

PHARMACEUTICAL PREPARATIONS.

ELIXIRS

THEIR HISTORY, FORMULÆ, AND METHODS
OF PREPARATION

INCLUDING

PRACTICAL PROCESSES FOR MAKING THE POPULAR
ELIXIRS OF THE PRESENT DAY, AND THOSE
WHICH HAVE BEEN OFFICINAL IN
THE OLD PHARMACOPŒIAS

TOGETHER WITH

A RÉSUMÉ OF UNOFFICINAL ELIXIRS FROM THE DAYS OF
PARACELSUS

By J. U. LLOYD

Professor of Chemistry in the Eclectic Medical Institute; Professor of
Pharmacy in the Cincinnati College of Pharmacy; Author
of "Chemistry of Medicines," etc., etc., etc.

SECOND EDITION

CINCINNATI

ROBERT CLARKE & COMPANY

1883

Copyright, 1883, by
J. U. LLOYD.

27
A
F
C
Y
1
7
0

In presenting these formulæ, the result of years of actual laboratory experience, and the careful study of the back numbers of all our pharmaceutical journals, we can not doubt that they will be valuable to pharmacists, and that the investment will quickly return to each purchaser more than the outlay for the book.

Upon this question of elixirs we find our American pharmacists greatly divided: some decidedly object to them, no matter under what considerations or circumstances, and obstinately refuse to listen to a favorable word for any one of them; others uphold that carefully prepared elixirs, in which the disagreeableness and offensiveness of certain drugs entering into their composition are more or less masked, are to be commended. Not unfrequently the opponents of elixirs are quite violent in their denunciation of them, and more especially as being of two complex a character, and yet these very objectors will favor other mixtures and preparations that are still more complex, and fully as unscientific as the majority of compound elixirs. On the other hand, the advocates of

elixirs frequently associate incompatibles in their preparations, thereby rendering them valueless. By this course they weaken the cause they are endeavoring to sustain, as the articles they present to the public prove to be unreliable. In our opinion, there is an intermedium, a conservative position, between those who unreservedly condemn and those who indiscriminately recommend, and it will be found that there are many excellent pharmacists occupying this position, who argue that, with judgment in selection and skill in manipulation, a line of elixirs may be produced that will favorably compare with other sections of pharmacy, and that in their preparation as much science and competency may be displayed as in that of any other class of pharmaceuticals.

In the present work we have endeavored to point out defects, as well as incompatible combinations, and though at first glance the impression may be conveyed that we entertain a positive hostility to elixirs, yet, as it must be admitted by every one that there is considerable room for friendly pruning, we trust that our remarks will be received in the same kind spirit as that in which they are made, and that we will not be reproached for being unnecessarily censorious. And, notwithstanding that our criticisms may appear to be severe, we believe them to be fair and unprejudiced, and of such a character that both the advocate and the opponent of "American Elixirs" may derive both satisfaction and benefit from their perusal.

J. U. L.

PREFACE TO THE SECOND EDITION.

Within three months from the appearance of the first edition of this book, the publishers have notified us that a second is demanded. This encourages us to believe that our work is not wholly unappreciated. We issued the first edition with misgivings. We feared that the class of preparations embraced under the name elixir would not prove sufficiently interesting and valuable to warrant the publication of a work devoted exclusively to this subject. Then, too, various problems arose when we attempted to untangle the intricate elixir history, to reconcile incompatibles, to criticise judiciously, and to prevent our prejudices from occasionally influencing our remarks. These and other points rendered our labor by no means pleasant. However, the favor with which the first edition has been received, and the many words of approval regarding it, lead us to believe that our labor has not been lost. We cordially invite pharmacists to notify us of any troublesome formula in this book, to correspond with us concerning elixirs in local use, if omitted by it, and to advise us of any historical oversight. Please note our remarks in "Addenda."

J. U. L.

ELIXIRS.

THROUGH the courtesy of Mr. Charles Rice, to whom application was made by the author for notes on the derivation of the word "elixir," we are enabled to present his reply verbatim, and in addition presume to say a few words concerning the "elixir" of the past and of the present, which may interest the reader.

DEAR FRIEND—In reply to your inquiry concerning the etymology of the word "elixir," I would say that the word is proximately derived from the Arabic **الأكسير** (*al-iksîr*), being composed of the article **ال** (*al* or *el*), and **أكسير** (*iksîr*). The latter is an arabicized form of the Greek word **ξήριον** (*xîrion*, the **η** (*i*) being pronounced like *ee*). This derivation was first recognized and announced by Fleischer in 1839, but it seems to have been overlooked by later writers. Hermann Kopp, the historian of chemistry, in his "Beiträge zur Geschichte der Chemie" (1869, p. 209), quotes a number of passages from later Greek authors and from writers of the alchemistic school, in which he showed that the Greek **ξήριον** and the Arabic *el-iksîr* were identical in signification, but he failed to notice their etymological identity. The Arabs cannot pronounce an initial **ξ** (*x*) without placing an aux-

iliary or supporting vowel in front of the double consonant, thus making *i-ksîr*. This peculiarity of avoiding an initial double consonant (*sc*, *sp*, etc.) occurs also in other languages, for instance in Spanish, where we have *espera*, *escila*, *espiritu*, etc.

The word *ξηριον*, in medical works, means any "dry powder" (from *ξηρός*, dry), such as is used for dusting wounds. In alchemy it was used to denote the magical transformation powder, so much sought after, a pinch of which would convert a whole mass of base metal into gold. *Iksîr*, in this sense, is identical with another interesting Arabic term, viz., *كيمياء* (*kîmiyâ*, from which our word *chemi-stry* is derived, but which is itself derived from the Greek). This was also applied to a concrete thing, namely, the substance supposed to be capable of making gold. For instance, we meet such expressions as *صنعة الكيمياء* (*çanatu-l kîmiyâ*), "the making of the *kîmiyâ*," and *صنعة الاكسير* (*çanatu-l iksîr*) "the making of the *iksîr*," both meaning the same thing.

In later, technical language, "Elixir" was used to denote various preparations more or less alchemistic. It was, for instance, synonymous with "Liquid Tincture," the first step in the preparation of the philosopher's stone; and there was a white and a red elixir distinguished. Or, it designated any compound preparation of supposed "sublime" properties, reputed to prolong life and to ward off disease. . . .

Sincerely yours,

CHARLES RICE.

By referring to the letter of Mr. Rice it will be seen that at an early period the term elixir designated "the

magical transformation powder, so much sought after, a pinch of which would convert a whole mass of base metal into gold." Afterward the word was used "to denote various preparations more or less alchemistic," and it is to be presumed that curious or potent liquids were gradually introduced and included among powders. Finally, the word elixir was applied only to liquids, but these, like the original magical powder, were supposed to possess the power of transmuting base metals into noble metals.

Mr. Rice states that particular emphasis was once placed on a white and a red elixir. From a curious little work in our possession, bearing date 1682, we present, for the reader's inspection, a fac-simile of the processes recommended for making these preparations, and that the quaint formulæ may be rendered more intelligible, we give a fac-simile of a table which explains the characters employed in the book, as follows:

"An Explication of Characters used in this Book."

⊙ <i>Gold.</i>	A. F. <i>Aqua Fortis.</i>
☽ <i>Silver.</i>	A. R. <i>Aqua Regis.</i>
♂ <i>Iron.</i>	S. V. <i>Spirit of Wine.</i>
☿ <i>Mercury.</i>	⚭ <i>Sublimate.</i>
♃ <i>Jupiter.</i> ¹	⚰ <i>Precipitate.</i>
♀ <i>Venus.</i> ²	a a a <i>Amalgama.</i>
♄ <i>Lead.</i>	▽ <i>Water.</i>
♁ <i>Antimony.</i>	△ <i>Fire.</i>
* <i>Sal armoniac.</i>	

1. This name was applied to Tin when the book was written.

2. This name was applied to Copper when the book was written.

Elixir Album.

SUBlime φ three times from Vitriol and Salt-petre, then in hot Sand fix it so, that in strong heat it may not rise, which may be performed in three weeks time: Then Calcine it in a close Reverberatory Δ , and it will be ready for solution. Then take the Water which distilled over in Subliming the φ , and dissolve in it a little \ast , and φ \triangle mate; with this solution mix Calcined Vitriol to the thickness of Honey, digest *in fimo* one and twenty days: Then distill by degrees a little at a time (for it yieldeth a very fiery Spirit), let the Recipient be large. When all is come over that will, rectifie it; then in this Spirit dissolve the afore-said fixed φ , so is the *Menstruum* prepared.

Then take a white Calx of γ , pour upon it so much of this *Menstruum* as will cover it, let it stand eight days as before. Repeat this till the Calx will take in no more of the said *Menstruum*, then let it stand till it becomes first black, and then white, Subliming itself above the *Caput Mortuum*, from which carefully separate the white, and that is *Sulphur naturæ Jovis*, which put into a little Matrafs and fix it (which may also be done by frequent \triangle mation); make also *Sulphur naturæ* ν in the same manner, and with the same *Menstruum*, which dissolve into Oyl in *B.*, with which imbibe the said *Sulphur naturæ Jovis* until it be fusible, and then it will transmute γ into ν .

Elixir Rubrum.

TAKE Vitriol of φ well purified by Solutions and Coagulations, unite it with Liquor of φ \approx mate and \ast , then distill a ∇ from it in Afhes; then having stood (cold) twenty-four hours, distill more ∇ from it. Repeat this until the remaining Matter be well broken; then joyn all the distilled waters to it again, and digest it *in fimo* for 40 days: Then distill its Spirit, with which imbibe the remaining Earth; dry it with a gentle heat, then imbibe again, and dry as before: Repeat this till the Earth hath imbibed all its ∇ . Then distill it, and you shall have a Philosophical φ , and what Sublimeth is the Sulphur, which keep apart. Repeat the imbibation and distillation, till no more Sulphur will ascend; with this Sulphur imbibe half its weight of the φ , put them into a Matrafs, which Seal Hermetically, and fix them together; and this Work must be repeated four times, every time with the same proportion of the said Philosophical φ . Then fix this Matter in a Vessel Sealed Hermetically by degrees of Δ , and all the colors will appear one after another, until they become white, and, lastly, to an incombustible red.

Take one part of this red Powder, cast it upon ten parts of Sublimed φ , set it to putrefie for thirty days, and it will become Oyl, which being Projected upon boyling φ , will transmute it into pure \odot .

The said red Powder being infused in Wine over Night, and drank in the Morning, Cureth most Diseases in Mans Body.

It will be observed that the white elixir, "Elixir Album," can only produce silver, while the red elixir, "Elixir Rubrum," will transmute mercury into pure gold. We call attention to the red powder which is formed near the completion of the process in making elixir rubrum, and which is used to prepare the magical "oyl," and to the assertion that this same red powder "cureth most diseases in man's body." Here we have an approach to the elixir of life (elixir vitæ) of the alchemists, together with the properties ascribed to the philosopher's stone. In this connection, a quotation from the writings of that celebrated author of the eighteenth century, Boerhaave, is of interest concerning the elixir vitæ, which in Boerhaave's language was "one of the chief things which the alchemists promise." Their aim was "to discover an artificial body of such virtue and efficacy, as that being applied to any body of any of the three kingdoms, it shall improve its natural inherent virtues, so as to make it the most perfect thing in its kind. Thus, for instance, if applied to the human body, it will become an universal medicine, and make such a change, both in the solid and fluid parts thereof, as shall render it perfectly sound, and even maintain it in that state, until the parts being slowly worn away and spent, death gently and without a struggle takes possession."

We find, therefore, that the alchemists, by the term elixir, intended to designate substances which could either convert base metals into gold or silver, or could prolong life and heal the sick, or embody both properties; and also, that this substance might be either a liquid or a solid. We do not generally accredit the alchemists with a desire to heal diseases after the man-

ner of physicians of the present day, and doubtless the majority searched only for riches. However, while they mostly desired gold and silver, they realized that the use of only an ordinary amount could be enjoyed in the usual lifetime allotted to man. Again, many of these infatuated men were on the brink of the grave when their hopes seemed most likely to be realized, and of vital importance would be the possession of a substance which could prolong life. Hence we find that some of them were searching directly for gold, or the philosopher's stone by means of which all base metal could be changed into gold, while others desired most the elixir of life, "elixir vitæ," which could extend life and change old age into youth. Indeed, as incentives to their labors were the assertions that these wonderful elixirs had been discovered by others, and we quote from "The Birth of Chemistry" that "S. Thomas Aquinas was, like his master (Albertus Magnus), a magician. We are told that between them they constructed a brazen statue, which Albertus animated with his *elixir vitæ*."

Culi asserted that "he converted fifty thousand pounds weight of base metals into gold," and is said to have furnished his king with six millions of money. Paracelsus (born 1493, died 1541) is generally accredited with instituting a new era in the study, for he was prominent in showing that alchemy, which flourished in his day, and of which he was a zealous student, could be of value to physicians, and that the knowledge derived from their investigations could be turned to advantage in the treatment of disease. Like the old alchemists, however, Paracelsus surrounded his process with mysterious expressions, and disjointed them until they were

incomprehensible.¹ He originated the "Elixir Proprietatis," stating that it was so potent as "to continue health and long life to the utmost possible limits" (*Boerhaave*). This wonderful elixir was concocted by cumbersome processes from such simples as saffron, aloes, and myrrh, and notwithstanding Paracelsus claimed that by using the vaunted elixir proprietatis "he should live as long as Methuselah," he died a broken wreck in his forty-seventh year. We find that this elixir, which is a record of Paracelsus' egotism, has been recognized in our dispensatories and in the older pharmacopœias, with more or less alteration, even to the present day. Boerhaave gave five different processes for making it, each of which produced, in his opinion, a most potent remedy. As a curiosity, and to illustrate the wonderful properties attributed to these concoctions in those days, and to the virtues of which even such a chemist as Boerhaave could certify, we reproduce from his "Ele-

¹ Paracelsus undoubtedly borrowed freely from those who preceded him, and failed to credit them for such instruction. Good authorities trace the application of chemistry in the healing of diseases far back of the day of Paracelsus. "M. C. Clerc thinks there are indications of chemical medicines in Thaddeus the Florentine, who lived in the thirteenth century, in Albertus Magnus, Friar Bacon, and Isaac Hollandus. Helmont hastened pains to show that Basil Valentine was prior to Paracelsus by a hundred years" (*Boerhaave*). Of Basil Valentine the same author remarks: "He would seem to have been the first who applied chemistry to medicine; for after every preparation he never fails to give some medicinal use thereof. Paracelsus, Helmont, the elder Lemery, and many others of modern fame, owe a great part of what is valuable in them to this author; so that it is not without reason that he is judged the father of the modern chemists and the founder of the chemical pharmacy." "About the middle of the fifteenth century lived Basil Valentine, a German Benedictine monk, who led the way to the internal administration of metallic medicines by a variety of experiments on the nature of antimony" (*Dunglison*).

menta Chemiæ," which was published in 1724, the formula and uses of his

ELIXIR PROPRIETATIS WITH DISTILLED VINEGAR.

"Take choice aloes, saffron, and myrrh, of each half an ounce, cut and bruise them, put them into a tall bolt-head, pour twenty times their own weight of the strongest distilled vinegar thereon, let them simmer together in our little wooden furnace for twelve hours : now suffer the whole to rest, that the fæces may subside, and gently strain off the pure liquor through a thin linen ; put half the quantity of distilled vinegar to the remainder, boil and proceed as before, and throw away the fæces. Mix the two tinctures together, and distil with a gentle fire till the whole is thickened to a third ; keep the vinegar that comes over for the same use ; and what remains behind is the *Elixir Proprietatis*, made with distilled vinegar."

THE USES.

"Thus we obtain an acid, aromatic medicine, of great use in the practice of physic ; for when externally applied, it cleanses and heals putrid, sinuous, and fistulous old ulcers, defends the parts from putrefaction, and preserves them by a true embalming virtue ; it also heals ulcers, and cures gangrenes in the lips, tongue, palate, and jaws. It has the same effects in the first passages, when used internally, as often as putrefied matter, corrupted bile, concremented phlegm, worms, and numberless distempers proceeding from these four causes, are lodged or seated therein. Again, it has nearly the same effects in the blood and *viscera*, as may easily appear from knowing the virtues of the three ingredients when dissolved in a subtile vinegar. It is to be taken in a morning upon an empty stomach, at least twelve hours after eating ; it is given from a drachm to two or three for a dose in sweet wine or mead, or the like, walking after it, or having the belly gently rubbed. If taken in a larger dose, and with a somewhat cooler regimen, it always purges ; if in a less dose, and often repeated, it cleanses the blood by secreting thick urine ; and generally performs both these op-

erations successively. But if taken plentifully, while the patient is in bed and the body well covered, it acts as an excellent sudorific; and afterward usually purges, and proves diuretic, and thus becomes very useful: whence I conceive that this is the best acid *elixir proprietatis*, good in numerous cases, and at the same time safe.

“Paracelsus declared that an elixir made of aloes, saffron, and myrrh would prove a vivifying and preserving balsam, able to continue health and long life to the utmost possible limits; and hence he calls it by a lofty title ‘the elixir of propriety’ to man, but concealed the preparation, in which Helmont asserts the alchæst is required.”

Through the eighteenth century elixirs were numerous, and although their former alchemistic properties were cast aside, physicians seemed to attribute to them virtues scarcely less than those ascribed to the famous *elixir vitæ*. They were also surrounded with mysteries, and their compositions were most carefully concealed. Prominent physicians individualized themselves by attaching their names to tinctures of herbs extracted with spirit of wine, or with acid solutions, and these names have been handed down to us and are still in use. It must not be inferred, however, that these men gave their treasures openly to competitors, for we find that great care was employed to cover their processes and to conceal the constituents of these compounds, and at the present day we find it difficult to decide as to the authenticity of such as Daffey’s Elixir, Helmont’s Elixir, Mynsicht’s Elixir, Vigani’s Elixir, etc., etc. Indeed, many of the old works give several formulæ for preparing a single elixir, and often all the processes were impracticable. Thus we find that with each revision of the older pharmacopœias and dispensatories these formulæ have been altered and simplified, and as the outcome we refer to some of

our well-known tinctures, which have sprung from and are modifications of ancient elixirs :

ELIXIR SALUTIS gave us Compound Tincture of Senna.

ELIXIR PAREGORICUM gave us Camphorated Tincture of Opium.

ELIXIR PROPRIETATIS gave us Compound Tincture of Aloes.

ELIXIR STOMACHICUM gave us Compound Tincture of Gentian.

ELIXIR SACRUM gave us Tincture of Rhubarb and Aloes.

With one exception the name elixir has become obsolete with the foregoing tinctures, and that one, *paregoric*, will doubtless, in a moderate period of time, exist as a relic of history.

The elixir of the period we have just considered was in reality a compound tincture, or a modification of what we call a compound tincture. Hooper's Medical Dictionary of 1820 defines the elixir as "a term formerly applied to many preparations similar to compound tinctures." We find, also, that the old elixirs were disagreeable and bitter. There was no desire to render them pleasant; indeed, the aim seemed to be the concoction of mixtures as nauseating as possible, and the physician who could produce the nastiest, and which were followed by the most severe torture to the patient, was the best man. His motto might well have been—

"I puke, I purge, I sweat 'em,
And if they die, I let 'em."

In connection with this phase of the elixir question, we find that of the elixirs named in the "New Dispensatory," London, 1770, but one contained sugar or any form of sweetening, and that was simply mentioned as an obsolete preparation. This view of the elixir is still

prevalent in Europe, and the German Pharmacopœia of 1870 recognizes twelve preparations under the name of elixir, none of which are sweetened. The idea accepted in our country at the present time regarding what should be the attributes of an elixir is strictly an Americanism. The term *Cordial* would better define the sweetened and flavored pharmaceuticals which we shall now consider as

AMERICAN ELIXIRS.

The first of these preparations which the writer can recall was thrown upon the market in this city (Cincinnati) about 1862, under the name "Cordial Elixir of Calisaya."¹ It was of a beautiful red color, nicely flavored, and very pleasant to the taste, and it was the forerunner, or at least among the first, of the line of pharmaceuticals subsequently scattered so abundantly over our country and which are very familiar at the present day. Afterward the "Elixir of Calisaya and Pyrophosphate of Iron" appeared, and then "Calisaya, Pyrophosphate of Iron and Strychnine." Soon traveling agents for pharmaceutical houses began to court physicians and solicit them to specify particular brands when prescribing, thus necessitating duplicates upon the apothecaries' shelves of the same preparation, and about the year 1874 the elixir mania was at its height. The burden thus thrown upon our pharmacists was considerable—more in the aggregate than most of us can realize.

¹ The first published formula that I can find for any of this class of preparations under the name Elixir is the formula we give for Elixir of Calisaya by Mr. Alfred B. Taylor, from the *Journal of Pharmacy*, January, 1859. The *Druggists' Circular* of same date states that up to that time no formula for that preparation had been published.

Elixirs of the same name, and which should have been identical, were duplicated over and again in the same store, and each differed in appearance and flavor from all the others. If a prescription was filled with an elixir of calisaya prepared by one maker, it could not be re-filled with that of another, since such a course would render it liable to be returned by the purchaser as a different medicine from that obtained at first. Physicians of the highest reputation were accustomed to specify the brand of elixir desired, and the writer can remember that time and again he has hurried to distant portions of the city searching for an elixir of a particular make and which was not in stock, although several duplicates of what should have been the same preparation were on the shelves. In addition to the above-named aggravation, combinations, or rather associations, of substances incompatible under all ordinary conditions were advertised under the name elixir, and substances perfectly insoluble in the menstruum employed were represented as being dissolved; and to add to these questionable features, quinine and combinations of quinine were asserted to be in a soluble form and nearly tasteless. It is needless to consider this phase of the subject longer, for all are familiar with the result. The burden was too great; elixirs as a class were severely criticised, and many pharmacists and physicians included those which were worthy among those which were indifferent and bad. The reaction which followed was disastrous to the interests of the men who unintentionally brought it about (elixir manufacturers), for physicians ceased ordering elixirs of special make, and pharmacists threw their influence against the preparations compounded by manufacturers of these specialties. The writer aims simply to give

a brief synopsis of the history of the class of pharmaceuticals under consideration, and does not wish to argue in favor or against them; and the elixir of the present day has been reached.

Throughout this country the preparation of elixirs has generally passed from a few wholesale manufacturers into the hands of the many pharmacists. Quantities of elixirs are prescribed, but their preparation has extended over the entire country instead of being confined to a few localities. Physicians have their favorite elixirs and prescribe them, but these elixirs must, as a rule, be unquestionable. In many instances, however, incompatibles are undoubtedly brought together at the expense of the product, drugs insoluble in the menstruum are supposed to be represented by the resultant elixir, and tedious, roundabout methods are employed where simple, direct processes can be substituted. Before considering elixirs individually, it is but just to review their history during the past twenty years, for many pharmacists have not the necessary works at their command, and reference is constantly made to the action of the societies which considered them and the men who early made them a study.

The Committee on Unofficial Preparations appointed by the American Pharmaceutical Association, in 1870, was Professor J. Faris Moore, M.D., who included in his report to the Society (1871) a series of elixirs; and this was the first general recognition these preparations received from that body. In the year following the appointment of the committee (1871), Mr. Ottmar Eberbach read a volunteer paper before the Society at its meeting in Cleveland, Ohio, in which he gave the result of his analysis of several commercial elixirs. The

paper provoked considerable discussion, and resulted in the following :

“ Resolved, That a committee of five be appointed by the President, to take into consideration the subject of elixirs and similar unofficial preparations in all its bearings upon pharmacy, and, if deemed proper, to report suitable formulas for the guidance of the members of this Association.”

In 1872 Professor C. Lewis Diehl contributed an interesting paper on the elixir subject. It was read before the Louisville College of Pharmacy, and afterward published by the pharmaceutical journals, and by this means several admirable formulæ were introduced. Many of these processes are still used and accepted as standard, being preferred by pharmacists to those afterward offered as improvements. Next (1873), the committee appointed by the American Pharmaceutical Association made a minority report (including many formulæ), which was that of the chairman of the committee, Mr. J. F. Hancock, and which, after some discussion, was adopted, and the following resolutions were offered by Professor J. M. Maisch :

“ Resolved, That the report be adopted, with the recommendation that these formulas be used by the members of the Association, and that the Secretary be instructed to send a printed copy with the report to the medical societies of the United States, with the suggestion that physicians, if prescribing elixirs at all, prescribe only such formulas as have been adopted by this Association. The object is to attain, as nearly as possible, a uniformity in the United States.”

“ Resolved, That Mr. J. F. Hancock be appointed the Committee on Unofficial Formulas.”

At the meeting of the Society which followed in Louisville, Ky., 1874, the Committee on Unofficial Formu-

las failed to introduce elixirs. However, Mr. Ebert, of Chicago, presented a series of elixir formulæ, based upon those of Professor C. Lewis Diehl, and prepared by a committee under the supervision of the Chicago College of Pharmacy, and suggested that they be revised or adopted by the Society for general use. After an animated discussion, Mr. Peixotto offered a resolution, which, amended by Mr. Roberts, was adopted, as follows :

“ Resolved, That a committee of three be appointed, to whom shall be referred the formulas of elixirs presented by the Chicago College of Pharmacy, said committee to examine the formulas and carefully compare them with the formulas adopted at the last annual meeting, or which may be submitted to them, to modify any or all formulas if necessary, and to report to the next meeting.”

At the next meeting, 1875, the committee reported a number of formulæ, some differing from those previously adopted by the Society, others new. Since that time many formulæ have been introduced through the “ Report on the Progress of Pharmacy,” which is the portion of the Proceedings of the American Pharmaceutical Association devoted to a review of the advance of pharmacy during the year, but there has been no other official consideration of these preparations.

In reviewing the work to which we have referred, we shall simply say that in many instances experience has demonstrated that there are defects in the formulæ which may be overcome. It was not to be expected that the work of these committees could be perfect, and while from necessity we often deviate in manipulation from the formulæ offered by the committees, we feel that inasmuch as the proportions of the medicinal ingredients are

retained by us, our formulæ may be considered as answering the requirements of the American Pharmaceutical Association. Twelve, eleven, and eight years have passed since these committees successively reported, more than the time required between revisions of our Pharmacopœia, and doubtless the members of the committee have individually revised many of their processes, profiting by these years of experience and by the criticisms of others. In connection with the elixir question and the American Pharmaceutical Association, we must not overlook the valuable paper presented by Mr. R. W. Gardner at the meeting in Saratoga, 1880, and which embraces more formulæ than had elsewhere, to our knowledge, been compiled at that time, and to which we often refer in the work which follows. We must not overlook the series of formulæ adopted by the Newark Pharmaceutical Association, 1876, and those adopted by the Associated Committees of the National College of Pharmacy and the Medical Society of the District of Columbia. The formulæ recommended by both of these bodies were published in the various pharmaceutical journals and served a good purpose.

Compound elixirs have now multiplied until their number is such as to be burdensome. The problem regarding proportion of ingredients was one that early commanded our attention, and which we endeavored to systematize, in the absence of authority, so as to conform, if possible, to some general rule. The necessity for some such action may be illustrated as follows :

Elixir of phosphate of quinine contains one grain of quinine in each fluid drachm.

Elixir of pyrophosphate of iron contains two grains of pyrophosphate of iron in each fluid drachm.

What shall be the proportion of phosphate of quinine and of pyrophosphate of iron in each fluid drachm of elixir of phosphate of quinine and pyrophosphate of iron? Again,

Elixir of phosphate of quinine contains one grain of quinine in each fluid drachm.

Elixir of phosphate of cinchonidine contains one grain of cinchonidine in each fluid drachm.

Elixir of phosphate of cinchonine contains two grains of cinchonine in each fluid drachm.

What shall be the proportion of the several ingredients in the elixir of phosphate of quinine, cinchonidine, and cinchonine?

If each fluid drachm of this last elixir contains the amount of each ingredient which is present in the same amount of the simple elixir of that substance, we will have four grains of the combined alkaloids, an unreasonable quantity for a preparation of the character of an elixir.

In consequence of examples similar to those above named and which demanded some regular plan of procedure, if such could be devised, we have for many years attempted to systematize the matter, and our efforts have met with some success. In making compound elixirs, where it was possible, we have represented in each fluid drachm the aggregate amount of alkaloids which would be present were the several elixirs mixed together in equal quantities. We believe that, as a rule, under the conditions which confront us in the problem of compound elixirs, physicians desire the associated action of smaller amounts of the several ingredients rather than the full dose of each. It is true that, for obvious reasons, this rule cannot always be upheld, but

where it has been practicable we have endeavored to carry it out.

The proportion of strychnine in the elixirs of commerce has never been uniform, and even the men who seem to have made elixir formulæ a special consideration vary one from another. Some use one grain of strychnine to sixteen fluid ounces of the finished elixir, which is the one-hundred-and-twenty-eighth part of a grain to each fluid drachm, while others use severally one-hundredth, one-sixtieth, and one-fifty-first of a grain. Strychnine is far too violent and poisonous a substance for such a range of proportions, and in our opinion it is to be regretted that, even though ignoring elixirs as a class, our Committee upon Revision of the Pharmacopœia did not adopt some proportion which pharmacists could adopt in order to further a uniformity in these preparations. In our work we have accepted the report last adopted by the American Pharmaceutical Association on elixirs, and our standard is two and one-half grains of strychnine to sixteen fluid ounces of the finished elixir, which is equivalent to one-fifty-first of a grain in each fluid drachm. This we consider near enough to be called, in round numbers, *one-fiftieth* of a grain, and as we have not deviated from this proportion in the work which follows, wherever we use the expression "one-fiftieth of a grain," the foregoing proportion is understood.

In making solutions of strychnine, we convert it into a soluble salt by means of acetic acid. This forms a combination which in our experience is best for associating strychnine with the entire list of substances which are used to form the compound elixirs containing that alkaloid. In some instances the elixir in which the

strychnine is to be placed has an alkaline reaction and may decompose the salt, yet as the elixir contains some alcohol, and besides has as a menstruum a solvent action different from that of water, it does not necessarily follow that precipitation of the alkaloid will result. However, it is well to be cautious, and should a white flocculent precipitate occur in elixirs containing strychnine and which are alkaline in reaction, this precipitate should be considered as dangerous and care exercised in dispensing the elixir.

In all the formulæ where it is practicable we have introduced fluid extracts instead of crude drugs. This we consider advantageous for several reasons, and fluid extracts may now be readily obtained to represent nearly every plant used in medicine. In many instances we object to certain drugs under any consideration as the foundation of an elixir, and we have not hesitated to criticise freely where the medicinal principles of the drug cannot in our opinion be extracted or held in solution by the elixir. However, if the menstruum precipitates these principles from the fluid extract, it will probably refuse to extract them from the crude drug, so that little if any advantage will accrue in this direction from the use of the crude material. We vary from the methods employed by the committee appointed by the American Pharmaceutical Association regarding the manner of mixing a tincture or fluid extract with the menstruum. If they are mixed directly together, precipitation results immediately of much of such substances as are insoluble in the resultant menstruum. This produces a preparation which pharmacists and physicians refuse to accept as an elixir. True it is that these substances may be inert, and that filtration will separate them; yet the na-

ture of the case is such that filtration is only of temporary benefit, and even after several filtrations the precipitation continues. This trouble may be overcome to a great extent by following the old process for making medicated waters, that is, by triturating the fluid extract or tincture with magnesium carbonate, or with some other inert powder if this substance is inadmissible, after which the simple elixir is added and the mixture filtered. By this process the insoluble materials are separated at once, which is preferable to having the precipitation extend over days and weeks. Besides, the surface exposure caused by the trituration of the fluid extract with the magnesium carbonate may favor the saturation of the menstruum in the manner it does with essential oils under the same conditions.

We have adopted a simple elixir which practically agrees with that of our Pharmacopœia (1883), although the method of manipulation differs somewhat. We object to elixirs which contain cinnamon, caraway, coriander, cardamom, or cloves (unless used as aromatic elixirs), for many persons are prejudiced against certain of these substances, and it is not unusual to meet persons with whom the flavor of one of the foregoing is unbearable. The simple elixir should, in our opinion, be as nearly as possible pleasant to the majority of persons, and we have no record of an objection to the flavor of lemon or of orange, separate or combined. Our formula for simple elixir, therefore, associates these substances in such proportion as to produce a very acceptable and grateful combination, the orange preponderating.

When we consider that in the pages which follow we find processes for making 238 different elixirs, we are confronted with the fact that these elixirs alone would

fill the shelves of an ordinary store-room. The problem to be considered by pharmacists is that of finding the most convenient method which will enable them to dispense these combinations in a creditable manner without overstocking their shelves. This has been and is a consideration of pressing importance to the writer, and the trouble has been overcome, to a very great extent, by adopting a system which would permit the preparation of compound elixirs from those more simple, and in studying how to make the different elixirs from compatible ingredients. In many instances this is impossible without injury to the product, and yet, in the large majority of cases, pharmacists are able to extemporize and supply most demands from their stock of standard elixirs, which are those in most common use.

Some elixirs may be called permanent, but this term cannot be applied to the larger number. Associations of the alkaloids in acid solution only, or elixir of pyrophosphate of iron in alkaline solution, or others under certain conditions, might possibly be claimed as fairly permanent. However, the elixir of pyrophosphate of iron will decompose if exposed to the sunlight or even strongly diffused daylight, and it may gelatinize after a time if of acid reaction, while alterations will follow with the solutions of the alkaloids. Few organic bodies are permanent in solution containing far more alcohol than is permissible with the modern elixir, and in consequence many elixirs will alter in appearance, or even precipitate, if they contain the substances which are supposed to be present.

In reviewing the formulæ which follow, the reader may criticise the number of different elixirs presented. This, we admit, is a fault, but one beyond our control,

and some of the elixirs are seldom used, some are simple curiosities. This country is large, however, and if the reader will regard a certain preparation as one which should have been omitted, he may be surprised to learn that in other localities it is very much in demand. Time and again we have been surprised on learning of the local consumption of substances we scarcely thought commanded a sale, and upon the other hand, we have excited comment over certain preparations scarcely known to others and yet made by us in quantities. In connection with this phase of the subject we feel that our position is not that of a judge—a position occupied by certain committees—but that, as our subject is “elixirs,” it is our duty to consider them as a body.

We desire to call attention to the fact that it was our first intention to give the several processes and criticisms which have been made regarding each elixir introduced during the past twenty years. This proved to be impracticable, and we were forced to draw the line sharply. If the reader will select as an example any one of the prominent elixirs, and hunt up the reviews, different formulas, etc., regarding it which have appeared in the various pharmaceutical journals and the Proceedings of the American Pharmaceutical Association during that period, he will doubtless be astonished at the magnitude of the matter; and when it is remembered that recent years have given us several new and worthy pharmaceutical journals, and that elixirs are more or less considered by all of them, it will be seen that to give an intelligent and faithful *résumé* in a work like ours would be impracticable.

Our aim has been to credit those who introduced special combinations and the journals whose pages we con-

sulted to find their records, and if oversights have been made, as is likely, we assure the reader that they were unintentional.

In conclusion, we may say that we trust pharmacists will find our formulæ to present some advantages over a line of compilations, for they are not simply abstracts from the work that others have done.

ELIXIR FORMULÆ.

ELIXIR ADJUVANS.

Fluid Extract Orange Peel	$\frac{1}{2}$	fluid ounces
Fluid Extract Coriander.....	$\frac{1}{4}$	" "
Fluid Extract Caraway.....	$\frac{1}{4}$	" "
Fluid Extract Wild Cherry Bark	1	" "
Fluid Extract Liquorice Root.....	$1\frac{1}{2}$	" "
Simple Elixir.....	14	" "
Alcohol	$\frac{1}{2}$	" "
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and evaporate them to one-half their bulk, at a temperature not exceeding 150° Fah. Triturate the remaining liquid in a capacious mortar with carbonate of magnesium, in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol. The ingredients for this elixir were named in the *Druggists' Circular*, 1879.

ELIXIR OF BROMIDE OF AMMONIUM.

Bromide of Ammonium.....	640	grains
Simple Elixir.....	$15\frac{1}{2}$	fluid ounces

Dissolve the bromide of ammonium in the simple elixir, and filter if necessary.

Each teaspoonful of the finished elixir contains five grains of bromide of ammonium.

ELIXIR ALOES.

(COMPOUND TINCTURE OF ALOES.)

Aloes	3 troy ounces
Saffron	3 " "
Tincture Myrrh	2 pints

Reduce the drugs to a coarse powder and macerate in the alcohol for fourteen days, stirring the mixture thoroughly each day; then filter.

("The New Dispensatory," London, 1770.)

ELIXIR OF VALERIANATE OF AMMONIUM.

Valerianate of Ammonium	256 grains
Simple Elixir, Ammonia Water, Carmine Solution*, of each a sufficient quantity.	

Dissolve the valerianate of ammonium in twelve fluid ounces of simple elixir, and bring this to the measure of sixteen fluid ounces by the addition of a sufficient amount of simple elixir. Then cautiously add ammonia water until in slight excess, and color with solution of carmine until decidedly red. Each fluid drachm (teaspoonful) of the finished elixir represents two grains of valerianate of

*SOLUTION OF CARMINE.—This preparation has been used some twelve years by the writer, in preference to any "tincture" of cochineal. The fat in cochineal causes such preparations to putrefy in warm weather; and to extract the fat by means of ether from the powdered cochineal, previous to tincturing, is expensive and tedious. The term "tincture of cochineal" is scarcely appropriate, as applied to the aqueous solutions made of cochineal, cream of tartar and alum, and as the object is simply to secure a coloring matter, the term might with equal propriety be applied to our solution of carmine, made as follows:

Carmine, No. 40,	60 grains
Distilled Water, Glycerin, of each,	4 fluid ounces
Ammonia Water, a sufficient quantity.	

Powder the carmine and triturate with the water, gradually adding ammonia water, until the carmine disappears and a dark red liquid, free from insoluble matter, remains. To this add the glycerine, and mix. Should this solution ever become murky, a little ammonia water will restore its transparency.

