have been accustomed to. These remarks apply especially to the heavy chemicals such as alkalis, bleaching powder, oxalic acid, and the like.

The "sensation" chemicals, Iodine and Mercurials have retained general attention. Quicksilver having reached twenty guineas has now fallen a trifle, and hovers between £19 10s. and £20. Is this a sign of brighter times, or is it merely *à reculer pour mieux sauter?* Preparations of Mercury have advanced a penny while the metal has fallen, on the same principle, we presume, as the London gas companies have adopted in advancing the price of gas now that coals are cheaper. Quite recently the price of iodine has fallen from 1s. 3d. to 1s. somewhat unexpectedly. This seems to be the result of a movement on the part of the "hierachy" to outflank the opposition. We are informed that there is not much probability of a further reduction, and that large sales have been effected at 1s. It is just on the cards that the old familiar ninepence may be touched again, but a rise is the more probable event of the two. Quinine is not quite so high, but French still holds the lead. Tartaric Acid has assumed a very firm appearance.

There seems but little prospect of a reduction in the price of Citric Acid, if the assertion is reliable that nearly the entire production of lime-juice in Sicily has been already purchased.

Among the events on the drug market may be especially cited the first introduction on a really commercial scale of East Indian Cinchonas. The supply came from the Neilgherry Hills, and was competed for readily for the chief quinine manufacturers. Some of the best samples realised 5s. per pound, which is almost the maximum of red Peruvian. There is, therefore, now every reason to believe that the cinchona plantations of India are an established success. Opium, which during the financial crisis was fluctuating in price, is now very firm and advancing. We advised our readers that this advance must inevitably occur. Castor Oil is firm, and shipments do not seem to have been abundant. Some large arrivals of Balsam of Copaiba have eased the market a little, but the price is still high, 2s. 9d. to 2s. 10d. At the public sales on Thursday last, Musk, Soy, Vanilla, Nux Vomica, Aloes, Cardamoms, Lemongrass, Citronelle, and Cassia Oils sold at lower rates; Aniseseed Oil has been sold at some decline by private contract. Rhubarb unchanged. Gum Animi firmer; Ammoniacum brought advanced rates.

Reports of famine in Bengal occasioned last month an extraordinary amount of speculation in rice. Cargoes were sold over and over again, and at last a rise of 3s. 6d. was reached. This has scarcely been maintained.

At the quarterly sales of Cinnamon, on the 24th ult., there was an unusually and somewhat unexpectedly brisk competition. Though the stock offered was heavy, it was eagerly bought, and an advance of from 2d. to 1d. was established. Buyers were particularly eager to obtain the finest qualities.

There is every probability that the high price of Cloves will be maintained for some time, and probably augmented. It is consequent on the almost total destruction, by a severe cyclone, of the clove plant in 1872 in Zanzibar, the chief source of supply, which rendered the market to a great extent dependent on accumulated stocks. The clove tree requires seven years before its flower buds are fit for commerce, and twice that period before it yields a full crop. Hence the stocks on hand must run out before an abundant supply can be looked for. But in addition to this, it is reported that the Easterns have chosen this unfortunate moment to develop a strong liking for the spice, and curiously enough the price is just now higher at Bombay than in London.

The price of Vanilla is now five times what it was eighteen months back. This is due partly to damaged crops, and partly, it is said, to the entirely new demand for the flavour which has sprung up in Germany since the war. The assumption is that the German soldiers acquired the taste during their sojourn on French soil, yielding to the *confiseurs* what the *mitrailleurs* failed to win.

English Linseed has advanced considerably, and may now be quoted at 66s. to 70s. Foreign seeds are also higher, but East India reports say that plenty is offering.

Olive Oils are firmer, and will almost surely continue to advance. Linseed Oil is dull at about £30. Brown Rape and Cocoanut Oils have been active with advancing prices, and Sperm Oil is held firmly.

There is a decidedly stronger tone in the Petroleum market. For forward transactions 1s. 1¼d. has been paid.

From the *Titusville Herald*, the organ of the petroleum producers, we gather that the price of the oil at the wells is now, or at least was lately, 37½ cents per barrel, and that journal urges that to raise oil at such a ridiculous figure is worse than absurd. It wants owners to hold their hands until accumulated stocks have run down somewhat, for it says, "the rock is the best tankage for oil at less than three dollars a barrel." That 37½ cents, however, leaves a margin is to be presumed from the fact that even at that price new wells are continually being opened.

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.

