

The record of pharmacy and therapeutics : being an account of improved pharmaceutical preparations, recently-introduced remedies, and a catalogue of unadulterated drugs & chemicals of the General Apothecaries Company (Limited), 49, Berners Street, Oxford Street, London.

Contributors

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THE RECORD
OF
PHARMACY AND THERAPEUTICS.

BEING AN ACCOUNT OF
IMPROVED PHARMACEUTICAL PREPARATIONS,
Recently-introduced Remedies,
AND
A CATALOGUE OF UNADULTERATED DRUGS & CHEMICALS

OF THE
General Apothecaries Company
(LIMITED),

49, BERNERS STREET, OXFORD STREET, LONDON.



LONDON:
PUBLISHED BY AND FOR THE
GENERAL APOTHECARIES COMPANY (Limited),
49, BERNERS STREET, LONDON.

1856.

THE RECORD

PHARMACY AND CHEMISTRY

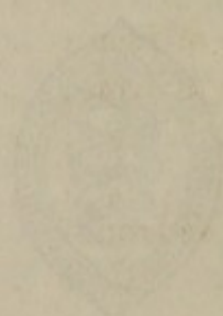
BY THE EDITOR

OF THE RECORD

A CATALOGUE OF UNPUBLISHED PAPERS & OTHERS

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PREFACE.

IT is the intention of the Directors of the GENERAL APOTHECARIES COMPANY (*limited*) to issue from time to time

A RECORD OF PHARMACY AND THERAPEUTICS,

for the purpose of making generally known to the profession all improvements in medicinal preparations and new remedies which may be introduced and recommended, and also such novel applications of those already known as may be suggested by good authorities.

It has not unfrequently happened that new remedies and improved preparations have been in use in the metropolis, on the Continent of Europe, or in America, for a long time before they have been generally known to, or adopted by, the majority of practitioners. In many cases, natural productions of other countries, possessing valuable therapeutic properties, have been described by authors, or in the medical journals, and have nevertheless never become available in practice, because no person has introduced them into commerce.

That the forms of many remedial agents, and even of some in daily use, are susceptible of great improvement, and that the healing art still admits of much advancement by the discovery of new remedies, will scarcely be disputed.

The present state of medicine as a science and art, and, it may be added, of the profession, would seem to demand that every possible resource for the treatment of diseases should be accessible to every practitioner.

If by our chemical processes we can render drugs less nauseous, more energetic, and more certain and uniform in their effects, great benefits will accrue both to the patient and the profession. If any of the various forms of disease now unamenable to treatment can be cured by mineral, or vegetable substances, or the products and educts of the laboratory, not hitherto employed, the character and status of the whole profession, and of their art itself, requires that

such remedies should be as speedily as possible made known and easily available.

The introduction of new articles into the *Materia Medica*, and the improvement of the forms under which medicines are administered, have been left to mere accident and chance. No professional body has attempted systematically to advance therapeutics; the Colleges only adopt into the *Pharmacopœias* remedies having a reputation already established; and, as a matter of course, these publications are always in arrear of the actual state of the art.

The imperfection and uncertainty which attaches to every human pursuit, and which has often unjustly been held to be the peculiar reproach of medicine,—but which, while recognised, calls forth the constant efforts of the profession to rectify,—has had one cause very readily avoided.

The preparation of medicines has been entrusted to a class of persons who, whatever may be their merits in other respects, make no pretension to understand the treatment of diseases, and who, according to unquestionable testimony, either wilfully, or negligently sell, or employ in the preparation of prescriptions, spurious or adulterated drugs. They plead, indeed, that they are themselves imposed on by others. But this is beside the question. If, as many physicians have testified, when a prescription is written, it is a matter of extreme uncertainty what the medicine as prepared will contain; if the preparations and drugs sold to the profession contain only one-half, or one-third of their active constituents at one shop, are replaced by some wholly worthless substitute at another, and are even sold genuine at a third,—it is evident that much of the uncertainty, failure, and defects of practice must be attributed to this radical evil.

The inquiry instituted by a Committee of the House has proved the very general prevalence of this state of things, and the public press has not failed to reiterate the facts. The profession cannot be too often reminded that the tendency of such exposures is to create a prejudice against medicine altogether, and to drive people to confide in every form of quackery.

The Times of August 25th observes:—

“It requires but a slight portion of common sense to understand how important an ingredient of medical success the purity of drugs must be. Drugs are the executive of

the medical man, and therefore with bad or inefficient drugs he acts like a paralyzed man, whose limbs refuse to obey him. The physician may have the most exact idea in his head of the amount of drug-power which he wants to apply to the patient's disease; but, if his drug deceives him, and contains less of this virtue than it professes to do, and perhaps even that injured by some foreign admixture, his whole estimate is affected, and the process becomes a piece of guess-work. As one witness says before the Committee on Adulteration, 'The mischief of defective medicines is not always immediate. It frequently happens that a person, from taking a defective drug, increases the dose in order to produce the desired effect. Then, upon taking the same prescription to be made up, when the genuine drug is used the person is almost poisoned.' It is therefore with much concern we learn from the evidence given before the Committee on Adulteration, that the adulteration of drugs, though considerably reduced of late years, still goes on to a large amount. Nor is this concern lessened when we hear that the commonest and the most powerful drugs are both subject to this adulteration. There must be numberless critical cases of disease in which the correctness of the strength of an opiate must make all the difference of life and death; yet we are told that nineteen out of every twenty-four samples of opium are adulterated."

The General Apothecaries Company (limited) has been established, in conformity with a recent Act of Parliament, under the direction of medical men, to remedy this great evil by supplying both profession and public with unadulterated and unsophisticated drugs, chemicals, and medicinal preparations; to meet a loudly-expressed public demand, to remove the scandal of fraudulent trading attached by the Parliamentary Committee to dealers in medicines, and to sell in every case the article asked and paid for.

If it be asked, on what ground can the Profession rely upon this Company for pure drugs and for faithfully carrying out its professions more than on other firms or private persons? the answer is,—by the constitution of the Company every medical man may himself become a shareholder, and have a voice in its management and conduct, and may thus be satisfied of the good faith which actuates its promoters and Directors.

Being so far a commercial company, seeking a fair

amount of profit for the investment of capital, the Directors trust at the same time to confer no inconsiderable benefit on the whole profession. And they propose, as collateral and subsidiary objects, the advancement of the science and art of medicine, by introducing improved preparations and new remedies. By making all the known compounds such as they are intended to be by the authors of the Pharmacopœias, definite and precise in composition—testing, by means of the microscope and chemical analysis, all chemical compounds or drugs they purchase,—the prescriber may be perfectly assured that the medicines administered will be precisely those which he purposes to give.

The present publication describes some preparations which, either on the ground of usefulness or economy, can be recommended; a few remedies not in general use, but well worthy of practical investigation; and a list of drugs and chemicals (to which, in many cases, the prices are affixed) of the best quality, and wholly free from adulteration.

The therapeutic notes attached to several articles, containing suggestions respecting the more recent applications, by medical men of all countries, will, it is hoped, be highly acceptable, especially to those whose engagements preclude them from searching through the journals. And the Directors respectfully request communications respecting new remedies, new applications, or improved formulæ from gentlemen in practice, which they will be happy to include and acknowledge in future publications.

The subject of Diet being of great importance in the treatment of diseases, and as adulteration and sophistication of food prevail as commonly as of drugs, the General Apothecaries Company will take especial care to purchase all the articles entering into the dietary of invalids perfectly pure.

As Economy is an important consideration in the choice of medicines, *cæteris paribus*, the Company in this publication have not overlooked it. The reader is on this point referred to the articles *Quinine and Cinchona Barks*, and *Rhubarb*, in the sequel.