Solution of carmine is necessarily alkaline, and can not be employed to color acid liquids. For all neutral or alkaline solutions it is admirable, and for soda water syrups is far preferable to aniline red.

ammonium, the same as that adopted by the American Pharmaceutical Association, 1873.

Valerianate of ammonium, especially if the valerianic acid is in excess, has, to most persons, a very offensive odor. This the addition of the ammonia water tends to subdue, but wherever valerianate of ammonium is free, or in aqueous solution, the odor will remain. If dissolved in officinal alcohol, however, it is scarcely apparent, but such a solution will not conform to our modern "elixir." The addition of water to the alcoholic solution revives the odor.

The history of this elixir is of interest, since it was among the first of the popular elixirs introduced, and has retained its prestige to the present day. In an essay by Mr. Trovillo H. K. Enos, read before the Maryland College of Pharmacy, 1861, the statement is made that "a preparation known as Pierlot's solution of Valerianate of Ammonium has long been used among physicians in Philadelphia; but the disagreeable taste and odor of the solution having been found objectionable to patients, the pharmacists have been led to suggest some mode of disguising both, and presenting the preparation in an agreeable form for administration, without materially altering its effect; and the form of an elixir has been adopted." Mr. Enos then gave his formula, which was as follows:

Valerianic Acid	1 fluid drachm
Simple Syrup	1 fluid ounce
Extract of Sweet Orange Peel	2 fluid drachms
Alcohol	1 fluid ounce
Orange Flower water	½ fluid ounce
Distilled water, Carbonate of Ammonium, of each a sufficient quantity.	

Dilute the valerianic acid with one-half fluid ounce of water, and neutralize it with the carbonate of ammonium, add the alcohol, having

previously mixed it with the fluid extract of orange peel, and then add the other ingredients, and filter.

In the year 1863 Mr. Joseph Roberts accepted a query in the American Pharmaceutical Association, as follows : "What is the best formula for Elixir of Valerianate of Ammonium, which shall be nearly free from valerianic odor, and elegantly aromatized?" Having failed to reply, in 1865 Mr. J. Faris Moore gave a formula to the Society, which in substance agreed with that of Mr. Enos, the principle being the formation of valerianate of ammonium from valerianic acid, by saturating it with carbonate of ammonium. At this day valerianate of ammonium is employed instead of the valerianic acid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONIDINE.

(ELIXIR OF VALERIANATE OF AMMONIA WITH CINCHONIDIA.)

Cinchonidine (Alkaloid) 128 grains
Elixir of Valerianate of Ammonium, Acetic Acid, of
each a sufficient quantity.

Triturate the cinchonidine in a mortar with acetic acid, in amount sufficient to effect its solution, and add to this liquid elixir of valerianate of ammonium until the product measures sixteen fluid ounces. If not of acid reaction, add cautiously acetic acid until it will redden blue litmus paper*, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, and one grain of cinchonidine, as the acetate of that alkaloid.

* All of the combinations of valerianate of ammonium and the alkaloids in elixir form should have an acid reaction. It is, therefore, to be understood with the formulæ of this character which follow, that in case the elixir is alkaline it must be acidulated with acetic acid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONIDINE AND CINCHONINE.

(ELIXIR OF VALERIANATE OF AMMONIA WITH CINCHONIDIA AND CINCHONIA.)

Elixir of Valerianate of Ammonium with Cinchonidine	8 fluid ounces
Elixir of Valerianate of Ammonium with Cinchonine	8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium and a half-grain each of cinchonidine and cinchonine as acetates of these alkaloids.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONIDINE, CINCHONINE AND STRYCHNINE.

(ELIXIR OF VALERIANATE OF AMMONIA WITH CINCHONIDIA, CINCHONIA AND STRYCHNIA.)

Elixir of Valerianate of Ammonium with Cinchonidine	8 fluid ounces
Elixir of Valerianate of Ammonium with Cinchonine	8 " "
Strychnine	2½ grains
Acetic Acid, a sufficient quantity.	

Triturate the strychnine in a mortar with acetic acid, in amount sufficient to effect its solution, and add the elixirs, having previously mixed them together. Filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one-half grain each of cinchonidine and cinchonine, and one-fiftieth grain of strychnine. The alkaloids are in form of acetates.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONIDINE AND PYROPHOSPHATE OF IRON.

(ELIXIR OF VALERIANATE OF AMMONIA WITH CINCHONIDIA AND IRON.)

Elixir of Valerianate of Ammonium with Cinchonidine	8 fluid ounces
Elixir of Valerianate of Ammonium with Pyrophosphate of Iron.....	8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one grain of pyrophosphate of iron and one-half grain of cinchonidine, the latter in the form of an acetate.

CAUTION.—Excess of acid will cause the pyrophosphate of iron to gelatinize. Excess of alkali precipitates the cinchonidine. The elixir should be made as nearly neutral as possible, and remain transparent, by the use of acetic acid and ammonia water, as indicated by litmus paper.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONIDINE, PYROPHOSPHATE OF IRON AND STRYCHNINE.

(ELIXIR OF VALERIANATE OF AMMONIA, CINCHONIDIA, IRON AND STRYCHNIA.)

Elixir of Valerianate of Ammonium with Cinchonidine	8 fluid ounces
Elixir of Valerianate of Ammonium with Pyrophosphate of Iron.....	8 " "
Strychnine	2½ grains
Acetic Acid, a sufficient quantity.	

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and add this to the elixirs, having previously mixed them together. Use precautions suggested with elixir of valerianate of ammonium with cinchonidine and pyrophosphate of iron.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one-half

grain of pyrophosphate of iron, one-half grain of cinchonidine, and one-fiftieth grain of strychnine. The alkaloids exist as acetates.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONINE.

(ELIXIR OF VALERIANATE OF AMMONIA WITH CINCHONIA.)

Cinchonine (Alkaloid).....128 grains
 Elixir of Valerianate of Ammonium, Diluted Acetic
 Acid, of each a sufficient quantity.

Triturate the cinchonine in a mortar, with the acetic acid in amount sufficient to effect its solution, and mix with this elixir of valerianate of ammonium, until the product measures sixteen fluid ounces. If not of acid reaction, add cautiously acetic acid until it will redden litmus paper, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, and one grain of cinchonine, as the acetate of that alkaloid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONINE AND PYROPHOSPHATE OF IRON.

(ELIXIR OF VALERIANATE OF AMMONIA, CINCHONIA AND IRON.)

Elixir of Valerianate of Ammonium with Cinchonine. 8 fluid ounces
 Elixir of Valerianate of Ammonium with Pyrophosphate of Iron.....8 “ “

Mix them together. Use precautions suggested with elixir of valerianate of ammonium with cinchonidine and pyrophosphate of iron.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one

grain of pyrophosphate of iron, and one-half grain of cinchonine, as the acetate of that alkaloid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONINE, PYROPHOSPHATE OF IRON AND STRYCHNINE.

(ELIXIR OF VALERIANATE OF AMMONIA, CINCHONIA, IRON AND STRYCHNIA.)

Elixir of Valerianate of Ammonium with Cinchonine and Pyrophosphate of Iron.....16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and then add the elixir of valerianate of ammonium with cinchonine and pyrophosphate of iron. Observe precautions suggested with elixir of valerianate of ammonium with cinchonidine and pyrophosphate of iron.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one grain of pyrophosphate of iron, one-half grain of cinchonine, and one-fiftieth of a grain of strychnine. The alkaloids exist as acetates. This preparation should be as nearly neutral in reaction as it is possible to make it.

ELIXIR OF VALERIANATE OF AMMONIUM WITH CINCHONINE AND STRYCHNINE.

(ELIXIR OF VALERIANATE OF AMMONIA, CINCHONIA AND STRYCHNIA.)

Elixir of Valerianate of Ammonium with Cinchonine.....16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution, then add the

elixir of valerianate of ammonium with cinchonine, and filter if necessary. If not of acid reaction, acidulate slightly with acetic acid.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one grain of cinchonine, and one-fiftieth of a grain of strychnine, as the acetate of that alkaloid.

**ELIXIR OF VALERIANATE OF AMMONIUM WITH
PYROPHOSPHATE OF IRON.**

(ELIXIR OF VALERIANATE OF AMMONIA AND IRON.)

Elixir of Valerianate of Ammonium.....8 fluid ounces
Elixir of Pyrophosphate of Iron.....8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of valerianate of ammonium and of pyrophosphate of iron. It should have a slightly alkaline reaction.

ELIXIR OF VALERIANATE OF AMMONIUM AND QUININE.

Quinine (Alkaloid).....128 grains
Elixir of Valerianate of Ammonium, Diluted Acetic Acid,
of each a sufficient quantity.

Triturate the quinine in a mortar, with a sufficient amount of the acetic acid to effect its solution, then mix the liquid with enough elixir of valerianate of ammonium to produce sixteen fluid ounces. If not of acid reaction, add acetic acid until it will change the color of blue litmus paper to red.

Each fluid drachm (teaspoonful) of the finished elixir

contains two grains of valerianate of ammonium, and one grain of quinine, as the acetate of that alkaloid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH QUININE AND CINCHONIDINE.

(ELIXIR OF VALERIANATE OF AMMONIA WITH QUINIA AND CINCHONIDIA.)

Elixir of Valerianate of Ammonium and Quinine.....8 fluid ounces
 Elixir of Valerianate of Ammonium and Cinchonidine.....8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, and one-half grain each of quinine and cinchonidine, as acetates of these alkaloids.

ELIXIR OF VALERIANATE OF AMMONIUM WITH QUININE, CINCHONIDINE AND STRYCHNINE.

(ELIXIR OF VALERIANATE OF AMMONIA, QUINIA, CINCHONIDIA AND STRYCHNIA.)

Strychnine..... $2\frac{1}{2}$ grains
 Elixir of Valerianate of Ammonium with Quinine
 and Cinchonidine.....16 fluid ounces
 Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution, then mix with the elixir of valerianate of ammonium with quinine and cinchonidine.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one-half grain each of quinine and cinchonidine, and one-fiftieth of a grain of strychnine. The alkaloids are in the form of acetates.

**ELIXIR OF VALERIANATE OF AMMONIUM WITH QUI-
NINE, CINCHONIDINE, PYROPHOSPHATE
OF IRON AND STRYCHNINE.**

(ELIXIR OF VALERIANATE OF AMMONIA, QUINIA, CINCHONIDIA, IRON AND STRYCHNIA.)

**Elixir of Valerianate of Ammonium with Quinine and
Pyrophosphate of Iron.....8 fluid ounces**
**Elixir of Valerianate of Ammonium with Cinchoni-
dine and Pyrophosphate of Iron.....8 fluid ounces**
Strychnine2½ grains

Triturate the strychnine in a mortar, with acetic acid in sufficient quantity to effect its solution, and add this to the elixirs, having previously mixed them together; and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one-fourth grain each of quinine and cinchonidine, one grain of pyrophosphate of iron, and one-fiftieth grain of strychnine. The alkaloids exist as acetates. This elixir should be as nearly neutral as it is possible to make it.

**ELIXIR OF VALERIANATE OF AMMONIUM WITH QUI-
NINE AND CINCHONINE.**

(ELIXIR OF VALERIANATE OF AMMONIA WITH QUINIA AND CINCHONIA.)

Elixir of Valerianate of Ammonium and Quinine....8 fluid ounces
Elixir of Valerianate of Ammonium with Cinchonine.8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, and one-half grain each of quinine and cinchonine, as acetates of these alkaloids.

ELIXIR OF VALERIANATE OF AMMONIUM WITH QUININE, CINCHONINE AND STRYCHNINE.

(ELIXIR OF VALERIANATE OF AMMONIA, QUINIA AND STRYCHNIA.)

Elixir of Valerianate of Ammonium with Quinine
and Cinchonine 16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and add this to the elixir of valerianate of ammonium with quinine and cinchonine.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one-half grain each of quinine and cinchonine, and one-fiftieth of a grain of strychnine. The alkaloids exist as acetates.

ELIXIR OF VALERIANATE OF AMMONIUM WITH QUININE AND PYROPHOSPHATE OF IRON.

(ELIXIR OF VALERIANATE OF AMMONIA WITH QUINIA AND IRON.)

Elixir of Valerianate of Ammonium with Quinine.... 8 fluid ounces
Elixir of Valerianate of Ammonium with Pyrophosphate of Iron..... 8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium and one-half grain each of pyrophosphate of iron and quinine. Observe the precautions suggested with elixir of valerianate of ammonium with cinchonidine and pyrophosphate of iron.

**ELIXIR OF VALERIANATE OF AMMONIUM WITH QUI-
NINE, PYROPHOSPHATE OF IRON
AND STRYCHNINE.**

(ELIXIR OF VALERIANATE OF AMMONIA, QUINIA, IRON AND STRYCHNIA.)

Elixir of Valerianate of Ammonium with Quinine
and Pyrophosphate of Iron.....16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and mix this liquid with the elixir of valerianate of ammonium with quinine and pyrophosphate of iron, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one-half grain each of quinine and pyrophosphate of iron, and one-fiftieth of a grain of strychnine, the alkaloids being in the form of acetates. Observe the precautions suggested with elixir of valerianate of ammonium with cinchonidine and pyrophosphate of iron.

**ELIXIR OF VALERIANATE OF AMMONIUM WITH QUI-
NINE AND STRYCHNINE.**

Elixir of Valerianate of Ammonium and Quinine...16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and mix this liquid with the elixir of valerianate of ammonium.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, one grain of quinine, and one-fiftieth of a grain of strychnine, as an acetate of that alkaloid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH STRYCHNINE.

Elixir of Valerianate of Ammonium.....16 fluid ounces
 Strychnine..... 2½ grains
 Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution, and mix this with the elixir of valerianate of ammonium. If not of acid reaction, add enough acetic acid to change blue litmus paper to red.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of valerianate of ammonium, and one-fiftieth of a grain of strychnine as an acetate of that alkaloid.

ELIXIR OF VALERIANATE OF AMMONIUM WITH SUMBUL.

(ELIXIR OF VALERIANATE OF AMMONIA WITH MUSK ROOT.)

Fluid Extract of Sumbul..... 2 fluid ounces
 Elixir of Valerianate of Ammonium.....14 " "
 Carbonate of Magnesium, a sufficient quantity.

Triturate the fluid extract of sumbul in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the elixir of valerianate of ammonium, stirring well, and filter.

Each fluid drachm of the finished elixir represents two grains of valerianate of ammonium, and according to this formula each fluid drachm should contain the active principles of seven and a half minims of fluid extract of sumbul. But, as a matter of fact, that amount will not dissolve in that quantity of the menstruum, the excess remaining in the filter paper.

ELIXIR ANTIGLAIREUX.

(ELIXIR FOR GLENORRHŒA. LAVOLLEY'S PURGATIVE ELIXIR. TINCTURA PURGAS.
TINCTURA JALAPÆ COMPOSITAS.)

Jalap	8 troy ounces
Turpeth Root.....	1 " "
Scammony	2 " "
Diluted Alcohol.....	96 fluid ounces

Mix the drugs and reduce them to a coarse powder, and macerate this in the diluted alcohol for ten days, stirring the mixture thoroughly each day; then filter.

(American Journal of Pharmacy, 1881.)

ELIXIR ANTIGOUTTEUX DE VILLETTE.

(DE VILLETTE'S GOUT ELIXIR.)

Brown Cinchona Bark	25 troy ounces
Poppy Petals.....	12½ " "
Sassafras Bark	6¼ " "
Guaiaac Resin.....	12½ " "
Jamaica Rum	62½ pints
Syrup of Sarsaparilla.....	39 "

Mix the drugs and reduce them to a coarse powder, and macerate in the previously mixed Jamaica rum and syrup of sarsaparilla for fourteen days, stirring the mixture thoroughly each day; then filter.

(HAGER.—See New Remedies, 1878.)

AROMATIC ELIXIR.

Fluid Extract of Sweet Orange Peel.....	½	fluid ounces
Fluid Extract of Coriander Seed	¼	“ “
Fluid Extract of Angelica Seed	¼	“ “
Simple Elixir.....	16	“ “
Carmine Color, Carbonate of Magnesium, of each a sufficient quantity.		

Mix the fluid extracts and triturate them in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, add solution of carmine enough to give a nice red color.

This elixir is used as a flavor, and may be used instead of simple elixir if desired, as it is acceptable to many persons. The Newark Pharmaceutical Association (1871) recommended a formula on which the above is based.

ELIXIR OF IODIDE OF ARSENIC AND MERCURY

Solution of Iodide of Arsenic and Mercury (Donovan's Solution).....	256	minims
Simple Elixir, a sufficient quantity.		

Mix the solution of iodide of arsenic and mercury with enough simple elixir to produce sixteen fluid ounces.

Each fluid drachm of the finished elixir contains two minims of solution of iodide of arsenic and mercury. Dose, one fluid drachm (teaspoonful), increased carefully to two or three fluid drachms, if necessary.

ELIXIR OF BEEF.

Extract of Beef.....	256	grains
Simple Elixir	15	fluid ounces
Distilled Water.....	$\frac{1}{2}$	" "

Triturate the extract of beef with the water, then gradually add the simple elixir, and filter.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of extract of beef. This formula was based on one given in the *Druggists' Circular*, 1878.

ELIXIR OF BEEF AND CITRATE OF IRON.

(ELIXIR OF BEEF AND IRON.)

Elixir of Beef	16	fluid ounces
Water.....	$\frac{1}{2}$	" "
Citrate of Iron and Ammonium.....	128	grains

Dissolve the citrate of iron in the water, add the elixir of beef, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of extract of beef and one grain of citrate of iron.

This preparation is far from permanent. It deposits a precipitate by age, which evidently results from the reaction between the chloride of sodium, present in large amount in the beef extract, and the citrate of iron. The substitution of chloride of iron for the citrate might prove advantageous, but the demand is for an elixir of beef with citrate of iron.

ELIXIR OF BEEF, IRON AND CINCHONA.

Elixir of Beef with Citrate of Iron	8 fluid ounces
Elixir of Cinchona (Alkaloidal)	8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of extract of beef and represents two grains of officinal calisaya bark.

ELIXIRS CONTAINING AMMONIO-CITRATE OF BISMUTH.

Ammonio-citrate of bismuth is not always entirely soluble in water, owing to the fact that it parts with ammonia and assumes a partially insoluble condition. It is well, therefore, to remember that a little ammonia water will facilitate the complete solution of ammonio-citrate of bismuth, unless the decomposition has proceeded beyond a certain limit.

In consideration of the above fact, elixirs containing excess of acids are incompatible with it, and the same is true of solutions of salts of the mineral acids. However, excess of acetic acid does not decompose it immediately, and salts of acetic acid are compatible with solutions of ammonio-citrate of bismuth, which is one reason why we use acetic acid in making solutions of alkaloids.

If an elixir containing ammonio-citrate of bismuth in connection with pepsin is not alkaline in reaction, or at least neutral, decomposition of the salt results, followed by precipitation. If it is alkaline, destruction of the pepsin follows.

If an elixir containing ammonio-citrate of bismuth and salts of the alkaloids is alkaline, the alkaloids are likely to precipitate; and if acid, precipitation results from decomposition of the bismuth salt. These incompatibles can only be associated by carefully avoiding any considerable excess of either acid or alkali. The alkali to

be used in order to effect neutralization is ammonia water, and the acid, acetic acid.

We call attention occasionally to the above facts, in connection with special combinations which we are forced to consider, and we trust that the repetition will be excused, as we prefer to repeat rather than omit a word of warning where it may be necessary.

ELIXIR OF CITRATE OF AMMONIUM AND BISMUTH.

(ELIXIR OF AMMONIO-CITRATE OF BISMUTH. ELIXIR OF BISMUTH.)

Ammonio-Citrate of Bismuth256 grains
Simple Elixir, Ammonia Water, of each a sufficient quantity.

Dissolve the ammonio-citrate of bismuth in twelve fluid ounces of simple elixir, adding cautiously enough ammonia water to render the solution slightly alkaline, then bring to the measure of sixteen fluid ounces by the addition of a sufficient quantity of simple elixir.

Each fluid drachm (teaspoonful) of the finished elixir represents two grains of ammonio-citrate of bismuth, and is the same in strength as that adopted by the American Pharmaceutical Association, 1875. During warm weather the ammonia escapes to a greater or less extent from solutions of ammonio-citrate of bismuth; hence the addition of the ammonia water in order to insure a perfect solution. Should this elixir become cloudy from escape of ammonia, the addition of a little ammonia water will restore its transparency. It is incompatible with acids and salts of the mineral acids. The first formula brought to our attention, for an elixir of bismuth, was by Mr. Wm. C. Bakes, in the *American Journal of Pharmacy*, 1867.

ELIXIR OF CITRATE OF AMMONIUM AND BISMUTH WITH PYROPHOSPHATE OF IRON.

(ELIXIR OF AMMONIO-CITRATE OF BISMUTH AND PYROPHOSPHATE OF IRON. ELIXIR
OF BISMUTH AND IRON. ELIXIR OF BISMUTH FERRATED.
ELIXIR OF IRON AND BISMUTH.)

Elixir of Citrate of Ammonium and Bismuth.....8 fluid ounces
Elixir of Pyrophosphate of Iron.....8 “ “

Mix them together.

Each teaspoonful of the finished elixir contains one grain each of ammonio-citrate of bismuth and of pyrophosphate of iron. This elixir should have an alkaline reaction.

ELIXIR OF CITRATE OF AMMONIUM AND BISMUTH WITH PEPSIN.

(ELIXIR OF AMMONIO-CITRATE OF BISMUTH AND PEPSIN. ELIXIR OF BISMUTH AND
PEPSIN. ELIXIR OF PEPSIN AND BISMUTH.)

Elixir of Citrate of Ammonium and Bismuth.....8 fluid ounces
Elixir of Pepsin.....8 “ “

Mix them together, and if of acid reaction, cautiously add ammonia water until it is neutral or slightly alkaline.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of pepsin and citrate of ammonium and bismuth.

This preparation, we believe, is indebted for its value to the bismuth salt and alcohol. We doubt if the pepsin retains any of its digestive power, and in connection with the subject we direct attention to our remarks concerning pepsin.

ELIXIR OF CITRATE OF AMMONIUM AND BISMUTH WITH PEPSIN AND STRYCHNINE.

(ELIXIR OF AMMONIO-CITRATE OF BISMUTH, PEPSIN AND STRYCHNIA. ELIXIR OF
PEPSIN, BISMUTH AND STRYCHNIA.)

Elixir of Citrate of Ammonium and Bismuth with

Pepsin.....	16 fluid ounces
Strychnine.....	2½ grains
Acetic Acid, a sufficient quantity.	

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution, and then add the elixir of citrate of ammonium and bismuth with pepsin. If of acid reaction, cautiously add ammonia water until it is neutral or even slightly alkaline.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of pepsin and ammonio-citrate of bismuth, and one-fiftieth grain of strychnine.

The remarks we have made concerning strychnine and pepsin, in their respective positions, will apply with pertinence to this preparation, and although this elixir embraces a mass of incongruities, it is among the most popular elixirs used by physicians. Were it not for this fact the combination should not have a position in our book.

ELIXIR OF CITRATE OF AMMONIUM AND BISMUTH WITH STRYCHNINE.

(ELIXIR OF AMMONIO-CITRATE OF BISMUTH AND STRYCHNIA. ELIXIR OF BISMUTH
AND STRYCHNIA.)

Elixir of Citrate of Ammonium with Bismuth.....	16 fluid ounces
Strychnine	2½ grains
Acetic Acid, a sufficient quantity.	

Triturate the strychnine in a mortar, cautiously adding acetic acid until the alkaloid is dissolved, then add the elixir of citrate of ammonium with bismuth.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of citrate of ammonium and bismuth, and about one-fiftieth of a grain of strychnine as the acetate of that alkaloid.

Strychnine is incompatible with alkaline solutions, and if a precipitate should occur while the elixir has an alkaline reaction, care must be taken that this precipitate is thoroughly mixed with the liquid before each dose is administered. Inasmuch as the ammonio-citrate of bismuth is incompatible with an acid, this elixir must have an alkaline or at least a neutral reaction. However, although two and one-half grains of strychnine refuses to dissolve in sixteen fluid ounces of water, it seems that the menstruum composing this elixir has the property of holding in solution the strychnine, even though it (the elixir) is alkaline, and thus the general incompatibility of the constituents is overcome.

BITTER ELIXIR.

(ELIXIR AMARUM.)

Extract of Buck-bean 2 troy ounces
Extract of Orange Peel 2 " "

Dissolve them in a mixture of—

Diluted Alcohol 16 troy ounces
Peppermint Water 16 " "

And add of—

Spirit of Ether (Hoffman's Anodyne) 1 troy ounce

This formula is that of the German Pharmacopœia, 1872.

ELIXIR OF BLACKBERRY.

Fluid Extract of Blackberry.....	2	fluid ounces
Simple Elixir.....	14	" "
Alcohol	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of blackberry in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents seven and one-half minims of fluid extract of blackberry. A formula for this elixir, containing blackberry-root, cinnamon and cloves, was suggested in the *Druggists' Circular*, 1880.

ELIXIR OF BOLDO.

Fluid Extract of Boldo.....	4	fluid ounces
Simple Elixir	12	" "
Alcohol.....	2	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of boldo with carbonate of magnesium sufficient to produce a creamy mixture, then gradually add the simple elixir, filter, and add the alcohol.

Verne recommended an elixir of boldo in the *Pharmaceutical Journal and Transactions*, but as the virtues of boldo are imperfectly extracted by an aqueous liquid, we do not admire such a preparation. According to this formula each fluid drachm should contain the active principles of seven and a half minims of fluid extract of boldo. But, as a matter of fact, that amount will not dissolve in that quantity of the menstruum, the excess remaining in the filter paper.

ELIXIR OF BRANDY.

Nutmegs	40	grains
Cardamon	60	"
Rhubarb	60	"
Lavender Flowers	60	"
Cinnamon	60	"
Ginger	60	"
Powdered Extract of Liquorice.....	360	"
Brandy.....	16	fluid ounces
Water.....	8	" "

Mix the drugs and reduce them to a coarse powder and macerate this in the mixed brandy and water for fourteen days, stirring the mixture thoroughly each day; then filter. It may also be prepared by percolation.

This elixir was once sold as a proprietary remedy, under the name, "Dr. Butler's Elixir of Brandy." We are informed, however, by a writer in the *Druggists' Circular* (1858), that Dr. Butler was a "fictitious character," coined by a couple of young men who made a sale for "Dr. Butler's Medicines."

ELIXIR OF BUCHU.

Fluid Extract of Buchu.....	2	fluid ounces
Simple Elixir	16	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of buchu with carbonate of magnesium in sufficient amount to form a creamy mixture, then gradually add the simple elixir, and filter.

According to this formula each fluid drachm should contain the active principles of seven and a half minims of fluid extract of buchu. But, as a matter of fact, that amount will not dissolve in that quantity of the menstruum, the excess remaining in the filter paper. In

our opinion, fluid extract of buchu should be made with alcohol of the specific gravity 0.820, and the addition of water lessens its value as a menstruum for extracting buchu and retaining its desirable principles, in proportion to the amount of water added. Hence it is that the elixir of buchu is inferior to an equivalent amount of the fluid extract of buchu used in making it, providing the fluid extract was reputable.

ELIXIR OF CITRATE OF CAFFEINE.

Citrate of Caffeine.....	64	grains
Simple Elixir	16	fluid ounces

Dissolve the citrate of caffeine in the simple elixir, and filter if necessary.

The above is from the *Druggists' Circular*, 1878.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain of citrate of caffeine.

ELIXIR OF BROMIDE OF CALCIUM.

Bromide of Calcium.....	640	grains
Simple Elixir	15½	fluid ounces

Dissolve the bromide of calcium in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains five grains of bromide of calcium. This proportion was recommended by Robert W. Gardner, 1880.

ELIXIR OF IODO-BROMIDE OF CALCIUM.

This is private property. Under the above name a preparation has been introduced and extensively advertised, and through courtesy to the rightful owners we refrain from interfering.

ELIXIR OF MONO-BROMATED CAMPHOR.

Mono-Bromated Camphor.....	128	grains
Simple Elixir	15	fluid ounces
Alcohol.....	1	" "

Dissolve the mono-bromated camphor in the alcohol, and stir this solution slowly in the simple elixir.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of mono-bromated camphor. Mr. T. Mundy, of Paris, has recommended an elixir of mono-bromated camphor containing nine grains in fifteen fluid drachms, but the amount of alcohol is very great. However, as alcohol is the best common solvent for this substance, we prefer a simple alcoholic solution to an elixir, as the water present in the elixir favors precipitation.

ELIXIR CAMPHOR MONO-BROMATED, COMPOUND.

Butyl Chloral	3	grains
Essence of Cinnamon.....	1½	drachms

Dissolve the butyl chloral in the essence of cinnamon and add —

Tincture of Gelsemium.....	10	minims
Simple (Red) Elixir.....	1½	fluid drachms
Simple Syrup, a sufficient quantity, to make....	1	fluid ounce

Then triturate two grains of mono-bromated camphor and dissolve in the above liquid.

According to the *Pharmaceutical Journal and Transactions*, this elixir is often prescribed in Paris.

Each fluid drachm contains about one-third grain of butyl chloral, one minim of tincture of gelsemium, and one-fourth grain of mono-bromated camphor.

COMPOUND CATHARTIC ELIXIR.

Simple Elixir.....	14 fluid ounces
Fluid Extract of Rhubarb.....	2 " "
Sulphate of Magnesium.....	2 troy ounces
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of rhubarb in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, having previously dissolved in it the magnesium sulphate; stir well, and filter.

Each fluid drachm of the finished elixir represents seven and one-half minims of fluid extract of rhubarb and contains seven and one-half grains of magnesium sulphate.

In the year 1876 an anonymous correspondent furnished the *Druggists' Circular* with a mixture for making the above elixir. It was much more complex and presented no advantages over our formula.

ELIXIR OF WILD CHERRY.

Fluid Extract of Wild Cherry.....	2 fluid ounces
Simple Elixir	14 " "
Alcohol.....	½ " "
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of wild cherry in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir will contain the medicinal principles of seven and one-half grains of wild cherry bark.

ELIXIR OF WILD CHERRY WITH CHLORIDE OF IRON AND CITRATE OF AMMONIUM.

(ELIXIR OF WILD CHERRY AND CHLORIDE OF IRON. FERRATED ELIXIR OF WILD CHERRY.)

Elixir of Wild Cherry	16	fluid ounces
Tincture of Chloride of Iron	$\frac{1}{2}$	" "
Solution of Citrate of Ammonium	$\frac{1}{2}$	" "

Mix the tincture of chloride of iron with the solution of citrate of ammonium, and add this to the elixir of wild cherry.

Each fluid drachm (teaspoonful) of the finished elixir contains seven and one-half minims of fluid extract of wild cherry, and about two minims of tincture of chloride of iron.

This formula is based upon Mr. J. Creuse's experiments with "tasteless chloride of iron," and to him we are indebted for the improved process (citrate of ammonium mixed with chloride of iron) for associating iron with vegetable astringents. Should the foregoing produce an inky liquid, increase the amount of solution of citrate of ammonium. Since fluid extracts vary, the proportion of our formula is sometimes incorrect.

ELIXIR OF HYDRATE OF CHLORAL. . . .

(ELIXIR OF CHLORAL.)

Chloral Hydrate	640	grains
Simple Elixir	15 $\frac{1}{2}$	fluid ounces

Dissolve the chloral hydrate in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains five grains of hydrate of chloral, which is one-half the amount present in syrup of chloral of the British Pharmacopœia.

ELIXIR OF CIMICIFUGA.

(ELIXIR OF MACROTYS.)

Fluid Extract of <i>Cimicifuga</i>	2	fluid ounces
Simple Elixir	14	“ “
Alcohol.....	½	“ “
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of *cimicifuga* in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir should contain seven and a half minims of fluid extract of *cimicifuga*. But, as a matter of fact, that amount will not dissolve in that quantity of the menstruum, the excess remaining in the filter paper. The remarks we make concerning elixir of *grindelia robusta* apply with equal pertinence to this.

COMPOUND ELIXIR OF CIMICIFUGA.

(COMPOUND ELIXIR OF MACROTYS. COMPOUND ELIXIR OF BLACK COHOSH.)

Fluid Extract of <i>Cimicifuga</i>	4	fluid ounces
Fluid Extract of Wild Cherry Bark.....	2	“ “
Fluid Extract of Liquorice	1	“ “
Fluid Extract of Senega	1	“ “
Fluid Extract of <i>Ipecac</i>	½	“ “
Simple Elixir.....	13	“ “
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts together and evaporate the mixture to three fluid ounces. Triturate this in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents

(subject to remarks concerning elixir of cimicifuga) fifteen minims of fluid extract of cimicifuga, together with seven and a half minims of fluid extract of wild cherry bark, about four minims each of fluid extract of liquorice and senega, and nearly two minims of fluid extract of ipecac.

CLAUDER'S ELIXIR.

Carbonate of Potassium	I	troy ounce
Chloride of Ammonium	I	" "
Elder-Flower Water	1½	pints

Dissolve and add—

Aloes	I	troy ounce
Myrrh	I	" "
Saffron	2	drachms

Macerate for twenty-four hours, and filter.—*Pideret.*

ELIXIR OF COCO.

Fluid Extract of Coco	2	fluid ounces
Simple Elixir	14	" "
Alcohol	½	" "

Carbonate of Magnesium, a sufficient quantity.

Triturate the fluid extract of coco in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents seven and one-half minims of fluid extract of coco.

ELIXIR OF COLUMBO.

Fluid Extract of Columbo.....	2 fluid ounces
Simple Elixir.....	14 “ “
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of columbo in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of columbo.

ELIXIR OF COLUMBO, CITRATE OF IRON AND RHUBARB.

(ELIXIR OF COLUMBO, IRON AND RHUBARB.)

Citrate of Iron.....	$\frac{1}{2}$ troy ounces
Solid Extract of Columbo.....	$\frac{1}{8}$ “ “
Solid Extract of Rhubarb.....	$\frac{1}{8}$ “ “
Distilled Water.....	4 fluid ounces
Brandy.....	4 “ “
Simple Elixir.....	4 “ “

Dissolve the citrate of iron in the distilled water and triturate the solid extracts with this liquid until they are dissolved. Filter the solution and mix the filtrate with the brandy and simple elixir.

This mixture was given through the *Druggists' Circular*, 1873, by Mr. W. Turpin Swentsell.

COMPOUND ELIXIR OF CORYDALIS.

Fluid Extract of Corydalis	1	fluid ounces
Fluid Extract of Stillingia	1	" "
Fluid Extract of Prickley Ash Berries.....	$\frac{1}{2}$	" "
Fluid Extract of Blue Flag-Root	$\frac{1}{2}$	" "
Alcohol.....	2	" "
Iodide of Potassium.....	156	grains
Simple Elixir, Carbonate of Magnesium, of each a sufficient quantity.		

Triturate the mixed fluid extracts in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add simple elixir enough to produce fourteen fluid ounces, stirring well, and filter. Lastly, mix the filtrate with the alcohol, and dissolve the iodide of potassium in the liquid.

Each fluid drachm of the finished elixir represents the proportion which the menstruum will dissolve of about four minims each of fluid extract of corydalis and of stillingia, about two minims of fluid extract of prickley ash berries, and six minims of fluid extract of blue flag root; together with two grains of iodide of potassium.

We have little faith in the power of the above menstruum to dissolve the desirable principles of the drugs, corydalis, perhaps, excepted; but the elixir may be therapeutically worthy, since iodide of potassium alone is valuable.

The above formula is nearly identical with that offered by the joint committee of the National College of Pharmacy, and the Medical Society of the District of Columbia.

ELIXIR OF COTO.

Fluid Extract of Coto.....	2 fluid ounces
Simple Elixir	16 " "
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of coto with magnesium carbonate, until a creamy mixture results, then gradually add the simple elixir, and filter. Each fluid drachm of this elixir represents such an amount of seven and a half grains of coto as will dissolve in the liquid.

ELIXIR OF CHLOROFORM.

(CHLOROFORM PAREGORIC OF DR. HARTSHORNE.)

Chloroform	1½ fluid ounces
Tincture of Opium.....	1½ " "
Tincture of Camphor.....	1½ " "
Aromatic Spirit of Ammonia.....	1½ " "
Best Brandy.....	2 " "

Mix together.

Each fluid drachm of the finished elixir contains eleven and one-fourth minims of each of the medicinal ingredients. It should be dispensed cautiously.

This preparation was originally used under the name "chloroform paregoric of Dr. Hartshorne," and the formula was published in the book of formulæ, issued in 1867, by the joint committee of the Medical and Pharmaceutical Associations of the District of Columbia.

ELIXIR CHLOROFORMIQUE OF BOUCHUT.

(BOUCHUT'S ELIXIR OF CHLOROFORM.)

Chloroform.....	8 minims
Alcohol.....	64 “
Simple Elixir.....	225 “

Mix in the order given.

Each fluid drachm of the finished elixir contains one and three-fifths of a minim of chloroform.

(Proceedings of American Pharmaceutical Association, 1862.)

ELIXIR OF CROTON CHLORAL HYDRATE.

Croton Chloral Hydrate.....	128 grains
Distilled Water.....	2 fluid ounces
Simple Elixir.....	14 “ “

Dissolve the croton chloral hydrate in the water, and add the simple elixir. (*Druggists' Circular*, 1875). Each fluid drachm (teaspoonful) of the finished elixir, contains one grain of croton chloral hydrate.

ELIXIRS OF CALISAYA OR CINCHONA BARK AND THE ALKALOIDS.

These include the most popular elixirs, and which are prescribed most freely by physicians. The original "cordial elixir of calisaya," contained all of the principles of the bark which were soluble in the menstruum used in making it, and as a simple elixir of calisaya, is preferred by many physicians at the present day. When combinations of calisaya bark and the various iron preparations were introduced, a demand was created for an elixir of calisaya which could be mixed with certain iron salts without precipitation, or inky discoloration, and this was followed by the introduction of "detannated elixir of calisaya," which would answer this purpose. However, in making the detannated elixir, the natural combination of the alkaloids is destroyed, and the cincho-tannic acid is separated, and we prefer to use the alkaloids of calisaya direct. The use of the alkaloids, by pharmacists, instead of the bark, will certainly give a more definite preparation, as variation in quality is thus overcome, and we do not know that the name "elixir of calisaya" is very inappropriate under these conditions. Hence it is, that we direct the "elixir of calisaya from the alkaloids" in this work; but if the operator prefers, the detannated elixir can be substituted.

