No. 666,933. Patented Jan. 29, 1901.

J. MOORE & J. MURRAY.

ELECTRIC BELT.

(Application filed June 30, 1900.)

(No Model.)

Fig. 1.

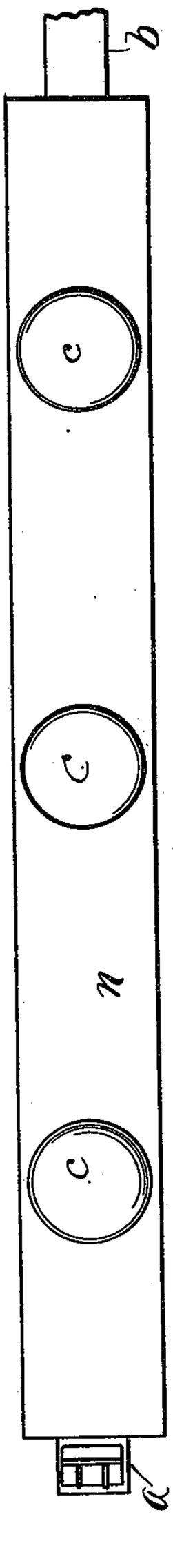


Fig. 2.

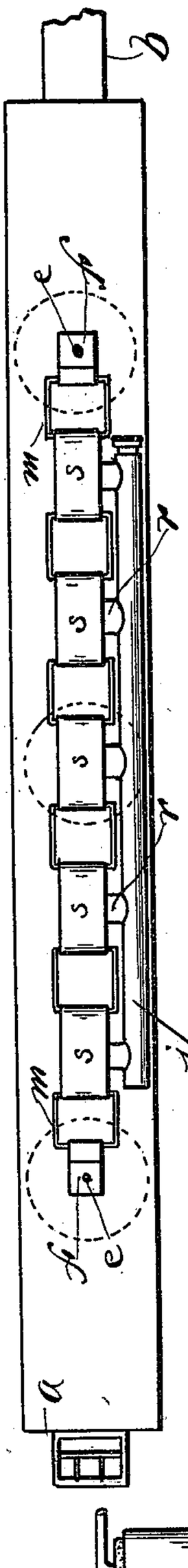


Fig. 3.

Fig. 4.

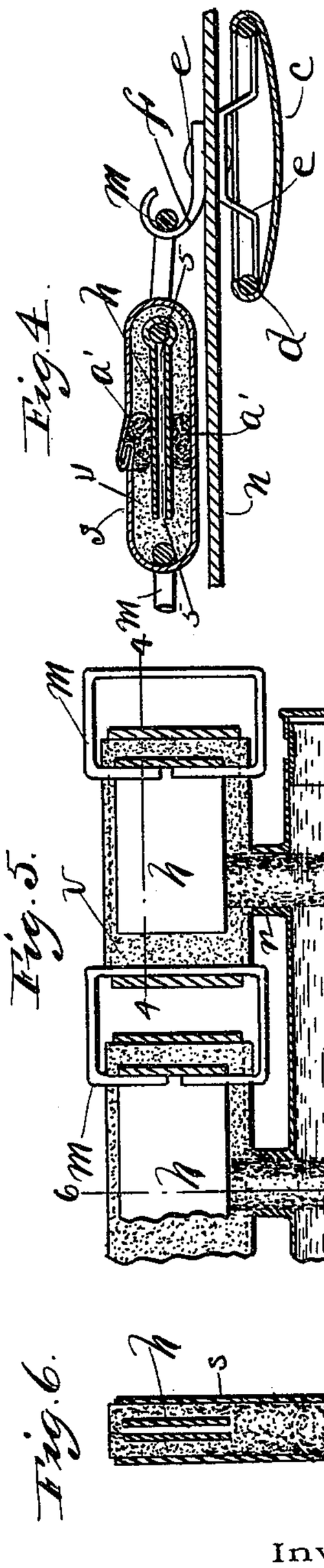


Fig. 5.

Fig. 6.

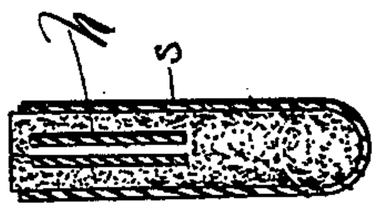
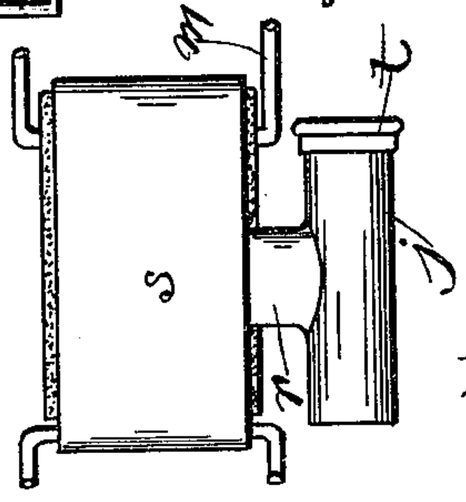


Fig. 7.



Witnesses.

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ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 666,933, dated January 29, 1901.

Application filed June 30, 1900. Serial No. 22,230. (No model.)

