

No. 765,530.

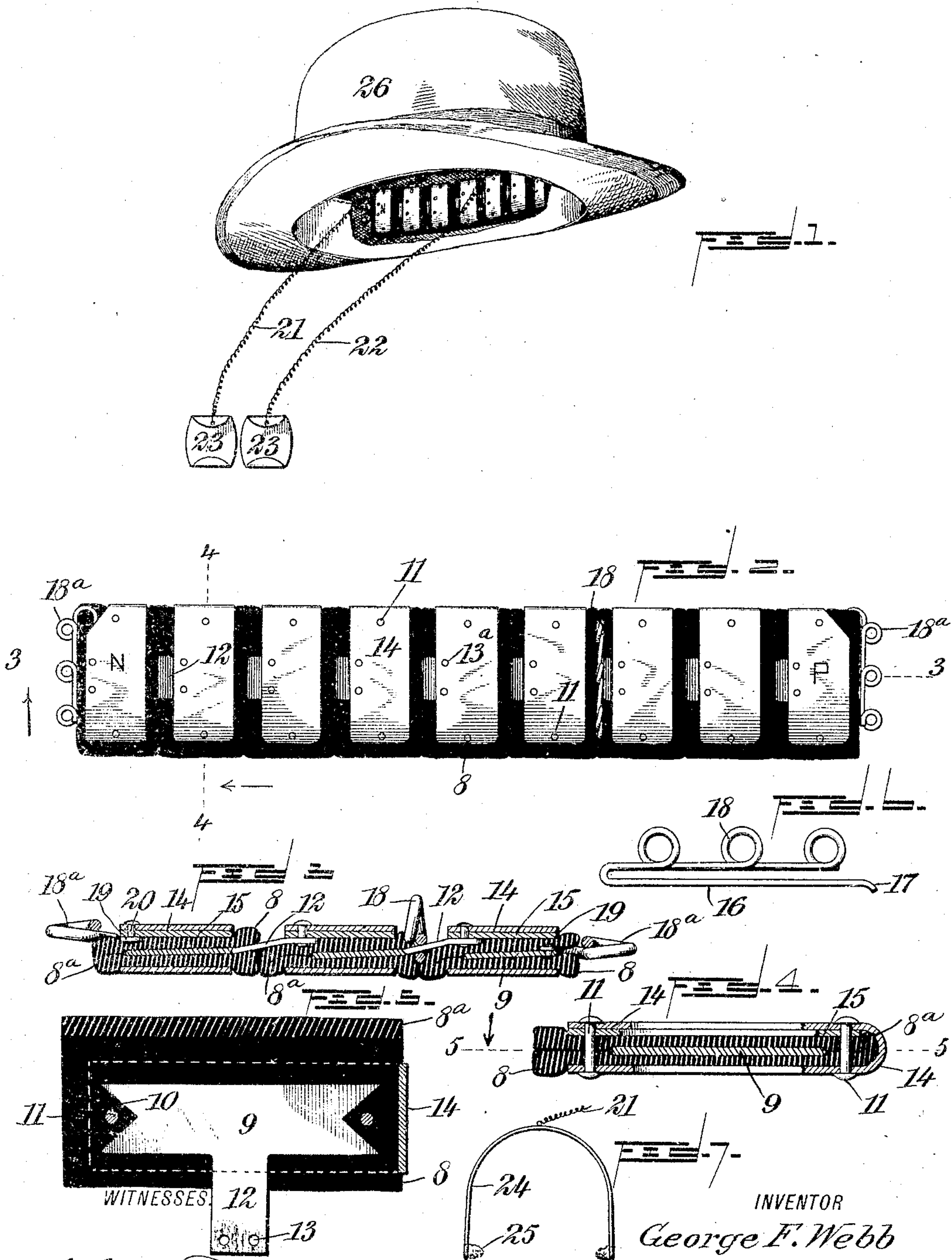
PATENTED JULY 19, 1904.

