Aug. 17, 1948. F. MYERS 2,447,269

ELECTROTHERAPEUTIC APPARATUS

Filed June 6, 1946

Fig. 1

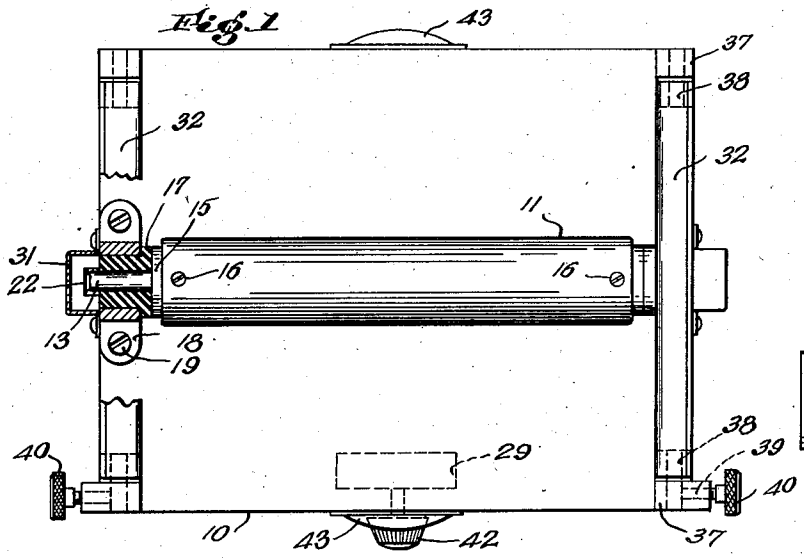


Fig. 3

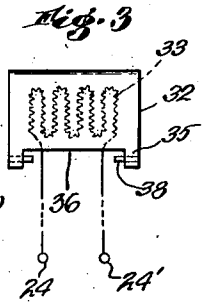


Fig. 2

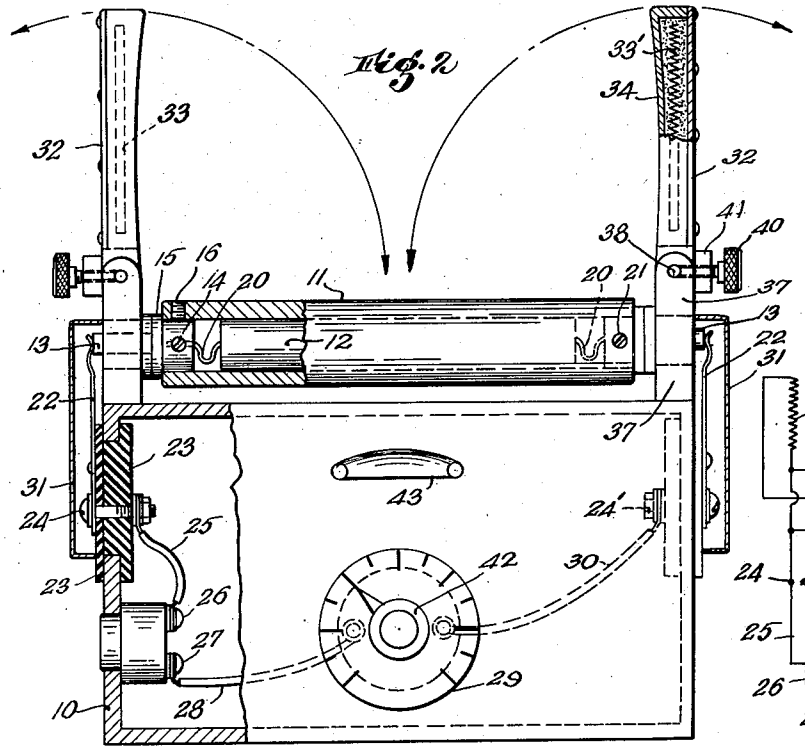
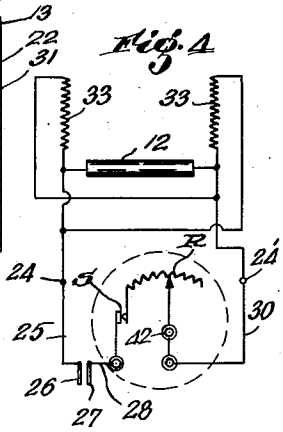


Fig. 4



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Patented Aug. 17, 1948 2,447,269

UNITED STATES PATENT OFFICE

2,447,269

ELECTROTHERAPEUTIC APPARATUS

Frederick Myers, Charlestown, Mass.

Application June 6, 1946, Serial No. 674,720

3 Claims. (Cl. 128—24.3)

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The object of the present invention is the provision of an extremely simple and economically constructible electrotherapeutic apparatus useful in treating the irregularities known as "flat foot" and "weak ankles."

My invention may best be understood by reference to the accompanying drawings, in which

Figure 1 is a plan view of an electrotherapeutic apparatus embodying my invention, certain parts being shown in horizontal section.

Fig. 2 is a front elevation, certain parts being shown in vertical section.

Figure 3 is a side elevation on a reduced scale of the pivoted wings, hereinafter more fully described.

Figure 4 is a diagram of one of several modes of connecting and controlling the several heating units that form part of the invention.

In the particular embodiment of my invention selected for disclosing the underlying principle thereof, 10 is a support member of any suitable construction or configuration, said member being shown, in the present instance, as a box or casing.

