

are made the individual preparations should be thoroughly studied before making such dilutions, and a procedure other than this must be considered a very poor one to follow.

DISCUSSION.

CHARLES H. LAWALL: The evident care with which the statements were made in the paper and conclusions drawn appear to me to be very worthy of widespread publication to the pharmaceutical profession. This investigation goes to show that we are moving in circles, in a way. I do not mean to detract in any way from the value of the paper by that remark, but I am reminded of discussions on this subject in 1895. The conclusions reached at that time were practically the same as the conclusions reached in this paper. We believed then, and still believe, that the manufacture of pharmaceutical preparations requires a certain amount of attention, care and skill.

WILLIAM GRAY: In the first eight hundred mils of fluidextract percolate we may assume that it is saturated with the active constituents. When the last percolate is evaporated it becomes a more or less aqueous product. When this is mixed with the first percolate the strength of the alcohol is reduced and consequently there is a precipitation.

C. M. FORD: The manufacturers of fluidextracts age their preparations by allowing them to stand for some time, so that insoluble matter is precipitated.

R. W. TERRY: They obtain a preparation of better appearance but may not invariably represent the drug. The finished product, however, in most instances, is standardized.

HENRY P. HYNSON: I can go a little further back on this subject than Professor LaWall. I regard the paper of great importance because it touches upon a subject that is not yet settled. I want to ask him if he knows whether the propaganda started a few years ago, to have fifty percent extractions take the place of tinctures and fluidextracts, has made any progress.

CHARLES H. LAWALL: No, because after all it is a matter of educating the physician. If the physicians ever become acquainted with the value of fifty percent preparations and learn to prescribe them, then we should admit such preparations to the Pharmacopoeia.

R. W. TERRY: In the preparation of Tincture of Capsicum the effect of different strength alcohol is very nicely shown. If all the menstruum is not made up at one time and a further amount of menstruum is made up to finish the percolation, and there is even a slight variation in alcoholic strength, the percolate comes through cloudy or milky.

H. P. HYNSON: There does not seem to be any reason why we should have fluidextracts and tinctures of variable strength. I want to ask the Chairman of the Committee of Revision of the U. S. Pharmacopoeia if he does not think the propaganda for "50 percent tinctures" should be continued. I want to leave that thought with you.

A NOTE ON TINCTURE CINCHONA COMPOUND.*

BY F. W. NITARDY.

The U. S. P. directs Tincture Cinchona Compound to be made by percolating a definite amount of red cinchona, bitter orange peel and serpentaria with first a definite amount of hydro-alcoholic menstruum containing some glycerin, completing the percolation with a plain hydro-alcoholic menstruum and adjusting the tincture so that each 100 mils will assay 0.45 Gm. of cinchona alkaloids.

In the practical application of this formula, it has been found that the finished tincture will sometimes assay 50 percent or more above the specified strength (due to cinchona bark of high alkaloidal strength). The subsequent adjustment of this tincture to U. S. P. strength produces a product that contains less bitter orange peel, serpentaria, and glycerin than would be present if the cinchona used

* Presented before Section on Practical Pharmacy and Dispensing, A. Ph. A., Chicago meeting, 1918.

does not assay much above U. S. P. strength, thereby defeating one of the principal objects of official standards for preparations, namely uniformity.

A preparation made in two portions, the first representing one-half the volume of the finished tincture and containing all of the bitter orange peel and serpentaria, the other representing the red cinchona adjusted to proper strength (double that of the compound tincture), and these mixed in equal volumes, would produce a product that would be more nearly uniform in all its ingredients than one made by the present process, regardless of any adjustment necessary for obtaining proper alkaloidal strength.

The official formula, if changed as above described, would read as follows:

Red Cinchona, No. 40 powder.....	200 Gm.
Bitter Orange Peel, No. 40 powder.....	160 Gm.
Serpentaria, No. 60 powder.....	40 Gm.

Prepare 950 mils of Tincture by Type Process "P" as modified for assayed tinctures (see U. S. P. IX, page 444), from the red cinchona, and prepare 1000 mils of Tincture by Type Process "P" from the bitter orange peel and serpentaria, using as the first menstruum for each, a mixture of 75 mils of glycerin, 675 mils alcohol and 250 mils of water, completing the percolation in each case with a menstruum of two volumes of alcohol and one volume of water. Adjust the Tincture prepared from cinchona so that each 100 mils will contain 0.9 Gm. of cinchona alkaloids, using a mixture of glycerin, alcohol and water in the proportions of the first menstruum for this purpose. When finished, mix equal volumes of the two tinctures so prepared.

If thought more desirable, the two steps may each be given as separate preparations, and the compound tincture directed to be made by the mixing of equal volumes.

SPIRIT OF PEPPERMINT, U. S. P.*

BY E. F. KELLY.

The collection of samples of this galenical throughout the State of Maryland by the Board of Health for examination and the resulting prosecution of several pharmacists under the State Food & Drugs Act on account of variations in its strength, have called attention to some facts about this preparation that may be of interest here.

In the first place, it was not generally known, it seems, that the U. S. P. now recognizes Essence of Peppermint as an official synonym for the Spirit, and some dealers were marketing an off-strength preparation as Essence of Peppermint under the assumption that they were not amenable. Secondly, there is no official standard set up by the U. S. P., even as far as directing in the official formula, that a certain finished quantity be made, and this is also true of Spirit of Spearmint.

The official directions are to macerate 10 Gm. of peppermint in 500 mils of water for 1 hour, and express strongly. Mix 800 mils of alcohol with 100 mils

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