

CONCLUSIONS.

1. It is proposed that the Compound Mixture of Chloral and Potassium Bromide be deleted from the National Formulary.
2. That a Compound Elixir of Chloral and Bromide be introduced in its stead.
3. This elixir to contain the active ingredients in the relative proportion of their average U. S. P. dosage.
4. The preparation to be stabilized and made palatable by means of the alkaline elixir of eriodictyon.

THE PROTECTION OF PRESCRIPTION LABELS WITH LACQUER.*BY WILLIAM J. HUSA¹ AND LYDIA M. HUSA.

Considering the dangers involved when mistakes are made in the use of medicines, it is of the utmost importance that pharmacists take proper precautions to insure the legibility of labels on prescriptions and to make sure that the patient understands the directions. With the wide-spread use of the typewriter at the prescription counter, the difficulties arising from poor penmanship are disappearing. Pharmacists who do not have typewriters available should take care to write legibly, using pens which are in good condition; it would also be advantageous to use a better grade of ink, such as India ink, which is so much more permanent than ordinary writing fluids.

The better type of pharmacist pays particular attention to the labeling and other points in the finishing of the prescription and he may sum up his activities by saying that every prescription must be "right" when it leaves the store. If a well-typed, properly affixed label becomes smeared and illegible through handling by the patient, the pharmacist is apt to feel that this is the responsibility of the patient. He may say that the patient should be careful not to spill the medicine on the label, that handling with wet or soiled hands should be avoided, and finally that if the label shows signs of becoming illegible, it should be returned to the pharmacist for relabeling. All this may be true, yet any pharmacist who critically examines his own home medicine chest will admit that the gradual loss in legibility of labels is a real menace. The bad condition of many of the labels on prescriptions brought back for refilling is frequently a troublesome factor at the prescription counter.

From these considerations it is evident that the adoption of a practical method for increasing the permanency of prescription labels would bring about a worthwhile improvement in pharmaceutical service. The use of a label varnish naturally suggests itself and the older pharmaceutical journals often gave formulas for label varnishes, which, however, for one reason and another, have never come into general use by pharmacists.

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¹ Head Professor of Pharmacy, University of Florida.

NOTE: See abstract of discussion in minutes of Section on Practical Pharmacy and Dispensing.

During the past fifteen years, with the development of a new type of nitro-cellulose giving solutions of low viscosity, and the introduction of synthetic resins and new solvents, great strides have been made in the manufacture and use of lacquers in the finishing of automobiles, furniture, etc. The use of clear lacquer (containing no pigment) has come into use for protecting the bindings of books and similarly lacquer is used for increasing the permanency of shipping labels, etc.

For the lacquering of labels, a quick-drying, colorless or light-colored lacquer is preferable. Commercial label varnishes are now available which are advertised as being quick-drying, acid proof, alkali proof, oil proof, alcohol proof and washable. These have been recommended for use in chemical stock rooms, research laboratories and museums.

Since it appeared that the use of a suitable lacquer on prescription labels would be advantageous, we have made some tests along this line, using one of the commercial label lacquers. It was observed that the lacquer penetrated the labels too much, making them somewhat translucent, particularly at first. It was thought that this could be corrected by first applying a coat of U. S. P. collodion. Comparative tests were carried out, using coatings as follows on the labels of prescription bottles:

- No. 1. Lacquer.
- No. 2. Collodion + lacquer.
- No. 3. Lacquer + lacquer.
- No. 4. Collodion + lacquer + lacquer.
- No. 5. Plain label (for comparison).

The coatings were applied with a half-inch lacquer brush. Where successive coatings were used, they were applied five minutes apart.

Examination of the labels showed that the use of an undercoat of U. S. P. collodion was advantageous, as it dried rapidly and largely prevented penetration of the lacquer, which thus remained to a greater extent on the surface where it is needed. In case of No. 3 (two coats of lacquer), the drying appeared to be slow and this was further evidenced by the fact that the labels on two such bottles adhered when put away together after standing about half an hour after the coatings were applied.

As a test of efficiency, aromatic fluidextract of cascara sagrada was smeared on the labels. The plain label was badly stained, of course, and could not be washed without damage. The label having one coat of lacquer (No. 1) stained slightly and showed slight staining after washing with water; also it was evident that one coat gave insufficient protection against water. In case of No. 2 (collodion + lacquer) the fluidextract did not stain the label, which could easily be washed perfectly clean; this was also true of No. 3 (two coats of lacquer).

From the results of our tests, the following recommendations are made:

1. For prescription labels: a coat of U. S. P. collodion followed by a coat of label lacquer.
2. For stock bottles, bottles used in hospital wards, etc.: a coat of U. S. P. collodion followed by two coats of label lacquer.

The above recommendations are made on the basis that an extra coat of lacquer is desirable for bottles subjected to particularly hard or frequent usage, as in hospital wards.

The protection of labels as described, making them washable and durable, is not a frill which can just as well be omitted, but represents, rather, a technique which should be used in every retail and hospital pharmacy. In the hospital pharmacy, much time will be saved, since it will not be necessary to replace labels so frequently. The permanence and greatly extended period of legibility of such labels will prevent accidents and save lives. We need only recall the recent tragedy in an Australian hospital, where the life of a patient was lost because a young nurse administered belladonna instead of syrup of figs. The report of the case (1) states that "both were ordinary white glass bottles, and the labels were stained and almost illegible."

There is no reason why pharmacists should not take pride in sending out prescriptions with labels which are not only legible when they leave the store, but which are so durable and washable that they will remain legible a long time afterward.

REFERENCE.

- (1) *JOUR. A. PH. A.*, 21 (1932), 822.

GAINESVILLE, FLA.

A STUDY OF AROMATIC ELIXIR.*

BY C. O. LEE AND MARSHALL CLOSE.¹

An elixir, similar in formula to the present official aromatic elixir was made official in the U. S. Pharmacopœia VI, with the title, Elixir Aurantii. The synonym was Simple Elixir. It was made by percolating cotton, which had been soaked with oil of orange. The menstruum used was composed of water 3 parts and alcohol 1 part.

In the U. S. Pharmacopœia VII, this elixir was replaced by Elixir Aromaticum, and the formula considerably modified. Compound spirit of orange took the place of oil of orange of the previous formula and cotton as a filtering agent was replaced by precipitated calcium phosphate. The only change in the formula in the U. S. Pharmacopœia VIII was that purified talc replaced the precipitated calcium phosphate. Aromatic Elixir, in title, formula and process of making, has remained unchanged through the revisions of the Pharmacopœia since the Eighth.

This fact should not be taken to mean that the formula is, in all respects, wholly satisfactory. A review of the literature reveals that an endless number of complaints have been made about it, mainly, because it consumes so much time in filtering, while others are, that it is too sweet and its alcoholic content too high for certain uses as a vehicle.

Like many of the workers who have preceded us in the study of this preparation, we have sought to acquaint ourselves with the problem, with the hopes of being able to suggest an improved formula. To this end our study presents a review of the literature, under the following headings:

* Section on Practical Pharmacy and Dispensing, Madison meeting, 1933.

¹ Instructor in Pharmacy, Ohio Northern University, Ada, Ohio, Graduate Student, School of Pharmacy, Purdue University Summer Sessions 1931 and 1933.