F. KLEE.

ARTIFICIAL LEECH.

No. 179,028. Patented June 20, 1876.

Fig. 1.

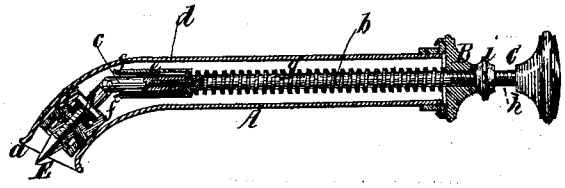
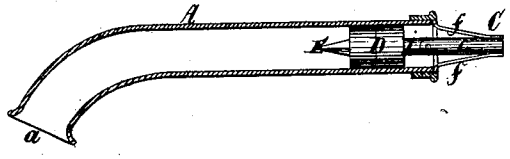


Fig. 2.



Witnesses.
Otto Stupel and
Robt. E. Miller

Inventor.
Friedrich Klee
per
Van Santvoord & Hauff
Attorneys

UNITED STATES PATENT OFFICE.

FRIEDRICH KLEE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN ARTIFICIAL LEECHES.

Specification forming part of Letters Patent No. **179,028**, dated June 20, 1876; application filed June 5, 1876.

To all whom it may concern:

Be it known that I, FRIEDRICH KLEE, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Artificial Leeches, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a longitudinal central section of my artificial leech. Fig. 2 is a similar view of the same when used for producing a suction.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in artificial leeches; and the invention consists, first, in the combination, as hereinafter described, of a curved bell-shaped tube, a plunger fitting said tube, a jointed piston-rod to allow the plunger to follow the curvature of the tube, and a latch for retaining the plunger against the pressure of the atmosphere; second, in the combination, with the bell-mouthed tube, of a plunger, a prick or puncturer, a jointed sectional rod, a cap, a spring-latch and spring, a removable head, and an adjusting-nut, the construction and arrangement of which will be fully hereinafter described.

When the head of the suction-tube is taken off, the plunger can be drawn back, so as to produce the required suction. A spring-catch, which is liberated when the rod of the plunger is unscrewed, serves to retain the plunger against the pressure of the atmosphere. The depth of the scar to be produced by the prick is regulated by a thumb-nut on the rod of the plunger which carries the prick.

In the drawing, the letter A designates a tube, which is, by preference, made of glass, and which is curved at one end and provided with a bell-shaped mouth, *a*. The opposite end of said tube is closed by a head, B, which is retained in position by a bayonet-fastening, or by any other suitable means, allowing of detaching said head with convenience and dispatch. Through this head extends a rod, C, which is made in two sections, *b c*, that are connected by a screw, *d*. The outer section *b* is provided with a cap, *e*, which embraces the inner section *c*, and to said inner section are secured two springs, *f*, which form a spring-latch, and which, when the cap *e* is removed, spread open, as shown in Fig. 2, for the purpose of retaining the suction-plunger against the pressure of the atmosphere, as will be hereafter more fully described.

Between the head B and the shoulder of the cap *e* is situated a spiral spring, *g*, which, when the rod C is drawn out and then released, causes said rod to reassume its original position with considerable force. On the rod C is cut a screw-thread, *h*, for the reception of a thumb-nut, *i*, which bears against the outer surface of the head B. By turning this nut the tension of the spring *g* is regulated, and the rod C is caused to move in or out. To the inner section *c* of the rod C is hinged a rod, *j*, which carries a plunger, D, and a prick, E. When the rod C is permitted to follow the action of its spring *g* the point of the prick E projects beyond the bell-shaped mouth of the tube A to a certain distance, which can be regulated by means of the thumb-nut *i* on the rod C. When the mouth of the tube A has been adjusted over the spot on which the scar is to be produced, the rod C is drawn back and then released, and the prick produces a scar of the required depth. Then the head B is released, and by drawing back the plunger D the air in the tube A is rarefied, and the required suction is produced to cause the blood from the scar to flow freely. After the plunger has been drawn out to the position shown in Fig. 2 the outer section of the rod C, with its cap *e*, is removed, and thereby the springs *f* are released, so that the plunger is retained against the pressure of the external atmosphere. At the same time all superfluous weight is removed from the suction-tube, so that the same will readily retain its position over the scar, being held there by the pressure of the atmosphere.

It is obvious that my suction mechanism can be used independent of the scarifier, and in this case the prick E, the spring *g*, the thumb-nut *i*, and the removable head B can be dispensed with, and a scarifier of any desired construction is employed to produce the the scars, to which my suction devices are applied.

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

1. In an artificial leech the combination of a curved bell-shaped tube, a plunger fitting said tube, a jointed piston-rod to allow the plunger to follow the curvature of the tube, and a latch for retaining the plunger against the pressure of the atmosphere, all constructed and operating substantially as shown and described.

2. The combination, with the curved bell-mouth tube A, of a plunger, D, prick E, jointed sectional rod C, cap *e*, spring *g*, removable head B, and adjusting-nut *i*, all constructed and operating substantially in the manner set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 29th day of May, 1876.

F. KLEE. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.