(No Model.)

J. W. CUMMINGS.

ELECTRIC BELT.

No. 490,948. Patented Jan. 31, 1893.

Fig 1

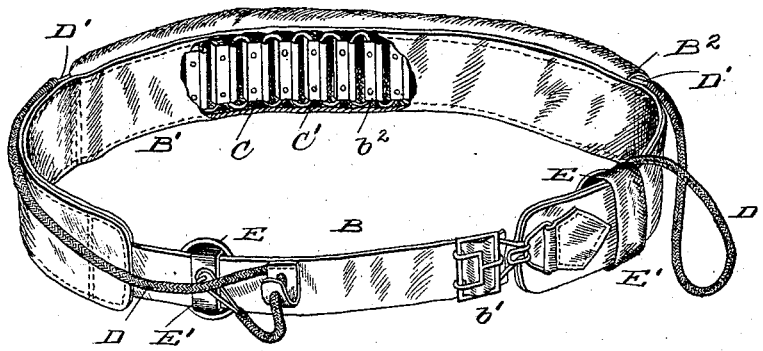


Fig 2

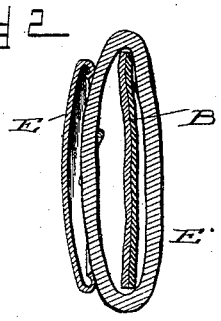


Fig 3

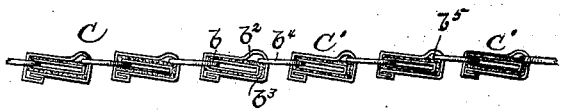
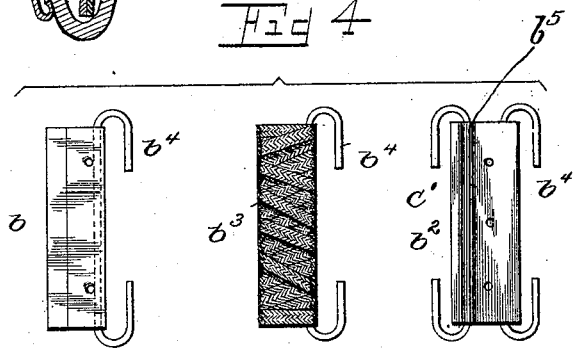


Fig 4



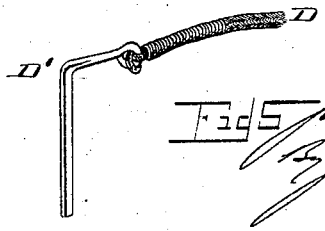


Fig 5

Witnesses

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ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 490,948, dated January 31, 1893.

Application filed July 27, 1892. Serial No. 441,360. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. CUMMINGS, of Gold Hill, in the county of Storey and State of Nevada, have invented certain new and useful Improvements in Electric Belts; and I do hereby 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.

This invention relates generally to electric body wear and particularly to an improved electric belt.

The object of my invention is to provide a belt in which the electrodes can be moved upon the belt to act upon different portions of the body and also one in which the strength and polarity of the current can be changed whenever desired.

With these objects in view my invention consists in the peculiar construction of the several parts and their novel combination and arrangement, all of which will be fully described hereinafter and pointed out in the claim.

In the accompanying drawings:—Figure 1 is a perspective view of my improved belt ready for application, the belt being broken away to show the battery within the same. Fig. 2 is a transverse sectional view of one of the electrodes and connections. Fig. 3 is a top plan view of the battery detached from the pocket. Fig. 4 shows the details of construction of the cell. Fig. 5 is a detail view of the connecting key.

In carrying out my invention, I employ a belt B, constructed preferably of flannel upon the interior and oil cloth upon the exterior. This belt is provided with an ordinary buckle b' and at its back is arranged a waterproof pocket or case B′ adapted to receive the battery C, and this pocket is provided with a flap B^2 to cover and protect said battery.

The battery C is composed of a series of cells or elements C′, each cell consisting of an inner zinc plate b an outer copper plate b^2, a wrapper of absorbent tape b^3 and a connecting copper wire b^4. The zinc plate is folded around the copper wire, and the leaves secured by puncturing the same as most clearly shown in Fig. 4. The plate thus folded is then wrapped with a strip of absorbent tape b^3 and around the zinc-plate so wrapped is folded the copper plate b^2 the ends of said plate overlapping. The plate b^2 is also formed with a longitudinal groove b^5 to receive the ends of the connecting wire b^4 and is perforated to facilitate the action of the battery. Any number of cells constructed as above described may be connected in series and constitute a battery which is placed in the pocket or case B′. The exciting fluid commonly employed is vinegar. A copper plate is arranged at one end of the battery and constitutes the positive pole of the same, while a zinc plate at the other end forms the negative pole and to these two plates are connected the conducting wires D by means of keys D′ which are adapted to be inserted in the folded plates and produce an electrical connection.

E indicates the flat metallic electrodes which are connected to the outer ends of the conductor wires D, and contact with the body, thus completing the circuit, through the body. These electrodes instead of being permanently secured to the belt as ordinarily done, are movably secured thereon by means of loops E′ which slide upon the belt. Any suitable connecting device may be employed to connect the electrodes and conductor wires.

In operation, the battery, composed of any suitable number of cells, is impregnated with the exciting fluid, and arranged within the pocket or case. The keys are then inserted into the pole plates and the flap turned down and secured. The outer ends of the conducting wires are secured to the electrodes and these electrodes are adjusted to bear upon any particular portions of the body by moving the loops upon the body of the belt until those points are reached. The belt is then fastened upon the body completing the circuit and starting the battery.

The electrodes can be adjusted whenever desired and if it should be wished to check the action of the battery one of the keys can be withdrawn and inserted again when needed. In case the current is too strong the key in the negative pole is withdrawn and inserted in the zinc plate of any particular cell thus cutting off the desired number of cells and decreasing the electro-motive force of the battery. The manner of securing the connecting wire in the zinc plate by puncturing

the leaves of the plate has been found highly advantageous and also the thin wrapping strip of tape which is far superior to the ordinary packing of felt or flannel.

I claim as my invention:—

In an electric belt, a battery composed of a series of cells, each cell consisting of a zinc plate folded upon itself and punctured as described, a wrapping of narrow absorbent tape entirely surrounding the zinc plate, and the copper plate folded around the absorbent packing and having a longitudinal groove and the connecting wire uniting the cells, the copper plate being provided with the longitudinal grooves to receive said wire, substantially as set forth.

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

JOHN W. CUMMINGS.

Witnesses:
GEO. L. DIRKS,
JOHN F. SHEEHY.