It is needless to say that a great many pharmacists are interested in this work. They are doing some developing and a number of formulas presented by Mr. Becker will be of great value to such pharmacists.

BEVERAGE AND SODA FOUNTAIN SUPPLIES (PART X).

The public has been trained to buy its refreshments and beverages at the soda fountain of a drug store in preference to a candy store. To my sorrow, many pharmacists, it seems to me, have turned over their old noble pharmacies to a candy, soda water and luncheonette counter which of course brings in considerable revenue. In order to get the patronage of the public, the pharmacists' syrups and extracts must be of the best, as customers are very discriminating and go where they will get the most wholesome and refreshing drink. Of course, besides cleanliness and proper service at the fountain, the drink itself is what brings the customer back. Therefore, the value of this Recipe Book or A. PH. A. Formula Book is to supply the pharmacist with formulas for syrups and drinks.

MISCELLANEOUS (PART XI).

Under this head there will be found a number of formulas which will be of value to every pharmacist.

THE PRESENT STATUS OF THE VARIOUS SYSTEMS OF WEIGHT IN ENGLISH PHARMACY.*

BY WILLIAM J. HUSA.**

The statement has been made[1] that the avoirdupois or Imperial weight is used in England in prescription compounding. In the interest of accuracy in my own teaching, I have secured further information on this point from several sources, all of which indicates that the statement as it stands is incorrect. As this information may be of some interest to others in the field of pharmaceutical education, I am presenting it at this time, together with some remarks on the present status of the metric system in English pharmacy.

It is not to be denied that there has been some confusion in Great Britain on the question of what weights to use in dispensing prescriptions (1). There is evidence of this uncertainty in the preface of the 1914 British Pharmacopœia (2) which contains the statement that in prescriptions, the symbol ℥j is used sometimes to represent 480 grains, sometimes 437.5 grains, and also to represent 1 fluidounce. The real meaning of this symbol was thrashed out in the English courts in 1924 (1,3). A South London public analyst gave it as his opinion that the symbol ℥ j in a prescription meant 437.5 grains and that ℥iv meant half of that. Charges of inaccuracy in dispensing were brought against five pharmacists, based on this supposition of the analyst. The Retail Pharmacists' Union and the Chemists' Defence Association went to much trouble and expense to prove that the apothecaries' ounce of 480 grains is the one by which dispensing is done. Sir

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[1] See Sturmer, "Pharmaceutical and Chemical Arithmetic," 3rd edition, pp. 32 and 34; 4th edition, pp. 32 and 34.

Nestor Tirard, Senior Editor of the 1914 British Pharmacopœia was one of the witnesses who testified that twice ℥iv was 480 grains. After hearing the evidence the prosecution dismissed the cases in which an excess of ingredient had been claimed. Johnston (1) states that this decision is in accordance with the custom of the trade and that it is confirmed by all the authoritative English textbooks as well as by teachers of pharmacy. In this connection it may be noted that the British Pharmaceutical Codex (4) lists the apothecaries' scruple, drachm and ounce together with the avoirdupois weights in a table under the heading of Imperial weight.

Johnston (1) explains the reason for the analyst's misconception in the following words: "It will be remembered the 1864 B.P. was to supersede, by law, the London, Edinburgh and Dublin Pharmacopœias—which, until then, had been the authorities in England, Scotland and Ireland respectively. In the London and Edinburgh Pharmacopœias, the formulas were all given in apothecaries' weight right up to their end, and that also applied to the Irish book previous to 1850. In that year, the Irish compilers, departing from ancient custom, discarded apothecaries' and set up avoirdupois weight as their standard. . . . .They took liberties with the old divisions of avoirdupois and divided each ounce of 437.5 grains into 8 drachms, and each of these drachms into three scruples . . . . .that was the position the G. M. C. (General Medical Council) of Great Britain had to face in 1864. They faced it by adopting avoidupois also—through frankly admitting that it had grave defects. They could not legally go as far as the Dublin compilers and order its adoption in prescriptions, nor did they divide the ounce, but they recommended medical men to avoid the use of the words ounce and pound except in reference to avoirdupois. Up to, and including the 1898 edition, they further declared that it was still optional with the physician in prescribing to use the symbols ℈ (scruple) and ʒ (drachm)—20 and 60 grains respectively. In England and Scotland, at any rate, prescribers and dispensers kept on using the apoth. signs ℥ and ʒ meaning 480 and 60 grains." Johnston's observations indicate that the apothecaries' weight is now used in Ireland, and that the Irish difficulty of 1864 no longer exists, or exists to a negligible extent.

