

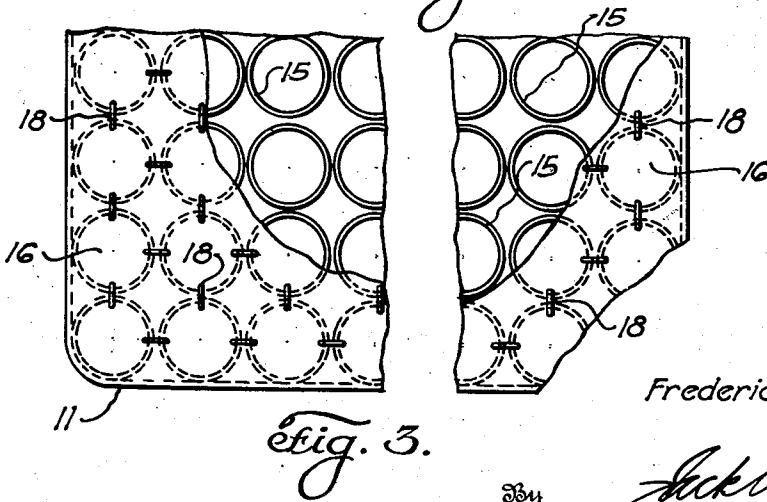
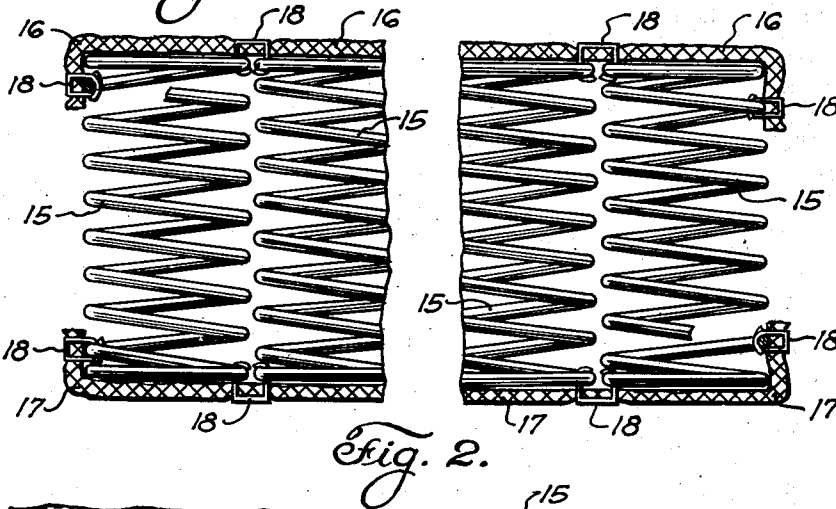
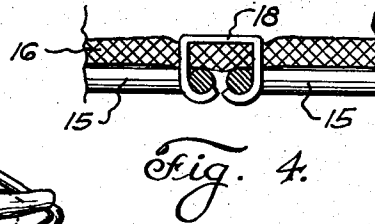
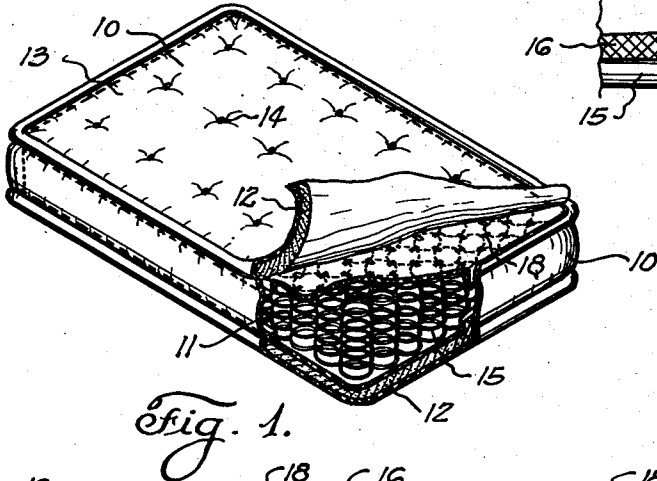
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INNER SPRING UNIT

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INNER SPRING UNIT

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2 Claims (Cl. 5—351)

This invention relates to new and useful improvements in inner spring units.

The conventional inner spring unit consists of a plurality of short, upright helical or coiled springs which are positioned in parallel rows. The springs are fastened together by a number of elongate coiled wires, or springs, which extend at a right angle to the upright springs and have their coils entwined with the coils of said upright springs. These units are usually bought assembled by the mattress manufacturer who must then place a pool or layer of sisal, cotton or other suitable material, on each flat side of the unit to insulate the same and prevent the short coils from injuring the cotton filler of the completed mattress. These layers or pads are generally fastened to the units by clips, stitching or other suitable means to hold the same in their proper position. A mattress having an inner spring construction is relatively expensive to manufacture due to the time and labor involved in constructing the unit and then insulating the same. It has been found that the use of elongate coiled wires in the positioning of and fastening together of the upright spring is a most costly and unessential step in the manufacture of the unit and, therefore, by eliminating these coiled wires and accomplishing their function by some other means, the cost of the units can be materially reduced.

