

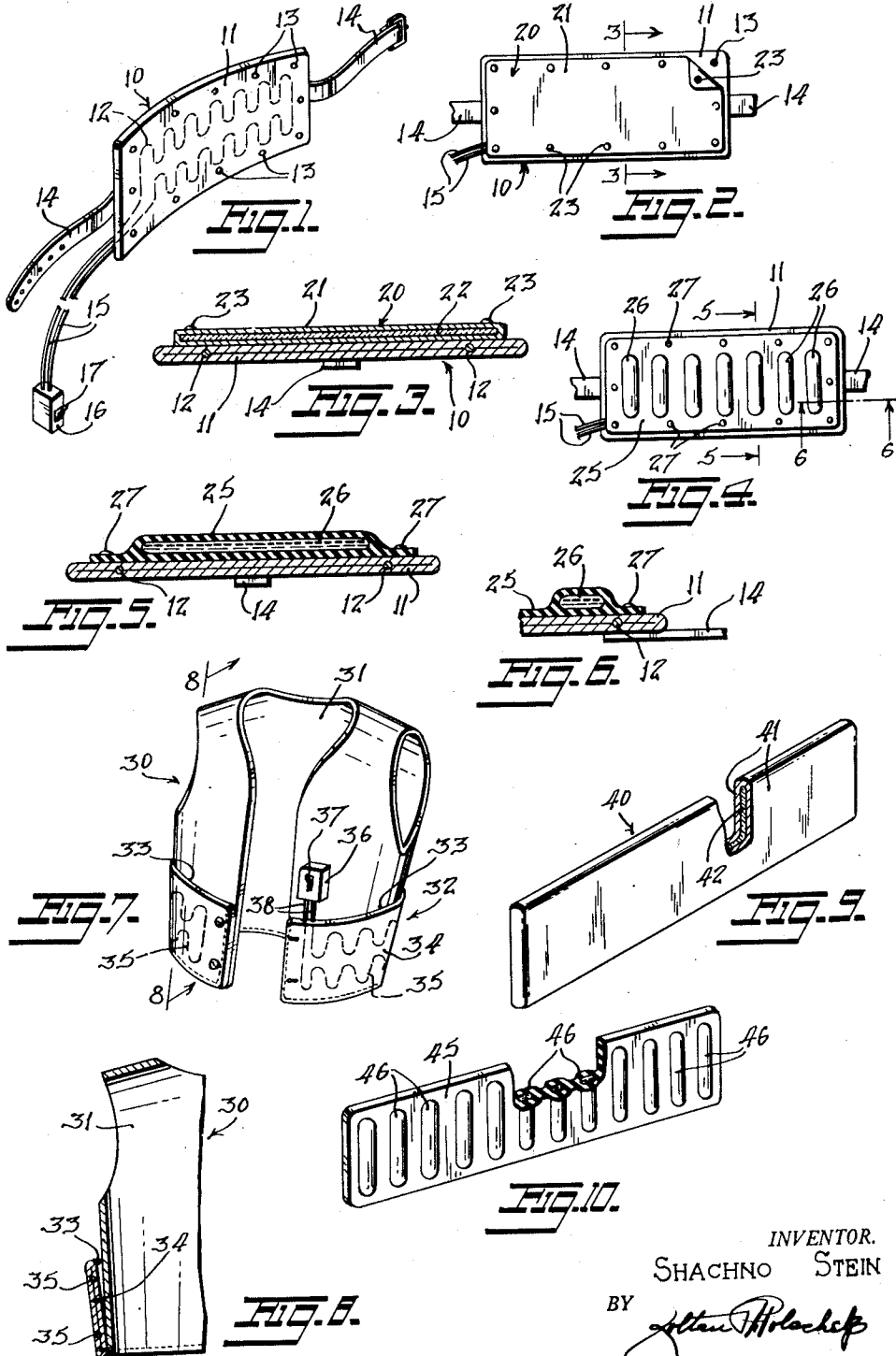
Feb. 5, 1952

S. STEIN

2,584,302

ELECTRIC HEATING DEVICE

Filed April 6, 1950



INVENTOR.
SHACHNO STEIN
BY *John H. Holck*
ATTORNEY

UNITED STATES PATENT OFFICE

2,584,302

ELECTRIC HEATING DEVICE

Shachno Stein, Brooklyn, N. Y.

Application April 6, 1950, Serial No. 154,227

1 Claim. (Cl. 219—46)

1

2

This invention relates to means for applying heat locally to the human body, and pertains more particularly to a portable heat applicator.

One object of the present invention is to provide an electrical heat applicator having a portable source of electricity which adapts it for utilization at any time and anywhere.

Another object of the present invention is to provide with an electrical heat applicator insulative means whereby the heat permitted to penetrate to a user is effectively controlled.

Another object of the present invention is to provide with electrical heat applying means a plurality of differentially heat insulative means which may be selectively utilized for controlling the heat permitted to penetrate to a user.

Another object of the present invention is to provide with an electrical heat applicator, means whereby heat is absorbed and retained while the means for heating the applicator is effective and which serves as a source of heat after the applicator heating means is rendered ineffective.

Still another object of the present invention is to provide with a portable heat applying means, means whereby insulative heat controlling means and heat retaining means may be selectively and interchangeably utilized therewith.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is an isometric view of the heating pad made in accordance with the first embodiment of the invention.

Fig. 2 is a fragmentary rear elevational view illustrating the heating pad of the first embodiment with an insulative pad detachably secured thereto.

Fig. 3 is a section taken along the lines 3—3 in Fig. 2.

Fig. 4 is a fragmentary rear elevational view illustrating the heating pad of the first embodiment with a heat retainer detachably secured thereto.