In order to get still another check on the accuracy of my conclusions I wrote for information to the editor of *The Pharmaceutical Journal and Pharmacist* in London. The reply contained the statement that avoirdupois weights are not used by chemists and druggists in Great Britain except for the sale of drugs at retail. From the information I have gathered on this point, it seems fair to conclude that Professor Sturmer is in error in his statement (5) that the avoirdupois system is used in prescription compounding in England.

Although the 1914 British Pharmacopœia favored the general adoption of the metric system by British prescribers, metric enthusiasts will find little comfort in the progress which has been made thus far by our English friends. According to the editor (6) of the *Pharmaceutical Journal and Pharmacist*, the almost universal practice among prescribers is to order drugs and medicines by apothecaries' weights—an odd one uses the metric system which was made optional by the British Pharmacopœia of 1914—but this has had no appreciable effect in leading to the general adoption of that system, for prescribing, compounding and dispensing purposes.

REFERENCES.

(1) W. Johnston, *Pharmaceutical Journal and Pharmacist*, 112, 78–9 (1924).
(2) "The British Pharmacopœia," pp. x–xi (1914).
(3) *Pharmaceutical Journal and Pharmacist*, 112, 89–90 (1924).
(4) "British Pharmaceutical Codex," pp. 1525 (1923).
(5) Sturmer, "Pharmaceutical and Chemical Arithmetic," 3rd edition, pp. 32 and 34; 4th edition, pp. 32 and 34.
(6) Private communication to author.

GAINESVILLE, FLORIDA.

PREPARATION OF AMPULS.*

BY S. L. HILTON.

The object I have in view in discussing this subject is to bring out the main points in connection with the preparation of ampuls. Not that I expect every pharmacist to make them, but I believe every pharmacist should know something very definite about what is required to manufacture ampuls, so that he can talk intelligently about them to physicians and explain what they are, what is necessary to properly prepare them, and at the same time caution them relative to certain things that are liable to occur in ampul medication.

When we handle ampuls, whether in a large or in a small quantity, there are many things that must be taken into consideration. I started in this work because of constant demands from physicians to prepare solutions of all kinds in sterile containers, so that they could have them quickly and be assured that the medications they administered to their patients were sterile and exactly what they wanted.

Ampul medication is more popular than ever before; and one reason is this—there is produced thereby a psychological effect on the patients which they do not receive with the ordinary form of drug administration—they see the physicians take out a little bottle of some kind; that he nicks it, opens it and injects the contents by means of an hypodermic syringe.

Furthermore it is often the case when medicine is administered by mouth, that at once or a little later on it is found that the stomach is in no condition to retain the medicament, and the patient, instead of getting relief, suffers and does not care to continue what has been prescribed. Also ampul medication has become more popular because the patient goes to the physician, the medicine is administered hypodermically, subcutaneously, or intravenously, and the patient goes about his business. He has very little, if any, after-effect, possibly a little pain which passes off quickly, and he requires a dose of medicine only twice or possibly three times a week. This fact has increased the popularity of ampul medication.

QUALITY OF GLASS IMPORTANT.

Ampuls should be tested because they must be of neutral glass. Jena glass, before the war, was neutral glass and very good, but I find that the glass which

* From an address before the Section on Practical Pharmacy and Dispensing, A. PH. A., Philadelphia meeting, 1926.