

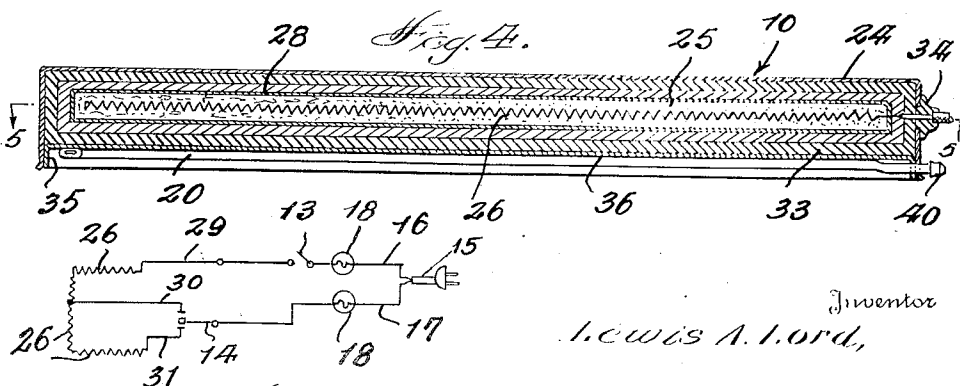
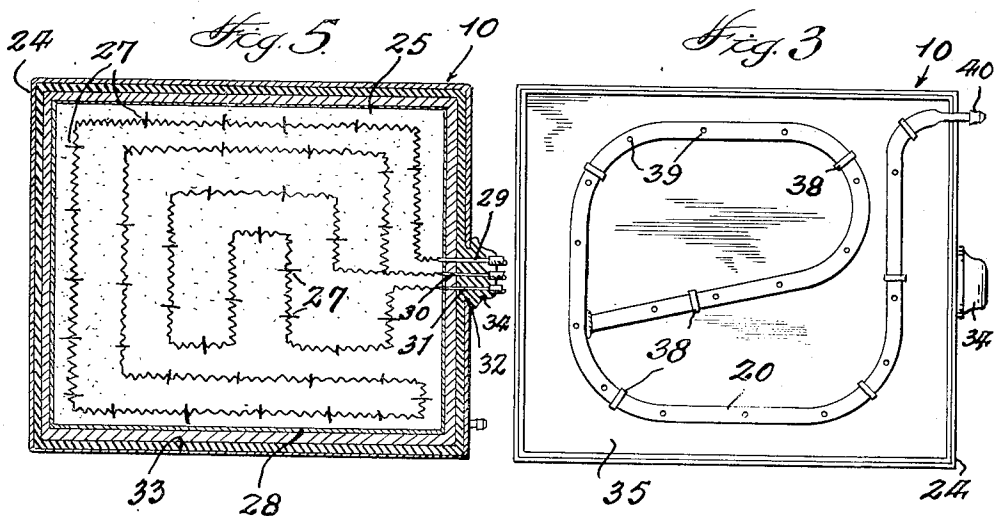
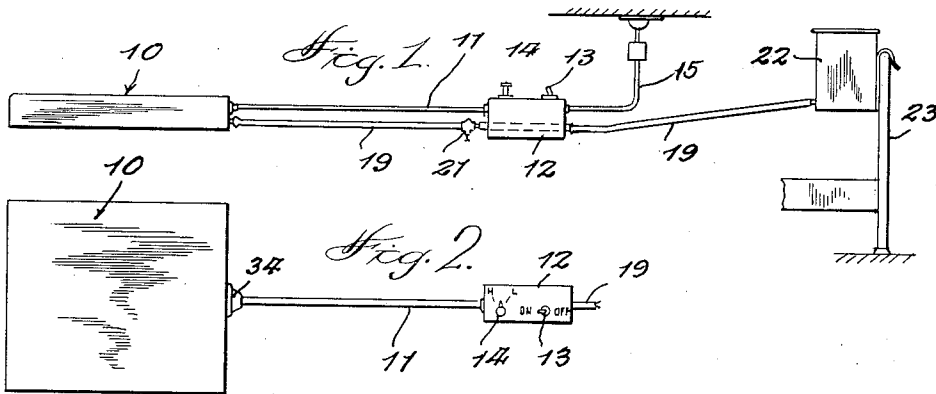
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MOIST HEAT PAD

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MOIST HEAT PAD

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Substituted for abandoned application Serial No. 438,843, April 13, 1942. This application February 8, 1944, Serial No. 521,540

3 Claims. (Cl. 219—46)

This application is a substitute for my abandoned application No. 438,843, filed April 13, 1942.

This invention relates to a heating pad for medical and surgical uses, and it consists in the constructions, arrangements and combinations herein described and claimed.

It is a particular object of the invention to provide a heating pad in which a controlled flow of water is supplied to a controlled heat unit, thereby affording a bandage or compress of the exact moisture and warmth required in treating a particular case.

It is also an object of the invention to provide a novel construction of heating pad in which the supply of water to a compress may be nicely regulated, as well as permitting ready control of the heating unit.

It is a still further object of the invention to provide a heating pad in which the heating unit is effectively housed without liability of coming in direct contact with the body of the patient, insuring absolute safety in use of the pad, yet readily transmitting heat to the water supplied to a compress or bandage.

