proved more satisfactory because *L. acidophilus* develops larger colonies than are produced in the original medium. Quantitative plate counts are also usually higher with this new medium. Extensive comparative tests have indicated that this medium is as good or better than any of the more complicated digest mediums previously advocated by the senior author and others for plating *L. acidophilus*.

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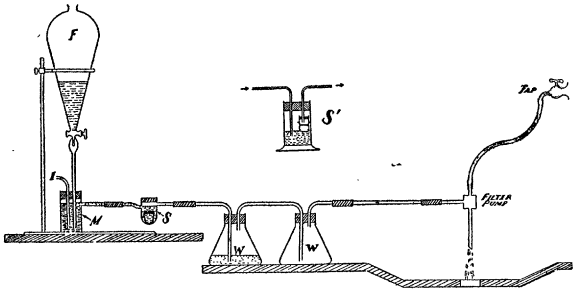
APPARATUS FOR VERY GRADUAL CHANGE OF FLUIDS

THIS apparatus, as set up in the text figure, is recommended in the treatment of tissues used for cytological studies. It also can be used for specimens which do not require a gradual change and can be run through the alcohols more rapidly. The tissues to be treated are placed in a perforated crucible and the crucible is stoppered with a finely perforated cork.



This crucible is placed in the specimen bottle (S). The replacing fluid in the Walter's special separatory funnel for single drops (F) is started dropping at the desired rate, the flow being regulated by the stopcock. The suction from the filter pump draws air from the inlet (I) through all the containers and carries the excess fluid from the mixing bottle (M) and the specimen bottle (S) into the waste bottle (W). The air bubbling into the mixing bottle (M) will insure a quick and thorough mixing of the fluids in both the mixing bottle (M) and the specimen bottle (S).

For smaller and more delicate specimens the specimen bottle (S'), shown in the inserted diagram, may be used. This is constructed by cutting the bottom from a small homeopathic vial, tying a piece of bolting silk to the stopper-end of the vial to prevent loss of specimens in the outlet tube, and attaching this vial to the outlet tube by means of a cork.

For higher alcohols or clearing agents the air passing into the inlet (I) should be dried by passing it through a calcium chloride tube or through a bottle containing sulphuric acid or absolute alcohol. Very little water can be absorbed from the waste bottle (W) since the air currents will pass away from the specimen bottle (S) and toward the waste bottle (W). It is necessary to introduce a second waste bottle in order to prevent a back-flow of the water from the filter pump in case the water pressure from the tap is reduced.

Large specimens, such as termatodes, have been successfully transferred from 95 per cent. alcohol to water in three hours. The success is probably due to the constant mixing of the fluids before coming into contact with the specimens instead of the usual abrupt change from one grade of alcohol to the other. This apparatus facilitates washing since it can be done in the same container in which the specimens can be stained and run up through the alcohols.

(This apparatus was constructed through the courtesy of the Empire Laboratory Supply Company of New York City.)

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SPECIAL ARTICLES

FERROUS IODIDE AS A SUBSTITUTE FOR VITAMIN A IN RATS[1]

IN view of the observations of Chidester, Eaton and Thompson[2, 3] that small doses of syrup of ferrous iodide can substitute for vitamin A in the cure of xerophthalmia and promotion of growth in rats on vitamin-A deficient diets, the author has reinvestigated this subject, using the same dosage of ferrous iodide, and supplying irradiated ergosterol as a source of vitamin D throughout the experiment. Observations include the effect of ferrous iodide on (1) xerophthalmia, (2) terminal infections of the glands about the mouth, (3) age at which xerophthalmia appears, (4) age at which constant weight is reached, (5) age at death, (6) weight at death, and (7) food consumption.

The animals used were albino rats from a stock raised for generations on Sherman Diet 13, and were placed at 4 weeks of age on Sherman vitamin-A free

[1] Published with the approval of the Director, West Virginia Agricultural Experiment Station, as Scientific Paper No. 107.

[2] F. E. Chidester, A. G. Eaton and G. P. Thompson, SCIENCE 68, 1766, 432, 1928.

[3] F. E. Chidester, A. G. Eaton and N. K. Speicher, *Proc. Soc. Exper. Biol. & Med.* 28, 187, 1930.