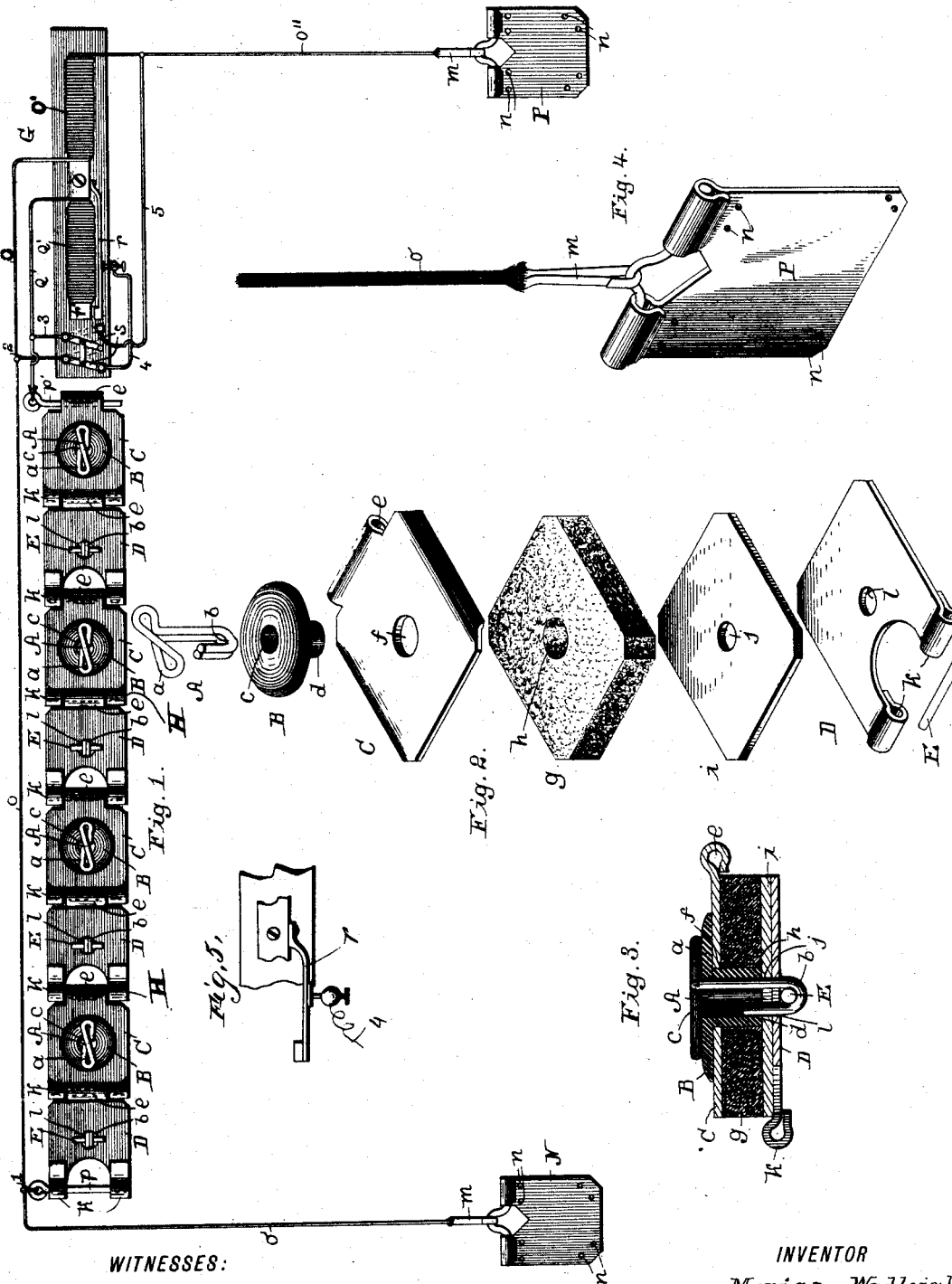


(No Model.)

M. WADLEIGH.  
ELECTRIC BELT.

No. 421,457.

Patented Feb. 18, 1890.



WITNESSES:

F. S. Fischer  
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# UNITED STATES PATENT OFFICE.

MERIAN WADLEIGH, OF KANSAS CITY, MISSOURI, ASSIGNOR TO CLARENCE S. GILBERT, OF SAME PLACE.

## ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 421,457, dated February 18, 1890.

Application filed June 25, 1889. Serial No. 315,497. (No model.)

*To all whom it may concern:*

Be it known that I, MERIAN WADLEIGH, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Electric Belts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in electric belts; and it consists in the arrangement of the different parts, hereinafter set forth and described.