CHEMICALS.	1873.		1872.	
	s. d.	s. d.	s. d.	s. d.
ACIDS—				
Acetic .....per lb.	0 4 to	0 0	0 4½ to	0 0
Citric ..... ,,	4 5 ..	0 0	4 5½ ..	4 6
Hydrochlor. ....per cwt	4 0 ..	7 0	4 0 ..	7 0
Nitric .....per lb.	0 5 ..	0 5½	0 5 ..	0 5½
Oxalic ..... ,,	0 7¾ ..	0 0	0 11 ..	9 0
Sulphuric ..... ,,	0 0¾ ..	0 1	0 0¾ ..	0 1
Tartaric crystal .. ,,	1 6¾ ..	1 7	1 7 ..	1 8
powdered ,,	1 7 ..	0 0	1 7½ ..	1 8
ANTIMONY ore.....per ton	200 0 ..	240 0	360 0 ..	400 0
crude ..per cwt	40 0 ..	42 0	40 0 ..	42 0
regulus.. ,,	0 0 ..	0 0	0 0 ..	0 0
star .... ,,	55 0 ..	50 0	67 0 ..	70 0
ARSENIC, lump..... ,,	20 6 ..	0 0	18 6 ..	0 0
powder.... ,,	10 0 ..	10 3	9 0 ..	0 0
BRIMSTONE, rough ..per ton	127 6 ..	145 0	125 0 ..	147 0
roll ....per cwt	10 0 ..	10 6	10 0 ..	10 3
flour.... ,,	12 6 ..	12 3	12 0 ..	12 6
IODINE, dry .....per oz.	1 0 ..	0 0	1 7 ..	1 3
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	390 0 ..	400 0	255 0 ..	260 0
MINIUM, red .....per cwt.	25 0 ..	25 3	21 8 ..	21 0
orange .... ,,	37 0 ..	0 0	32 6 ..	0 0
PRECIPITATE, red ....per lb.	6 2 ..	0 0	4 3 ..	0 0
white .. ,,	6 1 ..	0 0	4 2 ..	0 0
PRUSSIAN BLUE ..... ,,	0 0 ..	0 0	0 0 ..	0 0
SALTS—				
Alum .....per ton	175 0 ..	185 0	105 0 ..	180 0
powder .... ,,	195 0 ..	0 0	175 0 ..	180 0
Ammonia:				
Carbonate .....per lb.	0 7½ ..	0 7¾	0 7 ..	0 7¼
Hydrochlorate, crude, white..... per ton	650 0 ..	0 0	640 0 ..	0 0
British (*see* Sal Ammoniac)				
Sulphate .....per ton	350 0 ..	360 0	400 0 ..	410 0
Argol, Cape .....per cwt	88 0 ..	98 0	76 0 ..	90 0
Red .... ,,	70 0 ..	80 0	05 0 ..	86 0
Oporto, red ,,	32 0 ..	32 6	32 6 ..	33 0
Sicily .... ,,	52 6 ..	57 6	67 6 ..	70 0
Ashes (*see* Potash and Soda)				
Bleaching powd..per cwt.	10 6 ..	10 9	12 6 ..	0 0
Borax, crude .... ,,	40 0 ..	85 0	55 0 ..	75 0
British refnd. ,,	95 0 ..	0 0	102 6 ..	0 0
Calomel .....per lb.	5 9 ..	0 0	3 10 ..	0 0
Copper:				
Sulphate .....per cwt.	32 6 ..	0 0	31 6 ..	32 0
Copperas, green ..per ton	60 0 ..	62 6	60 0 ..	02 6
CorrosiveSublimate..p.lb.	5 0 ..	0 0	3 3 ..	0 0
Cr. Tartar, French, p. cwt.	109 0 ..	0 0	107 6 ..	0 0
brown ,,	95 0 ..	100 0	97 6 ..	105 0
Epsom Salts ....per cwt.	5 0 ..	0 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 0 ..	45 0
Potash:				
Bichromate ....per lb.	0 8½ ..	0 0	0 8½ ..	0 0
Carbonate:				
Potashes, Canada, 1st sort .....per cwt.	36 0 ..	36 6	38 6 ..	0 0
Pearlashes, Canada, 1st sort .....per cwt.	47 0 ..	47 6	53 0 ..	0 0
Chlorate .....per lb.	1 2 ..	0 0	1 9 ..	1 10½
Prussiate ..... ,,	1 3 ..	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.	8 0 ..	0 0	9 0 ..	10 0
