

# United States Patent

Williams

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- [54] **ELECTRICALLY HEATED PADS OR BLANKETS**
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- [58] Field of Search ..... 219/201, 212, 486, 482, 529, 219/549, 528, 527

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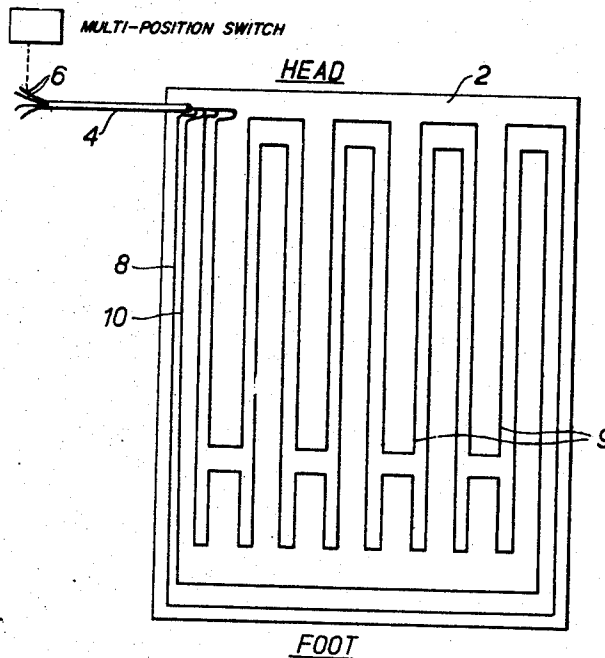
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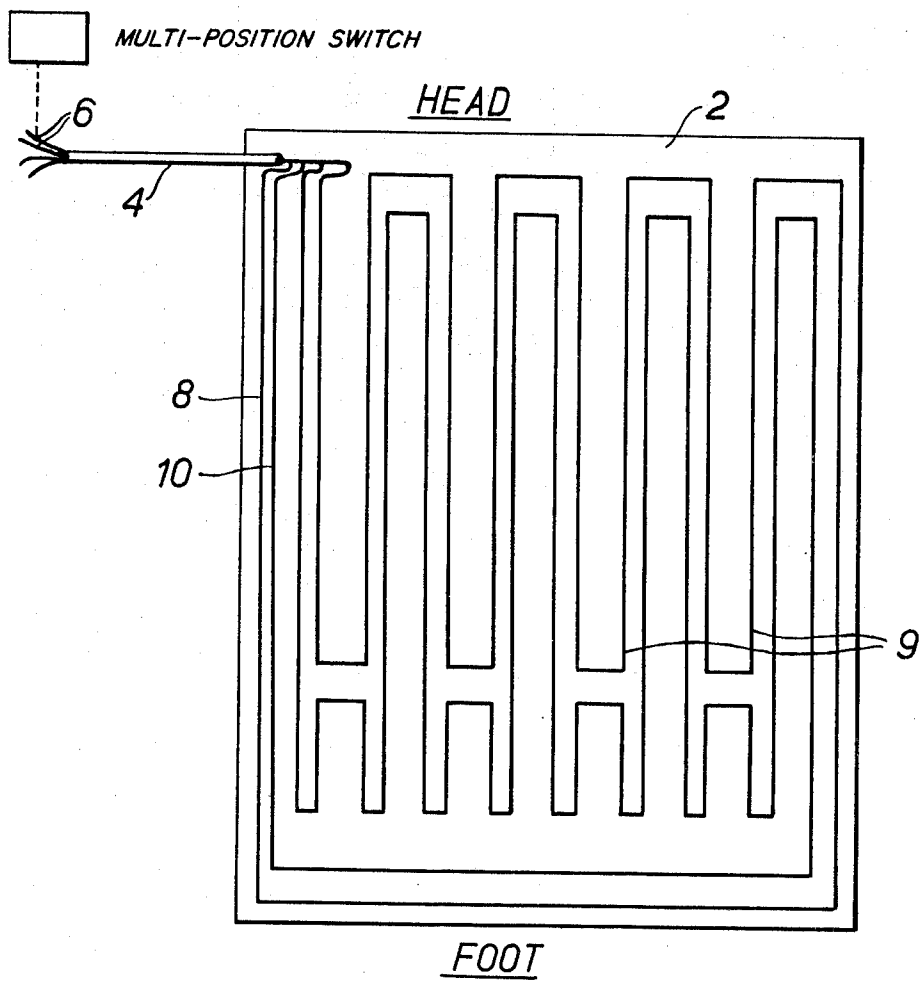
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[57] **ABSTRACT**

An electrically heated pad or blanket having two heating elements defining two separate electrical circuits, each circuit being connected to a multi-position switch so that they can be connected to a supply of electricity in series or parallel or selectively one at a time, one of the heating elements being longer than the other and having the greater length part disposed in a region not containing the runs of the shorter element so that when placed in parallel there is an even heat distribution over the pad or blanket, when placed in series there is an even heat distribution of less heat and when only one circuit is connected to the supply one area of the pad or blanket is heated at a different temperature to the remaining area of the pad or blanket.

