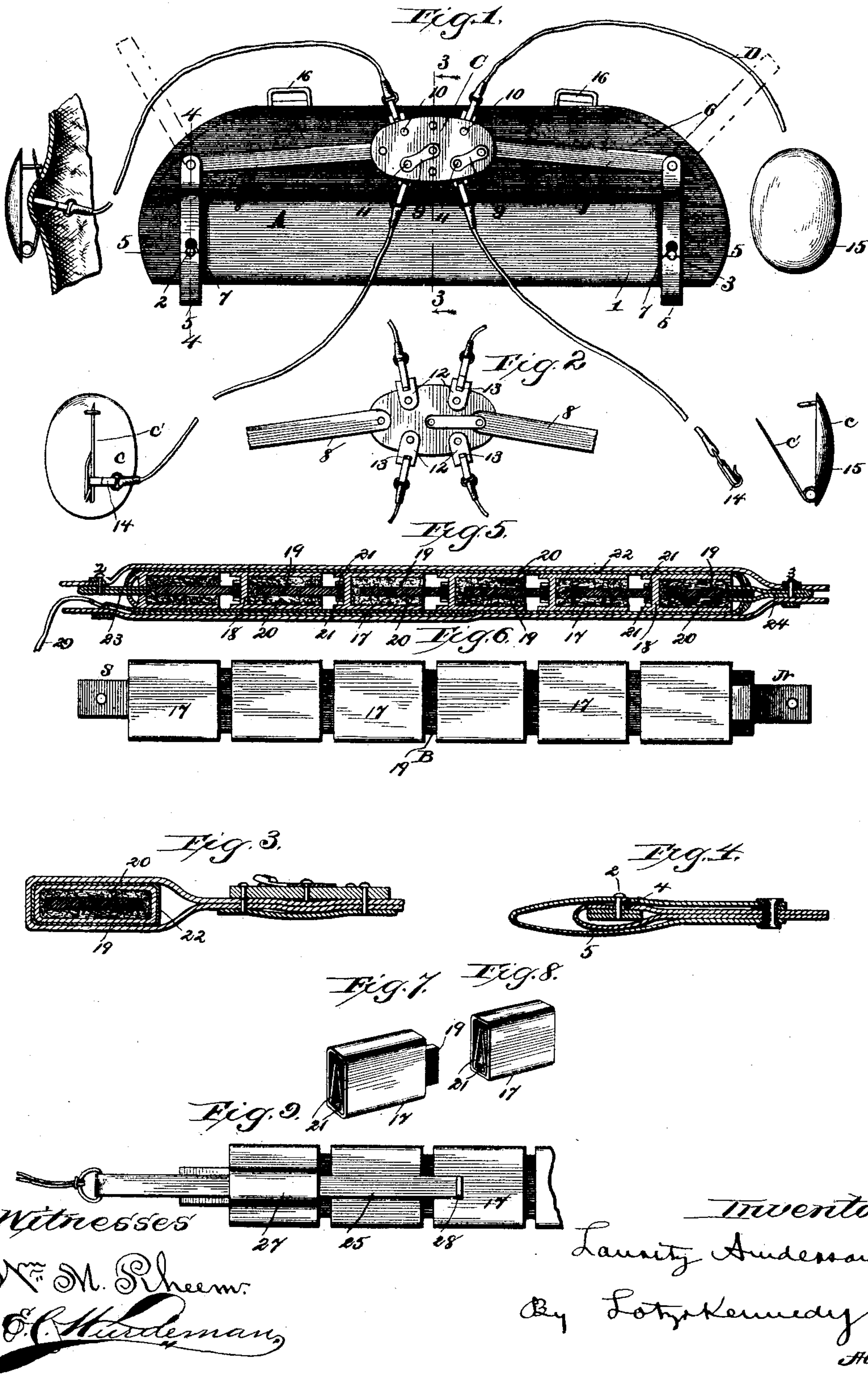


(No Model.)

L. ANDERSON.
ELECTRIC BODY WEAR.

No. 464,691.

Patented Dec. 8, 1891.



UNITED STATES PATENT OFFICE.

LAURITZ ANDERSON, OF CHICAGO, ILLINOIS.

ELECTRIC BODY-WEAR.

SPECIFICATION forming part of Letters Patent No. 464,691, dated December 8, 1891.

