June 28, 1927. 1,633,878

G. W. WALLERICH

ELECTRICAL THERAPEUTIC DEVICE

Filed Feb. 9, 1925

Fig. 1.

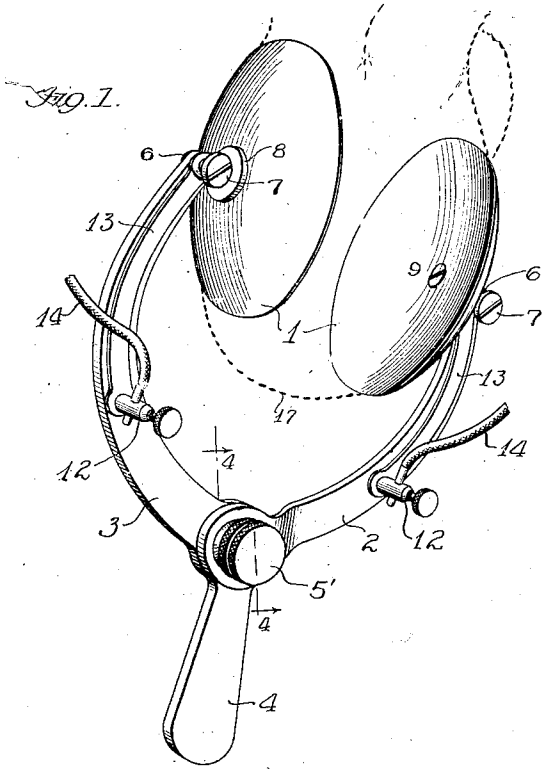


Fig. 2.

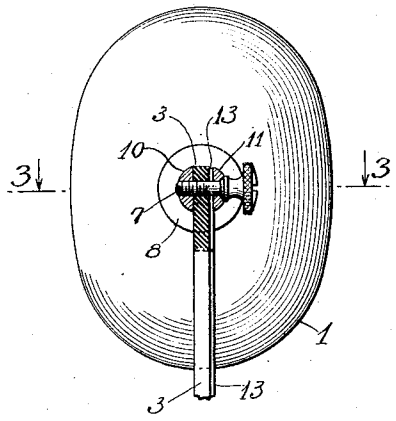


Fig. 3.

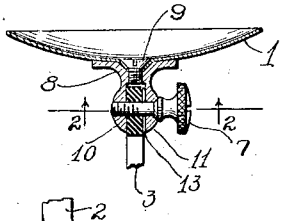
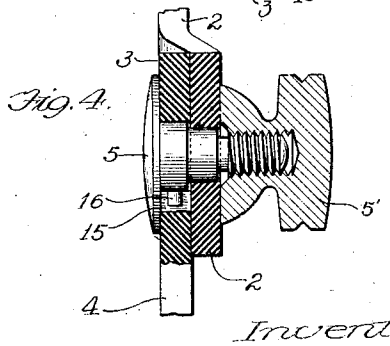


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL THERAPEUTIC DEVICE.

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This invention relates to thermatology nd to diathermic and electrotherapeutic nethods and appliances adapted for supply- ng heat locally.

The main objects of the invention are to provide an improved form of apparatus or appliance adapted for the ready supply and control of heat to a limited area or portion of the body; to provide such a device, in a form most convenient for clamping application to a part where heat is desired; to provide for effective diathermy treatment of such parts or organs, and especially the male genital organs; to provide an electric thermophore adapted for securing positively in place; to provide such a thermophore of mechanically adjustable character so as to assure good surface contact over a distributed area; to provide a double electrode thermophore of the character stated, in the most compact, unitary and sanitary form possible consistent with mechanical strength and durability; and to provide an improved method and means for treating epididymitis, scrotitis and similar affections.

An illustrative embodiment of this invention is shown by the accompanying drawings, in which—

Fig. 1 shows the device as applied for one of its most characteristic uses, the diseased organ being represented in fragmentary form by dotted lines.

Fig. 2 is mainly an outside elevation of one of the concave pivoted gripping plates, with the hinge-like support in section substantially on the line 2—2 of Fig. 3.

