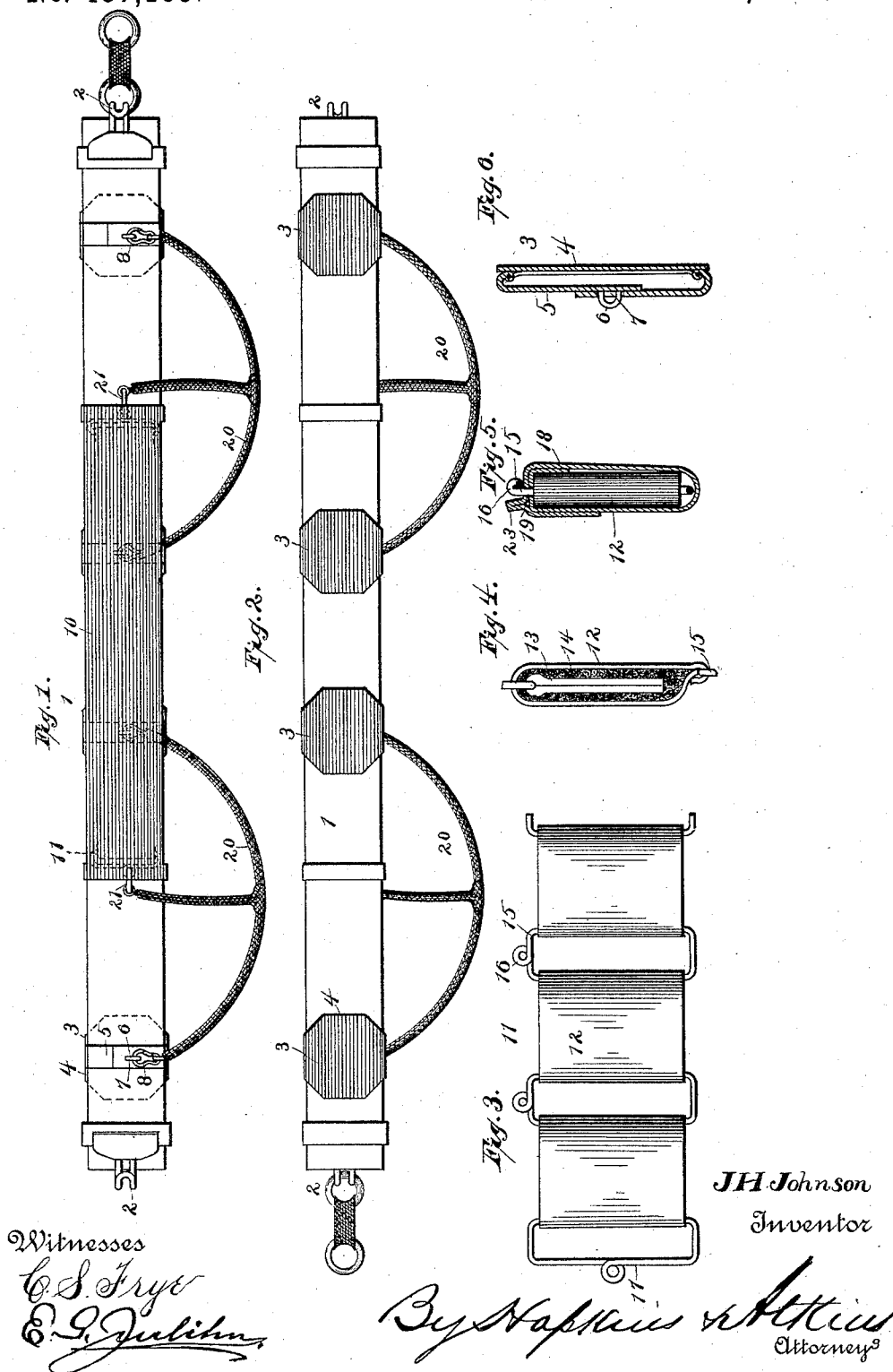


(No Model.)

J. H. JOHNSON.
ELECTRIC BELT.

No. 487,185.

Patented Nov. 29, 1892.



UNITED STATES PATENT OFFICE.

JOHN H. JOHNSON, OF DODGEVILLE, WISCONSIN.

ELECTRIC BELT.

SPECIFICATION forming part of Letters Patent No. 487,185, dated November 29, 1892.