It must be remembered, that the alkaloids of calisaya are almost insoluble in a slightly alkaline or neutral aque-

ous menstruum, and, as a consequence, the elixir of these alkaloids should have an acid reaction. However, some outside combinations, especially with pyrophosphate of iron and ammonio-citrate of bismuth, will not admit of a strong acid reaction, and the operator should endeavor to have these associations as nearly neutral as it is possible, and retain the several ingredients in solution. With a little experience, the skillful pharmacist will learn to associate many of these incongruities, but there is no doubt that oftentimes the filter paper is the real pharmacist, when some of the incompatibles we might name are supposed to be associated in a transparent, permanent condition, and that upon the filter paper may be found the bulk of the medicinal ingredients.

PREPARATIONS OF ALKALOIDS.

In following the directions for making elixirs by this work, it will be observed that we refer to alkaloid cinchonidine, and alkaloid quinine, as well as alkaloid cinchonine. The last is in general use, but the other must often be prepared extemporaneously. In reviewing the processes which have been heretofore recommended, we find considerable trouble in manipulation. The plan of our Pharmacopœia (1870), is that of dissolving the sulphate of the alkaloid in water, by means of sulphuric acid, and then precipitating with ammonia water, after which the precipitated alkaloid is washed with water. In following this process, we find a very bulky precipitate, and which requires a large amount of water before it can be thoroughly freed from ammonium sulphate. Again, when we attempt to dry this precipitate, if the weather is moderately warm, it runs together, agglutinates, and finally forms a transparent, horn-like mass, which adheres

closely to the paper. In order to overcome these troubles, the writer has devised the following process, which yields an alkaloid which answers every purpose required by the class of preparations under consideration :

ALKALOID QUININE OR ALKALOID CINCHONIDINE.

Sulphate of Quinine or Sulphate of Cinchoni-	
dine	I ounce
Distilled Water	32 fluid ounces
Ammonia Water	$\frac{1}{2}$ " "

Mix the ammonia water with the distilled water, and having placed the sulphate of the desired alkaloid in a mortar, gradually triturate it with a sufficient amount of the liquid, so as to form a thin, creamy mixture, then add the remainder of the mixed waters. Permit this to stand half an hour, and transfer to a filter paper; then, after the precipitate has drained, return it to the mortar, and mix it again with a liquid composed of —

Distilled Water	32 fluid ounces
Ammonia Water	$\frac{1}{4}$ " "

Permit this mixture to stand for half an hour, and then transfer it to a muslin strainer, squeeze it until the liquid is expressed, and then dry it by hanging it in the atmosphere, without, however, removing the strainer.

The foregoing process offers several advantages over the old, not the least being the ready production of an alkaloid in a porous and finely divided form. If the strainer is permitted to remain during the process of drying, the liquid carries the dissolved sulphate of ammonium to the surface, as it evaporates, and deposits it upon the muslin.*

*This process is often followed by the writer, with regard to other precipitates which contain coloring matters and impurities, that ordinary washing seems not to separate. By spreading them in thin layers upon muslin, and pressing a sheet of muslin upon their surface, the impurities are carried by the liquid to the surface.

ELIXIR OF CALISAYA OR CINCHONA.

(CORDIAL ELIXIR OF CALISAYA. ELIXIR OF BARK.)

Calisaya Bark.....	4	troy ounces
Fresh Orange Peel.....	2	" "
Ceylon Cinnamon.....	1	" "
Coriander Seed.....	1	" "
Fennel Seed.....	$\frac{1}{4}$	" "
Caraway Seed.....	$\frac{1}{4}$	" "
Cardamon Seed.....	$\frac{1}{4}$	" "
Cochineal.....	$\frac{1}{4}$	" "
Brandy.....	40	fluid ounces
Alcohol.....	16	" "
Water.....	56	" "
Simple Syrup.....	40	" "

Reduce the orange peel to a pulp, by concussion in an iron mortar, and mix the pulp with the remainder of the drugs, having previously reduced them to a coarse powder. Mix the brandy, alcohol and water, and moisten the powder with an amount sufficient of this menstruum to prepare it for percolation. Pack the moistened powder in a suitable percolator, and extract it by percolation with the remainder of the menstruum. Lastly, mix this percolate with the simple syrup.

This formula was furnished the *American Journal of Pharmacy*, Jan., 1859, by Mr. Alfred B. Taylor, excepting that the manipulation has been slightly modified by us. This process furnishes a very palatable preparation, and at one time it was popular under the name "cordial elixir of calisaya." However, a slight precipitate occurs in it after standing, and as a rule, pharmacists prefer an elixir made of the alkaloids. In our opinion this elixir is often the preferable elixir of calisaya, but out of respect to the demands of trade, and combinations to be made, we shall recognize under compounds of calisaya, an elixir made with cinchona alkaloids, as follows:

ELIXIR OF CALISAYA ALKALOIDS.

(ELIXIR OF CALISAYA. ELIXIR OF CINCHONA BARK. ELIXIR OF BARK.)

Simple Elixir	16 fluid ounces
Quinine (Alkaloid).....	12 grains
Cinchonine (Alkaloid)	6 "

Mix the alkaloids, and triturate them in a mortar with one fluid ounce of simple elixir, and then gradually add acetic acid in amount sufficient to effect their solution; then add the remainder of the simple elixir. Each fluid drachm (teaspoonful) of the finished elixir, contains alkaloids sufficient to represent four grains of officinal calisaya bark. The preparation is that adopted by the American Pharmaceutical Association, 1875. The elixir has a distinct, bitter taste, and we have reason to believe that any substance which will overcome the bitterness, will do so at the expense of the alkaloids, rendering them insoluble. Various plans have been recommended from time to time, for detannating calisaya bark, usually by means of hydroxide of iron, first suggested by Mr. Meier, of New York, in 1867. These processes are tedious, and the product presents little, if any, advantages over a simple solution of the alkaloids. For this reason we consider this formula a practical substitute for "detannated elixir of calisaya," which follows.

DETANNATED ELIXIR OF CALISAYA BARK.

(DETANNATED ELIXIR OF CINCHONA BARK. DETANNATED ELIXIR OF BARK)

Calisaya Bark	24	troy ounces
Curacoa Orange Peel	16	" "
Coriander	4	" "
Cardamom	1½	" "
Ceylon Cinnamon.....	3	" "
Anise	1	" "
Cocoa (Baker's)	8	" "

Reduce to a moderately fine powder; displace with a mixture consisting of one part, by measure, of alcohol, and three parts of water, until two and a half gallons of percolate are obtained.

Meanwhile, prepare hydrated sesquioxide of iron, from six pints of solution of tersulphate of iron, according to the pharmacopœial process, measure it, and add to every four measures, one measure of alcohol; then add of this sufficient to the percolate obtained as above, to deprive it of its cincho-tannic acid. The absence of the latter is readily ascertained by the addition of a drop of tincture of chloride of iron, to a filtered portion of the liquid in operation, which should not be colored by such addition. Should coloration result, the intensity or faintness will serve as a guide to the further quantity of hydrated sesquioxide of iron necessary to completely detannate the preparation. As soon as this result is obtained, strain the mixture upon a muslin strainer, and when the liquid ceases to pass, wash the residue upon the strainer, with sufficient of a mixture of one measure of alcohol to three of water, to make the strained liquid measure five gallons. Now triturate together, oil of orange one-half fluid ounce, carbonate of magnesium four troy ounces. When thoroughly mixed, incorporate it with the strained liquid obtained as above, agitate well,

and filter through paper; express the filter between muslin, filter the expressed liquid, and mix with the previous filtrate, in which dissolve fifteen pounds avoirdupois of sugar. If necessary, filter the elixir thus obtained; but simple straining will usually answer.

The above formula is that of Prof. C. Lewis Diehl, as presented to the Louisville College of Pharmacy, Jan. 16, 1872.

Each fluid drachm (teaspoonful) of the finished elixir, represents about two grains of calisaya bark of the quality employed by the operator.

The first record we can find of detannating the percolate from calisaya bark, by means of hydrated sesquioxide of iron, for the purpose of making an elixir, was the communication to the *Druggists' Circular*, 1867, by Mr. Meier, of New York. He used solution of ferric chloride to prepare the hydroxide. Detannated elixir of calisaya was introduced to supply a solution of the alkaloids of calisaya, which could be mixed with iron salts without precipitation or inky discoloration. We are sure that pharmacists, generally, will meet with better success regarding the quality of the product, by using an elixir directly from the alkaloids; hence, we favor that form of "elixir of calisaya" in this work. We can not say that there is actually much difference in the finished preparation, since the natural combination of the alkaloids is broken when the cincho-tannic acid is removed, and all must admit that the calisaya barks of commerce are uncertain in quality. The elixir of the alkaloids is of definite strength.

DESLAURIER'S ELIXIR OF CALISAYA AND COFFEE.

Yellow Cinchona Bark.....	2½	troy ounces
Brown Cinchona Bark.....	1	" "
Browned (slightly) Coffee.....	2	" "
Sugar.....	12½	" "
Sherry Wine.....	32	fluid ounces
Citric Acid.....	150	grains

Reduce the drugs to a coarse powder, and mix all the above named ingredients. Allow the mixture to macerate for a few days in a warm location, then bring it to a boil, cool, and filter it. Dissolve in the filtrate ten and one-half ounces of sugar, and add two fluid ounces of alcohol. The above is taken from "New Remedies," 1878, and is known as elixir deslauriers toni-febrifuge au quinquina et café.

ELIXIR OF CALISAYA WITH LACTO-PHOSPHATE OF LIME.

(ELIXIR OF CINCHONA WITH LACTO-PHOSPHATE OF LIME. ELIXIR OF LACTO-PHOSPHATE OF CALCIUM WITH CALISAYA.)

Elixir of Calisaya (Alkaloidal)	8	fluid ounces
Elixir of Lacto-Phosphate of Calcium	8	" "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir, contains one-half grain of lacto-phosphate of calcium, and represents two grains of calisaya.

ELIXIR OF CALISAYA AND CHLORIDE OF IRON WITH AMMONIUM CITRATE.

(ELIXIR OF CALISAYA AND CHLORIDE OF IRON. ELIXIR OF CINCHONA AND CHLORIDE OF IRON.)

Elixir of Calisaya	15	fluid ounces
Solution of Citrate of Ammonium.....	$\frac{1}{2}$	" "
Tincture of Chloride of Iron	$\frac{1}{2}$	" "

Mix the solution of citrate of ammonium with the tincture of chloride of iron, and add the elixir of calisaya.

Each fluid drachm (teaspoonful) of the finished elixir contains about two minims of tincture of chloride of iron, and represents nearly four grains of calisaya. The addition of the solution of citrate of ammonium prevents discoloration of mixtures of this elixir, and substances containing vegetable tannates. To the fact that this mixture could accomplish the aforementioned result, we are indebted to Mr. J. Creuse, who has written several interesting articles on the subject, and we refer the reader to the back numbers of the *Druggists' Circular* and *Journal of Pharmacy*, if particularly interested in the subject.

ELIXIR OF CALISAYA, CITRATE OF IRON AND BEEF.

(ELIXIR OF CALISAYA, IRON AND BEEF. ELIXIR OF CINCHONA, IRON AND BEEF.)

Elixir of Beef with Citrate of Iron	8	fluid ounces
Elixir of Calisaya (Alkaloidal).....	8	" "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir, contains one grain of extract of beef, one-half grain of citrate of iron, and represents two grains of officinal calisaya.

The remarks concerning elixir of beef and citrate of iron may be applied to this preparation.

**ELIXIR OF CALISAYA AND CHLORIDE OF IRON WITH
AMMONIUM CITRATE AND GENTIAN.**

(ELIXIR OF CALISAYA, IRON AND GENTIAN.)

Elixir of Calisaya	8	fluid ounces,
Tincture of Chloride of Iron	$\frac{1}{4}$	" "
Solution of Citrate of Ammonium.....	$\frac{3}{4}$	" "
Fluid Extract of Gentian.....	$\frac{1}{4}$	" "
Distilled Water, Carbonate of Ammonium, of each a sufficient quantity.		

Triturate the fluid extract of gentian in a mortar, with carbonate of magnesium in amount sufficient to form a thick paste, and then gradually add eight fluid ounces of distilled water, filter, and bring the filtrate to the measure of seven fluid ounces, by addition of distilled water. Mix the solution of citrate of ammonium with the tincture of chloride of iron, and add to the gentian filtrate, and then add the elixir of calisaya.

Each fluid drachm (teaspoonful) of the finished elixir, contains about one minim each of tincture of chloride of iron, and of fluid extract of gentian, and represents about two grains of calisaya.

The remarks applied to elixir of calisaya and chloride of iron, with ammonium citrate, are applicable to this preparation.

**ELIXIR OF CALISAYA, CITRATE OF IRON, BEEF AND
STRYCHNINE.**

(ELIXIR OF CALISAYA, IRON, BEEF AND STRYCHNIA. ELIXIR OF CINCHONA, IRON,
BEEF AND STRYCHNIA.)

Elixir of Calisaya, Citrate of Iron and Beef.....	16	fluid ounces
Strychnine	$2\frac{1}{2}$	grains
Acetic Acid, a sufficient quantity.		

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution; then add the elixir.

Each fluid drachm (teaspoonful) of the finished elixir, contains one grain of extract of beef, one-half grain of citrate of iron, one-fiftieth grain of strychnine, and represents two grains of calisaya. It is not a permanent preparation, for explanation of which assertion see our remarks on elixir of beef with citrate of iron.

ELIXIR OF CALISAYA BARK WITH CITRATE OF PROTOXIDE OF IRON.

(ELIXIR OF CALISAYA AND PROTOXIDE OF IRON. ELIXIR OF CALISAYA BARK AND FERROUS CITRATE. ELIXIR OF CINCHONA AND PROTOXIDE OF IRON.)

Sulphate of Iron, Crystallized256 grains
 Bicarbonate of Sodium200 "
 Citric Acid, Distilled Water, Elixir of Calisaya Bark (Alkaloidal), of each a sufficient quantity.

Dissolve the sulphate of iron and the bicarbonate of sodium, separately, each in sixteen fluid ounces of cold, freshly distilled water, and mix the solutions. Pour the mixtures into a bottle, which must be filled to the stopper, using more distilled water if necessary, and permit it to rest for twenty-four hours. Decant the clear solution, and refill the bottle with freshly distilled water, shaking well, and permit it to stand as before. After twenty-four hours decant the clear solution, pour the residue upon a fine muslin strainer, and squeeze the liquid from it. Dissolve the precipitate by trituration in a mortar, with citric acid in sufficient amount, and then add enough elixir of calisaya bark to make sixteen fluid ounces; and filter.

Each fluid drachm (teaspoonful) of the finished elixir, contains of citrate of protoxide of iron an amount which is equivalent to two grains of crystallized sulphate of iron, and it represents about three grains of calisaya bark.

The name (elixir of protoxide of iron) is a misnomer; if applied to a preparation like this, and all the processes we have seen give a solution of a *salt* of protoxide of iron. This fact has been repeatedly noticed in the *Druggists' Circular* and other journals, and such authorities as Mr. Creuse, Prof. Diehl and Prof. Oldberg, have called particular attention to the misnomer. Notwithstanding all of which, we find physicians, and even pharmacists, insist on using the term, and we therefore place it among our synonyms.

ELIXIR OF CALISAYA BARK WITH CITRATE OF PROTOXIDE OF IRON AND STRYCHNINE.

(ELIXIR OF CALISAYA, PROTOXIDE OF IRON AND STRYCHNIA. ELIXIR OF BARK, PROTOXIDE OF IRON AND STRYCHNIA. ELIXIR OF CALISAYA, FERROUS CITRATE AND STRYCHNIA. ELIXIR OF CINCHONA AND CITRATE OF PROTOXIDE OF IRON.)

Elixir of Calisaya with Citrate of Protoxide of

Iron	16	fluid ounces
Strychnine	2½	grains
Acetic Acid, a sufficient quantity.		

Triturate the strychnine in a mortar, cautiously adding acetic acid until it is dissolved, then mix with the elixir of calisaya and citrate of protoxide of iron.

Each fluid drachm (teaspoonful) of the finished elixir, contains of citrate of protoxide of iron an amount which is equivalent to two grains of sulphate of iron, and one-fiftieth grain of strychnine, and represents about three grains of calisaya bark. This preparation is unstable.

ELIXIR OF CALISAYA BARK WITH PYROPHOSPHATE OF IRON.

(ELIXIR OF CINCHONA BARK WITH PYROPHOSPHATE OF IRON. ELIXIR OF CALISAYA BARK AND IRON. ELIXIR OF BARK AND IRON. FER-
RATED ELIXIR OF CALISAYA.)

Elixir of Calisaya (Alkaloidal).....	14 fluid ounces
Distilled Water.....	2 " "
Pyrophosphate of Iron.....	256 grains

Dissolve the pyrophosphate of iron in the distilled water, add the elixir of calisaya, and filter, if necessary. If not neutral in reaction, bring it to a neutral condition by addition of either acetic acid or ammonia water.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron, and represents about four grains of officinal calisaya bark. The proportion is that recommended by the American Pharmaceutical Association, 1875.

In 1862, Mr. James T. Shinn published (*American Journal of Pharmacy*) a process for making the above elixir, employing crude materials upon the principle of Mr. Taylor's elixir of calisaya. In speaking of it, Mr. Shinn uses the following language: "Among the pharmaceutical novelties recently brought to the notice of physicians, this preparation of iron, cinchona and brandy is one of the most agreeable, and possibly may prove very popular with patients." The result proves Mr. Shinn's surmise to have been correct, although the original preparations have been replaced with those more pleasing to the eye.

**ELIXIR OF CALISAYA BARK WITH PYROPHOSPHATE
OF IRON AND CITRATE OF AMMON-
IUM AND BISMUTH.**

(ELIXIR OF CALISAYA, IRON AND BISMUTH. ELIXIR OF CINCHONA, IRON AND BISMUTH. ELIXIR OF BARK, IRON AND BISMUTH. FERRATED ELIXIR OF BARK AND BISMUTH.)

Ammonio-Citrate of Bismuth 128 grains
Distilled Water 2 fluid ounces
Elixir of Calisaya Bark with Iron, a sufficient quantity.

Dissolve the ammonio-citrate of bismuth in the distilled water, cautiously adding ammonia water if necessary; then add elixir of calisaya bark with iron, sufficient to make sixteen fluid ounces. Should a precipitate follow, the addition of either ammonia water or acetic acid, as the case may demand, to render the liquid neutral, will redissolve it.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of ammonio-citrate of bismuth, about two grains of pyrophosphate of iron, and represents nearly four grains of officinal calisaya bark.

**ELIXIR OF CALISAYA BARK, WITH PYROPHOSPHATE
OF IRON, CITRATE OF AMMONIUM AND BIS-
MUTH, AND STRYCHNINE.**

(ELIXIR OF CALISAYA, IRON, STRYCHNIA AND BISMUTH. ELIXIR OF CINCHONA, IRON, STRYCHNIA AND BISMUTH. ELIXIR OF BARK, IRON, STRYCHNIA AND BISMUTH. FERRATED ELIXIR OF BARK, STRYCHNIA AND BISMUTH.)

Elixir of Calisaya Bark with Pyrophosphate of Iron,
Citrate of Ammonium and Bismuth..... 16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Powder the strychnine and dissolve it in a sufficient amount of acetic acid, and mix this with the elixir.

Each fluid drachm (teaspoonful) of the finished elixir

contains one grain of ammonio-citrate of bismuth, about two grains of pyrophosphate of iron, and one-fiftieth of a grain of strychnine, and represents nearly four grains of officinal calisaya bark.

ELIXIR OF CALISAYA WITH PYROPHOSPHATE OF IRON AND LACTO-PHOSPHATE OF CALCIUM.

(ELIXIR OF CALISAYA, IRON AND LACTO-PHOSPHATE OF LIME. ELIXIR OF CINCHONA, IRON AND LACTO-PHOSPHATE OF LIME.)

Elixir of Calisaya with Iron.....8 fluid ounces
Elixir of Lacto-Phosphate of Lime.....8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain each of lacto-phosphate of lime and pyrophosphate of iron, and represents two grains of officinal calisaya. An elixir similar to the above, which also is about the same as "Wheeler's elixir," was introduced by Mr. G. F. Butler, in 1881.

ELIXIR OF CALISAYA BARK WITH PYROPHOSPHATE OF IRON AND PEPSIN.

(ELIXIR OF CALISAYA, IRON AND PEPSIN. ELIXIR OF BARK, IRON AND PEPSIN. ELIXIR OF CINCHONA, PYROPHOSPHATE OF IRON AND PEPSIN.)

Elixir of Calisaya Bark with Pyrophosphate of Iron..8 fluid ounces
Elixir of Pepsin.....8 " "

Mix them together, and neutralize, or render slightly alkaline, if necessary, by means of ammonia water.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of pyrophosphate of iron and saccharrated pepsin, and represents about two grains of officinal calisaya bark.

ELIXIR OF CALISAYA BARK WITH PYROPHOSPHATE OF IRON AND STRYCHNINE.

(ELIXIR OF CALISAYA BARK, IRON AND STRYCHNIA. ELIXIR OF CINCHONA, IRON AND STRYCHNIA. ELIXIR OF BARK, IRON AND STRYCHNIA. FERRATED ELIXIR OF BARK WITH STRYCHNIA.)

Elixir of Calisaya Bark with Pyrophosphate of

Iron 16 fluid ounces
 Strychnine 2½ grains
 Acetic Acid, a sufficient quantity.

Powder the strychnine; dissolve it in a sufficient amount of acetic acid, and add the elixir of calisaya bark with pyrophosphate of iron, and, if necessary, ammonia water to neutralization.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron, about one-fiftieth of a grain of strychnine, and represents four grains of official calisaya bark. This preparation is that recommended by the American Pharmaceutical Association, 1875.

ELIXIR OF CINCHONINE.

Cinchonine (Alkaloid) 256 grains
 Simple Elixir, Phosphoric Acid (U. S. P., 1872), of each a sufficient quantity.

Triturate the powdered cinchonine in a mortar, with three fluid ounces of simple elixir, and dissolve it by the gradual addition of a sufficient amount of phosphoric acid; then mix this solution with a sufficient amount of simple elixir to make the whole measure sixteen fluid ounces; and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of cinchonine, an amount which is equivalent to two grains of cinchonine.

ELIXIR OF PHOSPHATES OF CINCHONINE AND CINCHONIDINE.

Mix equal amounts, by measure, of elixir of phosphate of cinchonine, and elixir of phosphate of cinchonidine.

Each fluid drachm of the finished elixir contains of phosphate of cinchonidine an amount which is equivalent to one-half grain of cinchonidine, and of phosphate of cinchonine an amount which is equivalent to one grain of cinchonine.

ELIXIR OF PHOSPHATES OF CINCHONINE AND STRYCHNINE.

Strychnine $2\frac{1}{2}$ grains
 Elixir of Phosphate of Cinchonine 16 fluid ounces
 Phosphoric Acid (U. S. P., 1872), a sufficient quantity.

Triturate the powdered strychnine in a mortar, with sufficient phosphoric acid, gradually added, to effect its solution; then add the elixir of phosphate of cinchonine, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphates of cinchonine and strychnine an amount which is equivalent to two grains of cinchonine, and one-fiftieth of a grain of strychnine.

ELIXIR OF PHOSPHATE OF CINCHONIDINE.

(ELIXIR OF PHOSPHATE OF CINCHONIDIA. ELIXIR OF CINCHONIDIA.)

Cinchonidine (Alkaloid) 128 grains
 Simple Elixir, Phosphoric Acid (U. S. P., 1872), of each a sufficient quantity.

Powder the cinchonidine, and triturate it in a mortar with two fluid ounces of simple elixir. When a smooth,

creamy mixture results, continue the trituration, and gradually add of phosphoric acid an amount sufficient to dissolve the cinchonidine. Then mix this solution with a sufficient amount of simple elixir to make the whole measure sixteen fluid ounces, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of cinchonidine an amount which is equivalent to one grain of cinchonidine.

ELIXIR OF PHOSPHATES OF CINCHONIDINE, CINCHONINE AND STRYCHNINE.

(ELIXIR OF CINCHONIDIA, CINCHONIA AND STRYCHNIA.)

Strychnine	2½	grains
Elixir of Phosphates of Cinchonidine and Cinch-		
nine	16	fluid ounces
Phosphoric Acid (U. S. P., 1872), a sufficient quan-		
tity.		

Triturate the powdered strychnine in a mortar, with sufficient phosphoric acid to effect its solution, then add the elixir of phosphate of cinchonidine and cinchonine, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphates of cinchonidine, cinchonine and strychnine, an amount which is equivalent to one-half grain of cinchonidine, one grain of cinchonine, and one-fiftieth grain of strychnine.

ELIXIR OF PHOSPHATES OF CINCHONIDINE AND STRYCHNINE.

(ELIXIR OF CINCHONIDIA AND STRYCHNIA.)

Strychnine.....	2½	grains
Elixir of Phosphate of Cinchonidine.....	16	fluid ounces
Phosphoric Acid (U. S. P., 1872), a sufficient quantity.		

Triturate the powdered strychnine in a mortar, with sufficient phosphoric acid to effect its solution; then add the elixir of cinchonidine, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphates of cinchonidine and strychnine an amount which is equivalent to one grain of cinchonidine, and one-fiftieth of a grain of strychnine.

ELIXIR OF ACETATE OF CHINOIDINE.

(ELIXIR OF CHINOIDIEN.)

Chinoidine.....	256	grains
Distilled Water.....	4	fluid ounces
Acetic Acid, Simple Elixir, of each a sufficient quantity.		

Powder the chinoidine and dissolve it in the distilled water by the addition of a sufficient amount of acetic acid, then add of simple elixir until sixteen fluid ounces are produced, and filter.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of chinoidine.

COMPOUND ELIXIR OF CHINOIDINE.

Elixir of Chinoidine	8	fluid ounces
Elixir of Dandelion.....	8	" "

Mix them together. This agrees, practically, with the formula adopted by the Joint Committee of the

National College of Pharmacy, and the Medical Society of the District of Columbia.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of chinoidine, and represents about four minims of fluid extract of dandelion.

ELIXIR OF BISULPHATE OF QUININE.

(ELIXIR OF SULPHATE OF QUINIA.)

Sulphate of Quinine.....	128	grains
Simple Elixir	16	fluid ounces

Dilute Sulphuric Acid, a sufficient quantity.

Mix the sulphate of quinine with four fluid ounces of simple elixir, and add enough dilute sulphuric acid to effect its solution. Then add the remainder of the simple elixir, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of sulphate of quinine.

The addition of the excess of sulphuric acid, actually produces bisulphate of quinine; hence, the term elixir of bisulphate of quinine is admissible, although sulphate of quinine is employed.

ELIXIR OF HYDROBROMATE OF QUININE.

(ELIXIR OF BROMIDE OF QUINIA.)

Hydrobromate of Quinine	128	grains
-------------------------------	-----	--------

Simple Elixir, Hydrobromic Acid, of each a sufficient quantity.

Mix the hydrobromate of quinine with the simple elixir, and cautiously add of hydrobromic acid, an amount sufficient to effect its solution. Filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of hydrobromate of quinine.

The term often used for this substance — “bromide of quinine” — is incorrect, since alkaloids combine bodily with acids.

ELIXIR OF PHOSPHATE OF QUININE.

(ELIXIR OF QUININE. ELIXIR OF PHOSPHATE OF QUINIA.)

Quinine (Alkaloid).....128 grains
Simple Elixir, Phosphoric Acid (U. S. P., 1872), of each a
sufficient quantity.

Powder the quinine, and triturate it in a mortar with two fluid ounces of simple elixir. When a smooth, creamy mixture results; continue the trituration, and gradually add of phosphoric acid an amount sufficient to dissolve the quinine. Then mix this solution with a sufficient amount of simple elixir to make the whole measure sixteen fluid ounces.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of quinine an amount which is equivalent to one grain of quinine.

ELIXIR OF PHOSPHATE OF QUININE AND CINCHONIDINE.

Elixir of Phosphate of Quinine and Elixir of Phosphate of Cinchonidine, equal amounts by measure.

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of quinine and of phosphate of cinchonidine, an amount which is equivalent to one-half grain each of quinine and of cinchonidine.

ELIXIR OF PHOSPHATE OF QUININE AND CINCHONINE.

(ELIXIR OF QUINIA AND CINCHONIA.)

Elixir of Phosphate of Quinine, and Elixir of Phosphate of Cinchonine, of each equal amounts by measure.

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of quinine an amount which is equivalent to one-half grain of quinine; and of phosphate of cinchonine an amount which is equivalent to one grain of cinchonine.

ELIXIR OF PHOSPHATES OF QUININE, CINCHONIDINE AND CINCHONINE.

Elixir of Phosphate of Quinine, Elixir of Phosphate of Cinchonidine, and Elixir of Phosphate of Cinchonine, of each equal amounts by measure.

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of quinine an amount which is equivalent to one-third grain of quinine, and of phosphate of cinchonidine an amount which is equivalent to one third of a grain of cinchonidine, and of phosphate of cinchonine an amount which is equal to two-thirds of a grain of cinchonine.

ELIXIR OF PHOSPHATE OF QUININE WITH CITRATE OF PROTOXIDE OF IRON.

(ELIXIR OF PROTOXIDE OF IRON WITH QUINIA. ELIXIR OF QUININE AND FERROUS PHOSPHATE.)

Elixir of Protoxide of Iron.....8 fluid ounces
 Elixir of Phosphate of Quinine.....8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir

contains one-half grain of quinine, and as much citrate of protoxide of iron as corresponds with one grain of sulphate of iron. This elixir is not very stable.

ELIXIR OF PHOSPHATE OF QUININE WITH CITRATE OF PROTOXIDE OF IRON AND STRYCHNINE.

(ELIXIR OF QUINIA AND PROTOXIDE OF IRON AND STRYCHNIA. ELIXIR OF QUININE, FERROUS CITRATE AND STRYCHNINE.)

Elixir of Phosphate of Quinine with Citrate of Protoxide of Iron 16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, cautiously adding acetic acid in amount sufficient to effect its solution, and mix this with the elixir of phosphate of quinine and citrate of protoxide of iron.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain of quinine, as much citrate of protoxide of iron as corresponds with one grain of sulphate of iron, and one-fiftieth grain of strychnine.

The term, "protoxide of iron," is a misnomer. See our remark concerning elixir of calisaya bark with protoxide of iron. This preparation is unstable.

ELIXIR OF PHOSPHATE OF QUININE AND STRYCHNINE.

(ELIXIR OF QUINIA AND STRYCHNIA.)

Quinine (Alkaloid) 128 grains
Strychnine 2½ "
Simple Elixir, Phosphoric Acid (U. S. P., 1872), of each
a sufficient quantity.

Triturate the powdered strychnine in a mortar, with two fluid ounces of simple elixir, and dissolve by addi-

tion of a sufficient amount of phosphoric acid. Now add the quinine (previously powdered), and then, continuing the trituration, gradually add of phosphoric acid an amount sufficient to dissolve the quinine. Then mix this solution with a sufficient amount of simple elixir to make the whole measure sixteen fluid ounces, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains of phosphate of quinine and phosphate of strychnine, an amount which is equivalent to one grain of quinine, and one-fiftieth of a grain of strychnine.

ELIXIR OF VALERIANATE OF QUININE.

Valerianate of Quinine	128	grains
Simple Elixir	16	fluid ounces
Valerianic Acid, a sufficient quantity.		

Powder the valerianate of quinine in a mortar, and gradually add the simple elixir. Then cautiously drop into the mixture valerianic acid sufficient to render the liquid transparent, stirring continually, and filter, if necessary.

This formula conforms to that by Prof. C. Lewis Diehl (1872), read before the Louisville College of Pharmacy.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of valerianate of quinine.

ELIXIR OF VALERIANATE OF QUININE WITH STRYCHNINE.

(ELIXIR OF VALERIANATE OF QUINIA AND STRYCHNIA.)

Elixir of Valerianate of Quinine	14	fluid ounces
Distilled Water.....	2	“ “
Strychnine	2½	grains
Valerianic Acid, a sufficient quantity.		

Powder the strychnine in a mortar and add the water, and then enough valerianic acid to effect the solution of the strychnine. Lastly, add the simple elixir, and filter, if necessary.

Each fluid drachm (teaspoonful) will contain about one grain of valerianate of quinine, and one-fiftieth grain of quinine.

ELIXIR OF DANDELION.

(ELIXIR OF TARAXACUM.)

Fluid Extract of Dandelion.....	2 fluid ounces
Simple Elixir.....	14 " "
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of dandelion in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of dandelion.

COMPOUND ELIXIR OF DANDELION.

(COMPOUND ELIXIR OF TARAXACUM.)

Fluid Extract of Dandelion.....	1 fluid ounce
Fluid Extract of Wild Cherry Bark.....	$\frac{3}{4}$ " "
Fluid Extract of Gentian.....	$\frac{1}{8}$ " "
Fluid Extract of Bitter Orange Peel.....	$\frac{1}{4}$ " "
Fluid Extract of Cinnamon.....	$\frac{1}{8}$ " "
Fluid Extract of Liquorice.....	$\frac{1}{8}$ " "
Powdered Anise.....	20 grains
Powdered Caraway.....	20 "
Powdered Coriander.....	20 "
Simple Elixir.....	14 fluid ounces
Carbonate of Magnesium, a sufficient quantity.	

Triturate the mixed fluid extracts and powdered drugs in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and cover the mixture, and permit it to macerate an hour, then filter it. This elixir was devised by Prof. P. C. Candidus, of Mobile, and the formula was presented at the meeting of the American Pharmaceutical Association, 1869. Prof.

Candidus stated that this elixir completely masks the bitter taste of sulphate of quinine, and he recommended it as a vehicle for administering that substance. Since one of the ingredients is liquorice (see elixir of glycyrrhizin), we may suppose that glycyrrhizin aids in overcoming the bitterness, and our remarks concerning quinine and glycyrrhizin, should be applicable to this elixir. The formula we present does not materially vary from that offered by Prof. Candidus, excepting in the substitution of fluid extracts for crude drugs.

ELIXIR OF DANDELION WITH QUININE.

(ELIXIR OF TARAXACUM AND QUINIA.)

Elixir of Dandelion.....8 fluid ounces
 Elixir of Phosphate of Quinine.....8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains three and one-fourth minims of fluid extract of taraxacum, and one-half grain of quinine.

In the year 1873, Mr. James W. Long furnished the *American Journal of Pharmacy* with a process for making the above preparation.

DAFFY'S ELIXIR.

(DILLY'S DAFFY; ELIXIR OF HEALTH.—*New Dispensatory*, London, 1770.)

Senna	4 ounces
Guaiac Wood	2 "
Elecampane Root	2 "
Anise Seed	2 "
Caraway Seed	2 "
Coriander Seed	2 "
Liquorice Root	2 "
Raisins	8 "
Diluted Alcohol	6 pints

Reduce the drugs to a coarse powder, and mix them with the diluted alcohol. Then seed the raisins, chop them fine, add to the mixture, and macerate fourteen days, stirring the mixture thoroughly each day; then filter (Supplement to *London Pharmacopæia*, 1821). A number of compounds have been offered as "Daffy's elixir," and from among them we have selected the preceding.

ELIXIR OF DAMIANA.

Fluid Extract of Damiana	2	fluid ounces
Simple Elixir	16	" "
Alcohol	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of damiana in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of damiana.

DEWBERRY COMPOUND.

(ELIXIR RUBI TRIVIALIS COMPOSITUM.)

Dewberry Root.....	4	troy ounces
Nutgalls.....	4	drachms
Kino	4	"
Cinnamon	2	"
Cloves.....	1	"
Capsicum	10	grains
Tincture Opium	1	fluid ounce
Essence Peppermint.....	1½	fluid drachms
Brandy.....	32	fluid ounces
Sugar	14	troy ounces

Reduce the drugs to a coarse powder, and macerate in the brandy for fourteen days, stirring the mixture thoroughly each day, then filter, and dissolve the sugar in the filtrate.

(New Remedies, 1880.)

ELIXIR OF EUCALYPTUS.

Fluid Extract of Eucalyptus.....	2	fluid ounces
Simple Elixir.....	14	" "
Alcohol	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of eucalyptus with carbonate of magnesium in sufficient amount to form a creamy mixture, then gradually add the simple elixir, and filter. Lastly, mix the alcohol with the filtrate.

Each fluid drachm of the finished preparation will contain such proportion of seven and a half minims of fluid extract of eucalyptus as will dissolve in that amount of the menstruum. In our opinion, the proper menstruum for extracting the medicinal principles of eucalyptus, is alcohol of specific gravity 0.820. The addition of water detracts from its value as a dissolving medium, in propor-

tion to the amount of water present. Therefore, elixir of eucalyptus does not represent the fluid extract of eucalyptus employed in making it.

The proportions of eucalyptus upon which the above elixir was based, will be found in the *Druggists' Circular*, 1877.

COMPOUND ELIXIR OF EUCALYPTUS.

Fluid Extract of Eucalyptus.....	2	fluid ounces
Fluid Extract of Liquorice Root	$\frac{1}{2}$	" "
Fluid Extract of Wild Cherry	$\frac{1}{2}$	" "
Simple Elixir.....	14	" "
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and triturate them in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, then filter.

Each fluid drachm of the finished elixir represents such an amount of seven and a half minims of fluid extract of eucalyptus as will dissolve in one fluid drachm of the finished menstruum, and about two minims each of the fluid extracts of liquorice root and wild cherry.

This preparation is intended as a pleasant mode of administering eucalyptus; but the proportion of eucalyptus represented is uncertain, owing to the fact that alcohol of specific gravity 0.820 is the proper solvent for the medicinal principles of the leaves. The formula we present is based upon ingredients suggested in the *Druggists' Circular*, 1877.