JOHN JAMES RIDGE, M.D., J.P., *Chairman.*
JOHN GARDNER, M.D., *Managing Director.*

49, *Berners Street.*

IMPROVED PREPARATIONS.

A. QUININE AND CINCHONA BARKS.

1. Neutral Sulphate of Quinine.

9s. 6d. per oz.

THE so-called sulphate of quinine of commerce is, in fact, the disulphate, and is insoluble in water, although generally prescribed in solution. Dilute sulphuric acid is commonly added to dissolve it. But it may often happen to be desirable to avoid the use of free acid; and as the calculation of the exact equivalent of acid to neutralize the disulphate is troublesome, and, even when calculated, differences in the strength of the acid used may frustrate the purpose, the *neutral sulphate* must be a very useful preparation. The dose is the same as of the ordinary sulphate. It is perfectly soluble in water.

2. Ammoniated Solution of Quinine.

12s. per lb.

This is a very elegant preparation. It accomplishes a union of ammonia with quinine, proving a very valuable remedy. The dose is from half a drachm to one drachm, in water. It requires to be drunk immediately on mixing with the water, as the quinine precipitates.

The aromatic spirits of ammonia in which the pure quinine is dissolved is prepared with great care, free from the empyreuma and impurities commonly met with in the sal volatile of the shops. (*Vide infra*, Sal Volatile.)

3. Sulphate of Quinoidine.

Liq. Quinoidinæ Sulph.

3s. 6d. per oz. (bottles included).

Dose, 5 minims and upwards.

This preparation is believed, on good evidence, to be superior to sulphate of quinine, as an antiperiodic, against fevers, and as a tonic, and also as a prophylactic, effectually preventing the access of fever, and other effects of malaria, when taken by persons exposed to miasmata.

Dr. Pereira has stated, and he expresses the combined testimony of the profession, that sulphate of quinine does not fully contain, or represent, the medicinal virtues of cinchona bark.

This therapeutic fact is of great importance. It is readily explained, although, for reasons chiefly commercial, it has been little noticed.

When the disulphate of quinine is crystallized from the solvents used to extract it from bark, a mother liquor is left, which being evaporated, yields a resin-like substance, uncrystallizable, but soluble in acids, and neutralizing them, with the strongly-marked flavour and other properties of the bark. To this substance the name quinoidine was applied. Many cursory but very imperfect chemical examinations of it were made, but beyond the fact that it was a group of organic bases nothing definite was made out. The manufacturers of sulphate of quinine laid it aside until a very large quantity had accumulated.

In the year 1846 Professor Liebig published a statement that it was nothing more nor less than quinine in an amorphous, or uncrystalline state, bearing the same relation to the crystalline that treacle bears to sugar. The ground for this opinion was, that when treated with caustic potash, and subjected to distillation, it yielded a product termed Quinoiline—a product also of the same process pursued

with crystalline quinine. Liebig's paper was first published in the *Lancet*, Vol. I., 1846. It involved a serious error—namely, that quinoidine was merely amorphous quinine; whereas, although it contains a large proportion of amorphous quinine, it also embraces several undetermined bases. A patent was taken out at the same time for the separation of these bases from the amorphous quinine, and the latter has been since used to a very considerable extent. That part of quinoidine which is soluble in ether is certainly chiefly amorphous quinine. In a medical point of view this separation was a great mistake. The amorphous quinine by itself lay under the same objections as the crystalline—it does not represent the remedial powers of the bark. These seem to be very completely comprehended in the whole group of bases contained in the quinoidine.

Liebig adduced incontrovertible testimony to the medicinal value of what he called amorphous quinine, but his description applies only to quinoidine. In fact, the separation of the other bases lowers and deteriorates the important property which, for therapeutic purposes, the quinoidine possesses.

No satisfactory chemical investigation has ever been made respecting the nature of this group of bases. The entire quinoidine, separated from the mother liquors, purified by solution in acids, and precipitated by ammonia, or the other alkalies, becomes pure, soluble in acids, which it neutralizes, forming salts, all, however, uncrystallizable.

The *sulphate of quinoidine* thus prepared possesses the physical and remedial properties of the bark, very condensed and extremely powerful.

Almost concurrently with Liebig's publication, Dr. Natorp, of Berlin, stated that he had used it with great success in the treatment of agues, and as a tonic. Upon his recommendation it was adopted into the Prussian Pharmacopœia as the best representative of the bark. Since that time no one, who has the proper substance to ex-

periment with, has expressed a contrary opinion. English systematic writers—Dr. Pereira, Dr. Neligan, and others—in mentioning quinoidine, show evidently that they had not investigated the subject.

The most recent publications on the medicinal efficacy of quinoidine are a paper by Dr. Harting, in *Smidt's Jahrt.*, 1853, and Dr. Da Costa, in the *Philadelphia Medical Examiner* for May, 1855.

Dr. Harting states that, from twelve years' experience in the treatment of agues, he finds it to be superior to the common sulphate of quinine. Dr. Da Costa gives a summary of fifty-three cases of intermittent fever treated by quinoidine. In many of these the disease was of long standing. The rigors were arrested in forty-nine cases by the first administration of the medicine, only four requiring a repetition. The quantity given varied from sixteen to forty grains; the average was twenty grains. Six grains were given a short time before the expected accession of the paroxysm, the rest at intervals during the intermission. The quinoidine did not give rise to headache, singing or boring in the ears, nor to sickness, the ordinary effects of large doses of sulphate of quinine.

The advantages of sulphate of quinoidine are, therefore, very considerable. Its superior medical efficacy depends, first, on its containing, associated with amorphous quinine, very energetic bases derived from the bark; second, its uncrystalline state, which renders it more readily assimilated. Drs. Prout and Daubeney have shown, on physiological grounds, that uncrystallized substances are more congenial to the animal economy than crystalline. Indeed, it is a fact, although little noticed, that sulphate of quinine often passes through the system undecomposed, and may be found in the urine; and this fact explains one cause of its frequent failure to arrest intermittent fevers.

As in so many other cases, a perfectly worthless substance, the mere refuse of the quinine manufacture, having no

basic properties, and insoluble in acids, is often sold for quinoidine. In other samples which have been examined, there is nothing soluble in ether, *i. e.* no amorphous quinine. To apply to the latter substance the designation quinoidine is fraudulent: the bases of which it consists have certainly a remedial value; they form, when neutralized with acids, a valuable tonic, but they ought to be clearly distinguished, and sold at a far lower price.

As an antiperiodic, or as a prophylactic, it appears to be most important to employ the whole group of bark bases termed *quinoidine*.

The attention of the profession is respectfully called to the value of this medicine as a prophylactic in localities where intermittent or remittent fevers prevail, and at seasons of epidemic fevers. Given in small doses once or twice a day, in wine or beer (the latter covers the bitter taste), it has been found to be most effectual in relieving the languor, lassitude, and vague *malaise* experienced by many persons in such places and seasons who escape more severe attacks, and to prevent the accession of fevers. By the advice of a London physician, several officers in the Crimea adopted it with uniform success; taking a few grains daily, they entirely escaped fever and dysentery, which prevailed around them.

4. Citrate of Quinine and Iron.

In pseudo-crystalline scales, 4s. 6d. per oz.

Dose, 4 grains and upwards.

This preparation of the General Apothecaries Company contains 40 per cent. of citrate of quinine,—equal to 20 per cent. of pure quinine—that is, four grains are equal to one grain of the disulphate.

When properly constituted, this is a most valuable tonic. In all cases where quinine, or its salts, especially in combination with iron, are applicable, this salt is the most elegant

and efficient. A soluble salt of quinine, with a vegetable acid, had long been required, and a combination of a mineral and vegetable tonic seemed most desirable. In this salt two of the most powerful tonics are united to the most grateful and easily-assimilated of the vegetable acids, and practically it has been found that the citrate of quinine and iron fulfils every expectation that could be formed from its composition.

