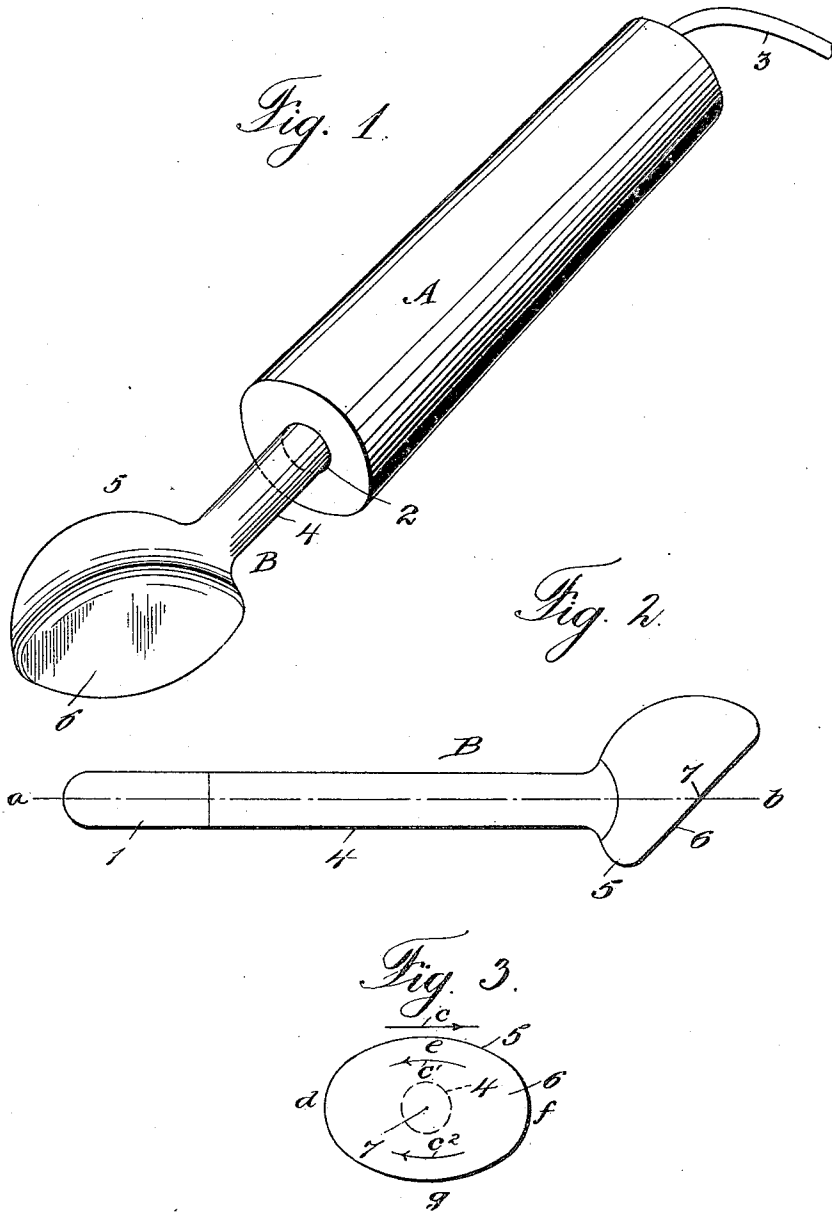


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ELECTRODE FOR THERAPEUTICAL APPARATUS.
APPLICATION FILED AUG. 11, 1914.

1,122,947.

Patented Dec. 29, 1914.



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ELECTRODE FOR THERAPEUTICAL APPARATUS.

1,122,947.

Specification of Letters Patent.

Patented Dec. 29, 1914.

Application filed August 11, 1914. Serial No. 856,194.

To all whom it may concern:

Be it known that we, FRANCIS M. KIDDER and MILTON H. KIDDER, citizens of the United States, and residents of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Electrode for Therapeutical Apparatus, of which the following is a full, clear, and exact description.

This invention relates to vacuum tubes, and more especially for electrodes for electro-therapeutical uses.

The general objects of the invention are to improve the construction of electrodes or vacuum tubes so as to be more reliable and satisfactory in use, comparatively simple and inexpensive to manufacture and of better design than those heretofore constructed.

