

J. J. ROBERTS.
 EMBALMING APPARATUS.
 APPLICATION FILED SEPT. 27, 1912.

1,059,070.

Patented Apr. 15, 1913.

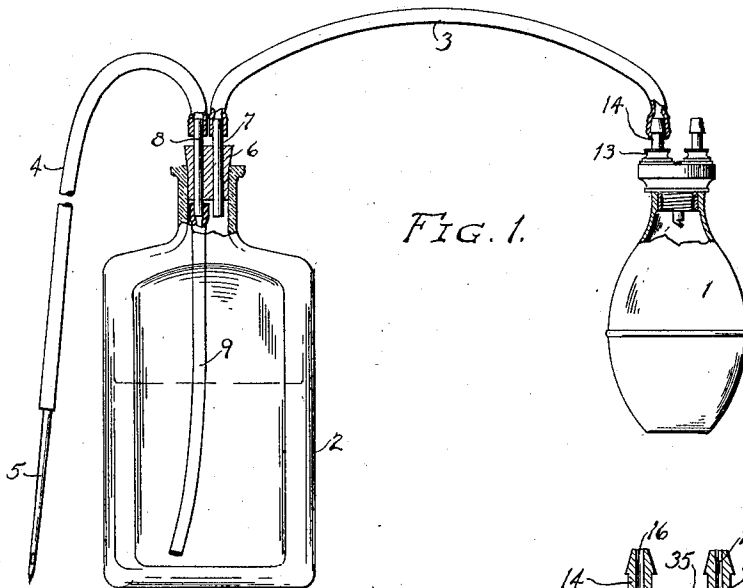


FIG. 1.

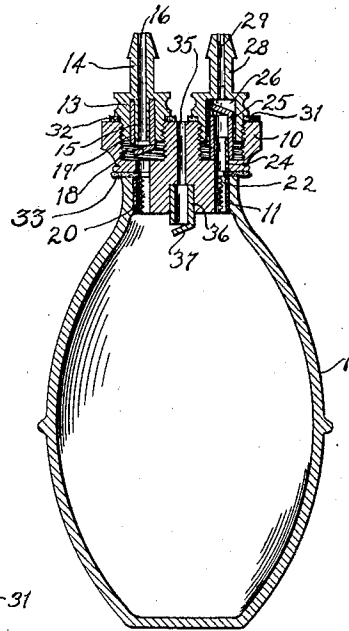


FIG. 2.

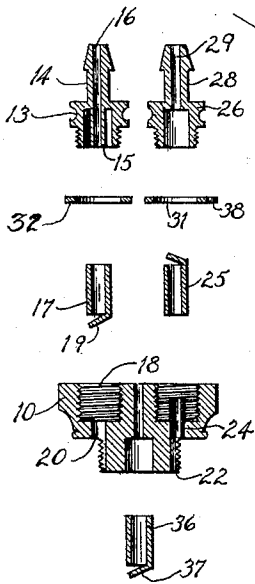


FIG. 3.

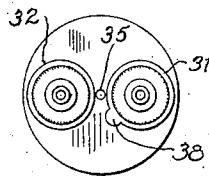


FIG. 4.

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EMBALMING APPARATUS.

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To all whom it may concern:

Be it known that I, JOHN J. ROBERTS, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Embalming Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention has particular reference to the valves of embalmers' pumps and syringes, the object being to enable the production of an apparatus for both injecting and aspirating which shall be convenient and compact and wherein the parts are few in number and of such form as to be very simple and cheap to manufacture. My apparatus is such as to require the least possible changing of the flexible tube connection with the fluid receptacle while in operation, and to facilitate the quick action of the pump or bulb, allowing the operator to work rapidly.

The invention is hereinafter more fully described and its essential characteristics set out in the claims.

Referring to the accompanying drawings, which illustrate my invention, Figure 1 is an elevation of an embalming apparatus showing the use of the invention, some of the parts being sectioned for clearness of illustration; Fig. 2 is a sectional elevation of my valve device as attached to a collapsible rubber bulb; Fig. 3 is an aggregate sectional view of the parts comprising my invention; Fig. 4 is a plan of the valve device.

In my apparatus the air pressure or suction may be supplied by any convenient device as, for example, the rubber bulb 1, to which my valve construction can be conveniently attached.

2 designates a jar or bottle for the reception of the morbid fluids in aspirating; a similar one being used to contain the embalming fluid when injecting.

3 designates a flexible tubular connection between the valve device and the bottle, and 4 a similar tube attached at one end to the bottle, carrying at its other end a trocar 5. The usual method of attaching these tubes 3 and 4 to the bottle is, as shown, by means of a stopper 6, of rubber or other similar material, and glass tubes 7 and 8 extending therethrough, the tube 8 having an extension 9 reaching nearly to the bottom of the jar or bottle.

My valve device has a head or plug 10, of hard rubber or other suitable material, adapted to screw into a ring 11 which is firmly mounted in the open end of the pump member or bulb 1. Into this head are fitted the several valve members in a manner which I will now describe.