Iodide..... per lb.	10 0 ..	0 0	26 0 ..	0 0
Quinine:				
Sulphate, British, in bottles ..... per oz.	9 0 ..	0 0	8 0 ..	8 8
Sulphate, French ,,	9 4 ..	0 0	8 0 ..	0 0
Sal Acetos .....per lb.	0 11 ..	0 11½	1 2 ..	0 0
Sal Ammoniac, Brit. cwt.	44 0 ..	45 0	48 0 ..	49 0
Saltpetre:				
Bengal, 6 per cent or under .....per cwt.	23 0 ..	24 3	29 0 ..	29 6
Bengal, over 6 per cent. per cwt.	22 0 ..	22 9	27 0 ..	28 0
British, refined ,,	28 0 ..	28 9	33 0 ..	0 0
Soda: Bicarbonate, p.cwt.	17 0 ..	0 0	17 9 ..	0 0
Carbonate:				
Soda Ash....per deg.	0 2½ ..	0 0	0 3⅛ ..	0 0
Soda Crystals per ton	117 6 ..	0 0	140 0 ..	145 0
Hyposulphite..per cwt	10 0 ..	17 0	0 0 ..	0 0
Nitrate .....per cwt.	12 0 ..	13 0	10 0 ..	10 3
SUGAR OF LEAD, White cwt.	47 0 ..	48 0	44 0 ..	0 0
SUGAR OF LEAD, Brown, cwt.	33 0 to	34 0	30 0 to	0 0
SULPHUR (*see* Brimstone)				
VERDIORIS ..... por lb.	1 1½ ..	1 6	1 1½ ..	1 2
VERMILION, English.. ,,	5 0 ..	0 0	3 8 ..	3 10
China.... ,,	4 3 ..	0 0	3 7 ..	4 0
DRUGS.				
ALOES, Hepatic....per cwt.	80 0 ..	200 0	100 0 ..	240 0
Socotrine .. ,,	110 0 ..	320 0	180 0 ..	340 0
Cape, good.. ,,	28 0 ..	30 0	30 0 ..	32 0
Inferior ,,	19 0 ..	29 0	25 0 ..	29 0
Barbadoes ,,	75 0 ..	200 0	70 0 ..	200 0
AMBERGRIS, grey..... oz.	35 0 ..	42 0	10 0 ..	27 0
BALSAM —				
Canada ..... per lb.	2 7 ..	2 8	1 9 ..	1 10
Capivi ..... ,,	2 9 ..	2 10	2 1 ..	2 3
Peru ..... ,,	8 2 ..	8 3	9 2 ..	9 3
Tolu ... . ,,	2 0 ..	2 3	1 9 ..	1 11
BARKS—				
Canella alba ....per cwt.	15 0 ..	28 0	15 0 ..	25 0
Cascarilla..... ,,	20 0 ..	30 0	26 0 ..	37 0
Peru, crown & grey per lb.	0 9 ..	2 8	1 2 ..	2 9
Calisaya, flat ,,	3 0 ..	4 0	3 4 ..	4 6
quill ,,	3 3 ..	4 0	3 2 ..	4 3
Carthagena ,,	0 9 ..	2 0	0 10 ..	2 2
E. T..... ,,	1 4 ..	5 0	0 0 ..	0 0
Pitayo .... ,,	0 0 ..	2 2	0 4 ..	1 6
Rod ..... ,,	1 10 ..	6 0	1 10 ..	6 0
Buchu Leaves..... ,,	0 2 ..	1 0	0 2 ..	0 0
CAMPHOR, China.. per cwt.	72 6 ..	0 0	75 0 ..	0 0
Japan ,,	0 0 ..	0 0	78 0 ..	80 0
Refin Eng. per lb.	1 2 ..	0 0	1 3 ..	0 0
CANTHARIDES ..... ,,	6 0 ..	0 0	6 0 ..	6 8
CHAMOMILE FLOWERS p. cwt	20 0 ..	66 0	40 0 ..	80 0
CASTOREUM ..... per lb.	3 0 ..	20 0	3 0 ..	30 0
DRAGON'S BLOOD, lp. p. cwt.	110 0 ..	320 0	100 0 ..	210 0
FRUITS AND SEEDS (*see also* Seeds *and* Spices)				
Anise, China Star pr cwt.	140 0 ..	150 0	107 6 ..	115 0
Spanish, &c. ,,	20 0 ..	34 0	20 0 ..	38 0
Beans, Tonquin .. per lb.	1 9 ..	2 6	1 3 ..	1 8
Cardamoms, Malabar				
good ,,	4 10 ..	6 3	4 0 ..	6 7
inferior ,,	3 6 ..	4 6	2 6 ..	4 7
Madras ,,	1 5 ..	4 6	2 0 ..	4 6
Ceylon ,,	4 0 ..	4 3	3 6 ..	4 0
Cassia Fistula.. per cwt.	10 0 ..	20 0	11 0 ..	22 0