It is elegant in form, soluble, agrees with the stomach, and is in all respects an efficient preparation.

The profession are especially cautioned respecting this salt. There being no official form for it, and quinine being an expensive article, the amount of this constituent varies with every maker. In some samples which have been examined, a mere trace of quinine has been found, in others the amount varied from two to ten per cent. In many cases no *quinine* whatever exists in the salt sold under the designation of citrate of quinine and iron.

5. Valerianate of Quinine.

Dose, 1 to 2 grains.

Recommended in cases of debility attended with nervous disorder. A combination of Peruvian bark and valerian has long been known to be perfectly efficacious in hemi-crania.—Dr. G. B. WOOD.

This salt obtained great reputation in Germany during the prevalence of cholera.

All the other salts of quinine may be obtained of the General Apothecaries Company:—Ferro-sulphate, ferro-cyanate, nitrate, chloride, iodide, acetate, lactate, muriate, oxalate, tartrate, citrate, kinate, tannate, &c. &c.

6. Disulphate of Cinchonine.

3s. 6d. per oz.

Dose, the same as of Disulphate of Quinine.

Dr. Pereira observes that, *à priori*, it might be anticipated that cinchonine and its salts would be as active as quinine, considering that those barks in which the former is the predominant principle were the first which were celebrated as therapeutic agents. The observations of Dufour, Petroz, Pottier, Bally, Nieuwenhuiss, Mariani, Bleyne, and others, have appeared to prove that the sulphates of the two alkaloids may be substituted for each other. "I," says Dr. Pereira, "have found the sulphate of cinchonine valuable both as a tonic and a febrifuge, or antiperiodic."

* * * The subject of the therapeutic value of sulphate of cinchonine is well worth the careful attention of practitioners of Great Britain residing in marshy districts. It is suggested that it may advantageously be prescribed in combination with quinine, so as to replace a third, a half, or even two-thirds the quantity of the latter. This will certainly be a great economy, and probably the mixture will be far more thus efficient as a remedy than quinine alone. The General Apothecaries Company will be happy to receive the results of experiments for publication.

7. Sulphate of Quinidin.

6s. 6d. per oz.

Dose, somewhat larger than of Disulphate of Quinine.

Considered to be valuable as a tonic. Its antiperiodic power is doubtful. Large quantities are said to be sold in the British Colonies for sulphate of quinine, and so labelled. This may explain reports from Australia that the sulphate of quinine there used fails to arrest the remittent and intermittent fevers which prevail at certain seasons.

B. PREPARATIONS OF IRON.

No remedies are in more frequent use than the various preparations of iron. No English author, so far as we are aware, has attempted to determine the special remedial powers possessed by the several salts of this metal. They have either been given indifferently, or some one has been adopted in preference to others, under a vague idea of its superiority, without further discrimination. Several French writers have attempted to supply this deficiency, and to distinguish their several therapeutic actions. M. Bouchardat considers that where a preparation of iron is administered in anemia, or chlorotic cachexia, the salts of the protoxide should be preferred, and of these the carbonate, or the salts of the vegetable acids. He holds that all the salts of iron with mineral acids act simply as astringents. Other French physiologists, as the results of their experiments on the reaction of iron salts with the gastric juice, state that most of the soluble iron salts are precipitated in the stomach, and that all the metal falls as a basic salt, which is no longer soluble, or absorbable into the circulation, but passes out with the *fæces*. M. Mialhe adopts this conclusion, excepting certain of the double salts, as the peroxide, particularly the potassio-tartrate of iron.

It would seem to be of primary importance to consider the precise purpose for which an iron salt is prescribed.

Iron in one sense is a true alimentary principle. It enters as a necessary constituent into the composition of the red globules of the blood; and a due proportion of these globules appears to be essential to a state of health. In the blood-globules, the iron seems to exist in organic combination—whether most nearly resembling the protoxide, or peroxide, chemists dispute, and it consequently must be considered as questionable. Liebig has re-asserted and given currency to a theory advanced formerly by the late Mr. Carmichael, that the iron acts as a bearer of oxygen to

the tissues, absorbing one atom, and becoming peroxidized in arterial blood, parting with this atom, and being restored to the state of protoxide in the venous system.

When administered with the view to restore the healthy condition of the blood to anemic, or chlorotic patients, or in struma, the double, or triple salts of the vegetable acids are decidedly to be preferred. Considering the functions performed by the alkalies in the processes of digestion and assimilation, it may easily be conceived that the preference of M. Mialhe for the potassio-tartrate of iron may be well founded. The mysterious but well-ascertained influence of quinine, itself a base, on febrile and weak constitutions of the system, the deficiency of the blood in red globules, in many neuralgic affections, indicating the propriety of administering *iron*, renders a double salt combining both these bases extremely desirable in a therapeutic point of view. (*Vide supra*, Citrate of Quinine and Iron.)

In the language of some chemists, the alkalies, alkaloids, and other bases, *mediate* the transformation of aliments into the vitalized organic compounds.

The following salts of iron are particularly recommended to the practitioner:—

1. Potassio-tartrate of Iron.

In pseudo-crystalline scales, 4s. per lb.

Dose, 5 to 10 grains.

This is a far preferable preparation to the old Ferrum Tartarizatum, which it represents. Being a double salt of a bibasic vegetable acid, it is said to be more readily assimilated than any other form of iron, and that its influence in anemia is consequently more rapid and striking.

* * * This important iron salt, as sold by most chemists, contains *ammonia*, which it ought not when prepared properly. The formula employed by the General Apothecaries Company yields a pure and perfectly soluble potassio-tartrate of iron.

2. Ammonio-citrate of Iron.

4s. 6d. per lb.

This compound is in extensive use, but its effects on the system are considered to be but feeble.

3. Citrate of Peroxide of Iron.**4. Citrate of Protoxide of Iron.****5. Citrate of Magnetic Oxide of Iron.**

These salts may be had of the General Apothecaries Company, but they are justly regarded as having no special claims to be recommended as chalybeate preparations.

6. Citrate of Protoxide and Peroxide.*Ferro-Citrate of Iron.**Dose, 2 to 5 grains.*

This citrate of iron has been thought by some physicians to be highly valuable, especially in cases of tic-doloreux, which it is said to relieve when other ferruginous salts have failed. Theoretically, it is worthy of careful comparative experiments.

7. Saccharated Carbonate of Iron.*Ferri Carbonas cum Saccharo.*

3s. 6d. per lb.

Dose, from 5 to 10 grains.

This is the simplest and pleasantest mode of giving a *protosalt* of iron. It is iron precisely in the state in which it becomes in Griffiths' mixture, as the result of the decomposition of the sulphate. It would appear to be preferable to that compound, from the absence of nauseous admixtures.

8. Solution of Peracetate of Iron.

Liq. Ferri Peracetat, 1s. 8d. per lb.

Dose, 10 to 30 *minims*.

A tincture of acetate of iron was introduced into the Dublin Pharmacopœia on the authority of Dr. Percival, who thought most highly of its powers. The method ordered to be followed in preparing it, however, gave rise to the formation of a basic salt, which gradually precipitated, and the solution became uncertain and feeble. For this reason, probably, it has not been adopted by the other Colleges.

The solution as prepared by the General Apothecaries Company is perfectly stable, and is therefore a better form for exhibiting the salt. It has an agreeable sub-acid taste, and a pleasing cherry-red colour, when diluted with water.

“I have employed it extensively,” says Dr. Neligan, “in the treatment of phthisis, of chlorosis, and of chronic diseases of the heart, and am inclined to think most favourably of its remedial powers—an opinion strengthened by every day’s experience.”

