

SOME SIMPLE DEVICES IN THE STUDENTS' LABORATORY

By

P. S. R. K. HARANATH

Department of Pharmacology, Kurnool Medical College, Kurnool A.P.

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Two devices used in our students' Experimental Pharmacology laboratory are described here.

AERATION OF ORGAN BATHS

Where air is used instead of oxygen for the oxygenation of the solutions in organ baths for isolated tissues, it is possible to employ the respiration pump to supply air in situations where compressed air supply is not available. Fig. 1 diagrammatically represents the connections. Air is lead from the respiratory pump from the outlet tube marked 'to the lung'. By including a rubber football bladder in the connections, the pulsatile supply of air received from the respiration pump is converted to a continuous flow. The rubber bladder distends each time air is delivered by the pump and in the intervals recoils on the air inside, thus supplying air continuously to the organ baths. The amount of air reaching the organ baths can be adjusted again by screw clamps. The clamp on the T tube close to the pump, adjusts the amount of air reaching the system. One pump can aerate up to 4 baths at a time.

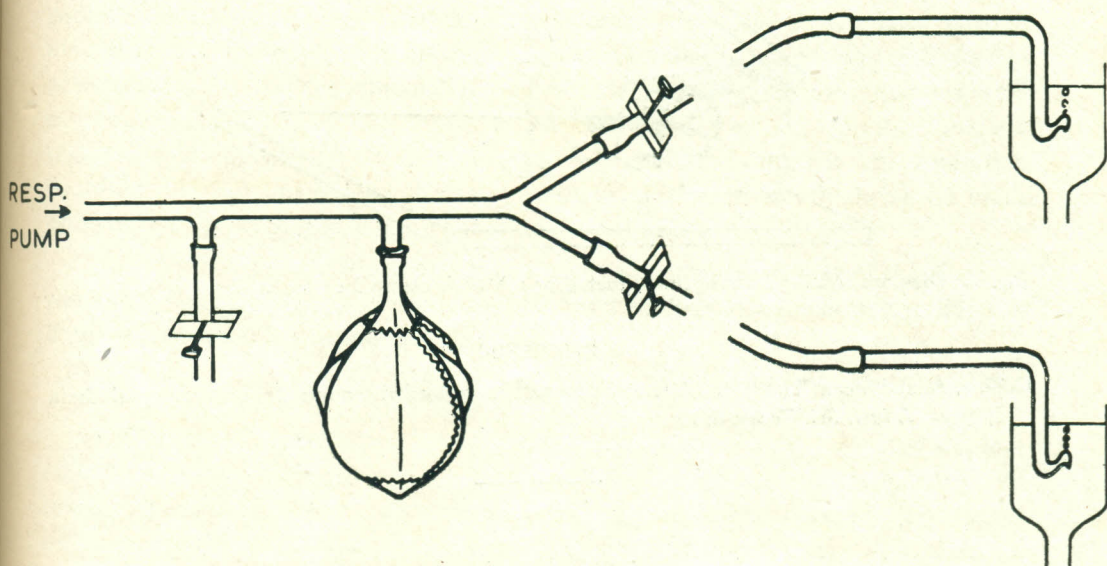


Fig. 1. Diagrammatic representation of connections for aerating organ baths using a respiration pump. A rubber football bladder is included in the system.

A CLAMP FOR RUBBER TUBES

Generally Mohr's spring clamps are used for releasing and occluding rubber tubes leading fluids to the organ baths and draining them. This, however, proves cumbersome if the bath has to be emptied and filled regularly at short intervals. Collins and Stean (1960) described a lever-operated clamp used in the Division of Physiology, National Institute for Medical Research, London. This clamp is completely made of metal and is expensive. In our laboratory, using the same lever principle, Mohr's clamps are fixed in a wooden device as shown in Fig. 2. This consists of a wooden base $5'' \times 3'' \times \frac{1}{2}''$ to which is fixed a wooden block $1\frac{1}{2}'' \times 1\frac{1}{2}'' \times 1''$ to one side. The block contains a slot to take the round end of the Mohr's clamp. The clamp is held within the slot by a nail passed across the block. A wooden plank $4' \times 1\frac{1}{4}'' \times \frac{1}{4}''$ hinged on top of the block serves as a lever to press the knob of the clamp against the base, to release the flow in the rubber tube. The upper surface of the block is slightly sloped to give adequate range of movement for the plank to press the knob. Two such devices are fixed to the table making the emptying and filling of organ baths easy.

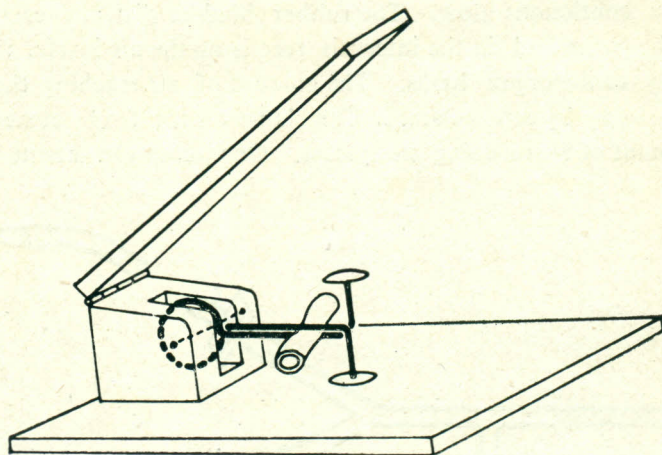


Fig. 2. Diagram of a lever arrangement including a Mohr's clamp for rubber tubes.

REFERENCE

- Collins, A. and Stean, J. (1960). A lever-operated spring loaded plunger clip for organ bath drain pipes. *J. Inst. Sci. Techn.* 6, 18.
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