Castor Seeds .. ,,	5 0 ..	10 0	5 0 ..	10 0
Cocculus Indicus ,,	14 6 ..	15 0	12 0 ..	13 0
Colocynth, apple.. per lb.	0 4 ..	0 9	0 3 ..	0 8
Croton Seeds .. per cwt.	50 0 ..	65 0	65 0 ..	70 0
Cubobs ..... ,,	22 0 ..	23 0	20 0 ..	30 0
Cummin..... ,,	13 0 ..	30 0	22 0 ..	24 0
Dividivi ..... ,,	10 0 ..	15 0	12 0 ..	15 0
Fenugreek..... ,,	12 0 ..	20 0	10 0 ..	11 0
Guinea Grains .. ,,	25 0 ..	28 0	24 0 ..	25 0
Juniper Berries ,,	9 0 ..	10 6	10 0 ..	10 6
Nux Vomica.... ,,	8 3 ..	12 0	9 0 ..	13 0
Tamarinds, East India ,,	7 0 ..	18 0	5 0 ..	20 0
West India, new ,,	15 0 ..	20 0	20 0 ..	30 0
Vanilla, large .... per lb.	05 0 ..	75 0	58 0 ..	80 0
inferior ,,	28 0 ..	62 6	22 0 ..	56 0
Wormseed per cwt.	0 0 ..	0 0	0 0 ..	0 0
GINGER, Preserved, in bond (duty ½d. per lb.) per lb.	0 6½ ..	0 9	0 7 ..	0 10
GUMS (*see separate list*)				
HONEY, Chili .... per cwt.	30 0 ..	61 6	28 0 ..	42 0
Cuba .... ,,	0 0 ..	0 0	0 0 ..	0 0
Jamaica.. ,,	35 0 ..	45 0	30 0 ..	50 0
Australian ,,	30 0 ..	40 0	0 0 ..	0 0
IPECACUANHA .... per lb.	3 3 ..	3 0	3 0 ..	4 0
ISINOLASS, Brazil.. ,,	3 5 ..	5 10	2 6 ..	4 6
Tongue sort ,,	4 0 ..	5 8	3 4 ..	5 2
East India ,,	2 8 ..	5 0	1 0 ..	4 6
West India ,,	5 1 ..	5 8	4 0 ..	4 5
Russ. long staple	8 0 ..	12 6	8 0 ..	12 0
,, inferior,,	4 0 ..	8 0	3 6 ..	7 6
,, Simovia	3 6 ..	5 0	2 6 ..	4 6
JALAP, good ..... ,,	1 3 ..	1 5	1 4 ..	2 0
infer. & stems ,,	0 10 ..	1 2	0 9 ..	1 3
LEMON JUICE ... per degree	0 2¾ ..	0 0	0 0 ..	0 0
LIME JUICE .....per gall.	2 0 ..	3 1	0 0 ..	0 0
LIQUORICE, Spanish per cwt.	40 0 ..	80 0	0 0 ..	0 0
Liquorice Root ,,	11 0 ..	13 0	0 0 ..	0 0
MANNA, flaky .... per lb.	2 6 ..	3 3	3 0 ..	3 3
small..... ,,	1 4 ..	1 9	1 2 ..	1 8
MUSK, Pod ..... per oz.	20 0 ..	40 0	16 0 ..	38 0
Grain ..... ,,	40 0 ..	55 0	50 0 ..	56 0
OILS (*see also separate List*)				
Almond, expressed per lb.	1 0 ..	0 0	1 1 ..	0 0
Castor, 1st pale .... ,,	0 5¾ ..	0 6	0 5½ ..	0 0
second .... ,,	0 5½ ..	0 5½	0 4¾ ..	0 5
infer. & dark ,,	0 5 ..	0 5	0 4½ ..	0 4¾
Bombay (in casks)	0 4¾ ..	0 5	0 4 ..	0 4½
Cod Liver .....per gall.	3 6 ..	0 0	3 6 ..	6 0
Croton.....per oz.	0 3 ..	0 4	0 3 ..	0 4
Essential Oils:				
Almond .....per lb.	25 0 ..	0 0	35 0 ..	0 0
Anise-seed ..... ,,	9 9 ..	10 0	9 0 ..	9 9
Bay .....per cwt.	0 0 ..	0 0	05 0 ..	70 0
Bergamot .....por lb.	7 6 ..	18 0	8 0 ..	15 0
Cajeput, (in hond) per oz.	2 4 ..	2 6	0 0 ..	0 0
Caraway .....per lb.	5 6 ..	6 3	5 6 ..	6 3
Cassia ..... ,,	5 3 ..	5 4	6 10 ..	6 11
Cinnamon .....por oz.	1 0 ..	5 0	1 0 ..	7 0
Cinnamon-leaf.. ,,	0 2¼ ..	0 3	0 2 ..	0 5
Citronello ..... ,,	0 1¾ ..	0 1⅞	0 2 ..	0 0

