

No. 852,163.

PATENTED APR. 30, 1907.

L. B. BUCHANAN.
 MASSAGE IMPLEMENT.
 APPLICATION FILED OCT. 27, 1906.

2 SHEETS—SHEET 1.

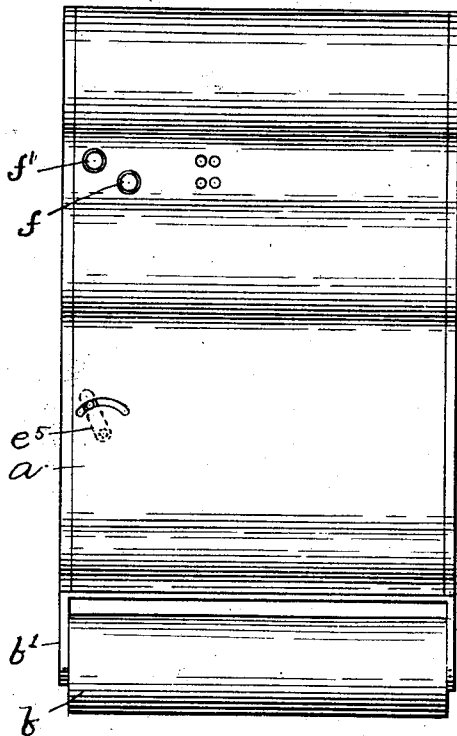


Fig. 1.

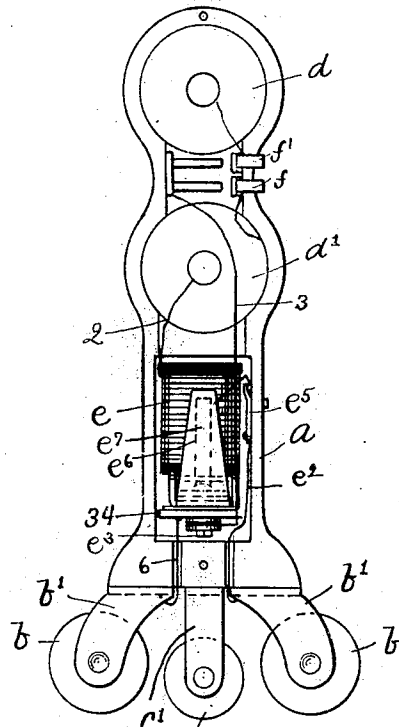


Fig. 2.

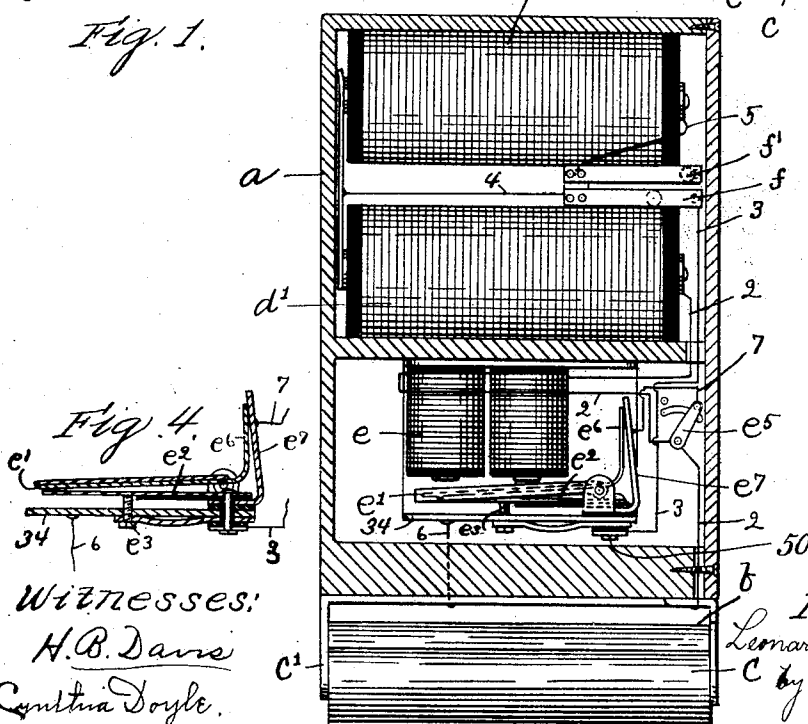


Fig. 3.

