

REGARDING THE PRESERVATION OF ANATOMICAL MATERIAL

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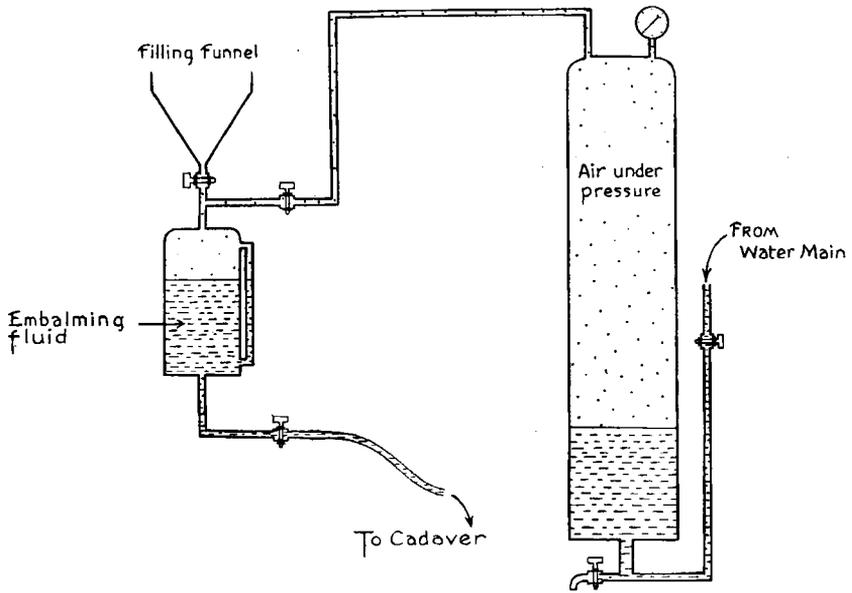
TWO FIGURES

The importance of the provision of properly embalmed dissection material is a matter that should not be lost sight of by anyone who assumes the responsibility of teaching students gross anatomy. The character of the dissection material together with a well lighted and well arranged dissection room are about the only factors for which the student is clearly dependent upon the teacher. Any deficiency in these two requisites cannot be compensated for by ability or earnestness, either on the part of the student or of the teacher.

At Ann Arbor we have kept this constantly in mind and have made a steady endeavor to perfect our method, in every way possible, with the view toward providing the students with material best fitted for dissection. With one change we have made we are so well pleased, that I am writing this note thinking it may be of use in other laboratories.

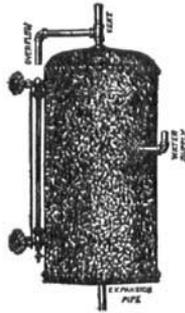
In our laboratory we are all convinced that satisfactory preservation is dependent upon the thorough saturation of the tissues with the embalming fluid. We make it a practice in fact to saturate the tissues to the point of oedema, so that the areas which are not directly reached through the vascular system, will receive the preservative subsequently by diffusion through the tissues. This is particularly important with us, as a large percentage of our bodies are of elderly individuals with sclerotic arteries and frequent thromboses. As a rule we inject from 20 to 30 quarts of preservative (formalin, 6 per cent, carbolic acid 4 per cent, and glycerine, 20 per cent).

The injection of a large amount of fluid requires a good apparatus. Previously we had always worked with a glass container (percolator or large glass bottle), supposing it to be necessary with solutions containing such fluids as formalin or carbolic acid. With the use of glass,



however, we were always troubled with leaky joints, and as we have to embalm about 100 bodies a year, our defective apparatus was a constant source of annoyance to us. It meant in each case that some member of the staff would have to go to the aid of the janitor. We plainly faced the problem of designing a fool-proof injection apparatus which an ordinary janitor could use. It was this that led us to try what is practically an all-metal apparatus. We have had it in successful operation about two years, and as yet it shows no sign of corrosion or other defect. With it we are able to force into our cadavers a large amount of fluid under any desired pressure, and carried over any length of time.

As can be seen by fig. 1, the apparatus consists of an air-compressor, connected by a $\frac{1}{2}$ -inch pipe with an injection tank. The air compressor is arranged in the ordinary manner for securing an air pressure. It



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consists of a 30-gallon galvanized iron reservoir into which water enters from below, compressing the air above it, the pressure in pounds being registered by a gauge at the top of the reservoir.

The injecting tank, (see fig. 2) consists of a $5\frac{1}{2}$ -gallon galvanized iron cylinder, commercially known as an *expansion tank*¹. A large receiving funnel is mounted above it. Ten quarts of fluid can be poured at one time into the funnel, from where, by a valve, it is let down into the injecting tank below, the amount of fluid in the tank being shown by the gauge on the side. A pipe leads from the bottom of the tank to the edge of the shelf on which the tank is mounted, at a convenient place

¹This expansion tank as it appears in the trade is shown in fig. 2, the cut for which was kindly loaned by James B. Clow and Sons, Chicago, from whom the tank together with gauge may be obtained for about \$6.00.

for attaching the rubber tube leading to the cadaver. The necessary valves are indicated in fig. 1, and their purpose is so evident it need not be detailed.

As was mentioned, our apparatus has already been in operation about two years, and the only attention it has required has been the occasional replacement of the short rubber tube leading from the discharge pipe to the cadaver. It is the conviction of the writer that those who believe in a thorough saturation of the tissues with embalming fluid will find an apparatus of this character convenient and effective.