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Essential Oils, *continued*:—	s.	d.		s. d.	s.	d.		s. d.
Clove.....per lb.	9	6	to	0 0	4	6	to	0 0
Juniper ..... ,,	1	10	..	2 0	1	3	..	2 4
Lavender..... ,,	1	10	..	5 6	2	6	..	5 6
Lemon..... ,,	14	0	..	15 0	5	0	..	15 0
Lemongrass ....per oz.	0	3	..	0 0	0	5	..	0 5½
Neroli ..... ,,	0	4	..	0 6	0	5	..	0 6
Nutmeg ..... ,,	0	8	..	0 8¾	0	8¾	..	0 9
Orango.....per lb.	8	0	..	11 0	7	0	..	8 0
Otto of Roses....per oz.	13	0	..	23 0	16	0	..	30 0
Patchouli ..... ,,	3	9	..	4 0	4	0	..	0 0
Peppermint:								
American ....per lb.	17	0	..	18 0	13	6	..	14 6
English ..... ,,	28	0	..	34 0	26	0	..	28 0
Rosemary ..... ,,	1	4	..	1 10	1	11	..	0 0
Sassafras..... ,,	2	3	..	3 6	3	2	..	3 8
Spearmint ..... ,,	6	0	..	10 0	4	0	..	16 0
Thyme..... ,,	1	10	..	0 0	1	10	..	1 11
Mace, expressed .. per oz.	0	2	..	0 3	0	1½	..	0 3
Opium, Turkey ..... per lb.	25	0	..	30 0	23	0	..	24 0
inferior ..... ,,	15	0	..	24 0	12	0	..	20 0
Quassia(bitter wood) per ton	70	0	..	110 0	85	0	..	90 0
Rhubarb, China, good and fine .....per lb.	2	5	..	5 0	2	3	..	6 0
Good, mid. to ord. ,,	0	8	..	2 4	0	3	..	2 0
Dutch trimmed ,,	0	0	..	0 0	9	0	..	9 6
Russian ..... ,,	0	0	..	0 0	0	0	..	0 0
ROOTS—Calumba..per cwt.	10	0	..	18 0	0	0	..	0 0
China ..... ,,	18	0	..	24 0	23	0	..	27 0
Galangal ..... ,,	25	0	..	26 0	16	0	..	19 0
Gentian ..... ,,	18	0	..	20 0	18	0	..	20 0
Hellebore ..... ,,	30	0	..	33 0	30	0	..	32 0
Orris..... ,,	36	0	..	80 0	30	0	..	40 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 6	0	5	..	0 11
Senega..... ,,	4	6	..	5 0	4	0	..	5 0
Snake ..... ,,	1	8	..	1 9	1	1	..	1 2
Saffron, Spanish .. ,,	20	0	..	25 0	27	0	..	0 0
Salep .....per cwt.	170.	0	..	180 0	160	0	..	180 0
Sarsaparilla, Lima per lb.	0	6	..	0 9	0	7½	..	0 9
Para..... ,,	1	0	..	1 3	1	3	..	0 0
Honduras ..... ,,	1	1	..	1 7	1	5	..	1 8
Jamaica ..... ,,	1	5	..	2 4	1	6	..	2 6
Sassafras .....per cwt.	16	0	..	17 0	0	0	..	0 0
Scammony, Virgin ..per lb.	25	0	..	30 0	26	0	..	30 0
second & ordinary ,,	9	0	..	24 0	11	0	..	25 0
Senna, Bombay .... ,,	0	1	..	0 5	0	1	..	0 4
Tinnivelly ..... ,,	0	1	..	1 6	0	2	..	1 0
Alexandria..... ,,	0	4	..	1 10	0	2½	..	2 0
Spermaceti,refined.. ,,	1	6	..	0 0	1	6	..	0 0
American ..... ,,	1	2	..	1 3	1	2	..	1 3
Squills ..... ,,	0	1	..	0 8	0	1	..	0 2
GUMS.								
Ammoniaci drop ..per cwt.	65	0	..	70 0	120	0	..	200 0
lump .. ,,	45	0	..	65 0	60	0	..	100 0
Animi, fine washed ,,	240	0	..	270 0	280	0	..	330 0
bold scraped ,,	200	0	..	240 0	220	0	..	280 0
sorts ..... ,,	120	0	..	200 0	120	0	..	230 0
dark ..... ,,	80	0	..	110 0	90	0	..	130 0
Arabic, E. I., fine	60	0	..	75 0	70	0	..	84 0
pale picked .. ,,	70	0	..	78 0	75	0	..	84 0
srts, gd. to fin ,,	40	0	..	58 0	60	0	..	69 0
garblings.. ,,	20	0	..	45 0	23	0	..	50 0
Turkey, pick. gd to fin. ,,	150	0	..	230 0	160	0	..	230 0
second & inf. ,,	80	0	..	140 0	85	0	..	150 0
in sorts .. ,,	50	0	..	75 0	65	0	..	80 0
Gedda.... ,,	21	0	..	35 0	30	0	..	42 0
Barbary, white .. ,,	30	0	..	45 0	50	0	..	55 0
brown .. ,,	26	0	..	40 0	36	0	..	44 0
Australian ..... ,,	32	0	..	48 0	22	0	..	45 0
Assafœtida,com.to gd ,,	30	0	..	70 0	42	0	..	105 0
Benjamin, 1st qual. ,,	180	0	..	500 0	180	0	..	420 0
2nd ,, ,,	150	0	..	210 0	135	0	..	200 0
3rd ,, ,,	70	0	..	85 0	70	0	..	85 0
Copal, Angola red ,,	120	0	..	135 0	145	0	..	147 6
Benguela .. ,,	110	0	..	115 0	110	0	..	115 0
Sierra Leone..per lb.	0	3	..	0 10	0	8½	..	0 11
Manilla ....per cwt.	13	0	..	26 0	17	0	..	30 0
Dammar, palo .... ,,	45	0	..	48 0	55	0	..	60 0
Euphorbium ..... ,,	11	0	..	15 0	12	0	..	15 0
Galbanum ..... per lb.	1	6	..	2 0	0	0	..	0 0
Gamboge,pckd.pipe per cwt.	220	0	..	300 0	240	0	..	310 0
Guaiacum .....per lb.	0	6	..	2 6	0	8	..	2 8
Kino.....per cwt.	60	0	..	80 0	10	0	..	80 0
Kowrie, rough.... ,,	20	0	..	35 0	21	0	..	37 0
scraped .. ,,	55	0	..	80 0	51	0	..	60 0
Mastic, picked.....per lb.	5	0	..	6 6	6	0	..	7 0
Myrrh, gd. & fine per cwt.	120	0	..	240 0	120	0	..	200 0
sorts.....	50	0	..	110 0	78	0	..	115 0
Olibanum, p. sorts	70	0	..	75 0	72	6	..	77 0
amber & ylw.	60	0	..	68 0	64	0	..	72 0
garblings.... ,,	20	0	..	40 0	19	0	..	45 0
Senegal .....per cwt.	60	0	..	80 0	70	0	..	80 0
Sandarac ..... ,,	55	0	..	100 0	55	0	..	100 0
Shellac, Orange.... ,,	195	0	..	205 0	160	0	..	172 6
Liver..... ,,	190	0	..	192 6	150	0	..	160 0
Thus..... ,,	19	0	..	30 0	21	0	..	23 0
Tragacanth, leaf.. ,,	240	0	..	410 0	200	0	..	450 0
in sorts ,,	30	0	..	160 0	70	0	..	180 0
OIL.	£	s.		£ s.	£	s.		£ s.
Seal, pale.....per tun	34	0	..	34 10	38	0	..	39 0
yellow to tinged ,,	31	10	..	33 10	33	10	..	38 0
brown..... ,,	30	0	..	31 0	33	0	..	0 0
Sperm ..... ,,	92	0	..	93 0	9	0	..	0 0
Cod ..... ,,	34	0	..	0 0	39	10	..	0 0

