(No Model.)

F. THOMAS.

CUPPING GLASS WITH ELECTRICAL ATTACHMENT.

No. 474,977. Patented May 17, 1892.

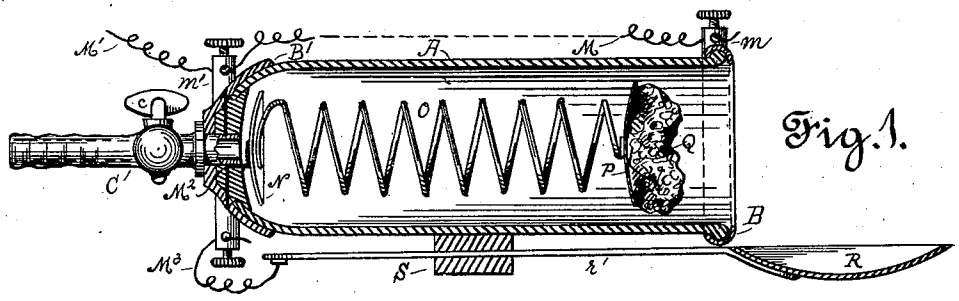
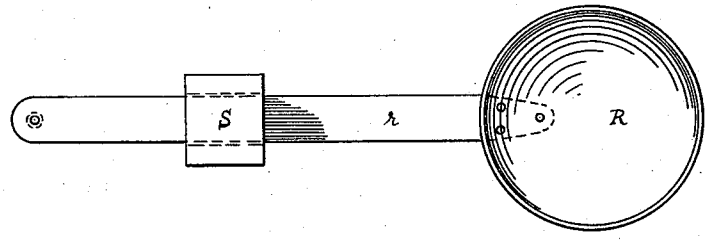


Fig. 1.

Fig. 2.



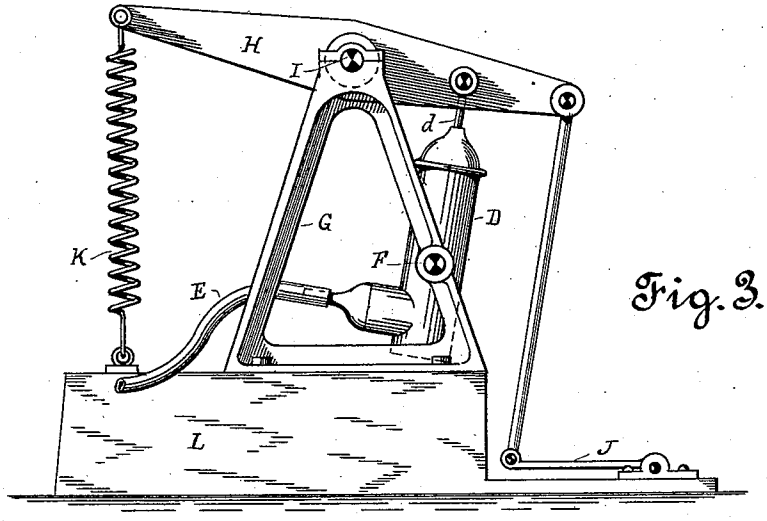


Fig. 3.

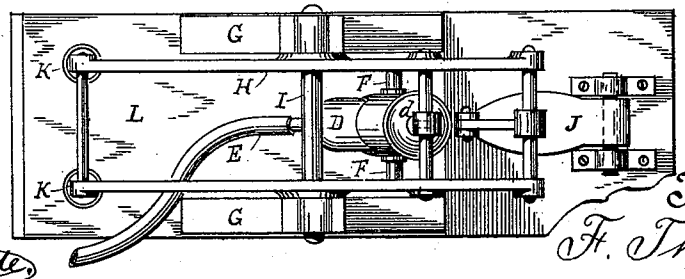


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANCIS THOMAS, OF SAN FRANCISCO, CALIFORNIA.

CUPPING-GLASS WITH ELECTRICAL ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 474,977, dated May 17, 1892.

Application filed September 9, 1891. Serial No. 405,222. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS THOMAS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Surgical 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to the external treatment of local diseases by cupping and by electrization; and it consists of an instrument whereby one may secure and, if desired, subject himself to the combined action and influence of the cupping-glass and the galvanic battery.

The object of my improvements is to facilitate the joint application of the two modes of treatment above named.