G. F. WEBB.
MEDICAL BATTERY.

APPLICATION FILED MAY 3, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

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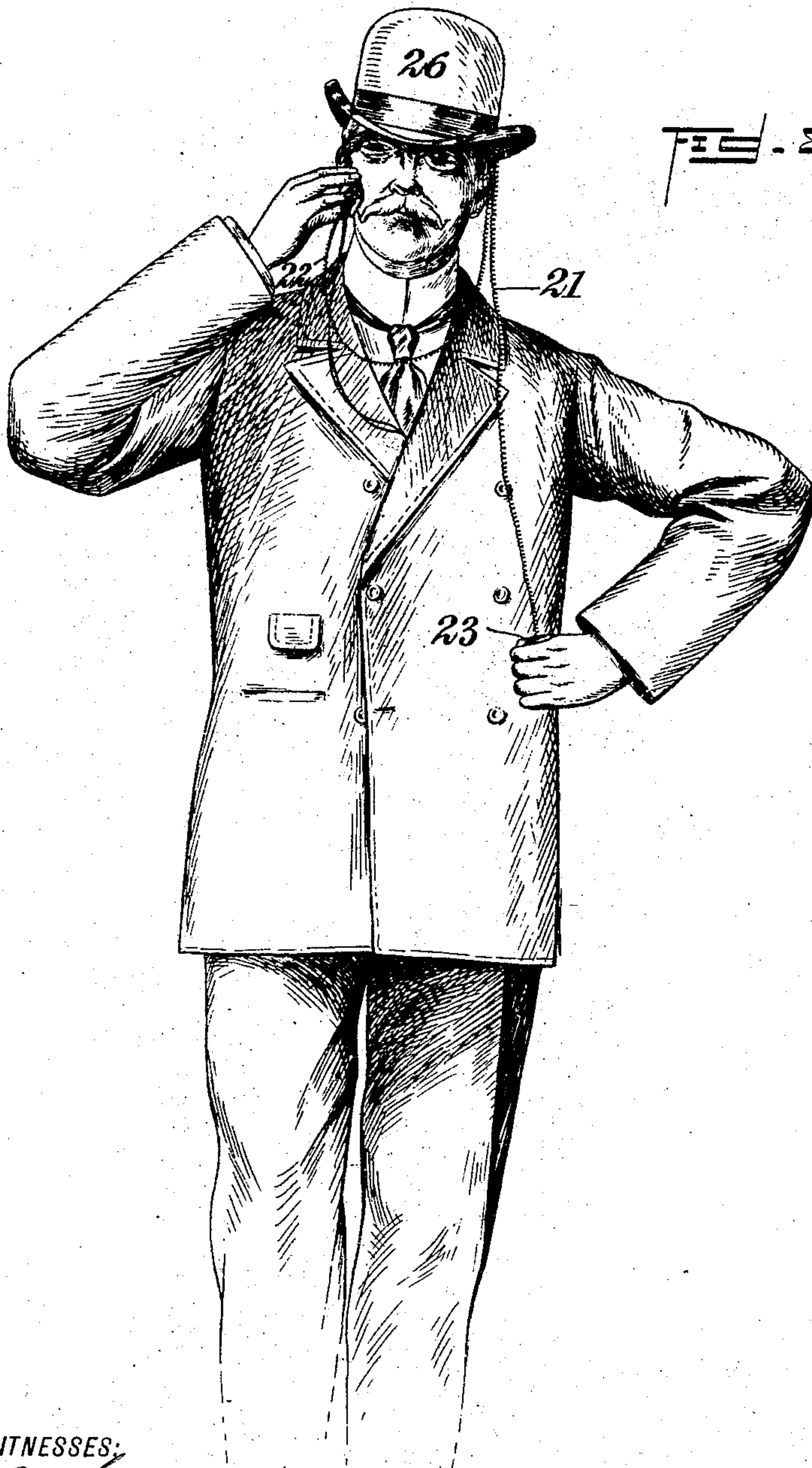
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WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE FRANCIS WEBB, OF GENEVA, OHIO.

MEDICAL BATTERY.

SPECIFICATION forming part of Letters Patent No. 765,530, dated July 19, 1904.

Application filed May 3, 1904. Serial No. 206,202. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANCIS WEBB, a citizen of the United States, and a resident of Geneva, in the county of Ashtabula and State of Ohio, have invented a new and Improved Medical Battery, of which the following is a full, clear, and exact description.

My invention relates to batteries, my more particular object being to produce a light and compact battery suitable for medical use and capable of ready adjustment without regard to the amount of current to be supplied.

My invention further relates to certain improved types of electrodes to be used in connection with such battery.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view showing my battery as mounted in a Derby hat and ready for service. Fig. 2 is a plan view of the battery removed and with the conducting cords or wires detached. Fig. 3 is a vertical cross-section taken lengthwise through the battery on the line 3 3 of Fig. 2 and showing the same as consisting of comparatively few cells. Fig. 4 is an enlarged section of a single cell. Fig. 5 is a horizontal section taken upon the line 5 5 of Fig. 4 looking in the direction of the arrow. Fig. 6 is a plan view of one of the binding connections used for connecting the conducting cords or wires with the battery. Fig. 7 is a plan view of one form of electrode, and Fig. 8 is a perspective view showing one way of using the battery.

