(No Model.)

J. J. LEWIN.

ELECTRO MEDICAL APPARATUS.

No. 401,041. Patented Apr. 9, 1889.

Fig. 1.

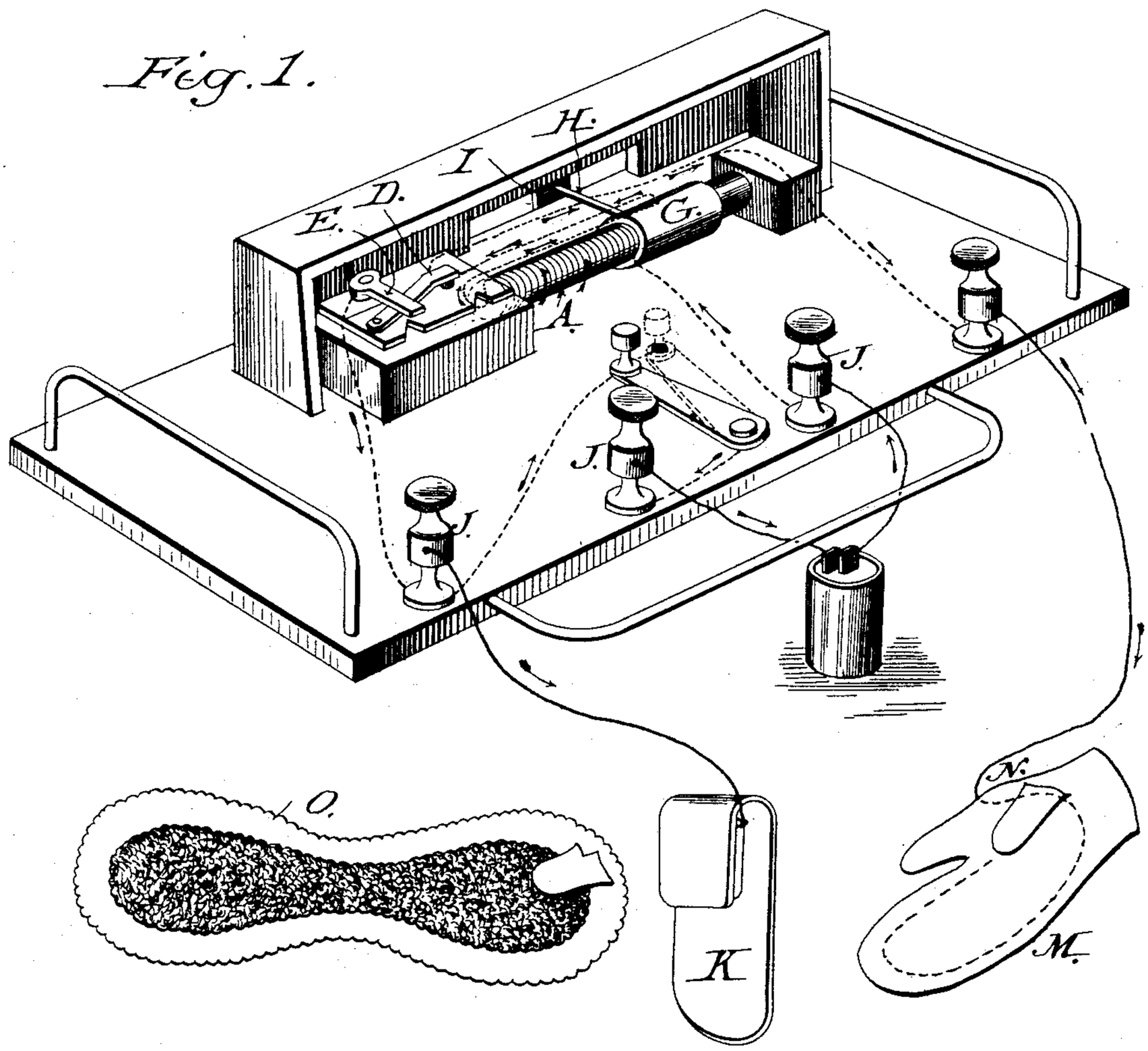
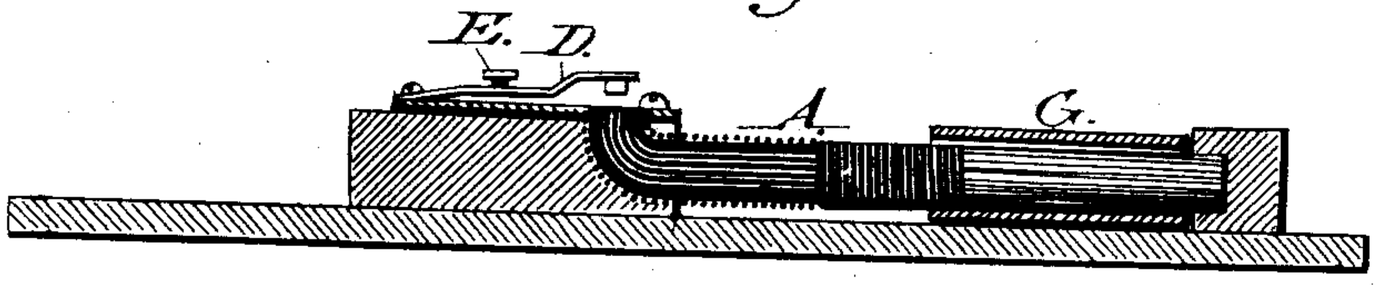