A more specific object of the invention is the provision of an improved electrode especially adapted for use in a handle or carrier of any desired type, such, for instance, as that disclosed in our prior application for Letters Patent of the United States, Serial Number 810,812, filed January 7, 1914, for improvements in high frequency therapeutical apparatus, the design of the electrode being such that there is no tendency of the electrode to turn as the contact face thereof is rubbed over an afflicted part. In some electrodes as heretofore proposed the contact surface of the bulb end is disposed wholly to one side of the axis of the stem or tube of the electrode, so that the electrode turns in its holder about the stem as an axis, the bulb end of the tube being, as it were, a crank, whereby pressure applied thereto during the rubbing of the electrode over an afflicted part produces a rotative effect of the electrode as a whole. This objection is overcome by the present invention by reason of the fact that the center of the flat or contacting face of the bulb of the electrode is coincident with the axis of the stem, and at the same time the said contacting or applying surface of the bulb is obliquely disposed to the axis of the electrode stem. It will thus be seen that at no time will there be developed a couple of forces tending to rotate the electrode, as the flat surface of the bulb in being rubbed over an afflicted part is subjected to two opposing forces at opposite sides of the center and of equal magnitude,

so that there is no tendency to a rotative effect.

For a more complete understanding of the invention reference is to be had to the accompanying drawing, in which similar characters of reference indicate corresponding parts in all the views, in which—

Figure 1 is a perspective view of the electrode mounted in the handle of a therapeutical apparatus; Fig. 2 is a side view of the electrode; and Fig. 3 is an end view of the electrode.

Referring to the drawing, A designates the handle of the applicator or therapeutical apparatus, said handle being of such design as to include the electrical instrumentalities for producing the high frequency currents that generate the ultra-violet rays within the electrode B, such electrode having its metallic tip 1 inserted in the socket 2 in the end of the handle A. The current is derived from a suitable source through a cord conductor 3 which extends into the handle. As to the instrumentalities contained in the handle, reference is to be had to the application hereinbefore mentioned.

The electrode B comprises an evacuated tube consisting of a stem 4 having on one end the metal tip 1 and shaped at its opposite end into a bulb 5. This bulb 5 is provided with a flat surface 6 which is pressed into contact with the part of the patient to be treated, and rubbed over the afflicted part. This surface 6 is disposed obliquely to the axis of the electrode, and the axial line *a, b* intersects the surface 6 at the center 7 thereof, as clearly shown in Figs. 2 and 3. By reason of this relation of the contacting surface 6 of the electrode to the axis of the stem, the electrode can be rubbed over the body of the patient without any tendency of the electrode to turn, since the friction between one-half of the surface 6 and the afflicted part tending to turn the electrode is equally opposed by the friction between the other half of the surface 6 and the afflicted part. Thus, in Fig. 3, let it be assumed that the electrode is moved in the direction indicated by the arrow *c*, whereby the friction between the upper half *d, e, f* and the body of the patient tends to rotate the electrode anti-clockwise, as indicated by the arrow *c'*, while the friction between the lower half

d, g, f of the surface 6 of the electrode is subjected by frictional contact with the body of the patient to a turning effect in a clockwise direction, as indicated by the arrow *c*², and as these turning effects are equal and opposite there will be no rotation of the electrode, no matter what the motion of the electrode is on the surface being treated. Consequently, the electrode can be held steadily, whereby the treatment of the patient is greatly facilitated and the annoyance due to the turning of the electrode constructed as heretofore proposed is entirely avoided.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while we have described the device which we now consider to be the best embodiment thereof, we desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the appended claims.

Having thus described our invention, we

claim as new and desire to secure by Letters Patent:

1. An electro-therapeutical apparatus of the character described comprising a handle having a socket, an electrode having a stem extending into the socket and formed at its extremity with a bulb having a flat treating surface disposed obliquely to the axis of the stem and having its center coincident with such axis.

2. An electro-therapeutical apparatus comprising a handle having a socket of round cross-section, and an electrode having a stem of round cross-section and provided with a bulb having a flat surface disposed at an angle to the axis of the stem, and the approximate center of the said surface being coincident with such axis.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANCIS M. KIDDER.
MILTON H. KIDDER.

Witnesses:

CHATTIN BRADWAY,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."