A number of separate absorbents 8, each consisting, preferably, of felt, flannel, or some similar fabric, are folded back upon themselves at the several points 8^a, so as to envelop a plate 9 of copper provided with indentations, through which indentations rivets 11 pass without touching the plate 9. Each plate 9 is further provided with a stem 12, having rivet-holes 13, as indicated more particularly in Fig. 5. A number of bands 14 of corrosive material, preferably zinc, are bent into the form indicated, and within each band 14 is an additional strip 15 of the same material. One of the bands 14 and one of the strips 15 to-

gether constitute an anode or positive element of the battery. Instead of using binding-posts I employ a binding connection 16, provided with an upturned lip 17 and with loops 18, all of these parts being integral, as indicated in Fig. 6. The loops 18 serve as handles for readily manipulating the binder and also as portions whereby the cords or wires 21 22 may be connected. At the ends of the battery the loops 18^a are disposed in a plane substantially normal with the general plane of the belt, as indicated in Fig. 2. The lips 19 of the terminal binders are connected by rivets 20 with the extreme battery elements, as indicated in Fig. 3. The wires or cords 21 22 are of the usual construction and may be connected, if desired, with electrodes of the form shown at 23, or either of these electrodes may be supplanted by an electrode of the form shown at 24, this latter electrode being provided with sponges 25 suitable for application to the ears. The electrodes 23 are of special construction and are made of aluminum, the metal being frosted, so as to distribute the effect and also to present a neat appearance.

In connecting up the battery the stem 12 of each plate 9 is bent slightly out of alinement, as indicated in Fig. 3, and secured by a rivet 13^a to the zinc element of the next successive cell. If it be desired to use the full electromotive force of the battery, the loops 18^a of the terminal binders 16 are connected directly with the wires or cords 21 22. If, however, it be desired to use less than the maximum voltage of the battery, one of the wires or terminals 21 22 is connected with the loops 18 of the binder 16, secured between any two adjacent absorbents, as indicated in Figs. 1 and 3.

As shown in Fig. 1, the battery has the electromotive force of four cells only. By moving the binder 16 to the right or to the left of the position indicated in Fig. 1 the voltage of the battery is increased or reduced, as desired. While in Fig. 1 I show the battery as carried within a hat, it may obviously be carried in other ways not necessary to be described.

It will be noted that the rivets 11 bind the absorbents tightly upon the ends of the plate 9, so as to maintain a good contact between

the absorbents and the plate 9 and also between the absorbent and the zinc element, yet without making any metallic connection such as would form a short-circuit. It will also be noted
5 that the number of cells in the battery may be decreased or increased, as desired, the battery being of the so-called "built-up" type, and that independently of the number of cells the voltage may be varied, as above described.
10 The fact that the plate 9 with its stem 12 has substantially the form of a T gives it a good anchorage within the absorbent, especially as the rivets 11 cause considerable pressure to be exerted as between the absorbent and the cop-
15 per plate 9. This pressure prevents any displacement of the plate 9 and avoids the possibility of any contact between it and the metallic rivet 11.

My invention is used as follows: The sev-
20 eral absorbents 8 are partially saturated with a corrosive solution—such, for instance, as salt water or water containing a small proportion of sulfuric acid. The conducting cords or wires 21 22 are next connected, as above
25 described, and the electrodes 23 23 or 23 24 are applied, as desired, the galvanic current thereupon passing through the electrodes and through the diseased organ or part. To in-
crease or diminish the electromotive force, it
30 is not necessary to disengage the wire or cord 22. All that is necessary is to slip the binder 16 out of engagement with the stem 12, as will be understood from Fig. 3.

While I show and preferably employ the cells connected in series, I do not limit my- 35 self to this arrangement. Neither do I limit myself to the exact mechanical details of each cell nor to the precise method of varying the electromotive force of the battery.

Having thus described my invention, I claim 40 as new and desire to secure by Letters Patent—

1. In a medical battery, the combination of a cathode-plate provided with indentations and with a stem, said cathode-plate thus being of substantially T shape, an absorbent of flexible 45 material bent about said cathode-plate and partially inclosing the same, a zinc strip engaging said absorbent, a zinc band engaging said zinc strip and also engaging said absorbent, and metallic rivets passing through said 50 zinc strip, said zinc band and said absorbent but without engaging said cathode-plate.

2. In a medical battery, the combination of elements for producing electromotive force, connecting-wires engaging the same, and elec- 55 trodes engaging said connecting-wires, said electrodes being made of aluminium and provided with frosted surfaces.

In testimony whereof I have signed my name to this specification in the presence of two sub- 60 scribing witnesses.

GEORGE FRANCIS WEBB.

Witnesses:

C. I. CHAMBERLIN,
HENRY MEANS.