gether with the description of Senega known in commerce as "Large Senega" interested Flueckiger very much and hence his request for Senega.

"In connection therewith I will state I sent him Senega from every section of America, beginning in the East where Senega was first introduced, thence following throughout America the trend of its commercial progress, ending with the large Senega of Wisconsin and Minnesota, supplied by Mr. Huber,[1] the owner of the drug grinding establishment mentioned. I did not send him a specimen of *Polygala Boykinnii* for the reason that I could not obtain one.

"In my opinion you will find this entire Senega problem thrashed out to your satisfaction in the PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION and the *American Journal of Pharmacy* at about the period mentioned."

PRESCRIPTION BOTTLES.*

BY WILLIAM J. HUSA.**

The great convenience of washed and corked prescription bottles packed with corrugated cardboard, as compared with the unwashed, uncorked bottles packed in straw, as was the case a quarter of a century ago, might lead one to believe that this problem has been completely solved. It might appear that at the prescription counter no attention need be paid to prescription bottles except to make an occasional notation on the order book.

However, in spite of the careful control that is presumed to go along with large scale production, it will pay the pharmacist to carefully scrutinize the prescription bottles used in his store. In the first place, the bottles are not always clean enough for use; sometimes there is a smoky film and sometimes the bottles appear as though there is mold on the inside, due probably to the crystallization of mineral salts. Difficulties due to alkalinity, such as the precipitation of alkaloids from solutions of alkaloidal salts, etc., are still found all too frequently. In many cases the precipitation or other change occurs after the prescription has left the store and the pharmacist may not be aware of it. In some cases the trouble is prevented by merely washing the bottle before use; from this it would appear that the glass does not develop alkalinity in presence of water at ordinary temperature, but that the alkali in the bottle is probably formed by hydrolysis of the silicates composing the glass at elevated temperatures in presence of steam while the bottles are being dried subsequent to washing. An easy test for this alkalinity is to fill two or three bottles from each case with hot water to which a few drops of phenolphthalein T. S. has been added; if a coloration does not appear the bottle is satisfactory for use. My experience has been that the manufacturers are always willing to replace such defective bottles. The pharmacist should safeguard his patrons and the reputation of his store by proper attention to the quality of the prescription bottles used.

There are other points in connection with prescription bottles which might prof-

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[1] The Mr. Huber mentioned was, no doubt, Mr. J. C. Huber, senior member of Huber and Fuhrmann, drug sellers, Fond du Lac., Wisc.

* Section on Practical Pharmacy and Dispensing, A. PH. A., Rapid City meeting, 1929.

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itably be discussed, such as the use of round or square bottles for prescriptions intended for external use, and the questionable practice of many pharmacists of using the graduations on the bottles in compounding prescriptions, instead of utilizing graduates of a proper degree of accuracy. However, I will pass by these points at this time, in order to lay emphasis on another point, *i. e.*, the desirability of having available prescription bottles of amber-colored glass, in order to properly protect the contents from the deleterious effects of light waves.

The United States Pharmacopœia directs that many drugs and preparations should be stored in amber-colored bottles. Since these same substances are frequently kept for long periods of time by the ultimate consumer, it would be in accordance with the spirit of the pharmacopœia to insist that these be dispensed in amber-colored bottles.

In these days, when so much emphasis is being placed on the commercial side of pharmacy, it is not surprising to find glaring examples of neglect of the fundamental principles of dispensing. For example, let us consider the solutions of mild and strong silver-protein, which the Pharmacopœia directs should be freshly prepared and dispensed in amber-colored bottles. I ran across one store, in which *stock solutions* of these silver preparations were kept at the prescription counter. Only slightly less objectionable is the practice of dispensing pint or quart bottles of these solutions to physicians for office use, in cases where such a supply is sufficient to last for several months. Frequently these solutions are dispensed in ordinary bottles instead of in amber-colored bottles as directed by the United States Pharmacopœia. Another error made by pharmacists is the failure to advise customers that these particular solutions should be discarded after they are several weeks old.

While such errors in dispensing may be ascribed in part to lack of knowledge of the contents of the pharmacopœia and to thoughtlessness on the part of the pharmacist, part of the trouble is due to the fact that amber-colored prescription bottles of the usual style are not available. Recently, I had some correspondence with the vice-president of one of the large glass companies, in which I called attention to the desirability of having prescription bottles of amber-colored glass. It was made clear that the glass manufacturers could readily manufacture such bottles if there were a demand for them, but that they did not propose to create the demand.

Inquiries sent to some of the glass companies and associations brought the reply that prescription bottles of colored glass were not being manufactured. However, I have a prescription bottle of green glass which was used as a container for medicine purchased at a drug store several years ago by a member of my family. On investigation, I found that these bottles of dark green glass were sold to the pharmacist in quantity lots, the name of the drug store being stamped on the back of the bottle. If it is practical to use green bottles, which offer no protection from light, it would be more practical to use amber-colored bottles, which are known to decrease the rate of deterioration of materials sensitive to light.

It would seem that bottles of colored glass are readily available for soft drinks and other cheap materials, while expensive drugs which really need protection are allowed to go out in colorless bottles. It will be a credit to pharmacy and to this Section, if we initiate a movement here, through our Committee on Glass Standardization, or otherwise, that will ultimately make available to every pharmacist a supply of amber-colored prescription bottles.