Referring to the drawings, Figure 1 is a longitudinal section of my improved cupping-glass and electrical connections. Fig. 2 is a plan of a holder shown at the lower part of Fig. 1. Fig. 3 is a side elevation of an air-pump specially adapted for use in connection with the cupping-glass, and Fig. 4 is a top view of the same.

Similar letters of reference are used to indicate similar parts in the four views.

A represents a cup, which is preferably made of glass, with a metallic rim B and a metallic tip B′ cemented thereto. This cup is elongated in form, somewhat like the body of a syringe. C is a nipple communicating with the interior of the cup and provided with a stop-cock *c*. These parts constitute the cupping-glass proper.

To produce the necessary vacuum in the cup and cause that part of the skin to which it may be applied to swell into it, I use an air-pump D, which I connect by means of a rubber tube E to the nipple C. This pump is hung on trunnions F within a frame G, and is adapted to swing at right angles and together with a working beam H, which is mounted upon a shaft I at the upper end of the frame G, and to which the plunger *d* of the pump is secured. The plunger is brought down through the medium of a treadle or pedal J, connected to one end of the beam, and is returned by springs K, secured to the other end thereof. A table or platform L is usually provided for the pump and its actuating mechanism.

M M′ are insulated flexible wires connecting an electric or galvanic battery (not shown) with posts *m m′* on the ends of the cup and adapted to transmit an electric current to the metallic parts—that is, the rim B and tip B′—and through the medium of a wire M^2, a plate N, and a spiral spring O to a second plate P, located in the fore part of the cup and covered with a moist sponge Q. This sponge comes in contact with the diseased part of the body which it is desired to treat, and through it is effected the electrolysis while the cupping is taking place.

Below the rim B and beyond the larger end of the cup, Fig. 1, is a concave disk or plate R, formed of a segment of a hollow sphere. This plate is used for holding and electrifying the scrotum when treating the lower parts of the body, but then only. By preference the disk R is made of brass. It is held in position by a flat handle *r*, adapted to pass through a suitable slit and longitudinally adjustable in a supporting-block S, glued on or otherwise secured to the body of the cupping-glass. A wire M^3 transmits the current from the battery to the handle and disk.

The operation is obvious and as follows: The large open end of the cup being applied to the skin in the neighborhood of the tumor or part to be healed, the surgeon or, if preferred, the patient himself bears upon the treadle or pedal and works the air-pump until a partial vacuum has been produced within the glass and the skin fairly bulges therein. This causes the blood to rush into the subcutaneous tissues under the swelled skin, and consequently withdraws it from the inflamed part. It is then time to turn on the electric current, which is derived in the usual way from a battery close at hand and is conveyed directly to the affected region through the central electrode, the other electrodes serving for the electrization of other parts of the body more or less intimately connected with the cupped part. Thus I make it possible for a patient

to follow two treatments at once—*i. e.*, cupping and electrization—each of which has long since been acknowledged by scientists as of great value for the cure of inflammatory affections. The combination of these two natural agencies affords a much more potent and effective remedy than either can present alone or than can be supplied even by both applied separately. The effects of the cupping are increased by the healthful stimulation of the blood withdrawn from the congested part, as the electrolysis of the congested part is favored by the cupping. My improved instrument therefore produces results which could not well be accomplished by other means, and in this respect represents an advance both in the science of surgery and that of electro-therapeutics.

Without confining myself to the exact forms and precise details of construction herein shown and described, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A surgical instrument consisting of a cupping device having means to electrify the parts to which it is applied, substantially as set forth.

2. In a surgical instrument, the combination of a cupping-glass provided with a metallic rim and means to convey an electric current to said rim, substantially as set forth.

3. In a surgical instrument, the combination of a cupping-glass, a spring therein, said spring terminating by an electrode, and means to convey an electric current therethrough, substantially as set forth.

4. In a surgical instrument, the combination of a cupping-glass, a slitted block thereunder, a concave disk, said disk provided with a handle held by and longitudinally adjustable in said block, and means to convey an electric current to said handle and disk, substantially as set forth.

5. A surgical instrument composed of a syringe-like cupping device and means to charge said device with electricity, substantially as set forth.

6. A surgical instrument composed of a cupping device and means for the application of electricity in connection with a partial vacuum, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS THOMAS. [L. S.]

Witnesses:
R. R. STRAIN,
A. M. WENTWORTH.