ELIXIR DE GARUS.

Myrrh	90 grains
Aloes	90 "
Cloves	180 "
Nutmegs	180 "
Saffron	480 "
Cinnamon	360 "
Alcohol	12 pints

Reduce the drugs to a coarse powder, mix this with the alcohol, and distill nine pints. Reserve this.

Maidenhair	4 troy ounces
Liquorice Root	½ " "
Figs	3 " "

Infuse these in eight pints of boiling water, strain with expression, and dissolve in the liquid twelve avoirdupois pounds of sugar.

Equal parts, by weight, of this syrup and of the distilled spirit, produce "elixir de garus," according to the supplement to the London Pharmacopœia, 1821.

This cumbersome and unscientific mixture, a relic of the ancient poly-pharmacy, is happily nearly obsolete.

ELIXIR OF GENTIAN.

Fluid Extract of Gentian	2 fluid ounces
Simple Elixir	14 " "
Alcohol	½ " "
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of gentian in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents seven and one-half minims of fluid extract of gentian.

COMPOUND ELIXIR OF GENTIAN.

Fluid Extract of Gentian, Compound..... 2 fluid ounces
 Simple Elixir 16 " "
 Carbonate of Magnesium, a sufficient quantity.

Triturate the compound fluid extract of gentian with carbonate of magnesium in sufficient amount to form a creamy mixture, then gradually add the simple elixir and filter.

Each fluid drachm of this elixir represents the virtues of seven and one-half minims of compound fluid extract of gentian.

ELIXIR OF WILD GINGER.

Fluid Extract of Wild Ginger..... 1 fluid ounce
 Fluid Extract of Pleurisy..... $\frac{1}{2}$ " "
 Fluid Extract of Juniper Berries..... $\frac{1}{2}$ " "
 Fluid Extract of Anise (or Powdered Anise, 120 grains) $\frac{1}{4}$ " "
 Fluid Extract of Caraway (or Powdered Caraway, 120 grains) $\frac{1}{4}$ " "
 Simple Elixir..... 14 " "
 Alcohol..... $\frac{1}{2}$ " "
 Carbonate of Magnesium, a sufficient quantity.

Triturate the mixed fluid extracts in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents about three and one-half minims of fluid extract of wild ginger, and one and three-fourths each of fluid extract of

pleurisy and juniper berries. This compound was suggested in 1877, by Mr. T. F. Thorworth, in the *Druggists' Circular*.

ELIXIR OF GLYCYRRHIZIN.

Ammoniacal Glycyrrhizin	128	grains
Simple Elixir	16	fluid ounces

Dissolve the glycyrrhizin in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of ammoniacal glycyrrhizin. This elixir is used to disguise the bitterness of quinine; but it must be remembered that quinine will not dissolve in it, and that quinine is precipitated by ammoniacal glycyrrhizin from solutions which are not strongly acid. Hence, the reason for the tastelessness of quinine under these conditions is largely due to its insoluble state. Such mixtures should be shaken before taking each dose, and under no condition should the mixture be filtered, as the quinine will then remain on the filter paper. The above formula is that of Prof. Joseph Remington.

ELIXIR OF GLYCYRRHIZIN AROMATIC.

Coriander Seed	108	grains
Caraway Seed	108	"
Cinnamon	93	"
Star Anise	62	"
Tonqua Bean	62	"
Canella	31	"
Nutmeg	31	"
Cloves	31	"
Ammoniacal Glycyrrhizin	620	"
Oil of Orange	31	minims
Alcohol	16	fluid ounces
Distilled Water	16	" "
Simple Syrup	48	" "

Dissolve the oil of orange in the alcohol and add the distilled water, and having properly moistened the mixed and powdered drugs with a portion of this menstruum, pack them in a suitable percolator and exhaust with the remainder of it. Dissolve the ammoniacal glycyrrhizin in a small amount of boiling water, and add the syrup, mix this with the percolate previously obtained, and then add of distilled water an amount sufficient to make the whole measure eighty fluid ounces. Filter, if necessary.

This elixir was also devised by Prof. Joseph Remington, and is used as a vehicle for the administration of quinine. The remarks we have made concerning "elixir of ammoniacal glycyrrhizin," may be applied with propriety to this preparation.

ELIXIR OF GRINDELIA ROBUSTA.

(ELIXIR OF GRINDELIA.)

Fluid Extract of Grindelia Robusta.....	2	fluid ounces
Simple Elixir.....	14	" "
Alcohol	$\frac{1}{2}$	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of grindelia in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such an amount of seven and a half minims of fluid extract of grindelia robusta as will dissolve in the menstruum. Grindelia robusta contains a resin which is precipitated by water; hence, we do not consider an elixir of this plant to be desirable.

ELIXIR OF GUARANA.

Fluid Extract of Guarana.....	2	fluid ounces
Simple Elixir	14	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of guarana in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm (teaspoonful) of the finished elixir represents seven and a half minims of fluid extract of guarana, and is essentially the same as that recommended by the American Pharmaceutical Association, 1875. In the same year Mr. Geo. W. Kennedy, through the

American Journal of Pharmacy, gave a formula for this elixir, each fluid drachm of which represented fifteen grains of guarana.

ELIXIR OF GUAIAACUM.

Gum Guaiacum (pulverized).....	2	troy ounces
Balsam of Peru.....	2	fluid drachms
Oil of Sassafras	1	" "
Volatile Oily Spirit*.....	1	pint

"Digest the gum guaiacum and balsam of Peru in the volatile oily spirit for six days, in a closely stopped vial, which is now and then shaken; afterwards strain the tincture and add to it the essential oil of sassafras."

(Edinburgh Pharmacopœia, 1770.)

ELIXIR ACIDUM HALLERI.

(HALLER'S ACID ELIXIR.)

Sulphuric Acid	1	troy ounces
Alcohol	3	" "

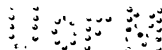
Add the sulphuric acid to the alcohol, drop by drop, stirring constantly. Preserve the finished elixir in glass-stopped bottles. This is the process of the German Pharmacopœia, 1872, and is essentially the same as elixir acidum dippelii, which contains one part of sulphuric acid to two parts of alcohol.

* Volatile Oily Spirit was made as follows: Take of—

Volatile Salt of Sal-Ammonia,	8	ounces
Essential Oil of Rosemary,	1½	"
Oil of Amber,	1	"
Essence of Lemon Peel,	½	"
French Brandy,	1½	gallons

Draw off by distillation, in the heat of a water bath, near one gallon.

(Edinburgh Pharmacopœia, 1770.)



HELMONT'S ELIXIR.

Any Fixed Alkaline Salt*	8 troy ounces
Socotrine Aloes	I “ “
Saffron	I “ “
Myrrh	I “ “
Sal Ammoniac	6 drachms
Mountain Wine †	2 pints

Macerate without heat, for a week or longer, then filter through paper.

(London Pharmacopœia, 1770.)

ELIXIR OF HELONIAS.

Fluid Extract of Helonias, Compound	2 fluid ounces
Simple Elixir	14 “ “
Alcohol	½ “ “
Carbonate of Magnesium, a sufficient quantity.	

Triturate the compound fluid extract of helonias with carbonate of magnesium in sufficient amount to form a creamy mixture, then gradually add the simple elixir, and filter. Mix the alcohol with the filtrate.

Each fluid drachm of the finished preparation will contain such proportion of seven and a half minims of compound fluid extract of helonias, as will dissolve in one fluid drachm of the menstruum.

*FIXED ALKALINE SALT.—This was impure potassium carbonate. To give the definition of the New Dispensatory, 1770: “The ashes of most vegetables, steeped or boiled in water, give out to it a saline substance, separable in a solid form by evaporating the water. This kind of salt never preëxists in the vegetables, but is always generated during the burning. It is called fixt alkaline salt.”

† Mountain Wine of that day was Vinum album, Lond. Pharm., or Vinum album Hispanicum, Edinb. Pharm.

HOFFMAN'S STOMACH ELIXIR.

(ELIXIR VISCERALE HOFFMANNI.)

Orange Peel.....	6 parts
Cassia Bark.....	2 "
Potassium Carbonate.....	1 "
Sherry Wine.....	50 "

Macerate for eight days; express and strain. To the colature, add of—

Extract of Gentian.....	1 part
Extract of Wormwood.....	1 "
Extract of Buck-bean.....	1 "
Extract of Cascarilla.....	1 "

After repose, filter.

It forms a clear liquid of a brown color, having a peculiar, aromatic odor, and a bitter taste. It should be preserved in a well-closed vessel.

(German Pharmacopœia, 1872.)

ELIXIR OF HOPS.

Fluid Extract of Hops.....	2	fluid ounces
Alcohol.....	$\frac{1}{2}$	" "
Simple Elixir.....	14	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of hops in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such an amount of seven and a half minims of fluid extract of hops as will dissolve in the menstruum. The remarks concerning compound elixir of hops may be applied to this preparation.

ELIXIR OF HOPS AND CHIRETTA.

Fluid Extract of Hops.....	1	fluid ounces
Fluid Extract of Chiretta.....	1	“ “
Simple Elixir.....	14	“ “
Alcohol.....	½	“ “
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and triturate in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such an amount of three and a half minims each of fluid extract of hops and of chiretta, as will dissolve in the menstruum used in its preparation. Our remarks regarding compound elixir of hops, may be applied with equal pertinence to this.

COMPOUND ELIXIR OF HOPS.

Fluid Extract of Hops.....	2	fluid ounces
Fluid Extract of Orange Peel.....	½	“ “
Simple Elixir.....	14	“ “
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and triturate them in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such an amount of seven and a half minims of fluid extract of hops as will dissolve in the menstruum.

The ingredients for the above mixture were named by the *Druggists' Circular*, 1876. We do not consider an

aqueous menstruum to be well adapted to the purpose of exhausting the medicinal principles of hops; hence, we think that this elixir is not a desirable preparation.

HUFELAND'S ELIXIR.

Extract of Blessed Thistle.....	$\frac{1}{4}$	troy ounce
Extract of Bitter Sweet.....	$\frac{1}{4}$	" "
Fennel Water.....	8	fluid ounces
Cherry Laurel Water	1	" "

Mix the extracts in a mortar, and dissolve them by trituration with the mixed fennel and cherry laurel water, and then filter.

ELIXIR OF AMMONIO-CITRATE OF IRON.

(ELIXIR OF CITRATE OF IRON.)

Ammonio-Citrate of Iron (Soluble Citrate).....256 grains
Simple Elixir, a sufficient quantity.

Dissolve the ammonio-citrate of iron in twelve fluid ounces of simple elixir, and bring this to the measure of sixteen fluid ounces by the addition of a sufficient quantity of simple elixir.

Each fluid drachm (teaspoonful) of the finished elixir represents two grains of ammonio-citrate of iron, the same as that adopted by the American Pharmaceutical Association, 1873.

ELIXIR OF IPECAC.

Powdered Ipecac.....	½	troy ounces
Balsam of Tolu	½	“ “
Benzoic Acid	2	drachms
Opium	2	“
Saffron	2	“
Camphor	2	scruples
Oil of Anise	1	fluid drachm
Alcohol.....	2	pints

Macerate the drugs in the alcohol for fourteen days, stirring the mixture thoroughly each day, then filter and dissolve the camphor and oil of anise in the filtrate.

ELIXIR OF BROMIDE OF IRON.

Bromide of Iron.....	256	grains
Simple Elixir	16	fluid ounces

Dissolve the bromide of iron in the simple elixir, by triturating them together in a mortar, and then filter. Should the bromide of iron fail to completely dissolve, as is often the case, the product will be accordingly deficient in strength.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of bromide of iron.

ELIXIR OF CITRATE OF IRON WITH QUININE AND STRYCHNINE.

Citrate of Iron and Quinine.....	256	grains
Citrate of Iron and Strychnine.....	128	“
Simple Elixir	14	fluid ounces
Distilled Water.....	2	“ “

Dissolve the citrates in the distilled water, using a moderate heat, if required; then add the simple elixir, and filter, if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of citrate of iron and quinine, and one grain of citrate of iron and strychnine. The above proportions were announced in "New Remedies," 1878.

ELIXIR OF CITRATE OF PROTOXIDE OF IRON.

(ELIXIR OF PROTOXIDE OF IRON. ELIXIR OF FERROUS CITRATE.)

Sulphate of Iron, Crystallized256 grains
 Bicarbonate of Sodium200 "
 Citric Acid, Distilled Water, of each a sufficient quantity.

Dissolve the bicarbonate of sodium and the sulphate of iron separately, each in sixteen fluid ounces of cold, freshly distilled water, and mix the solutions; pour the mixture into a bottle, which must be filled to the stopper, using more distilled water if necessary, and permit it to rest for twenty-four hours. Decant the clear solution and refill the bottle with freshly distilled water, shaking well, and permit it to stand as before. After twenty-four hours decant the solution, pour the residue upon a fine muslin strainer and squeeze the liquid from it. Dissolve the precipitate by trituration in a mortar, with citric acid in sufficient amount, and then add enough simple elixir to make sixteen fluid ounces, and filter.

Each fluid drachm (teaspoonful) of the finished elixir contains of citrate of protoxide of iron an amount which is equivalent to two grains of crystallized sulphate of iron. The name "Elixir of Protoxide of Iron" is a misnomer. It is the elixir of a *salt* of protoxide of iron.

Among the first of the modern elixirs introduced to the medical profession was one under the name "Elixir of Bark and Protoxide of Iron." This preparation is private property, and we are not acquainted with the formula

and process employed in making it. Since its introduction this elixir has enjoyed a popularity which commands for it a constant sale among physicians, and we caution physicians against confusing it with the elixirs we give formulæ for making, and which are not elixirs of protoxide of iron, although in commerce they have derived that title.

ELIXIR OF CITRATE AND LACTATE OF IRON.

(ELIXIR OF CITRO-LACTATE OF IRON.)

Lactate of Iron.....	96	grains
Citrate of Iron	96	"
Water	7	fluid ounces
Alcohol.....	5	" "
Simple Syrup.....	9	" "
Essence of Lemon	96	minims
Essence of Cloves	1	"

Mix the distilled water and syrup, and dissolve in it the lactate of iron, then add and dissolve the citrate of iron; cool, and mix with this solution the simple syrup and the alcohol, having previously mixed the alcohol and essences together. Lastly, color the product with caramel until it is about the color of brandy, and then filter it. Lactate of iron is often only partially soluble in water, but the syrup aids its solution. If it refuses to entirely dissolve, there will be a deficiency of this substance.

The foregoing elixir acquired, we are told, considerable reputation in France, where it was devised by "Robineaud of Bordeaux," and who finally published the formula. (See Proceedings of the American Pharmaceutical Association, 1871, p. 321.)

ELIXIR OF CHLORIDE OF IRON WITH AMMONIUM CITRATE AND GENTIAN.

(ELIXIR OF GENTIAN AND IRON. FERRATED ELIXIR OF GENTIAN.)

Fluid Extract of Gentian	½ fluid ounce
Solution of Citrate of Ammonium	I “ “
Tincture of Chloride of Iron.....	½ “ “
Simple Elixir, Carbonate of Magnesium, Distilled Water, of each a sufficient quantity.	

Triturate the fluid extract of gentian in a mortar, with carbonate of magnesium in amount sufficient to form a thick paste, and then gradually add four fluid ounces of distilled water and filter. Mix the tincture of chloride of iron with the solution of citrate of ammonium and add to the preceding filtrate, and then add of simple elixir a sufficient amount to make the whole measure sixteen fluid ounces.

Each fluid drachm (teaspoonful) of the finished elixir contains about two minims each of tincture of chloride of iron and fluid extract of gentian. The citrate of ammonium is introduced to prevent blackening of the elixir, as explained under elixir of calisaya and chloride of iron with citrate of ammonium.*

Elixir of gentian and chloride of iron was mentioned first in the *Druggists' Circular*, 1871, and afterward (1873) Prof. Joseph Remington presented a process to the *American Journal of Pharmacy*. The Newark Pharmaceutical Association (1871) recommended an elixir of gentian and pyrophosphate of iron, and at a still earlier date Mr. William B. Thompson had presented a process for this elixir, through the *Druggists' Circular*.

* The suggestion was made by the *Druggists' Circular* (1876) that Mr. Creuse's Tasteless Tincture of Iron (solution of chloride of iron with citrate of ammonium) be used, in connection with gentian, to prevent precipitation and the black discoloration.

ELIXIR OF CHLORIDE OF IRON WITH HYDROCHLORATE OF QUININE AND ARSENIUS ACID.

(ELIXIR OF IRON, QUINIA AND ARSENIC.)

Hydrochlorate of Quinine.....	64	grains
Solution of Arsenious Acid (U. S. P., 1883)	128	minims
Simple Elixir	15	fluid ounces
Tincture of Chloride of Iron	I	“ “
Hydrochloric Acid, a sufficient quantity.		

Triturate the hydrochlorate of quinine in a mortar with four fluid ounces of simple elixir, and add of hydrochloric acid an amount sufficient to effect its solution; then add the remainder of the simple elixir and the other ingredients. Filter if necessary. If hydrochlorate of quinine can not be obtained, use quinine alkaloid instead, and hydrochloric acid enough to dissolve it.

Each fluid drachm (teaspoonful) of the finished elixir contains about three and one-half minims of tincture of chloride of iron, one-half grain of hydrochlorate of quinine and one minim of officinal solution of arsenic.

Our formula introduces the hydrochlorate of quinine, chloride of iron and solution of arsenious acid in hydrochloric acid. Too great caution can not be employed to prevent the precipitation of arsenic, and by using hydrochloric acid this tendency to separation is avoided.

ELIXIR OF PROTO-CHLORIDE OF IRON.

(ELIXIR OF FERROUS CHLORIDE.)

Sulphate of Iron, Crystallized	256	grains
Bicarbonate of Sodium.....	200	“
Hydrochloric Acid. Simple Elixir, Distilled Water, of each a sufficient quantity.		

Dissolve the sulphate of iron and bicarbonate of sodium separately, each in sixteen fluid ounces of distilled

water, and mix the solutions; pour the mixture into a bottle; which must be filled to the stopper, using more distilled water if necessary, and permit it to rest twenty-four hours; decant the clear solution and refill the bottle with freshly distilled water, shaking well, and permit it to stand as before. After twenty-four hours decant the solution; pour the residue upon a fine muslin strainer and squeeze the liquid from it. Dissolve the precipitate by trituration in a mortar, with hydrochloric acid in sufficient amount, and then add enough simple elixir to make sixteen fluid ounces, and filter it.

Each fluid drachm (teaspoonful) of the finished elixir contains of chloride of protoxide of iron (ferrous chloride) an amount which is equivalent to two grains of crystallized sulphate of iron.

This elixir may also be made by the action of hydrochloric acid on metallic iron, using the same amount of acid, two hundred grains of iron, two fluid ounces of water, and a sufficient quantity of simple elixir. Digest the iron, water and acid together until the action ceases; filter, and mix the filtrate with simple elixir in amount sufficient to form sixteen fluid ounces. This preparation is unstable.

ELIXIR OF HYPOPHOSPHITE OF IRON.

Hypophosphite of Calcium	128 grains
Citrate of Potassium.....	96 "
Solution of Chloride of Iron (Ferric Chloride), Simple	
Elixir, Distilled Water, of each a sufficient quantity.	

Dissolve the hypophosphite of calcium in four fluid ounces of distilled water, and carefully add solution of chloride of iron until in very slight excess. Collect the

precipitate and wash it until nearly free from chloride of calcium.

Dissolve the magma produced by the foregoing operation in eight fluid ounces of simple elixir, by the aid of the citrate of potassium, and then add enough simple elixir to bring the whole to the measure of sixteen fluid ounces.

Each fluid drachm (teaspoonful) of the finished elixir contains three-fourths of a grain of ferric hypophosphite. This improved method for making solution of hypophosphite of iron was introduced by Prof. C. Lewis Diehl in a paper read before the Kentucky Pharmaceutical Association, 1882. The original was not in our possession, and we received the abstract presented in the proceedings of the American Pharmaceutical Association just in time to insert this one formula.

ELIXIR OF IODIDE OF IRON WITH IODIDE OF QUININE.

(ELIXIR OF IODIDE OF IRON AND QUINIA.)

Iodide of Iron	16	grains
Iodide of Quinine	16	"
Simple Elixir	16	fluid ounces

Triturate the iodides in a mortar with the simple elixir, adding a little hydriodic acid if necessary, and when they are dissolved, filter, if desirable.

Each fluid drachm (teaspoonful) of the finished elixir contains one-eighth grain each of iodide of iron and of iodide of quinine. This formula was announced in the *Druggists' Circular*, 1867.

ELIXIR OF LACTATE OF IRON.

Lactate of Iron 256 grains
 Lactic Acid, Simple Elixir, of each a sufficient quantity.

Triturate the lactate of iron in a mortar with fourteen fluid ounces of simple elixir, and add of lactic acid a quantity sufficient to render the liquid distinctly acid; then add enough simple elixir to bring the whole to the measure of sixteen fluid ounces, and filter.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of lactate of iron.

ELIXIR OF LACTATE OF IRON WITH PEPSIN.

Elixir of Lactate of Iron 8 fluid ounces
 Elixir of Pepsin 8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains each of lactate of iron and saccharated pepsin.

ELIXIR OF PHOSPHATE OF IRON.

Phosphate of Iron, Soluble (U. S. P., 1883) 128 grains
 Simple Elixir 12 fluid ounces
 Distilled Water 4 " "

Dissolve the phosphate of iron in the distilled water, and add the simple elixir.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of phosphate of iron.

ELIXIR OF PHOSPHATE OF IRON WITH PHOSPHATE OF QUININE.

(ELIXIR OF PHOSPHATE OF IRON AND QUINIA.)

Elixir of Phosphate of Iron.....8 fluid ounces
Elixir of Phosphate of Quinine.. 8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain each of phosphate of iron and phosphate of quinine.

ELIXIR OF PHOSPHATE OF IRON WITH PHOSPHATE OF QUININE AND STRYCHNINE.

(ELIXIR OF PHOSPHATE OF IRON, QUINIA AND STRYCHNIA.)

Elixir of Phosphate of Iron and Quinine.....16 fluid ounces
Strychnine 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and then add the elixir. Filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain each of phosphates of iron and quinine, and one-fiftieth of a grain of strychnine.

In 1871 Mr. J. Creuse contributed an article to the *Druggists' Circular* regarding a preparation sold under the name of the foregoing elixir, and which proved to be an elixir of *pyrophosphate of iron*. It is also true that other preparations containing pyrophosphate of iron are sometimes dispensed where phosphate is specified, and physicians should be careful and use the abbreviation *phos.* only when the phosphate is desired.

ELIXIRS CONTAINING PYROPHOSPHATE OF IRON.

Pyrophosphate of iron furnishes a line of combinations which are extensively used. It is not unpleasant to the taste and is quite permanent, especially if in neutral or slightly alkaline solution. However, an excess of mineral acids or certain mineral salts decomposes it, and the excess even of acetic acid causes its solution to gelatinize after a time. This difficulty can be overcome by adding to the gelatinized elixir enough ammonia water to restore the alkaline reaction.

Pyrophosphate of iron is incompatible with solutions of alkaloidal salts, unless the resultant liquid is neutral or can dissolve the alkaloid and have an alkaline reaction. If this fact is remembered the pharmacist may save some expense and inconvenience. If, for example, the elixir of pyrophosphate of iron and quinine has gelatinized from escape of ammonia, the cautious addition of ammonia water will restore it to the original condition. If, upon the other hand, the elixir has been made of alkaline reaction, and the alkaloid has separated, the cautious addition of acetic acid will restore the transparency.

Solutions of pyrophosphate of iron can not be exposed to sunlight without decomposition, and the same to an extent is true even of daylight, without the direct rays of the sun. Those who have reason to associate pyrophosphate of iron, pepsin, and salts of the alkaloids

will find that considerable skill is necessary to make presentable and reputable preparations, and often some of these combinations are very trying to the patience of the operator. The reader is referred to our remarks under the head of pepsin and elixirs of calisaya bark and the alkaloids.

ELIXIR OF PYROPHOSPHATE OF IRON.

Pyrophosphate of Iron	256	grains
Distilled Water	2	fluid ounces
Simple Elixir, a sufficient quantity.		

Dissolve the pyrophosphate of iron in the distilled water, by the aid of a heat not exceeding 180° F., and add to the solution enough simple elixir to bring the whole to the measure of sixteen fluid ounces, and filter if necessary. If it has an acid reaction neutralize, or even render it slightly alkaline by means of ammonia water.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron. This process is essentially that adopted by the American Pharmaceutical Association (1875). The formula for elixir of pyrophosphate of iron, adopted by the Joint Committee of the Medical and Pharmaceutical Associations of the District of Columbia (1867), contained 320 grains of pyrophosphate of iron in twelve fluid ounces of the finished elixir.

ELIXIR OF PYROPHOSPHATE OF IRON WITH BISMUTH AND PEPSIN.

(ELIXIR OF AMMONIO-CITRATE OF BISMUTH WITH PEPSIN AND IRON. ELIXIR OF PEPSIN, BISMUTH AND IRON.)

Elixir of Pyrophosphate of Iron 8 fluid ounces
 Elixir of Citrate of Ammonium and Bismuth with
 Pepsin..... 8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of pyrophosphate of iron and only one-half grain each of pepsin and of ammonio-citrate of bismuth. The solution has an alkaline reaction and the pepsin, under the conditions, is of uncertain quality.

ELIXIR OF PYROPHOSPHATE OF IRON WITH CINCHONIDINE.

(ELIXIR OF IRON AND CINCHONIDIA.)

Elixir of Cinchonidine..... 8 fluid ounces
 Elixir of Pyrophosphate of Iron 8 “ “

Mix them together, and then gradually add of ammonia water, or acetic acid, an amount sufficient to render the liquid of neutral reaction and transparent; then filter it if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of pyrophosphate of iron and one-half grain of cinchonidine. The remarks concerning elixir of pyrophosphate of iron with strychnine are adapted to this preparation.

ELIXIR OF PYROPHOSPHATE OF IRON WITH CINCHONIDINE AND STRYCHNINE.

(ELIXIR OF IRON, CINCHONIDIA AND STRYCHNIA.)

Strychnine.....	2½	grains
Elixir of Pyrophosphate of Iron with Cinchonidine	16	fluid ounces
Acetic Acid, a sufficient quantity.		

Powder the strychnine and gradually add acetic acid until it is dissolved, then mix with this solution the elixir of pyrophosphate of iron with cinchonidine. Each fluid drachm (teaspoonful) of the finished elixir contains one grain of pyrophosphate of iron, acetate of cinchonidine equivalent to one-half grain of cinchonidine, and one-fiftieth grain of acetate of strychnine.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE, CINCHONIDINE AND STRYCHNINE.

(ELIXIR OF IRON, QUINIA, CINCHONIDIA AND STRYCHNIA.)

Elixir of Pyrophosphate of Iron with Quinine.....	8	fluid ounces
Elixir of Pyrophosphate of Iron with Cinchonidine...	8	" "
Strychnine.....	2½	grains
Acetic Acid, a sufficient quantity.		

Mix the elixirs, and add the strychnine previously dissolved by trituration with a sufficient amount of acetic acid. Each fluid drachm (teaspoonful) of the finished elixir contains one-fourth grain cinchonidine and one-half grain quinine, as the acetates of these alkaloids, one grain of pyrophosphate of iron, and one-fiftieth of a grain of strychnine.

ELIXIR OF PYROPHOSPHATE OF IRON WITH CINCHONINE.

(ELIXIR OF PYROPHOSPHATE OF IRON AND CINCHONIA.)

Elixir of Pyrophosphate of Iron 8 fluid ounces
Elixir of Cinchonine..... 8 " "

Mix them together, and then gradually add of ammonia water or acetic acid an amount sufficient to render the liquid of neutral reaction and transparent.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of pyrophosphate of iron and cinchonine. Our remarks concerning elixir of pyrophosphate of iron and strychnine may be applied with equal pertinence to this preparation.

ELIXIR OF PYROPHOSPHATE OF IRON AND QUININE.

(ELIXIR OF IRON AND QUINIA.)

Quinine (Alkaloid)..... 128 grains
Pyrophosphate of Iron 256 "
Simple Elixir, Distilled Water, Diluted Acetic Acid, of
each a sufficient quantity.

Triturate the quinine in a mortar, gradually adding the acetic acid until in sufficient amount to effect its solution. Dissolve the pyrophosphate of iron in two fluid ounces of warm water, and add enough simple elixir to make ten fluid ounces. To this add the solution of acetate of quinine, and then simple elixir until in amount sufficient to make the whole measure sixteen fluid ounces.

Each fluid drachm (teaspoonful) of this preparation contains two grains of pyrophosphate of iron, and the salt formed from one grain of quinine. The Newark Pharmaceutical Association (1871) adopted a formula which resembled the above, but which contained only

160 grains of pyrophosphate of iron to the pint. As 256 grains is the accepted amount of the American Pharmaceutical Association, we employ that proportion.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE AND CINCHONIDINE.

(ELIXIR OF IRON, QUINIA AND CINCHONIDIA.)

Elixir of Pyrophosphate of Iron with Quinine.....8 fluid ounces
Elixir of Pyrophosphate of Iron with Cinchonidine...8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron and the equivalent of one-half grain of quinine and one-fourth grain of cinchonidine, as the acetates of these alkaloids.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE AND CINCHONINE.

(ELIXIR OF IRON, QUINIA AND CINCHONIA.)

Elixir of Pyrophosphate of Iron with Quinine.....8 fluid ounces
Elixir of Pyrophosphate of Iron with Cinchonine.....8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of this elixir contains two grains of pyrophosphate of iron and the equivalent of one-half grain of quinine and one-fourth grain of cinchonine as the acetates of these alkaloids.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE, CINCHONINE AND STRYCHNINE.

(ELIXIR OF IRON, QUINIA, CINCHONIA AND STRYCHNIA.)

Elixir of Pyrophosphate of Iron with Quinine and
Cinchonine.....16 fluid ounces
Strychnine..... 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with enough acetic acid to effect its solution, then mix this with the elixir.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron and the equivalent of one-half grain of quinine and one-fourth grain of cinchonine as the acetates of these alkaloids, and one-fiftieth of a grain of acetate of strychnine.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE AND STRYCHNINE.

(ELIXIR OF IRON, QUINIA AND STRYCHNIA.)

Strychnine..... 2½ grains
Elixir of Pyrophosphate of Iron with Quinine.....16 fluid ounces
Acetic Acid, a sufficient quantity.

Powder the strychnine and triturate it with sufficient acetic acid to effect its solution. Mix this, with the elixir of pyrophosphate of iron with quinine. Each fluid drachm (teaspoonful) of the finished elixir contains one-fiftieth of a grain of strychnine, one grain of quinine and two grains of pyrophosphate of iron. It agrees in proportions with the formula adopted by the American Pharmaceutical Association, 1875.

160 grains of pyrophosphate of iron to the pint. As 256 grains is the accepted amount of the American Pharmaceutical Association, we employ that proportion.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE AND CINCHONIDINE.

(ELIXIR OF IRON, QUINIA AND CINCHONIDIA.)

Elixir of Pyrophosphate of Iron with Quinine.....8 fluid ounces
Elixir of Pyrophosphate of Iron with Cinchonidine...8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron and the equivalent of one-half grain of quinine and one-fourth grain of cinchonidine, as the acetates of these alkaloids.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE AND CINCHONINE.

(ELIXIR OF IRON, QUINIA AND CINCHONIA.)

Elixir of Pyrophosphate of Iron with Quinine.....8 fluid ounces
Elixir of Pyrophosphate of Iron with Cinchonine.....8 “ “

Mix them together.

Each fluid drachm (teaspoonful) of this elixir contains two grains of pyrophosphate of iron and the equivalent of one-half grain of quinine and one-fourth grain of cinchonine as the acetates of these alkaloids.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE, CINCHONINE AND STRYCHNINE.

(ELIXIR OF IRON, QUINIA, CINCHONIA AND STRYCHNIA.)

Elixir of Pyrophosphate of Iron with Quinine and
 Cinchonine.....16 fluid ounces
 Strychnine..... 2½ grains
 Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with enough acetic acid to effect its solution, then mix this with the elixir.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of pyrophosphate of iron and the equivalent of one-half grain of quinine and one-fourth grain of cinchonine as the acetates of these alkaloids, and one-fiftieth of a grain of acetate of strychnine.

ELIXIR OF PYROPHOSPHATE OF IRON WITH QUININE AND STRYCHNINE.

(ELIXIR OF IRON, QUINIA AND STRYCHNIA.)

Strychnine..... 2½ grains
 Elixir of Pyrophosphate of Iron with Quinine.....16 fluid ounces
 Acetic Acid, a sufficient quantity.

Powder the strychnine and triturate it with sufficient acetic acid to effect its solution. Mix this, with the elixir of pyrophosphate of iron with quinine. Each fluid drachm (teaspoonful) of the finished elixir contains one-fiftieth of a grain of strychnine, one grain of quinine and two grains of pyrophosphate of iron. It agrees in proportions with the formula adopted by the American Pharmaceutical Association, 1875.

ELIXIR OF PYROPHOSPHATE OF IRON WITH VALERIANATE OF QUININE AND ACETATE OF STRYCHNINE.

(ELIXIR OF VALERIANATE OF QUINIA WITH IRON AND STRYCHNIA.)

Valerianate of Quinine	128	grains
Pyrophosphate of Iron	128	"
Strychnine	2½	"
Simple Elixir	16	fluid ounces
Acetic Acid, a sufficient quantity.		

Triturate the strychnine in a mortar with acetic acid in amount sufficient to effect its solution, then add the valerianate of quinine and four fluid ounces of simple elixir and triturate until the valerianate is dissolved. Should the valerianate of quinine fail to dissolve after a moderate time add a little acetic acid. Lastly, dissolve the pyrophosphate in the remainder of the simple elixir, and mix the solutions.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of the valerianate of quinine and pyrophosphate of iron, and one-fiftieth grain of strychnine.

This formula corresponds, regarding proportions, with one offered by the *Druggists' Circular*, 1871, excepting that ours contains half the amount of pyrophosphate of iron.

ELIXIR OF PYROPHOSPHATE OF IRON WITH PEPSIN.

(ELIXIR OF IRON AND PEPSIN. FERRATED ELIXIR OF PEPSIN.)

Elixir of Pyrophosphate of Iron	8	fluid ounces
Elixir of Pepsin	8	" "

Mix them together, and if not neutral or of slightly alkaline reaction, cautiously add ammonia water until it will change blue litmus paper to red.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of pyrophosphate of iron and such a modification of pepsin as can exist under the conditions necessary to form the elixir.

**ELIXIR OF PYROPHOSPHATE OF IRON WITH PEPSIN,
BISMUTH AND STRYCHNINE.**

(ELIXIR OF IRON, PEPSIN, BISMUTH AND STRYCHNIA. ELIXIR OF PEPSIN, BISMUTH,
STRYCHNIA AND IRON.)

Elixir of Pyrophosphate of Iron	8	fluid ounces
Elixir of Ammonio-Citrate of Bismuth and Pepsin.	8	" "
Strychnine.....	2½	grains
Acetic Acid, a sufficient quantity.		

Triturate the strychnine in a mortar, with acetic acid sufficient to dissolve it, and then add the elixirs, having previously mixed them together.

Each fluid drachm (teaspoonful) of the finished elixir contains (subject to remarks which follow) one grain of pyrophosphate of iron and one-half grain each of ammonio-citrate of bismuth and of pepsin, and one-fiftieth grain of strychnine.

This mixture, like many others we have been led to consider in this work, reminds us of the poly-pharmacy of olden times, excepting that the constituents are new. In considering it we must accept that the pepsin has no value as a therapeutical agent unless its action is simply suspended by the alkaline nature of the elixir.

ELIXIR OF PYROPHOSPHATE OF IRON WITH PEPSIN AND STRYCHNINE.

(ELIXIR OF IRON, PEPSIN AND STRYCHNIA. ELIXIR OF PEPSIN, IRON AND STRYCHNIA.)

Elixir of Pyrophosphate of Iron with Pepsin.....16 fluid ounces
 Strychnine 2½ grains
 Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution, and then add the elixir of pyrophosphate of iron with pepsin.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain each of pyrophosphate of iron and of pepsin, and about one-fiftieth of a grain of strychnine, as the acetate of that alkaloid.

ELIXIR OF PYROPHOSPHATE OF IRON AND STRYCHNINE.

(ELIXIR OF IRON AND STRYCHNIA.)

Strychnine..... 2½ grains
 Elixir of Pyrophosphate of Iron16 fluid ounces
 Acetic Acid, a sufficient quantity.

Powder the strychnine and gradually add acetic acid and triturate until a clear solution results. Mix this with the elixir of pyrophosphate of iron, and if not of neutral reaction add acetic acid or ammonia water to neutralization.

Each fluid drachm (teaspoonful) of the finished elixir contains the fiftieth of a grain of strychnine in the form of acetate of strychnine, which is the proportion adopted by the American Pharmaceutical Association, 1875.

Our experience is decidedly in favor of acetic acid for making the salts of all alkaloids which are to be associa-

ted with pyrophosphate or citrate of iron. These preparations of iron are incompatible with most acids, and require to be neutral or alkaline if held in solution, while upon the contrary most alkaloids demand an excess of an acid. Acetic acid may be added until the solution of the iron salt is even slightly acid, as shown by its action on blue litmus paper, and such a solution will generally remain clear, although it may gelatinize. Every aqueous or slightly alcoholic liquid containing strychnine in solution should have if possible an acid reaction, else the alkaloid may gradually separate, and danger of poisoning follow the administration of this sediment. Hence, our directions to add enough acetic acid to overcome all alkaline reaction.

ELIXIR OF JUNIPER BERRIES.

Fluid Extract of Juniper Berries	2 fluid ounces
Simple Elixir	14 " "
Holland Gin	2 " "
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of juniper berries in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the Holland gin.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of juniper berries. A formula for elixir of juniper berries was suggested in the *Druggists' Circular*, 1878, which contained the ingredients upon which we have based our process.