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Oils, *continued*:—	£	s.		£ s.	£	s.		£ s.
Whale, SouthSea, pale,pertun	33	0	to	34 0	38	10	to	39 0
yellow ,,	32	0	..	0 0	38	0	..	0 0
brown ,,	30	0	..	31 0	33	0	..	34 0
East India, Fish ,,	26	0	..	26 0	27	10	..	28 0
Olive, Galipoli ....per ton	46	0	..	0 0	47	0	..	47 10
Trieste ..... ,,	45	0	..	0 0	46	0	..	46 10
Levant ..... ,,	42	0	..	0 0	43	10	..	44 0
Mogador..... ,,	41	0	..	0 0	43	0	..	44 0
Spanish ..... ,,	43	0	..	43 10	44	10	..	45 0
Sicily ..... ,,	43	0	..	0 0	45	10	..	0 0
Cocoanut, Cochin .... ,,	38	0	..	0 0	36	0	..	39 0
Ceylon .. ,,	34	0	..	0 0	34	15	..	35 0
Sydney ,,	30	0	..	34 10	31	0	..	35 0
Ground Nut and Ginoelly:								
Bombay	0	0	..	0 0	0	0	..	0 0
Madras.....	36	0	..	0 0	35	0	..	36 0
Palm, fine	38	0	..	0 0	39	0	..	0 0
Linseed	30	0	..	0 0	33	10	..	0 0
Rapeseed, English, pale ..	34	0	..	0 0	43	0	..	0 0
brown.....	32	0	..	0 0	0	0	..	0 0
Foreign pale....	35	0	..	35 10	43	0	..	44 0
brown.....	0	0	..	0 0	0	0	..	0 0
Cottonseed	27	0	..	28 0	32	0	..	32 10
Lard.....	43	0	..	0 0	44	0	..	45 0
Tallow	29	0	..	0 0	32	0	..	0 0
Turpentine, American, cks.	31	0	..	31 6	40	0	..	0 0
French, ,,	0	0	..	0 0	0	0	..	0 0
Petroleum, Crude	0	0	..	0 0	0	0	..	0 0
	s.	d.		s. d.	s.	d.		s. d
refined, per gall.	1	0½	..	1 0½	1	7½	..	0 0
Spirit ,,	1	0	..	0 0	1	5	..	0 0
SEEDS.								
Canary .....per qr.	64	0	..	70 0	48	0	..	52 0
Caraway, English per cwt.	39	0	..	44 0	37	0	..	44 0
German, &c.....	26	0	..	36 0	29	0	..	36 0
Coriander	9	0	..	17 0	19	0	..	20 0
Hemp .....per qr.	38	0	..	45 0	40	0	..	44 0
Linseed, English per qr...	66	0	..	70 0	0	0	..	0 0
Black Sea & Azof	59	0	..	62 0	61	6	..	62 0
Calcutta ,,	61	0	..	63 0	66	0	..	0 0
Bombay ,,	63	6	..	65 0	64	6	..	0 0
St. Petrsbrg. ,,	56	0	..	58 0	60	0	..	60 0
Mustard, brown..per bshl.	10	6	..	15 6	13	0	..	16 0
white.. ,,	8	6	..	12 6	8	0	..	9 0
Poppy, East India per qr.	65	0	..	65 6	56	0	..	0 0
SPICES.								
Cassia Lignea ....per cwt.	70	0	..	85 0	85	0	..	85 0
Vera ..... ,,	25	0	..	50 0	30	0	..	30 0
Buds ..... ,,	115	0	..	117 6	117	6	..	125 0
Cinnamon, Ceylon,								
1st quality ....per lb.	2	1	..	4 6	2	9	..	3 11
2nd do. ..... ,,	1	10	..	3 8	2	3	..	3 6
3rd do. ..... ,,	1	8	..	3 4	1	10	..	3 3
Tellicherry ..... ,,	0	0	..	0 0	2	9	..	3 2
Cloves, Penang.... ,,	1	9	..	0 0	1	4	..	1 6
Amboyna..... ,,	1	1	..	1 2	0	6½	..	0 11
Zanzibar ..... ,,	1	3	..	0 0	0	7	..	0 0
Ginger, Jam., fine per cwt.	110	0	..	252 0	100	0	..	200 0
Ord. to good .. ,,	66	0	..	100 0	50	0	..	90 0
African..... ,,	55	0	..	57 0	44	0	..	45 0
Bengal ..... ,,	52	0	..	58 0	39	0	..	0 0
Malabar ..... ,,	52	0	..	54 0	0	0	..	0 0
Cochin ..... ,,	68	0	..	120 0	45	0	..	125 0
Pepper, Blk, Malabar, per lb.	0	8½	..	0 0	0	7	..	0 7½
Singapore..... ,,	0	7¾	..	0 0	0	6¾	..	0 0
White, Tellicherry ,,	2	0	..	0 0	0	0	..	0 0
Cayenne ..... ,,	1	0	..	2 0	1	6	..	1 11
Mace, 1st quality ..per lb.	3	6	..	4 1	4	2	..	4 8
2nd and inferior.. ,,	2	11	..	3 5	3	8	..	4 1
Nutmegs, 78 to 60 to lb.	3	4	..	4 4	3	6	..	4 3
90 to 80 ,,	3	1	..	3 3	8	3	..	3 5
132 to 05 ,,	2	6	..	3 0	2	8	..	3 1
Pimenta	0	2½	..	0 8	0	3	..	0 0
VARIOUS PRODUCTS.								
COCHINEAL—								
Honduras, black ..per lb.	2	1	..	3 0	2	4	..	8 3
,, silver .. ,,	1	11	..	2 4	2	2	..	2 7
,, pasty .. ,,	1	8	..	1 10	2	0	..	2 2
Mexican, black .... ,,	2	1	..	2 5	2	5	..	2 8
,, silver .... ,,	2	0	..	0 0	2	2	..	0 0
Teneriffe, black....	2	3	..	3 9	2	3	..	3 6
,, silver.... ,,	2	1	..	2 4	2	2	..	2 5
PUMICE STONE ..per ton	120	0	..	150 0	120	0	..	150 0
SOAP, Castile ....per cwt.	33	0	..	34 0	33	0	..	34 0
SPONGE, Turk. fin pkd pr lb.	12	0	..	16 0	12	0	..	16 0
Fair to good .. ,,	4	0	..	11 0	4	0	..	11 0
Ordinary..... ,,	1	0	..	3 6	1	0	..	3 6
Bahama..... ,,	0	6	..	3 6	0	6	..	2 6
TERRA JAPONICA—								
Gambier .. per cwt.	24	9	..	0 0	26	0	..	27 0
Free cubes ,,	34	0	..	38 0	28	6	..	29 6
Cutch ..... ,,	20	0	..	21 0	20	0	..	22 6
WOOD, Dye, Bar ..per ton	£3	12/6	..	£3 15	£4	0	..	£4 10/
Brazil, Branch.... ,,	24	0	..	30 0	25	0	..	48 0
,, Logs ..... ,,	9	0	..	20 0	9	0	..	15 0
Cam ..... ,,	18	0	..	32 0	14	0	..	20 0
Fustic, Cuba..... ,,	9	0	..	9 10	8	10	..	9 10
Jamaica ..... ,,	6	10	..	7 5	5	10	..	7 0
Logwood, Campeachy ,,	8	10	..	9 0	9	0	..	10 0
Honduras ..... ,,	6	10	..	6 15	5	10	..	5 15
St. Domingo .... ,,	5	10	..	6 5	4	5	..	4 15
Jamaica ..... ,,	5	10	..	5 15	4	0	..	4 5
Lima, first pile.... ,,	11	15	..	12 15	8	10	..	10 0
Red Sanders .... ,,	6	0	..	0 0	5	5	..	0 0