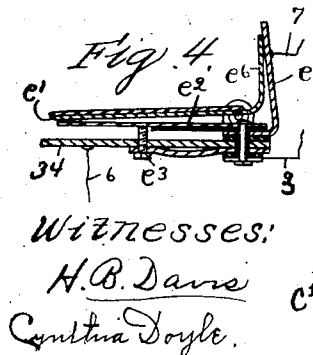


Fig. 4.

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2 SHEETS—SHEET 2.

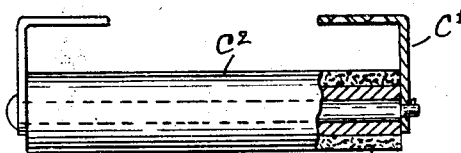
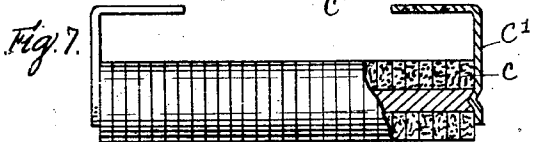
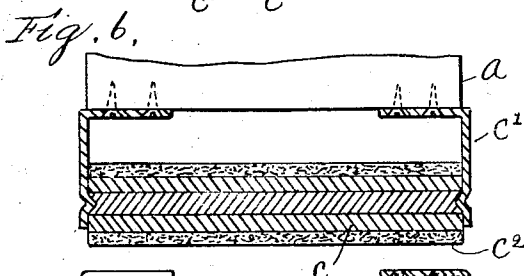
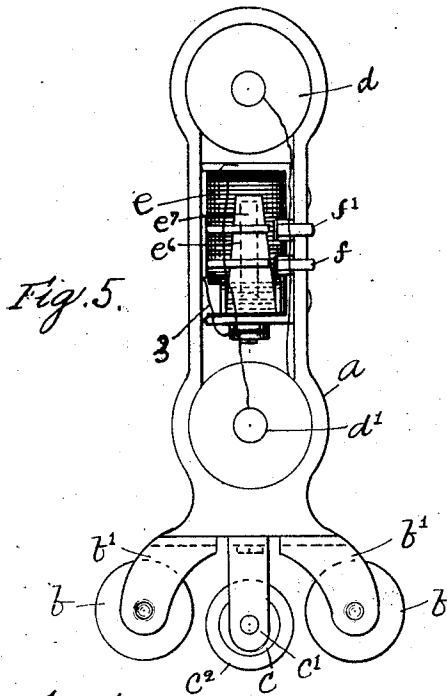


Fig. 9.

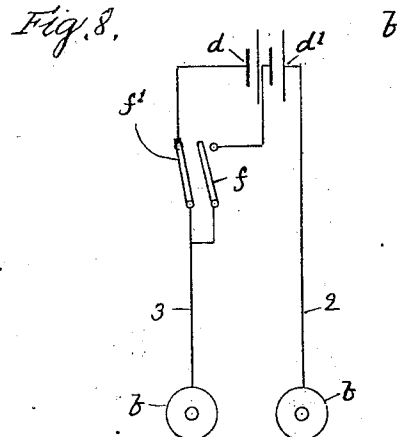
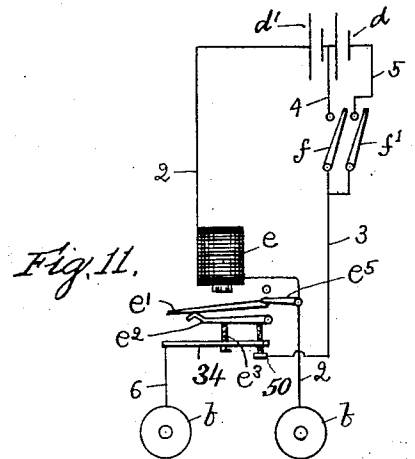


Fig. 12.