Application filed July 21, 1892. Serial No. 440,849. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. JOHNSON, of Dodgeville, county of Iowa, and State of Wisconsin, have invented certain new and useful Improvements in Electric Belts, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an electric belt for medicinal purposes.

It consists of certain improvements of construction and novel arrangement of parts by which its efficiency is increased, its comfort to the wearer enhanced, and by which its battery power may be conveniently increased or diminished.

In the accompanying drawings, Figure 1 is a view of the outside of my belt, and Fig. 2 an inside view thereof. Fig. 3 is a view of a section of the battery. Fig. 4 is a cross-section of a single element. Fig. 5 shows the relation of the battery to the waterproof envelope, the latter being shown in cross-section. Fig. 6 is a sectional view of one of the contact-plates detached.

Referring to the figures on the drawings, 1 indicates a belt of any suitable construction provided with a buckle 2 for fastening it around the body of a wearer.

3 indicates an electrode, which consists of a flat plate 4 and hinged clasps 5. One of the clasps is provided with a staple 6 and the other with a slot 7 to receive the staple. When the parts are set in position as indicated in Fig. 1 of the drawings and the clasps folded around the fabric composing the belt, the staple is secured in the ordinary manner by hooks 8, so as to hold the plate securely in place for use against the body of the wearer.

10 indicates a longitudinally-disposed pocket fastened to the belt and preferably open at both ends.

11 indicates a battery composed of any desired number of elements, each of which preferably consists of an outside copper or negative electrode 12 and an inside core or positive electrode 13.

14 indicates a separating-partition of absorbent material saturated with a suitable electrolyte. The cores are preferably formed of a piece of sheet zinc folded together, and the negative electrode is made of sheet copper surrounding the core and the electrolytic

absorbent and having its ends folded together, as illustrated. This construction is an exceedingly compact and convenient one and is also well adapted for preventing waste of the electrolyte by leakage.

15 indicates conductors uniting the positive and negative electrodes of the elements in the ordinary manner to produce a battery. The conductors on one side are preferably provided with eyelets 16, as are also the terminal conductors 17.

18 indicates a waterproof envelope, preferably consisting of a sheet of oil-cloth wrapped one and a half times around the battery and provided with apertures 19, through which the eyelets on the conductors are in practice passed. When wrapped in the envelope, the battery is practically protected against access of moisture from without or escape of moisture from within, thereby insuring the best possible results and cleanliness.

23 indicates a longitudinal rib, which may be made by folding and stitching one edge of the waterproof envelope and which is clearly shown in cross-section in Fig. 5 of the drawings. The office of this rib is to prevent the slipping or accidental unfolding of the waterproof envelope when in place around the battery, and it also serves as a protector or guard to the eyelets in the battery and prevents the wear upon the case which would be occasioned without it.

20 indicates one of a pair of bifurcated main conductors provided with a hook 21 at one end and with hooks 8 at its bifurcated ends. The latter are adapted to be inserted in the staples of the contact-plates to hold them in place and to pass current to them, and the hooks 21 to be fastened, respectively, to the positive and negative poles of the battery. When so connected, an electric current is passed through the body of the wearer between the positive and negative contact-plates. When the full power of the battery is to be employed, the hooks 21 are connected with the eyelets of the terminal conductors. If it is desired to reduce the power of the battery, one of the hooks 21 may be shifted to any desired one of the eyelets of the intermediate conductors, so that the power of the battery may be diminished to that of one of the cells or increased to that of the full num-

ber of elements. The waterproof envelope and the pocket together perform the office of a supporter, so as to prevent the sagging of the battery and compel it to perform its office
5 as well as when the hooks 21 are connected with adjacent eyelets or as when they are connected with the terminal-conductor eyelets.

What I claim is—

1. In an electric belt, an electrode consisting of a flat plate and hinged clasps adapted to surround the belt, provided, respectively, with a staple and a slot, substantially as and for the purposes specified.

2. In an electric belt, the combination, with

the plurality of elements provided with conductors having eyelets for the connection of main conductors, of a waterproof envelope adapted to surround the battery, apertures in the envelope for the protrusion of the eyelets, and a longitudinal rib or guard upon
20 the envelope in proximity to the eyelets, substantially as and for the purpose specified.

In testimony of all which I have hereunto subscribed my name.

JOHN H. JOHNSON.

Witnesses:

W. G. BAXTER,
JOHN WILLIAMS.