

H. AUB.
HEAD ELECTRIFYING DEVICE.
APPLICATION FILED JULY 19, 1910.

999,945.

Patented Aug. 8, 1911.

FIG. 1

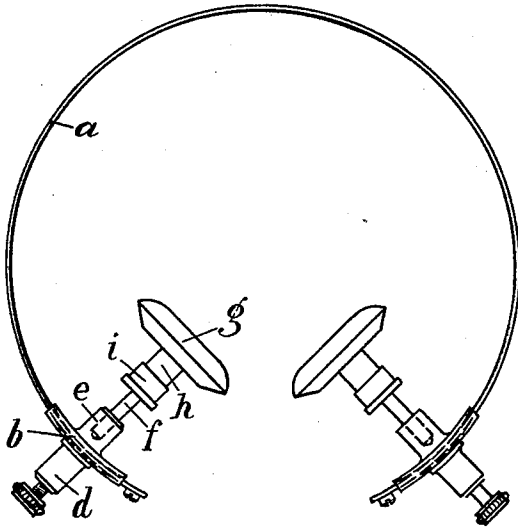


FIG. 2

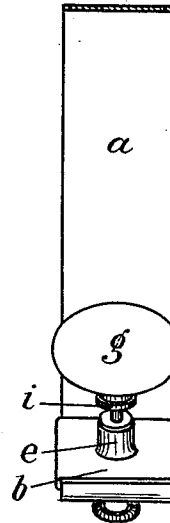


FIG. 3

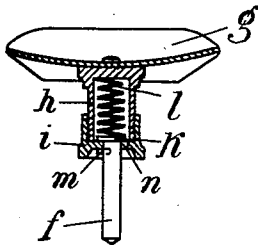


FIG. 5

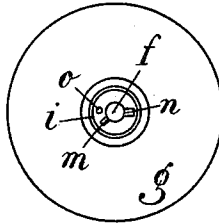


FIG. 4

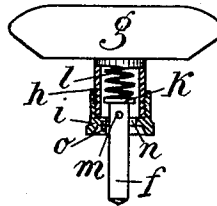
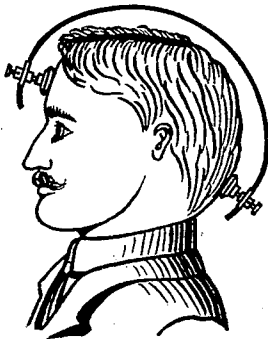


FIG. 6

FIG. 7



Witnesses
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UNITED STATES PATENT OFFICE.

HERMANN AUB, OF MUNICH, GERMANY.

HEAD-ELECTRIFYING DEVICE.

999,945.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed July 19, 1910. Serial No. 572,697.

To all whom it may concern:

Be it known that I, HERMANN AUB, citizen of Germany, residing at Munich, Bavaria, Germany, have invented certain new and useful Improvements in Head-Electrifying 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.

Head electrifying devices are already known, in which the electrode or the electrode-holder is so connected to the spring hoop-segment that the electrode can be adjusted and moved to a certain extent relatively to the hoop. In practice it has been found, however, that these electrodes cannot always follow the movements of the muscles when eating, speaking or when nervous muscular contractions take place at the point of contact this resulting in an irregular or interrupted flow of the current and causing inconvenience to the patient, for instance, dancing lights before the eyes and similar unpleasant symptoms. The present invention removes these disadvantages by making not only the hoop-segment of elastic or springy material, for instance, in the form of a spring buckle or clasp, adapted to inclose the head of the wearer, but also the connection between the electrode and the electrode-holder; in the present invention the electrode is given a certain freedom of movement in all directions, so that it can follow all movements of the muscles at the point of contact, without in any way interrupting the regular flow of the current.

Reference being had to the accompanying drawing, Figure 1 shows the present invention as applied to an ordinary head hoop, Fig. 2 being a cross-section; Fig. 3 is a sectional view of an electrode, Fig. 4 showing the same in another position, and Fig. 5 being a view of an electrode from below. Figs. 6 and 7 illustrate two ways of using the hoop and electrodes.

In Figs. 1 and 2 *a* is the hoop, serving as carrier for the electrodes and being composed preferably of springy material either itself an insulator or covered with insulating material. Each electrode consists of a carriage *b* slidably adjustable on the hoop *a*, provided with a connecting screw *d*. Each carriage *b* is provided with an inwardly projecting socket *e*, adapted to receive and hold

a pin *f*, which is connected to the butt *h* of the electrode cushion *g* through the medium of springs and is slidingly arranged in said butt. For this purpose the butt *h* is provided with a screw-collar *i*, through which the pin *f* protrudes. The latter has at its end a circular ridge *k* (Fig. 3) so that it cannot be pulled out of the screw collar *i* and butt *h*. The ridged end *k* of the pin *f* is pressed by a spring *l*, which may preferably be in the form of a coiled spring.

