June 8, 1926. 1,588,182

T. T. GIBSON

ELECTRICAL THERAPEUTIC DEVICE

Filed August 6, 1925

Fig. 1.

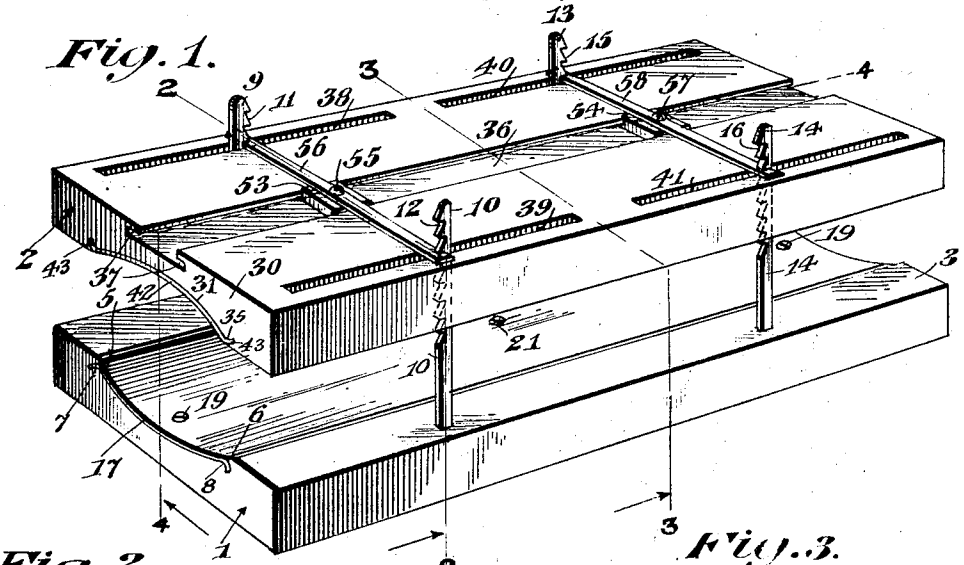


Fig. 2.

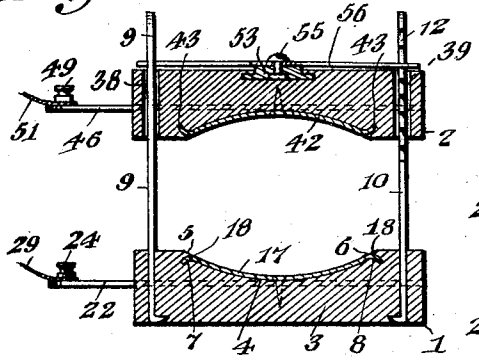


Fig. 3.

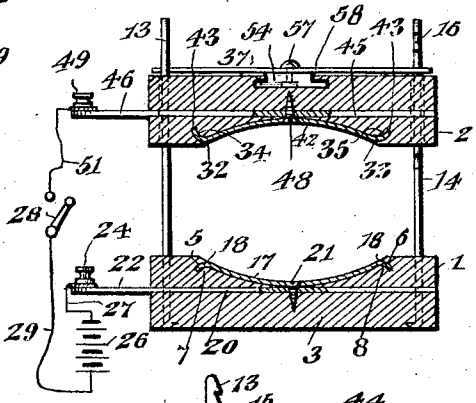
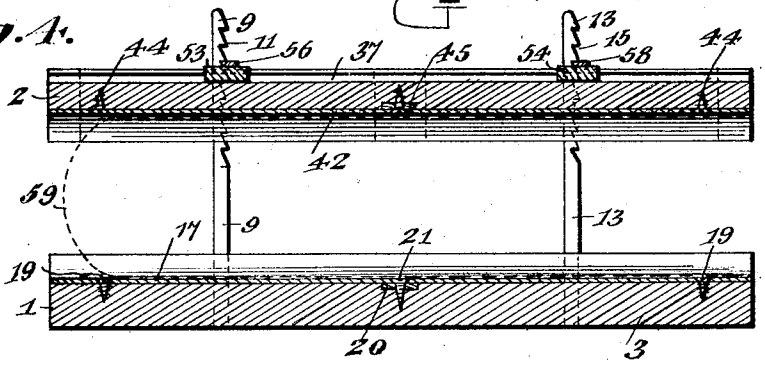


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL THERAPEUTIC DEVICE.

