With stop-cocks, pinch-cocks, rubber tubing, etc., eliminated, one has merely an open tube to clean. The burette is never open at the top to catch contaminating solids or fumes, and no funnels are needed.

(7) It can be used for liquids too viscous to flow readily through a stop-cock, *e.g.*, agar agar—which must often be handled in measured quantities, and handled at a temperature where stop-cock grease would become thin. With the rotette the lower outlet can be made a size suited to the liquid and to the speed employed. The rotette can be used equally well with liquids which attack either stop-cock grease or the ground surface of the glass itself, such as, *e.g.*, KOH or NaOH which so often cause cocks to freeze.

(8) A rotette can not wear out—and while in use it saves the price of a stop-cock on every burette with which it is employed. The burettes without stop-cocks are not only cheaper, but are less fragile—for most of the breakages of burettes are due to stop-cock troubles rather than to accidents. One of these mounted over a stock bottle might facilitate obtaining the definite quantities that may be required in routine tests.

(9) It can be used in places where stop-cocks would be inaccessible, as well as in hot, corrosive or poisonous liquids.

It would appear that the rotette is especially well suited for all types of burette and pipette work, for rapidly measuring out fixed quantities of liquids for routine tests in chemical, biological and clinical laboratories. As the movement is wholly rotational it lends itself to mechanical operation as a rack and pinion arrangement provided with stops would adapt it to the commercial or laboratory filling of vials with definite quantities of liquid. Or, similarly, it could be arranged for foot control in which case both hands would be free for other operations, which would be a very great advantage in many situations.

Suggestion: When connecting the rubber tubing to the burette the mercury should be in the middle coil, as this minimizes the twist that must be given the former in use. The tubing should be one of the smaller commercial sizes, preferably heavy walled to prevent kinking.

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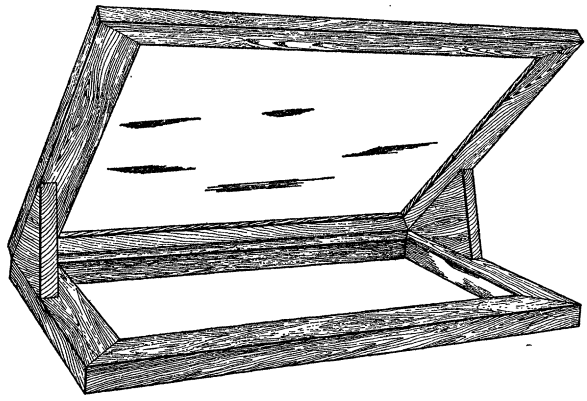
MIRROR DEMONSTRATION APPARATUS

IN many lecture rooms the top of the instructor's table is above the line of vision of persons seated in the audience. Demonstrations which must remain flat upon the table are therefore often out of sight of, or at best imperfectly seen by, observers in the lecture room. The difficulty attendant upon demonstrating certain materials to large groups of students can be overcome by the device represented in Fig. 1.



A wooden frame holds a mirror at an angle with the table top. The object to be demonstrated is placed inside the base of the frame under the mirror; the reflected image is then visible to students seated in all parts of the room. The angle of the mirror will be determined by the height of the table top above the horizontal line of vision of the audience. In our laboratory, a mirror (size 40×50 cm) held at a 40° angle gives good results with groups of seventy students. Spot lights may be directed upon the demonstration area from the sides or from above without interfering with the visibility.

The apparatus is particularly useful in demonstrating artificial "amoeboid" action induced by the interaction of various chemicals; in these experiments it is essential that the dishes remain stationary and in a horizontal position. The apparatus is also useful in showing the peculiar movement of waltzing mice; other uses will doubtless suggest themselves to the reader.

The writer is indebted to the department of graphics in Dartmouth College for the perspective drawing in Fig. 1.

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THE USE OF PHENOSAFRANIN FOR STAINING FUNGI ON CULTURE MEDIA OR IN HOST TISSUE

THE work of Mangin (1890) first brought out the use of phenosafranin as a differential stain for pectose and lignin. This stain is frequently used in dilute aqueous solution as a desensitizer for panchromatic film. It gives a dark red color in the alkaline condition, which may be removed by means of alcohol or an acid alum solution. This stain has been found useful in mycological studies for both fresh and preserved material and also in the examination of bacterial colonies growing on an agar substratum.