ELECTRIC THERAPEUTIC GLOVE

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This invention relates to improvements in electrically heated garments, and in particular to a thermostatically controlled electrically heated therapeutic glove, mittens, or the like, for treatment of arthritis, sprains and the like, in which both the palm and back portions of the hand are simultaneously radiantly heated to a temperature, as desired by the wearer.

In the treatment of sprains and certain stages of arthritis, these may be treated by application of heat, massage, and similar physical procedures to alleviate pain.

The present invention solves the above problems of supplying radiant heat uniformly to the palm and back sides of the hand to alleviate inflammation of the muscles and joints of the hand to lessen pain and swelling thereof.

It is a primary object of this invention to provide an electrically heated glove for treatment of sprained or arthritic hands.

Another object of the invention is to provide an electrically and radiant heated glove having a thermostatic control for uniformly heating the glove.

A further object of the invention is to provide an electrically heated glove of universal size and adapted to enclose comfortably hands of various dimensions of the wearer.

Another object of the invention is to provide an electrically heated therapeutic glove adapted to be naturally and conveniently worn by either the right or left hand of a patient, and further adapted to be energized by conventional house current.

With these and other objects in view, the invention includes certain novel features hereinafter described with reference to the drawing which accompanies and forms a part of this specification.

In the drawing:

FIGURE 1 is a side view of the glove heating elements and retaining screen therefor shown in broken lines, except a broken away portion, surrounding the inside structure of the glove;

FIGURE 2 is a partial cross-sectional view of the structure of FIGURE 1, taken on lines 2—2 in the direction of the arrows; and

FIGURE 3 is a schematic electrical circuit diagram of the invention for energizing the heating elements of the glove.

Referring more specifically to the drawing, in which like reference numerals represent like parts, wherein the device of the instant invention is designated generally by the reference numeral 10 and is comprised of outside covering means 11, heating elements 12 and 12a, retaining screen means 13 and 13a and an inside lining means 14.

Outside covering means 11 is formed of an electrically non-conductive material having a suitable color and which may be removed from retaining screen 13 and washed or cleaned whenever desired.

Retaining screen means 13 and 13a may be of any suitable structural retaining and heat diffusing or reflective material as desired.

Heating elements 12 and 12a may be of a conventional resistive type covered and self contained which will withstand flexing without breaking.

Inside lining means 14 may be of any desired material such as rubber or other materials well known in the art which is pliable, moisture proof, electrically non-conductive and which will withstand radiant heat from the heating elements.

In the construction of glove means 10, heating elements 12 and 12a are attached by thread means 15 or other suitable means to the inside screen means 13a, as best shown in FIGURES 1 and 2.

Heating elements 12 and 12a are connected by leads 16, 17, and 18 to thermostatic current control means 19 which is connected by leads 20 and 21 to plug means 22 which is adapted to be plugged into an energized electrical outlet receptacle (not shown) to energize heating elements 12 and 12a, as desired, and shown in FIGURES 1 and 3.

FIGURE 3 shows the preferred electrical circuitry which comprises heating element 12 connected by lead means 16 to thermostat means 19 and lead means 23 to resistance current control means 24 which is connected by lead 25 to heating element 12a; heating element 12a is connected by lead 26 to resistive current control means 27 connected by lead 28 to parallel leads 17 and 18 to thermostat means 19. Thermostat means 19 is electrically and selectively energized by plug means 22 and lead means 20 and 21 by switch means 20a, as shown.

Resistive means 24 and 27 may be of any commercial resistor type, as desired, to correspond to the electrical characteristics of glove means 10 and thermostat means 19, for approved safe operation of the circuit of FIGURE 3. Thermostat means 19 may be of a commercial type, as desired.

For operation, plug means 22 is plugged into an energized electrical outlet in the home or hospital; thermostat means 19 is set at the temperature desired; and switch means 20a is closed until glove means 10 attains the desired temperature. The heated glove 10 is then comfortably placed on the sprained or arthritic hand of a patient as long as desired for a treatment.

Thus it will be seen that there are three thermostatically controlled heat levels. Also, the particular construction of the device minimizes radio and television interference.

From the foregoing it will now be seen that there is herein provided an improved electric therapeutic glove means for injured and arthritic hands of a patient which accomplishes all the objects of this invention and others, including many advantages of great practical utility and commercial importance.

It is to be understood, of course, that the foregoing disclosure relates to only a preferred embodiment of the invention and that it is intended to cover all changes and modifications of the example of the invention herein chosen for the purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention set forth in the appended claims.

We claim:

1. An electrically heated thermostatically controlled glove for therapeutic treatment of hands comprising a lining shaped to conform to the hand of the user including a portion separately conforming to the thumb, an inner electrically insulating heat diffusing structural screen conforming to the user's hand surrounding the lining, first and second serially connected electrical resistance heating elements conforming to the shape of the user's hand attached to the outer surface of the inner diffusing structural screen for providing uniform heating to the palm and the back of the user's hand, an outer diffusing structural screen conforming to the shape of the user's hand and surrounding the electrical heating elements, and an outer flexible nonconductive covering conforming to the shape of the user's hand and surrounding the outer diffusing structural screen.

2. The heating glove of claim 1 further including current limiting resistor elements in series with a first and second electrical heating elements.
3. The heating glove of claim 2 further including a thermostatic control for maintaining the glove at a desired temperature.

4. The heating glove of claim 3 including a plurality of current limiting resistance elements in series with the resistance heating elements.

5. The electrically heated glove of claim 4 wherein the inner lining means comprises a rubber glove shaped to conform to the user's hand.

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