

FLUID EXTRACT OF DANDELION, OFFICINAL.

The German bitter root is much preferred by the writer, and it should be in very fine powder. The officinal diluted alcohol, as now directed, dissolves an unnecessary proportion of the mucilaginous ingredients of the drug, and clogs the percolation. A mixture of equal weights of stronger alcohol and water answers better, and yields a good preparation.

FLUID EXTRACT OF UVA URSI, OFFICINAL.

Should be simply re-percolated in very fine powder by the mixture of alcohol, glycerin, and water. This menstruum seems well adapted to this drug.

FLUID EXTRACT OF VALERIAN, OFFICINAL.

Various mixtures of glycerin were tried for percolating this drug, but without success, nothing answering so well as stronger alcohol. English valerian yields a preparation of milder taste, and finer and more delicate odor. But the German or French drug, which gives a peppery impression to the tongue, is doubtless the more effectual medicinal agent.

FLUID EXTRACT OF AMERICAN HELLEBORE, OFFICINAL.

This should be re-percolated in very fine powder with stronger alcohol, and should always bear a red label.

FLUID EXTRACT OF GINGER, OFFICINAL.

This should be made from African ginger in very fine powder, and not from Jamaica ginger. The latter has a finer aromatic flavor, but the former is the stronger carminative. The menstruum should be stronger alcohol.

The difficulty and labor in making good fluid extracts has recently led to a proposition, chiefly advocated among the pharmacists of Chicago, to reduce the strength of these preparations by one-half, or to the present strength of the fluid extracts of cinchona and wild cherry bark. Although there are some good reasons for this proposition, yet in the writer's opinion it would not be a wise change. The popularity of these medicines, as a class, depends largely upon the convenience which they offer to country physicians of carrying their remedies in small compass, and in a convenient form; and to give this and many other advantages up at this late day, after many of the difficulties and deficiencies have been discovered and remedied, would be to sacrifice much useful labor with the recognized advantages. Besides, one of the most useful of the directions in which progress in pharmacy is recognized, is in the concentration and condensation of medicinal agents.

One direction in which several of the fluid extracts might be improved, is by the addition of corrigents. Fluid extracts of cinchona and senna should have aromatics in full proportion added, and there should be a fluid extract of May-apple with belladonna or hyoscyamus, and aromatics.

THE CRYSTALLIZATION OF CAMPHOR.*

BY R. ROTHER.

The peculiar predilection of camphor for the crystalline form, is one of the petty annoyances inherent to the dispensing department. Insignificant as the objection may seem, it is nevertheless one for which the

dispensing pharmacist is but too willing to accept a remedy. This difficulty is chiefly experienced with powdered camphor, but the objection, likewise, though in a less obvious degree, applies to the aqueous solution. The most perfect means of pulverizing camphor, although not the practicable, is undoubtedly the method by precipitation. The trituration with small quantities of chloroform, ether, benzene, and naphtha has been proposed; but none of these substances possess any advantages over alcohol, which even still is preferable to all. There is no difficulty whatever in pulverizing camphor; the object is to retain it so.

For this purpose it has been suggested to triturate the camphor with small quantities of magnesium carbonate. If this management insured the pulverulent state indefinitely, the magnesium would often be objectionable. The writer has not tested the process, but was informed by good authority that it is not satisfactory; a similar result is experienced by precipitating the camphor with water from an alcoholic solution, holding the magnesium carbonate in suspension. Other dry substances, as starch, for instance, have been used with equally indifferent success. The writer, feeling the necessity of some alternative, and basing his theory of this crystallization upon the volatility of camphor, applied an ethereal solution of resin with a view of coating the particles with a deposit of resin. The experiment, however, yielded a negative result. The writer, assuming then that a nonvolatile solvent might retard the crystallization, employed a small proportion of fixed oil—preferably castor oil. This addition is entirely unobjectionable, and although it does not strictly meet the most sanguine expectation of preventing crystallization, it yet modifies this tendency to such a degree that after a long trial the writer is so thoroughly satisfied with its peculiar advantages that the complete success of the experiment would have been scarcely hailed with more delight. The proportion of castor oil employed is about one part in thirty of camphor, or even less. It is added, together with the alcohol, to the camphor, and the whole triturated to the proper degree of fineness. The great advantage rests in the fact that the crystals of camphor subsequently formed are exceedingly minute, and the oil entirely removes the very disagreeable adhesiveness and tenacity of the camphor, which becomes so troublesome during the trituration of pure camphor. Camphor containing the oil can be triturated in large or small quantities, without in the least clogging the mortar or pestle. The powder, after keeping even a long time, mixes perfectly and with facility with all the ordinary ingredients with which it is usually combined in prescriptions. The peculiar gumminess has been perfectly removed by the intervention of the oil.

