March 29, 1932. H. W. EDWARDS 1,851,499

THERMAL PAD FOR COTS

Filed July 31, 1929

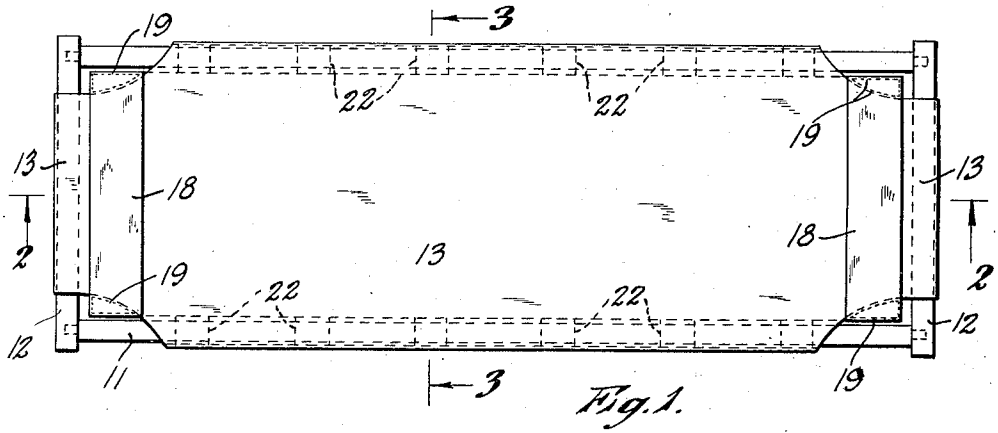

Fig. 1.

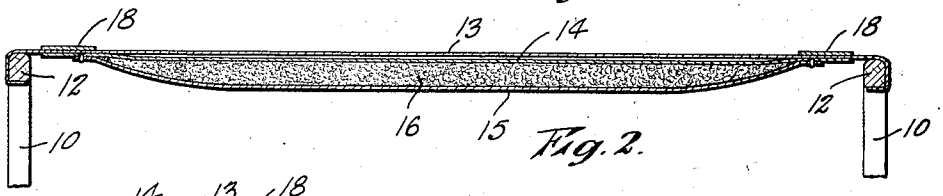

Fig. 2.

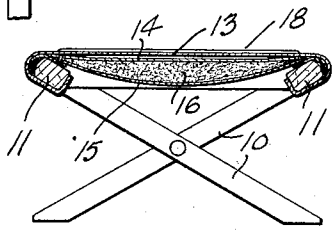

Fig. 3.

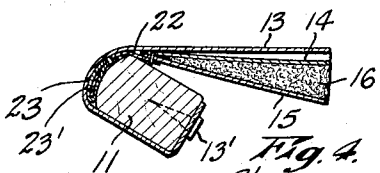

Fig. 4.

Fig. 5.

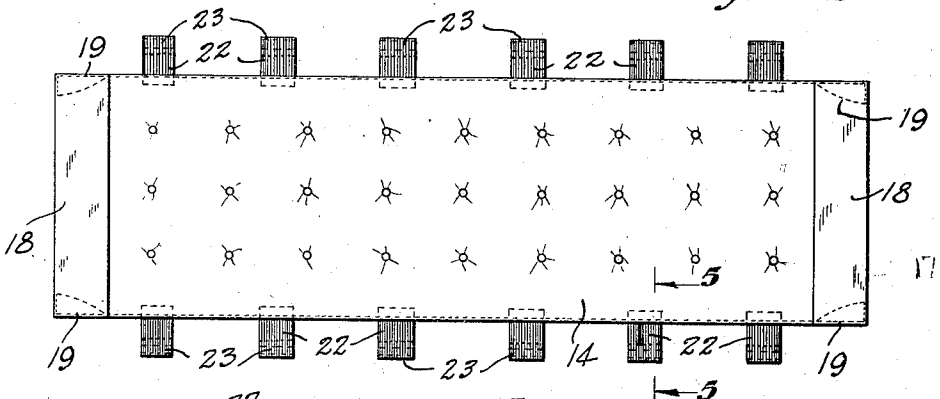

Fig. 6.

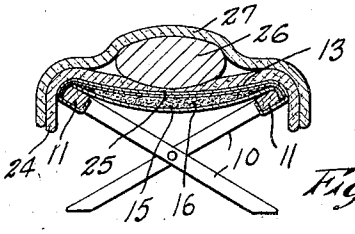

Fig. 7.

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UNITED STATES PATENT OFFICE

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THERMAL PAD FOR COTS

Application filed July 31, 1929. Serial No. 382,518,

This invention relates to a device or attachment for use with a camp cot or steamer chair or the like and has for an object to provide an under spring thermal pad which may readily be attached to or detached from the under side of a camp cot, army cot, steamer chair or like article to prevent undue loss of heat through the bottom of the cot or chair and thus keep the user warmer than in the usual arrangements.

