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2,836,836

CONTOUR MATTRESS

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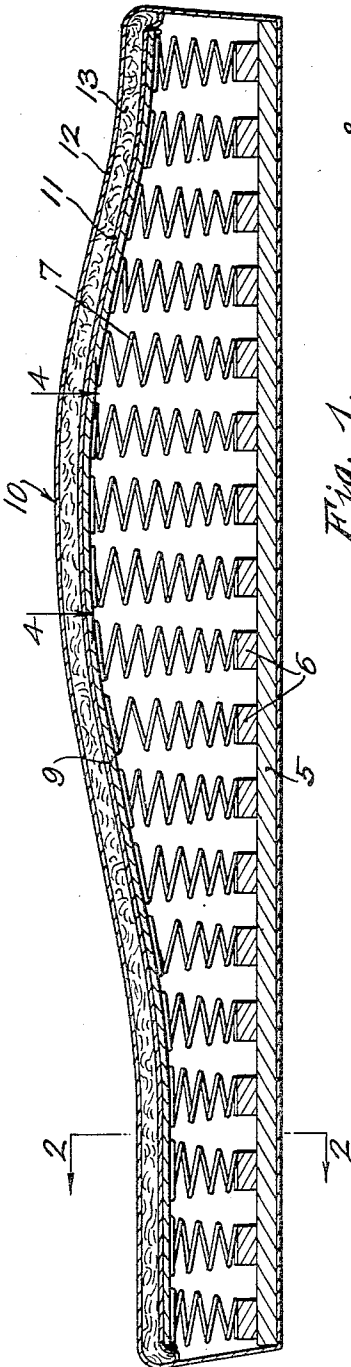


Fig. 1.

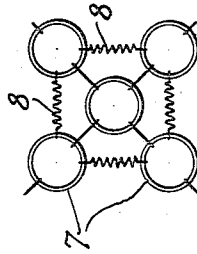


Fig. 4.

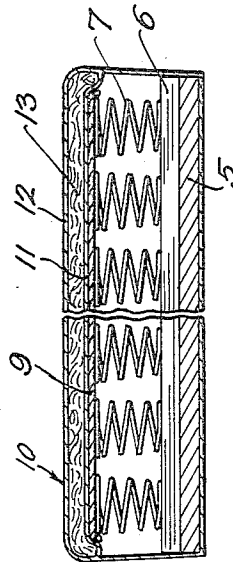


Fig. 2.

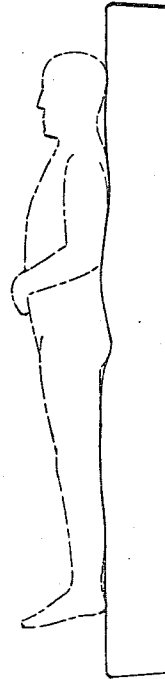


Fig. 3.

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2,836,836

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4 Claims. (Cl. 5—351)

This invention relates to improvements in mattresses of the combination box spring and inner spring mattress type, which has its top surface contoured to conform to the shape and size of the body of the user to provide a substantially horizontal plane surface for the body resting on it.

It has been found that a mattress having inner springs of uniform strength and height, will form an uneven support surface when in use, due to the fact that the heavier portions of the body will sink lower than the lighter portions, often forming a hammock-like surface that, in addition to being uncomfortable to lie on, sometimes causes, or at least aggravates sacroiliac disorders.

The main object of this invention is to produce a mattress of such construction and design that it will maintain the body of a person using it in a substantially level plane.

Another object is to provide a mattress that can be custom built for persons of unusual height, weight or shape so as to give the optimum comfort.

A still further object is to produce a mattress of such construction and design that it will not require a separate bed spring thereby saving the purchaser the additional cost of a bed spring.

A still further object is to produce a mattress that can be substituted for the ordinary bed spring and mattress in common use.

The above and any other object or objects which may hereafter appear or to which attention may be called as the description proceeds are attained by a construction and an arrangement of parts that will now be described in detail for which purpose reference will be had to the accompanying drawing in which the invention has been illustrated, and in which:

Figure 1 is a longitudinal section of a mattress showing my construction;

Figure 2 is a transverse section taken on line 2—2 Figure 1; and,

Figure 3 is a side elevational view indicating by broken lines a human body in position on the mattress and shows the general contour when the mattress is in use; and,

Figure 4 is a fragmentary top plan view taken on line 4—4 Figure 1.

