

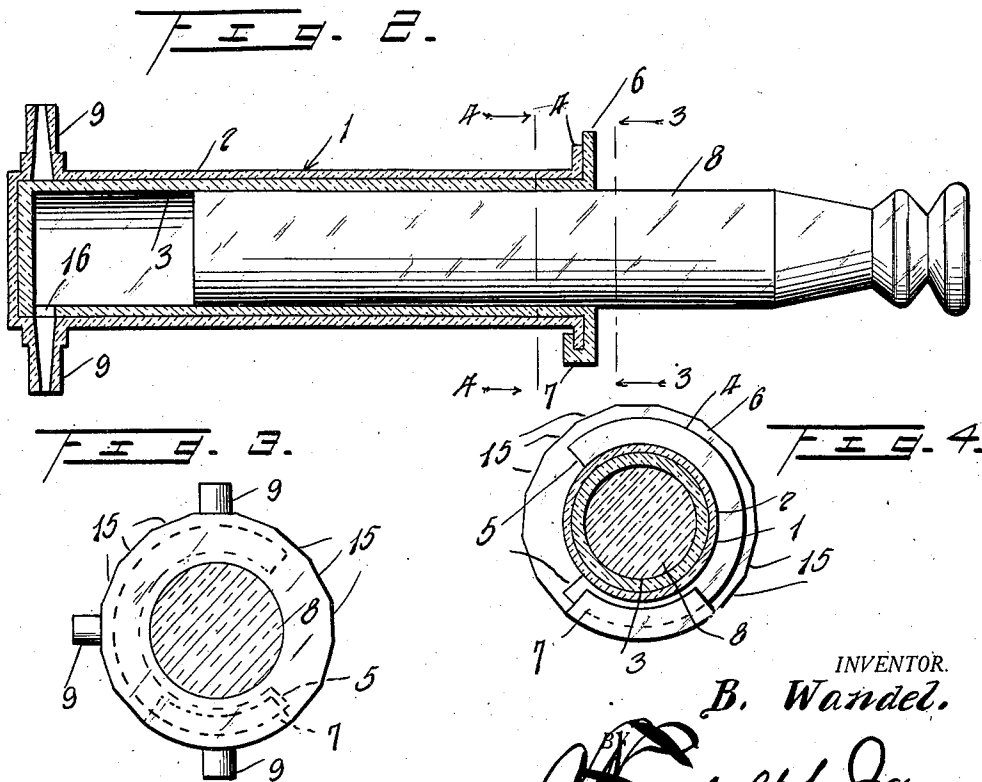
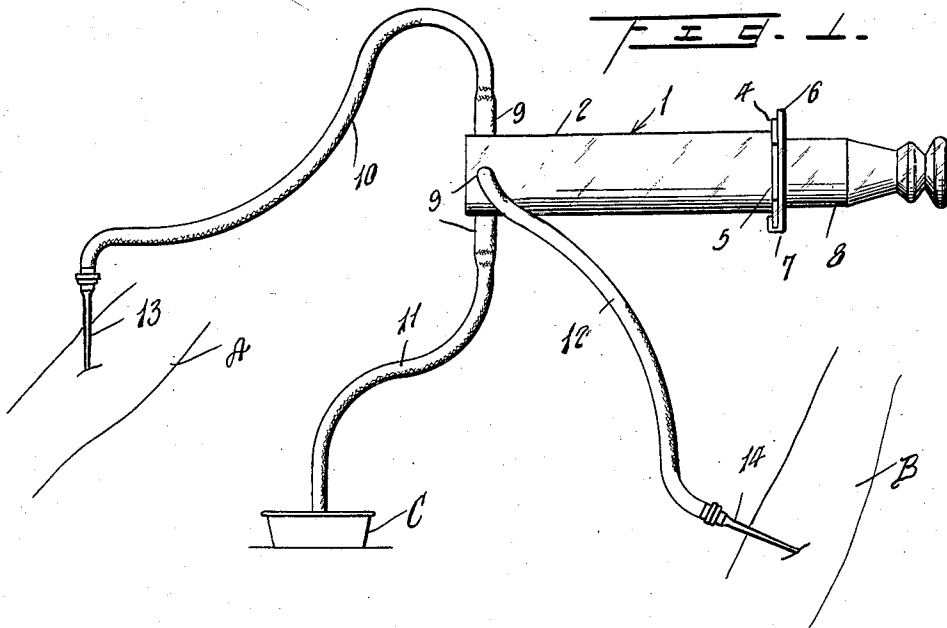
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SYRINGE

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SYRINGE

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The invention relates to an improved construction of syringe that is particularly adapted for use in blood transfusion, and has for its principal object the provision of a syringe for the purpose stated that is reasonable in cost of manufacture and extremely effective in operation.