It is a further object of this invention to provide an under spring or thermal pad that has means whereby it may be quickly and easily attached to snugly fit close to the bottom of the supporting canvas or spring below the light mattress and springs such as is usually used to support the body of a person resting on a canvas camp cot, army cot, steamer chair or like article.

With the foregoing and other objects in view, the invention consists in certain novel features of construction, combinations and arrangements of parts as will be more fully described in connection with the accompanying drawings.

In these drawings:

Fig. 1 is a top plan view of a camp cot to which an embodiment of this invention has been applied.

Fig. 2 is a longitudinal section on line 2—2 of Fig. 1.

Fig. 3 is a cross section on line 3—3 of Fig. 1.

Fig. 4 is an enlarged cross section similar to Fig. 3 of one edge of the cot canvas or spring, its side support and the under spring pad held in place thereby.

Fig. 5 is an enlarged cross sectional view similar to Fig. 3 of an edge of the under mattress and attaching means per se, and is on line 5—5 of Fig. 6.

Fig. 6 is a top plan view of the under slung pad.

Fig. 7 is a cross section of an occupied camp cot to which an embodiment of this invention has been attached.

It is a well known fact that the ordinary camp cot or army cot "sleeps cold" so to speak, in spite of blankets or sleeping bags the users may wrap themselves in. This is believed to be because the weight of the body compresses and mats together the fibres of the material of which the blankets and bags are made and drives out to a large extent the air held by them so that the air spaces are greatly reduced. The blankets or bags thus form fairly good conductors of heat instead of insulators, permitting escape of heat of the body. In order for a blanket to be a good non-conductor of heat it must be soft and fluffy, for it is really the little air spaces between the fibres that determine the heat non-conducting properties rather than the material of which the blanket or comforter is made. Therefore, as indicated above, when the weight of the sleeper is carried by these blankets as in the ordinary cot, they are compressed into a layer of material much thinner than normal. This compression and reduction in thickness with the driving out of the air and reduction of the air spaces makes the blankets under the sleeper a relatively better conductor of heat and hence they lose their desired quality as thermal insulators, while the blankets above the sleeper are not compressed and retain their desired insulating properties. Thus the cots are cold from the bottom. I have overcome this objection by placing the lower insulating material, or at least part of it, below the supporting canvas rather than on top of it. It is therefore not between the body of the sleeper and the canvas where it is compressed by the weight of the body, but as it is below the canvas it retains its loose fluffy condition and its normal heat insulating properties. Generally speaking it consists of a pad of suitable material easily applied to the cot or chair, and made to hang snugly, but not too tightly, on the underside of cot or chair canvas.

There is shown at 10 the legs of a conventional camp cot having longitudinal side rails 11 and end rails 12 to which the canvas or spring 13 is detachably affixed by any conventional means as by tacks or eyelets (not shown). The under thermal pad constituted in the embodiment of this invention comprises a sheet 14 of canvas drilling or similar material which has attached to its ends a slightly larger sheet 15 sewed about

its edges. In between the sheets 14 and 15 is placed a quantity of cotton batting 16 or similar heat insulating material as wool, the batting being held in place by means of the tufting 17, it being obvious that the under sheet 15 will be slightly convexed due to its slightly larger size. The means for affixing this under pad to the camp cot or similar object comprises a loop 18 formed at each end of the upper sheet 14 of the pad which is sewed as at 19 to leave an open end through which the cot canvas or spring 13 may be placed before being attached to its end rail 12. Affixed at spaced intervals along the sides of the pad by means of stitching as at 21 are a series of flexible straps 22 which may be and preferably are of elastic material to hold the pad snugly against the bottom of the canvas and have at their opposite ends knobs 23 which preferably comprise a piece of sheet metal 23′ such as aluminum or other suitable metal curved to conform to the shape of side rail 11 against which it is to be placed and held by wrapping the material of the straps around it and stitching the free end to form a loop 23. Other ways of supporting the pad may of course be used.

In operation the camp bed in being set up has the ends of its canvas or spring 13 inserted through the loops 18 before being attached to the end rails 12 and the knobs or loops 23 along the sides are inserted between the sides of the canvas 13 and the side rails 11 as shown in Fig. 4. A blanket or thin mattress 24 is placed on the cot canvas or spring and as is obvious it will be compressed a great deal as at 25 when the person 26 lies on it. The usual upper blankets are indicated at 27. When the camp bed is used without the under pad herein described a great deal of body heat will escape through the compressed portion 25 of the blanket 24 serving as a mattress, and the occupant will be uncomfortably cold on a cool night. This is due to the fact that the warming effect of the blanket or quilt 24 is due, as described above, not to the material of the blanket but to the air spaces in the material and when the blanket is compressed the air is driven out of these air spaces and the blanket or mattress 24 instead of serving as a heat insulator serves as a heat conductor, thereby chilling the occupant. When the under thermal pad constituting this invention is used, the air spaces in the fibrous material as cotton, wool, etc., 16 therein will remain while in use, there being no pressure tending to compress this pad due to its being positioned below the mattress and the canvas or spring, as shown in Figs. 2 and 7, and it will thus act as a very good heat insulator, preventing the cot occupant from being chilled.

