

Automatic Control of Fixation Time of Histological Specimens.

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AN inexpensive and effective device to facilitate the process of fixing normal and pathological histological specimens in fluids which have a narrow margin of optimum fixation time has been in daily use at Onderstepoort for some years. It has proved of such great convenience that it appears advisable to bring it to general notice.

At this Institute a number of specimens for histological examination, especially those accruing from autopsies and biopsies, are fixed in Helly's Fluid (or one of the other modifications of Zenker's), which for many purposes is superior to formalin and for some purposes quite indispensable. The period of fixation varies from about four hours to about twelve hours, according to the nature of the specimen, so that a return to the laboratory after working hours would often be necessary in order to terminate the fixation, while specimens received in the afternoon require attention at night.

The apparatus (see illustration) comprises a household alarm clock of superior type, to the alarm-winder of which is soldered a metal spindle (B); this carries a detachable arm terminating in a "diverter" (A), which consists of a metal funnel and gutter. The tissues are immersed in the fixing fluid in a screw-top bottle (E), the central portion of the lid of which is replaced by a circle of wire-gauze. The bottle is supported by a well in a strip of metal, one end of which may be placed against the water pipe of the sink and the other against a mark on the opposite edge of the sink, ensuring that the bottle will be directly below the tap.

When fixation is begun, the alarm is set to the required time and the clock placed face downward at one side of the sink. The arm carrying the diverter is attached and adjusted to divert the water from the gently running tap. On the alarm being released, the diverter swings aside to a position (A1), which is limited by the stop (C) coming into contact with the alarm-setter (D), and the water runs into the bottle, displacing the fluid and thereafter washing the tissues.

A second bottle (F), fitted with a funnel to catch the overflow from the first, is of use when the amount of tissue is too large for one bottle or when specimens from different sources have to be kept separately.

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The method is further of convenience at any time of the day, ensuring against forgetfulness in the termination of fixation, and is readily adapted to the staining of smears.

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