

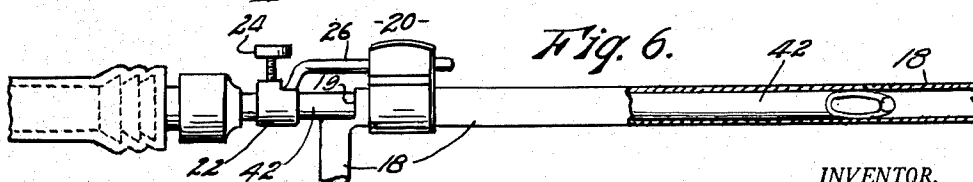
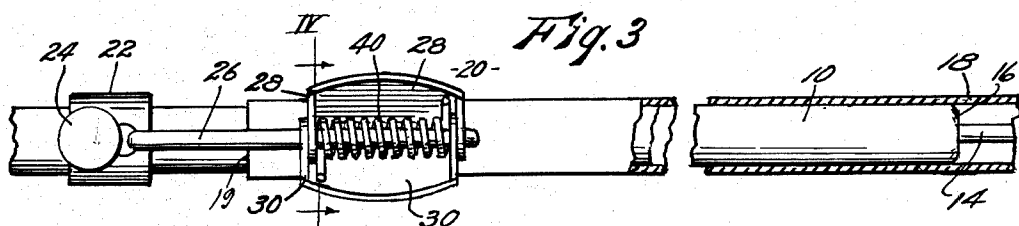
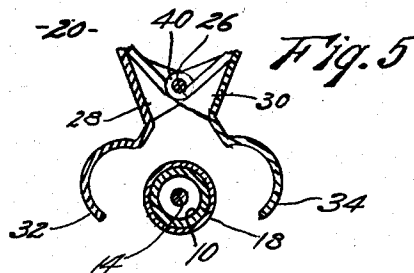
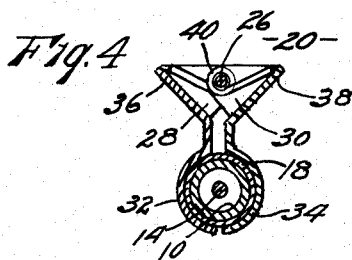
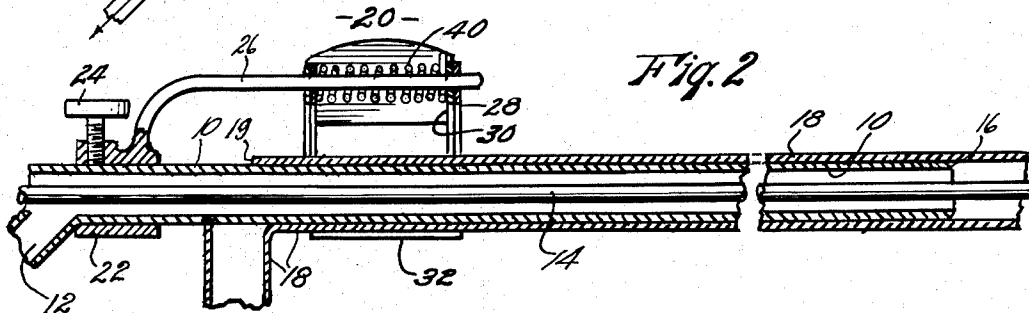
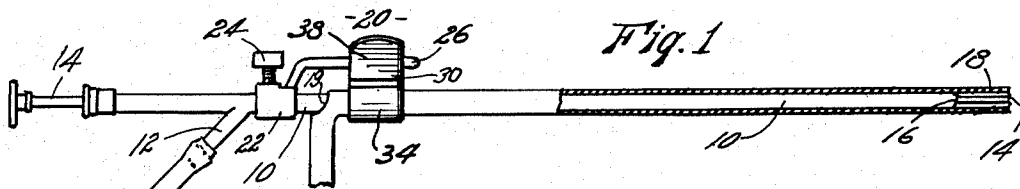
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BLOOD VESSEL DRAINAGE TUBE

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BLOOD VESSEL DRAINAGE TUBE

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4 Claims. (Cl. 27—24)

This invention relates to new and useful improvements in blood vessel drainage tubes, and has particular reference to vein and artery drainage and injection tubes such as are used in the process of embalming.

In the process of embalming, wherein tubes are inserted in the veins and arteries for removing blood from the circulatory system and injecting other fluids therein, it is necessary that secure and sealed connections must be made between the veins or arteries and the draining and injecting tubes used in the process. In the present process for carrying out the operation, the operator inserts the drainage or injection tube into the vein or artery and then ties a cord about the vessel to secure it about the tube to prevent leakage. Due to the difficult operations required and the inaccessibility of the places where the cord must be tied, it has been found most difficult, and in many instances has resulted in very objectionable leaks which have greatly hindered and delayed the embalming operations.

The present invention contemplates the provision of an adapter for drainage tubes whereby the tube may be easily and quickly clamped to a blood vessel after it has been inserted in said vessel, and which forms a secure and leakproof connection.

Other objects are simplicity and economy of construction, ease and efficiency of operation, and adaptability for use in carrying out all of the various drainage and injection operations incident to the embalming of the human body.

With these objects in view, as well as other objects which will appear in the course of the specification, reference will be had to the drawing, wherein:

Fig. 1 is a side elevational view of a blood vessel drainage tube fitted with an adapter in conformity with the present invention, shown inserted in a blood vessel partially broken away.

