C. For original packages of well-known specialities and proprietaries add 50 per cent to the cost and add minimum professional service charge, if product is transferred to prescription container then it comes under Exception B.

D. In some instances such as liver and vitamin products, it is suggested to use Fair Trade prices and add minimum professional service charge.

Suggestions in connection with the above method of pricing:

Minimum cost of any single ingredient	2 cents
Minimum charge for container	5 cents

Base charges on the cost of the nearest sized package purchased of the material in question or package bought by the average pharmacy.

For cost of official and non-official preparations made by the individual pharmacist use the cost of a standard pharmaceutical house or double the cost of materials and add labor at $1.50 per hour.

In measuring and weighing materials calculate as follows:

If liquids	15 ounces to the pint.
If solids	7 drams to the ounce,

and for smaller packages allow a 10 per cent loss.

Professional Service Charge.—For ready reference in compounding prescriptions the individual pharmacist may prepare a short schedule for capsules, ointments, powders, etc., or the following scheme is suggested as simple and dependable.

All classes of prescriptions to have a minimun charge of 15 cents for one ingredient; add 5 cents for each additional ingredient, and then add a filling-folding-mixing charge as follows: Capsules, 20 cents for each 12; liquids, 10 cents; ointments, 15 to 25 cents; powders, 25 cents for each 12; bulk powder, 15 cents; collyria, emulsions, infusions, suppositories and other time-consuming preparations, 10 cents and for the additional time in preparing charge at the rate of $1.50 an hour. An example of Professional Service Charge for 12 capsules of two ingredients, 15 cents plus 5 plus 20, total 40 cents.

It is advisable to figure the price of every prescription and to do so in the prescription department. A good container and a clean package makes it easier to obtain a legitimate price for a prescription.

The fair pricing of prescriptions will bring about a friendly feeling between the patient, physician and dispensing pharmacist, and should result in a better prescription practice.

THE USE OF THE SEITZ FILTER.*

BY OLIVER W. YOUNG.[1]

The Seitz germ proof filter is used to replace the Berkfield bacteriological filter. It has a place in modern Pharmacy, and all progressive pharmacists should know what it is and how to use it.

The filter has three main parts. The bottom is a circular piece of metal terminating in a metal tube the shape of a chemical funnel and has a removable wire mesh to support the filter disc. The disc is made up of fibrous material packed hard

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enough to prevent the passage of bacteria. As the discs cost but a few cents each, they may be discarded at the end of the operation. The top of the filter is a short metal tube which holds the fluid, having a flange at the base which contains holes for thumb screws and pins which stick up from a corresponding flange in the bottom. When the disc is placed between and the thumb screws tightened, the top and bottom are forced tightly together, holding the disc tightly in place. The tip or the funnel end of the filter is placed through a one-hole rubber stopper which is fitted into a heavy suction flask. By applying suction to the flask the liquid is forced through the filter disc by atmospheric pressure into the flask below. When suction is employed foaming sometimes occurs. This is caused by air leaking through the edge of the filter disc and can be prevented by moistening the disc with a little water and tightening the thumb screws still more.

This is the set-up when suction can be used; however, it is not always possible to use suction due to the nature of the liquid, hence pressure must be employed. A special type of filter is used for this purpose which is the same as above described but has in addition a metal cap which is clamped tightly to the top by means of thumb screws and which is equipped with a valve to allow the application of pressure.

Recently there has been an improved type of Seitz filter on the market. The thumb screws have been eliminated and in their place a heavy wire has been soldered into the upper cylinder. This wire extends down below a threaded plate which has been fixed upon the stem of the funnel part so that when it is screwed down it comes in contact with the lower part of the wire which has been bent horizontally at this point, so as to make contact.

When this device is used with heavy positive pressure, it is essential to screw up the plate as far as possible by hand, moisten the disc, let it stand for a while and then thoroughly tighten the screw plate again. If this is not done, the pressure will cause a rupture of the filter disc and the liquid will gush up around the outer edge. It is important not to use too much force in the final tightening of the screw plate or a rupture of the center filter disc will take place, caused by too great a pressure on the circumference If the tightening is done by hand, there is little danger of this happening.

The filter is particularly adaptable for preparing aseptically solutions which may be injured by heat such as some of the eye solutions. There is so little literature available upon the effects of heating various solutions of materials such as argyrol or the various bacteriological dyes such as fluorescein, methyl violet, etc., that whenever a doubt occurs, the filter may be advantageously employed. Its use for sterilizing alcohol or other volatile liquids is very simple. The question naturally arises, why sterilize such substances as argyrol or alcohol, but it must be remembered that spores have been found to be living in alcohol of the higher concentrations (1).

As an illustration of the use of such a filter we shall describe in detail the preparation of two solutions.

The Preparation of Fluid for the Injection Treatment of Hernia.—A solution is prepared by dissolving in a pyrex flask 0.25 Gm. of C.P. tannic acid and 0.50 Gm. of C.P. thymol in 100 cc. of 95 per cent alcohol and adding 3 cc. of C.P. benzyl alcohol.