Rotatably mounted on said support member is a hollow metallic roller 11 within which is disposed an electric heating unit 12 which extends substantially throughout the length of the roller. Suitable means must be employed for rotatably mounting said roller on the support member, and, in the present instance, such means consist of two axles 13, shown as integral with the cylindrical metallic plugs 14 inserted in the respective ends of the tube and each provided with a collar 15 to limit the axial position thereof in the tube. The members 14 may be secured in adjusted position by the set screws 16 or other suitable means. Bearings 17 of insulating material, such as hard fibre, are enclosed by the bracket 18, which is secured to the top of the support member by screws 19 or other suitable means.

The terminals 20 of the heating unit 12 are suitably connected to the plug members 14 and, as shown in the present instance, they may be electrically and mechanically connected thereto by the binding screws 21.

While various means well known to those skilled in the art may be employed to make rolling contact between the axles 13 and a source of electric power, I show, in the present instance, a pair of plate springs 22, one end of each of which is elastically held against the ends of the respective axles of the roller, and the other, secured to the insulation insert 23 by the bolt 24, which bolt is connected by a short lead 25 to one of the

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prongs 26 of a socket of any suitable form which is carried in an aperture in one of the vertical walls of the support member 10. The other prong 27 of the socket is connected by the lead 28 to an on-and-off switch and rheostat 29, the circuit of the heating unit being completed by the lead 30 between said switch the bolt 24' and the spring plate 22 on the right-hand side of the support member 10. Guards 31 preferably are employed to protect the spring plates.

Pivotally mounted on the support member at the opposite ends thereof are a pair of wings 32, each of which encloses a heating unit 33, each of said wings being provided with suitable means for maintaining them in adjusted angular position with respect to the roller. When not in use, the wings will be folded downwardly in substantially horizontal postion and when in use, they will be arranged substantially vertically, as shown in Fig. 2. The inner surfaces of each wing may be slightly curvilinear, as indicated at 34, and preferably highly polished. In the present instance, the lower portion of each wing is provided with a pair of spaced ears 35 extending outwardly to afford a space 36 to accommodate the bracket 18. Each wing will be placed between the upstanding brackets 37 which are rigidly secured to the support member and the trunnions 38 passing through holes in the ears 35 are then forced outwardly into registering apertures in the brackets. The inward ends of the trunnions are slightly larger in diameter than the outer ends thereof so that when the apparatus is assembled, each trunnion will be rigidly connected with the ear through which it is driven and the outer portion thereof which takes into the aperture in the brackets, will be snugly but not fixedly enclosed within said aperture. The set screw 39, which may be provided with the knurled head 40, is in threaded engagement with a lateral extension 41 of said brackets and passing through an aperture in the latter, engages the trunnions 38 to secure the wing in its adjusted position.

In Fig. 4, which shows one mode of connecting the heating units with the source of electric power, the wing heating units 33, 33' are indicated as shunted across the circuit of the roller heating unit 12, one end of the unit 33 being connected to the bolt 24, and its other end to bolt 24', and one end of unit 33' to bolt 24' and the other to bolt 24. The rheostat resistance controlled by the knob 42 of the rheostat is indicated at R and S represents a time switch which may be employed if desired for controlling the connection of the apparatus to an electric source.

The support member, if in the form of a box as illustrated, may be provided with handles **43**.

For the treatment of flat foot, the user will place the sole of his foot on the roller and move it backward and forward, after the roller has been brought to the desired temperature. As irregularities in the bones of the arches of the foot are frequently accompanied by irregularities in the bones of the ankle, it is advantageous to "bake" the ankles while treating the irregularities of the bones of the arches. By means of the wings **33**, a radiation of heat from the polished inner surfaces thereof, as intense as the user may desire, is obtained by adjusting the rheostat and the angular position of the wings with respect to the roller. As a time limit to the treatment may be desired, the time switch S may be employed to stop the flow of current at the end of any desired period of time.

Having thus described an illustrative embodiment of my invention without, however, limiting the same thereto, what I claim and desire to secure by Letters Patent is:

1. In an electrotherapeutic apparatus for the treatment of the foot and ankle, having a support member and a roller mounted thereon, a pair of metallic wings, means pivoting said wings at opposite ends of said support member, means secured to and co-operating with said support member for holding said wings in adjusted angular position with respect to said roller and means for electrically heating said wings for the radiation of heat therefrom.

2. In an electrotherapeutic apparatus for the treatment of the foot and ankle, having a support member and a roller mounted thereon, a metallic wing, means pivoting said wing to said

support member at one end thereof, means secured to and co-operating with said support member for holding said wing in adjusted angular position with respect to said roller, and means for electrically heating said wing for the radiation of heat therefrom.

3. An electrotherapeutic apparatus for treatment of the foot and ankle, comprising in combination, a hollow metallic roller, an electric heating unit disposed within and extending substantially throughout the length of said roller, a support member, bearings of insulating material oppositely disposed on said support member, metallic axles mounting said roller in said bearings, a pair of metallic wings pivotally mounted at opposite ends of said support member, means secured to and co-operating with said support member for holding said wings in adjusted angular position with respect to said roller, electric heating units disposed in the respective wings and means connecting the heating unit within said roller and the heating units within said wings with a source of electric power.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
926,245	Coon	June 29, 1909
1,664,009	Weber	Mar. 27, 1928
1,840,981	Sick	Jan. 21, 1932
1,965,918	Auberger	July 10, 1934
1,984,520	Curtis	Dec. 18, 1934