(No Model.) 2 Sheets—Sheet 1.

W. A. WEBB.

ELECTROMEDICAL EXERCISING APPARATUS.

No. 590,050. Patented Sept. 14, 1897.

Fig. 1.

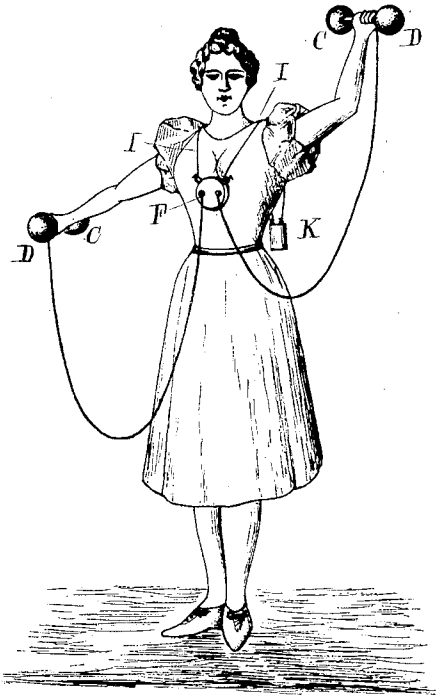
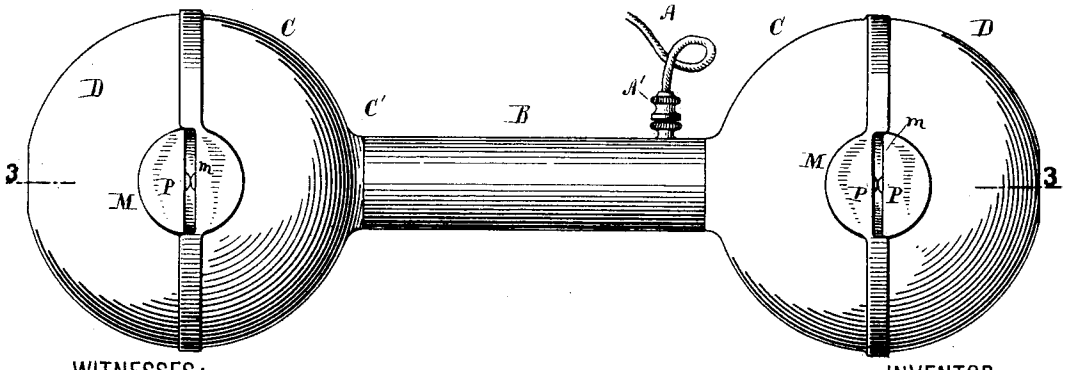


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

W. A. WEBB.

ELECTROMEDICAL EXERCISING APPARATUS.

No. 590,050. Patented Sept. 14, 1897.

Fig. 3.

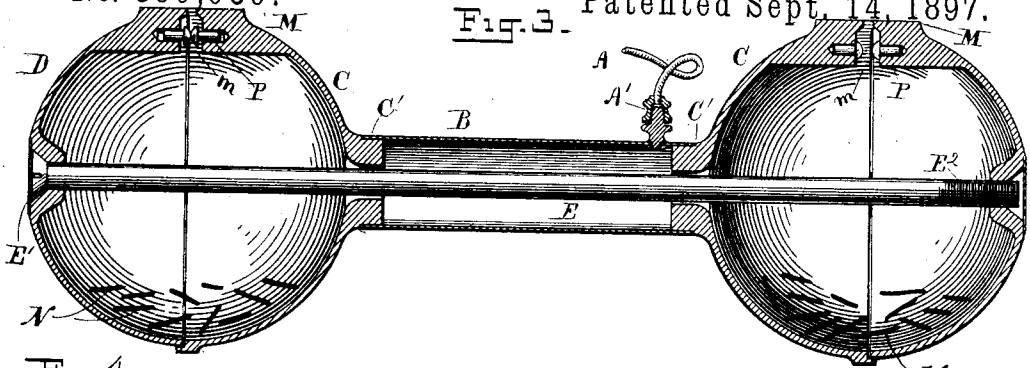


Fig. 4.