Thus it will be seen that this invention provides an under thermal pad which serves very efficiently to keep the occupant of the cot warm and comfortable, yet is very simple in construction and can be manufactured at relatively low cost, and can be very easily placed in use as above described. It is not limited to use on a cot but is equally adapted for steamer chairs and the like.

It is also to be understood that altho the support of the cot is illustrated in the drawings as a strip of canvas or the like, the pad may be used under any similar support and whether it is of canvas or a set of springs or the like, the fundamental idea being that the heat insulating pad is mounted at the under side of the body support where it is not compressed by the weight of the body but always retains its light, fluffy condition.

Having thus set forth the nature of this invention, what is claimed is:

1. A heat insulating device for cots and the like, comprising a heat insulating pad of fibrous material, and means for mounting the pad at the under side of the body support of the cot or the like where the fibres are not appreciably compressed by the weight of the body, comprising elastic straps secured to sides of the pads and the cot to hold the pad snugly against the under side of the body support.

2. A heat insulating device for cots and the like, comprising a heat insulating pad of fibrous material and yielding means at the sides of the pad to attach it to the side rails of the cot at the under side of the cot canvas or body support so that the entire weight of the body is carried by said canvas or support independently of the pad, and the yielding means automatically retains the pad in contact with the under side of the canvas or body support.

3. A heat insulating device for cots and the like, comprising a heat insulating pad of fibrous material, means at the sides of the pad to attach it to the side rails of the cot at the under side of the cot canvas, and loops at the ends of the pad through which the canvas may pass to support these ends.

4. A heat insulating device for cots and the like, comprising a heat insulating pad of fibrous material, means at the sides of the pad to attach it to the side rails of the cot at the under side of the cot canvas, comprising straps secured to the pad having loops at their free ends and a curved sheet metal member enclosed by the loops, said loop and member capable of being held between the canvas and the side rail by the weight on the canvas.

5. A cot under-pad comprising a canvas sheet or like element, a similar sheet fastened thereto adjacent its edges, an insulating filler inserted between said sheets and means for attaching said pad to the bottom of a cot comprising straps attached to the side of said pad having knobs adapted to be held between the

cot canvas and the cot canvas supporting rails.

6. A cot under pad comprising a canvas sheet or like element, a similar slightly larger sheet fastened thereto adjacent its edges, an insulating filler inserted between said sheets and means for attaching said pad to the bottom of a cot comprising straps attached to the side of said under pad having knobs of curved sheet metal adapted to be held between the cot canvas and cot canvas supporting rails.

7. A cot under pad comprising a canvas sheet or like element, a similar sheet fastened thereto adjacent its edges, an insulating filler inserted between said sheets and means for attaching said pad to the bottom of a cot comprising straps attached to the side of said under pad having knobs adapted to be held between the cot canvas and the cot canvas supporting rails, and looped ends adapted to be passed about the end of the cot canvas.

8. A cot under pad comprising a canvas sheet or like element, a similar slightly larger sheet fastened thereto adjacent its edges, an insulating filler inserted between said sheets and means for attaching said pad to the bottom of a cot, comprising straps attached to the side of said under pad having knobs of curved sheet metal adapted to be held between the cot canvas and the cot canvas supporting rails, and looped ends adapted to be passed about the ends of the cot canvas.

9. A cot or the like comprising side rails, a flexible canvas or similar support carried by and between said rails and adapted to support the entire weight of the body, and a heat insulating pad of fibrous material mounted at the underside of said support in contact therewith, said pad being mounted by means adapted to automatically permit the pad to move downwardly with the support, said support being mounted to support the weight of the body independently of the pad so that the fibers of the pad are not compressed by the weight of the body and said yielding means automatically maintains the pad in contact with the support.

10. A heat insulating device for cots and the like having a flexible body support, comprising a heat insulating pad of fibrous material, and means for mounting the pad to yieldingly dispose it loosely at and closely adjacent the underside of the body support of the cot or the like so that it may move downwardly with the body support as this support moves downwardly under the weight of the body so that the weight of the body is always carried by the support and the fibers of the pad are therefore not appreciably depressed by the weight of the body, and said yielding means adapted to automatically retain the pad closely adjacent the underside of the support.

In testimony whereof I affix my signature.

HIRAM W. EDWARDS.