In the drawings, which illustrate the manner of carrying out my invention, Figure 1 is a plan view of my improved belt, showing it attached to an induction-coil by means of which a faradic current is produced. Fig. 2 is a perspective view showing the different parts of one of the battery-cells in detail. Fig. 3 is a sectional view of one of the cells which form part of the battery. Fig. 4 is a detail in perspective of one of the electrodes for conducting the current to any desired point, and Fig. 5 is a detail view of the vibrator and the binding-post which bears the contact-pin.

Referring to the drawings by letter, A represents the clamp, which passes through the different parts composing the cell, thus holding them together with the aid of pin E, which passes through loop *b* of said clamp. The upper portion of the clamp is formed into a head, which prevents it from pulling through the central aperture of the cell.

B represents an insulator, which may be composed of either glass or hard rubber. Said insulator is provided with a projection *d*, through which passes aperture *c*. Projection *d* of the insulator passes through aperture *f* of copper plate C, which is provided at one end with a half-hinge *e*, by means of which it is connected to the following cell, forming part of the battery. Pins H H pass through registering half-hinges on adjacent cells and connect the same in series. Pins *p p'* are also inserted in the loops or half-hinges of the end cells to which the wires are connected, and by changing the positions of said pins *p p'* the strength of the current may be varied at will by utilizing a greater or less number of the cells. Copper plate Crests on sponge or other absorbent *g*, which has a central aperture *h*,

through which passes projection *d* of the insulator. The end of said projection rests on zinc plate *i*, which also has a central aperture *j* to permit the passage of clamp A.

D represents a German-silver plate, one end of which is provided with half-hinges *k*, by means of which it is connected to the following cell.

E represents the pin, which passes through loop *b* of clamp A, thus holding the different parts of the cell together.

G represents an induction-coil, which is connected to the battery by means of wires O and Q, leading from induction-coils O' and Q'. This induction-coil is provided with a switch *s*, by means of which the current is changed from a galvanic to a faradic current. The connecting-wire 4 is attached at one end to the switch, or is fixed in such a position as to enable one arm of the switch to come in contact therewith when said switch is in the position shown in full lines in Fig. 1, and is engaged at the opposite end in a binding-post *r'*, having a contact-pin, against which the vibrator normally bears, said binding-post being clearly shown in Fig. 5.

When the switch is in the position shown at Fig. 1 of the drawings, the direction of the current is as follows: First, it passes from cell to cell, increasing in power as it goes. It then leaves the battery, passes through pin *p'* to wire Q, and thence to induction-coil Q'. This wire Q is connected to one end of the coil Q', and the other end of the latter is connected to the bar which carries said coil, whereby the current passes through the latter to the vibrator, thence through the contact-pin to the wire 4, through the switch to the wire O, and thence to the opposite end of the battery. The passage of the current through the coil magnetizes the same and attracts the free end of the vibrator, thereby momentarily breaking the current and allowing said vibrator to resume its normal position. The current from the battery, passing as thus described, produces a faradic current in coil *o'*, which passes off the electrodes and through the body. This being a faradic current, it passes alternately, passing first one direction then the other.

To produce a galvanic current, it is only

necessary to throw the switch in the position indicated by the dotted lines, when the current will pass from pin  $p'$  to wire Q, thence to wire 3, through the switch to wire 5, from whence it passes to wire O'' to the positive electrode, thence through the body to the negative electrode, and over wire O to the battery through conducting-wire 1, thus forming a complete circuit.

10 The induction-coil shown herein is of the ordinary and well-known construction, and therefore does not require a detailed description. The connections are substantially the same as in other devices of this kind. This  
15 induction-coil may be attached to any electric belt in the manner described.

Having thus described my invention, what I claim is—

1. In an electric belt, the combination, with  
20 a battery, of an induction-coil connected to the terminal wires of said battery, the electrodes connected, respectively, to one of the

said terminal wires and to the induction-coil, the vibrator, the switch connected to said terminal wires, and connecting-wires 4 and 5  
25 connecting the switch to the vibrator and one of the electrodes, substantially as specified.

2. The combination, with a battery, of the induction-coil connected to the terminal wires of said battery, the electrodes connected, respectively, to the induction-coil and to one of  
30 said terminal wires, the switch connected to said terminal wires by wires 2 and 3, the vibrator connected to the switch by wire 4, and the connecting-wire 5 between the switch and  
35 one of the electrodes, substantially as specified.

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

MERIAN WADLEIGH.

Witnesses:

F. G. FISCHER,  
A. A. HIGDON.