Additional objects, advantages and features of invention will be apparent from the following description considered in conjunction with the accompanying drawing, wherein

Figure 1 is a diagrammatic view illustrating the pad in use.

Figure 2 is a top plan view of the heat pad and control box.

Figure 3 is a bottom plan view of the heating pad.

Figure 4 is an enlarged sectional view through the pad.

Figure 5 is a cross section on the line 5—5 of Figure 4.

Figure 6 is a diagrammatic view illustrating a circuit for the electrical unit of the pad.

Attention is first invited to Figure 1 of the drawing, wherein a pad 10 is shown from which an electrical conductor 11 is extended to a control box 12 which embodies a main switch 13 and a temperature control switch 14, the circuits between these elements being clearly shown in Figure 6. A connector cord 15 is employed, one line 16 of which is connected to the switch 13 while the other line 17 is connected to the switch 14. A fuse 18 is installed in each of the lines 16 and 17 for safety reasons.

A water conduit 19 is connected to a coil 20 housed within the pad and includes a regulating valve 21 interposed between the coil and a reservoir 22, the latter being shown as suspended

from a bedstead, generally indicated at 23. Preferably, the conduit 19 will be extended through a suitable opening formed in the control box 12, thereby facilitating handling of the apparatus.

The construction of the heating and moistening unit will now be dealt with, attention being directed to Figures 3, 4 and 5 of the drawing. A casing 24 is employed, which may be of any desired shape, in the present instance being shown as substantially square, and is of a depth to readily house the heating unit and moisture supply conduit, as will be apparent as the description of the device proceeds.

The heating unit comprises an asbestos sheet 25 to which the resistance wires 26 are suitably stitched as at 27, for retaining the wires in proper position. Powdered asbestos, which has been slightly moistened is now molded or otherwise shaped upon the sheet 25 and wires so as to enclose the latter. After the moistened asbestos has become dried and set, the unit is dipped in liquid rubber a suitable number of times to provide a coating 28 entirely enclosing the unit. Of course, a drying period will be required between each dipping operation.

The resistance wires 26 will include terminal ends 29, 30, and 31, positioned centrally of an opening 32 formed in one end of the casing 24. The over-all dimensions of the sheet 25 and coatings thereon is considerably less than the interior dimensions of the casing, defining a space which is filled with a liquid rubber sufficient to completely fill the space in and around the sheet and associated heating unit, forming a covering 33. Obviously, some of the liquid rubber will flow through the opening 32, covering and insulating the terminals 29, 30 and 31, as indicated at 34.

The heating unit is set well within the casing 24 and is firmly fixed therein by a cover 35 consisting of a continuous flange adapted to snugly fit within the walls of the casing 24. The abutting walls of the casing may be soldered to the flanges for positive retention of the assembly. It will be seen that the cover is in effect an inverted pan and upon the under or bottom wall 36 thereof, the coil 20 is secured by means of clips 38. The tube is of more or less serpentine form, so as to extend over the major portion of the wall 36 and is provided with a plurality of apertures 39 suitably spaced therealong for discharge of water, as will be described. The tube has a connector 40 for connection to the hose 19. It should be noted that the tube 20 lies inwardly

of the outer edges of the casing and flanges of the cover 35 (see Fig. 4).

In use, the reservoir 22 is supplied with water, the switch 13 being actuated to an "on" position and the temperature switch 14 is set to a high degree of heat, allowing the resistance wires to become hot. Heat from the resistance wires soon heat surfaces within the casing 24 and the coil 20. After a suitable period of time, the valve 21 is opened to such a degree as to allow a required amount of water to feed to the coil 20, the water being heated by contact with the heated coil. When the desired temperature of water has been attained, the pad may be applied directly to a compress or bandage of a patient. The warm or hot water, as the case may be, will seep through the apertures 39 on the compress or bandage, maintaining the latter in a desired state of warmth and moisture. It will be obvious that the water introduced into the reservoir 22 may be previously heated, and that the degree of heating of the resistance coil may be controlled by the switch 14.

While I have shown and described a preferred construction, this is by way of illustration only, and I consider as my own all such modifications in construction as fairly fall within the scope of the appended claims.

I claim:

1. A moist-heat pad comprising a casing, a

heating element housed within the casing, a perforated water coil carried by the casing spaced from the heating element but in heat conducting relation thereto, means for supplying electrical energy to the heating element, said means for supplying the electrical energy including a variable control switch and said means for supplying water including a control valve for regulating the water discharged from the coil.

2. A moist-heat pad comprising an open-sided casing, an electrical heating coil within the casing, said heating coil being mounted with an asbestos base, a rubber coating enclosing the base and heating coil, a closure for the open side of the casing, the base of said closure being inset with respect to the edges of the open side and in contacting engagement with the rubber coating, a perforated tube mounted upon the base of the closure, means for supplying electrical energy to the heating coil, said means for supplying the electrical energy including a variable control switch and means for supplying liquid to the tube including a control valve for regulating liquid discharged from the perforated tube.

3. The structure of claim 2 in which the perforated tube is of serpentine form, the apertures being spaced therealong and opening downwardly.

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