TIME SAVERS FOR FIXING AND DEHYDRATION

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ABSTRACT.—**A double wash bottle for dispensing two-part fixing solutions is described. Equal volumes of each stock solution are delivered simultaneously into the same vial.**

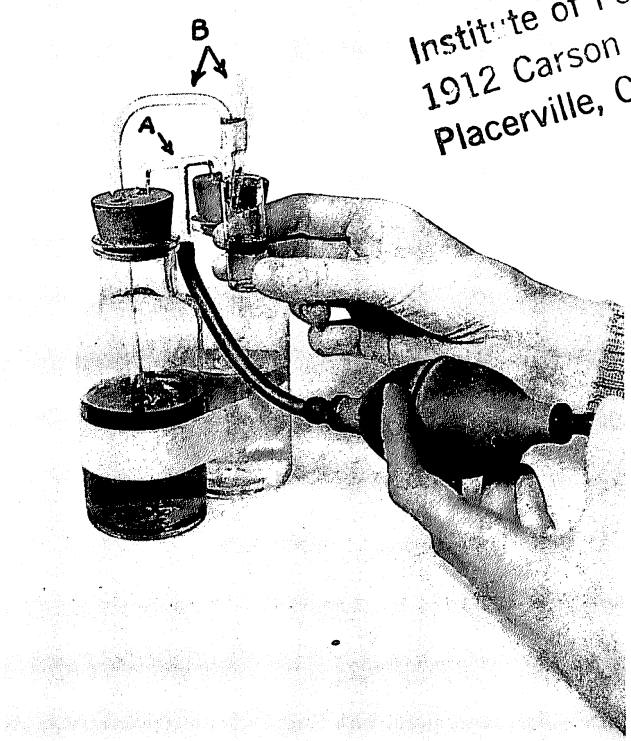

Fig. 1. Fixing-solution dispenser, showing use of thumb as valve when applying pressure.

A device for dehydrating tissues consists of a Buchner funnel closed at the bottom by a rubber tube and pinch clamp which facilitate changing the dehydrating alcohols. Tissues are placed in perforated brass baskets in the funnel.

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The time-consuming labor of routine fixing and dehydration operations may be reduced by the use of several simple devices.

Most two-part fixing-solution formulae can be so modified that equal volumes of each stock solution are used, and are readily dispensed from the double wash bottle shown in Fig. 1 which saves time in stopper pulling and pouring. The accuracy with which equal

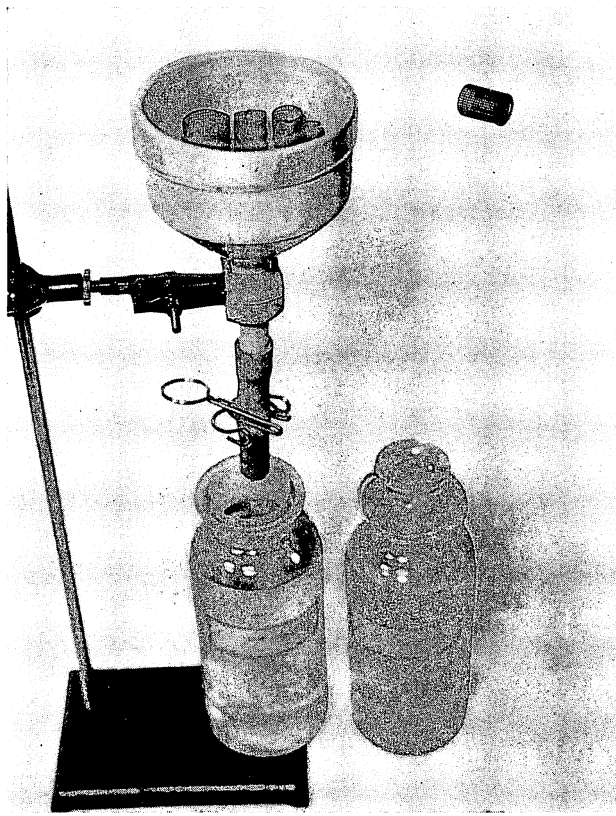

Fig. 2. Dehydration apparatus with brass basket at upper right. The Buchner funnel is covered with a Petri dish.

volumes of the stock solutions are delivered is much greater than that secured by the usual estimates, and is dependent on filling the stock bottles to the same level and making both delivery tubes of the same dimensions thruout.

The fixing-solution dispenser is made with two wide-mouthed 8-ounce bottles stoppered with two-hole rubber stoppers. The ends of a glass T (Fig. 1, A) are bent downward (or upward if it is more convenient to have the bulb above the delivery tubes) and inserted

in one hole in each stopper. The delivery tubes (Fig. 1, B) which pass thru the other holes are bent as shown and the tips drawn out. There are no valves in the bulb which furnishes the pressure, the thumb serving as a valve when the solutions are to be dispensed. The bottles and the delivery tubes are taped together.

If the routine calls for the filling of numerous shell vials held in a block, the dispenser can be modified by lengthening the delivery tubes and supplying the air from above (ends of T bent upward) either by bulb or by mouth as with the common type of wash bottle.

When fixation is complete, the tissues are transferred from shell vials to soldered cylindrical baskets (Fig. 2) made of brass stock with about one hundred 0.5-mm. perforations per sq. cm. and 1/64 in. thick, with the smooth side turned inward to avoid catching and damaging the tissues. A convenient basket for root tips and other small materials is 12 mm. in diameter and 16 mm. in height. Few of even the finest root tips are lost thru the perforations of these baskets, particularly if longer tips are taken than is customary with other procedures.

Tissues are washed in the baskets, which may be corked to retain buoyant material. The baskets are then transferred to a 9-cm. Buchner funnel covered with a tight-fitting Petri dish (Fig. 2). The stem of the funnel is held in a ring-stand clamp and fitted with a short rubber tube closed by a pinch clamp. The dehydration series is run thru the material by pouring the solutions into the funnel with the pinch clamp closed and then drawing the solutions off from the bottom at the end of the proper time interval. The baskets are generally not corked during dehydration. An interval timer is excellent for keeping on schedule, thus effecting a further saving of time.

Infiltration is also accomplished in the baskets which are immersed in xylol and blotted with paper toweling to remove all paraffin from the perforations after the tissues have been removed. The funnel system of changing reagents should be applicable to the method of running up root tips cemented to cards.

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