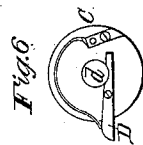
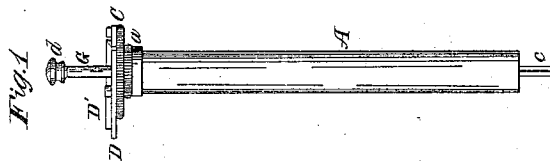
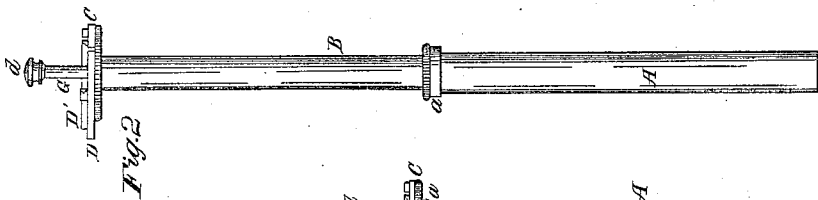
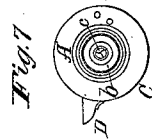
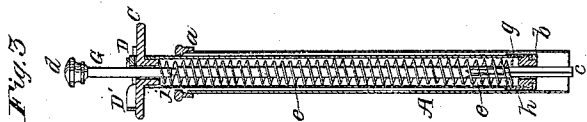
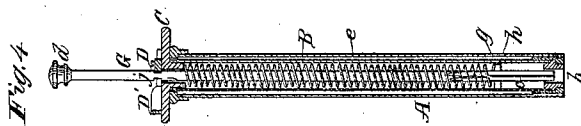
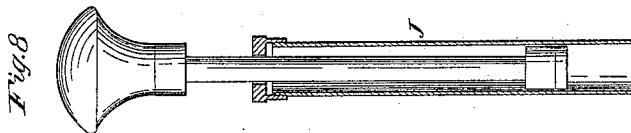
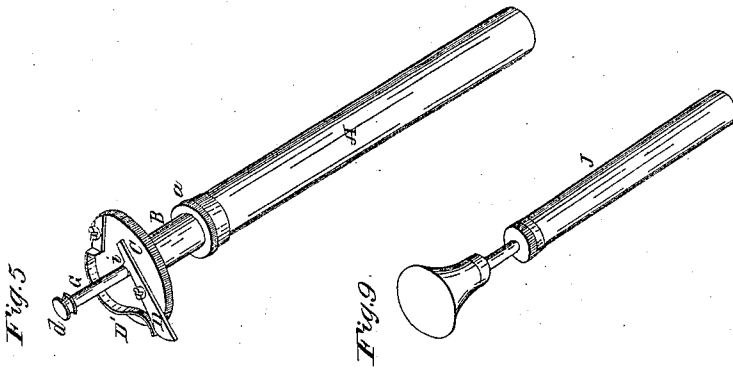


*F. Wolf,
Lancet.*

No 59,306.

Patented Oct. 30, 1866.



Inventor:

*Fred. Wolf
by atty,
Mason, Smith & Hammer*

Witnesses:

*R. J. Campbell,
C. W. Schuyler*

UNITED STATES PATENT OFFICE.

FREDK. WOLFF, OF NEW YORK, N. Y.

IMPROVEMENT IN ARTIFICIAL LEECHES.

Specification forming part of Letters Patent No. 59,306, dated October 30, 1866.

To all whom it may concern:

Be it known that I, FREDERICK WOLFF, of the city and county of New York, State of New York, have invented a new Artificial Leech; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an exterior view of the instrument when contracted. Fig. 2 shows the instrument extended. Figs. 3 and 4 are sectional views of the instrument. Fig. 5 is a perspective view of the same ready for use. Figs. 6 and 7 are end views of the instrument. Figs. 8 and 9 are views of an instrument which may be used as auxiliary to the artificial leech.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a novel instrument which is designed as a substitute for the leech in all cases of topical bleeding.

The nature of my invention consists in providing an exhausting-pump of a suitable description with an instrument which is adapted for puncturing the skin, so that when the wound has been made blood may be immediately drawn without removing the instrument, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the barrel of the exhausting-pump, which may be made of any suitable diameter and length, and which is open at one end and closed at the other end by means of a screw-cap, *a*, through which a hollow piston-rod, B, passes. The rod B has a piston, *b*, applied to its inner end, and a circular cap, C, applied to its outer end thus forming an exhausting-pump, by means of which a vacuum can be formed and blood drawn from the body.

Within the hollow piston-rod B is a pricker, *e*, which is formed on the end of a rod, G, which passes loosely through the center of the cap C and through the center of the piston *b*, as shown in Figs. 3 and 4. This pricker-rod projects beyond the cap C, and has a button-head, *d*, applied on its outer end; and near the opposite end of this rod G a flat button, *g*, is secured to it, which is of such diameter as to

work loosely within the hollow piston-rod B, and to serve as a centering-guide for the lower end of the rod G. Between this button *g* and the screw-cap C a spring, *e*, is coiled around the rod G, which spring is compressed when this rod is partially withdrawn from the cap C, as shown in Fig. 4, and, by its recoil, the pricker-rod will be quickly shot back to its place, as shown in Fig. 3. To prevent any unpleasant noise and jar when the rod G is released after its spring has been compressed, I employ a button, of india-rubber, *h*, which is slipped over the sharpened end of the pricker-rod, so as to form an elastic cushion between the button *g* and the inner end of the piston-head.

A finger-latch, D, is pivoted to the cap C, and acted upon by a spring, D', which forces the latch against the rod G. When this rod G has been drawn out a sufficient distance from the hollow rod B, the catch *i* will enter an annular groove, *j*, which is made in the pricker-rod, and arrest this rod; then, by pressing gently upon the outer end of the latch D, the pricker-rod can be released, so as to allow the spring *e* to act upon it, as above mentioned.

The pricker is constructed with three cutting-edges, resembling the trunk of the common leech used for bleeding, so that the wound made by it shall bleed freely, and also admit of being closed when a sufficient quantity of blood has been taken.

The depth of puncture can be readily adjusted by means of the sliding piston-rod to which the pricker-rod is applied, and immediately after the wound has been made this piston-rod is drawn out slowly, so as to produce a vacuum in the barrel A, and thus draw blood from the wound. When the barrel A has thus been filled with blood, it is removed from the wound, and if more blood is to be taken, a small air-pump, J, can afterward be used.

I do not desire to confine my invention to the precise construction of the instrument which I have herein described, as other forms of exhausting-pump may be adopted in conjunction with a pricker for puncturing the skin, so that after producing the wound blood can be immediately drawn without removing the instrument.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The construction of the mechanical leech with a lancet or puncturing device, and with a suction-piston, in such manner that the lancet can be raised and set independently of the piston operated to puncture the skin, and then both the lancet and piston raised together, so as to draw the blood within the same air-pump tube, A, in which the lancet and piston are arranged, all substantially in the manner described.

2. The elastic cushion *h*, in combination with the stop *b*, substantially in the manner and for the purpose described.

3. Extending the lancet-handle through the cap C, and making it capable of being set for use independently of the piston, substantially in the manner and for the purpose described.

4. The combination of the lancet, hollow piston-rod, air-pump barrel A, stop *b*, and spring-catch, all arranged substantially as described.

FREDR. WOLFF.

Witnesses:

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