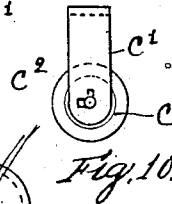


Fig. 10.

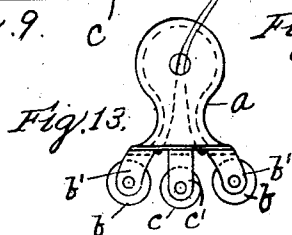


Fig. 13.

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UNITED STATES PATENT OFFICE.

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MASSAGE IMPLEMENT.

No. 852,163.

Specification of Letters Patent.

Patented April 30, 1907.

Application filed October 27, 1906. Serial No. 340,821.

To all whom it may concern:

Be it known that I, LEONARD B. BUCHANAN, of Woburn, county of Middlesex, State of Massachusetts, have invented an Improvement in Massage Implements, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to massaging implements, and has for its object the provision of means whereby electric energy is employed in connection with the massaging tools, and furthermore, a medicinal or other substance which I herein refer to generally as a medicament, may be deposited upon the skin in the path of movement of the massaging tools and worked into the skin by the massaging tools and by the aid of the electric current; and furthermore, whereby electric shocks may be produced, which, although slight, are sufficiently powerful to be felt, which results in obtaining to a high degree the benefits to be derived from the use of electric energy, and further assists in augmenting the results produced by the employment of the medicament.

Figure 1 shows in side elevation a massaging implement embodying this invention. Fig. 2 is an end view of the massaging implement shown in Fig. 1, the end wall of the case being removed to expose the parts therein. Fig. 3 is a side view of the massaging implement, the side wall of the case being broken away to expose the parts within it. Fig. 4 is a detail showing a form of vibrating circuit operating device which may be employed in connection with the shocking coil. Fig. 5 is a modified form of massaging implement embodying my invention. Fig. 6 is a longitudinal section of the medicament carrier. Fig. 7 is a modified form of medicament carrier. Fig. 8 is an enlarged detail of one of the massaging tools. Fig. 9 is a view showing a modified form of massaging tool which may be employed. Fig. 10 is an end view of the massaging tool shown in Fig. 9. Fig. 11 shows a diagram of the circuits of the implement shown in Fig. 3. Fig. 12 is a diagram of a modified arrangement of circuits which may be employed. Fig. 13 is a modification of the device to be referred to.

a represents a hollow shell or case of any suitable shape and dimensions, but preferably formed to serve as a hand-piece, adapted to

be grasped by the hand of the operator for the purpose of manipulating the implement.

b, b, represent a pair of massaging tools, which, for the sake of illustration, are made as rollers. These tools are supported by suitable brackets *b', b'*, which are secured to the shell or case, at one end thereof. They are disposed a short distance apart and occupy approximately the same plane. When the massaging-tools are made as rollers they may be formed with plane surfaces, as shown in Figs. 1 and 9, or with spirally arranged ribs, as shown in Fig. 8, wherein it will be seen that two sets of ribs are employed, which extend from the middle of the roller in a direction toward the ends thereof.

The medicament-carrier herein shown consists of a roller *c*, journaled in suitable end supports *c'*, and disposed between said massaging-tools *b, b*, so as to occupy a position in the path of movement of said tools as the implement is manipulated. The roller *c* may have a covering *c²* of absorbent material by which the medicament will be retained in order that it may be deposited on the skin as the roller is moved over the surface thereof. Or it may consist of a rod having disks thereon of absorbent or other material, suitably medicated, or said medicament-carrier may be otherwise constructed to carry a medicament and deposit it on the skin as required.