Fig. 3 is a horizontal section on the line 3—3 of Fig. 2.

Fig. 4 is an axial section through the arm connecting-joint substantially as indicated at 4—4 on Fig. 1.

In the construction shown by the drawings, the device consists of an electric thermophore adapted for diathermic therapy treatment. It is constructed somewhat similar to tongs and comprises a pair of electrodes 1 mounted adjustably on the distal ends of a pair of arms 2 and 3, the latter arm being provided with an extension 4 adapted to serve as a handle. The arms 2 and 3 are pivotally connected by a screw 5 provided with a thumb nut 5′ adapted for ready manual setting to lock the arms in any desired angular position relative to each other for holding the electrodes in clamping relation.

The said electrodes 1 are composed of sheet metal plates of discoidal shape and are concave on their adjacent sides. These plates are supported centrally on pivots, as shown at 6, by means of screws 7 set in the arms 2 and 3 respectively. The mounting for each plate includes a bracket 8 attached to the outer convex side of the plate by means of a screw 9. Each of said brackets is formed with a pair of arms 10 and 11, between which the tip of the supporting arm is received. The pivotal axes for said plates are parallel and are disposed crosswise of the supporting arms at right angles thereto. By this arrangement the relative position of the diathermal electrodes 1 may be adjusted so as to properly embrace the part to be treated, the distance between the plates being adjusted and secured by means of the screw 5 and nut 5′.

The electrical connections include a medially positioned terminal post 12 on each of the arms 2 and 3, in combination with a metallic strip 13 extending therefrom to the corresponding bracket 8, each strip 13 being perforated at its ends to receive the binding post 12 and the screw 7 respectively. Each binding post 12 is adapted for the connection of a current supply wire 14. These wires 14 are connected to any suitable source of current adapted for the purpose.

Referring to the pivotal connection at 5, the aperture in the arm 3 is provided with a notch 15 to receive a shoulder pin 16 set in the shank of the screw 5 so as to prevent relative turning of said screw in the arm 3.

The method of using the device is to loosen the screws 5 and 7, then apply the electrode plates 1 to the pathologic object which is to receive treatment and then tighten the screws 5 and 7 so that the device will hold its set position, soap lather being applied to advantage under the electrodes. The wires 14 are then connected to the source of current, not shown. Then by means of suitable current control apparatus, also not shown, the proper temperature is produced which is ordinarily about as high as may be borne comfortably. The current is first adjusted to raise the heat to a point

of cutaneous discomfort. Then the current is reduced slightly so as to avoid danger of overheating. The treatment is thus continued for any desired period, as may be determined by the physician or pathologist. The device is then released by loosening the screw 5 and opening the arms 2 and 3.

The bi-polar high frequency, high potential current suitable for diathermy treatment with this device is of the kind generally known as d'Arsonval current, such as may be produced with a spark machine, and may be controlled by varying the spark gap or by adjusting the transformer, as will be fully understood by those skilled in the art.

Practical effective temperatures range from 104 to 112 degrees Fahrenheit, and treatments may well continue for about forty minutes or more. One or more treatments suffice according to the severity and nature of the case, usually four or five at the most.

Although but one specific embodiment of this invention is herein shown and described, it is to be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims:—

I claim:

1. A therapeutic device adapted for application to a pathologic organism, said device comprising a pair of arms hinged together, mutually insulated electrodes on the distal ends of said arms formed to snugly fit and to embrace said organism, means to secure the setting of said arms, and means to supply electric current to said electrodes for transmission through the said organism.

2. A therapeutic device adapted for external application to a pathologic organism, said device comprising a pair of arms hinged together, electrodes adjustably mounted pivotally on the distal ends of said arms respectively for application to distinct portions of said organism, means to secure the setting of said arms, and means to supply bi-polar electric current to said electrodes for passage through said organism, said electrodes being somewhat concave on their mutually adjacent faces.

Signed at Chicago this 2nd day of Feb. 1925.

GEORGE W. WALLERICH.