It is also astringent, acting like the perchloride upon the kidneys and bladder, but is far preferable on account of its taste and congeniality to the stomach.

9. Lactate of Iron.

Dose, 5 to 10 *grains*.

This salt was introduced by Gelis, and has been much recommended on the supposition that all the salts of iron are converted into lactates in the stomach. The once prevalent notion of the universal presence of lactic acid in the system in health has been disproved by Liebig. The lactate of iron is not a very active salt, but, from being almost tasteless, it may be somewhat advantageously given to children.

10. Phosphates of Iron.

a. *Ferri Phosphas.* *Blue Phosphate of Iron.*

Dose, 5 to 10 grains.

Drs. Venables and Prout give the preference to the blue phosphate of iron in diabetes, diuresis, and debility of the urinary organs.

b. *Ferri Perphosphas.* *White Phosphate of Iron.*

Dose, 5 to 10 grains.

Has not been much used, but being nearly tasteless is worthy of notice, especially in cases where a deficiency of phosphates in the system is observed.

c. *Syrup of Superphosphate of Iron.*

This preparation has been introduced and recommended by Dr. Routh. He states that he finds it more efficacious and speedy in its curative action than any other preparation of iron, in cases of anemia and debility brought on by venereal or other excesses, over-study, or depressing diseases in which there is a prevalence of nervous symptoms, or when a large quantity of phosphates are voided by the urine.

This is an undetermined phosphate of iron dissolved in excess of phosphoric acid, with sugar added to form a syrup.

11. Pernitrate of Iron.

Liq. Ferri Pernitras.

1s. 8d. per lb.

Dose, 10 minims to 1 drachm, in water or gruel.

This preparation is a valuable astringent, and is said to have a soothing influence on irritable mucous membranes. A great number of writers have spoken very highly of its

remedial value in *chronic diarrhœa, choleraic diarrhœa, hæmorrhage from the stomach, bowels, and uterus*, and as a *general chalybeate*.

It was introduced by Mr. Kerr, and much praised by Kopp in Germany, and Drs. Reynolds, J. W. Williams, and T. C. Adams, in the United States.

12. Arseniate of Iron.

Dose, beginning at $\frac{1}{20}$ th of a grain.

In French practice this is said to be a most powerful remedy in herpetic or squamous eruptions, and that it does not give rise to the usual consequences of other arsenical preparations.

N.B.—*All the other preparations of Iron are kept.*

C. PREPARATIONS OF ZINC.

Several salts of zinc have recently been brought into notice and recommended as valuable tonic, antispasmodic, and anti-neuralgic remedies. The mineral acid salts of zinc are active poisons—the sulphate, chloride, &c. The salts of the vegetable acids in small doses are the forms best adapted to internal use. The tonic effect of these salts is thought to be more especially exerted in debility arising from disease of the mucous membranes.

1. Citrate of Iron and Zinc.

In pseudo-crystalline scales, 5s. 6d. per lb.

Dose, 1 to 4 grains.

This combination of zinc with iron is perfectly soluble with very little taste, and seems, therefore, worthy of trial in all cases where zinc salts are desirable.

2. Valerianate of Zinc.

4s. per oz.

“Valerianate of zinc is a true antispasmodic of much power, and, as such, is peculiarly adapted for the treatment of neuralgic affections, which are so generally dependent on loss of tone in the system. It has been found especially useful in the treatment of facial neuralgia and of vertigo, but I have seen it prove equally beneficial in most of the protean forms of hysterical neuralgia. It is an excellent remedy in the ordinary convulsive affections of young children and persons of either sex, and when these depend upon the presence of worms in the intestines, it is peculiarly beneficial, acting indirectly as an anthelmintic of much power. In short, I look on it as a most valuable addition to the materia medica. The dose is from three-quarters to one grain twice or three times a day, in pills, with *conf. rosæ*, or in solution in orange-flower water.”—

DR. NELIGAN.

P.S. *Other salts of zinc, scented with oil of Valerian, are commonly and fraudulently substituted for it.*

The valerianate of zinc is soluble in 160 parts of cold or 40 parts of boiling water.

3. Pure Oxide of Zinc.

2s. 8d. per lb.

Dose, 4 grains.

Until recently, a pure oxide of zinc, suitable for medicinal purposes, has been scarcely attainable. One manufacturer, however, who prepares it for use in the arts, has succeeded in making it as nearly as possible chemically pure.

It has recently been much used in weakness of the mucous membranes, diarrhoea, and phthisical night-sweats.

The oxide of zinc is very difficultly soluble in weak acids. On this ground, *the Carbonate* would probably be found preferable, if given in $\frac{1}{2}$ or 1 grain doses; but there is no evidence of its having been employed internally.

D. PREPARATIONS OF SARSAPARILLA.**1. Compound Fluid Extract of Sarzæ.**

14s. per lb.

Prepared, with extreme care, with the finest Jamaica sarsaparilla, this preparation exactly represents the properties of the compound decoction.

One part added to fifteen parts of water makes a solution of the same strength as the decoction.

*** It is confidently recommended, and sure to prove satisfactory to practitioners who prescribe the decoction.*

2. Hydro-alcoholic Compound Fluid Extract of Sarzæ.

16s. per lb.

Experiments have incontrovertibly proved that water does not take up all the active principles of the sarzæ, but that they are soluble in weak alcohol. The ordinary decoction, consequently, does not represent all the remedial virtue of the root. These facts are recognised by most practitioners in America and on the continent of Europe.

A preparation having all the sensible properties of the sarzæ in a remarkable degree may be made by treating the root with spirits and water, and evaporating to the consistence of a fluid extract.

This is the preparation designated the *hydro-alcoholic compound fluid extract of sarzæ*. Medical men will no longer question the value of this remedy in the treatment of the diseases to which it is applicable, if they will employ this preparation.

*** Both the compound extracts in a solid form, and also the simple extracts, are prepared by the General Apothecaries Company.*

Most writers on materia medica and therapeutics allude to the differences of opinion held respecting the therapeutic influence of sarzæ. By some practitioners it is considered almost inert : others, on the contrary, have unbounded confidence in its remedial powers.

Perhaps some light is thrown on the matter by the following facts :—

1. The roots sold under the name of sarsaparilla, and presumed to be varieties of the same species of plant, differ very widely in all their physical properties.

2. There are at least three kinds of roots sold under the name of sarsaparilla, belonging to three very dissimilar plants, the productions of widely-distant countries. The true *Smilax Sarsaparilla*, chiefly obtained from Jamaica ; the *Hemidesmus Indicus* or *Periploca Indica*, to which the trivial name *smilax* has been given—mainly, as it would seem, to disguise the substitution of it for the sarzæ ; and the *Aralia nudicaulis*, called American sarsaparilla.

3. Sarsaparilla is boiled to obtain the extract, and the exhausted root is dried and sold to retailers, and general practitioners.

4. Extractive matter is sold for extract of sarzæ, containing sometimes very little, sometimes not a grain, of real extract of sarzæ.

There is a peculiar atrocity in fraudulently sophisticating sarsaparilla. If emetic, purgative, or narcotic substances are sold weak and inefficient, the consequence of adulteration, the failure of effect is manifest, and the dose can be doubled or trebled. The loss of a short time, and a few paltry pence, is the whole of the mischief. But when an unhappy patient—who has an enfeebled constitution, or who has been rescued from some acute disease, by mercury, and the disease and remedy have left him weak and useless to himself or others—seeks relief by a course of sarsaparilla (a sure remedy), and a spurious drug is given to him, which not only fails to relieve, but imparts the false impression

that he *has* tried the sarzæ, and that it has failed, the case is entirely different; and if crime can be measured by the amount of injury it inflicts, this is one of no slight magnitude.

