

(No Model.)

W. E. WASHBURN.  
ELECTROTHERAPEUTIC DEVICE.

No. 500,172.

Patented June 27, 1893.

Fig. 1.

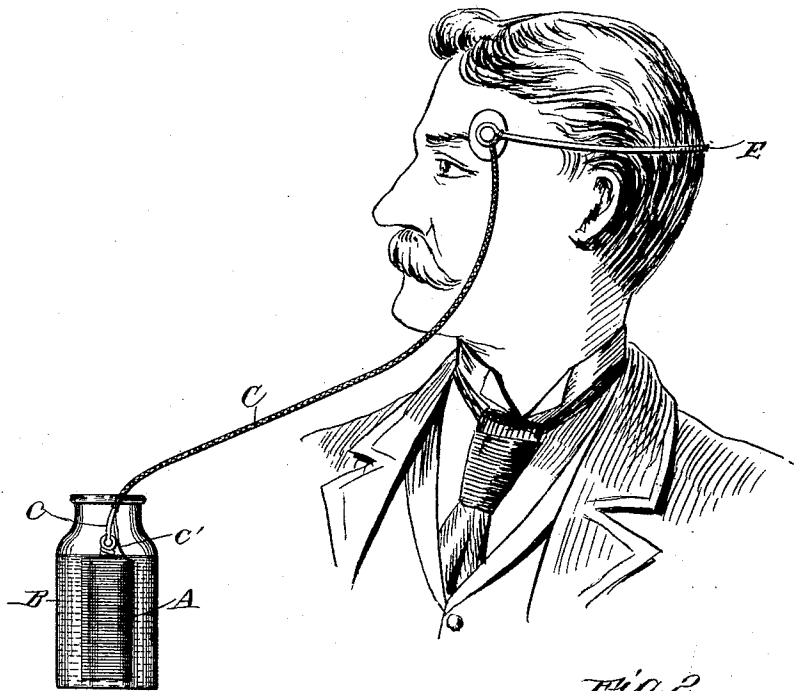


Fig. 2.

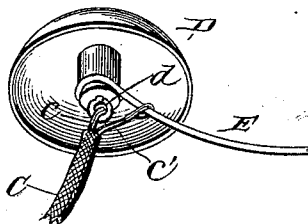


Fig. 3.

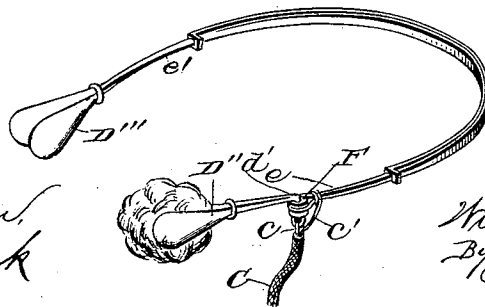
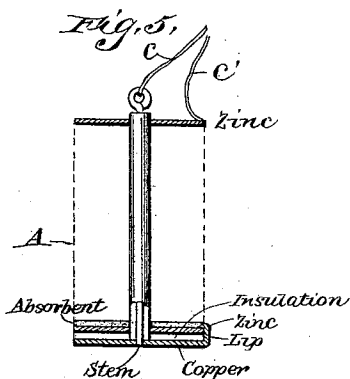


Fig. 4.



Fig. 5.



Witnesses:  
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Inventor:  
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By J. M. St. John,  
Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM E. WASHBURN, OF CEDAR RAPIDS, IOWA, ASSIGNOR OF TWO-THIRDS TO F. S. WASHBURN AND F. E. WASHBURN, OF SAME PLACE.

## ELECTROTHERAPEUTIC DEVICE.

SPECIFICATION forming part of Letters Patent No. 500,172, dated June 27, 1893.

Application filed November 11, 1892. Serial No. 451,621. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. WASHBURN, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Electrotherapeutic Devices; 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 art to which it appertains to make and use the same.

This invention relates to that class of devices by which the electrical or galvanic current is utilized in the treatment of diseases, more particularly nervous disorders; and the object of the invention is to provide in a small and portable form, convenient for use, an inexpensive and efficient device for this purpose.

