

J. H. BROWN.
TRANSFUSION APPARATUS.
APPLICATION FILED JUNE 11, 1915.

1,176,945.

Patented Mar. 28, 1916.

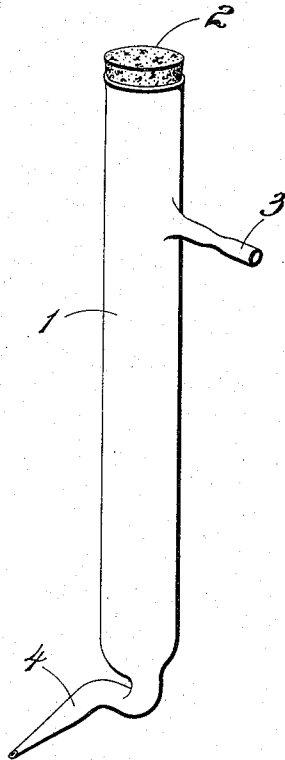


Fig. 1.

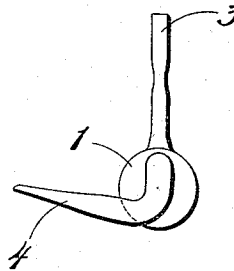


Fig. 3.

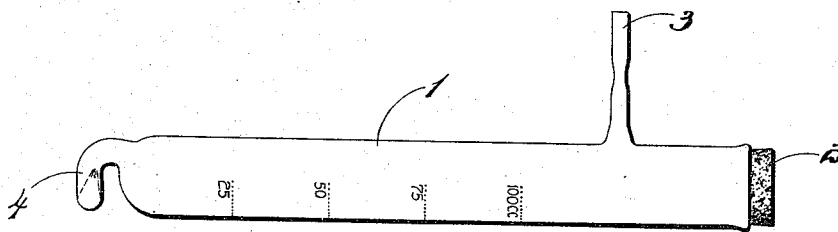


Fig. 2.

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Specification of Letters Patent.

Patented Mar. 28, 1916.

Application filed June 11, 1915. Serial No. 33,561.

To all whom it may concern:

Be it known that I, JAMES HOWARD BROWN, a citizen of the United States, residing at Jamaica Plain, Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Transfusion Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an improvement in transfusion apparatus.

The object of the invention is to improve the apparatus and technic for blood or other transfusion operations.

To this end the invention consists in the transfusion apparatus hereinafter described and particularly defined in the claims.

In the accompanying drawing illustrating the preferred form of the invention, Figure 1 is a perspective view of the apparatus; Fig. 2 is a view of the same in horizontal position; and Fig. 3 is an end view.

The illustrated embodiment of the invention is as follows:—The apparatus consists of a glass cylinder 1 of the desired capacity, say of 250 c. c. or 150 c. c., closed at its upper end by a cork stopper 2, and having a side tube 3 a little below the cork and a cannula 4 leading from the bottom of the cylinder. The cannula joins the cylinder in such position that it leads from the upper side of the cylinder when the latter is placed on its side, with the side tube uppermost. The cannula bends downward as the cylinder lies on its side (see Fig. 2), and then in an inclined upward direction at an angle to the plane of the axes of the cylinder and side tube somewhat less than a right angle. From this last bend, the cannula should not be more than two or three inches long, and should taper gradually, as shown, and terminate in a beveled and burnished point about two or three mm. in diameter. The arrangement of the cannula at the angle specified (see Fig. 3) prevents the emptying of the cannula and entrance of air into it when the cylinder is laid on its side, as shown in Fig. 2.

For the tapered and burnished end of the cannula may be substituted a construction suitable for the attachment of a trocar or hypodermic needle.

The device is used for the drawing of blood or other fluids from man or other ani-

mals, and for its injection into man or other animals, the fluid entering and leaving the cylinder through the cannula and inserted into the body of the animal, or connected with a trocar or other instrument so inserted. The side tube affords provisions for egress or entrance of air to the cylinder, and by connection with an air pump or a supply of compressed air, affords a means of applying suction or pressure to the surface of the contained fluid. When used for blood transfusion, the cannula of the device is inserted into the vein or artery of the donor and held upright until filled by venous or arterial pressure. This usually takes not over two or three minutes for a 250 c. c. tube. Being filled, the tube is withdrawn and held on its side (Fig. 2) with the side piece uppermost to prevent the blood from running out. The cannula is now inserted in the vein or artery of the recipient and held in an upright position. A bulb pump is attached to the side tube and by a little pressure the tube is emptied, withdrawing the cannula while still a little blood is left in it. More tubes may be filled and emptied, using the same vein or artery, if desired. Pointing the cannula away from seems to be better than toward the heart. Both ways may be used.

Having thus described the invention, what is claimed is:—

1. A transfusion device comprising a tubular container having adjacent its top a side opening, and a cannula at the bottom thereof, said container being adapted to be positioned on its side with said opening uppermost, and said cannula projecting laterally to the longitudinal axis of the container and constituting a support for maintaining the same in said position.

2. A transfusion device comprising a tubular container having adjacent its top a side opening, and a cannula at the bottom thereof, said container being adapted to be positioned on its side with said opening uppermost, and when so positioned, said cannula connecting with the container adjacent the side thereof that is uppermost, and thence extending downwardly and laterally from its point of connection.

3. A blood transfusion apparatus comprising a tubular container having a removable closure at its top and a side tube adjacent its top, said container being adapted to be placed on its side with said tube project-

ing upwardly, and a cannula at the bottom thereof, said cannula projecting laterally relative to the longitudinal axis of the container when the latter is so placed on its side.

4. A transfusion apparatus, comprising a container having a side tube adjacent the top thereof, and a cannula at the bottom thereof, said cannula consisting of a downwardly and laterally directed tube leading from the upper side of the container when the latter is placed on its side with the side tube uppermost, and said cannula having a tapered terminal for insertion in the bodies of the donor and recipient.

5. A blood transfusion apparatus comprising a tubular container having an opening at its top, a side tube adjacent said top,

said container being adapted to be placed on its side with said tube projecting upwardly, and a cannula at the bottom of said container, said cannula projecting downwardly and thence laterally relative to the longitudinal axis of the container when the latter is placed on its side with the tube projecting upwardly.

6. A transfusion apparatus, comprising a container having an opening in its side adjacent the top thereof, and a cannula at the bottom thereof, said cannula consisting of a downwardly and laterally directed tube leading from the upper side of the container when the latter is placed on its side with the side tube uppermost.

JAMES HOWARD BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."