The pin *f* may advantageously be provided with a projection *m*, adapted to rest against the under surface of the screw collar *i*, as shown in Fig. 3; in this position the pin *f* is not free to slide up and down in the collar *i* and butt *h*, and may therefore be inserted in the socket *e* with greater ease. When said pin *f* is in its place, the parts *g*, *h* and *k* are turned until the projection *m* can enter the interior of the screw collar *i* through the opening *n*; in this position the pin is again free to slide up and down in said collar and butt *h* (Fig. 4). The head *k* of the pin has a certain amount of lateral free play inside the collar *i*, so that the cushion *g* can be moved not only up and down against the pressure of the spring *l*, but also can swing slightly to the side. In this way a uniform pressure of the electrode cushion *g* against the head is secured, and said cushion is able to adapt itself to the movement of the muscles at the point of contact, for instance, when speaking, chewing, shaking the head, or the like; therefore the current will not be interrupted and such unpleasant symptoms as dancing lights before the eyes and the like will be avoided, as has been proved by practical trials.

The pin *f* may be held in the socket *e* either by friction alone, or may be arranged to screw into said socket. In the latter case a projection *o* (Figs. 4 and 5) must be provided on the under surface of the collar *i*, which projection *o* is adapted to engage with the projection *m* of the pin *f*, thus enabling it to be screwed into the socket *e*. For the purpose of fixing the pin into the socket, whether it screws in or not, it is supposed that the cushion *g* will be used as a handle.

Figs. 6 and 7 show two methods of using the apparatus, but obviously it may be adjusted in any other position found desirable or necessary, this being facilitated by the adjustability of the electrode holders or car-

riages *b* on the hoop *a* and by the elasticity of the latter.

What I claim as my invention and desire to secure by Letters Patent, is:

5 1. In a device of the character set forth the combination with a resilient band, of a supporting carriage slidable thereon, a cushion-supporting-member, means whereby the latter is supported from the sliding carriage, a cushion arranged exteriorly of the
10 free end of the cushion-supporting-member, and a resilient connection from the cushion to the means for supporting the cushion-supporting-member from the sliding carriage, substantially as described.

15 2. In a device of the character set forth, the combination with a resilient band, of a supporting carriage slidable thereon, a pin carried by said supporting carriage, a
20 cushion-supporting-member carried by said pin, a cushion on the free extremity of said cushion-supporting-member and arranged exteriorly thereof, and a resilient connection
25 passing from the pin through the cushion-supporting-member to the cushion, whereby the latter is capable of universal movement, substantially as described.

30 3. In a device of the character set forth, the combination with a resilient band, of a supporting carriage slidable thereon and being provided with a socket, a pin having one end adapted to enter said socket and its
35 opposite end provided with an enlarged head, a collar within which the headed end of the pin is movable, an electrode having a hollow member telescoping with said collar and a cushion on the free extremity of said
40 hollow member, and a resilient connection from the headed pin to the cushion whereby the latter is capable of universal movement, substantially as described.

4. In a device of the character set forth, the combination with a resilient band, of a supporting carriage slidable thereon and being provided with a socket, a pin having
45 one end adapted to enter said socket and its opposite end provided with an enlarged head, a lateral projection formed on said pin in proximity to the headed end thereof, a collar having a lateral slot for the admission
50 of said projection and said collar being designed to receive the headed end of said pin, an electrode having a hollow member telescoping with and adjustable relatively to said
55 hollow member and a cushion on the free extremity of the latter and a spring extending from the headed pin to the cushion whereby the latter is capable of universal movement, substantially as described.

60 5. In a device of the character set forth, the combination with a resilient band, of a supporting carriage slidable thereon, and being provided with a socket, a pin having one end adapted to enter said socket and its
65 opposite end provided with an enlarged head, a lateral projection formed on said pin, a cushion-supporting-member having its lower end provided with a lateral slot and a downwardly projecting pin adapted
70 to engage the lateral projection on the headed pin, a cushion arranged exteriorly on the free extremity of said cushion-supporting-member, and a spring connecting the headed pin to the cushion whereby the
75 latter is capable of universal movement, substantially as described.

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

HERMANN AUB. [L. s.]

Witnesses:

HANS P. ROBERT,
LEMP RICHARDS.