

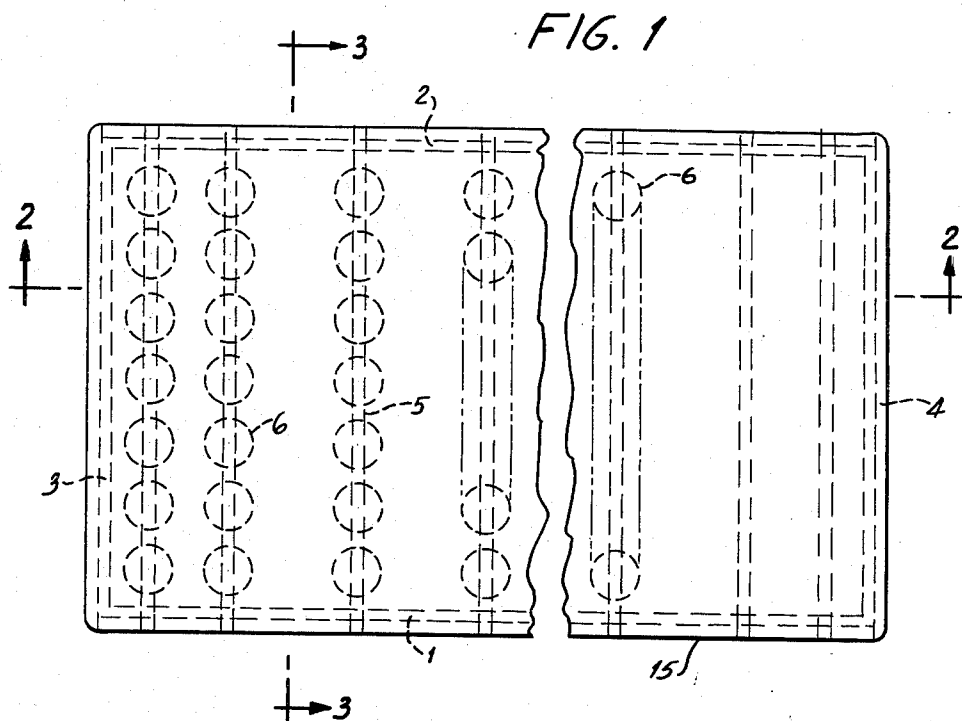
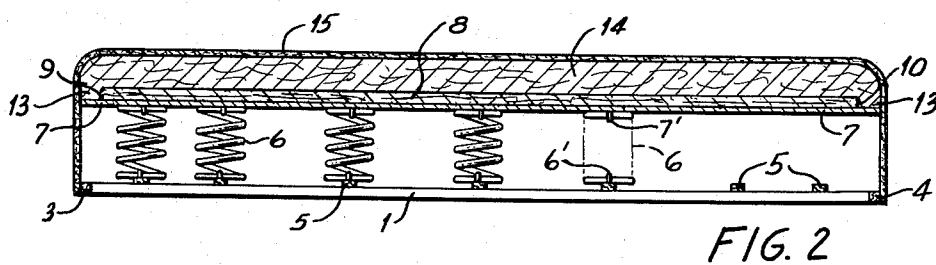
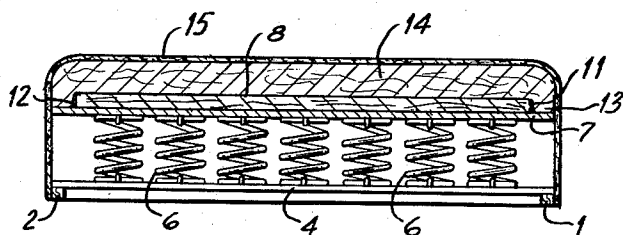
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COMBINATION BOX SPRING AND BED BOARD

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COMBINATION BOX SPRING AND BED BOARD
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1 Claim. (Cl. 5—351)

The present invention is directed to box springs for beds, more particularly to an improved construction to provide more comfort to the users thereof.

For various reasons it has become usual in the case of many persons to provide a bed board which is commonly placed between the mattress and the box spring. However, this is not entirely satisfactory as the board has a tendency to shift and it requires continual adjustment when the bed is made up. To overcome this it has been proposed to build the bed board into the mattress. To accomplish this the board was set into the center of the mattress with springs on opposite sides thereof; because of such a construction the effectiveness of the bed board was largely diminished. In another proposed structure, the bed board was incorporated in the mattress above the springs therein; it was better than the above described construction, but it failed to accomplish the desired effect in that the springs were relatively free to move so that the bed board tended to tilt with the movements of the user. Both of these mattresses had a further disadvantage in that with the turning of the mattresses during make-up, the boards tended to break through the ticking or covering thereof.

