April 4, 1950 R. GREY 2,502,519

ELECTRIC SWITCH

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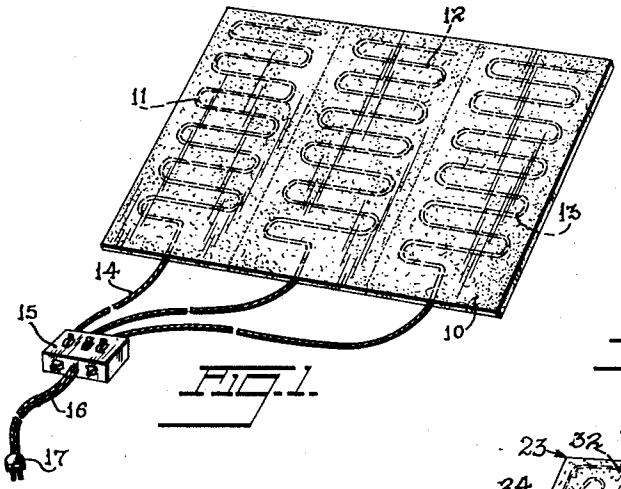

FIG. 1.

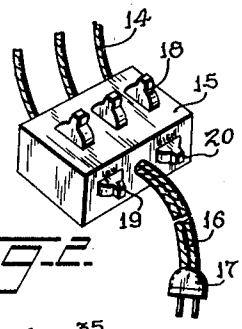

FIG. 2.

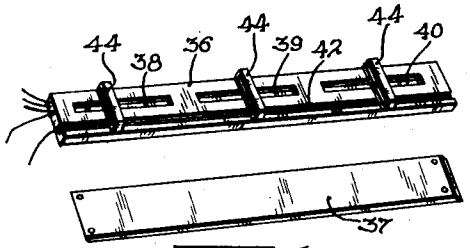

FIG. 4.

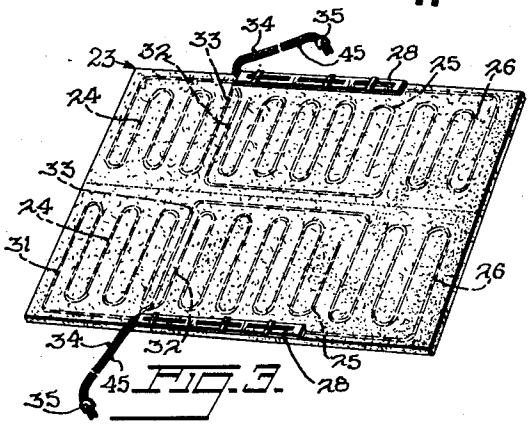

FIG. 3.

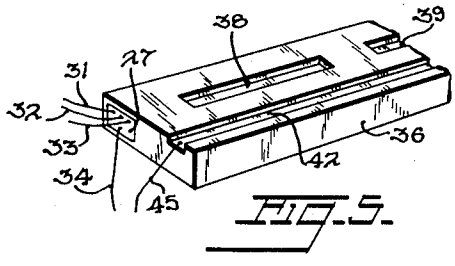

FIG. 5.

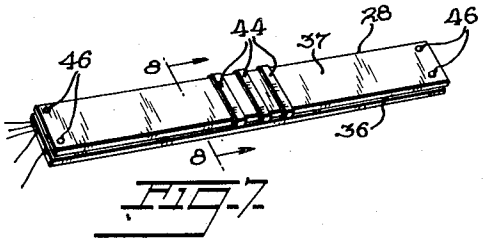

FIG. 7.

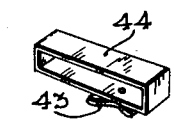

FIG. 6.

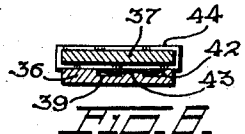

FIG. 8.

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ELECTRIC SWITCH

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2 Claims. (Cl. 200—16)

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This invention relates to electric switches.

More particularly, the present invention proposes a simple control arrangement for a flexible and foldable underpad which is heated by electricity and which will easily permit the selection of the portion of the underpad which the user desires to be heated, and wherein this control arrangement may be incorporated in the underpad itself and along the side edges thereof where it will be readily available to the user without his getting out of bed, and which is so positioned in the bed that a person can not get entangled in the wires in getting in or out of bed in the dark.

According to a modified form of the invention, the control device is made of flexible plastic strips with terminal plates extending throughout the same and with slide contacts extending between the plates adapted to be slid therealong to select the desired heating unit. The user of the underpad will thus have available a control unit which can be incorporated in the blanket or pad itself and located at the side edge thereof. Thus the control unit will be easily available to the user without the necessity of his becoming uncovered when adjusting the arrangement.