E. PREPARATIONS OF MAGNESIA.

1. Fluid Carbonate of Magnesia.

In bottles, containing eight ounces, 8s. per dozen.

Fluid carbonate of magnesia is much employed as a mild aperient, antacid, and corrective for children; for acidity of the stomach, flatulence, heartburn, and dyspepsia, in adults.

This preparation contains the largest amount of carbonate of magnesia soluble in water, with excess of carbonic acid. It is put up in half-pint bottles, in which it keeps better than in bulk, as the escape of carbonic acid causes the magnesia to precipitate, and the solution becomes of uncertain strength.

2. Calcined Magnesia.

This is kept in three states of physical aggregation—light, semi-ponderous, and ponderous.

The semi-ponderous most nearly resembles Henry's magnesia, and is the best. All the varieties of magnesia sold by the General Apothecaries Company are perfectly pure. Most of the magnesias of commerce contain a notable per-centage of alumina.

3. Carbonate of Magnesia.

Is also kept in three states—light, semi-ponderous, and ponderous. Of these the semi-ponderous is preferable. For travellers, the ponderous variety, both of calcined and carbonate, are most convenient.

4. Sulphate of Magnesia.

In large crystals, price 3d. per lb.

Under the name of purified Epsom salts, this very common medicine is sold in most shops extremely impure; when dissolved, yielding a dirty brown solution. By repeated solution and re-crystallization, it is rendered pure, and is then only fit for internal use. Every one who is exact and accurate in prescribing should employ the salt in this state.

F. PREPARATIONS OF COD-LIVER OIL.

1. Pure Cod-Liver Oil.

Pale, 12s. 6d. per gallon.

This oil, so extensively in use at present, offers great inducements to adulteration. The purchase of it must be solely in faith upon the integrity of the vendor, since a small proportion of the true oil mixed with the spurious answers to the only known tests.

When cod-liver oil is drawn from healthy livers at a moderate temperature, it is always *pale*. The brown colour of the oil imported from Norway and elsewhere must consequently arise either from its being carbonized by heat, or drawn from diseased or partially decomposed livers.

2. Cod-Liver Oil with Quinine and other Active Agents.

Cod-liver oil dissolves quinine, and many other active principles and salts. These solutions have been introduced and recommended as if they were valuable compounds. It was even attempted to secure a monopoly of them by a patent. But Mr. Bastick had long before pointed out the fact of its being such a solvent, and the attempt therefore failed. The following is the list of preparations claimed:—

Ol. Morrhuæ cum	Quinæ Iodid.
„	Quinæ Valer.
„	Ferri Iodid.
„	Ferri Bromid.
„	Ferri Lactat.
„	Hydrarg. Bichlorid.
„	„ Biniod.
„	Arsenico et Iodin.
„	Plumbi Acetat.

To which may be added the Vegeto-alkaloids, such as Morphia, Strychnia, Veratria, Atropia, Aconitina, &c.

There is no reason to believe that any of these are anything more than solutions,—most of them undergo changes very speedily, the solvent becomes rancid, and precipitates are formed. These precipitates have not been chemically examined at present; it is therefore premature to speak of them, or the solutions themselves as *compounds*.

Practitioners are recommended either to make the solutions as they are wanted, or to order only such quantities as they can employ in a very short time, and never to use any that have been kept long.

With respect to *Aromatized Cod-Liver Oil*, it would seem to be most advisable for the prescriber to add whatever aromatic he may deem best. It dissolves all the essential oils. Oil of cinnamon, or cinnamon water, disguises its taste and smell as well as anything.

G. MISCELLANEOUS PREPARATIONS.

Rhubarb.

Powdered English Rhubarb, 3s. per lb.

English rhubarb carefully selected and dried, yields a powder scarcely to be distinguished from the foreign varieties. It appears to be very nearly identical in its therapeutic action. The best samples of English rhubarb yield about 52 per cent. of extractive matter to cold water; East Indian, 53 to 54; and Turkey not more than 55 or

57. When, therefore, the difference in price is considered, it will, it is trusted, be useful to general practitioners to be supplied with so cheap an article.

It is unquestionably the practice of many houses in the trade to mix English rhubarb in large proportion with the foreign, charging the prices of the latter.

Concentrated Infusion of English Rhubarb.

1s. 6d. per pound.

Compound Tincture of English Rhubarb, per lb.

On the score of economy these preparations are recommended, and on good authority it is believed they are quite equal to any preparations of foreign rhubarb. The concentrated infusion combined with simple syrup is well adapted for children.

Lupulin.

2s. 6d. per oz.

Dose, 3 to 20 grains.

The active principles of the hop reside, as is well known, chiefly in the pollen, which, when separated, is a most convenient form for making into pills. It requires no addition, but by rubbing it in a warm mortar it forms by itself a convenient pill-mass.

By many writers the remedial properties of the hop, and more especially of lupulin, have recently been much extolled.

Dr. Dick considers it particularly valuable in dyspepsia, from its combining a tonic with a sedative action.

Dr. Zambaco alleges that it is the best tonic in strumous habits, and that it exerts a sedative action, and is a specific for chordee.

Dr. Godberry, U.S., alleges that it is a remedy for intermittents inferior only to quinine.

Dr. Page, of Philadelphia, and others, recommend it as an immediate remedy for strangury, arising from *lyttæ*, and for irritation of the urinary organs and bladder from other causes, particularly in gonorrhœa.

Watery Extract of Lupulin.

3s. 6d. per oz.

Dose, 3 to 10 grains.

This extract does not represent all the properties of hops. It is a pleasant pure bitter, with some aroma; and has been highly praised by several writers as a tonic in dyspepsia; for allaying the pain of articular rheumatism; and for the nervous tremors, wakefulness, and delirium of drunkards.

Alcoholic Extract of Lupulin.

4s. per oz.

Hops, or lupulin, yield a large proportion of extractive matter to alcohol. The remedial properties of this preparation require investigation.

Tannic Acid.

10d. per oz.

Dose, 2 to 5 grains.

This is a valuable remedy, scarcely so well known in this country as in America, where it is largely used.

In dysentery, diarrhœa, and internal hæmorrhages, and also against colliquative sweats in phthisis. Externally in the form of a lotion, or mixed with simple cerate in hæmorrhoids. Snuffed up the nose in powder in epistaxis. In the form of a gargle in relaxed tonsils and uvula, or ulcerated sore throat. It is highly antiseptic.—DR. CUMMINGS, and others.

Collodion.

5s. to 8s. per lb.

This fluid has properties which render it valuable in so many cases, that it ought to be better known.

Dr. Springler says it is better than any other application in *erysipelas*, laid on thickly with a camel's-hair brush. Dr. Snow bears the same testimony.

Dr. Lehmann finds it valuable in *burns* and *scalds*. Other writers recommend its use to stop the bleeding of *leech bites*; to close *cupping incisions*, or other *small wounds*; to close *fistulous openings*, to prevent pitting from small-pox, and also as a remedy for *sore nipples* and *chilblains*.

P.S.—The addition of a minute portion of oil prevents it from cracking.

Naphthaline.

1s. 6d. per oz.

Is recommended in chronic bronchitis, or pulmonary catarrh, by Dr. Dupasquier, as being far preferable to gum ammoniacum or squill, producing free and abundant expectoration. It has been lately much prescribed by some London physicians in coughs and chronic dyspnoea, and its efficacy is highly spoken of. It may be prescribed in pills. It does not disagree with the stomach. It may be given in doses of from one to four grains. M. Emery found it useful externally in dry tetter, psoriasis, and lepra; twenty grains to five drachms of lard.

Ergot.

The peculiar action of ergot on the uterus renders it necessary for practitioners to have it at hand: at the same time, the ordinary call for its employment is seldom and at long intervals. Ergot soon perishes by keeping. It is therefore important to select a preparation of it as efficient

as the drug in substance, which does not spoil by keeping. The following are recommended:—

a. Fixed Oil of Ergot.