In accordance with the invention which is intended and adapted to overcome the difficulties and disadvantages inherent in prior devices of the type described, it is among the objects of the invention to incorporate a bed board into a box spring rather than into a mattress and thus to obtain an improved product.

It is also among the objects of the present invention to provide a built-in bed board for a box spring which is free to float within said box spring and thus give greater use to the user.

It is further among the objects of the invention to produce a structure which is strong, which will not tend to break through the ticking or covering of the box spring, and which will provide the necessary stiffness for the user so that strain on the back of a person afflicted with back injuries or disease will be eliminated and the person may obtain comfortable undisturbed sleep.

In practicing the invention there is provided a box spring having the usual rigid frame upon which is secured the plurality of sets of vertical coil springs. Over the coil springs is placed a relatively stiff mat, usually of fibrous material, to which the coil springs are attached. The bed board is placed thereon but not secured thereto. It is important that the dimensions of the bed board be less than those of the box spring so that it leaves a free space all around it. This space is filled with a felt packing having resilient characteristics so as to permit the bed board to float and move in conformity with the movements of the user.

Referring to the accompanying drawing constituting a part hereof and in which like reference characters indicate like parts,

FIG. 1 is a view from below of a box spring made in accordance with the invention;

FIG. 2 is a longitudinal cross-sectional view thereof taken along line 2—2 of FIG. 1, and

FIG. 3 is a transverse cross-sectional view thereof taken along line 3—3 of FIG. 1.

The basis of the box spring is a rigid frame usually of wood and made up of a pair of longitudinal members 1

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and 2 spaced apart a distance equal to the overall width of the box spring. End members 3 and 4 join the opposite ends of frame members 1 and 2. Cross slats 5 in parallel relation are fixed to longitudinal members 1 and 2 to provide a support for a series of coil springs 6, the lower ends of which are stapled as shown at 6' to slats 5.

On the top of coil springs 6 is a mat 7 of semi-stiff material such as compressed sisal fibers. The upper ends of coil spring 6 are attached thereto by suitable means as by staples 7'. Thereby the lower ends of the coil springs are rigidly fixed, whereas the upper ends thereof are susceptible of limited lateral movement.

A bed board 8 of a rigid material such as plywood, compressed fibers impregnated with a hardened resin, or of wood, is placed on mat 7 in contact therewith. The length and width of bed board 8 is less than the length and width of the box spring so that a substantial area 13 is provided between the perimeter of the bed board and the sides and ends of the bed board.

Superimposed upon bed board 8 is a felt body 14 which covers the entire area of the bed board and fills in spaces 13. The assembly is covered by a piece of fabric or ticking 15, which is suitably anchored in place so that it maintains the elements of the assembly in their proper relative positions.

When downward pressure is exerted on the upper surface of the box spring, as for example by the weight of the user, the side walls tend to buckle outward somewhat. This provides a gap between the edges of mat 7 and the side walls, as well as a gap between the side walls and the spaces 13 of the felt body 14. The board 8 which carries mat 7 with it due to the frictional contact therebetween, is then free to float laterally and hence yield somewhat to the turning and rolling movements of the user. Since the springs 6 are not laterally tied either to each other or to the frame, the floating motion can take place with greater freedom than would otherwise be the case.

There are a number of advantages inherent in this construction. Since the board is free to float it is comfortable to the user. Because of the resilient lateral padding between it and the sides of the box spring, the movements of the board do not have any tendency for it to break through the ticking. The coil springs being anchored on the lower rigid frame provide greater resistance to compression and thus tend to maintain the bed board in horizontal, and thus effective, position to give the desired results. There is a further cooperative function between the coils and the board in that the coils are not tied together so that they have a greater tendency to conform with the movements of the board. The padding on top of the bed board has sufficient resiliency to soften the feel of the board against the body of the user. In the cases of severe back injuries the box spring may be used without an intermediate mattress and the individual will derive comfort and ease together with the necessary stiff support given by the present construction.

What is claimed is:

A box spring comprising a rigid base frame of rectangular form and having a plurality of transverse slats in spaced parallel arrangement located between the sides of said frame, a plurality of substantially parallel sets of vertical coil springs attached at their lower ends to said slats, a single flat thin stiff board located over the upper ends of said springs and covering the area including said springs, a relatively stiff fibrous mat interposed between said coil springs and said board covering substantially the entire area of said box spring, the upper ends of said coil springs being attached to said mat, said coil springs being unattached laterally, whereby vertical displacement of said board causes buckling of the sides of said box

spring and permits lateral movement of said board and said coil springs, the lateral edges of said board being spaced inwardly of the outer edges of said frame, padding between said lateral edges and the sides of said box spring and in contact with said stiff mat, and a layer of padding above said board. 5

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