13 is a plug having an extending stud or nipple 14 to which the flexible tube 3 is attached, and a threaded portion which screws into a threaded bore 18 in the head 10. Through this member, substantially along its axis, is an air passage 16 communicating with the interior of the bulb 1. The air passing through this opening is controlled by a soft rubber valve 17 of well known and ordinary construction. This valve fits tightly over the tubular portion 15 of the plug 13, which is formed by cutting away the material around said tubular portion, thus making a deep annular groove, which the body of the valve 17 occupies.

There is a space in the head 10 between the plug 13 and the bottom of the hole into which it screws large enough to allow the flap 19 of the valve 17 to work freely, permitting the free passage of air into the bulb 1 through the opening 20.

The air outlet from the bulb is the passage 22, through which air passes to a small tube 24 rigid in the head 10. Fitted tightly over this tube 24 is a valve 25, similar to the valve 17, but opening outwardly. Over this valve 25 is a plug 26, having a bore, in which the plug stands, large enough to allow the action of the valve and the free passage of air. A nipple 28, similar to the nipple 14, extends from this plug 26 and has an air passage 29 communicating through the valve 25 and the passage 22 with the interior of the bulb 1.

The joints of my device are rendered air tight by means of leather or rubber washers at 31, 32 and 33.

An additional inlet to the bulb 1 is through a small central air passage 35, which has an enlargement 36 at its inner end to receive the body of the valve 37, this valve 37 being similar to the other two valves 17 and 25. Any suitable means may be employed for closing this opening when aspirating, as, for example, an extension 38 on the periphery of the washer 31 which may be moved over the end of the air passage 30 by loosening and retightening the plug 26.

In aspirating, the operation of the device

is as follows: The tube 3 connects the nipple 14 with the usual embalming device arranged as shown in Fig. 1. The washer 31 is moved until the projection 38 covers the end of the passage 30, and is held tightly in place by screwing down on the plug 26. When the rubber bulb 1 is compressed, air is forced out through the passage 22 through the valve 25 and the passage 29; and when the bulb is released the valve 25 closes, the bulb filling with air from the bottle 2, forms a partial vacuum therein, which draws the morbid fluids and gases from the body in the usual manner.

When injecting, a tube similar to the tube 3 is placed over the tube 28 connecting it with a bottle device similar to that shown, and the projection 38 removed from over the opening 35. The bulb 1 is then compressed, forcing air through the opening 22 and the valve 25 into the bottle and raising the pressure of the air therein. As the bulb expands air enters through the valve 17 and the additional valve 37, which allows it to refill very quickly, thus permitting a quick action of the bulb and allowing the operator to work rapidly. The raising of the pressure in the bottle forces the embalming fluid contained therein out through the tube 4, the trocar at the end of it, and into the body, in the usual manner. By reason of the additional central opening, supplying air for injecting, it is not necessary to remove the aspirating connections when injecting.

It should be noted particularly that the aspirating and injecting valves are extremely simple, being each provided by three members only, that is, the head, the plug, and the soft rubber tube. This reduces the cost of construction as well as the liability to get out of order. It is accomplished by making the tube 15, which the valve 17 surrounds, a part of the plug 13, and by carrying the tube 24 for the valve 25 rigidly by the head 10, and by allowing space in the threaded bore 18 for the operation of the flap 19 and space in the plug 26 for the operation of the flap of the valve 25.

Having thus described my invention, what I claim is:

1. In an embalming apparatus, the combination of a pumping member, a head therefor, two plugs removably carried by the head, a tube rigidly carried by one plug, a tube rigidly carried by the head, and two

soft rubber sleeves surrounding the tubes respectively and having flaps constituting valves opening oppositely.

2. In an embalming apparatus, the combination of a pumping member, a head secured thereto and having two recesses in its outer face, a pair of plugs secured in said recesses and projecting therefrom, each plug having a nipple extending therefrom and provided with an internal bore, one of said plugs having a rigid internal tube surrounding its axis and an annular space within the plug about the tube, the other plug having an enlarged bore communicating with the bore through the nipple, a tube carried by the head and projecting into the recess which the plug with the enlarged bore occupies, two soft rubber sleeves surrounding the said tubes respectively and having flaps constituting valves, the flap of the sleeve which surrounds the tube carried by the plug operating in the space at the base of one of the recesses in the head, and the flap of the sleeve which surrounds the tube carried by the head operating in the enlarged bore of the corresponding plug.

3. In an embalming apparatus, the combination, with a pumping member, of a head, two plugs carried thereby, two valves associated with the respective plugs and opening in opposite directions, an additional opening through the head, and a valve carried by the head and controlling such additional opening.

4. In an embalming apparatus, the combination of a pumping member, a head removably secured thereto, a pair of plugs screwing into said head, a pair of valves within the respective plugs and the recesses in the head into which the plugs screw, one valve opening inwardly and the other outwardly, openings through the head to said valves respectively, an additional opening through the head having an enlarged bore in the inner portion of the head, and a soft rubber sleeve seating in said bore and having a flap constituting a valve for the additional opening, and means for closing the additional opening.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

JOHN J. ROBERTS.

Witnesses:

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J. W. FAILOR.