It is, therefore, one object of the invention to provide an improved inner spring unit which is particularly adapted for use in mattresses and which has an economical, durable construction.

An important object of the invention is to provide an improved inner spring unit having a plurality of coiled, or helical, springs interposed between a pair of insulating pads to which they are fastened, whereby the springs are held in place by the pads.

Another object of the invention is to provide an inner spring unit, of the character described, wherein the pads not only insulate the coiled springs but also serve to properly position and fasten said springs together in spaced relation, thereby eliminating the use of other spring fastening means.

A further object of the invention is to provide an improved inner spring unit wherein the upper and lower ends of each spring are firmly anchored to the pads by suitable fastening means, whereby said springs and pads co-act to support and position each other and thereby provide a complete economical unit.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing, in which an example of the invention is shown, and wherein:

Figure 1 is an isometric view of a mattress having an inner spring unit constructed in accordance with the invention embodied therein,

Figure 2 is an enlarged transverse, vertical, sectional view of a portion of the unit,

Figure 3 is a plan view of a portion of the unit, and

Figure 4 is an enlarged transverse, vertical, sectional view showing the manner in which the springs are fastened to the pads.

In the drawing, the numeral 10 designates a mattress of the type generally known and referred to as an inner spring mattress. The mattress includes an inner spring unit 11, the usual filling or layers 12, of cotton and the conventional covering or ticking 13. If desired, the mattress may be tufted as shown at 14. The construction of the mattress itself forms no part of the invention and is merely shown to disclose the use and position of the inner spring unit.

The inner spring unit 11 includes a plurality of coiled, or helical, springs 15 which are relatively weak in strength and have very little height. The springs are positioned in substantially parallel rows in close proximity to one another as shown in Figure 1. Of course, the size or diameter and the number of springs used in making up a unit is determined by the quality and dimensions of the unit. A horizontally extending sheet or pad 16, of sisal, cotton or other suitable insulating material is disposed above the springs so as to be supported thereby, while a similar sheet 17 is located beneath said springs as shown in Figure 2.

The springs and sheets are fastened together by a plurality of brads, or other fasteners, 18 which extend through said sheets and have their extremities bent around the end coils of said springs. Each brad 18 is adapted to attach two springs to one of the sheets, since one leg of the brad engages around the end coil of one spring and the other leg is bent around the end coil of an adjacent spring as shown in Figure 4. Manifestly, the opposite ends of the springs may be fastened to the other sheet in an identical manner. Thus, each spring is secured to its ad-

jacent springs and to the sheets of insulating material by a plurality of brads, as shown in Figure 3, whereby said springs and sheets are incapable of independent movement.

The sheets 16 and 17 are of a greater length than the series of coiled springs used to make up a unit, whereby said sheets overhang or project beyond the end springs of the unit, as shown in Figure 2. The projecting end portions of the upper sheet are bent downwardly at a right angle and are fastened to the springs by the brads 18, while the lower sheet has its end portions bent upwardly at a right angle, which are also attached to the springs. It is pointed out that it is immaterial to the invention in what manner the unit is assembled and that it may be done in any suitable way.

From the foregoing, it will be manifest that a simple and efficient inner spring unit for mattresses is produced. The sheets of insulating material not only perform their usual function of preventing the springs from injuring the cotton filling of the mattress, but also serve to fasten said springs together and to properly position the same. Thus, since the springs and sheets of insulating material are fastened together so as to co-act in holding each other in a fixed relation, the use of other connecting and positioning means, such as the usual entwined lengths of coiled wires, is made unnecessary. Although the sheets 16 and 17 may be formed of any suitable material, it has been found that sisal is preferable because it has the proper amount of flexibility and at the same time prevents the springs from puncturing or piercing the cotton filling of

the mattress. The provision of the unit reduces assembly costs and labor to a minimum and, although shown as applied to a mattress, is applicable to chairs, couches, divans and the like.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A spring unit for mattresses including, a plurality of helical springs spaced apart and disposed in the same plane, a relatively thick pad of insulating material overlying the ends of the springs, a plurality of fastening clips, each clip fastening one end of each spring to the adjacent spring and also passing through the pad to secure the connected adjacent springs to the pad, and a second pad overlying the opposite ends of the springs, and additional fastening clips, each fastening two adjacent springs to each other and to the pad.

2. In a combined spring and insulating unit for mattresses, the combination of spaced apart unconnected helical springs, insulating pads overlying the ends of the springs, and a plurality of clips passing through the pads, each clip having its inner extremities engaging the ends of adjacent coiled springs, whereby said pads are secured to the springs and act as the sole support therefor.

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