(No Model.)

# W. E. J. LAWLOR.

## ELECTRIC BELT.

No. 522,841. Patented July 10, 1894.

Fig. 1

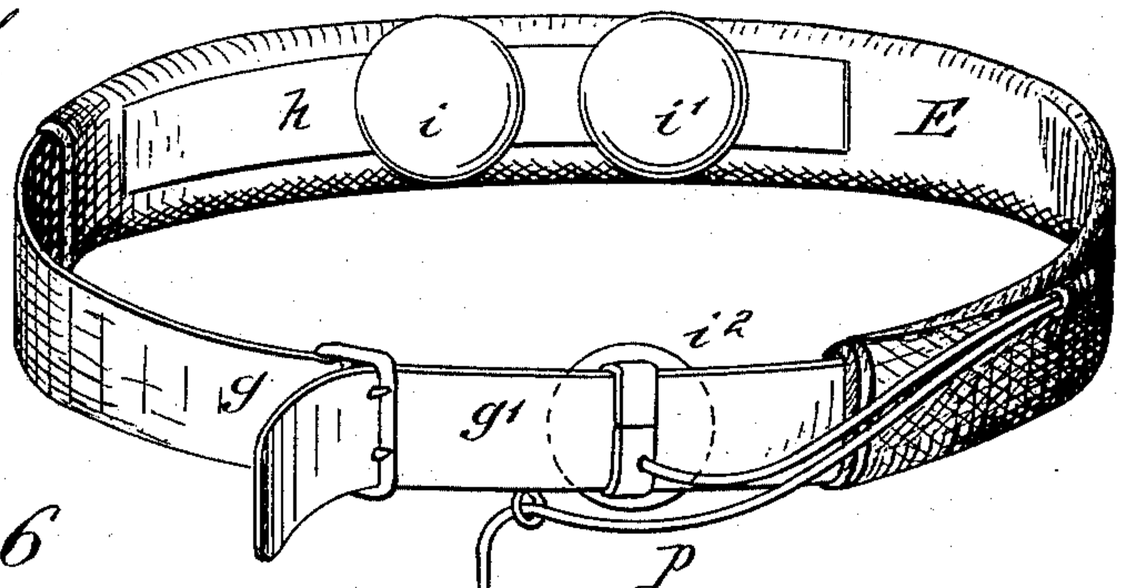



Fig. 6

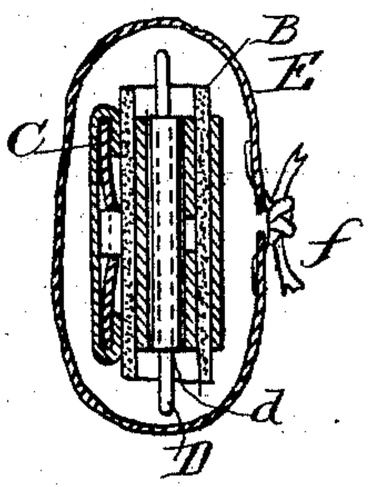



Fig. 8

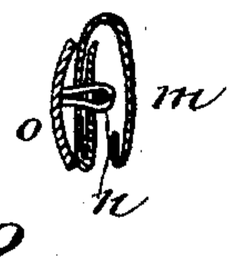



Fig. 2

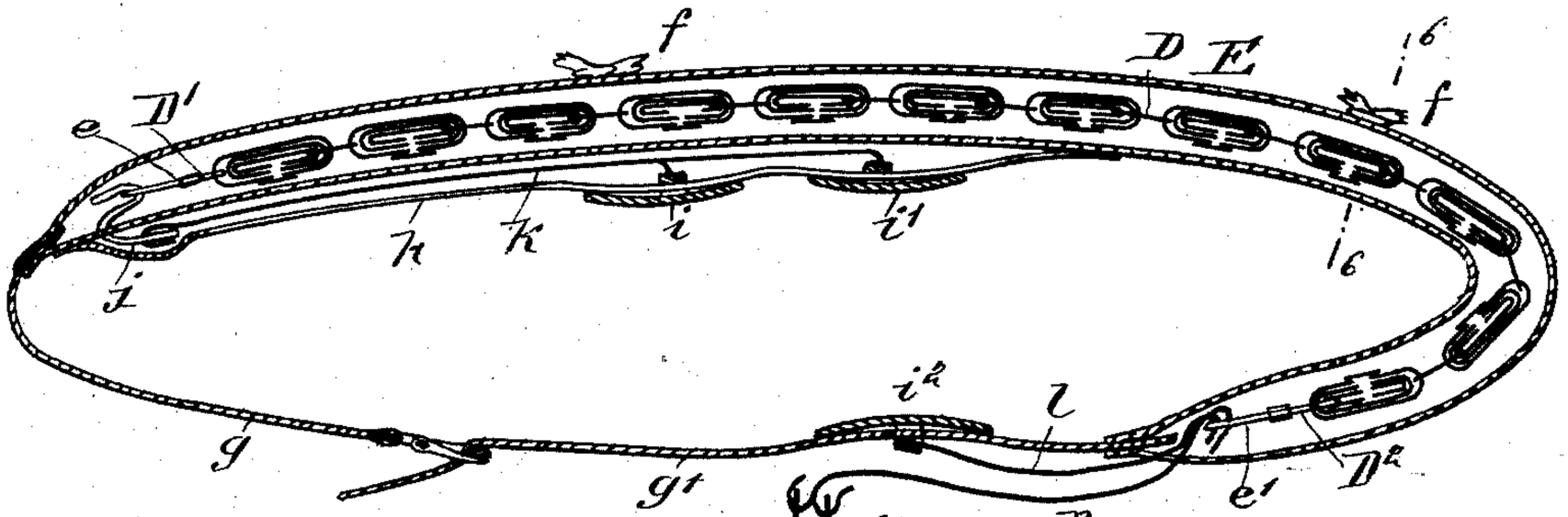



Fig. 3

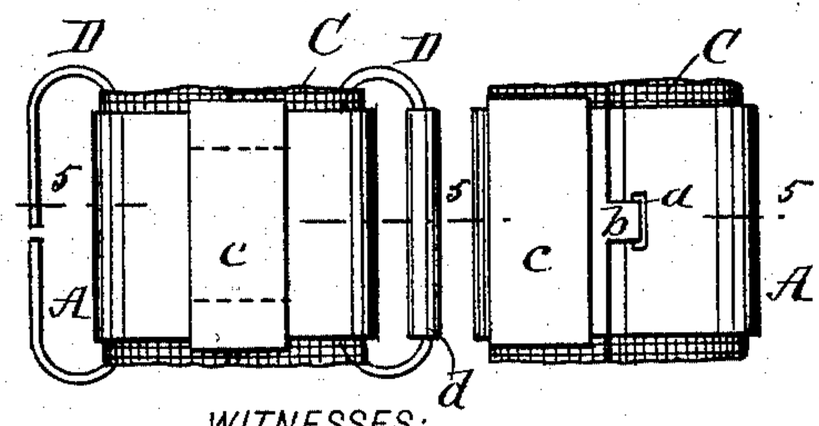



Fig. 4

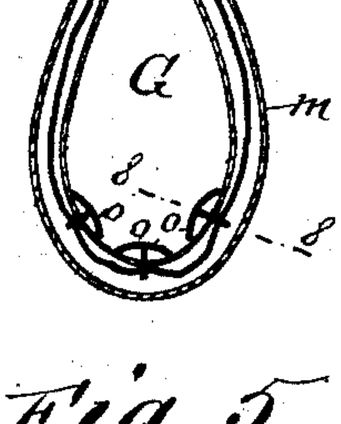