Fig. 2.



WITNESSES,

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JOHN J. LEWIN, OF SAN FRANCISCO, CALIFORNIA.

ELECTRO-MEDICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 401,041, dated April 9, 1889.

Application filed May 28, 1887. Serial No. 239,709. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. LEWIN, of the city and county of San Francisco, State of California, have invented an Improvement in Electro-Medical Apparatus; and I hereby declare the following to be a full, clear, and exact description of the same.

My inventions relates to certain improvements in electro-medical apparatus; and it consists especially in a novel construction of a primary coil, a contact-breaker with its adjustment, and the regulator, together with one or more electrodes, which may be applied in various ways, and certain details of construction, all of which will be more fully explained by reference to the accompanying drawings.

Figure 1 is a view of my apparatus. Fig. 2 is a longitudinal section.

A is the core of my electro-magnet, which is made of fine iron wire lying side by side, and having the extremities at one end turned upward a short distance at right angles with the main body, so as to present the end to a vertically-operating armature, the body of the magnet lying horizontally, as shown. This core is wound with insulated wire in the usual manner, each layer of wire being extended along the horizontal portion, and then carried up to the top of the angular part. The armature is placed vertically above the upturned end of the magnet, and has its upper end secured to an inclined spring, D, which extends backward from the armature, and is secured upon a support, so that by its elasticity it holds the armature just out of contact with the magnet.

E is an arm, which is secured to a vertical pin or shank passing down through the block or standard which supports the armature, and within which the upturned end of the magnet is contained. This arm E has a point against which the spring D strikes when the armature rises out of contact with the magnet, and this completes the connection, so that a current passes through the magnet and immediately attracts the armature, thus drawing the spring away from the point on the arm E and breaking the contact, cutting off the current, which immediately allows the armature to rise again. This produces the vibration of the armature, and the distance that the armature moves is regulated by turning the arm E so that it comes in contact with the inclined spring D at a higher or lower portion, so that the armature may rise a less or greater distance from the magnet, as the case may be.

