

(Model.)

T. W. WILLIAMS.

## ELECTRIC BELT.

No. 256,526.

Patented Apr. 18, 1882.

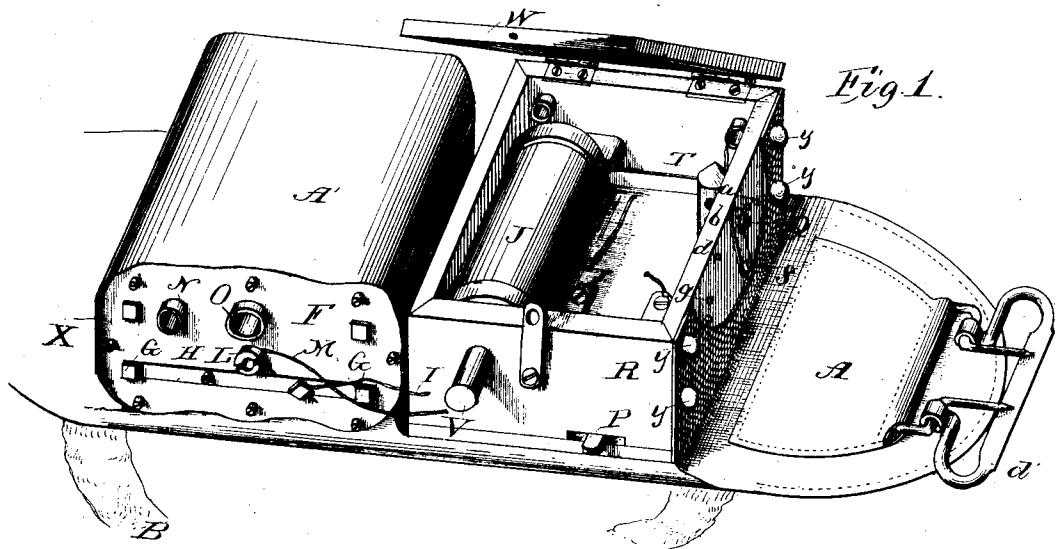


Fig. 2.

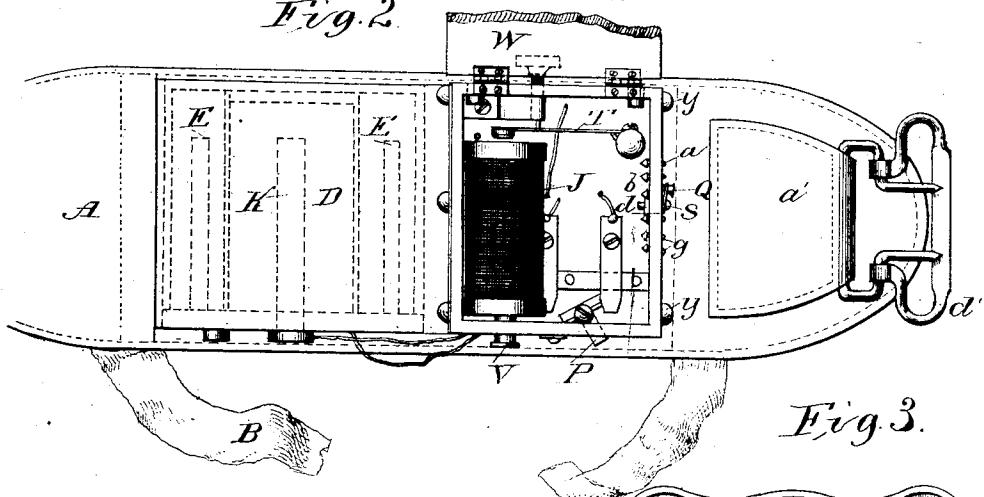
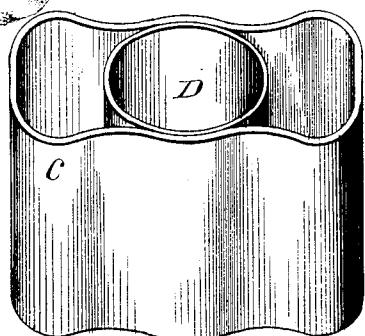


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 256,526, dated April 18, 1882.

Application filed February 27, 1880. Renewed February 20, 1882. (Model.)