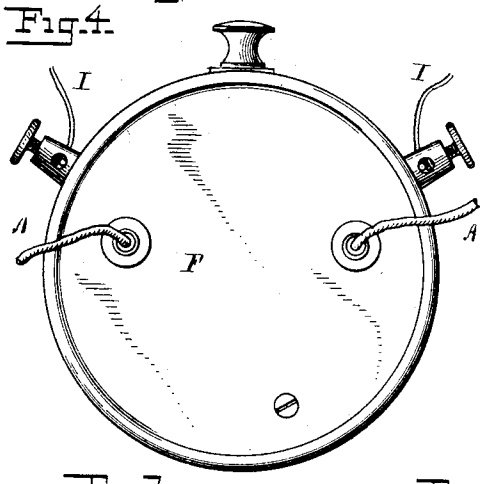


Fig. 5.

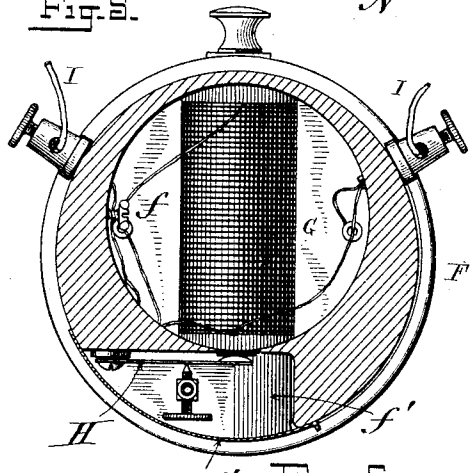


Fig. 7.

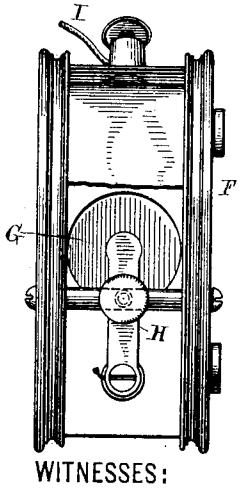


Fig. 8.

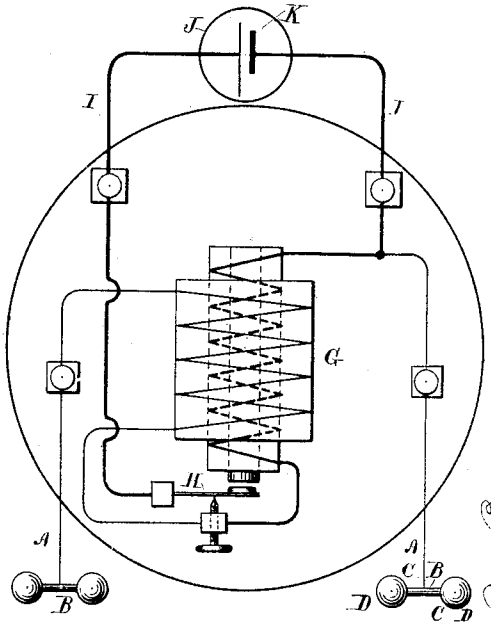
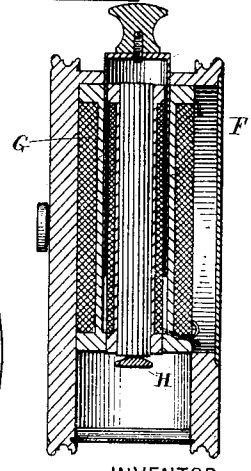


Fig. 6.



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UNITED STATES PATENT OFFICE.

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ELECTROMEDICAL EXERCISING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 590,050, dated September 14, 1897.