7s. per oz.

This oil is believed by many practitioners in America to be the active principle of ergot. It is employed in doses of five drops repeated in the same manner as the ergot in substance.

b. Fluid Extract of Ergot.

Liq. Ergotæ.

One teaspoonful equal to 1 drachm of Ergot.

This is prepared according to an American formula, and is presumed to be efficient.

Tincture of Sumbul.

Dose, half a drachm to 2 drachms.

4s. per lb.

This remedy was introduced into practice by Dr. Granville in 1850. Sumbul root has a pungent smell, remarkably similar to musk. The tincture seems the best form.

It has been recommended in spasms of the stomach, hysteria, and all hysterical affections; in chlorosis, amenorrhœa, and dysmenorrhœa; in paralysis of the limbs, epilepsy; also in low nervous fevers, nervous debility, and general nervous symptoms.

Sumbul is a pleasant medicine, deserving attention and further investigation.

All the other preparations of Sumbul.

Digitaline.

per grain.

Dose, $\frac{1}{8}$ th of a grain.

The active principle of digitalis has been recommended recently by Dr. Christison as more efficient than the digitalis itself in controlling the action of the heart, and as a diuretic. Dr. C. employs it in Bright's disease and dropsies, and others extol it in phthisis and bronchitis.

CONCENTRATED INFUSIONS AND LIQUORS.

Since a number of drugs yield their medicinal virtues to water, infusions form the simplest and oftentimes the best method of administering them.

The Colleges all order infusions, and give formulæ for their preparation. These formulæ ought to be implicitly followed whenever infusions are prescribed, and the prescriptions pass into other hands than the prescriber for compounding. But there is no reason why a prescriber should not himself use the concentrated infusions,—indeed, they are very convenient for the general practitioner, and when honestly prepared with the drugs the names of which they bear, are often preferable to tinctures or any other forms.

The General Apothecaries Company have given careful attention to the preparation of concentrated infusions, and they recommend them with confidence to the profession,—particularly their

1. *Liquor Opii Sedativus.*

18s. per pound.

This solution contains all the principles of opium, which it yields to water; a small quantity of spirit being added, only to preserve it.

It is double the strength of the *tinct. opii* of the London Pharmacopœia, and is less stimulating and more decidedly sedative. The dose is half that of laudanum.

The late Mr. Batley had the merit of introducing this valuable preparation.

2. *Liquor Taraxaci.*

A variety of methods are recommended for treating the dandelion, to obtain its remedial properties in the most convenient form. After giving careful attention to the subject, a formula has been adopted which seems best to accomplish the desired end; and this *liquor taraxaci* will prove highly satisfactory to the profession and patients.

3. *Liq. Sennæ Dulc.*

3s. 4d. per pound.

This is a pleasant and convenient form for giving senna, its nauseous taste being removed. It is particularly useful for children and persons who refuse disagreeable medicine. It contains the aperient power of the senna in its full force.

THE CONCENTRATED INFUSIONS include Calumbo, Cascarilla, Gentian, Hops, Orange-peel, Quassia; English, East-Indian, and Turkey Rhubarbs, Roses, Senna, &c. &c.

DIETETIC ARTICLES.

These are carefully selected or prepared, and may be implicitly relied on as genuine :

Arrow-roots—Bermuda,—St. Vincent.	
Canna-root, or Tous les mois.	
Russian isinglass, first quality.	
Ditto	ditto second quality.
Brazilian isinglass, first quality.	
Ditto	ditto second quality.
Tapioca.	Ceylon moss.
Sago.	Carragheen moss.
Semolina.	Iceland moss.
Pearl Barley.	

Erva-lens—Egyptian, and French Lentils.

Both these in powder.

*** Mr. Elliott, of the Hon. East India Company's Service, recommends lentils, in the form of gruel, in disorders of the liver, duodenum, and lower bowels, attended with pale stools and diarrhœa—common with persons who have resided in hot climates.

Ulmus Fulva—Slippery Elm Bark.

2s. per lb.

The infusion or decoction of this bark forms a mucilaginous beverage, with a very pleasant flavour and slight astringency. It is highly relished in fevers, acute bronchitis, sore throat, phthisis, &c.; and very useful in stranguary, irritable bladder, diarrhœa; and is far preferable to barley-water. It affords a variety, so much desired by patients suffering from long illness.

Chloride of Potassium.

1s. per lb.

Professor Liebig has shown that, whilst soda exists in healthy blood, the alkali in the flesh-juices is potass. From recent inquiries by Drs. Garrod, Bence Jones, and others,

it appears probable that some forms of disease, particularly pains deemed rheumatic, may depend upon the absence of a due amount of potass in the system. The chloride of potassium is the analogue of common table-salt, the chloride of sodium, and, like the latter, is probably decomposed in the digestive organs. It is a most agreeable mode of taking potass, since, when mixed with common salt, it is not merely not tasted, but it imparts a finer relish to animal food, broths, gruels, &c.—a fact first pointed out by Liebig. It is thus rather a condiment than a medicine.

Other Condiments are Sold by the Company :

**Pure Powdered Mustard, Black and White Pepper,
Long Pepper, Cloves, Mace, Cinnamon, &c.**

COMMERCIAL SUBSTANCES USED IN THE PRACTICE OF MEDICINE.

In considering the subject of adulteration and impurities of drugs and chemicals, it must be borne in mind that it has two aspects: firstly, as it is simply a question of money; and secondly, as it bears upon therapeutics. Thus, when powder of English rhubarb is mixed with Turkey or East Indian, no other harm ensues than that the purchaser pays twelve or sixteen shillings for an article which is only worth three shillings. The difference in the remedial value of the three is scarcely appreciable. Or again, if quinine is diluted with some cheap article,—quinidin or salicine, for example,—all that happens is, the prescriber has to give a larger dose to produce the desired effect.

But, in a scientific point of view, it is of great importance that the practitioner should know exactly the composition of the substance he intends to administer.

Now, it is well known that a large number of chemicals are produced for purposes connected with the arts, or manufactures, and that many of these are adopted into use as medicines. Altogether apart from fraudulent intentions, the processes employed frequently cause the presence of other substances in the prepared article. Thus, in the bitartrate of potass of commerce, from five to ten per cent. of tartrate of lime is always found; in the car-

bonate of potass, and the liquor potassæ prepared from it, chloride of potassium is always present.* If the commercial article be considered pure enough for medical use, it should always in such cases be fairly stated that it has the adhering admixture.

In scientific therapeutics, such impurities should always be taken into account. If they are wholly disregarded, our conclusions must be so far confused. In some cases, perhaps, the remedial effects of perfectly pure chemicals are scarcely known, so universal is the use of a commercially prepared substance. Some time ago, a writer extolled the remedial properties of a solution of potass prepared in a particular manner, and attributed to it effects which could never be seen by the use of ordinary liquor potassæ. The proportion of chloride in the latter is so small, that it has always been thought to be over-refinement and hypercritical to regard it. Nevertheless, it is perfectly possible,—nay, very likely—that the effects of one on the human constitution may be very different to the other. The experiments of Dr. Faraday on perfectly pure water must be in the recollection of every one: and if such extraordinary differences in the physical properties of water are produced by the presence or absence of a small quantity of atmospheric air, who can say that in the human body, where, in the blood and tissues, in nervous matter, and the flesh juices, elaborate chemical processes are continually going on, that the most minute differences in the chemical constitution of remedies are without effect?

It requires a minuteness and accuracy of observation not always exercised to bring therapeutics to such a state of perfection as we are contemplating. Nevertheless, every one must admit that it is most desirable to avoid every possible cause of error.