3 Claims, 1 Drawing Figure





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ELECTRICALLY HEATED PADS OR BLANKETS

DISCLOSURE

Electrically Heated Pads or Blankets

This invention relates to electrically heated pads or blankets. energized.

Known electrically heated pads or blankets are arranged to be heated substantially uniformly over the whole area of the pad or blanket when the electric heating element is energized.

The present invention aims at providing an electrically heated pad or blanket in which different areas of the pad or blanket can be heated selectively.

According to the present invention there is provided an electrically heated pad or blanket having two heating elements defining two separate electrical circuits, each circuit being connected to a switch adapted to be connected to a supply of electricity and having at least three operating positions so that the two circuits can be connected to the supply either in series or in parallel or connect only one circuit to the supply, the length of one of the heating elements being greater than the other, the elements being disposed in substantially parallel U-shaped runs with a part of the runs of the longer element disposed in a region of the pad or blanket not containing the runs of the other element, the resistivities of the elements being such that when placed in parallel there is an even heat distribution over the pad or blanket, when placed in series there is an even heat distribution of less heat and when one circuit only is connected to the supply one area of the pad or blanket is heated at a different temperature to the remaining area of the pad or blanket.

In a pad or blanket of the present invention a portion of the longer element extends over an area different from that over which the other element extends. These areas can be oriented relatively to a designated head and foot of the pad or blanket so that when fitted on a bed and connected appropriately to a source of electrical energy, either the head and the foot of the bed can be heated to different temperatures by the blanket, or the head of the blanket can be heated, or alternatively the blanket can be heated uniformly overall.

The length or electrical characteristics or both of the elements can be chosen so that the heat dissipated per unit area over the area associated with one element or portion is different from the heat dissipated per unit area over the area associated with the other element or portion.

To the accomplishment of the foregoing and related ends, the invention then comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and annexed drawing setting forth in detail an illustrative embodiment of the invention, this being indicative, however, of but one way in which the principle of the invention may be employed.

In said annexed drawing the single figure is the plan view of a blanket showing the paths of two different heating elements.

One of the ends of the blanket 2 is designated the head portion, while the opposite end of the blanket is designated the foot portion. The two ends are differentiated from each other by the provision of a four core electrical supply lead 4 which projects from the head portion of the blanket 2.

Externally of the blanket 2 the lead 4 is connected to a

multi-position operating switch, and internally of the blanket the lead 4 is secured to the material of the blanket in a manner which prevents tension on the lead from being applied to the electrical connections between each core 6 in the lead and the respective end of its associated element.

As shown, the blanket 2 comprises separate heating elements 8 and 10 which have different resistances per unit length. Element 8 defines a U-shaped path having the element extending between the ends of the limbs of the U bent to form a series of U-shaped portions 9 of uniform length.

Element 10 lies within the space defined by element 8, and comprises a similar U-shaped portion uniformly spaced from the U-shaped portion of element 8.

Extending between the limbs of the U-shaped portion of element 10 are a series of portions which are alternately of greater and shorter lengths, the extensions of shorter length being aligned with the portions 9 of element 8, and with the extensions of greater length lying in the spaces defined between the portions 9.

Because of this configuration the length of element 10 is about one-third longer than the length of element 8, and the resistivities of the material forming the elements 8, 10 is chosen so that when connected to a source of electrical energy the elements 8, 10 dissipate the same amount of heat. Thus, when both elements 8, 10 are energized in parallel, the blanket 2 is heated uniformly over-all. When energized in series, the blanket 2 is heated uniformly at approximately one quarter heat, but because the elements are distributed non-uniformly different areas of the blanket are heated at different temperatures when the elements are energized selectively.

Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims, or the equivalent of such, be employed.

I, therefore, particularly point out and distinctly claim as my invention:

1. An electrically heated pad or blanket having two heating elements defining two separate electrical circuits, each circuit being disposed within said blanket connected to a switch adapted to be connected to a supply of electricity and having at least three operating positions so that the two circuits can be connected to the supply either in series or in parallel or connect only one circuit to the supply, the length of one of said heating elements being greater than the other, the elements being disposed in substantially parallel U-shaped runs with a part of the runs of the longer element disposed in a region of the pad or blanket not containing the runs of the other element and another part of the runs of the longer element disposed in a region of the pad or blanket containing the runs of the other element, the resistivities of the elements being such that when placed in parallel there is an even heat distribution over the pad or blanket, when placed in series there is an even heat distribution of less heat and when one circuit is connected to the supply, two areas of said pad or blanket are heated at different temperatures.

2. An electrically heated pad or blanket as claimed in claim 1 in which the one circuit which can be connected to the supply is the one including the longer heating element.

3. An electrically heated pad or blanket as claimed in claim 1 in which the circuits can be selectively connected to the supply.

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