To all whom it may concern:

Be it known that we, JOHN MOORE, post-office address 92½ Sterling avenue, and JAMES MURRAY, post-office address 143 River avenue, both residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Electric Belts; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to electric belts; and it has for its object to effect certain improvements in the mode of supplying the energizing solution to the galvanic batteries by capillary attraction. It is of the class that are employed in body wear for the curing or relieving of various ailments or diseases for which electricity is usually employed.

The combination and arrangements of parts are hereinafter fully explained in this specification and illustrated in the accompanying drawings.

Figure 1 is a view showing the inner side of the belt and the contact-plate or electrodes. Fig. 2 shows a chain of batteries on the inside of the lining, with the outer covering removed. Fig. 3 is an edge view of the belt with the outer covering removed from the top edge, so that the batteries may be seen. Fig. 4 is an enlarged view of the central longitudinal section on line 4 4 in Fig. 5 through one of the end battery-cells, showing its connection to the contact-plates. Fig. 5 is an enlarged side elevation on section-line 5 5 in Fig. 4, showing connection of the supply-reservoir to the batteries. Fig. 6 is an enlarged vertical section on line 6 6 in Fig. 5. Fig. 7 is an enlarged elevation of a battery with a separate supply-reservoir attached thereto.

Referring to the drawings, Fig. 1 designates a body-belt *n*, made of webbing, leather, or any suitable material. This belt is provided with a buckle *a* at one end and a buckle-strap *b* at the other, which form the means for securing the belt in position on the body.

On the inner side of the belt next to the body are secured three contact-plates or electrodes *c c c*, which are made of aluminium with the outer edge rolled back over a copper-wire ring *d*. These plates are connected through to the opposite side of the lining by means of copper connecting-pieces *e*, which in the case of the two end plates are riveted through the strap to the hooks F F on the inner side, and in the center there is a button or rivet-head *g*, projecting through for the battery to rest against. The plates or electrodes *c c c* being made of aluminium are very light and smooth and do not tarnish or corrode by coming in contact with the body.

The galvanic batteries are constructed as follows: The outer casing *s* of each battery is composed of a thin strip of sheet-copper, the ends of which are fastened together by being bent over upon themselves and clenched, as illustrated in Fig. 4. It has an inner plate or core of zinc *h* and an intermediate layer of absorbent material *v*. Directly below the batteries and connected by tubes to them is a flexible supply tank or reservoir *j*. One long flexible reservoir may be connected to all of the batteries, as illustrated in Fig. 5, or each battery may have its own individual reservoir, as illustrated in Fig. 7. This supply-tank *j* is filled, by taking off a cap *t* at the end, with an acid solution, which is drawn up by capillary attraction through the wicks *a'* of absorbent material into the absorbent packing material V in the battery above, constantly replenishing the solution therein as fast as it is taken up or evaporated, thereby continuing the effectiveness of the electric belt, as the current may be prolonged at will, the length of time being limited only by the size of the supply-reservoir *j*. These batteries are connected together by links *m*, made of copper wire, which pass through one end of the battery and come into direct contact with the copper band, while at the other end it passes through a loop made in the zinc core and is there prevented from coming in contact with the copper band by the absorbent material, which projects beyond each edge of the copper band and comes between it and the link at the zinc end.

From the above description it will be understood that in preparation for use the ab-

sorbent material and the supply-tanks are charged with a suitable energizing solution, and in belts where the absorbent material alone is depended upon to hold this solution, as is the case with other belts, the life and effectiveness of the belt is consequently of short duration and requires recharging several times in order to effect one treatment, which is not the case with our belt, as the reservoir has sufficient capacity to supply the cells of the batteries and keep them in constant action for a week or more, if desired.

The construction of the belt is very simple and inexpensive and is found in practice to be efficient and durable.

Having thus described our invention, what we claim to be new, and desire to secure by Letters Patent, is—

1. In an electric belt, the combination of the body or casing belt, a series of galvanic batteries, contact-plates or electrodes connected to said batteries, with means for continuously supplying the cells of said batteries with energizing solution by capillary attraction, substantially as described.

2. In an electric belt, the combination of a body or casing belt, a series of galvanic batteries, contact-plates or electrodes connected to said batteries, one or more supply-reservoirs for holding energizing solution, connected to the cells, means for supplying the cells with an energizing solution by capillary attraction, substantially as described.

3. In an electric belt, the combination of the body or casing belt, contact-plates or electrodes, a series of battery-cells connected together by links, zinc cores in each cell and absorbent-material filling between said copper casing and zinc plates, a supply-tank for holding energizing solution attached to the under side of each cell, a wick extending down into said tank and also coming in contact with the absorbent-material filling forming means to continuously supply each individual cell with said energizing solution by capillary attraction, substantially as described.

4. In an electric belt, the combination of a series of galvanic batteries, contact-plates or electrodes a flexible supply-reservoir, with a connection to each battery for the purpose of supplying them with energizing solution, substantially as described.

In testimony whereof we have hereunto set our hands this 26th day of June, A. D. 1900.

JOHN MOORE.
JAMES MURRAY.

In presence of—
HOWARD E. BARLOW,
EDGAR S. MARSH.