

Feb. 6, 1934.

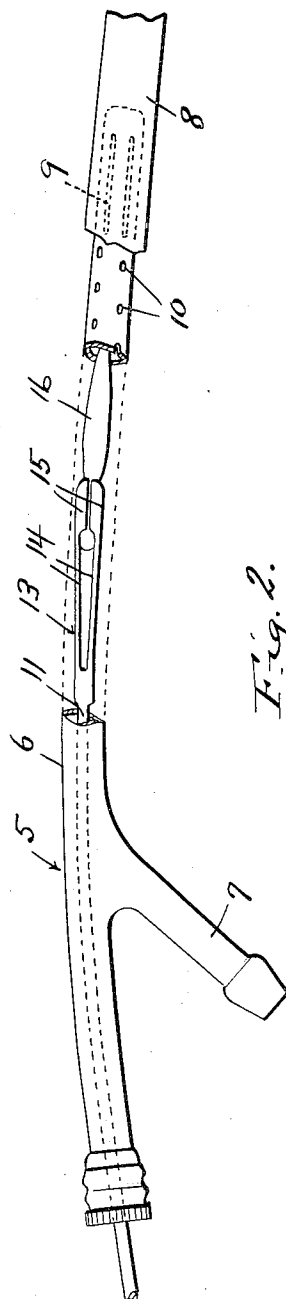
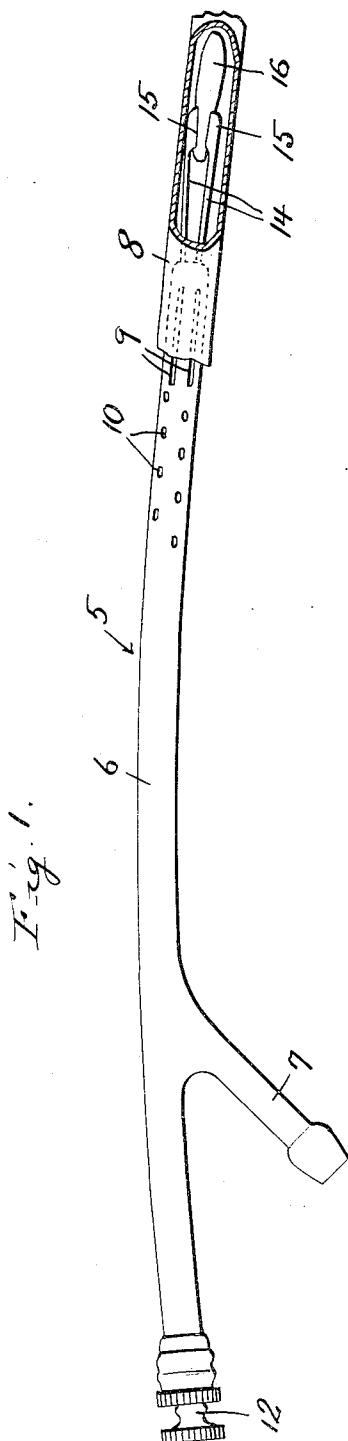
W. E. RICHARDS

1,945,656

EMBALMER'S INSTRUMENT

Filed June 17, 1933

2 Sheets-Sheet 1



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Fig. 3.

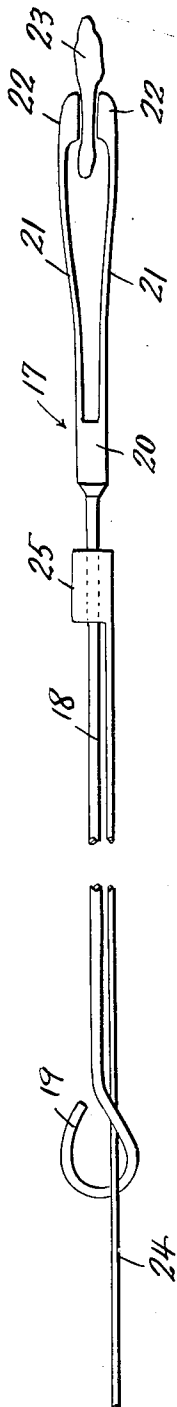
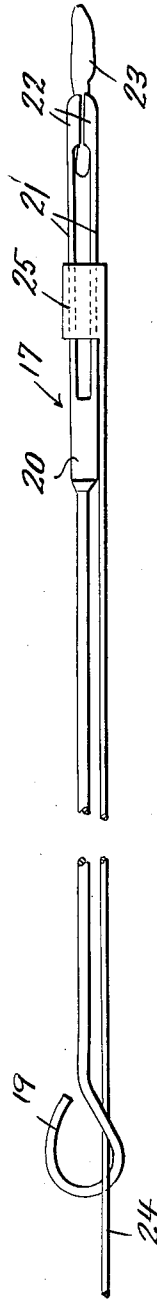


Fig. 4.



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UNITED STATES PATENT OFFICE

1,945,656

EMBALMER'S INSTRUMENT

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Application June 17, 1933. Serial No. 676,388

2 Claims. (Cl. 27—23)

This invention relates to an appliance or instrument particularly devised for use in embalming work, the same being particularly adapted for removing blood clots.

5 In cases of deaths from pulmonary diseases it has been the general experience of embalmers to observe the formation of blood clots immediately after death. Needless to say, such clots impede the circulation of embalming fluid in the veins of the corpse. Thus, in order to attain adequate results, it is necessary to remove these clots.

At the present time, the principal method followed by embalmers in accomplishing this task consists in the use of a pump-like plunger which is inserted into the vein to remove the clots by suction.

