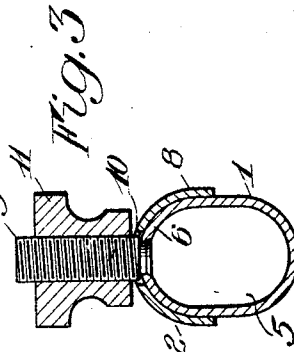
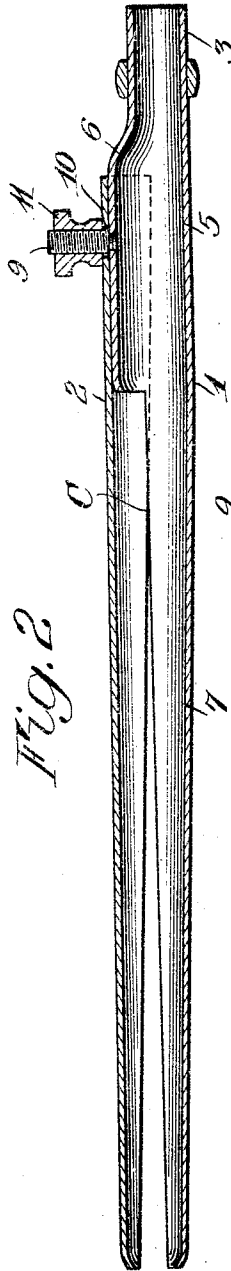
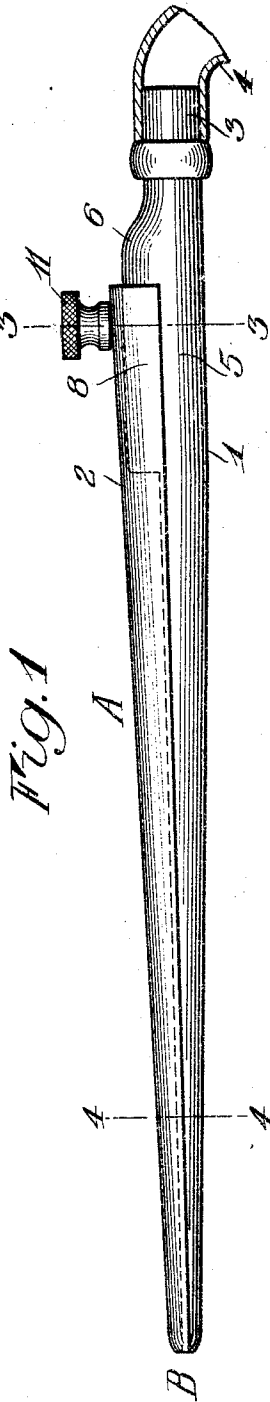


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VEIN EXPANDER AND DRAIN TUBE.
APPLICATION FILED SEPT. 3, 1919.

1,365,387.

Patented Jan. 11, 1921.



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VEIN-EXPANDER AND DRAIN-TUBE.

1,365,387.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MAYNARD A. DURYEA, a citizen of the United States, residing at Nunda, in the county of Livingston and State of New York, have invented certain new and useful Improvements in Vein-Expanders and Drain-Tubes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to embalming, and more particularly to apparatus for draining the blood vessels of corpses, and it has for its object to provide a simple and convenient drain tube or drain tube point adapted for attachment to a conductor pipe and adapted to be inserted in a vein and then expanded so that the walls of the vein are distended and the contents are more readily forced out. Further objects are to provide a device of this character that is readily cleaned and one that can be produced at a low cost. To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a side view of a device constructed in accordance with and illustrating one embodiment of my invention, the parts thereof being in normal position.

Fig. 2 is a longitudinal central section therethrough with the parts in expanded position.

Fig. 3 is an enlarged transverse section on the line 3—3 of Fig. 1, and

Fig. 4 is an enlarged transverse section on the line 4—4 of Fig. 1.