In the drawing, reference numeral 5 designates a bottom which is preferably formed from plywood or press board. Attached to and supported from the top of board 5 are a plurality of slats 6 that form supports for springs 7 which are of the usual bed spring construction and whose upper ends are loosely joined by wires or by light helical coil springs 8, in the usual manner, to keep springs 7 from becoming dislocated, as shown in Figure 4. Springs 7 may, of course, be interconnected in any other usual manner. A layer 9 of jute, sisal, hemp or other suitable material covers the tops of the springs and is secured to them in any suitable manner. Layer 9 forms a protecting shield between the springs and the padding 10 preventing the springs from wearing holes in the bot-

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tom covering 11 of the padding. The top cover of the padding has been designated by reference numeral 12. Layers 11 and 12 may be cotton, felt or any other suitable material 13 of sufficient strength, weight and resiliency to distribute the weight and pressure uniformly over the springs and to prevent the pressure of the springs from being transmitted to the body. The two sheets 11 and 12 may be separated by a heavy layer of cotton or the like. The padding may be quilted and it and cover 9 may be attached to the springs in any approved manner.

The supporting springs are of the usual spring wire construction and have been shown of inverted conical shape but may be cylindrical or of hour glass construction and are interconnected at their upper ends as shown in Figure 4. The desired contour is obtained by employing for each transverse row, springs of different overall length. Where the lengths differ sufficiently they may have a different number of coils but where the lengths do not differ sufficiently for this the difference in length may be obtained by changing the spaces between the coils. The gauge of wire used for the springs may be the same and the contour produced entirely by using springs of different lengths as shown in Figure 1. The mattresses are so designed that the portions that support the heavier portion of the body, that is, the torso, the springs are longer than those at the foot of the mattress. When a person is resting on the mattress the parts assume the shape shown in Figure 3. The highest point of the mattress has an elevation approximately five inches above the end elevations. The maximum comfort is obtained when all parts of the body will be resiliently supported. The springs should be so selected as to their strength that normal movement of the person's body such as moving about or turning over will not be made difficult or inconvenient. Where the mattress is to be used by two people the springs are usually made of somewhat greater gauge.

Attention is called to the gradual curvature of the top of the mattress when it's not in use, and which is so designed that that part that supports the heavier parts of the body will depress sufficiently to provide a substantially level support surface when in use.

The number and arrangement of the transverse rows of springs can, of course, be varied and the parts must be so proportioned and designed as to get the most desirable results. In extreme cases the mattress must be custom built for persons of unusual size or build. The basic idea underlying this invention is to so contour the upper surface that when the mattress is in use it will have a substantially flat support surface, as shown in Figure 3. It is evident that the springs may be braced both longitudinally and transversely if this is found to be desirable.

From the above it will be evident that this invention produces a mattress which, without employing springs of different strength, conforms to the human body resting thereon and gives every part of the body a substantial yielding support while providing a substantially horizontal level surface.

What is claimed as new is:

1. In a mattress of the type including an elongated supporting frame, a series of spaced slats extending transversely of the frame, a row of springs supported by each slat, and a pad resting on the tops of the springs, the improvement which comprises: the use of longer springs in those transverse rows which correspond to the portions of greater weight concentration in the human body, all of said springs being adapted to compress and form a substantially planar surface when supporting a human body.

2. A mattress in accordance with claim 1 in which the springs are of the same gauge and differ in length only.

3. A mattress designed to provide a substantially level surface for an occupant thereon, comprising a supporting frame of elongated rectangular form having a plurality of spaced slats extending transversely thereof in spaced parallel relation, each slat having a row of springs supported thereon, the springs in each row being of the same length, all of the springs being of the same gauge, the springs corresponding to the position of the heavier portions of the body being longer than the springs corresponding to the lighter portions, a pad covering the tops of the springs and secured to the springs forming an upper contoured surface, the length of the springs at different areas along the length of the mattress being so proportioned to the weight of the portions of the body directly supported thereon that the surface will be substantially flat.

4. A combination box spring and mattress comprising: a rigid base; a plurality of springs arranged in transverse rows on the base, said springs being of substantially equal strength, all the springs in a given transverse row being of the same height, the height of the springs in different

rows varying in proportion to the weight concentration of a human body supported thereon, said springs being arranged and adapted to compress to form a substantially planar upper surface under the weight of a human body; a fabric covering the upper surface of the springs; and, a weight and pressure distributing pad on the fabric covering.

References Cited in the file of this patent

UNITED STATES PATENTS

609,819	Lawrence	Aug. 30, 1898
1,246,081	Genge	Nov. 13, 1917
1,710,400	Bebout	Apr. 23, 1929
1,937,920	Smith	Dec. 5, 1933
2,556,924	Karpen	June 12, 1951
2,558,105	Schinman	June 26, 1951

FOREIGN PATENTS

589,997	Great Britain	July 4, 1947
665,548	France	May 7, 1929