

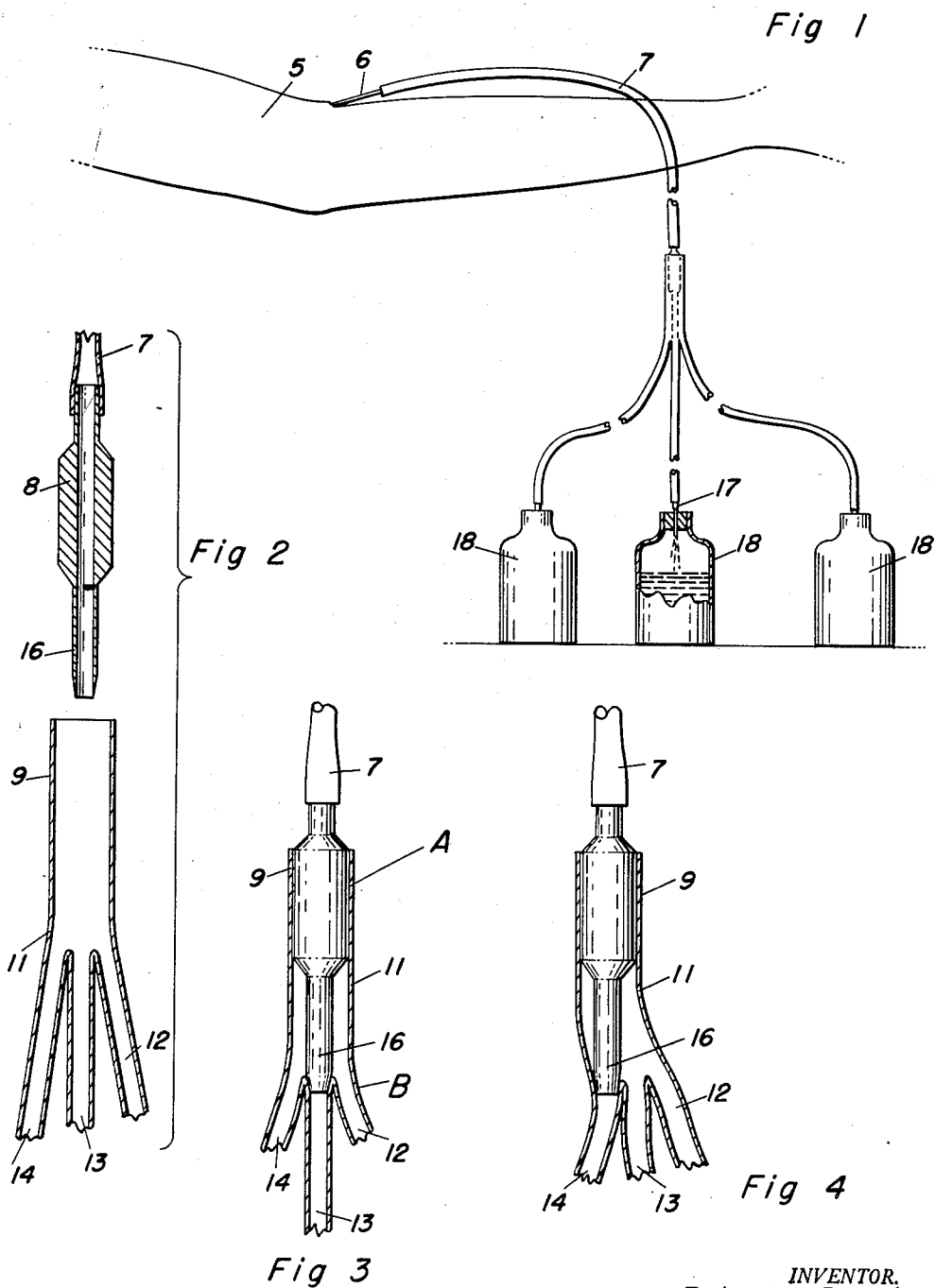
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R. L. DENNIS

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DIVERTER FOR BLOOD TRANSFUSION APPARATUS

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INVENTOR,
Robert L. Dennis
BY
C. L. Owen
Att'y

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DIVERTER FOR BLOOD TRANSFUSION
APPARATUS

Robert Lee Dennis, San Jose, Calif.

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3 Claims. (Cl. 137—610)

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This invention relates to improvements in blood transfusion procedures.

The principal object of this invention is to provide means whereby the flowing of blood from a donor can be individually directed into any one of several containers without disconnecting the apparatus during the process of removing the blood from the donor to the container.