A further object of the invention is the provision of a syringe having telescopically arranged cylinders relatively rotatable, and having interlocking members to hold the two cylinders in an assembled position, the outer of said cylinders being provided with a plurality of nozzles for the reception of tubes, and the inner cylinder being provided with a single port that is selectively alined with said nozzles by relative rotation of the cylinders.

The invention will be described in detail hereinafter and will be found illustrated in the accompanying drawings, in which

Figure 1 is an elevational view of the improved syringe arranged for transfusion of blood,

Figure 2 is a central longitudinal sectional view of the syringe cylinder showing the plunger in elevation, and

Figures 3 and 4 transverse sectional views on planes indicated by the lines 3—3 and 4—4, respectively, of Figure 2.

In the drawings similar reference characters will be used to designate corresponding parts throughout the several views.

In Figure 1 the syringe barrel or cylinder 1 is shown arranged for transfusion operation with the arm A of the "donor" and the arm B of the "recipient", and also with a receptacle C adapted to contain a saline solution. The syringe barrel 1 comprises two concentric, telescopically arranged cylinders 2 and 3, preferably made of glass or other transparent material. The outer cylinder 2 is provided with a flange 4 having an interrupted portion forming a recess 5, while the cylinder 3 is provided with a flange 6 having a returned projection 7 that engages the flange 4, the interrupted portion of the flange 4 forming the recess 5 permitting removal and replacement of the inner cylinder 3 when the parts are alined, and by relative rotation of

the cylinders when assembled the returned projection 7 by engaging the flange holds the two cylinders in assembled position. 8 designates a plunger that is mounted for reciprocation in the inner cylinder 3.

The outer cylinder 1 has nozzles 9 extending laterally therefrom and communicating with the interior of said outer cylinder 2 to which are adapted to be connected flexible tubing 10, 11, and 12 respectively, the tube 10 having a cannula 13 connected therewith and adapted to be used to enter the arm of the "donor" A, the tube 12 having another cannula 14 that is adapted to be inserted in the arm of the "recipient", while tube 11 is adapted to be inserted in the receptacle C containing a saline solution. The flange 6 is formed with a plurality of flat faces 15 on its edge to permit securely gripping the flange for relative rotation of the cylinder 3 with cylinder 2.

In using the device it will be apparent that by rotating the cylinders 2 and 3 so that the port 16 in the inner cylinder is alined with one or the other of the nozzles 9 that the barrel 1 may be charged with blood from the "donor" A or with saline solution from the receptacle C to the tube 11, or the blood or solution may be discharged to the "recipient" as may be desired. It will be furthermore understood that the cylinders 2 and 3 being formed of transparent material enables the operator to ascertain the amount of blood or saline solution in the barrel and that furthermore a gage may be used in connection with the syringe barrel and may be formed thereon.

What is claimed is:—

1. A syringe, comprising relatively rotatable concentric cylinders telescopically arranged, said cylinders being closed at corresponding ends, and open at their other ends, circumferential flanges on said cylinders, a returned projection on one of said flanges, the other flange having a recess to receive said projection, the outer cylinder having a nozzle leading thereinto, the inner cylinder having a port to register with said nozzle by relative rotation of the cylinders, and a plunger in the inner cylinder.

2. A syringe, comprising relatively rotatable concentric cylinders telescopically arranged, said cylinders being closed at corresponding ends and open at their other ends, circumferential flanges on said cylinders, a
5 returned projection on one of said flanges engaging the other flange to hold the cylinders assembled, the last mentioned flange having a recess to receive the projection, the outer
10 cylinder having a plurality of nozzles leading thereinto, the inner cylinder having a port adapted to selectively register with said nozzles by relative rotation of the cylinders, and a plunger in the inner cylinder.

15 In testimony whereof I affix my signature.
BARNEY WANDEL, M. D.

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