Application filed March 16, 1891. Serial No. 385,225. (No model.)

To all whom it may concern:

Be it known that I, LAURITZ ANDERSON, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric Body-Wear, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to electric body appliances for the treatment of various forms of diseases by the local application of an electric current to the affected part or parts.

The objects of this invention are to provide a battery of simple and durable construction capable of generating an efficient current, to provide means for directing the electric current to different parts of the body without the necessity of changing the location of the contact-buttons, and to improve and simplify, generally, the construction and arrangement of electric body appliances.

The invention consists in the features of construction and combinations of parts hereinafter fully described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of an electric body appliance constructed in accordance with my invention. Fig. 2 is a detail rear elevation of the switch-board. Figs. 3, 4, and 5 are sectional views taken on the lines 3 3, 4 4, and 5 5 of Fig. 1, respectively. Fig. 6 is a detail elevation of the battery. Figs. 7 and 8 are perspective views of the adjacent ends of two cells; and Fig. 9 is a fragmentary perspective view of the end portion of the battery, taken from the opposite side to that shown in Fig. 6.

Referring to said drawings, A indicates the pad for carrying the battery and switch-board. Said pad is preferably made of leather or other suitable material and is provided with a longitudinal pocket 1 in its lower portion, said pocket being open at both ends. A battery B is inserted within the pocket 1, and said battery is provided at its end portions with contact-pins 2 and 3, which project through apertures 4 in the sides of the pocket 1, it being understood that the pocket is longer than said battery. The said battery is held within the pocket by means of two swinging loops 5, pivoted to the upper portion 6 of the

pad near the ends thereof. After the battery is inserted within the pocket the loops are swung from the positions shown in dotted lines to the positions shown in full lines in Fig. 1, and as shown in Fig. 5 the loops will compress the ends of the pocket. The said loops are provided with notched openings or slots 7, which engage the said contact-pins when the loops embrace the pockets, Fig. 1. The said loops also form a part of the circuit and serve to connect the battery with the switch-board C, secured to the upper part 6 of the pad. The said switch-board is connected with the loops 5 by the conducting-strips 8, and the switch-buttons 9 upon said board are connected with said conducting-strips 8 and thereby with the poles of the battery B. The said switch-board is provided with a couple of upper contact-points 10 and a couple of lower contact-points 11, with which the switch-buttons 9 connect with. The said contact-points 10 and 11 are connected with the metallic plates 12, which project beyond the edge of the switch-board and are provided with perforations 13. Flexible conducting-cords D are provided at their ends with metallic hooks 14, by means of which they are connected with the apertured plates 12, Figs. 1 and 2, and with the contact-buttons 15. The said metallic hooks 14 have a spring-tongue that presses against an overhanging lip, so that when the pin or other part is inserted between the tongue and lip it will be held between the same by their spring action. The said contact-buttons comprise a curved plate *c*, having a safety-pin *c'* on its concave face, and, as shown in Fig. 1, said plate is located beneath the underclothing and next to the skin of the wearer, and the safety-pin passes through the clothing, so that one of the hooks 14 can be hooked thereto. Said hooks 14 embrace open spring loops or hooks, which are adapted to engage either the pins *c'* or the apertured plates and be secured thereto by the frictional contact, and at the same time to provide an electrical connection between said parts.

In the use of this electrical body appliance it is intended to apply the electric current to different parts of the body at pleasure to reach directly the affected parts, and to this end two of the flexible cords D lead from the

upper edge of the switch-board C and two lead from the lower edge of said switch-board, and said cords are long enough to reach the upper and lower parts of the body. The said pad is worn beneath the vest or other garment that will permit ready access thereto, so that the switch-buttons can be manipulated to direct the current to the affected part or parts of the body at pleasure.

In Fig. 1 the switch-buttons are shown as located in contact with the lower contact-points 11, so that the current will pass through the lower cords D to the lower portion of the body. The said switch-buttons can, however, be placed in contact with the upper contact-points 10, or with one upper and one lower contact-point, in an obvious manner. The ability to thus change the direction of the current to reach the affected part or parts in a simple and convenient manner is a marked advantage, since by merely reaching beneath the vest or other garment and moving the switch-buttons, as described, the current can be changed to reach the affected parts. The said pad is provided with loops or eyes 16, by means of which it can be attached to the person.