A further object is to produce a device which is capable of being sterilized, one which will not interfere with the customary procedure of transferring blood from the donor to the container and a device which may be operated by any person who has been given simple instructions in its use.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numbers are employed to designate like parts throughout the same,

Fig. 1 is a diagrammatical view showing the transfer of blood from a donor's arm to three separate containers;

Fig. 2 is an exploded view in cross section, showing the various parts of the apparatus;

Fig. 3 is a cross sectional view of the divider tube and delivery head, the delivery head being shown in elevation; and

Fig. 4 is a view similar to Fig. 3, except that the discharge end of the delivery head has been inserted in one of the other divider tubes than that shown in Fig. 3.

In the giving of blood to infants or small children, it is, at the present time, necessary to waste a large portion of the contents of the conventional 500 cc. flask of blood. If all of the blood in the flask is not used, an attempt is occasionally made to save this blood. However, this effort is generally regarded as unsatisfactory.

A further alternative is to pour the contents of the 500 cc. bottle into two or more smaller bottles and then to give the smaller transfusion from one of these bottles. This practice, however, is not satisfactory for the reason that in transferring the blood from the larger bottle to the smaller bottles, it is possible for contamination to take place.

It therefore becomes important that some means be provided for a separate closed unit such as applicant has devised, so that a single blood donor may have the donation divided into small lots, so that it may be ready for use in the smaller quantities.

A second consideration is that when small transfusions from several persons must be given

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to a recipient, there is the possibility that incompatible reactions may take place.

With applicant's device it is possible to provide three small containers of blood from the same donor, all of which may be given to a single individual.

There is also the further possibility that when giving small transfusions from different donors, there may be protein sensitivity reactions.

Also, many times there is loss of time by the technicians who must make separate cross matchings for each transfusion, as well as additional expense caused by the necessity for these cross matchings, as well as loss of time and other annoyance to the physician and laboratory workers.

Further, applicant's device may be used when it is desirable to draw the blood into two or three separate vacuum bottles in which culture media of different types have been placed for the purpose of the culture of bacterial organisms from the blood being drawn.

In the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the arm of a donor and the numeral 6 the customary arterial needle to which is attached a supply tube 7, which leads to and is connected with the delivery head 8. This delivery head has an enlarged portion adapted to be telescoped by the upper end 9 of a flexible delivery tube 11, which has divided or branch portions 12, 13 and 14. The lower end 16 of the delivery head is tapered so that it will fit into any one of the branch tubes 12, 13 or 14. These tubes 12, 13, 14 are each provided with a delivery needle 17 which is placed through the stopper of the vacuum bottle 18, there being three of these vacuum bottles, one for each tube.

The result of this construction is that when the parts are arranged as shown in Fig. 1, and assuming that the delivery head is arranged as shown in Fig. 3, then blood from the donor will be directed to the middle of the three bottles shown in this figure, and when this bottle has become filled, the technician grasps the upper end of the delivery tube at approximately the point A, and the lower portion of the delivery tube at about the point B. By then stretching the divider tube slightly, the tapered end 16 of the delivery head may be transferred from, for instance, the tube 13, to the tube 14, as shown in Fig. 4.

The result is that blood will now flow into bottle 18 to the right of Fig. 1, and after this bottle has

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been filled, the device may be manipulated so that blood will flow into the bottle to the left of this figure.

It will thus be apparent that with this device three small containers may be readily filled without contamination and with no inconvenience to donor or technician.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a device of the character described, a supply tube, a rigid head secured to said supply tube, said head having a reduced end, a resilient stretchable delivery tube secured to said head, said delivery tube having branches adjacent the reduced end whereby the stretching of said delivery tube may effect the insertion of said reduced end of said head into one of said branches, whereby fluid delivered by said supply tube will pass through said head and into one of said selected branches.

2. In a device of the character described, a supply tube having a delivery head attached thereto, said head having a reduced, tapered end, a second delivery tube formed of resilient stretch-

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able material telescopically secured to said head, said second mentioned delivery tube having tubular branches formed adjacent the tapered end of said head, whereby said tapered end may be individually inserted in one of said branch tubes when said second mentioned tube is stretched and the branch brought into contact with said tapered end.

3. In a device of the character described, a head having a flexible delivery tube secured thereto at one end, the opposite end of said head being reduced and tapered, a second flexible stretchable branched tube secured to said head and enclosing said reduced end whereby stretching of said second mentioned flexible tube permits said tapered end to successively engage and deliver fluid from said first mentioned tube to one of the branches of said branched tube.

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