Application filed June 2, 1897. Serial No. 639,104. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. WEBB, a citizen of the United States, residing at Brooklyn, Kings county, in the State of New York, have invented a certain new and Improved Electromedical Exercising Apparatus, of which the following is a specification.

This invention relates to electromedical exercising apparatus; and it consists in the improved construction and arrangement of appliances hereinafter fully set forth.

Although generally applicable to exercising apparatus, the invention is more particularly disclosed in connection with dumb-bells. I have devised a novel construction of exercising device for such purpose and also provision for permitting its weight to be imperceptibly increased, as required. I have also provided convenient means for supporting the battery, induction-coil, and circuit-breaker on the person of the operator.

The accompanying drawings form a part of this specification and represent a good means of carrying out the invention.

Figure 1 represents my improved apparatus in use. The succeeding figures are on a larger scale. Fig. 2 is a side view of a dumb-bell. Fig. 3 is a central longitudinal section on the line 3 3 in Fig. 2. Fig. 4 is a face view of the induction-coil case in the form of a short cylinder adapted to hang on the breast of the operator when in use. Fig. 5 is a vertical section through the same in a plane at right angles to the axis. Fig. 6 is a central vertical section of the same in the plane of the axis. Fig. 7 is a view of the same part from below. Fig. 8 is a diagram showing the arrangement of the parts in the induction-coil case. The parts exterior to said case are indicated in greatly reduced dimensions.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A is a metal cord insulated and serving to connect with a source of electricity and connecting by a screw-cap A′ with a metal tube B, the latter of sufficient size to serve as a convenient handle for a dumb-bell. C C are hemispheres, of cast-iron or other suitable material, each provided with a neck C′ by which they may be socketed upon the ends of the tube B. The necks C′ and the ends of the tube B may, if preferred, be provided with engaging screw-threads, so as to insure connection between them independently of other means. Each is equipped to form a half of a flat face M, in which is an aperture *m* for receiving coins N or analogous weights of metal, and is equipped with provisions for retaining such, as will appear farther on.

D D are hollow hemispheres corresponding in size and designed to match a little within the rim C, as shown, and adapted to constitute the other half of the flat face M. These parts D are equipped with further provisions for automatically closing the aperture *m* and are also each adapted to receive one the head E′ and the other the screw-thread E^2 on the axial rod E, which extends longitudinally and when properly adjusted binds the whole securely together.

B, C C, D D, and E E′ E^2 constitute the dumb-bell. When the device is in use, the wire A communicates with a source of electricity, the wire to one dumb-bell being positive and the wire to the other being negative, so that when the hands of the operator grasp each a proper tubular handle B the current from the positive wire A is received through the corresponding tube B into the hand grasping it, communicates through the arms and chest of the operator and the other hand to the tube B and corresponding wire A, which leads to the negative pole of the battery, to be described farther on.

F is a case which hangs on the breast of the operator. I will call it the "induction-coil" case. It contains an induction-coil G and a vibrating contact-breaker H, with the ordinary provisions for maintaining a vibrating motion in the latter by the force of a gentle electrical current communicated, through the wires I and I, with a battery K, which is inclosed in a convenient case J. The flexible connections I are each a conductor with an insulated covering. These wires I perform the double function of suspending the attached parts and also communicating the current, one connecting with the positive pole

and the other with the negative pole of the battery K.

It will be noted that the body of the case F is presented by a block F', which has an eccentrically-located recess *f* for the reception of the induction-coil G, thus leaving a considerable portion at one end of the case for the formation of a tangential recess *f'* for the location of the circuit-breaker H. This latter recess *f'* can be securely closed by a concentrically-sliding cover F', which moves in guides provided therefor in the case. The cover can be slid back to afford access to the recess *f'* without objectionably projecting from the case. Hence the latter and parts immediately carried thereby are securely and strongly associated.

By having the battery and induction-coil case suspended at the back and front, respectively, of the wearer they tend to counterbalance each other, and hence the combined weight represented by both will hardly prove onerous.