Notes and Queries

Composition Powder.—We have to acknowledge the courtesy of two other American correspondents in sending us formulæ for the above (very similar to what we printed last month), and we would take this opportunity of remarking on the singular fact, that though naturally our journal has a much larger circulation on this side of the Atlantic, than on the other, yet if a correspondent asks for information which many here could supply, it is a rare thing to get a response, while when, as in the present instance, it happens to be a matter especially within the cognisance of our American friends, we are favoured with three communications. Our countrymen may draw what conclusion they can from this fact.

Battery.—In the bichromate battery gas carbon is employed as the negative element, and zinc as the positive. The plates, cut to any convenient size, may be attached to a wooden bar, by means of ordinary binding screws, and suspended in either a porcelain or glass cell. The exciting fluid is made as follows:—

℞ Potas. bichrom. .. .. ℥ij.
Aquæ .. .. Oj.

Dissolve with the aid of heat, and when cold, to every twelve volumes of the solution add one volume of strong sulphuric acid. When the mixture has cooled it is ready for use.

A convenient form of the bichromate battery, and one in fact generally supplied by the makers, is to use instead of an ordinary cell a stout glass bottle, shaped like a laboratory flask. The zinc, which is placed in the centre between two plates of carbon, is attached to a rod, which passes through the cap of the bottle, so that it can be drawn up or down. The fluid should not more than just fill the globe, and the zinc plate should be rather shorter than the neck. When no current is required it is simply necessary to raise the zinc above the solution; and thus the battery can be set aside with the advantage of its being ready for use at any moment. One cell of a pint size would be quite sufficient to work the coil you describe; greater power being of course obtained by increasing the number.

Lambda.—The usual method of cementing tortoiseshell is simply to place the edges together, after they are nicely filed to one bevel, and then squeeze them strongly between the long flat jaws of hot iron pincers, made something like a hairdresser's curling tongs. The pincers should be strong, thick, and just hot enough to brown paper slightly without burning it. Smaller pieces may also be cemented by the heat of boiling water, applied along with skilful pressure. But whichever process you adopt, the surfaces to be united should be made very smooth, level, and clean, as the least foulness, even the touch of the finger would prevent their coalescence.

L. H.—There are two traditions respecting the unfortunate bird, whose funereal rites have been pressed into every conceivable service upon every possible occasion, by simile-hunters, *in extremis*, from Ptolemy downwards. According to some historians, the Phœnix is said to come from Arabia to Egypt every 500 years at the death of his parent, bringing the body with him, embalmed in Myrrh, to the Temple of the Sun, where he buries it. Other writers, whose account is generally accepted, state, that when he finds himself near his end, he prepares a nest of myrrh and precious herbs in which he burns himself, but from his ashes he revives in the freshness of youth. It is this last which seems to have suggested the bird to early pharmacists as a fitting emblem of their craft, for would not their stores of "myrrh and precious herbs" restore *les malades*, like the Phœnix to all the glory of rejuvenescence?

