IN THE LABORATORY

A Simple Automatic Pipette Washer

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More than a year ago I put together for my own use an automatic pipette washer made of such readily available materials and based on so simple a principle that I felt certain that the identical apparatus must have been constructed independently by many workers. However, during the past year the pipette washer has been seen by a considerable number of scientists, to all of whom it has appeared original. Seven of these washers have now been in use for some time in various laboratories in the Department of Animal and Plant Pathology and have given entirely satisfactory results.

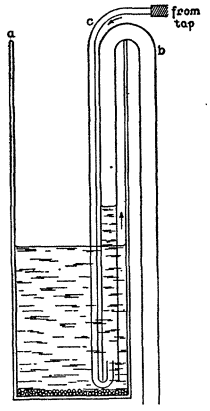

FIG. 1

The apparatus (Fig. 1) consists of a glass cylinder (a), 15 × 46 cm, equipped with a siphon (b) made out of tubing having a diameter of 2 cm or somewhat more. A calcium chloride tube connected by rubber to two straight pieces of tubing may be used. A piece of 8-mm tubing (c) is bent in the manner shown, and its upturned tip inserted into the bottom of the siphon. This tube (c) is connected with any convenient water faucet. The cylinder is placed near the edge of the drainboard of the sink so that water emptying through the siphon will run into the sink. It is convenient to have a layer of glass wool or glass beads in the cylinder to protect the tips of the pipettes which are placed in it. There should be a space of about 1 cm between the surface of the glass beads or glass wool and the open inner end of (b). When the water is turned on in (c), it will run first into (b) and then into the cylinder (a). As a result, a higher level of liquid is maintained in (b) than in (a). The difference between these two levels will determine the manner in which the pipette washer will operate. Best results are obtained if the flow of water into (c) is adjusted to a rate such that the level in (b) is 5 cm higher than in (a). With this adjustment, when (a) is nearly full, a siphon will be established in (b), and the cylinder will be emptied from the bottom in 10–15 sec, depending on the diameter of (b). The siphon then breaks, and the cylinder refills with water. In this manner the pipettes are submitted to repeated up-and-down flushing action which soon removes the trisodium phosphate or other cleaning fluid in which they have been immersed.

Pollak's Trichrome Stain for Demonstrating Distemper Inclusion Bodies in Tissue Sections

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For the demonstration of distemper inclusion bodies in paraffin tissue sections, we have found Pollak's trichrome stain (*1, 2*) to give good polychromatic differentiation between the inclusion body and the cellular elements. This method has been used with excellent results in staining sections taken from cases of mink, fox, and ferret distemper.

Any standard fixative may be employed. The slides are permanent; if properly stored, they are not likely to decolorize.

After the sections have been prepared and passed through the alcohols in the usual manner, they are stained in Weigert's iron-hematoxylin for 4–8 min, after which they are washed in running water for the same length of time. They are then stained in Pollak's trichrome for 7–15 min, the intensity of the stain being checked by the use of the microscope. Following rapid differentiation in 0.2% acetic acid and rapid dehydration in 95% and absolute alcohol, the sections are cleared in xylene and mounted.

If staining is satisfactory, inclusion bodies should stain crimson. Nuclei stain purple, and the cytoplasm of the bladder and trachea epithelial cells grayish-purple. Red blood cells stain orange; collagen stains blue-green and muscle red.

References

1. HANDLER, S. L. *Amer. J. clin. Path.*, 1945, **15**, 107.
2. POLLAK, O. J. *Arch. Path.*, 1944, **37**, 294.