ELIXIR OF JABORANDI.

Fluid Extract of Jaborandi.....	2	fluid ounces
Simple Elixir	14	“ “
Alcohol.....	½	“ “
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of jaborandi in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir will contain the medicinal principles of seven and a half minims of fluid extract of jaborandi.

KLEIN'S STOMACHIC ELIXIR.

(ELIXIR VISCERALE KLEINII.)

Extract Carduus Benedictus.....	1	troy ounce
Extract Erythræa Centaurium.....	1	“ “
Extract Gentian	1	“ “
Tincture Bitter Orange Peel.....	20	fluid ounces
Malaga Wine.....	32	“ “

Place the extracts in a mortar and bring them to a creamy consistence by trituration, with successive additions of small amounts of wine; then stir in the remainder of the wine and add the tincture of orange peel, and filter.

(From the non-Official Formulary of the Dutch Society for the Advancement of Pharmacy.)

ELIXIR LACTOPEPTIN.

Lactopeptin is private property. Under this name a preparation has been introduced and extensively adver-

tized, and through courtesy to the rightful owners, who also make an "Elixir of Lactopeptin," we refrain from interfering.

ELIXIR OF LACTUCARIUM.

Lactucarium.....	256	grains
Simple Elixir	16	fluid ounces

Triturate the lactucarium with the simple elixir, allow the mixture to remain in a covered vessel for twenty-four hours, shaking occasionally, then filter it.

Each fluid drachm (teaspoonful) of the finished elixir contains the properties of two grains of lactucarium.

LAXATIVE ELIXIR.

Fluid Extract of Rhubarb.....	$\frac{1}{2}$	fluid ounce
Fluid Extract of Senna	$\frac{1}{2}$	" "
Fluid Extract of Taraxacum.....	$\frac{1}{2}$	" "
Fluid Extract of Buckthorn Bark	$\frac{1}{4}$	" "
Fluid Extract of Ginger.....	$\frac{1}{4}$	" "
Rochelle Salt	1	troy ounce
Simple Elixir	14	fluid ounces
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extracts (having previously mixed them together) in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, dissolve in the filtrate the Rochelle salt.

This elixir is about like that of Mr. R. W. Gardner, as published in the Proceedings of the American Pharmaceutical Association, 1880, excepting that we have omitted phosphate and bicarbonate of sodium.

LEROY'S PURGATIVE ELIXIR.

Scammony	120	grains
Turpeth Root.....	60	"
Jalap.....	480	"
Diluted Alcohol.....	16	fluid ounces

Macerate the drugs (coarsely powdered) in the alcohol for twelve hours, and in a warm location, and filter. Mix the filtrate with a syrup made as follows:

Senna, bruised.....	480	grains
Boiling Water	4	fluid ounces
Sugar	3½	troy ounces

Infuse the senna in the boiling water, strain and dissolve the sugar in the liquid. This formula was published in the *Druggists' Circular*, 1875.

The above elixir must not be confounded with "Leroy's Vomito-Purgative Elixir."

LEROY'S VOMITO-PURGATIVE ELIXIR.

Fluid Extract of Senna.....	1¼	fluid ounces
Tartar Emetic	20	grains
White Wine.....	16	fluid ounces

Triturate the fluid extract of senna in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the wine, stirring well, and filter. Lastly, dissolve the tartar emetic in the filtrate. The original formula used senna leaves, instead of the fluid extract of senna.

LETTSON'S ELIXIR.

Opium	6	drachms
Castile Soap	6	"
Nutmegs	1	"
Camphor	4	"
Saffron	40	grains
Spirit of Ammonia	9	fluid ounces

Mix and reduce the drugs to a coarse powder, and macerate this in the spirit of ammonia for ten days, stirring the mixture thoroughly each day, then filter.—*Augustin.*

BITTER ELIXIR OF LIFE.*

Aloes	1	troy ounces
Cinnamon	10	" "
Calamus	2½	" "
Angelica Root	5	" "
Saffron	6	" "
Caramel	10	" "
Glycerine	215	" "
Alcohol	180	fluid ounces
Water	350	" "

Mix and reduce the drugs to a coarse powder and macerate this in the mixed alcohol and water for fourteen days, stirring the mixture thoroughly each day; then filter, and to the filtrate add the glycerine and caramel.

(HAGER.—"New Remedies," 1878.)

* The German Pharmacopœia, 1872, substitutes compound tincture of aloes for this elixir.

ELIXIR OF LACTO-PHOSPHATE OF LIME.

(ELIXIR OF LACTO-PHOSPHATE OF CALCIUM.)

Precipitated Phosphate of Calcium 128 grains
Simple Elixir, Lactic Acid, Hydrochloric Acid, Ammonia
Water, Distilled Water, of each a sufficient quantity.

Mix the precipitated phosphate of calcium with sixteen fluid ounces of cold distilled water, and add enough hydrochloric acid to dissolve it. Filter this solution, and mix with its bulk of cold water, and then add ammonia water until in slight excess. Transfer the mixture to a fine muslin strainer, and when the liquid has drained return the magma to the vessel, mix it with the amount of water before employed, and again transfer it to the strainer. As soon as the magma is again drained, transfer it to a mortar and dissolve it by the addition of a sufficient amount of lactic acid. Filter this, and add enough simple elixir to produce sixteen fluid ounces.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of lacto-phosphate of calcium.

ELIXIR OF LIQUORICE.

Fluid Extract of Liquorice..... 2 fluid ounces
Simple Elixir 14 " "
Carbonate of Magnesium, a sufficient quantity.

Triturate the fluid extract of liquorice in a capacious mortar with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of liquorice. This preparation is used mainly to disguise the taste of qui-

nine. Elixir of glycyrrhizin is an admirable substitute. The remarks concerning that elixir apply with equal pertinence to elixir of liquorice.

ELIXIR OF LIQUORICE, AROMATIC.

Fluid Extract of Liquorice.....	2	fluid ounces
Fluid Extract of Sweet Orange	$\frac{1}{2}$	" "
Fluid Extract of Coriander.....	$\frac{1}{4}$	" "
Fluid Extract of Angelica Seed.....	$\frac{1}{4}$	" "
Fluid Extract of Cinnamon.....	$\frac{1}{4}$	" "
Fluid Extract of Cloves.....	$\frac{1}{8}$	" "
Simple Elixir	13	" "
Alcohol.....	$\frac{1}{2}$	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extracts, having previously mixed them together in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of liquorice, together with aromatics. This elixir is used to disguise the taste of quinine, which it accomplishes mainly by rendering it insoluble; hence, we refer the reader to our remarks concerning elixir of glycyrrhizin, which may with equal pertinence be applied to this preparation.

Aromatic elixir of liquorice was introduced through the *Druggists' Circular*, in 1879, although similar preparations had been employed previously, and the elixir of liquorice of Mr. G. G. C. Sims (see *Druggists' Circular*, 1874) was nearly identical with the above.

ELIXIR E SUCCO LIQUIRITIÆ.

(PECTORALE ELIXIR.)

Purified Liquorice 2 parts, by weight
 Fennel Water 6 " " "

Make a solution, and add of—

Anisated Spirit of Ammonia* 2 parts, by weight

It forms a cloudy, brown liquid, which must be shaken up before dispensing. It should be preserved in well-closed vessels.—*German Pharmacopœia*, 1870.

This preparation is also called Elixir Pectorale Regis Danitæ, or Pectoral Elixir of the King of Denmark.

ELIXIR OF CITRATE OF LITHIUM.

Citrate of Lithium 256 grains
 Simple Elixir 16 fluid ounces

Dissolve the citrate of lithium in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of citrate of lithium. This proportion was adopted by the Joint Committees of the National College of Pharmacy and the Medical Society of the District of Columbia.

**Anisated Spirit of Ammonia*. Dissolve one part of oil of anise in twenty-four parts of alcohol, and add five parts of ammonia water. All the proportions are by weight.

ELIXIR OF LUPULIN.

Fluid Extract of Lupulin.....	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of lupulin in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, **stirring well**; permit the mixture to macerate in a closed vessel for twelve hours, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such an amount of seven and a half minims of fluid extract of lupulin as will dissolve in the menstruum.

Elixir of Lupulin was introduced by Prof. C. Lewis Diehl, in 1872.

ELIXIR OF MALTO-PEPSIN.

Malto-Pepsin is private property. Under this name a preparation has been introduced and extensively advertised, and through courtesy to the rightful owners, who also make an "Elixir of Malto-Pepsin," we refrain from interfering.

ELIXIR OF MATICO.

Fluid Extract of Matico	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of matico in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple

elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such part of seven and a half minims of fluid extract of matico as will dissolve in the menstruum employed in its preparation. We consider alcohol of specific gravity 0.820 to be the proper menstruum for exhausting the medicinal principles from matico, and the addition of water decreases its solvent power in proportion to the amount of water added. In consequence of this fact we object to an elixir of matico.

COMPOUND ELIXIR OF MATICO.

Fluid Extract of Matico	3	fluid ounces
Fluid Extract of Buchu	1	" "
Fluid Extract of Cubebs	1	" "
Simple Elixir	16	" "
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts, and evaporate the mixture, at a temperature of about 150° F., to one half its bulk. Triturate this with a sufficient amount of carbonate of magnesium to form a creamy mixture, then gradually stir in the simple elixir, and filter. The fluid extracts for the foregoing preparation should be made with alcohol s. g. 0.820. The proportion and ingredients of this elixir, and upon which we have based our formula, were given in the *Druggists' Circular*, 1880.

Each fluid drachm of the finished elixir will contain such an amount of the properties of about eleven minims of fluid extract of matico and three and one-half minims each of buchu and cubebs, as will dissolve in the menstruum. Since, in our opinion, strong alcohol only

will perfectly extract the medicinal principles of these drugs, the actual value of this elixir is very much less than that of an equivalent amount of the original fluid extracts, and its use by the physician must be unsatisfactory.

ELIXIR OF MAY-APPLE.

(ELIXIR OF PODOPHYLLUM. ELIXIR OF MANDRAKE.)

Fluid Extract of May-apple	2	fluid ounces
Simple Elixir	14	" "
Alcohol	$\frac{1}{2}$	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of May-apple in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture, then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents such an amount of seven and one-half minims of fluid extract of May-apple as the menstruum can dissolve. Since resin of podophyllum is almost insoluble in water, we do not admire the above preparation.

COMPOUND ELIXIR OF MAY-APPLE.

(COMPOUND ELIXIR OF PODOPHYLLUM. COMPOUND ELIXIR OF MANDRAKE.)

Fluid Extract of May-apple	$1\frac{1}{2}$	fluid ounces
Fluid Extract of Senna	1	" "
Oil of Anise	10	minims
Simple Elixir	14	fluid ounces
Alcohol	$\frac{1}{2}$	" "
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and triturate this in a capacious mortar, with carbonate of magnesium in amount sufficient

to form a creamy mixture, having previously triturated the oil of anise with the magnesium carbonate; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents (subject to conditions noted under elixir of May-apple) about five minims of fluid extract of May-apple, and three minims of fluid extract of senna. A formula for this preparation was proposed by the *Druggists' Circular*, 1872, containing in substance the foregoing ingredients. The remarks we make regarding elixir of May-apple, applies to this compound also, although we have the advantage of the senna in this instance, which yields its medicinal principles to the menstruum composing the elixir.

COMPOUND ELIXIR OF MYRRH.

(ELIXIR MYRRHÆ COMPOSITUM.)

Extract of Savin.....	I	troy ounce
Tincture of Castor.....	I	pint
Tincture of Myrrh.....	½	"

Digest them together and strain. "This preparation is improved from one described in some former dispensatories, under the name of *Elixir Uterinum*."

(New Dispensatory, London, 1770.)

ELIXIR OF NUX VOMICA.

Tincture of Nux Vomica.....	256	minims
Simple Elixir.....	14	fluid ounces
Alcohol.....	½	" "
Acetic Acid.....	60	minims
Powdered Wood Charcoal, a sufficient quantity.		

Triturate the tincture of nux vomica in a capacious mortar, with powdered wood charcoal in amount sufficient

to form a pasty mixture, then gradually add the simple elixir, which has previously been mixed with the acetic acid, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents two minims of tincture of nux vomica.

The foregoing is a modification of a formula suggested by Mr. E. J. Davidson, in the *American Journal of Pharmacy*, 1878. We use acetic acid to hold the alkaloids in solution should the charcoal be alkaline, and use charcoal, since the menstruum is incompatible with both magnesium carbonate and magnesium phosphate.

McMUNN'S ELIXIR OF OPIUM.

This preparation has for several years enjoyed quite a reputation, and is still a favorite with many physicians. The original "McMunn's Elixir," a proprietary preparation, was a denarcotized solution of opium. In connection with the history of this elixir, we find that Mr. Augustine Duhamel contributed to the *American Journal of Pharmacy*, 1846, as follows:

"A preparation much in vogue at the present time, and known as McMunn's Elixir of Opium, is supposed to be a solution of meconate of morphine, obtained from a cold infusion of opium, to which wine has been added in sufficient quantity to ensure its preservation."

In 1851 Mr. Eugene Dupuy, of New York, in a communication to the same journal, proposed as a substitute for McMunn's elixir an aqueous solution of opium preserved with alcohol. Afterward (1864) the *Medical and Surgical Recorder*, of Philadelphia, published what we have every reason to suppose is the authentic

formula. This was found among the effects of the late Dr. J. R. Chilton, who stated that he obtained it from Dr. John B. McMunn, the originator of the elixir. The process may be summarized as follows:

Exhaust gum opium with successive macerations in sulphuric ether. After the final decantation of the ether, boil the opium in water until all odor of sulphuric ether has disappeared, and then strain the solution, permit it to settle, decant the clear liquid, and add rather more than its bulk of alcohol.

It will be observed that the foregoing process produces simply a solution of opium from which the narcotine and and opium odor have been removed by means of previous maceration with sulphuric ether, and the officinal (1883) deodorized tincture of opium may be considered a substitute.

ELIXIR OF ORANGE.

Oil of Orange, fresh and pure*	30	minims
Simple Syrup.....	8	fluid ounces
Alcohol.....	4	" "
Distilled Water.....	4	" "
Carbonate of Magnesium	½	troy ounce

Triturate the oil of orange, in a capacious mortar, with the carbonate of magnesium; then gradually add the simple syrup, stirring well, having previously mixed it with the water and one-half the alcohol, and filter it. Lastly, mix the filtrate with the remainder of the alcohol. This has an excellent flavor, and can be used instead of simple

* Pure oil of orange must be used in this preparation. Much of the commercial oil produces an elixir which has the odor and taste of turpentine, and sometimes only of turpentine. We will suggest that pure oil of orange can only be obtained by paying the price at which it can be sold, but it does not follow that all of the high-priced oil is pure.

elixir if preferred. Our simple elixir contains more oil than the foregoing, but it is more troublesome to make.

ELIXIR OF PANCREAS.

Take six pancreas and chop them into pieces, and macerate three days in a mixture of—

Water.....	12	pints
Glycerine.....	2½	"
Hydrochloric Acid.....	4	fluid ounces

Then strain and add two and one-half fluid drachms of oil of orange, glycerine in amount sufficient to produce twenty pints, and then filter.

This formula was announced in 1873, through the *American Journal of Pharmacy*, by Dr. R. V. Mattison, who states that one fluid drachm of the elixir will emulsify one-half of a fluid ounce of cod liver oil.

ELIXIR OF PAREIRA BRAVA.

Fluid Extract of Pareira Brava.....	2	fluid ounces
Simple Elixir.....	14	" "
Carbonate of Magnesium, a sufficient quantity		

Triturate the fluid extract of pareira brava, in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of pareira brava.

ELIXIR OF PAREIRA BRAVA AND BUCHU.

Elixir of Buchu..... 8 fluid ounces

Elixir of Pareira Brava..... 8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains such an amount of four minims each of fluid extract of buchu and fluid extract of pareira brava as will dissolve in the menstruum.

ELIXIR PAREGORICUM.

(CAMPHORATED TINCTURE OF OPIUM)

The formula of the London Pharmacopœia, 1770, was taken from Le Mort, excepting honey, liquorice and potassium carbonate. It is stated in the "New Dispensatory," published in London, 1770, that this preparation was originally known as "Elixir Asthmaticum."

PECTORAL ELIXIR OF THE EDINBURGH PHARMACOPŒIA, 1770.

Balsam Tolu..... 2 troy ounces

Balsam Peru..... 1 " "

Benzoic Acid..... $\frac{1}{2}$ " "

Saffron..... $\frac{1}{2}$ " "

Alcohol..... 32 fluid ounces

Digest in a sand bath for three days, then filter. (It should be made by maceration, instead of heat.—L). The pectoral elixir of modern times is "Elixir e Succo Liquiritæ," to which the reader is referred.

ELIXIRS CONTAINING PEPSIN.

It has been shown by Prof. Emil Scheffer that pepsin is incompatible with alcohol. By an elaborate series of experiments Prof. Scheffer demonstrated that even the amount of alcohol which exists in sherry wine prevents the wine from dissolving pepsin from the mucus membrane of the pig's stomach (*Journal of Pharmacy*, 1870). In connection with this portion of our subject we quote from Prof. Scheffer's writings, as follows: "After these experiments I do not hesitate to say that the so-called wine of pepsin does not contain any pepsin at all, and that all the medical virtue of it has to be attributed to the wine itself."

In continuance, 1872, the same author shows that solution of ammonio-citrate of bismuth is incompatible with pepsin, and hence he concludes that the benefit derived from the use of "Elixir of Pepsin and Bismuth" was due to the alcohol or the bismuth salt. Notwithstanding these facts it is well known that elixirs containing pepsin and bismuth associated are among the most popular. Let us now consider another phase of the subject. If hydrochloric acid is added to solution of ammonio-citrate of bismuth, as is well known, a precipitate immediately results. Here we have an additional incompatible, for hydrochloric acid is usually employed in making solutions of pepsin, and we might be led to argue therefrom that both the pepsin and the bismuth are

probably absent from "Elixir of Pepsin and Bismuth," and hence that the value of this elixir depends upon the alcohol only. We have been somewhat successful in overcoming the incongruities we have just named by substituting acetic acid for hydrochloric acid in the preparation of the pepsin liquid, * thus permitting it to be mixed with the bismuth solution without precipitation of bismuth, and also the apparent solution of pepsin in the presence of ammonio-citrate of bismuth. We use the term "apparent solution of pepsin," for although the pepsin undoubtedly disappears, it does not necessarily follow that it dissolves and remains active pepsin. Perhaps it is so modified as to be devoid of digestive value, and still remain dissolved. Upon the other hand, even if this is the case, it is barely possible that such a pepsin is only paralyzed, and that its vitality will return when it is taken into the stomach. This subject is peculiarly painful to the conscientious pharmacist, and were it not true that these combinations are demanded by physicians, we might even ignore them altogether. As it is, our remarks may be of value, and the result of our experiments may be interesting to others.

* It is by no means certain that such a solution of pepsin is injured regarding its digestive power by the substitution of acetic acid for hydrochloric acid. True it is that to dissolve albumen artificially hydrochloric acid is necessary, but the juices in the stomach may render it unnecessary. See Elixir of Pepsin.

ELIXIR OF PEPSIN.

Pepsin, Saccharated*	256	grains
Simple Elixir.....	16	fluid ounces
Acetic Acid.....	2	fluid drachms

Mix them together and shake occasionally during a period of not less than twenty-four hours. Do not filter unless absolutely necessary. The acid usually employed to effect the solution of pepsin (hydrochloric acid) is substituted in this case by acetic acid. We do this in order to obtain a simple elixir of pepsin more compatible with certain iron salts and with ammonio-citrate of bismuth. Hydrochloric acid may be necessary in connection with pepsin to effect the artificial solution of coagulated albumen, but we are by no means convinced that it is a necessity when the pepsin is in the stomach. Indeed, the probabilities are that the gastric juice supplies the acid principle, even in very dyspeptic persons, and reports from those who use dry pepsin corroborate the inference.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of saccharated pepsin.

The formula first brought to our notice for elixir of pepsin appeared in the *Druggists' Circular*, 1869. Fresh rennet was employed, with salt, wine and aromatics. The formula we present contains the proportion of pepsin recommended by the American Pharmaceutical Association, 1873.

*Saccharated pepsin is official (1883), hence our direction to use this form. At present pepsin nearly pure in scales may be readily obtained, and there can certainly be no objection to the use of an equivalent proportion.

**ELIXIR OF PEPSIN WITH CITRATE OF AMMONIUM
AND BISMUTH, AND PHOSPHATE OF QUININE.**

(ELIXIR OF PEPSIN, BISMUTH AND QUINIA.)

Elixir of Pepsin and Ammonio-Citrate of Bismuth. 8 fluid ounces
Elixir of Phosphate of Quinine..... 8 " "

Mix them together, and neutralize very carefully by means of acetic acid or ammonia water.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain each of saccharated pepsin, ammonio-citrate of bismuth and phosphate of quinine. This elixir should be discarded, as it is uncertain, unstable and made of incompatibles.

ELIXIR OF PEPSIN AND PHOSPHATE OF CINCHONIDINE.

(ELIXIR OF PEPSIN AND CINCHONIDIA.)

Elixir of Pepsin..... 8 fluid ounces
Elixir of Phosphate of Cinchonidine..... 8 " "

Mix them together. If not of acid reaction add a sufficient amount of acetic acid.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin and one-half grain of phosphate of cinchonidine.

ELIXIR OF PEPSIN WITH PHOSPHATE OF CINCHONIDINE AND STRYCHNINE.

(ELIXIR OF PEPSIN, CINCHONIDIA AND STRYCHNIA.)

Elixir of Pepsin and Phosphate of Cinchonidine ... 8 fluid ounces
Strychnine .. 2½ grains
Acetic Acid, a sufficient quantity.

Triturate the strychnine in a mortar, with acetic acid in sufficient amount to effect its solution, and then add

the elixir. If not of acid reaction, add a sufficient amount of acetic acid.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin, one-half grain of phosphate of quinine and one-fiftieth of a grain of strychnine.

ELIXIR OF PEPSIN AND PHOSPHATE OF CINCHONINE.

(ELIXIR OF PEPSIN AND CINCHONIA.)

Elixir of Pepsin	8 fluid ounces
Elixir of Phosphate of Cinchonine	8 " "

Mix them together. If not of acid reaction add acetic acid in sufficient amount.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin and one-half grain of phosphate of cinchonine.

ELIXIR OF PEPSIN WITH PHOSPHATE OF CINCHONINE AND STRYCHNINE.

(ELIXIR OF PEPSIN, CINCHONIA AND STRYCHNIA)

Elixir of Pepsin and Phosphate of Cinchonine	8 fluid ounces
Strychnine	2½ grains
Acetic Acid, a sufficient quantity.	

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and then add the elixir.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin, one-half grain of phosphate of cinchonine, and about one-fiftieth grain of strychnine.

ELIXIR OF PEPSIN AND WAFER ASH.

(ELIXIR OF PTELEA AND PEPSIN.)

Fluid Extract of Ptelea..... 2 fluid ounces
 Elixir of Pepsin16 " "
 Powdered Wood Charcoal, a sufficient quantity.

Triturate the fluid extract of ptelea with powdered wood charcoal in amount sufficient to form a thick, pasty mixture; then gradually add the elixir of pepsin, and filter.

Each fluid drachm of this preparation represents such an amount of seven and a half grains of the medicinal principles of ptelea as will dissolve in the elixir of pepsin, and two grains of saccharated pepsin. However, as the proper menstruum for extracting these principles from ptelea trifoliata is alcohol s. g. 0.820, the elixir is not a representative of the fluid extract of ptelea used in making it. We direct powdered wood charcoal, instead of the magnesium carbonate or magnesium phosphate, as the first would neutralize the acid of the elixir of pepsin, while the last would dissolve to a considerable extent.

ELIXIR OF PEPSIN AND PHOSPHATE OF QUININE.

(ELIXIR OF PEPSIN AND QUINIA.)

Elixir of Pepsin..... 8 fluid ounces
 Elixir of Phosphate of Quinine..... 8 " "

Mix them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin and one-half grain of quinine.

**ELIXIR OF PEPSIN, PHOSPHATE OF QUININE AND
STRYCHNINE.**

(ELIXIR OF PEPSIN, QUINIA AND STRYCHNIA.)

Elixir of Pepsin.....	8	fluid ounces
Elixir of Phosphate of Quinine.....	8	“ “
Strychnine	2½	grains
Acetic Acid, a sufficient quantity.		

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution; then add the elixirs, having previously mixed them together.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin, one-half grain of quinine, and one-fiftieth of a grain of strychnine.

**ELIXIR OF PEPSIN, PHOSPHATE OF QUININE, STRYCH-
NINE AND CITRATE OF AMMONIUM
AND BISMUTH.**

(ELIXIR OF PEPSIN, QUINIA, STRYCHNIA AND BISMUTH.)

Elixir of Phosphate of Quinine.....	8	fluid ounces
Elixir of Pepsin and Ammonio-Citrate of Bismuth..	8	“ “
Strychnine	2½	grains
Acetic Acid, a sufficient quantity.		

Triturate the strychnine in a mortar, with acetic acid in amount sufficient to effect its solution, and then add the elixirs, having previously mixed them together. If the elixir has an acid or an alkaline reaction, cautiously add enough ammonia water or acetic acid, as the case may demand, to render it neutral.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain each of saccharated pepsin, quinine and ammonio-citrate of bismuth, and about one-fiftieth grain of strychnine. This is an association of incongruities, and should be discarded.

ELIXIR OF PEPTONE.

Peptone	½	troy ounces
Sugar.....	3½	“ “
Alcohol	1	fluid ounces
Port Wine	4	“ “
Water	2	“ “

Dissolve the peptone in the water, then add the wine and sugar, and after the sugar has dissolved add the alcohol.

— A. PETTIT.

ELIXIR OF PHOSPHORUS.

Phosphorus	1¼	grains
Ether	3	fluid drachms
Alcohol	1¼	fluid ounces
Essence of Peppermint	1	fluid drachm
Glycerine	2	fluid ounces
Simple Elixir.....	12	“ “

Weigh the phosphorus carefully in a glass-stoppered vial, and then add the ether; agitate until the phosphorus dissolves, then add the alcohol and the essence of peppermint; now slowly add the glycerine, stirring well, and lastly the simple elixir.

Each fluid drachm (teaspoonful) of the finished elixir contains the one-hundredth of a grain of phosphorus. Elixir of phosphorus is liable to become milky, owing to the fact that phosphorus is insoluble in water. This formula is essentially that of Mr. J. G. Luhn, as published in the *American Journal of Pharmacy*, 1874.

COMPOUND ELIXIR OF PHOSPHORUS.

Elixir of Phosphorus	16 fluid ounces
Tincture of Nux Vomica	384 minims

Gradually add the tincture of nux vomica to the elixir of phosphorus, stirring well during the process.

The elixir is also that of Mr. J. G. Luhn. Each fluid drachm contains one-hundreth of a grain of phosphorus and two minims of tincture of nux vomica.

ELIXIR OF PHOSPHORUS WITH QUININE AND STRYCHNINE.

Elixir of Phosphorus	8 fluid ounces
Elixir of Phosphate of Quinine	8 " "
Strychnine	2½ grains
Acetic Acid, a sufficient quantity.	

Triturate the strychnine with acetic acid in sufficient amount to effect its solution, and then add the elixirs.

Each fluid drachm (teaspoonful) of the finished elixir contains one-half grain of quinine, one-fiftieth of a grain of strychnine, and the two-hundreth part of a grain of phosphorus. This formula in substance was presented at the meeting of the Pennsylvania Pharmaceutical Association, 1881.

ELIXIR OF ACETATE OF POTASSIUM.

Acetate of Potassium	512 grains
Simple Elixir	15½ fluid ounces

Dissolve the acetate of potassium in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains four grains of acetate of potassium.

ELIXIR OF ARSENITE OF POTASSIUM.

Solution of Arsenite of Potassium (Fowler's Solution) . . . 256 minims
Simple Elixir, a sufficient quantity.

Mix the solution of arsenite of potassium with enough simple elixir to produce sixteen fluid ounces.

Each fluid drachm (teaspoonful) of the finished elixir contains two minims of solution of arsenite of potassium. Dose, one fluid drachm (teaspoonful), which may be cautiously increased to twice that amount.

ELIXIR OF ACETATE OF POTASSIUM AND BUCHU.

Acetate of Potassium 640 grains
Elixir of Buchu, a sufficient amount.

Dissolve the acetate of potassium in enough elixir of buchu to produce sixteen fluid ounces.

Each fluid drachm represents five grains of acetate of potassium.

ELIXIR OF BUCHU, JUNIPER, AND ACETATE OF POTASSIUM.

This preparation is made by parties who have advertised and created a demand for it in certain sections of our country, and to whom the formula rightfully belongs. Through courtesy to these gentlemen we do not give a process for making it.

ELIXIR OF BROMIDE OF POTASSIUM.

Bromide of Potassium 1280 grains
Simple Elixir, a sufficient quantity.

Dissolve the bromide of potassium in twelve fluid ounces of simple elixir, and add to this solution enough

simple elixir to bring the whole to the measure of sixteen fluid ounces.

Each teaspoonful of the finished elixir represents ten grains of potassium bromide, and is the same in strength as that adopted by the American Pharmaceutical Association, 1875.

ELIXIR OF IODIDE OF POTASSIUM.

Iodide of Potassium.....256 grains
Simple Elixir, a sufficient quantity.

Dissolve the iodide of potassium in enough simple elixir to produce sixteen fluid ounces, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of iodide of potassium.

ELIXIR PROPRIETATIS.

(PARCELSUS' ELIXIR.)

Myrrh	3 troy ounces
Aloes	3 " "
Saffron.....	3 " "
Alcohol	2 pints

Reduce the drugs to a coarse powder, and macerate in the alcohol fourteen days, stirring the mixture thoroughly each day; then filter. (See also page 13.)

(Supplement to London Pharmacopœia, 1821.)

ELIXIR PROPRIETATIS CUM ACIDO.

Add to elixir proprietatis, of aromatic sulphuric acid an amount sufficient to render it fairly acid. The sup-

plement to the London Pharmacopœia, 1821, directs what in these days would be considered an unreasonable amount of acid. (See also our formula on page 13, which is Boerhaave's original formula for making "Elixir Proprietatis with Distilled Vinegar.")

RADCLIFF'S PURGING ELIXIR.

Jalap	7½	troy ounces
Cape Aloes	5	" "
Gentian:	2	" "
Canella Alba	1½	" "
Orange Peel, Bitter	1	" "
Grains of Paradise	3	drachms
Scammony	1½	ounces
Senna	1½	"
Diluted Alcohol	16	pints

Reduce the drugs to a coarse powder, mix them with the diluted alcohol and macerate fourteen days, stirring the mixture thoroughly each day; then filter.

(Supplement to London Pharmacopœia, 1821)

COMPOUND ELIXIR OF RASPBERRY.

Fluid Extract of Rhatany	1	fluid ounces
Fluid Extract of Cinnamon	¼	" "
Fluid Extract of Cloves	¼	" "
Fluid Extract of Alspice	¼	" "
Fluid Extract of Nutmeg	¼	" "
Raspberry Juice	8	" "
Simple Elixir	6	" "
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and triturate the mixture in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add

the simple elixir, previously mixed with the raspberry juice, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

The proportions of this elixir, essentially those we have given in our formula, were announced in the *Druggists' Circular*, 1872.

RED ELIXIR.

(RED SIMPLE ELIXIR.)

Simple Elixir, or Elixir of Orange, any convenient quantity.

Color it with solution of carmine until of a distinct red color.

This elixir is incompatible with acids and certain metallic salts, which precipitate the coloring matter. Red elixir is used as a flavor.

COMPOUND ELIXIR OF RHAMNUS FRANGULA.

Fluid Extract of Rhamnus Frangula.....	2	fluid ounces
Fluid Extract of Rhubarb	2	" "
Simple Elixir	14	" "
Alcohol.....	½	" "

Carbonate of Magnesium, a sufficient quantity.

Mix the fluid extracts, and evaporate them at a temperature not exceeding 150° F., until reduced to two fluid ounces. Triturate this in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents seven and a half minims each of fluid extracts of rhubarb and rhamnus frangula.

ELIXIR OF RHAMNUS PURSHIANA.

(ELIXIR OF CASCARA SAGRADA.)

Fluid Extract of Rhamnus Purshiana.....	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of rhamnus purshiana in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of rhamnus purshiana.

COMPOUND ELIXIR OF RHAMNUS PURSHIANA.

Fluid Extract of Rhamnus Purshiana.....	2	fluid ounces
Fluid Extract of Belladonna	64	minims
Tincture of Cardamom	30	"
Citrate of Strychnine	1	grain
Ammoniacal Glycyrrhizin	30	grains
Simple Elixir	16	fluid ounces
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the mixed fluid extracts in a capacious mortar, with ammoniacal glycyrrhizin and carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol, and dissolve in this the citrate of strychnine, and add the tincture of cardamom.

Each fluid drachm of the finished elixir represents about seven and one-half minims of fluid extract of rhamnus purshiana and one-half minim of fluid extract of bel-

ladonna, and one hundred and twenty-eighth of a grain of citrate of strychnine.

This mixture was announced by Mr. H. L. Coit, but we do not know that it was of his concoction. It certainly is one of the most objectionable of combinations, and as unreasonable as though handed down from the fifteenth century. Such mixtures furnish strong points for those who oppose elixirs.*

ELIXIR ROBORANS WHYTII.

Yellow Cinchona Bark	3	troy ounces
Gentian	1	" "
Bitter Orange Peel	1	" "
Alcohol	16	fluid ounces
Cinnamon Water	8	" "

Reduce the drugs to a coarse powder and prepare a tincture by percolation, using a mixture of the alcohol and cinnamon water. This preparation is a modern tincture, although it was once classed with elixirs. The German Pharmacopœia (1872) recognizes, under the above name, the compound tincture of cinchona.

ELIXIR OF RHUBARB.

Fluid Extract of Rhubarb	2	fluid ounces
Simple Elixir	14	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of rhubarb in a capacious mortar, with carbonate of magnesium in amount sufficient

*In our introduction (page 23) will be found the statement that we have not deviated from the proportion of one-fiftieth of a grain of strychnine to each fluid drachm of the finished elixir. This preparation is an exception.

to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter.

Each fluid drachm of the finished elixir represents seven and a half minims of fluid extract of rhubarb.

ELIXIR RHUBARB, COMPOUND.

Rhubarb	20	troy ounces
Cloves	8	" "
Saffron	8	" "
Nutmegs	20	" "
Ether	10	fluid ounces
Sherry Wine	200	" "
Diluted Alcohol	20	" "

Mix the drugs and reduce them to a coarse powder, and macerate this in the mixed alcohol and wine for fourteen days, stirring the mixture thoroughly each day; then filter, and add the ether.

This elixir is recommended as a vehicle for disguising the taste of castor oil, and was introduced by Mr. Bidone Carlo, who states that one part of this elixir will remove the taste and odor from three parts of castor oil. It was named "Elixir of Rhubarb," but to avoid confusion with the regular and simple elixir of rhubarb we have added the word *compound*.

(See New Remedies, 1880.)

ELIXIR OF RHUBARB AND COLUMBO.

Elixir of Rhubarb	5	fluid ounces
Elixir of Columbo	5	" "
Simple Elixir	6	" "

Mix them together.

Each fluid drachm of the finished elixir represents

about two minims each of fluid extract of rhubarb and fluid extract of columbo.

ELIXIR OF RHUBARB AND MAGNESIA.

(ELIXIR OF RHUBARB AND MAGNESIUM SULPHATE.)

Fluid Extract of Rhubarb.....	4 fluid ounces
Sulphate of Magnesium	1024 grains
Simple Elixir.....	32 fluid ounces
Carbonate of Magnesium, a sufficient quantity.	

Triturate the fluid extract of rhubarb with carbonate of magnesium until of a creamy consistence, then gradually add the simple elixir in which the sulphate of magnesium has been previously dissolved; permit the mixture to remain for a few hours in a closed vessel, then filter.

Each fluid drachm contains seven and a half minims of fluid extract of rhubarb and eight grains of sulphate of magnesium.

Under the name Elixir of Rhubarb and Magnesia, this elixir was noticed in *New Remedies*, 1877. Among the formulæ introduced by Mr. G. W. Gardner to the American Pharmaceutical Association at its meeting in Saratoga, was an an "Elixir of Rhubarb and Magnesium Acetate."

ELIXIR OF SALACIN.

Salacin.....	256 grains
Simple Elixir.....	12 fluid ounces
Distilled Water	4. " "

Boil the water and dissolve in it the salicin, and mix this solution with the simple elixir. Filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of salicin.

SACRED ELIXIR.

(ELIXIR SACRUM. TINCTURE RHEI ET ALOES.—Ed. Pharm., 1770.)

Rhubarb.....	5	drachms
Aloes.....	3	"
Cardamom	2	"
Brandy.....	16	fluid ounces

Mix the drugs and reduce them to a coarse powder, and macerate this in the brandy for fourteen days, stirring the mixture thoroughly each day ; then filter.

(Edinburgh Pharmacopœia, 1770.)

ELIXIR OF SALICYLIC ACID.

Salicylic Acid.....	128	grains
Powdered Borax	128	"
Simple Elixir	16	fluid ounces

Triturate the salicylic acid and powdered borax together, add the simple elixir, and when the powders are dissolved filter the liquid.

Each fluid drachm (teaspoonful) of the finished elixir contains one grain of salicylic acid.

In March, 1881, Dr. Wolff presented a formula for making this elixir, to the Philadelphia College of Pharmacy, using salicylic acid, alcohol and simple elixir. In our hands it failed, the salicylic acid crystallizing as soon as the simple elixir was added to the alcoholic solution. We have met with little success when we have endeavored to make an elixir of this acid without using some substance such as borax to act as a solvent. Of course bicarbonate of sodium is not admissible, or other alkaline carbonate, or an alkali, for such will form salts of salicylic acid.

ELIXIR OF SCAMMONY.