Fig. 2 is an enlarged, fragmentary longitudinal sectional view of the device as shown in Fig. 1.

Fig. 3 is an enlarged, fragmentary, foreshortened plan view of the device as shown in Fig. 1, with the blood vessel shown partially in section.

Fig. 4 is a sectional view taken on line IV—IV of Fig. 3, wherein the clamping jaws are shown in position for securing the blood vessel to the tube.

Fig. 5 is a view similar to Fig. 4, with the jaws moved to the open position.

Fig. 6 is a side elevational view of the apparatus shown in use with a straight style arterial tube.

Reference will now be had to the drawing, wherein like reference characters refer to similar parts throughout the several views, and the numeral 10 designates a vein tube having a branch tube 12 and a clean-out rod 14. This vein tube is rounded at its outer end 16 for easy insertion into the vein 18. To facilitate the insertion of the tube 10 the vein is exposed, slit transversely as at 19, and opened to receive the tube. When the tube has been inserted to the desired depth, the operator manipulates the clamping means 20, hereinafter described, to

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permit the positioning of the vein on tube 10 in the zone of clamping, where it may be tightly clamped to said tube to prevent any leakage of fluid between the vein and tube.

Clamping means 20 comprises a sleeve member 22 adjustably mounted on tube 10 adjacent its rearward end and having a set screw 24 whereby it is secured in fixed relation to said tube. The forward portion of said sleeve is provided with an upwardly and forwardly extending axle member 26 which is disposed in parallel relation to said tube. Pivotaly mounted on axle 26 are a pair of cooperating clamping members 28 and 30, said clamping members being provided respectively with depending, substantially semi-cylindrical jaws 32 and 34, said jaws being disposed in confronting relation whereby normally to encompass tube 10. Said clamping members are provided respectively with grip members 36 and 38 which extend above axle 26 and are adapted to be brought closer together by thumb and finger pressure to spread jaws 32 and 34 apart, as shown in Fig. 5. The jaws are normally urged toward each other to hug the vein tightly against the tube by means of a helical spring 40 mounted on axle 26, the opposite end portions of said spring extending outwardly to rest respectively against the opposite grip members 36 and 38.

As shown in Figs. 1, 2 and 6 the tube 10 is clear from its forward end to sleeve 22 to permit the easy insertion of said tube into the vein or artery, and furthermore it is to be understood that either straight or curved tubes may be used with clamping means 20. If necessary, the clamp jaws 32 and 34 may be curved to conform to a curved tube.

Reference will now be had to the form shown in Fig. 6, wherein is shown the clamping means on a straight style arterial tube 42 for the delivery of the embalming fluid into the circulatory system. The method of connecting tubes 10 or 42 to the various pumps, reservoirs, tubes, etc. necessary for carrying out the embalming process is well known in the art, and hence is not here shown or described.

It is apparent that I have invented a blood vessel drainage or injection tube that is easily and quickly clamped securely in the blood vessel, and one that will definitely preclude all leakage between the tube and blood vessel. While I have shown and described a specific embodiment of my device, it is obvious that certain changes of structure and operation could be made without departing from the spirit of the invention as defined by the scope of the appended claims.

What I claim as new and desire to protect by Letters Patent is:

1. In combination with a rigid tube, a clamping means comprising a shaft fixed to said tube and having a portion disposed in parallel, spaced apart relation to said tube, a pair of clamping members pivoted on said shaft and each having a jaw portion extending laterally from said shaft, said jaw portions being disposed respectively at opposite sides of said tube and being shaped to conform generally with the cross-sectional contour of said tube, and resilient means urging said jaws toward said tube.

2. In combination with a rigid cylindrical tube, a clamping means comprising a shaft fixed to said tube and having a portion disposed in parallel, spaced apart relation to said tube, a pair of clamping members pivoted on said shaft and each having a jaw portion extending laterally from said shaft, said jaw portions being disposed respectively at opposite sides of said tube and having a substantially semi-cylindrical form opening toward said tube and with its axis parallel to said tube, and a spring carried by said tube and urging said jaws toward said tube.

3. In combination with a rigid tube, a clamping means

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comprising a sleeve slidably mounted on said tube, means for securing said sleeve at any desired position on said tube, a shaft fixed to said sleeve and having a portion disposed in parallel, spaced apart relation to said tube, a pair of clamping members pivoted on said shaft and each having a jaw portion extending laterally from said shaft, said jaw portions being disposed respectively at opposite sides of said tube and being shaped to conform generally with the cross-sectional contour of said tube, and resilient means urging said jaws toward said tube.

4. In combination with a rigid cylindrical tube, a clamping means comprising a sleeve slidably mounted on said tube, a set screw carried by said sleeve and adapted to secure said sleeve at any desired position on said tube, a shaft fixed to said sleeve and having a por-

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tion disposed in parallel, spaced apart relation to said tube; a pair of clamping members pivoted on said shaft and each having a jaw portion extending laterally from said shaft, and a finger grip member extending oppositely from said jaw portion, said jaw portions being disposed respectively at opposite sides of said tube and having a substantially semi-cylindrical form opening toward said tube and with its axis parallel to said tube, and a spring carried by said tube and urging said jaws toward said tube.

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