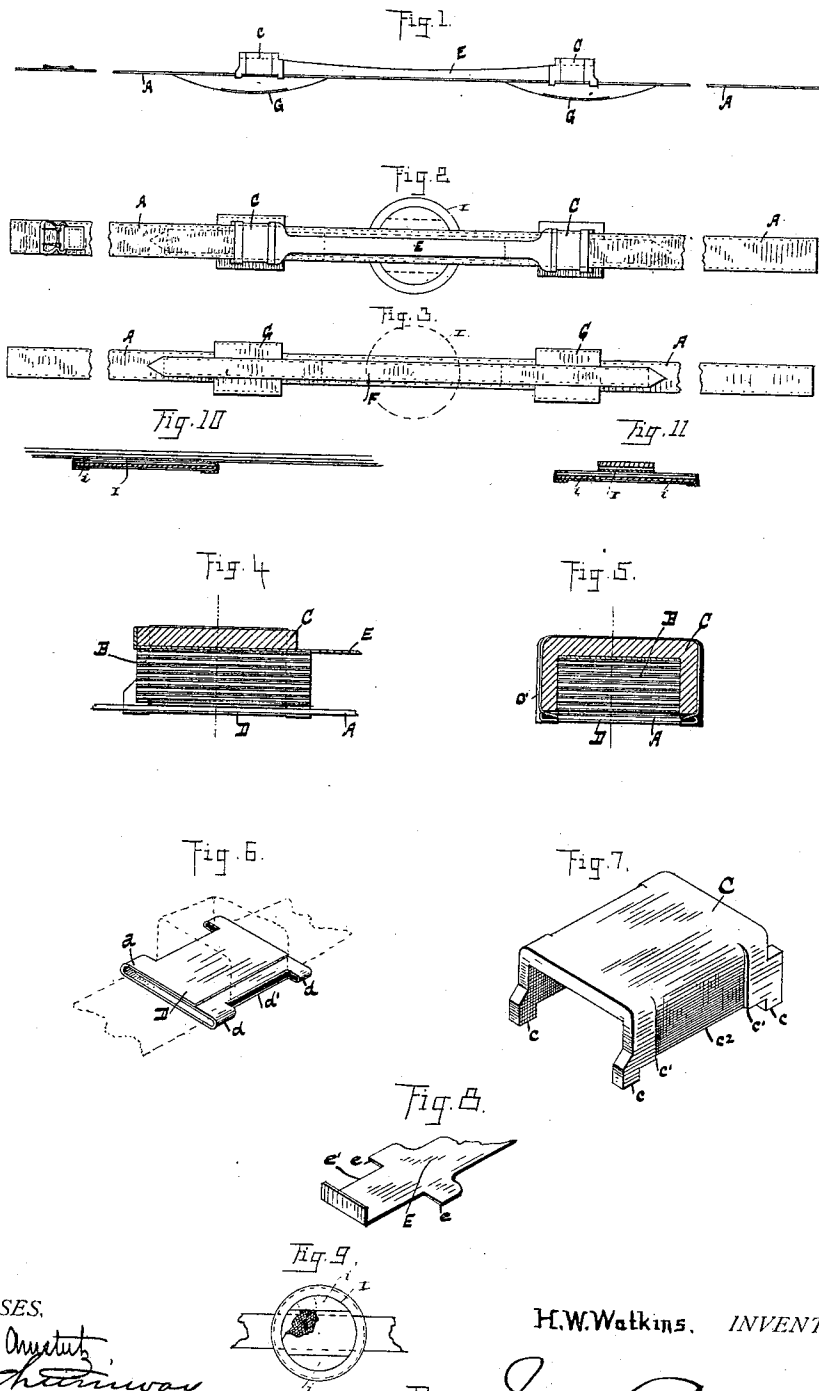


(No Model.)

H. W. WATKINS.
ELECTRIC BELT.

No. 351,233.

Patented Oct. 19, 1886.



WITNESSES,

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UNITED STATES PATENT OFFICE.

HENRY W. WATKINS, OF CLEVELAND, OHIO, ASSIGNOR TO THE VOLTAIC ELECTRIC MANUFACTURING COMPANY.

ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 351,233, dated October 19, 1886.

Application filed November 21, 1865. Serial No. 183,474. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. WATKINS, of Cleveland, in the county of Cuyahoga and State of Ohio, 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 pertains to make and use the same.