As a separate and distinct improvement in electrical body-wear I have provided a battery of novel construction. The said battery comprises a plurality of cells compactly, but yieldingly, connected together. The said battery is rectangular in cross-section, Fig. 3, and is of a length to fit within the pocket 1. The cells composing said battery each consist of a zinc tube 17, having a partition 18 near one end thereof, and a carbon stick or element 19, inserted within the open end of said zinc tube 17 and projecting beyond the same, as shown in Fig. 5. Between the zinc tube and carbon stick an insulation 20 of porous material—such as felt or the like—is located. The said cells are coupled together by means of metallic spring-arms 21, secured to the outer face of the partition 18, which engage the projecting end of the carbon stick of the adjacent cell and hold the same by frictional contact. When the battery is made up of a plurality of cells in this manner, the same is inclosed by a cloth or porous covering 22, which is bound closely around the battery; but is open at the ends to allow the poles to project. The said covering prevents the cells from separating longitudinally, while the spring connections between the cells afford a yielding connection between the same, which makes a flexible or yielding battery and permits the same to conform somewhat to the shape of the body, so that it does not form an objectionable or unsightly article to wear under the clothing.

The zinc tube at the negative or south pole of the battery and the carbon stick at the positive or north pole of the battery are each provided with metallic pole-pieces 23 and 24, to which the contact-pins 2 and 3 are secured.

To energize the battery it is removed from

the pocket in an obvious manner and then dipped in weak acetic acid (vinegar) and allowed to remain therein a sufficient length of time to become thoroughly soaked, whereupon it is removed and the acid dried out of the porous covering or cloth 22. The battery is then replaced within the pocket 1.

I have provided means for changing the nature of the current to vary the treatment of the affected part, and for this purpose the zinc tube at the negative end of the battery is provided with a metallic strip 25, sliding in a guideway 27, secured to said tube. When this strip is pushed in, it will connect two or more cells, according to the distance it is pushed in, and will thus put the cells on short circuit and thereby produce a weaker current. It will thus be seen that the strength of the current can be regulated to correspond to the treatment desired.

I claim as my invention—

1. An electric body appliance comprising a pad having a switch-board, a plurality of flexible cords D, connected therewith, and a battery connected with said switch-board.
2. An electric body appliance comprising a pad having a pocket, a battery located within said pocket, loops pivoted to the end portions of said pad and adapted to swing over and embrace the end portions of said pocket, and a plurality of flexible cords electrically connected with said battery.
3. An electric body appliance comprising a pad having a pocket, a battery located within said pocket, loops pivoted to the end portions of said pad and adapted to swing over and embrace the end portions of said pocket, and a plurality of flexible cords electrically connected with said battery.
4. An electric body appliance comprising a pad having a pocket, a battery located within said pocket and provided at its poles with pins 2 and 3, which project through the sides of said pocket, loops pivoted to said pad and adapted to swing over the end portions of said pocket and engage said pins, and a plurality of flexible cords electrically connected with said battery.
5. An electric body appliance comprising a pad having a pocket, a battery located within said pocket and provided at its poles with pins 2 and 3, which project through the sides of said pocket, apertured loops pivoted to said pad and adapted to swing over the end portions of said pocket and engage said pins, and a plurality of flexible cords electrically connected with said battery.
6. An electric body appliance having a battery comprising a plurality of cells and a connection between said cells, consisting of a spring arm or arms on an element of one cell adapted to engage an element of an adjacent cell.
7. An electric body appliance having a battery comprising a plurality of cells, each of said cells consisting of a zinc tube and an inclosed and insulated carbon stick.

8. An electric body appliance having a battery comprising a plurality of cells, each of said cells consisting of a zinc tube and an enclosed and insulated carbon stick having a projecting end that is yieldingly connected with the zinc tube of the adjacent cell.

9. An electric body appliance having a battery comprising a plurality of cells and a porous covering for the same that serves to hold said cells from end separation.

10. A flexible cord for electric body appliances, having a hook comprising a spring-

tongue and an overhanging lip, said tongue and lip being adapted to hold a contact-pin or other part between them.

11. A battery for electric body appliances, comprising a plurality of cells and a sliding strip connected to one end of said cells.

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

LAURITZ ANDERSON.

Witnesses:

HARRY COBB KENNEDY,
OTTO LUEBKERT.

15