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ELECTRIC HEATING PAD

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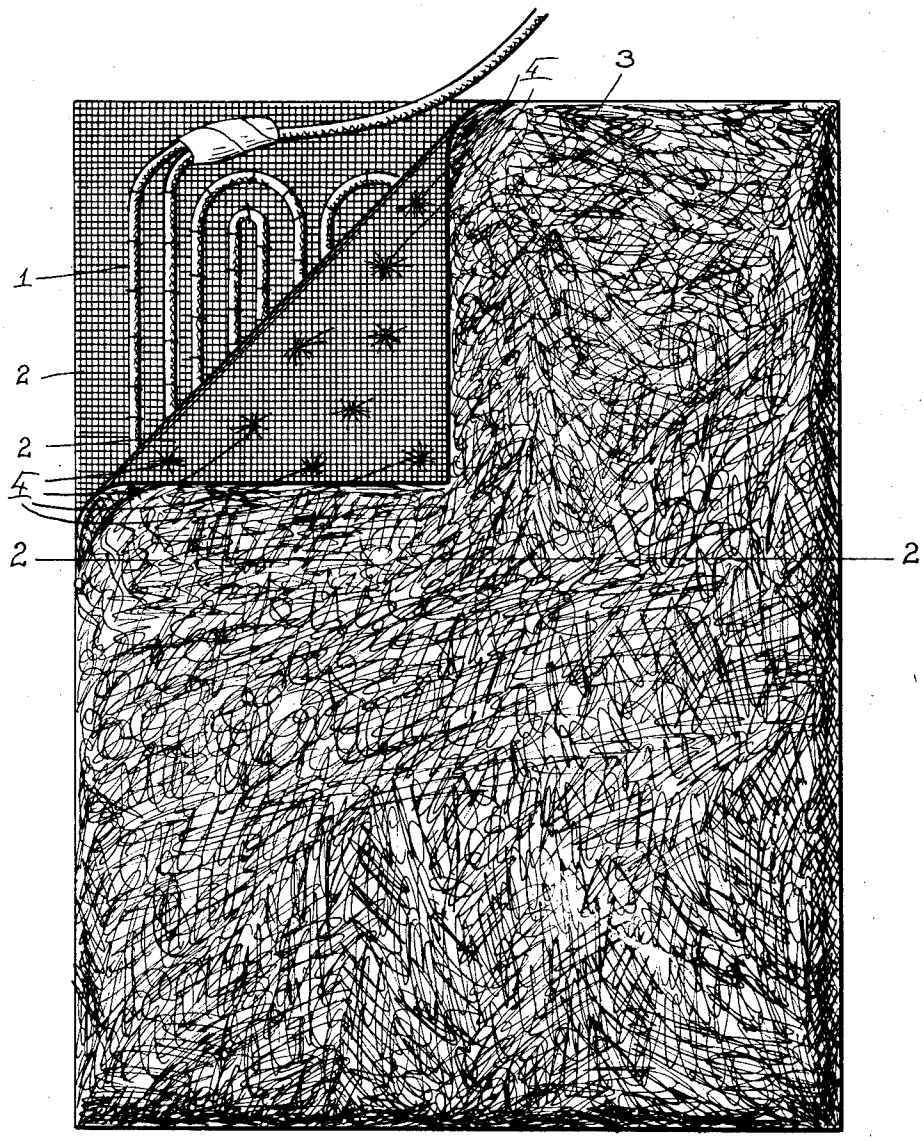


FIG 1

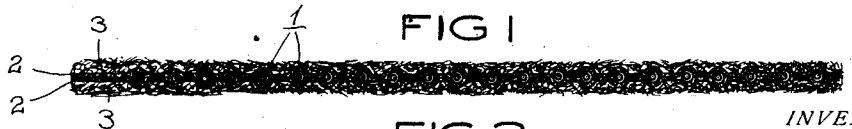


FIG 2

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ELECTRIC HEATING PAD

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Application June 26, 1939, Serial No. 281,083

4 Claims. (Cl. 219—46)

This invention relates to electric heating pads and has for its principal object to provide a heating pad with an envelope which has a strong, pliable and thin inner wall for the attachment of the heating coils thereto and the spacing and arrangement thereon, and with a matted fibrous outer wall to act as a cushioning element for the heating coils and hold these coils yieldingly embedded in the envelope.