Almost every chemical compound in use in medicine is more or less liable to be contaminated with other substances. Sometimes carelessness or defective processes

* In a late number of the *Pharmaceutical Journal*, it is stated that some person obtained liq. potassæ from the General Apothecaries Company, which, on examination, was found to be impure. The fact was, that sample was sold within a day or two of commencing business, and before the Company was able to prepare the liq. potassæ, and it was purchased by the Company at the shop of *Mr. Bell*, the editor of that journal.

It would be uncandid not to state that the liq. potassæ and carb. potassæ of Apothecaries Hall and every house in London will probably exhibit a trace of impurity.

render these impurities very considerable. Many of the best houses in the drug trade acknowledge that they find it impossible to get every article in a satisfactory state. Hence the extreme importance of having everything tested and analysed which is intended for medicinal purposes; and we may add, that it appears equally important that the managers of establishments for the preparation of medicines should themselves be Practitioners, and able to appreciate the bearings of such matters on practice.

In illustration of this, the *creta præparata* of the shops may be mentioned. The internal use of prepared chalk is chiefly had recourse to in diarrhœa,—often a result of an extremely sensitive and irritable state of the mucous membrane of the alimentary canal.

The Managers of the General Apothecaries Company obtained prepared chalk from many chemists' shops, and from the Apothecaries' Hall. In most of the samples a considerable proportion of minutely-divided silica and insoluble oxide of iron was found. The sample obtained from Mr. Bell's, when treated with dilute muriatic acid, was as dirty as if snuff had been added. The impurity was an insoluble oxide of iron. Now, no one can suppose that any intentional adulteration existed in these specimens; but the effects of such a sample of chalk on a delicate child, when given for diarrhœa, may be most injurious. If the freely divided silica which always accompanies chalk be deemed injurious, the prescriber should employ *creta precipitata*, or carb. calc. precip. in place of prepared chalk.

These remarks are applicable to many articles prepared for commercial purposes, but adopted in medicine. Every effort should be made to free them from adhering impurities, and the practitioner duly informed of the fact; and although the price is generally somewhat enhanced, this ought not to be considered to the disparagement of science, and, we may add, humanity.

Sulphate of magnesia is an article used to an enormous extent, as found in the shops under the title of "*Purified Epsom Salts*:"—it is usually full of dirt and impurities. By repeated crystallization it becomes pure, and it ought never to be taken except in this state and in large crystals.

This subject deserves further illustration, but for want of space we defer it for a future publication.

The following is a List of Prices
OF
Drugs, Chemicals, and Preparations

AS SOLD BY THE
GENERAL APOTHECARIES COMPANY,
(Limited).

N.B.—With respect to a few items, the prices will vary according to the markets.

CHEMICALS.

	<i>s. d.</i>		<i>s. d.</i>
ACID, ACET.lb.	0 8	CREOSOTElb.	0 8
— BENZOICoz.	1 6	DIGITALINEgr.	1 6
— CITRIClb.	4 0	ERGOT, OIL OF, 7s. oz., or 1s. dram.	
— GALLICoz.	1 0	ERGOTINEoz.	4 0
— HYDROCH. PUR.lb.	1 0	FER. AMMON. CHLOR.,	0 3
— HYDROCYAN. (SCHEELE'S) oz.	0 8	— CIT. C. ZINC.lb.	5 6
— (P. L.).....,	0 8	— CIT.,	4 6
— NITRIC, PUR.lb.	1 3	— TART.oz.	0 4
— PYROGALLICoz.	6 0	— CARB. SACCH.lb.	3 6
— SULPHURIC, PUR.lb.	0 9	— CIT. CUM QUINÆ.....oz.	4 6
— TANNICoz.	0 10	— PERACET. LIQ.lb.	1 8
— TARTARIClb.	2 0	— PERNIT. LIQ.,	1 8
ACONITINA.....gr.	0 6	— POTAS. TART.,	4 0
ETHER, CHLORIClb.	4 6	— SESQUIOXD. PUR.,	1 0
— SULPH. RECT.,	6 0	— SULPH. PUR.,	0 6
— METHYLATED,	3 6	GLYCERINE, PUR. 3s. 0d.,	6 0
AMMON. HYDROCHLOR. PUR....,	1 0	HYD. AM. CHLOR.,	4 0
— SESQUICARB. PUR.,	0 10	— BICHLORIDUM,	3 0
ANTIM. POT. TART.,	3 6	— BINIODIDUMoz.	1 8
— PULV. COMP.,	3 6	— CHLORIDUM.....lb.	3 6
ARGENT. NIT.oz.	4 2	— (HOWARD'S),,	4 6
— CRYST.,	4 4	— NIT. OXYDUM,	4 0
— OXYD.,	8 0	HYDRARGYRUM CUM CRETA ...,	3 0
ATROPINAgr.	0 6	— cum MAGNES. ,,	5 0
— SULPHATE,	1 0	IODINIUM, PUR.oz.	1 4
BEBEERIN, SULPH.oz.	5 6	JALAPINA,	8 0
BISMUTH, TRISNIT.lb.	5 8	LIQ. AMMON. P. L.lb.	0 6
CAFFEINE,		— FORT. 880 ,,	0 9
CHLOROFORM,	8 0	— ACET. CONDENSED ,,	1 8
CINCHON. SULPH.oz.	3 6	— POTASSÆ, P. L.,	0 6
COLLODION.....5s. to 8s. lb.		— ARSENITIS ... ,,	1 6

	<i>s. d.</i>		<i>s. d.</i>
LUPULINE	oz. 3 0	ACETUM SCILLÆ	lb. 1 0
MAGNES. BICARB. SOL., in half-		ALOE, CAPE, FINE	,, 1 0
pint bottles	doz. 8 0	HEPAT.	,, 3 6
CALCINAT.	lb. 3 0	ALOE, SOCOT. VER.	3s. ,, etc.
MAGNES. CALCINAT. SEMI-POND. lb.	2 0	BALS. COPAIB.	,, 2 3
POND.	,, 4 6	SOLUBLE	,, 4 6
CARB.	,, 0 10	CAMPHORA	,, 2 0
SEMI-POND.	,, 1 6	CHIRAYITA	,, 1 4
POND.	,, 2 6	COCCINELLA	oz. 0 6
SULPHAS, LARGE CRYSTALS	,, 0 3	CONF. AROMAT.	lb. 4 0
SULPHAS (COM ^L .) cwt.	10 6	PULV.	,, 5 0
MORPHIÆ, ACETAS	oz. 14 0	ROSE, GAL.	,, 1 6
HYDROCHLOR.	,, 14 0	CANIN.	,, 1 2
SULPHAS	,, 16 0	SENNE, P. L.	,, 1 6
NAPHTHALINE	,, 2 0	CROCI, IN FENO	oz. 2 0
POT. ACETAS	lb. 2 6	DEC. ALOES CO. CONCENT.	lb. 8 0
BICARBONAS. PULV.	,, 1 0	EMP. AMMONIAC	,, 3 0
CARBON. PUR.	,, 0 6	cum HYD.	,, 4 0
NITRAS. PUR.	,, 0 8	BELLADONNÆ	,, 3 4
TART.	,, 2 0	CANTHARID. P. L.	,, 4 0
BITART. PUR.	,, 1 6	GALBANI CO.	,, 1 4
(COMMERCIAL),,	,, 1 0	HYDRARG.	,, 2 8
POTASSII IODIDUM	oz. 1 3	OPII (P. L. 1851)	,, 5 0
QUINÆ, DISULPH. PURE	,, 10 0	PICIS CO.	,, 1 4
SULPH. NEUT.	,, 9 6	PLUMBI	,, 0 10
QUINIDIN. SULPH.	,, 4 0	RESINÆ	,, 1 0
SALICINE	,, 3 0	ROBORANS	,, 1 0
SANTONINE	,, 8 0	SAPONIS	,, 1 0
SCAMMONINE	,, 7 6	ERGOT.	,, 2 6
SODÆ, POTASSIO TART.	lb. 1 6	ESS. AMYGD. INOCUOUS	oz. 4 0
TARTRAS	,, 2 0	BERGAMOT	lb. 12 6
SESQUICARB. SOLUBLE	,, 0 6	LIMONIS	,, 10 6
SP. ÆTHER, NIT. P. L.	,, 3 4	EXT. ALOES, AQUOS.	oz. 0 6
SEC.	,, 2 8	ANTHEMID.	lb. 6 0
SP. AMMON. AROMAT. FINE ...	,, 3 4	BELLADONNÆ	,, 6 0
FETID.	,, 3 4	CANAB. IND. RES.	oz. 4 6
STRYCHNIA CRYSTALS	dr. 2 6	COLCHICI	,, 0 6
VERATRIA	,, 2 0	ACETIC	,, 1 0
ZINCI, ACETAS	oz. 0 6	COLOCYNTH.	,, 1 6
CHLORID. CRYST.	,, 0 8	CO. (P. L.) ...	,, 1 0
OXYDUM	lb. 2 8	(P. L.) PULV. ,,	,, 1 0
SULPHAS. PURIF.	,, 0 9	CONII	lb. 2 8
VALERIAN	oz. 4 0	GENTIANÆ	,, 2 0
PER. CIT.	,, 0 4	GLYCYRRHIZÆ, MOL. ...	,, 4 0
ACETUM CANTH. P. L.	lb. 3 6	HYOSCYAM.	,, 5 0
VESICAT.	oz. 1 0	IGNAT. AMAR. (ALCO.) ,,	,, 4 6
COLCHICI	lb. 1 0	JALAP	oz. 1 0
		OPII, PURIF.	,, 3 6