Sulphate.—There are two simple tests, either of which will enable you to distinguish instantly between the magnesium and zinc sulphates. Take a few crystals of the salt and dissolve in a little distilled water; to the solution add a few drops of ammonium sulphide—if it is magnesium, no change will be observed; if zinc, a copious white precipitate of zinc sulphide will be thrown down, insoluble in acetic acid; or, instead of ammonium sulphide, use solution of potassium ferrocyanide. With the zinc salt a white precipitate of ferrocyanide of that metal is formed, the magnesium salt is unaffected. If you wish evidence that the latter is in solution, add a little sodium phosphate, and a white precipitate of magnesium and ammonium double phosphate is produced.

J. W.—We think the circular you refer to unlikely to win the respect which its author aims to obtain.

Oxygen.—The following formula, of Dr. Erasmus Wilson, produces an excellent stimulant lotion for the hair, which has also the advantage of not being greasy:—

℞ Ol. amygd. dulc., ℥j.
Liq. ammon. fort., ℥j.
Spirit. rosmarini, ℥iv.
Aquæ mollis, ℥ij.

Mft. lotio.

The following is recommended as a good composition for dyeing leather a blue black:—

Take of—

Beeswax, ℥iij.
Black resin, ℥ij.

Melt together, and then add,

Prussian blue, ℥j
Lamphlack, ℥ss.

While the mixture is cooling, add turpentine till a suitable consistency is obtained. It should be applied with a soft rag, and the leather afterwards polished with a brush.

J. M. C.—It would be utterly impossible to ascertain either the name or properties of the specimen which you sent to us. It evidently consists of fragments of the stem of some grass, but as the order *Graminaceæ* contains something like 4,000 species, and we have no clue as to which this is likely to belong, its identification would be a matter of considerable difficulty. If you can furnish us with other portions of the plant—leaves, fruit, etc.—we shall be better able to help you.

Gaulach.—Aërated ginger beer is made by putting about a tablespoonful of a weak essence of ginger into a bottle and "filling" with the aërated water at a machine. The ginger beer, usually sold in stone bottles, may be made thus:—Lump sugar, 1 lb.; good unbleached Jamaica ginger (well bruised), 1 oz.: cream of tartar, ¾ oz. (or tartaric acid ½ oz.); 2 or 3 lemons (sliced); boiling water, 1 gal.: macerate with frequent stirring, in a covered vessel, until barely lukewarm, then add of yeast 1½ or 2 ozs. (about two-thirds of a wine glassful), and keep it in a moderately warm place to excite a brisk fermentation; the next day rack or decant the liquor, and strain it through a jelly-bag or flannel; allow it to work for another day or two, according to the weather; then skim it, again decant or strain, and put it into bottles, the corks of which should be "wired" down.

(2.)—Salt of Sorrel is *not* a poison according to the Act, therefore grocers or anybody may sell it.

A. B.—The Board of Inland Revenue has given permission for the sale of Steedman's or Stedman's Powders singly.

J. A.—Parrish's "Practical Pharmacy" may be of some use to you.

Chemicus.—Bradbury, Greatorex, and Co., Limited, Aldermanbury, we are told, is the best house if you are likely to buy in quantity.

W. A. B.—Fellows of the Royal Society are elected annually by the Society. It is a very high honour, and only given for some truly original research, and then only sparingly. Fellows of the Chemical Society are much more easily passed. A candidate is proposed and seconded by two Fellows, and balloted for at the next meeting. He is very seldom blackballed.

Aloetic.—We gave the titles of some veterinary works last month to another correspondent, which if *Aloetic* had noticed he need not have asked us for the information. However, at Christmas time we boil over with good nature, so we repeat our words. For veterinary practice, we can recommend Beasley's "Druggists' Receipt Book" as a useful collection of formulæ (Churchill), about 6s., and Spooner's "Veterinary Art" (J. J. Griffin and Co.), 3s.; or Blaine's "Veterinary Art" (Longmans), 18s.; Williams's "Manual of Veterinary Surgery" (Edinburgh: Maclachan) is an excellent treatise, as far as surgery is concerned, but it does not touch on general treatment.

J. B. (Southampton).—J. Mason, Farnsfield, Notts., makes paraffine measures.

Does anybody know "Peacock's Oils," and how they are made?

Subscriber (Halifax).—Youatt on the Dog. (Longmans) 6s.

Cæsar.—There is a story told of Lord Lyttleton, that when the Reform Bill was under discussion, he had placed on the table of the House an amendment, to the effect, that the franchise should be extended to no person who could not write his name legibly. The paper had to be referred to his lordship for explanation, as the clerk was unable to decipher a word of the writing.—We have striven hard to unravel the mysteries of your calligraphy, but you really quite surpass our comprehension. Before writing to us again, may we ask you to get a few lessons in round-hand. A board-school will do.

We regret to say that a certain number of queries forwarded to us have been in charge of one of our contributors, who has not returned answers in time for publication. Replies shall appear next month.