Application filed August 6, 1925. Serial No. 48,584.

This invention relates to an electrical therapeutic device, and has for its object to provide, in a manner as hereinafter set forth, a device of such class capable of being readily connected to an affected organ of the human body for the application of a diathermal current thereto for expeditiously destroying the germs of said affected organ.

Further objects of the invention are to provide, in a manner as hereinafter set forth, an electrical therapeutic device, which is simple in its construction and arrangement, strong, durable, adjustable, conveniently applied, thoroughly efficient in its use, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a perspective view of an electrical therapeutic device, in accordance with this invention.

Figure 2 is a section on line 2—2, Figure 1.

Figure 3 is a section on line 3—3, Figure 1.

Figure 4 is a section on line 4—4, Figure 1.

An electrical therapeutic device, in accordance with this invention, comprises what may be termed a compound electrode, being composed of two separate contact elements adjustable relative to each other and including means for detachably securing the elements in adjusted position, as well as to the affected organ of the human body. One of said contact elements is referred to generally by the reference character 1 and the other by the reference character 2. Each of said elements includes a body portion constructed of non-conductive material, preferably bakelite.

The body portion of the element 1 is indicated at 3 and is rectangular in contour. The body portion 3 is of an appropriate width, length and thickness. The inner face of the body portion 3 is provided throughout with a shallow concave groove 4 and a pair of bevelled surfaces 5, 6, spaced with respect to the bottom of the groove 4 and spaced from said bottom by oppositely extending inclined seats 7, 8 respectively.

Anchored within the body portion 3, at a point between its transverse center and one end, is a pair of combined guide and locking members 9, 10, which project a substantial distance from the inner face of the body portion 3. Each of said members is positioned in proximity to a side edge of the body portion 3. The member 9 has one side edge thereof toothed, as at 11, and the member 10, as at 12. The teeth on said member 9 are arranged on the inner side edge thereof and the teeth on the member 10 on the outer side edge thereof.

Anchored within the body portion 3, at a point between its transverse center and its other end, is a pair of combined guide and locking members 13, 14, which project a substantial distance from the inner face of the body portion 3. Each of said members is positioned in proximity to a side edge of the body portion 3. The member 13 has one side edge thereof toothed, as at 15, and the member 14, as at 16. The teeth on said member 13 are arranged on the outer side edge thereof and the teeth on the member 14 on the inner side edges thereof.

The teeth 11 and 15 extend in the same direction and a like arrangement is set up with respect to the teeth 12 and 16.

Mounted against the bottom of the groove 4, as well as extending throughout the latter, is a concave plate 17 of conducting material and which has the side marginal portions 18 thereof bent downwardly and extended into the seats 7, 8, whereby the beveled portions 5, 6 of the inner face of the body portion 3 will form a continuation of the outer face of the plate 17. The plate 17 is secured to the body portion 3 by the hold-fast devices 19.

Extending transversely of the body portion 3, as well as being embedded therein below the plate 17 and further extending from one side edge of the body portion 3, is a conducting strip 20, which abuts against the longitudinal center of the plate 17, whereby the strip 20 will be in electrical contact with said plate. A holdfast device 21 is employed for not only securing the plate 17 to the body portion 3, but also for connecting the strip 20 against the inner face of said plate. The end of the strip 20, which projects from the

body portion 3, is indicated at 22, and the former is provided with a binding post 24. Leading from the binding post 24 to a source of electrical supply 26 is a circuit connection 27.

The body portion of the contact element 2 is indicated at 30 and is of the same length, width and thickness as the body portion 3. The body portion 30 has its inner face provided with a lengthwise extending convex groove 31 and a pair of bevelled surfaces 32, 33, which are spaced from the wall of the groove by a pair of oppositely extending seats 34, 35 respectively. The body portion 30 has its outer face, at the longitudinal center thereof, formed throughout with a channel 36, having each of the walls thereof undercut, as at 37. The body portion 30, between its transverse center and one end, is provided with a pair of lengthwise extending slots 38, 39 and between its transverse center and its other end with a pair of lengthwise extending slots 40, 41.

