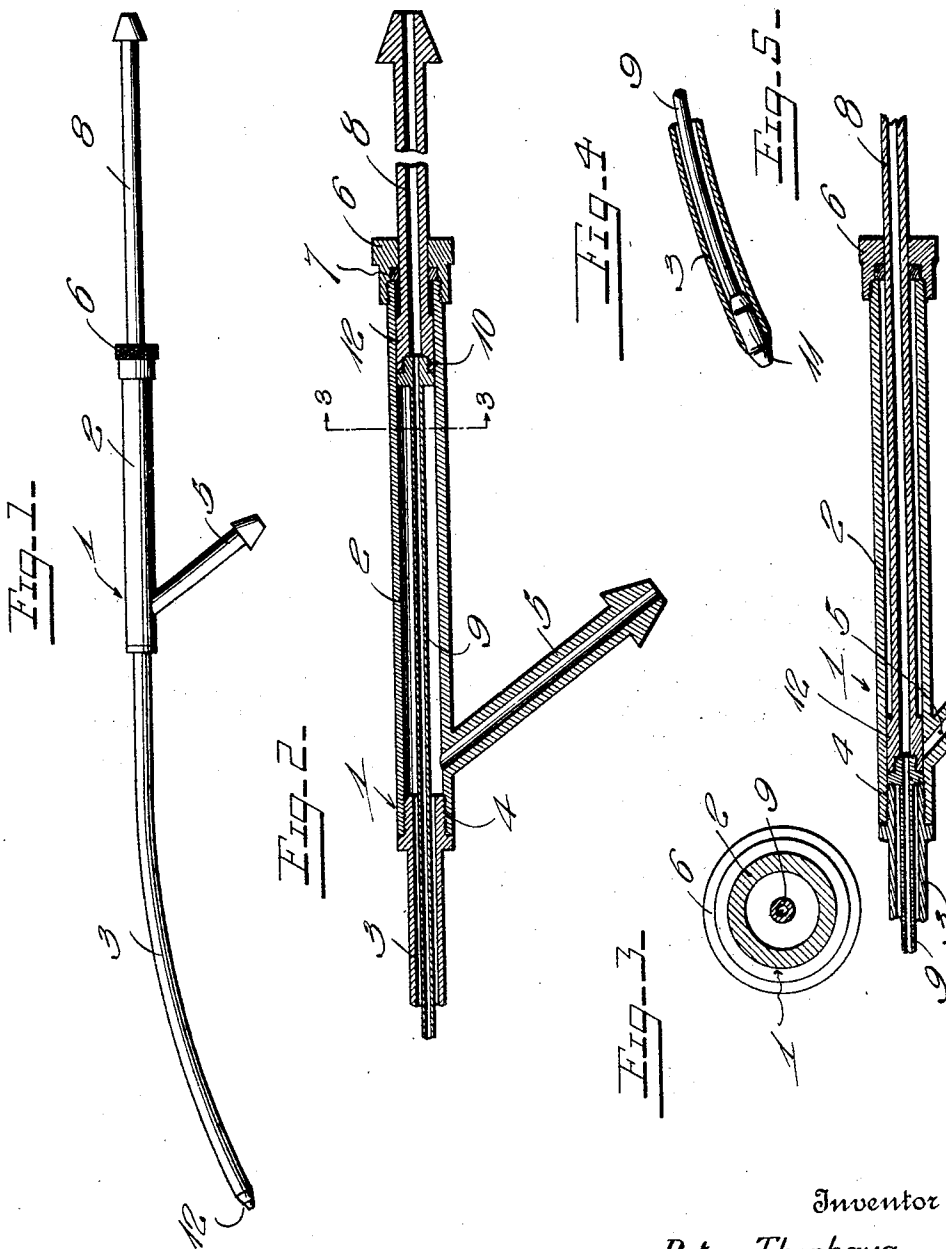


P. THORHAUG.
 EMBALMING INSTRUMENT.
 APPLICATION FILED MAY 16, 1921.

1,410,143.

Patented Mar. 21, 1922.



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Specification of Letters Patent.

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Application filed May 16, 1921. Serial No. 469,940.

To all whom it may concern:

Be it known that I, PETER THORHAUG, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Embalming Instruments; and I do 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.

My invention relates to improvements in embalming instruments and more particularly to devices for injecting blood solvent into the veins and for draining the blood therefrom. Heretofore, in a great majority of cases, separate operations have been necessary to first inject the blood solvent into the veins and to then drain the blood and solvent therefrom, it being often necessary to repeat these operations several times before the required results are obtained. This is not only arduous and requires a great deal of time, but there is danger of soiling articles around the corpse, as well as otherwise adding greatly to the duration of the embalming operation.

One object of my invention is to provide a simple, inexpensive and easily operated device by whose use the blood solvent may be injected into the veins and the blood drained therefrom at the same time, novel provision being made however whereby the blood outlet may be totally or partially closed whenever it is desired to withdraw a greater or less amount of the blood.

In carrying out the above end, I pass a solvent-injecting tube slidably through a drainage tube and a further aim is to make provision for projecting said solvent-injecting tube a considerable distance from said drainage tube, whereby the solvent may be forced a greater distance into the veins than is possible with the instruments now in common use.

With the foregoing and minor objects in view, the invention resides in the novel construction and association of parts hereinafter described and claimed, the descriptive matter being supplemented by the accompanying drawing:

Figure 1 is a side elevation of an embalming instrument constructed in accordance with my invention.

Figure 2 is an enlarged longitudinal sec-

tional view through the greater part of the device.

Figure 3 is a transverse sectional view as indicated by line 3—3 of Fig. 2.