The filter is set up for suction and the lip of the flask and base of the filter are bandaged with several thicknesses of gauze. This, together with a hand brush, nail file, towels, an operating gown, gloves, cap, mask, sheet and two 60 cc. ampoule vials and caps which all have been previously wrapped in the approved manner for ease of opening without contamination are autoclaved. After being allowed to cool, the solution is poured into the filter and sucked through. When this has been done, the table is swabbed off with some disinfectant and the above materials laid out and unpinned. The bandage is carefully removed from the funnel and flask to avoid contamination. The operator then dons the cap and mask, scrubs up and dips his hands in disinfectant. When dry, the gown and gloves are put on in order and the sterile sheet is draped over the work table. The filter is carefully removed from the flask and the vials are filled. To avoid contaminating the gloves, the flask is grasped with the sterile towels. After capping the operation is complete.

House Dust.—It is sometimes difficult to get the patient to bring in enough house dust for a representative sample. When a cupful is asked for, a thimbleful is generally presented with the explanation, "Well, I do not need very much extract."

The cupful of house dust is placed in a pyrex flask and covered with carbon tetrachloride. This is extracted for 24 hours and filtered using an ordinary filter. The dust is again extracted for 24 hours with carbon tetrachloride when it is filtered and allowed to dry. It is next extracted as above twice for 24 hours with two successive batches of water-free ether and allowed to dry. The water-free ether is prepared by allowing U. S. P. ether to stand in contact with C.P. calcium chloride for some time and then filtering. When the dust is dry it is introduced into the bottle and extracted for 24 hours in a refrigerator with just sufficient to cover it of a solution made up of sodium chloride 5 Gm., sodium bicarbonate $2^3/_4$ Gm., phenol or chloritone 4 cc. or Gm. in 1000 cc. of water and saturated with carbon dioxide by allowing carbon dioxide gas to bubble slowly through it for some time. A few drops of toluene are added to prevent bacterial growth.

The extraction fluid is strained out by squeezing the mixtures through a cloth. The liquid is then filtered through an ordinary filter while carbon dioxide is bubbled through it. It is then introduced into the Seitz filter, which has been set up for positive pressure, and forced through the filter by carbon dioxide gas. It is evident that if suction were employed in this case all of the carbon dioxide would be sucked out of the fluid. Carbon dioxide must be present at all times to preserve the active ingredient of the dust present in the solution (2).

At this point it may be well to mention that sometimes small particles of the filter disc are found present in the filtrate. These shreds may be kept out by catching them in a little silk bag made by placing a wad of absorbent cotton in the center of a double square of finely woven silk. The funnel point is placed in the center of the cotton wad and the ends of the silk square are picked up and wrapped over the stopper which is then fitted tightly into the neck of the flask. The stopper must be tied down because the silk in contact with the glass makes it impossible to keep the stopper fitted in the flask unless this is done. The flask is placed upon a piece of thin wood paneling and the stopper is tightly tied into the flask by several turns around the stopper and panel board. It would probably be wise to use the cotton shred eliminator in every case.

When all of the fluid has been forced through, the apparatus is disconnected, the lip of the flask flamed, and the solution poured into small ampoule vials which have been previously sterilized, then capped.

It is not necessary to standardize this solution for nitrogen content as it changes in strength from day to day. The physician can start his patient out with 0.1 cc. and increase by 0.1 cc. each dose until the reaction becomes too severe.

The use of this filter will help the pharmacist gain prestige among his physician friends.

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THE ECONOMY OF MANUFACTURING OINTMENTS IN HOSPITALS.*

BY LOUISE F. SCHMITZ.[1]

Hospital pharmacists have pointed out many reasons why hospitals should employ pharmacists in their drug rooms. One of the advantages to the hospital is that a pharmacist can save money. The cost of operating the drug room can be reduced considerably by manufacturing everything possible. The manufacturing of ointments in particular offers a splendid opportunity to save money. In this paper, the price of the manufactured ointment is compared with the cost of raw materials and expense of manufacturing in the hospital pharmacy.

The official ointments which are more popular in hospitals are as follows: Boric Acid Ointment, U. S. P., Ammoniated Mercury Ointment, U. S. P., Zinc Oxide Ointment, U. S. P., Diachylon Ointment, N. F., Zinc Paste, N. F. and Whitfield's Ointment, N. F.

The ingredients required to make one pound of Boric Acid Ointment cost thirty-one cents. The commercial price of the same ointment varies from sixty cents to seventy-five cents. The hospital pharmacist, therefore, can save from twenty-nine cents to forty-four cents per pound by manufacturing this ointment. Considering the saving of twenty-nine cents per pound, The University of Minnesota Hospitals save eight dollars and seventy cents every month on this one ointment.

The cost of the ingredients in one pound of Zinc Paste is twenty-seven cents. The cost of one pound of the manufactured ointment is sixty cents. Approximately forty pounds of this ointment are used every month at the University of Minnesota Hospitals; hence, the gross saving on this ointment is seventeen dollars and fifty-two cents a month.

Smaller quantities of Ammoniated Mercury Ointment are used. The gross saving on this ointment is one dollar a pound. The cost of the ingredients for one

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