Scammony	2	drachms
Diluted Alcohol	8	fluid ounces

Heat and set fire to the spirit, and add —

Sugar	4	troy ounces
-------------	---	-------------

When it has dissolved, extinguish the flame and add —

Syrup of Violets	2	fluid ounces
------------------------	---	--------------

—GUIBOUT.

ELIXIR SALUTIS.

(ELIXIR OF HEALTH. COMPOUND TINCTURE OF SENNA.)

Senna	2	troy ounces
Jalap	1	“ “
Coriander	$\frac{1}{2}$	“ “
Diluted Alcohol	$3\frac{1}{2}$	pints

Reduce the drugs to a coarse powder, and macerate this in the diluted alcohol for fourteen days, stirring the mixture thoroughly each day; then filter.

(Edinburgh New Dispensatory, 1818.)

ELIXIR OF SENNA.

Fluid Extract of Senna	2	fluid ounces
Simple Elixir	14	“ “
Alcohol	$\frac{1}{2}$	“ “
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of senna in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir contains the medicinal principles of seven and a half minims of fluid extract of senna.

ELIXIR SENNA COMPOUND.

Fluid Extract Senna	4	fluid ounces
Fluid Extract Taraxacum	1	" "
Compound Tincture Cardamom	½	" "
Simple Elixir.....	10	" "
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts and tincture and triturate with carbonate of magnesium until of a creamy consistence; then gradually add the simple elixir and filter.

Each fluid drachm contains seven and a half minims of fluid extract of senna, and about four minims of fluid extract of taraxacum.

(See *American Practitioner*, 1875.)

SIMPLE ELIXIR.

(WHITE ELIXIR.)

Oil of Sweet Orange	1	fluid drachm
Oil of Lemon.....	½	" "
Distilled Water	41	fluid ounces
Alcohol	13	" "
Sugar.....	32	troy ounces
Carbonate of Magnesium, one two ounce block.		

Dissolve the sugar, without heat, in the distilled water, and then mix with this solution nine fluid ounces of alcohol. Dissolve the oils in three fluid ounces of alcohol, and slowly add the liquid, stirring constantly, to the solution of sugar. Then crush the block of carbonate of magnesium between the hands, permitting the powder to gradually scatter itself over the surface of the liquid and settle to the bottom of the vessel. After standing half an hour, stir it well and transfer the mixture to a well closed vessel, and permit it to remain for six or eight hours, stirring it occasionally, and then filter it

through a double filter paper, returning the first portion and until it passes clear, and then filter it. Lastly, add the remaining one fluid ounce of alcohol.

In reviewing the above formula it may seem to the reader that we are unreasonably precise regarding certain details. If necessary, the operator may hurry the operation, but it will be found advantageous in the long run to follow our directions. The suggestion to crush the magnesium carbonate between the hands, instead of grating it through a sieve, or powdering it in a mortar, is made because we find that process advantageous. Permitting it to fall over the surface of the liquid facilitates the absorption of undissolved oils which may be present, especially if the oils of orange and lemon are sophisticated.

Simple elixir, as made according to the above formula, is very nicely flavored and acceptable. If the operator desires, he can substitute the simple elixir of the Pharmacœpia or our elixir of orange.

ELIXIR OF ARSENITE OF SODIUM.

(ELIXIR OF ARSENIC.)

Solution of Arsenite of Sodium.....256 minims
Simple Elixir, a sufficient quantity.

Mix the solution of arsenite of sodium with enough simple elixir to produce sixteen fluid ounces.

Each fluid drachm (teaspoonful) of the finished elixir contains two minims of solution of arsenite of sodium.

The dose is one fluid drachm (teaspoonful), which may be very cautiously increased if desirable. Use with care.

ELIXIR OF BROMIDE OF SODIUM.

Bromide of Sodium	256	grains
Simple Elixir	16	fluid ounces

Dissolve the bromide of sodium in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of bromide of sodium.

ELIXIR OF IODIDE OF SODIUM.

Iodide of Sodium	256	grains
Simple Elixir	16	fluid ounces

Dissolve the iodide of sodium in the simple elixir, and filter if necessary.

Each fluid drachm (teaspoonful) of the finished elixir contains two grains of iodide of sodium.

SQUIRE'S ELIXIR.

Opium	4	troy ounces
Camphor	1	" "
Cochineal	1	" "
Oil Fennel Seed	2	fluid drachms
Tincture Serpentaria	16	fluid ounces
Spirit Anise	16	pints
Water	2	"

Reduce the drugs to a coarse powder. Having previously dissolved the oil of fennel seed in the spirit of anise and mixed this with the water, add the powdered drugs and the tincture of serpentaria. Macerate fourteen days, stirring the mixture thoroughly each day; then filter.—*Supplement to the London Pharmacopœia, 1821.*

The original formula in the above work contains six

ounces of "Aurum Musivum" (sulphuret of tin), which we leave out.

ST. HUBERT'S HUNTERS' ELIXIR.

(ELIXIR DE ST. HUBERT POUR LES CHASSEURS.)

Carbolic Acid..... 1 troy ounce
Alcohol 25 " "

Mix them together.

Each fluid drachm contains about two and one-fourth minims of carbolic acid.

(CASSELLMAN, from "New Remedies," 1878.)

ELIXIR OF STILLINGIA.

Fluid Extract of Stillingia 2 fluid ounces
Simple Elixir..... 14 " "
Alcohol..... ½ " "
Carbonate of Magnesium, a sufficient quantity.

Triturate the fluid extract of stillingia in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter.

COMPOUND ELIXIR OF STILLINGIA.

Fluid Extract of Stillingia, Compound..... 2 fluid ounces
Simple Elixir 14 " "
Alcohol..... ½ " "
Carbonate of Magnesium, a sufficient quantity.

Triturate the fluid extract of stillingia compound with carbonate of magnesium in sufficient amount to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm (teaspoonful) of the finished elixir will contain such an amount of seven and a half minims of fluid extract of compound stillingia mixture as the menstruum is capable of dissolving.

STOMACHIC ELIXIR.

(ELIXIR STOMACHICUM.)

Gentian	2	troy ounces
Curacao Orange Peel	1	" "
Virginia Snake-root	$\frac{1}{2}$	" "
Cochineal	30	grains
Brandy	2	pints

Mix the drugs and reduce them to a coarse powder, and macerate this in the brandy for fourteen days, stirring the mixture thoroughly each day ; then filter.

SWEET ELIXIR OF VITROL.

(ELIXIR VITRIOLI DULCE.)

Aromatic Tincture	1	pint
Dulcified Spirit of Vitrol	8	troy ounces

Mix them together.

(London Pharmacopœia, 1770.)

STOUGHTON'S ELIXIR.

Gentian	2 $\frac{1}{2}$	troy ounces
Serpentaria	1	" "
Bitter Orange Peel	1 $\frac{1}{2}$	" "
Calamus	$\frac{1}{4}$	" "
Diluted Alcohol	6	pints

Reduce the drugs to a coarse powder, and macerate this in the diluted alcohol for fourteen days, stirring the mixture thoroughly each day ; then filter.

(Supplement to the London Pharmacopœia.)

ELIXIR OF VALERIANATE OF STRYCHNINE.

Strychnine..... $2\frac{1}{2}$ grains
 Simple Elixir16 fluid ounces
 Valerianic Acid, a sufficient quantity.

Powder the strychnine in a mortar and add two fluid ounces of simple elixir, and then enough valerianic acid to effect the solution of the strychnine. Lastly, add the remainder of the simple elixir.

The formula is essentially that presented by Prof. C. Lewis Diehl to the Louisville College of Pharmacy, excepting that we use the proportion of strychnine to conform to that adopted by the Committee on Elixirs appointed by the American Pharmaceutical Association, 1875.

Each fluid drachm (teaspoonful) of the finished elixir contains one-fiftieth of a grain of strychnine.

ELIXIR SUMBUL, COMPOUND.

(COMPOUND ELIXIR OF MUSK-ROOT.)

Fluid Extract of Sumbul.....1 fluid ounces
 Elixir Valerianate of Ammonium9 " "
 Simple Elixir4 " "
 Alcohol2 " "
 Carbonate of Magnesium, a sufficient quantity.

Triturate the fluid extract of sumbul in a wedgewood or porcelain mortar, with enough magnesium carbonate to bring it to a creamy consistence; then gradually add the elixir of valerianate of ammonium and simple elixir, and filter; mix the alcohol with the filtrate.—*New Remedies*, 1880.

If this elixir is prepared as directed in the works where the writer has observed it, by simply mixing the liquid

ingredients, an unsightly mixture results, providing the fluid extract of sumbul was made with alcohol and was not an aqueous infusion. Hence the directions we have given are for the purpose of producing a presentable liquid.

Each fluid drachm represents about four minims of fluid extract of sumbul and thirty-six minims of elixir of valerianate of ammonium.

ELIXIR OF TAR.

Pine Tar	5 troy ounces
Sugar	15 " "
Diluted Alcohol.....	100 fluid ounces

Triturate the tar and sugar together, then with the alcohol, and filter.

This was suggested by Magnes Lahens, in the *Italian Chemical Gazette*. In reality, it is solution of tar in diluted alcohol, and does not conform to the modern American elixir.

ELIXIR OF TAR COMPOUND.

Wine of Tar	16 fluid ounces
Syrup of Wild Cherry	4 " "
Syrup of Tolu.....	4 " "
Methylic Alcohol	1 " "
Sulphate of Morphine	4 grains

Dissolve the sulphate of morphine in the wine of tar, and then add the other ingredients.

(Non-official formulæ in local use, compiled and published by the Joint Committee of the Medical and Pharmaceutical Associations of the District of Columbia.)

ELIXIR OF THUJA OCCIDENTALIS.

(ELIXIR OF ARBOR VITÆ.)

Fluid Extract Thuja Occidentalis.....	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	2	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of thuja with carbonate of magnesium until of a creamy consistence; then gradually add the simple elixir, filter, and add the alcohol. A formula for elixir of thuja occidentalis was proposed by Mr. W. H. Laws, in "New Remedies," 1877. This is one of the class of substances which, in our opinion, can not be satisfactorily exhausted by means of an aqueous menstruum. The characteristic principles of thuja are oily and resinous, and these are largely precipitated by any aqueous liquid.

Each fluid drachm of this elixir represents, less the substances precipitated by the simple elixir, seven and a half minims of fluid extract of thuja occidentalis.

ELIXIR OF VALERIAN.

Fluid Extract of Valerian.....	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of valerian in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir will contain of seven and a half minims of fluid extract of valerian such an amount as the menstruum is capable of dissolving.



MYNFICHT'S ELIXIR OF VITRIOL.

This ancient elixir has been modified, and deservedly, time and again, until, excepting the sulphuric acid, it scarcely resembles its former self. It was made by the London and Edinburgh Pharmacopœias, preceding 1770, as follows:

Cinnamon	3	drachms
Ginger	3	"
Cloves	3	"
Calamus	1	troy ounces
Galangal	1½	" "
Sage	½	" "
Peppermint	½	" "
Cubebs	2	drachms
Nutmegs	2	"
Aloes	1	"
Citron Peel	1	"

Reduce these ingredients into a powder, to which add of—

Sugar Candy	3	troy ounces
Alcohol	1½	pints
Oil of Vitriol	1	"

Digest them together for twenty days, and then filter the tincture for use.

The Edinburgh Pharmacopœia, 1770, improves upon this process, modifying it until the product resembles our former aromatic sulphuric acid (elixir vitriol), U. S. P., the proportion of sulphuric acid being reduced very considerably. Those who make "Elixir of Vitriol" at the present time will find in our Pharmacopœia of 1882 a process which, in our opinion, is very much superior to any heretofore suggested, and this old formula is simply a curiosity.

SWEET ELIXIR OF VITRIOL.

(ELIXIR VITRIOLI DULCE.)

Aromatic Tincture *	1	pint
Dulcified Spirit of Vitriol †	8	troy ounces

Mix them together.

(New Dispensatory, London, 1770.)

VIGANI'S VOLATILE ELIXIR OF VITRIOL.

Dulcified Spirit of Vitriol	32	troy ounces
Oil of Peppermint	½	" "
Oil of Lemon	2	fluid drachms
Oil of Nutmeg	1	" "

Gradually drop the oils into the spirit and mix the whole well together.

This preparation is a simplification of Vigani's complex and quaint formula, and was accepted as a substitute by the Edinburgh Pharmacopœia. Of it the New Dispensatory, London, 1770, remarks: "A medicine of this kind was formerly in great esteem under the title of *Vigani's Volatile Elixir of Vitriol*, the composition of which was first communicated to the public in the *Pharmacopœia Reformata*."

* AROMATIC TINCTURE.—

Cinnamon,	6	drachms
Cardamom Seed,	3	"
Long Pepper,	2	"
Ginger,	2	"
Diluted Alcohol,	2	pints

Digest without heat, and then strain.—*London Pharmacopœia*, 1770.

† DULCIFIED SPIRIT OF VITRIOL.—This was made by distilling a mixture of sulphuric acid and alcohol. Its substitute now is Hoffmann's Anodyne, which even at that day the elixir was designed to imitate. We quote: "It is not essentially different from the celebrated anodyne liquor of Hoffmann."—*New Dispensatory*, 1770.

ELIXIR OF WAHOO.

Fluid Extract of Wahoo.....	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of wahoo, with carbonate of magnesium in sufficient amount to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

Each fluid drachm of the finished elixir will contain the medicinal principles of such an amount of seven and a half minims of fluid extract of wahoo as can be retained in solution by the menstruum.

ELIXIR OF YERBA SANTA.

Fluid Extract of Yerba Santa	2	fluid ounces
Simple Elixir	14	" "
Alcohol.....	½	" "
Carbonate of Magnesium, a sufficient quantity.		

Triturate the fluid extract of yerba santa in a capacious mortar, with carbonate of magnesium in amount sufficient to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter. Lastly, mix the filtrate with the alcohol.

This elixir has been recommended as a vehicle for administering quinine, and is said to disguise its bitterness. A process was devised by Mr. Jas. S. McCleary, whereby aromatics were added, and which we give in substance under compound elixir of yerba santa. Yerba santa contains a peculiar sweet astringent principle which may precipitate the quinine, thus rendering it insoluble. Care should be taken that the mixture be not filtered after the addition of the quinine.

COMPOUND ELIXIR OF YERBA SANTA.

Fluid Extract of Yerba Santa.....	2	fluid ounces
Fluid Extract of Sweet Orange Peel	$\frac{1}{2}$	" "
Fluid Extract of Cinnamon.....	$\frac{1}{2}$	" "
Fluid Extract of Cloves.....	$\frac{1}{4}$	" "
Simple Elixir	14	" "
Red Saunders.....	10	grains
Carbonate of Magnesium, a sufficient quantity.		

Mix the fluid extracts, add the red saunders, and triturate in a capacious mortar, with sufficient carbonate of magnesium to form a creamy mixture; then gradually add the simple elixir, stirring well, and filter.

This preparation is used for disguising the taste of quinine. (See our remarks under elixir of yerba santa.)

ELIXIR OF VALERIANATE OF ZINC.

Valerianate of Zinc.....	64	grains
Distilled Water.....	6	fluid ounces
Simple Elixir	9	" "

Triturate the valerianate of zinc with the water and then add the simple elixir. When solution of the salt results filter the liquid. Should the valerianate of zinc refuse to dissolve, cautiously drop in a little hydrochloric acid, care being taken that only enough to effect its solution is added.

Each fluid drachm (teaspoonful) of the finished elixir contains one and a half grains of valerianate of zinc.

ADDENDA.

ELIXIR OF CALISAYA.

We stated in the first edition of our work (see page 16 that "the first of these preparations which the writer can recall was thrown upon the market in this city (Cincinnati), about 1862, under the name "Cordial Elixir of Calisaya," and in a footnote we remark that "the first published formula that we can find for any of this class of preparations under the name elixir, is the formula we give for Elixir of Calisaya, by Mr. Alfred B. Taylor, from the *Journal of Pharmacy*, January, 1859. The *Druggists' Circular* of same date states that up to that time no formula for that preparation had been published."

Our historical review will have to be modified to an extent. Although we consulted several old pharmacists before issuing the work, we find that elixirs antedated the time named by many years. However, they did not come into general use until the period named by us.

Prof. P. W. Bedford, upon reviewing the book, kindly informed us that one of the popular elixirs of the present day is advertised to have been introduced in the year 1830, and we have since corroborated the evidence. Our respected friend, Mr. Chas. A. Heinisth, who doubtless is one of the oldest, as he is one of the ablest, pharmacists, wrote us shortly after the book appeared, as follows:

"I send you a copy of an old label for a 'Cordial Elixir of Quinine' my father formerly made. This label I remember appeared old when I first worked in the store, in 1838. How long it had been used, is more than I can say or remember. I had lost sight of it until I read the notice that you could find no record of elixir of calisaya before the year 1859. This Cordial Elixir of Calisaya was composed of quinine, cloves, cinnamon, bitter orange peel, capsicum, sugar and dilute alcohol."

Mr. Heinisth enclosed us a copy of the original label, taken from one of the bottles which was in the cellar of the store in 1838. We take the liberty to reproduce it, and our readers will note that it closely resembles the elixir labels of the present day:

"CORDIAL ELIXIR OF QUININE.

"This excellent preparation is particularly recommended to persons of delicate habit and weak stomach. It increases the appetite, facilitates digestion, and is well adapted to all persons living in low and marshy countries, where ague and fever prevail, and also for those who are exposed to damp and wet weather. It is taken with success by persons weakened by fever and ague, or by a copious perspiration produced by the heat of summer. Persons recovering from bilious fever should use it freely, to prevent a relapse. From half a wineglass to a wineglassful is to be taken once or twice a day, as occasion may require.

"Prepared and sold by John T. Heinisth, Druggist, East King St., Lancaster, Pa."

Our attention has been called to the following omissions:

ELIXIR OF MALT.

Fluid Extract of Malt,	- - - - -	8 fluid ounces
Simple Elixir,	- - - - -	8 fluid ounces

Mix them together. Each fluid drachm (teaspoonful) of this elixir represents thirty minims of fluid extract of malt.

If a teaspoonful of elixir of malt is mixed with a tablespoonful of starch paste made by boiling one part of starch with sixteen parts of water, the mixture will immediately become fluid at a temperature of 150° Fah. In from ten to fifteen minutes the mixture will fail to produce a blue color when dropped into dilute solution of iodine (Volumetric Solution of Iodine, U. S. P.)

ELIXIR OF MALT AND IRON.

Elixir of Malt,	- - - - -	8 fluid ounces
Elixir of Phosphate of Iron,	- - - - -	8 fluid ounces

Mix them together and filter if necessary. Each fluid drachm (teaspoonful) contains fifteen minims of fluid extract of malt, and one-half grain of phosphate of iron. *New Remedies* for August, 1883, contains a formula for this preparation, which is essentially the same as that we give. We modify it somewhat, in order that it shall conform to the other preparations of our work of a like nature.

ELIXIR OF MALT AND PEPSIN.

Elixir of Malt,	- - - - -	8 fluid ounces
Elixir of Pepsin,	- - - - -	8 fluid ounces

Mix them together. Each fluid drachm (teaspoonful) of the finished elixir contains one grain of saccharated pepsin and fifteen minims of fluid extract of malt.

INDEX.

Albertus Magnus	11-12	Clauder's elixir	59
Alkaline salt, fixed	100	Clerc, M. C.	12
Alkaloid chinoidine, to prepare, ..	66	Compound elixir of black co-	
Alkaloid quinine, to prepare ..	66	hosh	58
Alkaloidal elixir of calisaya ..	68	Compound cathartic elixir	56
Alkaloids, how to prepare them, ..	65	Compound elixir of chinoidine ..	82
Aloes and rhubarb, tincture of, ..	15	Compound elixir of cimicifuga, ..	58
Aloes, compound tincture of.	15-127	Compound elixir of corydalis ..	61
American elixirs	16	Compound elixir of dandelion ..	89
American Pharmaceutical As-		Compound elixir of dewberry ..	92
sociation and elixirs	18-21	Compound elixir of eucalyptus, ..	93
Anisated spirit of ammonia	130	Compound elixir of gentian	95
Anodyne liquor, Hoffmann's ..	167	Compound elixir of hops	102
Aromatic elixir of glycyrrhizin, ..	98	Compound elixir of macrotys ..	58
Aromatic elixir of liquorice	129	Compound elixir of mandrake ..	133
Aromatic tincture	167	Compound elixir of mayapple ..	133
Aurum musivum	167	Compound elixir of matico	132
Bacon, Friar	12	Compound elixir of mono-bro-	
Basil, Valentine	12	mated camphor	55
Bitter elixir	51	Compound elixir of musk root ..	163
Bitter elixir of life	127	Compound elixir of myrrh	134
Boerhaave	10	Compound elixir of phosphor-	
Bouchut's elixir of chloroform.	63	us	147
Calisaya, cordial elixir of	16	Compound elixir of raspberry ..	150
Camphorated tincture of opi-		Compound elixir of rhamnus	
um	15-138	frangula	151
Carmine, solution of	30	Compound elixir of rhamnus	
Cathartic elixir, compound	56	Purshiana	152
Characters once used in chem-		Compound elixir of rhubarb ..	154
istry	7	Compound elixir of senna	158
Chemistry first used in medi-		Compound elixir of stillingia ..	161
cine	12	Compound elixir of sumbul	163
Chloroform paregoric of Dr.		Compound elixir of tar	164
Hartshorne	62	Compound elixir of taraxacum, ..	89
Cinchona, compound tincture of ..	153	Compound elixir of yerba santa, ..	169
Cinchonidine alkaloid, prepara-		Compound elixirs, proportion	
tion of	66	of constituents	21
		Compound tincture of cincho-	
		na	153

Compound tincture of aloes. 15-127	Elixir of aloes and rhubarb.	156
Compound tincture of gentian. 15	Elixir amarum	51
Compound tincture of jalap. 43	Elixirs, American	16
Compound tincture of senna 11-157	Elixir of ammonio-citrate of bismuth.	48
Continuous precipitation in elixirs. 24-25	Elixir of ammonio-citrate of bism. and iron pyroph.	49
Cordial elixir of calisaya or cinchona 16-67	Elixir of ammonio-citrate of bism. and pepsin.	49
Cordial vs. elixir 16	Elixir of ammonio-citrate of bism., pepsin and strychnine	50
Criticisms on elixirs 27	Elixir of ammonio-citrate of bism. and strychnine	50
Criticisms on variety of elixirs 26-27	Elixir of ammonio-citrate of iron.	103
Daffey's elixir 14-91	Elixir of ammonium bromide.	29
De Villette's gout elixir 43	Elixir of ammonium citrate, iron chloride and wild cherry	57
Derivation of the word elixir 5	Elixir of ammonium valerianate	30
Deslaurier's elixir of calisaya and coffee 71	Elixir of ammonium valerianate and cinchonidine.	30
Deslaurier's toni-febrifuge au quinquina et café 71	Elixir of ammon. valerianate, cinchonidine and cinchonine.	35
Detannated elixir of bark. 69	Elixir of ammon. valerianate, cinchonidine and cinchonine.	33
Detannated elixir of calisaya or cinchona 69	Elixir of ammon. valerianate, cinchonidine, cinchonine and strychnine	33
Diehl's detannated elixir of calisaya 69	Elixir of ammon. valerianate, cinchonidine and iron pyrophosphate	34
Diehl, Prof. C. Lewis, and elixirs 19	Elixir of ammon. valerianate, cinchonidine, iron pyrophosphate and strychnine.	34
Dilly's daffy 91	Elixir of ammon. valerianate, cinchonine and iron pyrophosphate	35
Dr. Butler's elixir of brandy. 53	Elixir of ammon. valerianate, cinchonine and strychnine	36
Dr. Hartshorne's chloroform paregoric 62	Elixir of ammon. valerianate and iron pyrophosphate	37
Dulcified spirit of vitriol 167	Elixir of ammon. valerianate and musk root.	42
Ebert, A. E., and elixirs. 16	Elixir of ammon. valerianate and quinine	37
Elixir of acetate of chinoidine. 82	Elixir of ammon. valerianate, quinine and cinchonidine.	38
Elixir of acetate of magnesium and rhubarb 155	Elixir of ammon. valerianate, quinine, cinchonidine, iron pyrophosphate and strychnine	39
Elixir of acetate of potassium. 147		
Elixir of acetate of potassium and buchu 148		
Elixir of acetate of potassium, juniper and buchu 148		
Elixir of acid arsenious, hydrochlor. quinine and iron chloride 108		
Elixir of acid salicylic 156		
Elixir of acidum Halleri. 99		
Elixir adjuvans 29		
Elixir album 8		
Elixirs alkaloidal 64		
Elixir of aloes. 30		

Elixir of ammon. valerianate, quinine, cinchonidine and strychnine	38	Elixir of bark, strychnine and bism, ferrated.....	77
Elixir of ammon. valerianate, quinine and cinchonine.....	39	Elixir of bark and strychnine, ferrated	79
Elixir of ammon. valerianate, quinine, cinchonine and strychnine	40	Elixir of beef.....	45
Elixir of ammon. valerianate, quinine and iron pyrophosphate	40	Elixir of beef, citrate of iron, calisaya and strychnine	73
Elixir of ammon. valerianate, quinine, iron pyrophosphate and strychnine.....	41	Elixir of beef and iron.....	45
Elixir of ammon. valerianate, quinine and strychnine.....	41	Elixir of beef, iron and calisaya.....	72
Elixir of ammon. valerianate and strychnine.....	42	Elixir of beef, iron and cinchona	72
Elixir of ammon. valerianate and sumbul.....	42	Elixir of beef, iron, cinchona and strychnine	73
Elixir antiglaireux.....	43	Elixir of beef and iron citrate.....	45
Elixir of antigoutteux de Villette	43	Elixir of beef, iron citrate and calisaya	72
Elixir of arbor vitæ.....	165	Elixir of bismuth	48
Elixir aromatic	44	Elixir of bismuth and ammonium citrate.....	48
Elixir of arsenic	159	Elixir of bismuth, ammonio-citrate and iron pyrophosphate	49
Elixir of arsenic-iodide and mercury	44	Elixir of bismuth ammonio-citrate and pepsin.....	49
Elixir of arsenic, iron and quinine	108	Elixir of bismuth ammonio-citrate, pepsin and strychnine	50
Elixir of arsenious acid, hydrochlor. quinine and iron chloride	108	Elixir of bismuth ammonio-citrate and strychnine.....	50
Elixir of arsenite of potassium.....	148	Elixir of bismuth and bark, ferrated.....	77
Elixir of arsenite of sodium	159	Elixir of bismuth, bark and iron.....	77
Elixir asthmaticum	138	Elixir of bismuth, calisaya and iron.....	77
Elixir of bark	67-68	Elixir of bismuth, calisaya, iron pyrophosphate and ammon. citrate.....	77
Elixir of bark and bism., ferrated.....	77	Elixir of bismuth, cinchona, iron and strychnine	77
Elixir of bark, detannated....	69	Elixir of bismuth, ferrated....	49
Elixir of bark and iron.....	76	Elixir of bismuth and iron....	49
Elixir of bark, iron and bismuth.....	77	Elixir of bismuth, iron and cinchona	77
Elixir of bark, iron and pepsin.....	78	Elixir of bismuth, iron and pepsin.....	115
Elixir of bark, iron protoxide and strychnine	75	Elixir of bismuth, iron pyrophosphate, calisaya and strychnine	77
Elixir of bark, iron and strychnine	79	Elixir of bismuth, iron, strychnine and bark.....	77
Elixir of bark, iron, strychnine and bism.....	77		

Elixir of bismuth and pepsin..	49	Elixirs, calisaya	64
Elixir of bismuth, pepsin and iron pyrophosphate	115	Elixir of calisaya alkaloids....	68
Elixir of bismuth, pepsin and quinine.....	142	Elixir of calisaya bark and iron	76
Elixir of bismuth, pepsin and phosphate of quinine.....	142	Elixir of calisaya and calcium lacto-phosphate.....	71
Elixir of bismuth, pepsin, strychnine and iron.....	121	Elixir of calisaya, citrate of iron protoxide and strychnine ...	75
Elixir of bismuth, pyrophosphate of iron, pepsin and strychnine	121	Elixir of calisaya and citrate of protoxide of iron	74
Elixir of bismuth, quinine, pepsin and strychnine	145	Elixir of calisaya and coffee, Deslaurier's.....	71
Elixir of bismuth, quinine phosphate and strychnine.....	145	Elixir of calisaya, detannated..	69
Elixir of bismuth, strychnine and bark, ferrated	77	Elixir of calisaya, ferrated	76
Elixir bisulphate of quinine... ..	83	Elixir of calisaya and ferrous citrate.....	74
Elixir, bitter.....	51	Elixir of calisaya, ferrous citrate and strychnine	75
Elixir of blackberry.....	52	Elixir of calisaya, iron and beef	72
Elixir of black cohosh, compound.....	58	Elixir of calisaya, iron and bismuth.....	77
Elixir of boldo.....	52	Elixir of calisaya and iron chloride.....	72
Elixir of brandy.....	53	Elixir of calisaya, iron chloride, ammon. -citrate.....	72
Elixir of bromide of ammonium.....	29	Elixir of calisaya, iron chloride, ammon. -citrate and gentian,	73
Elixir of bromide of calcium ..	54	Elixir of calisaya, iron citrate and beef.....	72
Elixir of bromide of iron	104	Elixir of calisaya, iron citrate, beef and strychnine	73
Elixir of bromide of potassium,	148	Elixir of calisaya, iron and gentian	73
Elixir of bromide of quinine ..	83	Elixir of calisaya, iron and pepsin.....	78
Elixir of bromide of sodium... ..	160	Elixir of calisaya, iron protoxide and strychnine.....	75
Elixir of buchu.....	53	Elixir of calisaya and iron pyrophosphate	76
Elixir of buchu, juniper and acetate of potassium.....	148	Elixir of calisaya, iron pyrophosphate, ammonio-citrate and bismuth	77
Elixir of buchu and pareira brava	138	Elixir of calisaya, iron pyrophosphate, bismuth and strychnine	77
Elixir of buchu and potassium acetate	148	Elixir of calisaya, iron pyrophosphate and lime lacto-phosphate	78
Elixir of caffeine citrate	54	Elixir of calisaya, iron pyrophosphate and pepsin	78
Elixir of calcium, bromide of..	54	Elixir of calisaya, iron pyrophosphate and strychnine...	79
Elixir of calcium, iodo-bromide of	54		
Elixir of calcium lacto-phosphate	128		
Elixir of calcium lacto-phosphate and calisaya	71		
Elixir of calcium lacto-phosphate, iron pyrophosphate and calisaya	78		
Elixir of calisaya	67		

Elixir of calisaya, iron and strychnine	79	Elixir of cinchona, iron, beef and strychnine	73
Elixir of calisaya and lime lacto-phosphate	71	Elixir of cinchona, iron and bismuth	77
Elixir of calisaya and protoxide of iron	74	Elixir of cinchona, iron and lacto-phosphate of lime	78
Elixir of camphor, mono-bromated	55	Elixir of cinchona, iron and pepsin	78
Elixir of camphor, mono-bromated, compound	55	Elixir of cinchona and iron protoxide	74
Elixir of cascara sagrada	152	Elixir of cinchona and iron pyrophosphate	76
Elixir cathartic, compound	56	Elixir of cinchona, iron and strychnine	79
Elixir of cherry, wild	56	Elixir of cinchona, iron, strychnine and bismuth	77
Elixir of cherry, wild, ferrated,	57	Elixir of cinchona and lacto-phosphate of lime	71
Elixir of cherry, wild, and iron chloride	57	Elixir of cinchonia and pepsin	143
Elixir of chinoidine	82	Elixir of cinchonia, pepsin and strychnia	143
Elixir of chinoidine acetate	82	Elixir of cinchonia, quinia, iron and strychnia	119
Elixir of chinoidine compositum	82	Elixir of cinchonidia, iron and quinia	118
Elixir of chinoidine and iron	115	Elixir of cinchonidia and pepsin	142
Elixir of chiretta and hops	102	Elixir of cinchonidia, pepsin and strychnia	142
Elixir of chloral	57	Elixir of cinchonidine and ammon. valerianate	32
Elixir of chloral hydrate	57	Elixir of cinchonidine, ammon. valerianate and iron pyrophosphate	34
Elixir of chloride of iron, calisaya and ammon. citrate	72	Elixir of cinchonine, ammon. valerianate and iron pyrophosphate	35
Elixir of chloride of iron, ammon. citrate and gentian	107	Elixir of cinchonidine, ammon. valerianate, iron pyrophosphate and strychnine	34
Elixir of chloride of iron, calisaya, ammon. citrate and gentian	73	Elixir of cinchonidine, cinchonine, ammon. valerianate and strychnine	33
Elixir of chloride of iron and cinchona	72	Elixir of cinchonidine and cinchonine phosphates	80
Elixir of chloride of iron, hydrochlor. of quinine and arsenious acid	108	Elixir of cinchonidine, cinchonine and quinine phosphates	85
Elixir of chloride of iron and wild cherry	57	Elixir of cinchonidine, cinchonine and strychn. phosphates	82
Elixir of chloride of iron, wild cherry and ammon. citrate	57	Elixir of cinchonidine, cinchonine and valer. ammonium	33
Elixir of chloroform	62, 63		
Elixir chloroformique	63		
Elixir of cimicifuga	58		
Elixir of cimicifuga compound	58		
Elixir of cinchona	64, 67		
Elixir of cinchona, alkaloidal	68		
Elixir of cinchona, beef and iron	72		
Elixir of cinchona and protoxide of iron	75		
Elixir of cinchona, detannated	69		
Elixir of cinchona, iron and beef	72		

Elixir of cinchonidine, iron phosphate, quinine and strychnine	116	Elixir of cinchonine, cinchonidine and valerianate of ammonium	33
Elixir of cinchonidine and iron pyrophosphate	115	Elixir of cinchonine and iron pyrophosphate	117
Elixir of cinchonidine, iron pyrophosphate and strychnine	116	Elixir of cinchonine phosphate and pepsin	143
Elixir of cinchonidine, iron, quinine and strychnine	116	Elixir of cinchonine phosphate, pepsin and strychnine	143
Elixir of cinchonidine, iron and strychnine	116	Elixir of cinchonine, quinine, ammon. valerianate and strychnine	40
Elixir of cinchonidine phosphate	80	Elixir of cinchonine, quinine, iron pyro-phosphate and strychnine	119
Elixir of cinchonidine phosphate and pepsin	142	Elixir of cinchonine and quinine phosphate	85
Elixir of cinchonidine phosphate, pepsin and strychnine,	142	Elixir of cinchonine and strychnine phosphate	80
Elixir of cinchonidine, quinine and ammon. valerianate	38	Elixir of cinchonine and valerianate of ammonium	35
Elixir of cinchonidine, quinine, ammon. valerianate, iron pyrophosphate and strychnine	39	Elixir of citro-lactate of iron	106
Elixir of cinchonidine, quinine, ammon. valerianate and strychnine	38	Elixir of citrate of ammonium and bismuth	48
Elixir of cinchonidine, quinine and iron pyrophosphate	118	Elixir of citrate of ammonium, iron chloride and wild cherry	57
Elixir of cinchonidine and quinine phosphate	84	Elixir of citrate of caffeine	54
Elixir of cinchonidine and strychnine	82	Elixir of citrate of iron	103
Elixir of cinchonine	79	Elixir of citrate of iron and beef	45
Elixir of cinchonine, ammon. valerianate, iron pyrophosphate and strychnine	36	Elixir of citrate of iron, calisaya and beef	72
Elixir of cinchonine, ammon. valerianate and quinine	39	Elixir of citrate of iron, calisaya, beef and strychnine	73
Elixir of cinchonine, ammon. valerianate and strychnine	36	Elixir of citrate of iron, columbo and rhubarb	60
Elixir of cinchonine, cinchonidine, ammon. valerianate	33	Elixir of citrate of iron, quinine and strychnine	104
Elixir of cinchonine and cinchonidine phosphate	80	Elixir of citrate of iron protoxide	105
Elixir of cinchonine, cinchonidine and quinine phosphate	85	Elixir of citrate of iron protoxide and strychnine	75
Elixir of cinchonine, cinchonidine and strychnine phosphate	82	Elixir of citrate and lactate of iron	106
		Elixir of citrate of lithium	130
		Elixir of citrate of protoxide of iron and cinchona	75
		Elixir of citrate of protoxide of iron and quinine phosphate	85

Elixir of citrate of protoxide of iron, quinine and stychnine.	86	Elixir of gentian, calisaya and iron.	73
Elixir, Clauder's.	59	Elixir of gentian, chloride of iron, ammon. citrate and calisaya.	73
Elixirs containing ammonio-citrate of bismuth.	47	Elixir of gentian, iron chloride and ammon. citrate.	107
Elixirs containing bismuth.	47	Elixir of ginger, wild.	95
Elixirs containing fluid extracts,	24	Elixir for g'enorrhœa.	43
Elixirs containing pyrophosphate of iron.	113	Elixir of glycyrrhizin.	96
Elixirs containing strychnine.	23	Elixir of glycyrrhizin, aromatic.	97
Elixir of coco.	59	Elixir of grindelia.	98
Elixir of coffee and calisaya, Deslaurier's.	71	Elixir of grindelia robusta.	98
Elixir of cohosh, black, compound.	58	Elixir of guaiacum.	99
Elixir of columbo.	60	Elixir of guarana.	98
Elixir of columbo, iron citrate and rhubarb.	60	Elixir of health.	91-157
Elixirs of columbo and rhubarb.	154	Elixir, Helmont's.	100
Elixirs, continuous precipitation in.	24-25	Elixir of helonias.	100
Elixir of corydalis compound.	61	Elixirs, history of.	5-29
Elixir of coto.	62	Elixir of hops.	101
Elixir of croton chloral hydrate.	63	Elixir of hops and chiretta.	102
Elixir of damiana.	91	Elixir of hops, compound.	102
Elixir of dandelion.	89	Elixir of hydrate of chloral.	57
Elixir of dandelion, compound.	89	Elixir of hydrobromate of quinine.	83
Elixir of dandelion and quinine.	90	Elixir of hydrochloric acid and iron chloride.	108
Elixir de Garus.	94	Elixir of hypophosphite of iron.	109
Elixir, derivation of word.	5	Elixir, Hufeland's.	103
Elixir de St. Hubert pour les chasseurs.	161	Elixir of iodide of arsenic and mercury.	44
Elixir of dewberry, compound.	92	Elixir of iodide of iron and quinine.	110
Elixir e succo liquiritæ.	138	Elixir of iodide of potassium.	149
Elixir of eucalyptus.	92	Elixir of iodide of sodium.	160
Elixir of eucalyptus, compound.	93	Elixir of iodo-bromide of calcium.	54
Elixir of ferrous chloride.	108	Elixir of ipecac.	104
Elixir of ferrous citrate.	105	Elixir of iron, ammonio-citrate of.	103
Elixir of ferrous citrate and calisaya.	74	Elixir of iron and bark.	76
Elixir of ferrous citrate, calisaya and strychnine.	75	Elixir of iron, bark and bismuth.	77
Elixir of ferrous citrate and strychnine.	86	Elixir of iron, bark and pepsin.	78
Elixir of ferrous phosphate and quinine.	85	Elixir of iron, bark and strychnine.	79
Elixir of Fowler's solution.	44	Elixir of iron, bark, strychnine and bismuth.	77
Elixir of gentian.	95	Elixir of iron, beef and cinchona.	72
Elixir of gentian, compound.	95		