My invention relates to improvements in electric belts; and it consists in certain features of construction and in the combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view showing the edge of the belt. Figs. 2 and 3 are elevations showing, respectively, the outer and inner sides of the belt. Figs. 4 and 5 are enlarged elevations, in section, respectively, taken longitudinally and transversely through one of galvanic piles. Fig. 6 is a view in perspective of the plates. Fig. 7 is a view in perspective of the housing C. Fig. 8 is a view in perspective of one end of the metal strip E. Fig. 9 is an inside plan of the pad I. Fig. 10 is a view in vertical section lengthwise of the belt. Fig. 11 is a view in vertical section at right angles to Fig. 10.

A represents the belt, that is made to reach around the person, and is made of any suitable material, usually of cloth. To this belt are secured the galvanic or voltaic piles B, made of alternate plates of zinc and copper, arranged in the usual manner with intervening strips of felt, blotting-paper, or other similar material, saturated with water or some mild acid, such as vinegar. Of course I claim nothing on the voltaic piles *per se*. My invention relates solely to the manner of housing, connecting, and attaching these piles to the belt.

C is a glass housing, made substantially in the form shown in Fig. 7, the legs of the housing having lugs *c* and shoulders *c'*, the sides *c''* between the shoulders *c'* being depressed, as shown.

A metal plate, D, usually of zinc, is folded in the manner shown in Fig. 6, leaving an opening between the folds for the passage of the belt. The ears *d* of the plate fit between the lugs *c* of the housing and the edges of the

plate *d'*, between the ears, coming about flush with the sides *c''* of the housing.

In assembling the parts the plates D are strung upon the belt and located at suitable distances apart. Next, the housings C are placed, respectively, on the plates D in the manner aforesaid, and a piece of cloth is wound around the housing and plate to secure these two parts together. Next, a thin metal strip, E, having shoulders *e* and tongues *e'*, is placed in position, with the tongues *e'* extending through the respective housings. The shoulders *e* abut against the inner edges of the housing, and the tongues are turned up around the outer edges of the housing. (See Figs. 4 and 8.) The piles B are slid endwise into the respective housings between the plates D and the tongues *e'* of the metal strip. The metal strip E forms an electrical connection between the two piles. The strip E is so thin that it is quite flexible and readily assumes the desired form as the belt is passing around the person.

F is a strip of thin cloth, stitched at the ends and at the central portion thereof to the inside of the belt. To this strip is attached the pads G, that are merely pieces of cloth or other suitable material, to protect the person from contact with the plate D. The housings C are inexpensive and insulate the piles from the clothing and protect the latter from the moisture of the piles.

Hard rubber or other non-conducting material might be used for the housing, but glass is preferable on account of its durability and cheapness.

I is a pad, usually made of cloth and circular in form, and stitched to the strip F midway between the voltaic piles. The pad has a lining of thin rubber cloth and other materials impervious to moisture. Strips of cloth *i* are stitched to the face of the pad along the edge of the latter, leaving the central portion of the face of the pad exposed. (See Fig. 9.) Pieces of medicated cloth, sponge, or other suitable material may be applied to the face of the pad and the edges tucked under the strips *i* to hold the same in place, so that the medicated material will come next to the person. Meantime the pad, with its rubber lin-

ing, will protect the clothing from being soiled by the lotion.

I am aware that a combined galvanic and medicated pad, consisting of plates of zinc, felt, copper, and a medicated pad secured together within a common frame, is not new, and hence I make no claim to such construction.

What I claim is—

1. In an electric belt, the combination, with
10 a voltaic pile, a housing for said pile, said housing being made of non-conducting material, preferably of glass, and having lugs and depressed sides, substantially as described, of a
15 metal plate, preferably of zinc, said plate being folded to embrace the belt and fitting between the lugs of the housings, said plate having depressed sides to correspond with the depressed sides of the housings, the parts being arranged substantially as described.

2. In an electric belt, the combination, with 20 voltaic piles, housings for said piles, said housings having lugs and depressed sides, plates folded to embrace the belt, said plates having ears and depressed sides fitting between the lugs of the housings, of a metal plate for connecting the piles, said plate having shoulders 25 for engaging the inner edges of the housings, and tongues for passing through the housings, said tongues being bent up around the outer edges of the housings, the parts being arranged 30 substantially as described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 20th day of October, 1885.

HENRY W. WATKINS.

Witnesses:

G. W. SHUMWAY,
FREDK. KINSMAN.