

rooms and wards are priced each month by the chief pharmacist and passed to the auditor's office.

The position of pharmacist in a modern hospital should appeal to many young men. The field is enlarging each year and although he may never have his name emblazoned over the door of an emporium with a window full of hair nets, boxing gloves, etc., with a few drugs concealed in "Our Prescription Department," he will have the satisfaction (and really this is all we get out of life) of offering to real suffering humanity the benefit of his learning and experience. As hospital pharmacist he is brought into daily touch with the best surgeons and doctors; he is relied upon to answer innumerable questions relating to his profession from interns and nurses. He has access to experimental laboratories, is able to test either chemically or physiologically any new remedy or old ones for value or strength.

I deem a word of appreciation for Dean Edward Spease of the Cleveland School of Pharmacy in order for his labor in bringing to the front this phase of pharmacy. During the past year he has produced a working condition in the school of the greatest benefit to all Cleveland hospitals. In the near future he will not only furnish finished supplies but help to all hospitals from the school and student body.

In Dr. A. R. Warner, formerly superintendent of Lakeside Hospital, but now secretary of the National Hospital Association, we have an active exponent and friend of our cause. Although until recently he has considered that the hospital pharmacist should be affiliated with the hospital association, a recent conversation with him gave assurance of his belief that the American Pharmaceutical Association is its rightful home.

I am hopeful that this brief paper may open the minds of some to the advantages of hospital pharmacy. It is anything but a disagreeable proposition and to-day offers many inducements; it is not discouraging from a financial standpoint if a man is ready for good hard work.

There is not a hospital pharmacist to-day, competent to demonstrate to the management of that hospital the possibilities of his position, who cannot secure the support of the management and persuade it to work, as they do at Lakeside Hospital, heart and soul with the pharmacist as long as he shows himself a real producer.

BUYING FOR THE HOSPITAL PHARMACY.*

BY FRANCIS M. GREENWALT.¹

Buying for the hospital pharmacy is a subject about which one might write much and still say little that would be of help to a buyer for some other hospital. As in buying for any other commercial business we are always learning something that makes us more valuable to the employing institution.

The first thing to realize is that we are not infallible and can make some unwise purchases. I have been buying for one hospital for more than three years

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and realize that there is still something for me to learn in the business of hospital buying. Almost every salesman who calls on us is in a position to give valuable tips and for that reason, if there were no other, it is well to give each one an audience.

I know that it sometimes appears to the hospital superintendent I am spending undue time conversing with salesmen but I do not consider time thus spent as a loss to the institution. I can cite many specific instances where salesmen have been of very great help to me, and they would not be able to give such help, or even be willing to do so, if they had been refused an interview. During a conversation with one who sold disinfectants, he inquired how much cresol solution we used in a year. When I told him, he was astonished and replied that we were using more than the city and county hospital, which has a bed capacity about five times as great as ours. His remark set me thinking. I told the superintendent that there must be a great waste in the product here, and investigation proved this to be the case, and thereafter we were able to get along with about one-fifth the quantity used before.

Occasionally when a salesman calls it seems a waste of his time and mine to even look over a few samples or a price list, but it is at just such times that I have been shown a new device or instrument far superior to some older type that has been used in the hospital for years past. It is a fact in psychology that human nature is opposed to changes; we all form habits which seem a part of us and we revolt at any factor causing a change in daily routine; just so it is in the hospital—a certain article is used for no other reason than this—"Well, we have always used that kind."

When I find some device that seems a decided improvement on one that was previously used, I buy just one or two of the new kind, and gradually get it into use by substitution. It isn't long before the doctors and nurses are asking for the newer device, thinking they have made a discovery of their own. In the manner just illustrated we have replaced the older plunger syringe—which was more difficult to sterilize and usually leaked—with the newer plungerless syringe, which is easily sterilized, and more economical because either the glass barrel or rubber bulb can be replaced.

Of all products purchased by the hospital pharmacist, I think rubber goods require the most careful attention. There is always something to learn about it, and until we know these factors we are likely to make some "poor buys." Fresh rubber goods has a limber and smooth texture, while that which is old is stiffer and rougher; there is also a difference in the odors of fresh and aged rubber goods. It is well to demand a period of guarantee with such articles as water bottles, ice caps, air cushions and rubber sheeting, and these articles should never be bought in quantities so large that they will be on the shelf for more than a few months, even though they are offered at a special price in gross lots to induce buying. I have found that it is poor economy to purchase such goods when priced unusually low. As a rule they do not give service, owing to poor construction; nothing is much more annoying than a leaky water bottle or ice cap, an air cushion that will not stay inflated, or rubber sheeting that loses its color to the bedding—I lost both time and patience trying to keep ice caps and water bottles in working order, until I learned to buy the very best of each.

Surgeons' gloves also must be purchased carefully. An inferior glove is worse than useless, for it causes trouble and delay in the operating room. Our surgeons are now requiring a heavy weight glove in preference to a medium weight, and since the former are much more expensive than the latter, I have substituted a household glove which was recently brought to my notice. The last-named glove has the required weight and durability and is much cheaper than the regular surgeons' glove.