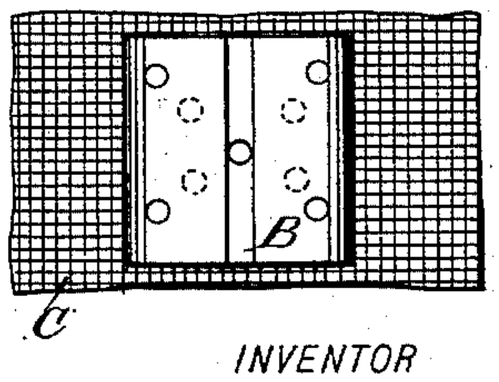
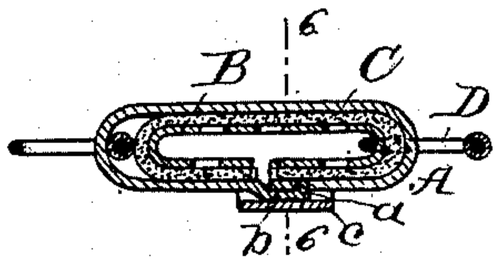



Fig. 7




Fig. 5

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# UNITED STATES PATENT OFFICE.

WILLIAM E. J. LAWLOR, OF PORTLAND, OREGON.

## ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 522,841, dated July 10, 1894.

Application filed September 14, 1893. Serial No. 485,449. (No model.)