The invention consists in the construction, combination and arrangement of parts, as hereinafter fully set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view of a device embodying my invention, as applied in the treatment of headache, or the like. Fig. 2 is an enlarged view of one of the contact disks and its connections. Fig. 3 is a general view of the device in perspective, separate from the battery, the form of the parts being considerably modified, as will be hereinafter set forth. Fig. 4 is a central, transverse section of the contact disk nearest the battery, and its connections. Fig. 5 is a fragmentary view of the voltaic pile in detail.

Similar letters of reference indicate corresponding parts.

The parts of the device which are separate from the battery are adapted for connection and use with various types of batteries, but I prefer to use it, and have so illustrated it, in connection with a battery which forms the subject matter of certain Letters Patent, No. 482,444, issued to me on the 13th day of September, 1892, to which, for more specific description reference may be made.

For the purposes of this application it may simply be said that the battery consists of a voltaic pile A immersed in an energizing fluid contained in a suitable vessel B. The pile is composed of disks of copper and zinc, or like

positive and negative electrical elements, connected by a narrow lip at the outer edge, and arranged in a regularly alternating order, with interposed disks of absorbent material, as blotting paper, and an insulating material, as paraffine, also arranged in alternating order. One end of the conductor is attached to one of the terminal disks, of zinc, and the other to a wire passing through the whole pile, suitably insulated, and connecting with the other terminal disk, of copper.

The conductor C is a small double magnet wire, one strand of which connects with one element of the pile, and the other with the opposite element. For convenience the strand *c* may be considered as the positive and the strand *c'* as the negative wires. The other ends of these wires connect with contact disks as illustrated in Figs. 2 3 and 4.

To the disk D is suitably fastened a stem *d*, around which is an insulation, such as hard rubber. Around this insulation is turned the eye on another conductor E, which terminates in a contact disk (not shown), similar to the first one. The positive wire *c* connects with an eye in the stem *d*, and the negative one *c'*, with the conductor E. It now but remains to put the battery in operation, when by the contact of the two disks a current is established. When applied as shown in Fig. 1 the current is established by contact with the head, and passing through it tends to the relief of pain.

In the simple form shown in Fig. 1 the conductor E is a single wire, the flexibility of which adapts it to the various positions in which it may be applied on different parts of the body. To render it still more convenient and comfortable it may be composed of two parts, *e* and *e'*, connected in a manner similar to spectacle bows, or other convenient way, whereby the length is made adjustable.

Instead of the metal terminals D D', a sponge may be used, and for this purpose the bail may be provided with suitable clamps D'' D''', as shown in Fig. 3, or equivalent means for holding the sponges. Here it will be seen that the same principle is employed, the positive conductor *c* being connected to the bifurcated stem *d'*, and the other conductor *c'* to the bail *e*, insulated from said stem.

The device is extremely simple in construction, as will be seen, which renders its manufacture cheap and easy. It is also very convenient in use, inasmuch as the conductors *c* 5 *c'* are both connected at one side and near the same point.

Having thus described my invention, I claim—

1. The combination with a suitable electric 10 or galvanic generator and conductors leading therefrom, of a therapeutic appliance substantially as described, the same consisting of a positive contact member to which the positive conductor connects directly, an insu- 15 lator thereon, a bail attached to said insulator, with which bail the negative conductor connects, and a suitable contact terminal for the free end of said bail.

2. The combination with a suitable source 20 of electric or galvanic energy and conductors therefor, of the described therapeutic appliance, the same consisting essentially of a contact-plate or equivalent terminal, to the stem of which the positive conductor connects, an

insulator around said stem, a bail connecting 25 therewith, the negative conductor connecting with said bail near the insulator, and a contact terminal for said bail.

3. The combination with a galvanic or electric generator, of the described therapeutical 30 device, consisting of a sponge-holder *D''* having a stem *d'*, to which the conductor *c* is connected, the insulator *F*, the bail connecting with said insulator and having a terminal sponge-holder, and conductors *c c'*, the latter 35 connecting with the bail near the insulator.

4. In an electro-therapeutic device, the combination of the described voltaic battery *A* *B*, conductors *c c'*, terminal *D*, to which the conductor *c* connects, an insulator *F* thereon, 40 the bail *E*, to which the conductor *c'* connects, and a terminal therefor.

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

WM. E. WASHBURN.

Witnesses:

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JOSEPH KEELUCEK.