It is designed to connect the massaging-tools with a source of electricity whereby electric energy may be utilized in connection with said tools. To this end an electric battery is contained in the shell or case, which, as herein shown, consists of two battery cells *d, d'*, which are conveniently arranged therein, quite close together, as represented in Fig. 2, or they may be separated as shown in Fig. 5. The circuit-wires lead from said battery to the massaging-tools, so that said tools become the electrodes.

It is also designed to employ a shocking-coil, by which repeated shocks may be produced, which are, of course, slight, but sufficient for the purposes intended, and as herein shown said shocking-coil consists of an electromagnet *e*, having a vibrating armature *e'*. Said electromagnet and armature are contained in the shell or case and suitably arranged with respect to the battery therein, as for instance, in Fig. 2 it is represented as below the battery, and in Fig. 5 as between the two cells thereof.

The electro-magnet *e* is herein shown as included in a circuit-wire 2, leading from one side of the battery directly to one of the massaging-tools *b*, see Fig. 11. A circuit-wire 3, leads from two branch wires 4 and 5, one of which, as 4, is connected with the middle of the battery, and the other of which as 5, is connected with the opposite side of the battery to which the wire 2 is connected. The branch wire 4 contains a circuit-closing device or switch *f*, and the branch wire 5 contains a circuit-closing device or switch *f'*. When the switch *f* is operated to close the branch wire 4, a part only of the battery will be included in the circuit, and when the switch *f'* is operated to close the branch wire 5, the whole battery will be included in the circuit. The two switches *f* and *f'* each bear a stud, see Fig. 2, and said studs project through holes in the shell or case, and are, therefore, accessible at the outside thereof; and they are conveniently located so as to be engaged and operated by the thumb of the operator; although it is obvious that they may be otherwise arranged and operated.

The circuit-wire 3 leads to a contact pen *e*², which as shown in Fig. 3 is attached to a screw 50, passing up through a plate 34, but insulated therefrom, and said contact pen *e*² is located beneath the vibrating armature *e'*, so as to be engaged by said armature, when the latter is in its retracted position. The contact pen *e*² rests upon an adjusting-screw *e*³, supported by said stationary plate 34. A circuit-wire 6 leads from said plate 34 to the other massaging-tool *b*. The vibrating armature *e'* is adapted to be connected with the circuit-wire 2, or disconnected therefrom, as desired, and for the purpose a two-point switch *e*⁵, is employed, see Figs. 3 and 11. In Fig. 3 said vibrating armature has a flexible arm *e*⁶ attached to it, which extends upward and continually bears against an upright arm *e*⁷ to which a circuit-wire 7 is connected, which leads to the circuit-wire 2 through the switch *e*⁵. However, it is obvious that this electric connection may be made in other ways.

When the switch-arm *e*⁵ occupies the position shown in Figs. 3 and 11, the vibrating armature will be included in the circuit, and when said switch-arm occupies its other position, said armature will be disconnected from the circuit. When the vibrating armature is included in the circuit and the circuit is closed it will vibrate rapidly, repeatedly closing the connections between the circuit-wires 2 and 3, and thereby producing slight shocks which may be felt by the person using the implement.

The rapidly vibrating armature also mechanically vibrates the implement to a slight extent, and as such vibrations occur simultaneously with the electric shocks they aid in giving force and effect to said shocks.

In case the shocking-coil is not required or desired, it may be cut out by moving the switch arm *e*⁵, or it may be entirely omitted, as shown in the diagram Fig. 12. Referring to Fig. 13 it will be seen that the battery and shocking-coil are removed from the shell or case, and the electric wires lead from said shell or case to the battery and shocking-coil, which will be located at any convenient point.

In operation, the massaging-electrodes are pressed into firm contact with the skin, and the implement moved along, and the medicament is deposited on the skin in the path of movement of said electrodes and the skin thereby moistened, and the current from the battery passes from one massaging-electrode to the other, the skin or portion of the body between said electrodes serving as the conductor, the conductivity of which will be enhanced by the medicament which is deposited thereon and which moistens it.