Elixir of iron and bismuth....	49	Elixir of iron citrate and beef.	45
Elixir of iron, bismuth and pepsin	115	Elixir of iron citrate, calisaya and beef.....	72
Elixir of iron, bromide of....	104	Elixir of iron citrate, calisaya, beef and strychnine.....	73
Elixir of iron, calisaya and beef.....	72	Elixir of iron citrate, columbo and rhubarb	60
Elixir of iron, calisaya and bismuth	77	Elixir of iron, citrate of protoxide	105
Elixir of iron, calisaya and gentian.....	73	Elixir of iron, citrate of protoxide of, and calisaya.....	74
Elixir of iron, calisaya and pepsin.....	78	Elixir of iron, citrate of protoxide of, and cinchona.....	75
Elixir of iron, calisaya and strychnine	79	Elixir of iron, citrate of protoxide of, and quinine phosphate	85
Elixir of iron and cinchonidine	115	Elixir of iron citrate, quinine and strychnine	104
Elixir of iron chloride, ammon. citrate and gentian	107	Elixir of iron, citro-lactate of..	106
Elixir of iron chloride and calisaya	72	Elixir of iron, hypophosphite of	109
Elixir of iron chloride, calisaya and ammon. citrate	72	Elixir of iron, iodide of, and quinine.....	110
Elixir of iron chloride, calisaya, ammon. citrate and gentian.....	72	Elixir of iron, lactate of	111
Elixir of iron chloride and cinchona	73	Elixir of iron, lactate and citrate of.....	106
Elixir of iron chloride, quinine hydrochloride and arsenious acid	108	Elixir of iron, lactate of, and pepsin.....	111
Elixir of iron chloride and wild cherry.....	57	Elixir of iron and pepsin	120
Elixir of iron chloride, wild cherry and ammon. citrate.	57	Elixir of iron, pepsin and strychnine	122
Elixir of iron, cinchona and beef	72	Elixir of iron, phosphate of... ..	111
Elixir of iron, cinchona, beef and strychnine.....	73	Elixir of iron phosphate, quinine, cinchonidine and strychnine	116
Elixir of iron, cinchona and bismuth	77	Elixir of iron, proto-chloride of	108
Elixir of iron, cinchona and lacto-phosphate of lime....	78	Elixir of iron, protoxide of....	105
Elixir of iron, cinchona and pepsin	78	Elixir of iron protoxide, bark and strychnine	75
Elixir of iron, cinchona and strychnine	79	Elixir of iron protoxide and calisaya	74
Elixir of iron, cinchona, strychnine and bismuth	77	Elixir of iron protoxide, calisaya and strychnine	75
Elixir of iron, cinchonidine and strychnine	116	Elixir of iron protoxide and cinchona	74
Elixir of iron, citrate of.....	103	Elixir of iron protoxide and quinine.....	85
		Elixir of iron protoxide, quinine and strychnine	86
		Elixir of iron pyrophosphate ..	114
		Elixir of iron pyroph., ammon. valerianate, cinchonidine and strychnine	34

Elixir of iron pyroph. and bismuth ammonio-citrate.....	49	Elixir of iron pyroph. and valerianate of ammon.....	37
Elixir of iron pyroph., bismuth and pepsin.....	115	Elixir of iron pyroph., valerianate of ammon., quinine, cinchonidine and strychnine...	39
Elixir of iron pyroph. and calisaya.....	76	Elixir of iron pyroph. and strychnine.....	122
Elixir of iron pyroph., calisaya, ammon. citrate and bismuth.....	77	Elixir of iron, quinine and arsenic.....	108
Elixir of iron pyroph., calisaya, bismuth and strychnine.....	77	Elixir of iron, quinia, cinchonia and strychnia.....	119
Elixir of iron pyroph., calisaya, and lime lacto-phosphate...	78	Elixir of iron, quinine and cinchonidine.....	118
Elixir of iron pyroph., calisaya and strychnine.....	79	Elixir of iron, quinine, cinchonidine and strychnine.....	116
Elixir of iron pyroph. and cinchona.....	76	Elixir of iron, quinine and strychnine.....	119
Elixir of iron pyroph., cinchona and pepsin.....	78	Elixir of iron, quinine and strychnine phosphate.....	112
Elixir of iron pyroph. and cinchonidine.....	115	Elixir of iron and quinine phosphate.....	112
Elixir of iron pyroph., cinchonidine and strychnine.....	116	Elixir of iron, quinine valerianate and strychnine.....	120
Elixir of iron pyroph., cinchonidine and valer. ammon.....	34	Elixir of iron, strychnine, bismuth and pepsin.....	121
Elixir of iron pyroph. and cinchonine.....	117	Elixir of juniper berries.....	123
Elixir of iron pyroph., cincholine and ammon. valerianate	35	Elixir of jaborandi.....	124
Elixir of iron pyroph., cincholine, ammon. valerianate and strychnine.....	36	Elixir of juniper, buchu and acetate of potassium.....	148
Elixir of iron pyroph. and pepsin.....	120	Elixir of lactate and citrate of iron.....	106
Elixir of iron pyroph., pepsin, bismuth and strychnine.....	121	Elixir of lactate of iron.....	111
Elixir of iron pyroph., pepsin and strychnine.....	122	Elixir of lactate of iron and pepsin.....	111
Elixir of iron pyroph. and quinine.....	117	Elixir of lacto-phosphate of calcium.....	128
Elixir of iron pyroph., quinine and ammon. valerianate....	40	Elixir of lacto-phosphate of calcium and calisaya.....	71
Elixir of iron pyroph., quinine, ammon. valerianate and strychnine.....	41	Elixir of lacto-phosphate of calcium, iron pyrophosphate and calisaya.....	78
Elixir of iron pyroph., quinine and cinchonidine.....	118	Elixir of lacto-phosphate of lime.....	128
Elixir of iron pyroph., quinine, cinchonine and strychnine...	119	Elixir of lacto-phosphate of lime and calisaya.....	71
Elixir of iron pyroph., quinine valerianate and strychnine...	120	Elixir of lacto-phosphate of lime and cinchona.....	71
		Elixir of lacto-phosphate of lime, cinchona and iron....	78
		Elixir of lacto-phosphate of lime, iron pyrophosphate and calisaya.....	78

Elixir of lactopeptin	124	Elixir of pareira brava and	
Elixir of lactucarium	125	buchu	138
Elixir, Lavolley's purgative...	43	Elixir pectorale	130
Elixir, laxative	125	Elixir pectorale, Edinburgh	
Elixir of life	10-11	Pharm. (1770)	138
Elixir of life, bitter	127	Elixir pectorale, King of Den-	
Elixir of lime, lacto-phosphate.	128	mark's	130
Elixir of lime, lacto-phosphate,		Elixir pectorale, regis Danitæ.	130
and calisaya	71	Elixir of pepsin	141
Elixir of lime, lacto-phosphate,		Elixir of pepsin and ammonio-	
and cinchona	71	citrate of bismuth	49
Elixir of lime, lacto-phosphate,		Elixir of pepsin and bismuth ..	49
iron and cinchona	78	Elixir of pepsin, bismuth, am-	
Elixir of lime, lacto-phosphate,		monio-citrate of, and strych-	
iron pyrophosphate and cali-		nine	50
saya	78	Elixir of pepsin, bismuth and	
Elixir of liquorice	128	iron	115
Elixir of liquorice, aromatic ..	129	Elixir of pepsin, bismuth and	
Elixir of lithium, citrate of ...	130	iron pyroph.	115
Elixir of lupulin	131	Elixir of pepsin, bismuth, iron	
Elixir of macrotys	58	pyroph. and strychnine	121
Elixir of macrotys, compound,	58	Elixir of pepsin, bismuth and	
Elixir of magnesia and rhubarb,	155	quinine	142
Elixir of magnesium acetate,		Elixir of pepsin, bismuth and	
and rhubarb	155	strychnine	50
Elixir of malto-pepsin	131	Elixir of pepsin, bismuth,	
Elixir of mandrake	133	strychnine and iron	121
Elixir of mandrake, compound	133	Elixir of pepsin and cinchonia.	143
Elixir mania	16	Elixir of pepsin, cinchonia and	
Elixir of matico	131	strychnia	143
Elixir of matico, compound ...	132	Elixir of pepsin and cinchoni-	
Elixir of mayapple	133	dia	142
Elixir of mayapple, compound,	133	Elixir of pepsin, cinchonidia	
Elixir of mercury and iodide of		and strychnia	142
arsenic	44	Elixir of pepsin and iron	120
Elixir of mono-bromated cam-		Elixir of pepsin, iron and bark,	78
phor	55	Elixir of pepsin, iron and cali-	
Elixir of mono-bromated cam-		saya	78
phor, compound	55	Elixir of pepsin, iron and cin-	
Elixir of musk root, compound,	163	chona	78
Elixir of musk root and valeri-		Elixir of pepsin and iron lactate	111
anate of ammonium	42	Elixir of pepsin and iron pyro-	
Elixir of myrrh, compound ...	134	phosphate	120
Elixirs, number of	26-27	Elixir of pepsin, iron pyroph.	
Elixir of nux vomica	134	and calisaya	78
Elixir of opium, McMunn's ...	135	Elixir of pepsin, iron and	
Elixir of orange	136	strychnine	122
Elixir of pancreas	137	Elixir of pepsin, iron pyroph.	
Elixir Paracelsus' ... 12, 13, 15,	149	and strychnine	122
Elixir paregoricum	15-138	Elixir of pepsin and phosphate	
Elixir of pareira brava	137	of cinchonidine	142

- | | | | |
|---|-----|--|-----------------|
| Elixir of pepsin, phosphate of cinchonidine and strychnine. | 142 | Elixir of phosphate of quinine and cinchonine | 85 |
| Elixir of pepsin and phosphate of cinchonine | 143 | Elixir of phosphate of quinine, citrate of iron protoxide and strychnine | 86 |
| Elixir of pepsin, phosphate of cinchonine and strychnine. | 143 | Elixir of phosphate of quinine and iron protoxide, citrate of. | 85 |
| Elixir of pepsin and phosphate of quinine | 144 | Elixir of phosphate of quinine and pepsin | 144 |
| Elixir of pepsin, phosphate of quinine and bismuth | 142 | Elixir of phosphate of quinine, pepsin and bismuth | 142 |
| Elixir of pepsin, phosphate of quinine and strychnine | 145 | Elixir of phosphate of quinine, pepsin and strychnine | 145 |
| Elixir of pepsin and ptelea | 144 | Elixir of phosphate of quinine and strychnine | 86 |
| Elixir of pepsin and quinia | 144 | Elixir of phosphate of quinine, strychnine and bismuth | 145 |
| Elixir of pepsin, quinine and strychnine | 145 | Elixir of phosphorus | 146 |
| Elixir of pepsin, quinine, strychnine and bismuth | 145 | Elixir of phosphorus, compound | 147 |
| Elixir of pepsin and wafer ash. | 144 | Elixir of phosphorous, quinine and strychnine | 147 |
| Elixir of peptone | 146 | Elixir of podophyllum | 133 |
| Elixirs, permanent | 26 | Elixir of potassium acetate | 147 |
| Elixir of phosphate of cinchonidine | 80 | Elixir of potassium acetate and buchu | 148 |
| Elixir of phosphate of cinchonidine, cinchonine and strychnine | 82 | Elixir of potassium acetate, buchu and juniper | 148 |
| Elixir of phosphate of cinchonidine and pepsin | 142 | Elixir of potassium arsenite | 148 |
| Elixir of phosphate of cinchonidine, pepsin and strychnine. | 142 | Elixir of potassium bromidum | 148 |
| Elixir of phosphate of cinchonine and cinchonidine | 80 | Elixir of potassium iodide | 149 |
| Elixir of phosphate of cinchonine and pepsin | 143 | Elixir problem, for pharmacists | 26 |
| Elixir of phosphate of cinchonine, pepsin and strychnine | 143 | Elixir proprietatis | 12, 13, 15, 149 |
| Elixir of phosphate of cinchonine and strychnine | 80 | Elixir proprietatis cum acido | 13-150 |
| Elixir of phosphate of iron | 111 | Elixir proprietatis with distilled vinegar | 13-150 |
| Elixir of phosphate of iron and quinine | 112 | Elixir of proto-chloride of iron | 108 |
| Elixir of phosphate of iron, quinine, cinchonidine and strychnine | 116 | Elixir of protoxide of iron | 105 |
| Elixir of phosphate of iron, quinine and strychnine | 112 | Elixir of protoxide of iron, bark and strychnine | 75 |
| Elixir of phosphate of quinine. | 84 | Elixir of protoxide of iron and calisaya | 74 |
| Elixir of phosphate of quinine and cinchonidine | 84 | Elixir of protoxide of iron, calisaya and strychnine | 75 |
| Elixir of phosphate of quinine, cinchonidine and cinchonine. | 85 | Elixir of protoxide of iron and cinchona | 74 |
| | | Elixir of protoxide of iron and quinine | 85 |
| | | Elixir of protoxide of iron, quinine and strychnine | 86 |

Elixir of ptelea and pepsin....	144	Elixir of pyrophosphate of iron, quinine, ammon. valer. and strych.....	41
Elixir, purgative, Lavalley's ..	43	Elixir of pyrophosphate of iron, quinine and cinchonidine ...	118
Elixir, purgative, Leroy's.....	126	Elixir of pyrophosphate of iron, quinine, cinchonine and strych.....	119
Elixir of pyrophosphate of iron	114	Elixir of pyrophosphate of iron, quinine and strych.....	119
Elixir of pyrophosphate of iron and bismuth ammonio-citrate	49	Elixir of pyrophosphate of iron, quinine valer. and strych...	120
Elixir of pyrophosphate of iron, bismuth and pepsin	115	Elixir of pyrophosphate of iron and strych.....	122
Elixir of pyrophosphate of iron and calisaya	16, 76	Elixir of pyrophosphate of iron and ammon. valer.....	37
Elixir of pyrophosphate of iron, calisaya and ammon. citrate of bismuth.....	77	Elixir of pyrophosphate of iron, valer. ammon., quinine, cin- chonidine and strych.....	39
Elixir of pyrophosphate of iron, calisaya, bismuth and strych- nine.....	77	Elixir of quinine	84
Elixir of pyrophosphate of iron, calisaya and pepsin.....	78	Elixir of quinine, ammon. valer. and cinchonidine	38
Elixir of pyrophosphate of iron, calisaya and strychnine....	16, 79	Elixir of quinine, ammon. valer., cinchonidine, pyro- phosphate of iron and strych...	39
Elixir of pyrophosphate of iron and cinchona.....	76	Elixir of quinine, ammon. valer., cinchonidine and strych.....	38
Elixir of pyrophosphate of iron, cinchona and pepsin.....	78	Elixir of quinine, ammon. valer. and pyrophosphate of iron...	40
Elixir of pyrophosphate of iron and cinchonidine	115	Elixir of quinine, ammon. valer., pyrophosphate of iron and strych	41
Elixir of pyrophosphate of iron, cinchonidine, ammon. valer. and strych	34	Elixir of quinine, ammon. valer. and strych.....	41
Elixir of pyrophosphate of iron, cinchonidine and strych....	116	Elixir of quinine, bismuth and pepsin.....	142
Elixir of pyrophosphate of iron, cinchonidine and valer. am- mon.....	34	Elixir of quinine, bisulph.....	83
Elixir of pyrophosphate of iron and cinchonine.....	117	Elixir of quinine, bromide of..	83
Elixir of pyrophosphate of iron, cinchonine and ammon. valer.	35	Elixir of quinine and cinchon- idine phosphate	84
Elixir of pyrophosphate of iron, cinchonine, ammon. valer. and strych.....	36	Elixir of quinine, cinchonidine and cinchonine phosphate...	85
Elixir of pyrophosphate of iron and pepsin.....	120	Elixir of quinine, cinchonidine and iron pyrophosphate....	118
Elixir of pyrophosphate of iron, pepsin, bism. and strych....	121	Elixir of quinine and cinchon- ine phosphate.....	85
Elixir of pyrophosphate of iron, pepsin and strych.....	122		
Elixir of pyrophosphate of iron and quinine.....	117		
Elixir of pyrophosphate of iron, quinine and ammon. valer ..	40		

Elixir of quinine and candelion.....	90	Elixir of quinine phosphate, pepsin and bismuth.....	142
Elixir of quinine and ferrous phosphate.....	85	Elixir of quinine phosphate, pepsin and strychnine.....	145
Elixir of quinine hydrobromate.....	83	Elixir of quinine phosphate, strychnine and bismuth.....	145
Elixir of quinine, hydrochlor. arsenious acid and iron chloride.....	108	Elixir of quinine, phosphorus and strychnine.....	147
Elixir of quinine, iodide of, and iron.....	110	Elixir of quinine and strychnine.....	86
Elixir of quinine, iron and arsenic.....	108	Elixir of quinine and strychnine phosphate.....	86
Elixir of quinine, iron, cinchonine and strychnine.....	119	Elixir of quinine sulphate.....	83
Elixir of quinine, iron and cinchonidine.....	118	Elixir of quinine valerianate.....	87
Elixir of quinine, iron, cinchonidine and strychnine.....	116	Elixir of quinine and valerian of ammon.....	37
Elixir of quinine, iron citrate and strychnine.....	104	Elixir of quinine valerian, iron pyrophosphate and strychnine.....	120
Elixir of quinine and iron phosphate.....	112	Elixir of quinine valerian, iron and strychnine.....	120
Elixir of quinine, iron phosphate, cinchonidine and strychnine.....	116	Elixir of quinine valerian and strychnine.....	88
Elixir of quinine and iron protoxide.....	85	Elixir of raspberry, compound.....	150
Elixir of quinine, iron protoxide and strychnine.....	86	Elixir, red.....	151
Elixir of quinine and iron pyrophosphate.....	117	Elixir of rhamnus frangula, compound.....	151
Elixir of quinine, iron pyrophosphate, cinchonine and strychnine.....	119	Elixir of rhamnus Purshiana.....	152
Elixir of quinine, iron pyrophosphate and strychnine.....	119	Elixir of rhamnus Purshiana, compound.....	152
Elixir of quinine, iron and strychnine.....	119	Elixir of rhubarb.....	153
Elixir of quinine, iron and strychnine phosphate.....	112	Elixir of rhubarb and columbo.....	154
Elixir of quinine and pepsin.....	144	Elixir of rhubarb, compound.....	154
Elixir of quinine, pepsin and strychnine.....	145	Elixir of rhubarb, iron citrate and columbo.....	60
Elixir of quinine, pepsin, strychnine and bismuth.....	145	Elixir of rhubarb and magnesia.....	155
Elixir of quinine phosphate.....	84	Elixir of rhubarb and magnesium acetate.....	155
Elixir of quinine phosphate and citrate of protoxide of iron.....	85	Elixir of rubi trivialis, compound.....	92
Elixir of quinine phosphate and pepsin.....	144	Elixir rubrum.....	9
		Elixir roborans whyttii.....	156
		Elixir sacrum.....	15-156
		Elixir of salacin.....	155
		Elixir of salicylic acid.....	156
		Elixir salutis.....	15, 157
		Elixir of scammony.....	157
		Elixir of senna.....	157
		Elixir of senna compound.....	158
		Elixir simple.....	158
		Elixir of sodium arsenite.....	159
		Elixir of sodium bromide.....	160

Elixir of sodium iodide	160	Elixir of strychnine, cinchonine, quinine and valer. ammon. . .	40
Elixir squire's.	160	Elixir of strychnine and citrate of iron protox.	75
Elixir of stillingia.	161	Elixir of strychnine and ferrous citrate.	86
Elixir of stillingia, compound. .	161	Elixir of strychnine and iron.	122
Elixir stomachicum.	15-162	Elixir of strychnine, iron, bark and bismuth.	77
Elixir of strychnine, ammon. valer. and cinchonine.	36	Elixir of strychnine, iron and cinchona.	79
Elixir of strychnine, bark and bismuth, ferrated.	79	Elixir of strychnine, iron, cinchona and bismuth.	77
Elixir of strychnine, bark and iron.	77-79	Elixir of strychnine, iron and cinchonidine.	116
Elixir of strychnine, beef, citrate of iron and calisaya.	73	Elixir of strychnine, iron and pepsin.	122
Elixir of strychnine, beef, iron and cinchona.	73	Elixir of strychnine, iron protox. and bark.	75
Elixir of strychnine and bismuth ammonio-citrate.	50	Elixir of strychnine, iron protox. and calisaya.	75
Elixir of strychnine, bismuth, iron pyrophosphate and pepsin. .	121	Elixir of strychnine, iron protoxide and quinine.	86
Elixir of strychnine, bismuth, pepsin and iron.	121	Elixir of strychnine, iron phosphate, cinchonidine and quinine.	116
Elixir of strychnine, calisaya and ferrous. citrate.	75	Elixir of strychnine and iron pyrophosphate.	122
Elixir of strychnine, calisaya and iron.	79	Elixir of strychnine, iron pyrophosphate, bismuth and calisaya.	77
Elixir of strychnine, cinchona, iron and quinia.	119	Elixir of strychnine, iron pyrophosphate and calisaya.	79
Elixir of strychnine, cinchona and pepsin.	143	Elixir of strychnine, iron pyrophosphate, cinchonidine and ammon. valer.	34
Elixir of strychnine, cinchonidine and pepsin.	142	Elixir of strychnine, iron pyrophosphate and quinine valer.	36
Elixir of strychnine and cinchonidine.	82	Elixir of strychnine, cinchonine, cinchonidine and ammon. valer.	33
Elixir of strychnine, cinchonidine and iron pyrophosphate.	116	Elixir of strychnine, cinchonine and cinchonidine phosphates.	82
Elixir of strychnine, cinchonidine phosphate and pepsin. .	142	Elixir of strychnine and cinchonine phosphate.	80
Elixir of strychnine, cinchonidine, quinine and ammon. valer. .	38	Elixir of strychnine, cinchonine phosphate and pepsin.	143
Elixir of strychnine, cinchonine, cinchonidine and ammon. valer.	33	Elixir of strychnine, cinchonine, quinine and iron pyrophosphate.	119
Elixir of strychnine, cinchonine and cinchonidine phosphates.	82		
Elixir of strychnine and cinchonine phosphate.	80		
Elixir of strychnine, cinchonine phosphate and pepsin.	143		
Elixir of strychnine, cinchonine, quinine and iron pyrophosphate.	119		

Elixir of strychn., iron, quinine and cinchonidine.....	116	Elixir of valer. ammon., cinchonidine and iron pyrophosphate.....	34
Elixir of strychn., iron and valer. quinine.....	120	Elixir of valer. ammon., cinchonidine, iron pyrophosphate and strychn.....	34
Elixir of strychn., pepsin and bismuth ammonio-citrate....	50	Elixir of valer. ammon. and cinchonine.....	35
Elixir of strychnine phosphorus and quinine.....	147	Elixir of valer. ammon., cinchonine and iron pyrophosphate.....	35
Elixir of strychnine and quinine.	86	Elixir of valer. ammon., cinchonine, iron pyrophosphate and strychn.....	36
Elixir of strychn., quinine and ammon. valer.....	41	Elixir of valer. ammon., cinchonine and strychn.....	36
Elixir of strychn., quinine and iron citrate.....	104	Elixir of valer. ammon. and iron pyrophosphate.....	37
Elixir of strychnine, quinine and iron phosphate.....	112	Elixir of valer. ammon. and musk root.....	42
Elixir of strychn., quinine and iron pyrophosphate.....	119	Elixir of valer. ammon. and quinine.....	37
Elixir of strychn., quinine and pepsin.....	145	Elixir of valer. ammon., quinine and cinchonidine.....	38
Elixir of strychnine, quinine, pepsin and bismuth.....	145	Elixir of valer. ammon., quinine, cinchonidine, iron pyrophosphate and strychn.....	39
Elixir of strychn. and quinine phosphate.....	86	Elixir of valer. ammon., quinine, cinchonidine and strychn.....	38
Elixir of strychn., quinine phosphate and bismuth.....	145	Elixir of valer. ammon., quinine and cinchonine.....	39
Elixir of strychn., quinine phosphate and pepsin.....	145	Elixir of valer. ammon., quinine, cinchonine and strychn.....	40
Elixir of strychn. and quinine valer.....	88	Elixir of valer. ammon., quinine, iron pyrophosphate and strychn.....	41
Elixir of strychnine valer.....	163	Elixir of valer. ammon., quinine, iron pyrophosphate and strychn.....	41
Elixir of strychn. and valerianate of ammonium.....	42	Elixir of valer. ammon. and strychn.....	42
Elixir of sumbul, compound..	163	Elixir of valer. ammon. and sumbul.....	42
Elixir of sumbul and valerianate of ammonium.....	42	Elixir of valer. quinine.....	87
Elixir of sulphate of quinine..	83	Elixir of valer. quinine, iron and strychn.....	120
Elixir of tar.....	164	Elixir of valer. quinine, iron pyrophosphate and strychn.....	120
Elixir of taraxacum.....	89	Elixir of valer. quinine and strychn.....	88
Elixir of taraxacum, compound.	89		
Elixir of thuja occidentalis...	165		
Elixir uterinum.....	134		
Elixir of valerian.....	165		
Elixir of valerianate of ammon.	30		
Elixir of valer. ammon. and cinchonidine.....	32		
Elixir of valer. ammon., cinchonidine and cinchonine...	33		
Elixir of valer. ammon., cinchonidine, cinchonine and strychn.....	33		

- Elixir valerianate of strychnine. 163
 Elixir of valerianate of zinc... 169
 Elixir viscerale Hoffmanni.... 101
 Elixir of viscerale Kleini.... 124
 Elixir vitæ..... 10
 Elixir of vitriol..... 166
 Elixir of vitriol dulce..... 162-167
 Elixir of vitriol sweet..... 162-167
 Elixir of vitriol, Mynficht's.... 166
 Elixir of vitriol volatile, Vi-
 gani's..... 167
 Elixir vomito-purgative, Leroy's 126
 Elixir vs. cordial..... 16
 Elixir of wafer ash and pepsin. 144
 Elixir of wahoo..... 168
 Elixir, white..... 158
 Elixir of wild cherry..... 56
 Elixir of wild cherry, citrate of
 ammon. and iron chloride.. 57
 Elixir of wild cherry, ferrated. 57
 Elixir of wild cherry and iron
 chloride..... 57
 Elixir of wild cherry, iron chlor-
 ide and ammon. citrate..... 57
 Elixir of wild ginger..... 95
 Elixir of zinc, valerianate..... 169

 Ferrated elixir of bark..... 79
 Ferrated elixir of bark and bis-
 muth..... 77
 Ferrated elixir of bark, bis-
 muth and strychnine..... 77
 Ferrated elixir of bark and bis-
 muth..... 49
 Ferrated elixir of bark and cal-
 isaya..... 76
 Ferrated elixir of bark and pep-
 sin..... 120
 Ferrated elixir of bark and
 wild cherry..... 57
 Fixed alkaline salt..... 100
 Fluid extracts in preparation of
 elixirs..... 24
 Friar Bacon..... 12

 Gardner, Mr. R. W., and
 elixirs..... 21
 Garus' elixir..... 94
 Gentian, compound tincture of. 15

 Haller's acid elixir..... 99

 Hancock, Mr. J. F., and elixirs 19
 Health elixir..... 91-157
 Helmont..... 12
 Helmont's elixir..... 14-100
 History of elixirs..... 1-25
 Hoffmann's anodyne..... 167
 Hoffmann's stomach elixir.... 101
 Hoefland's elixir..... 103
 Hunter's elixir, St. Hubert's.. 161

 Isaac Hollandus..... 12
 Iron pyrophosphate in elixirs. 113

 Jalap, compound tincture of.. 43

 King of Denmark's pectorale
 elixir..... 130
 Klein's stomach elixir..... 124

 Laxative elixir..... 125
 Lemery..... 12
 Leroy's purgative elixir..... 126
 Leroy's vomito-purgative elixir. 126
 Lettsom's elixir..... 127
 Life elixir, bitter..... 127

 Mania, the elixir..... 16
 McMunn's elixir of opium.... 135
 Mountain wine..... 100
 Mynficht's elixir..... 14
 Mynficht's elixir of vitriol.... 166

 Newark Pharmaceutical Asso-
 ciation and elixirs..... 21

 Oil of orange..... 136
 Oily spirit, volatile..... 99
 Opium, camphorated tincture. 15

 Paracelsus..... 11
 Paracelsus, elixir..... 149
 Paregoric..... 15
 Pectorale elixir..... 130
 Pectorale elixir of Edinburgh
 Pharm., 1770..... 138
 Permanent elixirs..... 26
 Pepsin saccharated..... 141
 Pharmaceutical Association,
 American, and elixirs..... 18-21
 Pharmaceutical Association of
 Newark, and elixirs..... 21

Philosopher's stone.....	10-11	Stomachic elixir.....	162
Preparation of alkaloid cinchoidine.....	66	Stoughton's elixir.....	162
Preparation of alkaloid quinine.....	66	Strychnine, proportion of in elixirs.....	23
Preparation of alkaloids.....	65	Sulphuret of tin.....	161
Proportion of constituents in compound elixirs.....	21	Sweet elixir of vitriol.....	162-167
Proportion of strychnine in elixirs.....	23	Thaddeus the Florentine.....	12
Purgative elixir, Leroy's.....	126	Tin, sulphuret of.....	161
Purgative tincture.....	43	Tincture of aloes, compound.....	15-127
Purging elixir, Radcliff's.....	150	Tincture, aromatic.....	167
Pyrophosphate of iron in elixirs.....	113	Tincture of cinchona, compound.....	153
Quinine alkaloid, preparation of.....	66	Tincture of gentian, compound.....	15
Radcliff's purging elixir.....	150	Tincture of jalap, compound.....	43
Red elixir.....	151	Tincture of opium camphorated.....	15-138
Red simple elixir.....	151	Tincture purggas.....	43
Rhubarb and aloes, tincture of.....	15	Tincture of rhubarb and aloes.....	15-156
S. Thomas Aquinas.....	11	Tincture of senna compound.....	15-157
Saccharated pepsin.....	141	Vigani's elixir.....	14
Sacred elixir.....	156	Vigani's volatile elixir of vitriol.....	167
Senna, compound tincture of.....	15-157	Villette's gout elixir.....	43
Simple elixir.....	25-158	Vinum album.....	100
Simple elixir, red.....	151	Vinum album hispanicum.....	100
Solution of carmine.....	30	Volatile elixir of vitriol, Vigani's.....	167
Spirit of ammonia, anisated.....	130	Volatile oily spirit.....	99
Spirit of vitriol, dulcified.....	167	Vomito-purgative elixir, Leroy's.....	126
Squire's elixir.....	160	Wheeler's elixir.....	78
St. Hubert's hunters elixir.....	161	White elixir.....	158
Stomach elixir, Hoffmann's.....	101		
Stomach elixir, Klein's.....	124		

THE
"CHEMISTRY OF MEDICINES"

A TEXT AND REFERENCE BOOK

FOR THE USE OF

MEDICAL STUDENTS, PHYSICIANS AND PHARMACISTS.

By J. U. LLOYD,

CINCINNATI, OHIO.

Price: Cloth, \$2.75; Sheep, \$3.25.

ROBERT CLARKE & Co., Publishers, Cincinnati, O.

FOURTH EDITION.

This work is intended as a text and convenient reference book for students, and also for physicians and pharmacists. It opens with a chapter on apparatus, giving descriptions and directions for their use, followed by a chapter on chemical theory; containing also explanations of physical phenomena and conditions (electricity, magnetism, crystallography, etc.), and of various processes, like evaporation, filtering, dialysis, etc. Then follows inorganic chemistry, divided, as usual, into chemistry of non-metallic and of metallic elements, arranged into groups. The acids are all considered under hydrogen, as compounds of that element, and in alphabetical order; the latter arrangement being also used under the heads of the metals for their salts.

In the chapter on organic chemistry, the compounds are considered as hydrocarbons, alcohols, ethers, aldehyds, carbohydrates, amines, alkaloids, glucosides, resins, oleoresins, and volatile oils. The last few pages contain directions for the examination of urine.

All the important elements are described, but of the compounds those which have been employed in medicines are treated of, almost to the exclusion of others, a few important ones excepted. The limits thus drawn by the author have enabled him to give, in the space at hand, outlines of the processes, with many useful, practical hints, descriptions of the various compounds, and brief directions for determining their purity.

—*American Journal of Pharmacy, Philadelphia.*

"Like all the work you do; it is highly creditable."

ROBERTS BARTHOLOW, M. D., *Jefferson Medical College.*

"I take great pleasure in recommending your work on the 'Chemistry of Medicines' to all medical students. For clearness, completeness and conciseness, it has no superior."

WM. L. DUDLEY, *Prof. Chemistry, Miami Medical College, Cin., O.*

"It was to be expected that a gentleman engaged for many years in the manufacture, and, at the same time, in teaching chemistry to a class of medical students, would be able, from the knowledge thus obtained of what is requisite for a medical class, to present the candidates for our profession a text-book of unusual value. The volume before us fully justifies this expectation."

JAMES G. HYNDMAN, M. D., *Prof. Medical Chemistry, Medical College of Ohio.*

"Its plan is novel and good. Its thoroughly practical character will make it particularly valuable to all who study chemistry as applied to medicines and the arts. Your book will be a valuable assistant to those engaged in teaching chemistry to medical and pharmaceutical students."

N. W. LORD, *Chemist in charge of Ohio State Laboratory, Columbus.*

"I feel confident that it will prove valuable to students, and shall not fail to recommend it.

CHAS. O. CURTMAN, *Chemist College of Pharmacy, St. Louis.*

"I like the method and general arrangement of the work."

J. W. HOLLAND, *Prof. Chemistry, University of Louisville.*

One of the best features of the book is abundance of practical details, which is the outcome of the author's large manufacturing experience. We know of no one better calculated to impart such information than Mr. Lloyd, who is the practical manager of one of the best equipped laboratories in the West.

—*The Monthly Review of Medicine and Pharmacy, Philadelphia.*

We consider the book as the best practical work on medical chemistry that can be found in the market by the student, the physician, or druggist.

—*St. Louis Clinical Record.*

We can recommend the book as a very practical and easily intelligible guide for introduction to the study of chemistry, and particularly so to students of medicine.

—*New Remedies.*

This work seems to be a new departure in the way of books on chemistry. The writer places the facts before the reader in as clear and concise a way as possible, but not sparing words when necessary to insure a clear and complete understanding of the subject. In fact, it might be said to take the place of a private instructor in chemistry. The writer improves upon other works, in that of mentioning the principal impurities or adulterations that may be found in chemicals, and in giving proper tests for their detection. This, if done with care, is a valuable addition, and to all who know the writer, his reputation is sufficient guarantee.

—*The Pharmacist and Chemist, Chicago.*

The author wastes but little time on theory, but gives clear descriptions of the processes by which chemicals are prepared, mentions the principal impurities or adulterations to which they are liable, and supplies tests for their detection. Poisons and their antidotes are also specified in their proper place. The synonyms of such compounds as have any are not forgotten, nor are the atomic weights, specific gravities, solubilities, etc., of each substance as far as known. In this way the chemical history of the elements or compounds is completed in a very clear and succinct manner. The book is printed in good readable type, and illustrated with woodcuts in the text. It will prove a valuable addition to the library, useful for all, and almost indispensable to the student in medicine or pharmacy.

—*The Druggist's Circular and Chemical Gazette, N. Y.*

PUBLICATIONS
OF
ROBERT CLARKE & CO.,
CINCINNATI, O.

HISTORICAL AND MISCELLANEOUS.