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

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

Fig. 1 is a perspective view of an underpad, showing diagrammatically the several heating sections located therein and also showing a control switch constructed in accordance with the present invention and which is adapted to be connected to a wall receptacle and rested on a stand adjacent the bed where the underpad is being used.

Fig. 2 is an enlarged perspective view of the control device.

Fig. 3 is a perspective view of an underpad having three heating sections, with a modified control device made of flexible insulating material which is adapted to be attached to each side edge of the underpad.

Fig. 4 is a perspective view of the control device shown in Fig. 3, showing the base part having the contact terminals, the cover slightly removed therefrom.

Fig. 5 is an enlarged fragmentary perspective view of the base portion of the control device.

Fig. 6 is a perspective view of one of the slide contacts.

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Fig. 7 is a perspective view of the control device removed from the underpad.

Fig. 8 is an enlarged cross sectional view taken on line 8—8 of Fig. 7, looking in the direction of the arrows thereof.

Referring now particularly to Figs. 1 and 2, the switch of the present invention is designed to be used with an underpad 10 having three heating coils 11, 12 and 13 located respectively at the head, middle and foot portions thereof. Connected with each of these heating coils are wires 14 extending from a selective control device 15 which is fed with current through lead wires 16 adapted to be attached by a plug 17 to a wall receptacle. This control device 15 has snap-over control handles 18 for each of the heating coils which are snapped to one position to turn on the heat and to another position to turn it off. There is one of these handles 18 for each heating coil. Thus, the user of the underpad can readily select the coil or portion of the underpad which he desires to have heated. On the side of the device are switch buttons 19 and 20 for controlling the temperature of the heating coil which is turned on. If it is desired to have the heating coil at a low temperature, the button 19 will be operated while if it is desired to have the heating coils at a high temperature the button 20 is operated.

Referring now particularly to Figs. 3 to 8, 23 represents a double underpad having heating coils 24, 25 and 26 at the respective head, middle and foot portions of each side of the underpad. Wires from these heating coils lead to a contact terminal 27 on a control device 28 adapted to be connected to the side of the underpad. These wires are indicated at 31, 32 and 33. A lead wire 34 extends from the contact plate 27 to a plug 35. The control device 28 includes a base 36 and a cover 37 therefor. Both of these parts are made of thin plastic strip material which is flexible and can be flexed substantially in the same manner that the underpad material can be flexed. Embedded in the top face of the base 36 are a plurality of longitudinally spaced contact plates 38, 39 and 40. These plates are respectively connected to the opposite ends of the heating coils 24, 25 and 26. Also embedded in the base 36 is a long contact plate 42 which extends throughout the entire length thereof and serves as a common terminal for a plurality of slide contacts 43 having operating loops or handles 44. The contact plate 42 is connected by a wire 45 to the plug 35. These loop handles 44 are extended over the cover 37 to slide therealong. The cover 37 is connected at its opposite ends to the base 36 by fasteners 46.

These operating handles can be adjusted so as to establish a flow of current through any one of the heating coils or through two or three of them together. The control being attached to the side of the underpad is readily accessible. With the middle handle at a mid-location, the heating coil **25** will be heated and if the other handles are brought adjacent the middle handle, only this coil will be heated. If it is desired to have heat in the other coils, the operating handles are moved to stations over the contact plate connected with the other heating coils.

This arrangement may be especially desirable when two persons occupy the same bed and will provide independent control for each person.

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 construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A switch comprising an elongated base formed of insulation material, an elongated contact plate mounted longitudinally along one side of said base for attachment in an electrical circuit, longitudinally spaced elongated contact plates mounted along the other side of said base parallel to said elongated contact plate for attachment in an electrical circuit, and slidable means in contact with said elongated contact plate and selectively engageable with said spaced contact plates for completing the circuit to said heating elements, said slidable means comprising handles of non-conductive material extended laterally of said base, a contact of conductive material mounted on each of said handles and engaging said first elongated contact and one of said spaced elongated contact plates, said means slidably supporting said handles comprising a cover of insulation material extended through said loop-shaped handles and attached to said base.

2. A switch comprising an elongated base formed of insulation material, an elongated contact plate mounted longitudinally along one side of said base for attachment in an electrical circuit, longitudinally spaced elongated contact plates mounted along the other side of said base parallel to said elongated contact plate for attachment in an electrical circuit, and slidable means in contact with said elongated contact plate and selectively engageable with said spaced contact plates for completing the circuit to said heating elements, said slidable means comprising handles of non-conductive material extended laterally of said base, a contact of conductive material mounted on each of said handles and engaging said first elongated contact and one of said spaced elongated contact plates, said means slidably supporting said handles comprising a cover of insulation material extended through said loop-shaped handles and attached to said base, said cover being coextensive with said base and attached at its ends to the ends of said base leaving the center of said cover free permitting movement of said handles longitudinally of said base and cover.

RALPH GREY.

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