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
EXT. PAPAVERIS	lb.	4 0	OL. CARUI, ANG.	oz.	1 0
— PAREIRÆ BRAVA	oz.	2 0	— CARYOPH. ANG.	,,	1 0
— RHEI, ANG.	,,	1 0	— CASSIÆ	,,	1 3
— RHEI, E. INDIA	,,	1 6	— CINNAM.	,,	6 0
— TURC.	,,	2 0	— COPAIB. ESS.	,,	5 6
— SARSÆ (JAM.)	lb.	20 0	— CROTON	,,	1 0
— COMPOS. (JAM.) ..	,,	18 0	— CUBEBE	,,	1 6
— TARAXACI	,,	4 6	— JECORIS ASEL. (NEWFOUND-		
POL. BUCHU	,,	2 6	LAND)	gal.	12 6
— ROSÆ	,,	7 0	— JECORIS ASEL. (NORWE-		
— HYOSCYAMI	,,	2 0	GIAN)	,,	9 6
— SENNÆ, ALEX. ELECT. 2s. and 1s. 6d.			— JUNIP. ANG.	oz.	2 0
— IND.	,,	1 0	— LAVAND. (MITCHAM)	,,	4 6
— TINN.	,,	2 0	— MENTH. PIP. ANG.	,,	3 6
— UVÆ URSI	,,	1 3	— VIRID.	,,	1 3
GUM ACAC. TURC. 2s. and	,,	3 0	— MYRISTICÆ	,,	1 0
— PULV.	,,	3 4	— OLIVÆ, OPT.	gal.	8 0
— AMMON. GUTT.	,,	2 6	— SEC.	,,	6 0
— ASSAFÆTID.	,,	1 3	— PIMENTÆ	oz.	2 6
— BENZOES	,,	4 6	— PULEGII, ANG.	,,	1 6
— CATECHU	,,	0 9	— RICINI, OPT.	lb.	0 8
— GALBAN. COLAT.	,,	4 6	— SEC.	,,	0 7
— GAMBOGIE	,,	3 0	OPIUM, TURC. OPT.	,,	20 0
— GUAIACI	,,	3 0	— PULV.	oz.	1 9
— KINO	,,	1 6	PIP. CAYENNE	lb.	3 0
— MYRRH	,,	3 0	— CUBEBE, PULV.	,,	2 0
— PULV.	,,	4 6	PIL. ALOES CUM MYRRH.	,,	8 0
— SCAMMON. PURE	oz.	3 6	— COLOC. CO.	oz.	1 0
— PULV.	,,	4 0	— FERRI CO.	lb.	5 6
— TRAGACANTH, ELECT. ...	lb.	4 0	— GALBAN. CO.	,,	6 0
KOUSSO, PULV.	oz.	0 10	— HYDRARGYRI	,,	4 0
LIQUOR ARSEN. ET HYDRARG.			— CHL. CO.	,,	4 0
(DONOVAN)	oz.	0 4	— IPECAC. CO.	,,	8 0
— CINCHON. CORLIF. ...	,,	1 6	— RHEI CO. PULV.	,,	8 0
— LANCIF.	,,	1 0	— SAPON. CO.	,,	8 0
— OPII SED.	lb.	18 0	— SCILLÆ CO.	,,	4 0
— QUINÆ AMMON.	,,	12 0	PULV. CINNAM. CO.	oz.	0 6
— SARSÆ (JAM.)	lb.	16 0	— CRETÆ CO.	lb.	3 0
— CO. (JAM.) ...	,,	14 0	— cum OPIO ...	,,	5 0
— TARAXACI	,,	4 6	— JALÂP CO.	,,	3 4
MIST. SENNÆ CO.	,,	1 4	— IPECAC. CO.	oz.	0 6
MANNA, OPT. NOV.	,,	4 6	— KINO CO.	,,	0 6
MATICO	,,	1 6	— SCAMMON. CO.	,,	3 3
OL. AMYG. DULC.	,,	1 3	— TRAGACANTH CO.	lb.	2 8
— ANETHI	oz.	1 0	RAD. CALUMB. ELECT.	,,	1 0
— ANISI, IND.	,,	1 9	— COLCH. SIC.	,,	1 2
— ANTHEM. ANG.	,,	3 6	— GENTIAN	,,	0 8
— CAJEPUT	,,	1 0	— IPECAC.	,,	7 0

	s.	d.		s.	d.
RAD. IPECAC. PULV.lb.	8	0	RAD. VALERIANlb.	1	0
— JALAP	3	6	— ZINGIB. (JAM.)	2	0
— PULV.	5	0	— ZINGIB. (JAM.) PULV....	2	6
— MEZEREON	1	6	SAPO, CASTIL.	0	9
— PAREIRA BRAV.	1	6	— MOLLIS, P. L.	1	2
— RHATANIE	1	6	— DUR. PULV.	1	8
— RHEI, ANG. (TRIMMED),	2	0	SEM. CARD. MIN.	4	6
— PULV.	3	0	— CARUI	0	8
— IND.	8	0	— COLCH. &c. &c.	2	0
— PULV.	9	0	SYR. FERRI, CIT. cum QUIN....	5	6
— TURC.	15	0	— IODID. P. L.	2	8
— PULV.	16	0	TINCTURES in all the forms,		
— SARSÆ, JAM. (UNCUT)...	4	0	from per lb.	2	8
— INCIS.	4	6	UNG. HYDRARG. FORT.	2	6
— HEMIDESMUS (SMILAX) ,,	2	6	VIN. ALOES	2	8
— ARALIA NUDICAULIS ... ,,	2	0	— COLCH. ANT. P. T.	2	8
— SCILLÆ	0	8	— FERRI	2	8
— SENEGA	6	0	— IPECAC.	2	8
— SERPENTAR.	3	0	— OPII, &c. &c.	4	0
— SUMBUL	3	6			

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