

Papers Presented to Local Branches

THE LABORATORY EQUIPMENT OF THE PHARMACIST.*

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During the past six years and a half I have tried to make a study of the business methods employed by all of the pharmacists with whom I have come in contact. In addition to noting the general manner in which their business is conducted, the means each employs for the up-keep of his stock and for keeping his accounts, and how each handles his help, I have observed the facilities possessed for the carrying-on of the business in which he is engaged.

I do not wish to dwell upon what I have believed to be insufficient accounting systems or poor store methods, but will confine my remarks to the equipment and lack of equipment I have noted.

Let it be understood from the beginning, however, that I am not broaching this subject with malice or with the idea of exposing to criticism any pharmacist with whom I may have been associated.

It would seem logical, from the very nature of the business in which the pharmacist is engaged, to believe that he would possess a Pharmacopœia and a National Formulary, yet my observations lead me to assert that but two in five drug stores in the District of Columbia possess the eighth revision of the Pharmacopœia, and but one in every five can boast of the last edition of the National Formulary.

And with the conviction that I am absolutely right, I will say that but one in eight of the local pharmacies possesses both the latest Pharmacopœia and National Formulary.

This deficiency is infrequently partially made up by a dispensatory, but, as each of you well know, a dispensatory is not a pharmacopœia. Again, many druggists appear to accept Remington's Pharmacy as a substitute for the Pharmacopœia, the Formulary, and the dispensatory combined. With its peculiar arrangement, its brevity, and many necessary omissions, it makes a somewhat unsatisfactory reference work, and certainly can not be accepted in lieu of any one of the books mentioned, much less all three.

Only recently I was called upon to do some relief work in a store where the only reference books were a Remington, second edition, which I think was printed fifteen years ago, and a District Formulary, which, if I remember correctly, was published in the year 1870. And in one store in which I have visited within the past year there were no books whatever.

I did not venture to ask the proprietor of either of the last-mentioned stores

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by what means he knew the ingredients and proportions of the preparations he had occasion to make, but I am sure they could not get all of this information from the labels of the fluid-extract bottles, to which each must refer for guidance in making tinctures and some syrups. One of these druggists recently made up eight fluid ounces of tincture of nux vomica from the fluidextract, for a food and drug inspector while the inspector waited. He followed the directions given by the manufacturer of the fluidextract very carefully, and when questioned as to what process he had employed in its manufacture, he informed the inspector (in absolute good faith) that it had been made strictly according to the official process. Further comment is unnecessary.

Scales of many varieties and weights of every character, I have seen in use.

Whether the inspector of weights and measures has control of the prescription balances of a pharmacy I do not know; but if he has, I do not believe he exercises such control to the proper extent.

Some of the balances I have been forced to use actually were not sensitive to a grain, while others required a decided overweight before they would operate at all. Such instruments are not found in every store, but they are not rare.

It has not been unusual to discover a piece of tin foil or other substance on the pan-supports of scales for the purpose of making them balance, and I have actually found one pharmacist who boasts of using for the past twenty years an army prescription balance, original value about \$3.75, with which it is necessary to fasten the pan supports with string.

Conditions of a similar nature with regard to weights have been observed. Any number of pharmacists have no way of weighing less than one grain, and some not less than five. It behooves the proprietors of such stores to use dispensary tablets or to divide quantities of powerful medicines with a spatula.

Weights have not been found to be wholly accurate. For example, some have been allowed to corrode and collect dirt until, in one instance, a drachm weight actually weighed 71.6 grains. The reverse condition frequently occurs when the weights have been polished with a wearing material. Mr. Bradbury, too, has had at least one similar experience. In a store where a new set of balances had just been installed at a cost of \$35.00, he discovered that some of the weights ran 3 to 15 percent over-weight and others correspondingly under-weight. Twice, too, I have had to stop junior clerks from cleaning weights with a strong solution of nitric acid.

Glassware, especially that of a less expensive manufacture, is frequently inaccurate. Since the last meeting I dispensed a two-ounce mixture which could not be gotten into any two-ounce bottle in the store. Yet all of these bottles were graduated for drachms and centimeters, were of good quality glass, and had been made by a reputable firm.

Much has been said in favor of British and German graduates. Yet, few druggists stop to consider that these vessels are graduated for British or Imperial measure, which differs radically from the Apothecary's measure. Repeatedly inaccuracies arise from this cause.

At this point I wish to state that I have on several occasions seen the *avoirdupois*' and apothecary's ounces used interchangeably without regard to their difference of $42\frac{1}{2}$ grains. The average druggist does not possess an apothecary's

weight heavier than two drachms, and it must seem logical to him to use the ounce weights which he possesses, namely, avoirdupois, wholly forgetting that they belong to a different system of weights. Not long ago a most conscientious local druggist was found selling camphorated oil below standard. A discussion of its manufacture showed that he had used avoirdupois ounces for troy when weighing his camphor.

Repeatedly, too, I have been in stores with one and two spatulas, one mortar, one graduate, and no percolators, each condition named certainly being a most marked and unquestioned deficiency. Yet, I have heard proprietors of such stores complain that they were not getting their share of the prescription business. Does any one understand why they should get any prescription business whatever?

I do not attribute these delinquencies to anything but thoughtlessness and a desire to spend as little money as possible in the conduct of the business. But should such negligence and carelessness be tolerated?

It can not be prevented under the present laws governing the practice of pharmacy in the District of Columbia, and never will be corrected until we have an adequate pharmacy law.

New York regulates the equipment of a pharmacy to a limited extent, the following being the rules in force:

a. Every pharmacy and drug store shall own and have on file at all times the eighth decennial revision of the Pharmacopœia and the latest edition of the National Formulary, and no registration certificate shall be issued to a pharmacy or drug store until it complies with this rule.

b. Every registered pharmacy and drug store is required to have the following minimum equipment of utensils:

One base scale capable of weighing one grain or less.

One set of accurate troy weights from one grain to two drachms.

One set of metric weights from 50 milligrams to 20 grams.

A set of graduated glass measures, two or more in number, capable of measuring from 10 minims to 16 fluid ounces.

A set of glass graduated measures from 5 cubic centimeters to 500 cubic centimeters.

Why were these regulations promulgated? Because they were necessary for the welfare of the public and for the good of pharmacy.

It would be impracticable to embody all the regulations necessary for the control of the practice of pharmacy into one or several laws, but the formation of a Board of Pharmacy composed of practicing pharmacists, five, seven, or nine in number, whose rules and regulations would completely govern local pharmacy conditions, appeals to me. Such a board, with its legal advisor, and aided by two or three inspectors, who should be pharmacists, could enforce remedial regulations which would raise the standard of our pharmacies to the proper plane. I know of no other way in which this can be done.