Any battery may be used in the casing J. I prefer, for obvious reasons, some of the forms of what are known as "dry" batteries.

N N are metallic disks of moderate size. They may be pennies or other convenient coins of a size which will allow their being introduced one by one into the interiors of the hollow dumb-bells through the apertures *m*. I have devised means for easily admitting such and securing against their escape. P P are round-headed "buttons" mounted in the sides of the passages and provided with loosely-fitted guiding-stems, as shown. These serve as automatic valves. When a coin or analogous weight is introduced through the aperture *m*, it acts wedgewise between the rounded faces and separates these buttons. As soon as it has passed inward and the device is tilted or shaken the buttons move again into contact, thus retaining the coin or other weight. In order to remove the whole or a portion of the weights thus added, the device must be dismembered. There are intentional difficulties interposed in the unscrewing of the bolt E. The operation can only be effected by a proper tool. Further security against too easily performing such abstraction may be obtained by applying a seal over the head E'.

After the operator has become well accustomed to working with these dumb-bells at a certain weight the introduction of coins or other disks through the valved aperture *m* allows the weight to be increased gradually and according as the strength and ambition of the operator shall elect.

To use the apparatus, it is taken down from the suspending-nail or other convenient storage-place and hung on the person of the operator. The dumb-bells, if not already in circuit, are connected by the binder screw-cap A' with the wires A, and on grasping both handles B the current flows, properly interrupted or reversed by the vibrating contact-breaker H, and is continued through all the exercises, gentle or violent, graceful or acrobatic, in which the operator choses to indulge. The current will stop whenever the operator takes either hand out of contact. The dumb-bells may be left connected or not.

There may be the ordinary means for specially insuring against short-circuiting.

One of my improved dumb-bells may be used without the other by providing any suitable conductor from the hand or any other part of the person of the operator back to the magnet-case F, so as to complete the circuit.

I use the term "dumb-bells" to indicate any exercising appliance of analogous character.

The invention applies well to the form generally known as "Indian clubs."

I claim as my invention—

1. The combination in electromedical exercising apparatus, of a battery, a case containing a circuit-breaker, circuit connections for adapting said battery and case for suspension at the rear and front respectively of the person's body, and an exercising device in partial circuit with the circuit-breaker to be in closed circuit therewith when grasped, substantially as set forth.

2. The combination in electromedical exercising apparatus, of a case F containing a circuit-breaker and provided with a sliding cover F', a battery, and an exercising device in partial circuit with the circuit-breaker to be in closed circuit therewith when grasped, substantially as set forth.

3. The combination in an electromedical exercising apparatus, of a case F having a body provided with eccentric and tangential recesses *f*, *f'*, an induction-coil and circuit-breaker located respectively therein, a sliding cover F' for the recess *f'*, a battery, and an exercising device in partial circuit with the circuit-breaker to be in closed circuit therewith when grasped, substantially as herein set forth.

4. In electromedical exercising apparatus, the combination with a suitable battery, of an exercising device comprising a cylindrical handle in partial circuit with the battery to be in closed circuit therewith when grasped, and detachably carrying a weighted body, substantially as herein specified.

5. As an electromedical exercising apparatus, a pair of weights adapted to be held in the hands of the operator, provided with flexible insulated conductors leading to a source of electricity, the weights being hollow to receive additional weights to be stored within the main weights, all arranged for joint operation substantially as herein specified.

6. A dumb-bell or equivalent exercising-weight in six parts B, C C, D D and E, provided with apertures *m* and provisions P for allowing the introduction and retention of

additional weights N at will, as herein specified.

7. In electromedical exercising apparatus, the casings F and J, with flexible connections I, adapted to perform the double function of suspending the casings on the person and electrically connecting a battery and magnet, all substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

WM. A. WEBB.

Witnesses:
THOMAS DREW STETSON,
M. F. BOYLE.