The aqueous solution of camphor is another point at issue. It has been supposed that during cold weather camphor water drops parts of its camphor. However, this phenomenon is only apparent. The writer has often been struck by the extraordinary solvent power of very cold water upon camphor, so that during the coldest winter weather the cold water drawn fresh from the hydrant, and having a very low temperature, always yielded the strongest camphor water, which, when subjected to the warm temperature of the room, deposited camphor abundantly and in weighable quantities, not upon the glass above the liquid, but floating

in beautiful crystals in the liquid itself; so much so that the water was often filtered again before use.

To verify the above conclusion, the writer employed lukewarm water. The camphor was first finely triturated with the aid of alcohol, then with the magnesium carbonate, first rubbed through a coarse sieve, then with a portion of the water, and poured into a capacious bottle; the remainder of the water was then gradually added, and the mixture violently shaken during the intervals, and finally filtered. (This is essentially the writer's manipulation of the aromatic waters.) The bottle containing the filtrate was securely corked and allowed to cool. After six hours a very thin film of crystalline camphor had deposited on the walls of the bottle above the liquid, the latter containing no visible trace, not even floating upon the surface. The liquid was again filtered and exposed to intense cold for a long time, but no more camphor separated, although the liquid possessed the taste of camphor in a marked degree. Therefore, to make camphor water, free from separated camphor, use lukewarm water, or use water of the ordinary temperature, let it become equalized to the temperature of the room, and after a repose of twenty-four hours, filter. But to make a supersaturated camphor water, employ water having a very low temperature.

SYRUP OF PHOSPHATE OF IRON AND OTHER SYRUPS CONTAINING PHOSPHORIC ACID.*

BY MICHAEL CARTEIGHE.

Of the numerous preparations of iron at the disposal of the practitioner few have in late years acquired more favor than the syrup of phosphate. First introduced to the notice of the profession by Mr. Greenish in a form more or less opaque, it was not until about ten years ago that it came into very general use. About this time Gale and Schweitzer each read a paper at one of the evening meetings of the Pharmaceutical Society, detailing processes for the preparation of this syrup in a form which should remain perfectly bright and free from deposit. Gale's process was introduced into the British Pharmacopoeia of 1867, and since the publication of that volume the demand for this medicine has vastly increased. Its tendency to darken in color after having been kept for some time was soon noticed, and Umney made some experiments with the view of preventing or retarding this change, but the results were not practically satisfactory. T. B. Groves afterwards examined a very old specimen in his possession, and determined the chemical composition of the precipitate, which is formed on long standing. He describes this precipitate as being essentially a compound of iron with phosphoric acid, corresponding to the octocalcic phosphate of Warington. The dark color he thinks due to the production of caramel by the action of the phosphoric acid and iron salt upon the sugar. He also prepared several specimens with a stronger acid, made by himself from amorphous phosphorus, and found that these kept somewhat better than when made according to the B. P.

The necessity of keeping the syrup recently prepared induced me to try a few experiments with a stronger acid, and to advise a

*From the Pharmacist.

*From the Pharmaceutical Journal, London.