The combined guiding and locking members 9, 10, 13 and 14 extend upwardly respectively through the slots 38, 39, 40 and 41, and the said slots provide means for vertically adjusting the element 2 relative to the element 1, as well as further lengthwise adjusting said element 2 relative to element 1. The said slots extend from a point in close proximity to the transverse center of the element 2 and terminate at a point in close proximity to the ends of said element 2.

Positioned within the groove 31 and extending throughout the same, is a convex plate 42 formed of conducting material and having the side marginal portions 43 thereof inturned and engaging in the seats 32, 33. Hold-fast devices 44 are employed for securing the plate 42 to the body portion 30.

Extending transversely of the body portion 30 is a conducting strip 45, which is in electrical contact with the upper face of the plate 42, at the longitudinal center thereof. The conducting strip 45 projects from one side of the body portion 30 and the projecting end thereof is indicated at 46. A hold-fast device 48 is employed for connecting the strip 45 against the plate 42 and further for securing the plate 42 to the body portion 30.

The projecting end 46 of the strip 45 is provided with a binding post 49 and leading therefrom to the other pole of the switch 28 is a circuit conductor 51.

Slidably mounted in the channel 36 and engaging in the undercut side walls thereof is a pair of flanged blocks 53, 54 and to the former is secured, as at 55, a resilient latching member 56. To the block 54 is secured, as at 57, a resilient latching member 58. The latching member 56 coacts with the teeth 11 and 12, and the latching member 58 coacts with the teeth 15, 16 for the purpose of maintaining the element 2 in its vertically adjusted and longitudinally adjusted positions. The circuit connection 52 is of a length to permit of the vertical adjustment of the contact element 2 relative to the contact element 1. The blocks 53 and 54 are free to move in the channel 36 when the latching members 56 and 58 are moved clear of the teeth of the combined guiding and locking members.

In the treatment of the affected part, the organ, which is indicated at 59, is positioned on the plate 17 of the contact element 1. The contact element 2 is then mounted on the organ 59 so that the plate 42 will be in contact therewith. The contact element 2 is adjusted for such purpose, that is to say vertically and longitudinally or vertically alone with respect to the contact element 1, and is maintained in such position by the resilient latching members coacting with the teeth on the combined guiding and locking members, the connection between the latching members and the blocks being a pivoted one. The switch 28 is then closed and a diathermia current applied to the organ 59 and an effective heat is applied to the affected organ, expeditiously destroying the germs of the affected part, thereby quickly curing the latter.

It is thought that the many advantages of an electrical therapeutic device, in accordance with this invention, can be readily understood, and although the preferred embodiment thereof is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which will fall within the scope of the invention as claimed.

What I claim is:—

1. An electrical therapeutic device comprising a pair of superposed contact elements each including a plate of conducting material secured to a non-conducting body and each further including a conductor strip carried by said body and in electrical contact with a plate, said plates opposing each other, said elements further provided with coacting means for maintaining one of said elements in adjusted position relative to the other, and circuit forming means connected with the said strips.

2. An electrical therapeutic device comprising a pair of superposed contact elements each including a plate of conducting material secured to a non-conducting body and each further including a conductor strip carried by said body and in electrical contact with a plate, said plates opposing each other, said elements further provided with coacting means for maintaining one of said elements in adjusted position relative to the other, circuit forming means connected with the said strips, and said coacting means providing for the vertical and longitudinal ad-

justment of one of said elements relative to the other.

3. An electrical therapeutic device comprising a pair of superposed contact elements each including a plate of conducting material secured to a non-conducting body and each further including a conductor strip carried by said body and in electrical contact with a plate, said plates opposing each other, said elements further provided with coacting means for maintaining one of said elements in adjusted position relative to the other, circuit forming means connected with the said strips, and means extending through each of said plates and its associated strip and engaging in a body portion for permanently maintaining said plate in electrical contact with its respective strip.

4. An electrical therapeutic device comprising a pair of superposed bodies of non-conducting material each having its inner face provided with a plate of conducting material, a conducting strip extending through each of said bodies and in permanent electrical contact with the inner face of one of the plates, said bodies further provided with coacting means to provide for the vertical and longitudinal adjustment of one of said bodies relatives to the other and further for maintaining said adjusted body in adjusted position, and circuit forming means connected to said strips.

In testimony whereof, I affix my signature hereto.

TIMOTHY T. GIBSON.