To all whom it may concern:

Be it known that I, THADDEUS W. WILLIAMS, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and 5 State of Wisconsin, 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 10 art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

15 My invention relates to improvements in electric belts or devices for generating and applying electricity to the human system for medicinal purposes.

The objects of my improvements are to provide a device for applying electricity, either in 20 a continuous or broken current, with a broken current from either the primary coil or the induction or secondary coil, or from both coils combined, or with greater or less intensity, 25 and by which the directions of the currents may be reversed, which device is so supported by a belt that it is conveniently and comfortably worn upon the person in a standing or sitting position, as well as when lying, and the 30 adjusting switches and levers are so arranged that the device is readily adjusted by the wearer to perform the several functions without being removed from the person.

My invention is further explained by reference to the accompanying drawings, in which—

35 Figure 1 represents a perspective of my invention. Fig. 2 is a front view of the same, showing the interior of the battery. Fig. 3 is a perspective of the reservoir of the battery 40 and porous cup having cover removed.

In the accompanying drawings like parts are represented by the same reference-letters.

A is a belt, which is constructed of soft flexible material. It is provided with a buckle, 45 *d*, by which it is secured around the waist.

B is a band by which the belt is suspended from the neck or shoulders.

C is the reservoir of the battery.

D is an ordinary porous cup, which is located 50 centrally to the reservoir.

E are carbons, which are suspended in the respective ends of the reservoir from the cover

F by bolts G G. The bolts G G are connected by metallic bar H, from which one current of electricity is conveyed to wire I, which wire 55 communicates with the helix J.

K is a zinc bar, which is suspended in the porous cup from the cover F by bolt L, from which bolt one current of electricity is conveyed from the zinc to the box containing the 60 helix by wire M.

N is an opening for pouring liquid into the reservoir C. O is an opening for pouring liquid into the porous cup D, both of which openings may be closed when the battery is used; and 65 the cover F is hermetically sealed, so that the liquids cannot escape.

In treating diseases with electricity it has been demonstrated by experiment that greater beneficial results are attained by reversing the 70 currents; that when the currents have been continued in the same directions for a long time they become less effective and the patient ceases to be sensible to their action, when by reversing the currents their efficacy is greatly 75 increased. The direction of the currents is reversed, and this important object is accomplished by reversing the switch P from right to left or from left to right. Experience has also shown that different persons, as well as different 80 diseases, require different treatment, and that the same persons require the applications of different electric currents with greater or less degrees of intensity at different times, as in some cases the galvanic current is preferred, which 85

current passes in a continuous unbroken flow from the battery, while in other instances it is desirable to apply a broken or interrupted current. By my device I obtain four different currents of different qualities, each producing different 90 results. These different currents are governed by the switch Q, which is pivoted to the outside of the helix-box R by pin S, around which pin it performs a partial revolution as it is adjusted to change the currents. When 95 the switch is adjusted upon the first two pins, *a*, an unbroken continuous galvanic current is produced. When the switch is adjusted upon pin *b* the primary current or current from the primary wire of the induction-coil of the helix 100 is produced. This current passes through the vibrator T and is broken or interrupted in its flow. When the switch is adjusted upon pin *d* the secondary or induced current from the

secondary coil of the helix is produced, which current also passes through the vibrator. When the switch is adjusted upon pins *g* the primary and secondary currents are combined, 5 and the intensity of the currents are greatly increased. This current also passes through the vibrator. The intensity of the primary and secondary currents are increased by drawing out the tube *V*.  
10 W is the cover of the helix-box.  
X is a pocket, constructed of flexible material, for the reception of the battery *A'*. The battery may be readily removed from the pocket of the belt for filling or cleaning by first detaching the wires *I* and *M*.

15 The belt *A* is also provided with flexible flaps, which are attached to the respective sides of the helix-box by pins *y*, thus securing the box to the belt.

Having thus described my invention, what I 20 claim as new, and desire to secure by Letters Patent, is—

Devices for applying galvanic and electric currents to the human system, consisting in the combination of belt *A*, pocket *X*, battery 25 *A'*, having hermetically-sealed cover *F*, provided with openings *N* and *O*, helix *J*, and helix-box *R*, provided with switch *P*, vibrator *T*, switch *Q*, pins *a b d g*, and lid *W*, all substantially as and for the purpose specified. 30

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

THADDEUS W. WILLIAMS.

Witnesses:  
JAS. B. ERWIN,  
W. SINNOTT.