Similar reference numerals throughout the several views indicate the same parts.

My device has the general form of a split tube A tapered toward the end B at which it is rounded and comes almost to a point. The tube is preferably made in two separable parts 1 and 2. The part 1 comprises a nipple 3 for the attachment of the ordinary rubber conveyer tube indicated at 4 in Fig. 1. Beyond the nipple there is an intermediate tubular portion 5 of a preferably enlarged diameter and of elliptical form, the increased diameter being eccentric provid-

ing a straight side and an enlarged side or raised portion 6. Beyond the tubular portion 5 this part of the tube is reduced to the semi-tubular form indicated at 7, such reduced portion being tapered to a gradually diminishing diameter preserving, however, the elliptical or semi-elliptical cross section as shown in Fig. 4.

The other part 2 of the tube is also semi-tubular and tapered in much the same manner as the portion 7, but its curvature is on greater radii so that its edges normally overlap those of the portion 7 of the other part all the way down to the tapered end B as shown in Fig. 4 and as indicated in dotted lines in Fig. 1. The larger end 8 of this part 2 embraces and partially surrounds the intermediate tubular portion 5 of the part 1 on the side of the enlargement 6. This enlargement is fitted with a threaded post 9 that engages in an aperture 10 in the portion 2 holding the two parts of the tube together and a thumb nut 11 on the post engages against the part 2 to produce relative movement, laterally, of the parts 1 and 2. The intermediate tubular portion 5 of the part 1 is not tapered, but when the thumb nut 11 is loosened, as in Fig. 1, the part 2 tilts or rocks on the end of the tubular portion 5 and closes the parts together, as shown in Fig. 1, so that the edges overlap and the device as a whole constitutes a continuous closed tapered body. When the thumb nut is tightened, as in Fig. 2, the apertured portion of the part 2 straightens out on the enlargement 6 and expands or separates the tapered portions of the semi-tubular parts.

It will be noted that the expanding of the tube causes no separation from the point indicated at C on, the tube being closed from there to the nipple 3 and a continuous conducting passage being provided. In use, the device is inserted in the vein up to or beyond this point while in the closed condition of Fig. 1, the small end B being easily pushed in. The subsequent tightening of the thumb nut 11 stretches the vein to a free flowing capacity and also causes it to clamp tightly about the tube without danger of disconnection.

It is obvious that the parts may be readily separated for cleaning purposes.

I claim as my invention:

1. A vein expander comprising a tapered

tube composed of two parts one of which embodies a nipple, a tubular portion and a semi-tubular portion and the other of which consists of a semi-tubular portion.

- 5 2. A vein expander comprising a tapered tube composed of two separable parts one of which embodies a nipple, a tubular portion and a semi-tubular portion, the tubular portion being provided with a post, and the
10 other of which consists of a semi-tubular portion adapted to rock on the tubular portion of the first mentioned part and provided with an aperture engaging over the post.
3. A vein expander comprising a tapered
15 tube composed of two parts one of which embodies a nipple, a tubular portion and a semi-tubular portion, the tubular portion being provided with a post, and the other of which consists of a semi-tubular portion
20 adapted to rock on the tubular portion of the first mentioned part and provided with an aperture engaging over the post and

means on the post for rocking the semi-tubular part.

4. A vein expander comprising a split tapered tube, a mechanism at the larger end of said tube for adjusting the separation of the split portion of said tube at the other end, said mechanism being operable from the side of the tube. 25 30

5. A split tapered tube comprising two main portions, one of which embodies a nipple at one end, a semi-tubular tapering part at the other end, a tubular part between the nipple and semi-tubular parts, the other main portion being semi-tubular, tapering at one end, and pivotally mounted on the tubular part of the first mentioned main portion, and means mounted on the tubular part of the first named main portion for pivotally moving one main part relative to the other to expand and contract the tapered end of the split tube. 35 40

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