Fig. 5 is a sectional view taken along the lines 5—5 in Fig. 4.

Fig. 6 is a sectional view taken along the lines 6—6 in Fig. 4.

Fig. 7 is an isometric view of a second embodiment of the invention.

Fig. 8 is a sectional view taken along the lines 8—8 in Fig. 7.

Fig. 9 is an isometric view of an insulating pad adapted for employment with the second embodiment and broken away to illustrate the internal construction thereof.

Fig. 10 is an isometric view of a heat retainer also adapted for employment with the second embodiment and also broken away to illustrate the interior thereof.

The means for applying heat to the human body, according to the first form of the present invention shown in Figs. 1 to 6, includes a heating pad 10 which comprises a cover 11 of pliant and non-inflammable material, a heating element 12 enclosed in said cover, a plurality of male snap fasteners 13 arranged spacedly on the rear face of the cover adjacent the marginal edges thereof, and a buckling means 14 whereby the pad may be secured about a portion of the human body.

Provided for supplying current to the said heating element 12 through suitably insulated wires 15 is a battery box 16, which includes a switch 17 for controlling the current emanating from batteries therein and is of dimensions permitting it to be carried in a pocket of the wearer's clothing.

The arrangement thus far described may be utilized as is for the application of heat to a particular portion of the human body. However, it is a well-known fact that certain persons are particularly sensitive to heat and cannot comfortably endure too high a degree thereof on their epidermis. For this reason the present invention, as seen in Figs. 2 and 3, contemplates the provision of an insulative pad 20. Said pad 20 comprises a pliant covering 21 of any suitable material and includes therein a layer of any suitable heat insulative material 22. Provided for securing the pad 20 to the heating pad 10 is a plurality of female snap fasteners 23 arranged spacedly adjacent the marginal edges of said pad 20 and adapted for cooperation with the male fasteners 13 on the said heating pad cover 11. It will be seen that when the just described arrangement is in effective use there will be an insulative and protective layer of material between the heating pad and the user's epidermis and this, in effect, controls the heat permitted to penetrate through to said user's epidermis.

It will also be seen that a plurality of differentially insulative pads may be provided for selective employment with the heating pad and in this manner said heating pad may be adapted for use by a variety of persons.

Also provided for combined use with said heating pad 10 is a heat retainer 25 which, as seen in Figs. 4, 5 and 6, is formed of any suitable

3

waterproof material such as rubber, and includes in its construction a plurality of water-filled sealed compartments 26. Provided spacedly arranged and adjacent the marginal edges of the said heat retainer 25 is a plurality of female snap fasteners 27, which fasteners are adapted for cooperation with the male fasteners 13 carried on the said heating pad 10.

The just described arrangement, when detachably secured to the pad 10 by the mentioned fasteners, is adapted to have the water in the compartments 26 heated while the pad 10 is in operation. For a considerable degree of time after the pad 10 is rendered ineffective, the water which retained the heat will be effective for serving as a source of heat.

As seen in Figs. 7 and 8, a second embodiment of the invention contemplates a heating garment 30 including a vest 31, a heating pad 32 secured to said vest as to provide a pocket 33 all about the said vest and comprising a cover 34 of suitable pliant and non-inflammable material, a heating element 35 enclosed in said cover, and a battery encasing box 36 affixed to said vest and having a switch 37 for controlling a flow of current through wires 38 to the said element 35.

This garment is effective for applying heat to the body when same is required to remedy certain illnesses, for warming spectators of cold weather sports, or for general cold weather comfort.

As seen in Fig. 9, the present embodiment also contemplates the provision of an insulative pad 40. Said pad 40 comprises a covering 41 of suitable pliant material which encloses a layer of heat insulative material 42. This insulative pad, when inserted in the pocket 33 of the heating garment 30, is effective for controlling the amount of heat permitted to penetrate from the heating pad 32 to the wearer's body. This embodiment also contemplates the provision of a plurality of interchangeable and differentially insulative pads for controlling the heat penetration variably.

Now, as seen in Fig. 10, a heat retainer 45 is also adapted for insertion in the said garment pocket 33. Said retainer 45 is similar to that described above with regard to the first embodiment in that it, too, is formed of rubber, or like waterproof material, and includes a plurality of water-filled sealed compartments 46. When the retainer 45 is inserted in the garment pocket 33 and the heating pad 32 is effective, the water in the said

4

compartments 46 will be heated. Thus, the heated water is adapted to serve effectively as a source of heat for the wearer after the heating pad is rendered ineffective or after the batteries supplying current to the heating element 35 have gone dead.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

In an article of the class described having an electrically heated pad for engagement against a portion of the human body to be heat treated, a heat retaining pad positioned against the inner face of the heated pad, fastener elements mounted on the inner face of the heated pad, and complementary fastener elements mounted on the outer face of said heat retaining pad and engaged with said first-mentioned fastener elements removably securing said heat retaining pad to the heated pad, so constructed and arranged that said heat retaining pad can be completely removed to have the heated pad engaged flat against the body, said heat retaining pad comprising an envelope of waterproof material having a plurality of waterproof compartments, and a quantity of water sealed in each of said compartments.

SHACHNO STEIN.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,594,053	Evans -----	July 27, 1926
1,758,213	Bartik -----	May 13, 1930
1,997,899	Dick -----	Apr. 16, 1935
2,032,294	McDonald -----	Feb. 25, 1936
2,277,772	Marick -----	Mar. 31, 1942
2,294,010	Van Daam -----	Aug. 25, 1942
2,323,478	Lobl -----	July 6, 1943
2,342,744	McCready -----	Feb. 29, 1944
2,411,677	Christenson -----	Nov. 26, 1946
2,467,447	Strezoff -----	Apr. 19, 1949