Around the outside of the horizontal portion of the magnet is placed a loosely-moving sleeve, G, and a pin, H, extends from this sleeve outward through the side of the inclosing-case, and is there connected with a sliding bar, I, by which it may be moved, so as to slide the sleeve along off or upon the coil, and thus increase or decrease the effects of the same. The usual binding-posts, J, are fixed upon the base or support of the apparatus, and the wires from these posts are carried in the usual manner to make the necessary connections. These being well understood by any one acquainted with the art, I shall not further describe them here. The wires from the positive and negative side of the battery are connected with two of the binding-posts, while the wires through which magneto-electric current is to be conveyed are connected with the other two in the usual manner. To the ends of these wires I have attached large upturned hook-electrodes, which consist of broad flat plates of metal bent into form, as shown at K. By the use of these hooks I am enabled to leave the hands of the manipulator free when it is desired to apply the electricity through his person. In this case one of the electrodes may be hooked into the collar of the operator at the neck, so that the plate is in contact with his skin at this point, while the other electrode may be similarly attached to the patient at any point where it may be desired to apply it. The manipulator then employs the bare hands, which are free to be used in any manner desired, or he may use mittens or gloves (shown at M) through which to apply the current. These gloves or mittens are made of rubber or other suitable material, having the surfaces covered with flannel, silk, or any other material it may be desired to use. These surfaces have small pockets with metallic clamps or holders, into which the ends of the wires, or one of them, may be placed, if desired, and in order to distribute the current from this wire a wire or wires, N, are extended around inside the flannel surface of the mitten, so that the current

is distributed over the whole of the surface which may be moistened, so as to make proper connection.

If desired, both of the wires from the apparatus may be connected with these mittens, one with each of them, so that the operator may apply the hands to different parts of the body, and thus give an electrical shampoo at any point where it may be desired.

O is a large pad, constructed similarly to the mittens or gloves before described, and having a surface of flannel or other suitable material, with a wire or wires extending around beneath it, and having the connecting-clamp or fastening at one end, by which connection may be made with the apparatus. This pad is employed by the patient and may be placed against any portion of the body or beneath the feet, if desired, and one of the hook-electrodes may be applied to the neck, the arms, or other portions of the body; or if the apparatus is to be used by the manipulator the electrode would then be connected with the manipulator, the current then passing first through his body, and thence through the shampooing-gloves to the person of the patient. In some cases these hook-electrodes may be adjustably employed by connecting one of the electrodes with the person, as before described, and the other may be applied to the edge of a drinking-cup, so that the long end extends into the liquor, and when the latter is drank by a person a certain electric action or influence will be induced, which will apply to the throat and mouth and stomach of the drinker.

By the construction herein described I improve the effect of the magneto-electric action and the application of the current is simpler and more effective.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electro-medical apparatus, the core composed of fine parallel wires extending horizontally and having the ends upturned, in combination with the insulated wire wound around said core from end to end and upon the upturned portion, substantially as described.

2. In an electro-medical apparatus, the horizontal core of an electro-magnet having one end upturned and the exterior insulated wire wound from end to end, in combination with the sliding sleeve inclosing the horizontal portion, the pin projecting therefrom, and the slide or plate by which it is moved, substantially as described.

3. In an electro-medical apparatus, an electro-magnet consisting of the parallel soft-iron wires having one end turned up at right angles with the body of the magnet, the horizontal and upturned end being wound with coils of insulated conducting-wire, and the supporting blocks or standards in which the ends of the coil are fixed, in combination with the vertically-moving armature, the inclined spring-arm to which it is attached, and the horizontally-moving arm or lever swinging above said spring, so as to adjust its vibrations, substantially as described.

4. In an electro-medical apparatus, the horizontally-supported electro-magnet composed of parallel wires having the upturned end and the regulating-sleeve sliding upon the horizontal portion, in combination with the armature vibrating vertically above the upturned end of the magnet, having the inclined spring-arm by which it is supported, and the horizontally-swinging arm by which the current is communicated to the spring, said arm acting to regulate the movement of the armature, substantially as described.

5. In combination with an electro-medical apparatus, the conducting-wires having the ends connected with broad flat metallic hooks, substantially as herein described.

6. In an electro-medical apparatus, the electro-magnet and armature constructed as shown, in combination with the electrodes composed of the hook-shaped pieces of metal, substantially as described.

7. The electro-magneto apparatus with its connecting-wires, hook-shaped electrodes, and the gloves and pads to which the wires may be connected, so that the current may be passed through the person of the operator and to the patient, substantially as described.

In witness whereof I hereunto set my hand.

JOHN J. LEWIN.

Witnesses:
S. H. NOURSE,
H. C. LEE.