In the buying of hospital enamel ware one must also be willing to pay the higher prices. Cheaper ware chips quite easily and as soon as the iron base is exposed it is unsafe to use for many solutions owing to chemical reaction. Sometimes the patient is injured by the use of chipped enamel ware; the reputation of the hospital is then at stake, just because of too rigid economy.

Here I also wish to mention the chances that are taken by the use of inferior hypodermic needles—a poor needle that is not properly tempered may either bend or break when the nurse is using it. Hypodermic injections are unpleasant and dreaded by the patients under the best condition, but when a needle bends or breaks, it is a dangerous situation for the patient and a most embarrassing one for the nurse. Buying well-known makes of needles insures getting the best.

Shortly after the war when the market was flooded with poor thermometers, our superintendent purchased a gross that were guaranteed to be accurate—a few dozen of them were put on the floors but it was some little while before the nurses detected their inaccuracy; some of them registered as much as two degrees above normal—we then returned all these thermometers for replacement with reliable ones. No great harm had been done but the above serves to illustrate the necessity for buying individually standardized thermometers.

On the buying of drugs and pharmaceuticals proper, I believe the least need be said. Our pure drug laws protect us from inferior products and any live pharmacist knows the most reliable drug concerns by reputation. One mistake that the inexperienced buyer often makes is buying in too large quantities. Unless the buyer can safely judge just how soon a given supply will be exhausted, it is well to buy in small quantities. Deterioration must always be considered as well as the money invested and tied up in drug stock; then, too, there are fads in medicine. In a few years' time one can notice a wide range in the different drugs used for the same kind of medication. Three years ago the doctors used Epsom salt, Hinkle's pills, cascara and mineral oil, as cathartics in our hospital; comparatively, very little of these drugs is now used; instead, solution of magnesium citrate and various natural and artificial mineral waters are given. Some of my predecessors must have bought in rather large quantities for I found considerable over-stock and dead stock.

There are, however, some drugs that can be bought at a great saving in quantity provided the pharmacist can estimate his wants. The pharmacist who has the time should make most of the official preparations; by doing so, he saves money for the institution and avoids overstocking.

The subject of patronizing home trade has often been discussed by our board members. If the local jobbers can give as good prices, quality, and service as the remote dealer, by all means they deserve the hospital's business. Errors are more easily corrected and exchanges made when dealing with the home jobber. How-

ever, I have found that the home merchants sometimes feel that they are indispensable and are very indifferent about service; they are repeatedly out of some merchandise that is needed without delay. I have spent some anxious days worrying over depleted stock that the jobber could not replace.

In many hospitals pharmacists do not have the privilege of even buying the drugs. In my opinion this is a great mistake, for no one is better informed regarding them, if qualified, than the pharmacist. I do not see how he can keep posted on prices if he is not buying. Nor can he keep interested in his profession if he is only acting as a "mechanical mixer" of drugs. I know a private hospital where the pharmacist makes her requisitions to one who acts as official buyer for the entire hospital. Her requests are sometimes overlooked, and again his purchases are made to accommodate certain individual salesmen or concerns rather than to save money for the institution. A pharmacist working under such conditions is indeed handicapped. I surely cannot conceive how any individual can be so versatile as to be able to buy intelligently and wisely for every department in the hospital from the attic to the basement. I think buying for the hospital pharmacy should be left to the pharmacist alone.

RESEARCH NOTES ON STABILITY OF ELIXIR LACTATED PEPSIN,
SOLUBILITY OF CHLOROFORM IN SIMPLE SYRUP, U. S. P. OINTMENT
OF ZINC OXIDE WITH PETROLATUM BASE, AND FLUIDEXTRACT OF
GLYCYRRHIZA—SUGGESTION FOR AN IMPROVED FORMULA.*

BY FREDERICK J. AUSTIN.

STABILITY OF ELIXIR LACTATED PEPSIN.

A ruling by the Prohibition Commissioner, issued early in June 1920, placed those alcohol-containing liquid pepsin preparations, which contained less than 8 grains of standard pepsin U. S. P. per fluidounce, in the beverage class. As a result manufacturers faced the alternative of discontinuing many of these products or of making a decided increase in their pepsin strength.

A manufacturer generally does, and should always, possess reliable data regarding the keeping qualities of his products. This is particularly necessary with the liquid preparations of animal enzymes. On account of the decided increase necessary in the pepsin content of many Elixirs of Lactated Pepsin, if they were to be marketed at all, experiments were undertaken with the idea of determining the stability of these altered preparations under ordinary storage conditions.

In view of the specific nature of the new requirement and of the unavoidable slight variations in assay results due to the personal equation, it was decided that such preparations could not be manufactured and sold with safety if they contained exactly 8 grains of enzyme per fluidounce, but that they should represent at least 10% above the required label claim of 8 grains per fluidounce.

Accordingly, two one-gallon samples were set aside, the first of which represented a lot of the elixir in question containing 8.8 grains of official pepsin per fluidounce. An alcohol determination on this sample showed the presence of 11.72% absolute alcohol by volume, the label claim being 12%. A second gallon sample was pre-

* Scientific Section, A. Ph. A., Cleveland meeting, 1922.