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ORIGINAL AND SELECTED PAPERS.

LABORATORY NOTES.

BY E. J.-SHUTTLEWORTH.

UTILIZATION OF RESIDUE IN MAKING TINCTURE OF MYRRH.

In preparing this tincture by the directions of the *British Pharmacopœia*, a residue of about two-thirds of the original amount of myrrh remains. This consists almost entirely of gum or arabin, as the spirit of 84 per cent., used for percolation, exhausts the myrrh of resin and essential oil, leaving the gum, with the ordinary mechanical impurities, as sand, bits of wood, bark, &c. It occurred to the writer that this might be utilized as mucilage; and to put the idea into execution, the residue of the percolation of 52 pounds—the quantity required for 50 wine gallons of the tincture—was dissolved in boiling water, strained, and allowed to deposit. Twelve gallons of very tolerable mucilage was obtained, and which, although unfit for sale, or the nicer purposes of trade, was found an excellent substitute for ordinary paste, possessing unlimited keeping qualities, but scarcely as cohesive as mucilage from gum arabic. The latter property may, however, be given by the addition of a small quantity of molasses; and thus prepared, the mucilage will be found quite acceptable, and, certainly, cheap enough.

While speaking of tincture of myrrh, it may not be out of place to allude to a plan for its preparation, which was proposed by an American pharmaceutist, and which has, to some extent, come into use. It consists in forming an emulsion of the drug with hot water, and mixing this with alcohol. The resulting tincture is deep-colored and quite thick, conveying the vulgar idea of *strength*. Strong it is, but not in aroma, or fragrant resin. The practice cannot be discountenanced too strongly, as not only is the preparation quite different from what the *Pharmacopœia* requires, but the product is a sticky abomination.

ADULTERATION OF LARD.

Some time ago, the stock of prepared lard being exhausted, a quantity was procured from a respectable pork-dealer. It was beautifully white; so much so, that the writer was led to question his ability to produce anything equal to it. The first trial was in preparing ointment of nitrate of mercury. The color, when the mercurial solution was added, was the reverse of citrine, indeed, decidedly saturnine, developing in a short time to a full slate color. Surprised at this unprecedented result, the usual precautions having been taken as to temperature, etc., the lard was suspected, and, on examination, was found to contain a large proportion of lime. Some time after, being in conversation with a lard-renderer, a hint was dropped as to the relation of lime to color, when the information was confidentially imparted that a common practice among lard-dealers was to mix from two to five per cent. of milk of lime with the melted lard. A saponaceous compound is formed, which is not only pearly white, but will allow of the stirring in, during cooling, of 25 per cent. of water. So much for appearances.

EXTRACT OF VANILLA.

The pods are commonly recommended to be rubbed up with sugar. A plan we have adopted gives more satisfactory results. The pods are first cut into short lengths with a pair of shears, and are then ground, or pounded, with the addition of a liberal amount of clean, broken glass (old bottles). The powder may be made of almost any degree of fineness, and the ground glass assists materially in the percolation. Fifty pounds of vanilla may be completely exhausted by twenty gallons of spirit.

COMPOUND SYRUP OF SQUILLS, SYRUP OF SENEKA, AND SYRUP OF IPECACUANHA.*

BY J. C. WHARTON.

The tendency of some officinal syrups to ferment is strikingly manifested by the three above named, and although the present formulæ for their preparation are improvements upon older ones, there are still serious difficulties in following implicitly the directions laid down in the U. S. Dispensatory. As a consequence, there are various inequalities in the resulting syrups, and, as I believe, fermentation is sometimes actually promoted by the tedious and lengthy proceedings required.

It will be sufficient to offer as an instance the compound syrup of squills. As it is not necessary to give the formula in detailed proportions, the reader is referred to the U. S. Dispensatory, where it will be seen that after a percolated tincture of three pints is obtained the directions read:—"*Boil this for a few minutes, evaporate it by means of a water-bath to a pint, add six fluid ounces of boiling water, and filter. Dissolve the sugar in the filtered liquid, and, having heated the solution to the boiling point, strain it while hot. Then dissolve the tartrate of antimony and potassa in the solution while still hot, and add sufficient boiling water through the strainer to make it measure three pints. Lastly, mix the whole thoroughly together.*"

In following these directions as strictly as possible, I have almost invariably found that a large amount of albuminous or "pectin-like" matter was deposited, and in fact this is the stated design of raising the liquid to the boiling point. Here arises the chief difficulty, in my opinion; at any rate I have found it to be a great one, for, in attempting to remove this deposit by filtration, especially if a considerable quantity of liquid is prepared, the filter is soon clogged by the *gummy* matter, and the liquid filters very slowly. I have known filtration to *cease* towards the close of the operation. In such a case the best that can be done is to provide a new filter and empty the old one into it, expressing it to avoid loss as much as possible. This is tedious and wasteful of the virtues of the drug. On one occasion I prepared a quantity of the tincture, and such was the tardiness of filtration that *several days* were occupied in completing it. Towards the end I noticed a few patches of a mouldy growth that had formed on the surface of the albuminous matter in the filter, and by smelling it perceived that *the liquid was spoiled before the syrup was made.* The failure was suggestive, and I concluded that if a few days were enough to *spoil the liquid* a few hours' time might injure it, and in fact, the *germs of fermentation* might begin to work as soon as the liquid was cold, since the protective agency of alcohol was gone.

Reasoning as above, I resorted to a method of filtration often used when a difficult precipitate is to be removed, namely, rubbing the muddy liquid with magnesia. In this case it acted with the double advantage of mingling its particles with the albuminous matter, thus facilitating filtration and neutralizing any free acid that might be present from incipient fermentation. The result was very satisfactory. Filtration was greatly hastened, and the syrup produced was not muddy-looking or translucent, as is generally the case, but was beautifully transparent. It was kept a year without fermenting, though almost daily in use.

I have since tried the same method of filtration with syrup of ipecacuanha and syrup of seneka, with like results.

There is a point that may seem objectionable in using magnesia or its carbonate as above, and it has been duly considered before offering these suggestions. It is this: Magnesia is *alkaline* in its reactions, and as the active principle of seneka is considered to be *acid* (polygalic), it would seem that they are incompatible; but as they are both *feeble in their affinities, and as filtration proceeds rapidly*, there is practically no objection to mixing them. There is, it is true, a very slight escape of carbonic acid when the carbonate of magnesia is rubbed with the concentrated liquid, but it may be due to a small amount of free acid of a different character, and even though a little polygalic acid should be removed by the magnesia, the amount is so trivial as to be of no importance, and the objection is more than coun-

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