Another object of this invention is to provide a heating pad envelope made up from a material having a perforate inner wall covered by an outer wall made up of a layer of intermingling matted fibers so as to provide air spaces between them and cause the heat generated by the heating coils to be quickly and efficiently transmitted thru the envelope and uniformly distributed thereby.

These and other objects and attendant advantages of the invention will become more clearly apparent from the detailed description thereof which follows, reference being had to the accompanying drawing in which

Figure 1 is a plan view of the heating pad embodying my invention with a corner of one of the covers thereof raised.

Figure 2 is a horizontal sectional view on the line 2—2 of Figure 1.

Electric heating pads are made up in the form of an envelope in which the heating coils are fixedly mounted and arranged on the inside so as to uniformly transmit heat thru the pad over substantially the entire area. In order to perform this function efficiently it is necessary that the envelope be made up of a material which has a high heat transmitting ability. A woven material with an open weave readily provides this function. However, it does this in such a manner that heat from the heating coils penetrates the material with greater intensity at their point of attachment than thru the areas between the coils. The result is an uneven and unsatisfactory transmission of heat by the envelope. This is in contrast to an envelope made up of a material made up of matted fibers in which the walls are full of air spaces which cause the heat to be distributed thereby in its passage therethru. However, a wall made up of matted fibers alone has practically no tensile strength so that electric heating coils cannot be fixedly anchored thereto and held in a predetermined position thereon. From this it will be apparent that only a combination of an opening woven material with a matted fiber material provides the proper fabric for the envelope of a heating pad and an envelope made up of such a combination material forms the subject matter of the present invention.

As illustrated in the accompanying drawing, the envelope for the heating pad is made up of two covers, one of which has the electric heating coil 1 arranged thereon and sewed or otherwise suitably fastened thereto so as to extend over the entire area thereof. Each cover has an inner wall 2 preferably made up of a burlap fabric or an open weaved cotton fabric. The outer wall 3 is made up of fibers which are suitably matted together to become intermingled and cohesively held together to form a thick resilient fabric full of connected air spaces. The two walls must be suitably connected in such a manner that the connecting agent shall not interfere with the proper conduction of heat thru the envelope. For this reason the matted fibrous outer wall is anchored to the woven inner wall at suitable intervals, as for example, by forcing some of the fibers thru the woven material as illustrated at 4, 4 in Figure 1. On one of the sides of the envelope the attachment of the heating coils to the inner wall thereof, as for example by means of sewing, will serve to additionally anchor the outer matted wall to the inner woven wall of the sides. In this way the outer heat distributing wall is firmly anchored to the inner heat element supporting wall so that all heat generated by the heating coils is quickly conducted thru and distributed by the envelope. The covers are suitably fastened together so as to hold the heating coils embedded between them. In this way contact with the outer surface of the heating pad will not prominently disclose the position of the heating coils within it, and the heat emitted by the pad will be uniform over its entire surface and not concentrated over the points of attachment of the coils within the pad.

I claim:

1. A heating pad envelope comprising a pair of opposing covers, a perforated burlap wall providing the inside of one of said covers, a matted fiber wall providing the outside of this same cover and held fixed in place on the surface of the burlap wall with the air spaces in the matted wall fiber unobstructedly connected with the openings in the burlap wall, and a heating coil arranged on and anchored to said burlap wall.

2. A heating pad envelope comprising a pair of opposing unitary fabric covers, an openly woven wall on the inside of one of said covers, a heating coil arranged on and fastened to the woven inner wall of one of said covers and a matted

fibrous outer wall anchored to the outer surface of each of said covers.

3. A heating pad envelope comprising a pair of opposing unitary fabric covers, a substantially net formed inner wall on the inside of each of said covers, a heating coil arranged on and fastened to said inner wall of one of said covers, a densely matted fiber wall anchored to the outer surface of each of said covers so as to have the spaces between the matted fibers connect with the openings in the inner wall.

4. A heating pad envelope comprising a pair of opposing unitary covers, a perforate thin fabric forming the inner wall and a matted porous fabric attached to the outer surface of the perforate wall forming the outer wall of one of said covers with the inner and outer wall of said cover fixedly held together to provide for the attachment of a heating coil to the inner wall of the cover and the cushioning of the heating coil by the outer wall of the cover with the adjacent spaces of the outer and inner wall providing a quick and efficient transmission of heat thru the cover and a uniform distribution of heat from the outside of the cover.

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