- ALZOG (John D. D.) A Manual of Universal Church History.
Translated by Rev. T. J. Pabisch and Rev. T. S. Byrne. 3
vols. 8vo. 15 00
- ANDERSON (E. L.) Six Weeks in Norway. 18mo. 1 00
- ANDRE (Major). The Cow Chase; an Heroick Poem. 8vo.
Paper. 75
- ANTRIM (J.) The History of Champaign and Logan Counties,
Ohio, from their First Settlement. 12mo. 1 50
- BALLARD (Julia P.) Insect Lives; or, Born in Prison. Illus-
trated. Sq. 12mo. 1 00
- BELL (Thomas J.) History of the Cincinnati Water Works.
Plates. 8vo. 75
- BENNER (S.) Prophecies of Future Ups and Downs in Prices:
What Years to Make Money in Pig Iron, Hogs, Corn, and Pro-
visions. 2d ed. 24mo. 1 00
- BIBLE IN THE PUBLIC SCHOOLS. Records. Arguments, etc., in the
Case of Minor vs. Board of Education of Cincinnati. 8vo. 2 00
- Arguments in Favor of the Use of the Bible. Separate.
Paper, 50
- Arguments Against the Use of the Bible. Separate. Paper, 50
- BIBLIOTHECA AMERICANA. 1883. Being a priced Catalogue of a
large Collection (nearly 7,000 items) of Books and Pamphlets
relating to America. 8vo. 312 pages. Paper, 50c; Cloth, 1 00
- BIDDLE (Horace P.) Elements of Knowledge. 12mo. 1 00
- BIDDLE (Horace P.) Prose Miscellanies. 12mo. 1 00
- BOUQUET (H.) The Expedition of, against the Ohio Indians in
1764, etc. With Preface by Francis Parkman, Jr. 8vo.
\$3.00. Large paper, 6 00
- BOYLAND (G. H., M.D.) Six Months Under the Red Cross with
the French Army in the Franco-Prussian War. 12mo. 1 50
- BRUNNER (A. A.) Elementary and Pronouncing French Reader.
18mo. 60
- BRUNNER (A. A.) The Gender of French Verbs Simplified.
18mo. 25
- BURT (Rev. N. C., D.D.) The Far East; or Letters from Egypt,
Palestine, etc. 12mo. 1 75
- BUTTERFIELD (C. W.) The Washington-Crawford Letters; being

- the Correspondence between George Washington and William Crawford, concerning Western Lands. 8vo. 1 00
- BUTTERFIELD (C. W.) The Discovery of the Northwest in 1634, by John Nicolet, with a Sketch of his Life. 12mo. 1 00
- CLARK (Col. George Rogers). Sketches of his Campaign in the Illinois in 1778-9. With an Introduction by Hon. Henry Pirtle, and an Appendix. 8vo. \$2 00. Large paper, 4 00
- COFFIN (Levi.) The Reminiscences of Levi Coffin, the Reputed President of the Underground Railroad. A Brief History of the Labors of a Lifetime in behalf of the Slave. With Stories of Fugitive Slaves, etc., etc. 12mo. 2 00
- COLLIER (Peter). Sorghum: its Culture and Manufacture Economically Considered, and as a Source of Sugar, Syrup and Fodder. Illustrated. 12mo. In press.
- CONSTITUTION OF THE UNITED STATES, ETC. The Declaration of Independence, July 4, 1776; the Articles of Confederation, July 9, 1778; the Constitution of the United States, September 17, 1787; the Fifteen Amendment to the Constitution, and Index; Washington's Farewell Address, September 7, 1796. 8vo. Paper. 25
- CORNWELL (H. G.) Consultation Chart of the Eye-Symptoms and Eye-Complications of General Disease. 14 x 20 inches. Mounted on Roller. 50
- CRAIG (N. B.) The Olden Time. A Monthly Publication, devoted to the Preservation of Documents of Early History, etc. Originally Published at Pittsburg, in 1846-47. 2 vols. 8vo. 10 00
- DRAKE (D.) Pioneer Life in Kentucky. Edited, with Notes and a Biographical Sketch by his Son, Hon. Chas. D. Drake. 8vo. \$3 00. Large paper. 6 00
- DUBREUIL (A.) Vineyard Culture Improved and Cheapened. Edited by Dr. J. A. Warder. 12mo. 2 00
- ELLARD (Virginia G.) Grandma's Christmas Day. Illus. Sq. 12mo. 1 00
- EVERTS (Orpheus). What Shall We Do With the Drunkard? A Rational View of the Use of Brain Stimulants. 8vo. Paper. 50
- FAMILY EXPENSE BOOK. A Printed Account Book, with Appropriate Columns and Headings, for keeping a Complete Record of Family Expenses. 12mo. 50
- FINLEY (I. J.) and PUTNAM (R.) Pioneer Record and Reminiscences of the Early Settlers and Settlement of Ross County, Ohio. 8vo. 2 50
- FLETCHER (Wm. B., M.D.) Cholera: its Characteristics, History, Treatment, etc. 8vo. Paper. 1 00
- FORCE (M. F.) Essays: Pre-Historic Man—Darwinism and Deity—The Mound Builders. 8vo. Paper.
- FORCE (M. F.) Some Early Notices of the Indians of Ohio. To What Race did the Mound Builders Belong? 8vo. Paper. 50
- FREEMAN (Ellen). Manual of the French Verb, to accompany every French Course. 16mo. Paper. 25

- GALLAGHER (Wm. D.) Miami Woods, A Golden Wedding, and other Poems. 12mo. 2 00
- GRIMKE (F.) Considerations on the Nature and Tendency of Free Institutions. 8vo. 2 50
- GRISWOLD (W.) Kansas: Her Resources and Developments; or, the Kansas Pilot. 8vo. Paper. 50
- HALL (James). Legends of the West. Sketches illustrative of the Habits, Occupations, Privations, Adventures, and Sports of the Pioneers of the West. 12mo. 2 00
- HALL (James). Romance of Western History; or, Sketches of History, Life, and Manners in the West. 12mo. 2 00
- HANOVER (M. D.) A Practical Treatise on the Law of Horses, embracing the Law of Bargain, Sale, and Warranty of Horses and other Live Stock; the Rule as to Unsoundness and Vice, and the Responsibility of the Proprietors of Livery, Auction, and Sale Stables, Inn-keepers, Veterinary Surgeons, and Farriers, Carriers, etc. 8vo. 4 00
- HART (J. M.) A Syllabus of Anglo-Saxon Literature. 8vo. Paper. 50
- HASSAUREK (F.) The Secret of the Andes. A Romance. 12mo. 1 50
- THE SAME, in German. 8vo. Paper, 50c.; cloth, 1 00
- HASSAUREK (F.) Four Years Among Spanish Americans. Third Edition. 12mo. 1 50
- HATCH (Col. W. S.) A Chapter in the History of the War of 1812, in the Northwest, embracing the Surrender of the Northwestern Army and Fort, at Detroit, August 16, 1813, etc. 18mo. 1 25
- HAYES (Rutherford B.) The Life, Public Services, and Select Speeches of. Edited by J. Q. Howard. 12mo. Paper, 75c.; Cloth. 1 25
- HAZEN (Gen. W. B.) Our Barren Lands. The Interior of the United States, West of the One-Hundredth Meridian, and East of the Sierra Nevada. 8vo. Paper. 50
- HENSHALL (Dr. James A.) Book of the Black Bass; comprising its complete Scientific and Life History, together with a Practical Treatise on Angling and Fly Fishing, and a full description of Tools, Tackle, and Implements. Illustrated. 12mo. 3 00
- HORTON (S. Dana). Silver and Gold, and their Relation to the Problem of Resumption. 8vo. 1 50
- HORTON (S. Dana). The Monetary Situation. 8vo. Paper. 50
- HOUGH (Franklin B.) Elements of Forestry. Designed to afford Information concerning the Planting and Care of Forest Trees for Ornament and Profit; and giving Suggestions upon the Creation and Care of Woodlands, with the view of securing the greatest benefit for the longest time. Particularly adapted to the wants and conditions of the United States. Illustrated. 12mo. 2 00
- HOUSEKEEPING IN THE BLUE GRASS. A New and Practical Cook Book. By Ladies of the Presbyterian Church, Paris, Ky. 12mo. 13th thousand. 1 50
- HOVEY (Horace C.) Celebrated American Caverns, especially

- Mammoth, Wyandot, and Luray; together with Historical, Scientific, and Descriptive Notices of Caves and Grottoes in Other Lands. Maps and Illustrations. 8vo. 2 00
- HOWE (H.) Historical Collections of Ohio. Containing a Collection of the most Interesting Facts, Traditions, Biographical Sketches, Anecdotes, etc., relating to its Local and General History. 8vo. 6 00
- HUNT (W. E.) Historical Collections of Coshocton County, Ohio. 8vo. 3 00
- HUSTON (R. G.) Journey in Honduras, and Jottings by the Way. Inter-Oceanic Railway. 8vo. Paper. 50
- JACKSON (John D., M.D.) The Black Arts in Medicine, with an Anniversary Address. Edited by Dr. L. S. McMurtry. 12mo. 1 00
- JASPER (T.) The Birds of North America. Colored Plates, drawn from Nature, with Descriptive and Scientific Letterpress. In 40 parts, \$1.00 each; or, 2 vols. Royal 4to. Half-morocco, \$50 00; full morocco, 60 00
- The Same. Popular portion only with the Colored Plates. 1 vol. Half morocco, \$36.50; full morocco, 40 00
- JORDAN (D. M.) Rosemary Leaves. A Collection of Poems. 18mo. 1 50
- KELLER (M. J.) Elementary Perspective, explained and applied to Familiar Objects. Illustrated. 12mo. 1 00
- KING (John). A Commentary on the Law and True Construction of the Federal Constitution. 8vo. 2 50
- KLIFFART (J. H.) The Principles and Practice of Land Drainage. Illustrated. 12mo. 1 75
- LAW (J.) Colonial History of Vincennes, Indiana, under the French, British, and American Governments. 12mo. 1 00
- LLOYD (J. U.) The Chemistry of Medicines. Illus. 12mo. 3 25
- Cloth, \$2 75; Sheep, 3 25
- LLOYD (J. U.) Pharmaceutical Preparations; Elixirs, their History, Formulæ, and Methods of Preparation. 12mo. 1 25
- LONGLEY (Elias). Eclectic Manual of Phonography. A Complete Guide to the Acquisition of Pitman's Phonetic Shorthand, with or without a Master. A new and carefully revised edition. 12mo. Stiff paper binding, 65c.; Cloth, 75
- LONGLEY (Elias). The Reporter's Guide. Designed for Students in any Style of Phonography; in which are formulated for the first time in any work of the kind Rules for the Contraction of Words, Principles of Phrasing, and Methods of Abbreviation. Abundantly illustrated. 12mo. 2 00
- LONGLEY (Elias). American Phonographic Dictionary, exhibiting the correct and actual Shorthand Forms for all the useful Words in the English Language, about 50,000 in number, and, in addition, many Foreign Terms; also, for 2,000 Geographical Names, and as many Family, Personal, and Noted Fictitious Names. 12mo. 2 50
- LONGLEY (Elias). Every Reporter's Own Shorthand Dictionary. The same as the above, but printed on writing paper, leaving out the Shorthand Forms and giving blank lines opposite each word, for the purpose of enabling writers of any System

- of Shorthand to put upon record, for convenient reference, the peculiar word-forms they employ. 12mo. 2 50
- LONGLEY (Elias). Compend of Phonography, presenting a Table of all Alphabetical Combinations, Hooks, Circles, Loops, etc., at one view; also, Complete Lists of Word-signs and Contracted Word-forms, with Rules for Contracting Words for the Use of Writers of all Styles of Phonography. 12mo. Paper. 25
- LONGLEY (Elias). The Phonetic Reader and Writer, containing Reading Exercises, with Translations on opposite pages, which form Writing Exercises. 12mo. 25
- LONGLEY (Elias). Phonographic Chart. 28 x 42 inches. 50
- MCBRIDE (J.) Pioneer Biography; Sketches of the Lives of some of the Early Settlers of Butler County, Ohio. 2 vols. 8vo. \$6 50. Large paper. Imp. 8vo. 13 00
- MCLAUGHLIN (M. Louise). China Painting. A Practical Manual for the Use of Amateurs in the Decoration of Hard Porcelain. Sq. 12mo. Boards. 75
- MCLAUGHLIN (M. Louise). Pottery Decoration: being a Practical Manual of Underglaze Painting, including Complete Detail of the author's Mode of Painting Enameled Faience. Sq. 12mo. Boards. 1 00
- MACLEAN (J. P.) The Mound Builders, and an Investigation into the Archæology of Butler County, Ohio. Illus. 12mo. 1 50
- MACLEAN (J. P.) A Manual of the Antiquity of Man. Illustrated. 12mo. 1 00
- MACLEAN (J. P.) Mastodon, Mammoth, and Man. Illustrated. 12mo. 60
- MACLEAN (J. P.) The Worship of the Reciprocal Principles of Nature among the Ancient Hebrews. 18mo. Paper. 25
- MANSFIELD (E. D.) Personal Memories, Social, Political, and Literary 1803-43. 12mo. 2 00
- MANTYPENNY (G. W.) Our Indian Wards. A History and Discussion of the Indian Question. 8vo. 3 00
- MAY (Col. J.) Journal and Letters of, relative to Two Journeys to the Ohio Country, 1788 and 1779. 8vo. 2 00
- METTENHEIMER (H. J.) Safety Book-keeping. Being a Complete Exposition of Book-keeper's Frauds—how Committed, how discovered, how prevented; with other Suggestions of Value to Merchants and Book-keepers in the Management of Accounts. 18mo. Cloth. 1 00
- MINOR (T. C., M.D.) Child-bed Fever. Erysipelas and Puerperal Fever, with a Short Account of both Diseases. 8vo. 2 00
- MINOR (T. C., M.D.) Scarlatina Statistics of the United States. 8vo. Paper. 50
- MORGAN (Appleton). The Shakespearean Myth; or, William Shakespeare and Circumstantial Evidence. 12mo. 2 00
- MORGAN (Appleton). Some Shakespearean Commentators. 12mo. Paper. 75
- NAME AND ADDRESS BOOK. A Blank Book, with Printed Headings and Alphabetical Marginal Index, for Recording the Names and Addresses of Professional, Commercial, and Family Correspondents. 8vo. 1 00

- NASH (Simeon). Crime and the Family. 12mo. 1 25
- NERINCKX (Rev. Charles). Life of, with Early Catholic Missions in Kentucky; the Society of Jesus; the Sisterhood of Loretto, etc. By Rev. C. P. Maes. 8vo. 2 50
- NICHOLS (G. W.) The Cincinnati Organ; with a Brief Description of the Cincinnati Music Hall. 12mo. Paper. 25
- OHIO VALLEY HISTORICAL MISCELLANIES. I. Memorandums of a Tour made by Josiah Espy, in the States of Ohio, and Kentucky, and Indian Territory, in 1805. II. Two Western Campaigns in the War of 1812-13: 1. Expedition of Capt. H. Brush, with Supplies for General Hull. 2. Expedition of Gov. Meigs, for the relief of Fort Meigs. By Samuel Williams. III. The Leatherwood God: an account of the Appearance and Pretensions of J. C. Dylks in Eastern Ohio, in 1828. By R. H. Tanevhill. 1 vol. 8vo. \$2 50. Large paper, 5 00
- ONCE A YEAR; or, The Doctor's Puzzle. By E. B. S. 16mo. 1 00
- OSBORN (H. S.) Ancient Egypt in the Light of Modern Discoveries. Illustrated. 12mo. 1 25
- PHISTERER (Captain Frederick). The National Guardsman: on Guard and Kindred Duties. 24mo. Leather. 75
- PHYSICIAN'S POCKET CASE RECORD PRESCRIPTION BOOK. 35
- PHYSICIAN'S GENERAL LEDGER. Half Russia. 4 00
- PIATT (John J.) Penciled Fly-Leaves. A Book of Essays in Town and Country. Sq. 16mo. 1 00
- POOLE (W. F.) Anti-Slavery Opinions before 1800. An Essay. 8vo. Paper, 75c.; Cloth, 1 25
- PRENTICE (Geo. D.) Poems of, collected and edited, with Biographical Sketch, by John J. Piatt. 12mo. 2 00
- QUICK (R. H.) Essays on Educational Reformers. Schools of the Jesuits: Ascham, Montaigne, Ratich, Milton; Comenius; Locke; Rousseau's Emile; Basidow and the Philanthropin, etc. 12mo. 1 50
- RANCK (G. W.) History of Lexington, Kentucky. Its Early Annals and Recent Progress, etc. 8vo. 4 00
- REEMELIN (C.) The Wine-Maker's Manual. A Plain, Practical Guide to all the Operations for the Manufacture of Still and Sparkling Wines. 12mo. 1 25
- REEMELIN (C.) A Treatise on Politics as a Science. 8vo. 1 50
- REEMELIN (C.) A Critical Review of American Politics. 8vo. 3 50
- REEMELIN (C.) Historical Sketch of Green Township, Hamilton County, Ohio. 8vo. Paper. 1 25
- RIVES (E. M. D.) A Chart of the Physiological Arrangement of Cranial Nerves. Printed in large type, on a sheet 28 x 15 inches. Folded, in cloth case. 50
- ROBERT (Karl). Charcoal Drawing without a Master. A Complete Treatise in Landscape Drawing in Charcoal, with Lessons and Studies after Allonge. Translated by E. H. Appleton. Illustrated. 8vo. 1 00
- ROY (George). Generalship; or, How I Managed my Husband. A tale. 18mo. Paper, 50c.; Cloth. 1 00
- ROY (George). The Art of Pleasing. A Lecture. 12mo. Paper. 25

- ROY (George). The Old, Old Story. A Lecture. 12mo. Paper. 25
- RUSSELL (A. P.) Thomas Corwin. A Sketch. 16mo. 1 00
- RUSSELL (Wm.) Scientific Horseshoeing for the Different Diseases of the Feet. Illustrated. 8vo. 1 00
- SATTLER (Eric E.) The History of Tuberculosis from the time of Sylvius to the Present Day. Translated, in part, with additions, from the German of Dr. Arnold Spina, First Assistant in the Laboratory of Professor Stricker, of Vienna: including also Dr. Robert Koch's Experiments, and the more recent Investigations of Dr. Spina on the Subject. 12mo. 1 25
- SAYLER (J. A.) American Form Book. A Collection of Legal and Business Forms, embracing Deeds, Mortgages, Leases, Bonds, Wills, Contracts, Bills of Exchange, Promissory Notes, Checks, Bills of Sale, Receipts, and other Legal Instruments, prepared in accordance with the Laws of the several States; with Instructions for drawing and executing the same. For Professional and Business Men. 8vo. 2 00
- SHEETS (Mary R.) My Three Angels: Faith, Hope, and Love. With full-page illustration. By E. D. Grafton. 4to. Cloth. Gilt. 5 00
- SKINNER (J. R.) The Source of Measures. A Key to the Hebrew-Egyptian Mystery in the Source of Measures, etc. 8vo. 5 00
- SMITH (Col. James). A Reprint of an Account of the Remarkable Occurrences in his Life and Travels, during his Captivity with the Indians in the years 1755, '56, '57, '58, and '59, etc. 8vo. \$2 50. Large paper. 5 00
- STANTON (H.) Jacob Brown and other Poems. 12mo. 1 50
- ST. CLAIR PAPERS. A Collection of the Correspondence and other papers of General Arthur St. Clair, Governor of the Northwest Territory. Edited, with a Sketch of his Life and Public Services, by William Henry Smith. 2 vols. 8vo. 6 00
- STRAUCH (A.) Spring Grove Cemetery, Cincinnati: its History and Improvements, with Observations on Ancient and Modern Places of Sepulture. The text beautifully printed with ornamental colored borders, and photographic illustrations. 4to. Cloth. Gilt. 15 00
- An 8vo. edition, without border and illustrations. 2 00
- STUDER (J. H.) Columbus, Ohio: its History, Resources, and Progress, from its Settlement to the Present Time. 12mo. 2 00
- TANEYHILL (R. H.) The Leatherwood God: an account of the Appearance and Pretensions of Joseph C. Dylks in Eastern Ohio, in 1826. 12mo. Paper. 30
- TEN BROOK (A.) American State Universities. Their Origin and Progress. A History of the Congressional University Land Grants. A particular account of the Rise and Development of the University of Michigan, and Hints toward the future of the American University System. 8vo. 2 00
- TILDEN (Louise W.) Karl and Gretchen's Christmas. Illustrated. Square 12mo. 75
- TILDEN (Louise W.) Poem, Hymn, and Mission Band Exercises. Written and arranged for the use of Foreign Missionary Societies and Mission Bands. Square 12mo. Paper. 25

- TRENT (Capt. Wm.) Journal of, from Logstown to Pickawillany, in 1752. Edited by A. T. Goodman. 8vo. 2 50
- TRIPLER (C. S., M. D.) and BLACKMAN (G. C., M. D.) Handbook for the Military Surgeon. 12mo. 1 00
- TYLER DAVIDSON FOUNTAIN. History and Description of the Tyler Davidson Fountain, Donated to the City of Cincinnati, by Henry Probasco. 18mo. Paper. 25
- VAGO (A. L.) Instructions in the Art of Modeling in Clay. With an Appendix on Modeling in Foliage, etc., for Pottery and Architectural Decorations, by Benn Pitman, of Cincinnati School of Design. Illustrated. Square 12mo. 1 00
- VAN HORNE (T. B.) The History of the Army of the Cumberland; its Organization, Campaigns, and Battles. *Library Edition*. 2 vols. With Atlas of 22 maps, compiled by Edward Ruger. 8vo. Cloth, \$8 00; Sheep, \$10 00; Half Morocco, \$12 00. *Popular Edition*. Containing the same Text as the Library Edition, but only one map. 2 vols. 8vo. Cloth. 5 00
- VENABLE (W. H.) June on the Miami, and other Poems. Second edition, 18mo. 1 50
- VOORHEES (D. W.) Speeches of, embracing his most prominent Forensic, Political, Occasional, and Literary Addresses. Compiled by his son, C. S. Voorhees, with a Biographical Sketch and Portrait. 8vo. 5 00
- WALKER (C. M.) History of Athens County, Ohio, and incidentally of the Ohio Land Company, and the First Settlement of the State at Marietta, etc. 8vo. \$6 00. Large Paper. 2 vols. \$12 00. Popular Edition. 4 00
- WALTON (G. E.) Hygiene and Education of Infants; or, How to take care of Babies. 24mo. Paper. 25
- WARD (Durbin). American Coinage and Currency. An Essay read before the Social Science Congress, at Cincinnati, May 22, 1878. 8vo. Paper. 10
- WEBB (F.) and JOHNSTON (M. C.) An Improved Tally-Book for the use of Lumber Dealers. 18mo. 50
- WHITTAKER (J. T., M. D.) Physiology; Preliminary Lectures. Illustrated. 12mo. 1 75
- WILLIAMS (A. D., M. D.) Diseases of the Ear, including Necessary Anatomy of the Organ. 8vo. 3 50
- YOUNG (A.) History of Wayne County, Indiana, from its First Settlement to the Present Time. 8vo. 2 00

LAW TREATISES AND REPORTS.

- ADKINSON (F.) Township and Town Officer's Guide for the State of Indiana. 12mo. Net. Cloth, \$2 00; Sheep. 2 50
- BARTON (C.) History of a Suit in ~~Equity~~ *Equity*. Revised and enlarged. 8vo. 2 50
- BATES (C.) Ohio Pleadings, Parties, and Forms under the Code. 2 vols. 8vo. Net. 12 00
- BIBLE IN THE PUBLIC SCHOOLS. Arguments in favor and against, with Decision of the Cincinnati Superior Court. 8vo. Cloth. 2 00

- BIBLE IN THE PUBLIC SCHOOLS.** The arguments in favor of, and against. Separate Paper. Each, 50
- BLOOM (S. S.)** Popular Edition of the Laws of Ohio, in Force June, 1882. Net. Cloth, \$3 00; Sheep, 4 00
- BOND (L. H.)** Reports of Cases Decided in the Circuit and District Courts of the United States for the Southern District of Ohio. 2 vols. 8vo. 14 00
- BURNS (H.)** An Index or Abbreviated Digest of the Supreme Court Reports of the State of Indiana, from 1st Blackford to 77th Indiana, inclusive. 8vo. Net. 5 00
- CARLTON (A. B.)** The Law of Homicide; together with the Celebrated Trial of Judge E. C. Wilkinson, Dr. B. R. Wilkinson, and J. Murdaugh, for the Murder of John Rothwell and A. H. Meeks, including the Indictments, the Evidence, and Speeches of Hon. S. S. Prentiss, Hon. Ben. Hardin, E. J. Bullock, Judge John Rowan, Col. Geo. Robertson, and John B. Thompson, of Counsel, in full. 8vo. Net. 2 50
- CINCINNATI SUPERIOR COURT REPORTER.** 2 vols. 8vo. Net. 10 00
- See also Handy, Disney.
- CONSTITUTION OF THE UNITED STATES,** with the Fifteen Amendments, Declaration of Independence, etc. 8vo. Paper. 25
- COX (R.)** American Trade Mark Cases. A Compilation of all reported Trade Mark cases decided in the United States Courts prior to 1871. 8vo. 8 00
- CURWEN (M. E.)** Manual of Abstracts of Title to Real Property. 12mo. Cloth, \$1 50; Sheep, 1 75
- DAVIS (E. A.)** New Digest of the Decisions of the Supreme Court of Indiana, to 1875. 2 vols. 8vo. Net. 12 00
- DISNEY'S REPORTS.** Cincinnati Superior Court. 2 vols. 8vo. Net. 10 00
- FISHER (S. S.)** Reports of Patent Cases decided in the Circuit Courts of the United States, 1843-1873. 6 vols. 8vo. Vols. 3 to 6, each. Net. 25 00
- FISHER (W. H.)** Reports of Patent Cases decided in the Courts of the United States, 1827-1851. 10 00
- FISHER (R. A.)** Digest of English Patent, Trade Mark, and Copyright Cases. Edited by Henry Hooper. 8vo. 4 00
- FORTESCUE (Sir John).** De Laudibus Legum Angliæ. A Treatise in Commendation of the Laws of England. 8vo. Cloth. 3 00
- GIAUQUE (F.)** The Election Laws of the United States. Being a Compilation of all the Constitutional Provisions and Laws of the United States relating to Elections, the Elective Franchise, to Citizenship, and to the Naturalization of Aliens. With Notes of Decisions affecting the same. 8vo. Paper. 75c.; Cloth. 1 00
- GIAUQUE (F.)** Ohio Election Laws. 8vo. Paper, \$1.00; Cloth, 1 50
- GIAUQUE (F.)** Manual for Road Supervisors in Ohio. 16mo. Boards. 25
- GIAUQUE (F.)** Manual for Assignees and Insolvent Debtors in Ohio. Net. Cloth, \$2 00; Sheep, 2 50
- GIAUQUE (F.)** Manual for Guardians in Ohio. Net. Cloth, \$2 00; Sheep, 2 50

- GIAUQUE (F.) A complete Manual of the Road Laws of Ohio in force 1883, with Forms and Notes of Decisions. *In press.*
 GIAUQUE (F.) and McCLEURE (H. B.) Dower and Curtesy Tables, for ascertaining, on the basis of the Carlisle Tables of Mortality, the present value of vested and contingent rights of Dower and Curtesy, and of other Life Estates. 8vo. Net. 5 00
 HANDY'S REPORTS. Cincinnati Superior Court. 2 vols. in 1. 8vo. Net. 5 00
 HANOVER (M. D.) A Practical Treatise on the Law relating to Horses. Second edition. 8vo. 4 00
 HARRIS (S. F.) Principles of the Criminal Law. Edited by Hon. M. F. Force. 8vo. Net. 4 00
 INDIANA LAWS. Being Acts and Joint Resolutions of the General Assembly of the State of Indiana, passed at the Regular Session, which was begun and held at Indianapolis, on Thursday, the fourth day of January, 1883, and adjourned without day on Monday, the fifth day of March, 1883. Edited, printed, published, and circulated under authority of law, and with the Secretary of State's authentication. S. R. Downey, Editor. 8vo. 1 00
 KENTUCKY REPORTS. Reports of cases decided in the Court of Appeals of Kentucky. 1785-1878. 76 vols. in 61.
 KING (J.) A Commentary on the Law and True Construction of the Federal Constitution. 8vo. 2 50
 McDONALD (D.) Treatise on the Law relating to the Powers and Duties of Justices and Constables in Indiana. Edited by L. O. Schroeder. 8vo. *In press.*
 MATTHEWS (Stanley.) A Summary of the Law of Partnership. For use of Business Men. 12mo. Cloth, \$1 25; Sheep, 1 50
 McLEAN (J.) Reports of Cases decided in the Circuit Court of the United States for the Seventh District. 1829-1855. 6 vols. 8vo. Vols. 2, 4, 5, 6. Each, 6 50
 MONTESQUIEU (Baron De.) The Spirit of Laws. Translated from the French by Thomas Nugent. New edition, with Memoir. 2 vols. 8vo. Cloth. 6 00
 MORGAN (J. A.) An English Version of Legal Maxims, with the Original Forms. Alphabetically arranged, and an Index of Subjects. Second edition. 12mo. Cloth. Net. 2 00
 NASH (S.) Pleading and Practice under the Codes of Ohio, New York, Kansas, and Nebraska. Fourth edition, 2 vols. 8vo. Net. 10 00
 OHIO AND OHIO STATE REPORTS. Reports of Cases decided in the Supreme Court of Ohio. 1821-1880. 55 vols. Net. 137 50
 OHIO STATUTES. Embracing:
 Curwen's Statutes at Large, 1833-1860. 4 vols. 8vo. Net. 20 00
 Swan & Critchfield's Revised Statutes, 1860. 2 vols. 8vo. Net. 5 00
 Saylor's Statutes at Large, 1860-1875. 4 vols. 8vo. 20 00
 PECK (H. D.) The Law of Municipal Corporations in the State of Ohio. Second edition. 8vo. 5 00
 PECK (H. D.) The Township-Officer's Guide of Ohio. Second edition. Net. Cloth, \$2 00; Sheep, 2 50

- POLLOCK (F.) Principles of Contract at Law and in Equity.
 Edited by G. H. Wald. 8vo. Net. 6 00
- RAFF (G. W.) Guide to Executors and Administrators in the
 State of Ohio. Sixth edition. Edited and enlarged by F.
 Giaucque. 12mo. Cloth, \$2 00; Sheep, 2 50
- RAFF (G. W.) Manual of Pensions, Bounty, and Pay. 1789-
 1863. 12mo. 2 00
- RAFF (G. W.) War Claimant's Guide. Laws relating to Pen-
 sions, Bounty, etc. War of 1861-1865. 8vo. 4 00
- REINHARD (G. L.) The Criminal Law of the State of Indiana,
 with Precedents, Forms for Writs, Docket Entries, etc.
 8vo. 2 50
- SAINT GERMAIN (C.) The Doctor and Student; or, Dialogues be-
 tween a Doctor of Divinity and a Student in the Laws of
 England, containing the grounds of those Laws. Revised and
 corrected. 8vo. Cloth. 3 00
- SAUNDERS (T. W.) A Treatise upon the Law of Negligence.
 With notes of American Cases. 8vo. 2 50
- SAYLER (J. R.) American Form Book; a Collection of Legal
 and Business Forms for Professional and Business Men. 8vo.
 Cloth. Net. 2 00
- STANTON (R. H.) A New Digest of the Kentucky Decisions; em-
 bracing all Cases decided by the Appellate Courts, from 1785
 to 1877. Second edition. 2 vols. 8vo. Net. 6 00
- STANTON (R. H.) A Practical Treatise on the Law relating to
 Justices of the Peace, etc., in Kentucky. Third edition.
 8vo. 7 50
- STANTON (R. H.) Manual for the Use of Executors, Admin-
 istrators, Guardians, etc., in Kentucky. Second edition.
 12mo. 1 75
- SWAN (J. R.) Pleadings and Precedents, under the Code of
 Ohio. 8vo. 6 00
- SWAN (J. R.) Treatise on the Law relating to the Powers and
 Duties of Justices of the Peace, etc., in the State of Ohio.
 Eleventh edition. 8vo. Net. 6 00
- SWAN (J. R.) and PLUMB (P. B.) Treatise on the Law relating
 to the Powers and Duties of Justices, etc., in Kansas.
 8vo. 5 00
- WALKER (J. B.) and BATES (C.) A new Digest of Ohio Decisions.
 Second edition. 2 vols. 8vo. Net. 12 00
- Vol. 3., 1874-1882. By C. Bates. Net. 5 00
- WARREN (M.) Criminal Law and Forms. Third edition. 8vo. 5 00
- WELLS (J. C.) Treatise on the Separate Property of Married
 Women, under the recent Enabling Acts. Second edition.
 8vo. 6 00
- WELLS (J. C.) A Manual of the Laws relating to County Com-
 missioners in the State of Ohio, with carefully prepared
 Forms, and References to the Decisions of the Supreme
 Court. *In press.*
- WILD (E. N.) Journal Entries under the Codes of Civil and
 Criminal Procedure. With Notes of Decisions. Second edi-
 tion. 8vo. 4 00

- WILCOX (J. A.) The General Railroad Laws of the State of Ohio, in force January, 1874. 8vo. 5 00
 WILSON (M. F.) The New Criminal Code of Ohio, with Forms and Precedents, Digest of Decisions, etc. Second edition. 8vo. Net. 5 00
 WORKS (John D.) Indiana Practice, Pleadings, and Forms. 2 vols. 8vo. Net. 12 00

- NASH (Simeon). Lawyer's Case Docket, containing printed Headings, and blank spaces for names of Parties, Memoranda of all the Proceedings, with full printed Instructions, and an Index. Crown size. Half roan, \$3.75; Full Sheep. 4 50
 LAWYER'S COLLECTION DOCKET. With convenient Ruling, printed Headings, Index, etc. 4to. Half Russia. 3 50
 ATTORNEY'S POCKET DOCKET. Ruled and Printed for number of Case, Parties, and kind of Action, Witnesses, etc., with room for 150 cases. Pocket size. Morocco. 1 00
 CHANGEABLE POCKET DOCKET. The Docket paper is furnished separately, and so arranged that it may be subsequently bound in one volume. Paper, 50c. per quire. Morocco case, with pocket and band. 2 00
 NOTARY'S OFFICIAL REGISTER. Being a Record of Protests and other Official Transactions. 4to. 2 quires. Half sheep, \$2 00; 3 quires, half russia. 3 00
 COLLECTION RECEIPT BOOK. The Book of Collection Receipts, which is bound in the form of a check book, contains the stub in which is preserved a record of the transaction, and a printed receipt, giving parties, date, interest, indorsers, credits, etc., which is torn off and sent to your correspondent. Book of 50 receipts, 40c.; 100 receipts, 75c.; 200 (two to a page). 1 25

A Catalogue of Legal Blanks will be sent on application.

LAWYER'S OFFICE DOCKET.

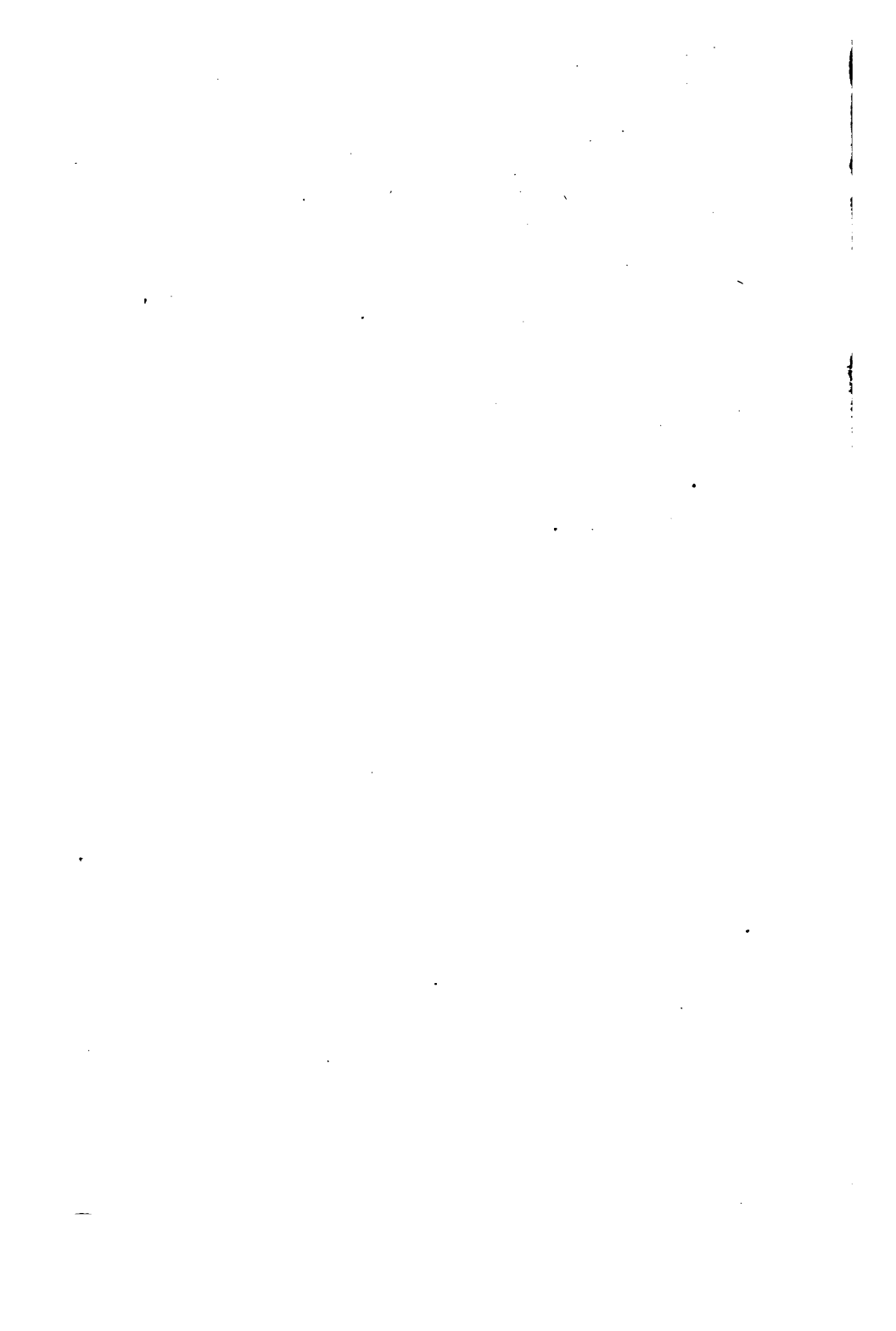
The Lawyer's Office Docket. Embracing the History of each Case, and the Proceedings thereon, together with a Digest of the Principles of Law involved, and References to Authorities. With Index and Memoranda. Quarto. 212 pages. Half russia. Cloth sides. Net. 3 50

THE UNITED STATES COMMISSIONER'S DOCKET.

Docket for Commissioners of the United States Circuit Courts, embracing a Full Record of the Proceeding in each Case, with Schedule of Costs, and an Index of Cases. Quarto. Half russia. Net. 3 75







UNIVERSITY OF MICHIGAN



06454 5406