Figure 4 is an enlarged detail sectional view through the drainage tube, showing an elevation of the solvent-injecting tube and its tip.

Figure 5 is a view similar to a portion of Fig. 2 but illustrating the manner in which the blood outlet may be closed whenever desired.

In the drawing above briefly described, the numeral 1 designates a tubular drainage tube formed of rear and front sections 2 and 3 respectively, said rear section being preferably of somewhat larger diameter than the front section in order to form a handle which may be more conveniently used than if it were of smaller size. The section 3 may be straight or curved as occasion may dictate and this section is preferably detachably connected with the rear section 2, for instance by screw-threads 4, so that whenever necessary a shorter or longer front section may be applied or one of larger or smaller diameter. The tube 1, in the present showing the rear section 2 of the tube, is provided with a lateral branch 5 to which a rubber tube may be connected to carry the blood to any suitable receptacle. The rear end of the section 2 is provided with a screw-threaded packing gland 6 containing a compressible packing ring 7.

Passing slidably through the stuffing gland 6 and snugly surrounded by the ring 7, is the rear section 8 of a solvent-injecting tube, the front section 9 of said tube being preferably of much smaller diameter than the rear section, since it must be projected into the vein. The two sections 8 and 9 are detachably connected with each other by any suitable means such as the screw-threads 10 shown in Figs. 2 and 5. The rear section 8 serves as means for projecting the front end of the section 9 to the necessary extent beyond the front end of the tube section 3, or for withdrawing said section 9 within the section 3 as seen in Fig. 4 so as to facilitate insertion of the entire device into a vein. In order to prevent clogging of the tube 1 as it is being forced into the vein, the front terminal of the tube section 9 is provided with a plug 11 which then closes the front end of the tube section 3 as seen clearly in

Fig. 4. The rear end of the tube section 8 is adapted for connection with a rubber tube leading from a receptacle containing the blood solvent or other liquid to be injected into the vein, while the front end of said tube section is provided with a valve piston 12 which is adapted to control the outlet branch 5.

When operating the device, the inner tube 8—9 is pulled outwardly to the extent shown in Fig. 1, thereby positioning the plug 11 in the front end of the tube 1 to prevent congealed blood or fibrous tissues from clogging the front end of the device. When the tube section 3 has been inserted the proper extent, the supply of solvent liquid is forced through the inner tube and the latter may be forced inwardly to any required extent beyond the front end of the tube section 3. The congealed blood is thus dissolved and will flow through the tube 1 and its branch 5 to the receptacle provided for its reception. If it is desired to continue the injection of solvent while temporarily lessening the discharge of blood, the tube section 8 is forced inwardly to the extent shown in Fig. 5 whereby the valve 12 will close the branch 5. Furthermore, by proper manipulation, the branch may be opened to any desired extent so that the ratio of the ingoing liquid to the outgoing blood, may be controlled to produce the most advantageous results.

After use, the device may be quickly and easily disassembled for cleaning, due to the screw-threaded connections 4 and 10 and the threaded gland 6 which receives the tube section 2. It is to be further noted that by employing the threaded connections 4 and 10, tube sections 3 and 5 of different diameters or lengths may be provided, so that the device may be perfectly adapted to the operation to be performed. Attention may also be directed to the fact that by tightening the gland 6, the packing ring 7 is forced to hold the rear tube section 8 in any position to which it may be adjusted, this being often of great advantage since the operator does not then have to hold said tube section with one hand.

From the foregoing taken in connection with the accompanying drawing, it will be seen that while my invention is very simple and inexpensive, it will be highly efficient and in every way desirable, permitting simultaneous injection of blood solvent and draining of blood, without any danger of soiling the clothing or any articles around the corpse.

Since excellent results have been obtained from the exact details disclosed, they are preferably followed. It is to be understood

however that within the scope of the invention as claimed, numerous minor changes may be made and furthermore that the device may be constructed in its entirety at the factory, or provision may be made for converting the draining tubes now on the market, into the improved device.

I claim:

1. A solvent injecting and vein draining device comprising a tubular body having a stuffing box at its rear end and a lateral outlet, said body being provided with an outer forwardly extending tubular needle of uniform diameter throughout its length and adapted to be inserted in a vein of a corpse, an inner tubular needle slidable within said first named needle and having a rear end portion passing through said stuffing box, the portion of said inner needle received in said outer needle being of less external diameter than the internal diameter of the latter and being adapted to be projected forwardly from said first named needle to supply blood solvent to the vein while draining blood from the latter through the outer needle.

2. A solvent injecting and blood draining device comprising a tubular body having a stuffing box at its rear end and a lateral outlet, said body being provided with an outer forwardly extending tubular needle longitudinally curved and of uniform diameter throughout its length for insertion into a vein of a corpse, a rigid tubular body slidable through said stuffing box, and an inner resilient needle extending forwardly from said rigid body through said outer needle in spaced relation thereto, said inner needle being adapted to be projected forwardly from said outer needle to inject blood solvent into the vein while draining blood from the latter through the outer needle.

3. A solvent injecting and blood draining device comprising a rigid tubular handle having a stuffing box at its rear end and a lateral outlet near its front end, a rigid tube section slidable through said stuffing box, an outer tubular needle threaded in and extending forwardly from said handle, and an inner tubular needle within and spaced from said outer needle, said inner needle being threaded at its rear end into said tube section, said inner needle being adapted to be projected forwardly from said outer needle to inject blood solvent into the vein while draining blood from the latter through the outer needle.

In testimony whereof I have hereunto set my hand.

PETER THORHAUG.