By the implement herein shown, it will be seen that electric energy is utilized in conjunction with the massaging-rollers and in combination with the medicament carrier and the benefits inherent to its use obtained, but the current is only applied locally, and hence does not affect other parts of the body.

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

1. In a massaging-implement the combination of a hand-piece, a pair of massaging-electrodes borne by it, which are insulated from each other and connected with a source of electric energy, and a medicament-carrier, independent of said electrodes, but disposed adjacent thereto, which is constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

2. A massaging-implement comprising a hand-piece, a pair of massaging-electrodes borne by it, which are connected with a source of electric energy, and a rolling medicament-carrier independent of said electrodes, but disposed adjacent thereto, which is constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

3. In a massaging-implement, the combination of a hand-piece, a pair of massaging-electrodes borne by it, which are insulated from each other and connected with a source of electric energy, a shocking-coil adapted to be connected in circuit with said electrodes, and a medicament-carrier independent of said electrodes, but disposed adjacent thereto, constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

4. In a massaging implement, the combination of an inclosing case, a battery and a shocking coil contained therein, a pair of con-

ducting rollers supported on the exterior of said case and insulated from each other and electrically connected respectively to the opposite sides of said battery, a circuit closing device for the circuit of said battery, a switch for including therein or excluding therefrom the shocking coil, and a medicament-carrier, independent of said electrodes, but disposed adjacent thereto which is constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

5. In a massaging implement, the combination of an inclosing case, a battery contained therein, a pair of massaging electrodes supported in said case and insulated from each other, and electrically connected respectively to the opposite sides of said battery, two independent circuit closing devices for the circuit of said battery, each accessible from the outside of the case, one of which is adapted, when depressed, to include a portion of said battery in circuit, and the other, when depressed, to include all of said battery in circuit, and a medicament-carrier, independent of said electrodes, but disposed adjacent thereto which is constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

6. In a massaging implement, the combination of an inclosing case, a pair of massaging electrodes supported by it, which are insulated from each other and connected with a battery circuit, an electro-magnet in said circuit having a vibrating armature to repeatedly short-circuit said massaging electrodes, a circuit closing device for said battery circuit, and a medicament-carrier, independent of said electrodes, but disposed adjacent thereto which is constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

7. In a massaging implement, the combination of an inclosing case, a pair of massaging electrodes supported by it which are insulated from each other and connected with a battery circuit, an electro-magnet in said circuit having a vibrating armature, a circuit closing device operated by said vibrat-

ing armature to repeatedly short-circuit said massaging electrodes, a circuit closing device for said battery circuit, a switch for including said repeatedly operated circuit closing device in said battery circuit or excluding it therefrom, and a medicament-carrier, independent of said electrodes, but disposed adjacent thereto which is constructed and arranged to apply a medicament in the path of movement of said electrodes, substantially as described.

8. In a massaging implement, the combination of an inclosing case, a battery and a shocking coil contained therein, a pair of conducting rollers supported on the exterior of said case and insulated from each other and electrically connected respectively to the opposite sides of said battery, means for closing the circuit of said battery and means for including the shocking coil in said circuit, and a roller of absorbent material located adjacent to said conducting rollers adapted to contain a medicament, substantially as described.

9. In a massaging implement, the combination of a hand piece, a pair of massaging rollers borne by it, which are insulated from each other and connected with a source of electric energy, and a roller of absorbent material mounted adjacent to said massaging-rollers, the contact surface of all of said rollers being in substantially the same plane, substantially as described.

10. A massaging implement comprising a hand piece, a pair of massaging rollers disposed in parallelism, end supports therefor borne by the hand piece and insulated from each other and connected with a source of electric energy, and a rolling medicament carrier disposed in parallelism with said massaging rollers, and end supports for said carrier attached to said hand piece, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

LEONARD B. BUCHANAN.

Witnesses:

B. J. NOYES,
H. B. DAVIS.