*To all whom it may concern.*

Be it known that I, WILLIAM E. J. LAWLOR, of the city of Portland, county of Multnomah, and State of Oregon, have invented certain new and useful Improvements in Electric Belts, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my improved electric belt. Fig. 2 is a horizontal section of the same. Fig. 3 is an enlarged side elevation of one of the batteries. Fig. 4 is an enlarged side elevation of one of the batteries with the slide moved to one side. Fig. 5 is a horizontal section taken on line 5—5 in Fig. 3. Fig. 6 is a vertical transverse section taken on line 6—6 in Figs. 2 and 5. Fig. 7 is a front elevation of the zinc element showing the septum of flannel unfolded; and Fig. 8 is a transverse section taken on line 8—8 in Fig. 2.

The object of my invention is to provide an improved electric belt to be worn on the body for curative purposes.

The invention consists in the particular construction and arrangement of parts as hereinafter fully described and claimed.

In the present case, I have shown twelve batteries combined in the belt in series, but I do not confine myself to this or any particular number. The outer portion of each battery is formed of a plate of sheet copper bent so as to form an oblong link A, one end of the plate being provided with the slot *a*, the other end being furnished with a tongue *b*, which is off-set and bent inwardly at right angles, the extremity of the tongue *b* being inserted in the slot *a*. A slide *c*, formed of a narrow strip of copper having its ends bent over the edges of the plate forming the link A, completes the fastening of the said strip.

When the slide *c* is over the tongue *b* and slot *a*, the ends of the plate forming the link A are fastened as shown in Fig. 3, and when the slide *c* is moved to one side as shown in Fig. 4, the ends of the plate may be separated.

In the link A is placed a perforated zinc plate B, the ends of which are folded over parallel with the central portion, forming an oblong link of the same shape as the link A, but of smaller size. Around the folded zinc plate B is wrapped a piece of flannel, C, which separates the zinc and copper and also contains the electrolyte which consists of dilute vinegar.

The batteries thus constructed are connected in series by wire links D, the extremities of the wire forming the links being inclosed in sleeves *d*. The links D are inserted between the flannel and the copper plate A at one end of each battery, and pass through the looped zinc plate of the adjoining battery, and the terminal links D′, D² are provided with eyes *e e′* for receiving the electric connections.

The series of batteries is mounted in a tubular belt E of waterproof insulating material such as oil cloth or rubber cloth, the tubular belt being slit longitudinally on the outer side and fastened at intervals by means of ties *f*. The ends of the tubular belt are provided with straps *g*, *g′*, one of which is furnished with a buckle for receiving the other. A piece *h* of webbing, secured at its ends to the inner surface of the belt, supports two convex electrodes *i*, *i′*, which are connected with the eye *e* of the terminal link D′ by the hook *j* passing through the material of the belt, and the flexible cord *k*. The electrodes *ii′*, are provided with loops on the surfaces adjoining the belt E for receiving the webbing *h*. On the strap *g′* is placed an electrode *i²* like those already described, which is connected with the terminal link D² by the wire *l*.

An attachment G, for application of the current to the genitals, consists of a flat tube *m* of insulating material bent into a loop for surrounding the parts, and provided with a conductor *n* extending through the tube, and metallic buttons *o* placed on the inner surface of the loop and connected with the conductor *n*. The terminals of the conductor *n* are connected with the link D² by the wire *p*.

The series of batteries may be readily removed from the belt and cleansed, and to recharge them they are simply rolled or bunched together and dipped in a cup or bowl of the electrolyte, and may then be replaced on the belt.

I desire it to be particularly understood that I do not confine myself to any particular size or width of the batteries, nor to the number of electrodes shown in the drawings.

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

1. In an electrical belt the copper plate A, bent into a link and provided with the slot *a* and tongue *b*, the slide *c* fitted to the plate A, the perforated zinc plate B, and the porous septum C, substantially as specified.

2. An electric belt, comprising a tubular belt, a series of batteries linked together and inclosed in the belt, webbing having its ends secured to the inner surface of the belt at the rear thereof, electrodes secured to the webbing and connected with one end of the chain of batteries by a wire, and an electrode secured to the front portion of the belt and connected with the other end of the chain of batteries by a wire, substantially as described.

3. An electric belt, comprising a tubular belt, a series of batteries linked together and inclosed in the belt, webbing having its ends secured to the inner surface of the belt at the rear thereof, electrodes secured to the webbing and connected by a wire with one end of the chain of batteries, an electrode secured to the front portion of the belt and connected with the other end of the chain of batteries by a wire, and an auxiliary belt in the form of a loop provided with electrodes connected with one end of the chain of batteries by a wire, substantially as herein shown and described.

WILLIAM E. J. LAWLOR.

Witnesses:
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ELSIE NENDEL.