I have therefore been impressed with the need for the provision and development of a scientifically correct mechanical instrument which is susceptible of expeditious use and capable of extracting the clots from vital points in order to promote freedom of circulation of the embalming fluid.

25 Briefly stated, I have accomplished the desired result through the adoption and perfection of an instrument whose principal feature is a reciprocatory device which may be described as spring forceps, the forceps being used in conjunction with appropriate adaptation means suitable to allow the desired extension, retraction, and clamping action.

Other features and advantages will become more readily apparent from the following description and drawings.

In the drawings:

Figure 1 is an elevational and sectional view illustrating a preferred embodiment of the invention and showing the manner in which the forceps are projected for grasping and withdrawing blood clots from a vein.

Figure 2 is a view similar to Figure 1, showing the forceps retracted into the guide and drain tube.

45 Figure 3 is an elevational view of a modification of the invention showing a more simplified and economical arrangement with longer spring forceps, the forceps being shown projected.

Figure 4 is a view like Figure 3 showing the forceps retracted to clamping and extracting position.

Attention is first invited to Figures 1 and 2 wherein one part of the instrument is differentiated by the numeral 5. This part comprises a longitudinally elongated tube 6 having a fluid

drainage branch 7 adjacent one end to accommodate a hose or the like. The opposite or right hand end of this guide and drain tube is slightly pointed and rounded to facilitate insertion into the vein 8. Adjacent the latter end are venting and circulation slots 9 and a multiplicity of ports or orifices 10.

The longitudinally reciprocable tool shown in Figure 2 comprises an appropriate rod 11 slidably mounted in the tube 6 and having a handgrip or knob 12 at the left-hand end thereof. A special clamping head 13 is at the opposite end of the rod and this head comprises a pair of companion spring or resilient fingers 14 terminating in appropriately shaped clamping jaws 15 expressly designed for the purpose intended.

This reciprocatory tool is of a retractable and extensible type and may be projected beyond the tube 6 as shown in Figure 1 for grasping and removing the blood clot 16. As the fingers 14 are projected they spread apart by inherent or natural resiliency and as the clamping tool is withdrawn into the tube 6 the clamping fingers are bound together to insure the proper grappling action. Moreover, the tool is withdrawn sufficiently into the tube as shown in Figure 2 to again release the blood clot and to allow it to be disposed of by proper drainage or suction methods.

The same broad principle is illustrated in the embodiment of the invention depicted in Figures 3 and 4. In other words, the instrument here shown is a two-part device comprising the clamping tool and a guide and retaining device therefor susceptible of permitting proper expansion and contraction of the jaws. The reciprocatory tool here shown is however the reverse of the arrangement shown in Figures 1 and 2, although it is immaterial which part of the device is utilized as the relatively movable part.

To avoid confusion and to permit proper generic recitation of the invention, the clamping tool is designated generally by the numeral 17. It comprises a rod 18, one end of which is bent into a loop as indicated at 19. The opposite end is formed with the clamping means. The clamping means comprises an enlarged head 20 formed with elongated spring fingers 21 terminating in clamping jaws 22 appropriate for grasping the blood clot 23. The jaws are also externally shaped to permit them to be forced into the vein. The complementary part of the instrument comprises a wire or equivalent element 24 extending through the loop 19 at one end and formed at its opposite end with a guide and retraction sleeve

25. This sleeve is adapted to surround the fingers as shown in Figure 4 to contract the fingers and clamp the jaws effectively in place.

As before indicated, it is immaterial whether the sleeve 25 is slipped up over the fingers or the fingers are drawn back through the sleeve. In either instance however, the proper contracting and clamping action is acquired whereby to permit the clot to be successfully removed and disposed of.

Broadly comprehended, and generically recited, novelty is predicated upon the provision of a scientifically correct and expertly designed appliance comprising a clamp-equipped tool, and a holding and guide means therefor, which means also has the capacity of permitting the desired expanding and contracting action of the jaw-equipped fingers. Specifically, this holding and clamping means may be referred to either as a sleeve or a tube. In Figure 1 it is a tube, and in Figures 3 and 4 a sleeve. Thus in either instance, the relatively reciprocatory tool is either projected or retracted with respect to the tubular guide (tube 6 in Figures 1 and 2 and sleeve 25 in Figures 3 and 4) to attain the desired result. In both instances, the two parts of the appliance are assembled in proper co-ordination to facilitate handling by the embalmer.

A careful consideration of the foregoing description in conjunction with the illustrative drawings will enable the reader to obtain a clear understanding of the purpose, features and ad-

vantages, the explicit construction, and the invention as hereinafter claimed.

It is to be understood that minor changes in shape, size, relative proportions and materials may be resorted to in practice without departing from the spirit of the invention or the scope of the invention as now claimed.

I claim:

1. An embalmer's instrument of the class described comprising a tool embodying an operating rod formed at one end with a loop and at its opposite end with a head, said head having diametrically opposite spring fingers terminating in clot engaging jaws, a sleeve with which said head and fingers co-operate, and a holding wire for the sleeve, said wire extending through and beyond said loop.

2. In a surgical instrument of the class described, an elongated rod provided adjacent one end with a lateral sleeve, a second rod having a loop at one end through which the first named rod operates, said second rod at its other end having a head slidably fitting said sleeve, and opposed spring arms extending longitudinally from one end of the head, coacting jaws on the free ends of said arms, said spring arms being normally flexed outwardly from one another and having a sliding fit with the sleeve and adapted when drawn through the sleeve to move inwardly towards one another for holding the jaws in clamping engagement with the work

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