

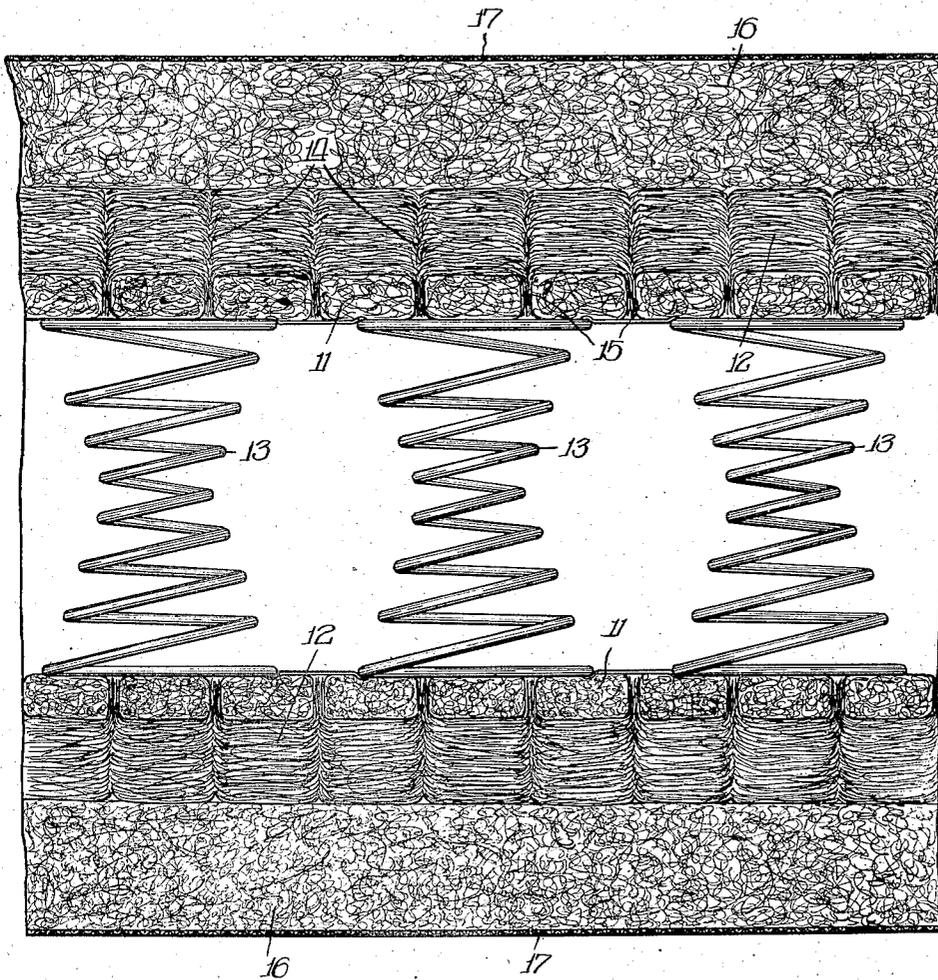
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PADDED SPRING CUSHION

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PADDED SPRING-CUSHION

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4 Claims. (Cl. 5—351)

My invention relates to padded cushions, mattresses, and the like and pertains more particularly to structures of that character which incorporate spring-units or spring-assemblies, the padding overlying the ends of the springs of the assembly which are appropriately secured together to form the encased spring structure.

An aim of the invention is to provide a spring-assembly padded with sisal and cotton-batting in such a way that no textile fabric is required to be placed over the assembly surface under the padding, to unite the sisal and cotton in a manner to obtain the maximum advantage of the properties of each, to prevent the sisal from cupping down into the end coils of the springs of the assembly, to reduce the noise of the padding on the spring-unit while the cushion is in service, to supply a structure of this type which is economical to produce and hence which can be sold at a moderate figure, to provide a padded cushion which satisfactorily retains its resilient and elastic properties over a long period, to make a cushion of this character which embodies few parts easily assembled at small cost, etc.

Heretofore it has been customary to use both sisal and cotton-batting for the padding, and in some instances the sisal has been stitched to a fabric-backing, whereas in other cases the sisal has been applied directly to the surface of the spring-assembly without intervening fabric.

My improved construction differs from all of those of the prior art and it possesses certain distinct advantages in that it embodies no fabric aside from the exterior cover or tick, it uses no more sisal or cotton-batting than has heretofore been employed, and it provides a better construction throughout in that the sisal and cotton are united in a novel manner and the combined materials are employed in the cushion in a new relation.

To permit those acquainted with this art to fully understand the invention both from the features of construction and mode of operation, a present preferred embodiment of the invention has been illustrated in the single figure of the drawing which represents a fragmentary, vertical section through an inner-spring mattress.

Referring to this drawing, it will be noticed that the innermost or first layer of cotton-batting 11, say, for example, one-inch thick, has on top of it or outside of it and in direct contact with it a layer of sisal 12 whose fibres are more or less miscellaneously intermingled together by reason of the fact that they extend in substan-

tially all directions, this stratum, for instance, being about two-inches in thickness.

These two layers, before application to the spring-assembly 13, are passed through a machine with reciprocatory barbed or hooked needles, which needle the sisal fibres together in transverse rows at 14, 14, such interlacing sisal fibres also being needled or projected through the underlying cotton-batting layer at 15, 15.

Thus the sisal filaments are interwoven together along the cross-lines 14, 14 and they are also intertwined with the cotton fibres of the layer 11, hence interchaining or interlinking the two layers together to form a relatively-strong, combined, duplex construction.

When sisal in a spring-cushion bears directly on the surface of the spring-unit and a load is imposed thereon, the sisal-fibres slide more or less on one another and the sisal cups or bulges down somewhat into the open ends of the upright springs, and also when the cushion is in use the slipping or sliding of the sisal-fibres on the springs is likely to make an audible sound.

The duplex pad, however, possesses the desirable quality that it cups substantially less than sisal alone under the same conditions of service, the cotton-batting helping to hold the sisal-fibres in their original relations and assisting in preventing their objectionable displacement or movement relatively to one another and to the spring-assembly, and, for this reason, the cotton is interlaced to the sisal in the manner stated and is interposed between the latter and the face of the spring-unit.

The specified rows of the sisal-fibres entangled and interwoven with one another and with the fibres of the cotton-batting contribute to this desirable end, and the ends of the surface sisal-fibres also become somewhat embedded in the adjacent face of the cotton-batting with resulting, desirable, minor interengagement.

The two layers having been thus needled together with the stated beneficial results, the duplex or double layer is applied to the spring-unit with its cotton-batting in direct contact with the springs, and, thereupon, another preferably-thicker, layer of padding 16, such as cotton-batting, curled hair or any other suitable material, is laid on the sisal and the fabric casing, cover, or tick 17 is applied over the whole in a manner well understood in the art; this outer or third layer of padding or course desirably, but not necessarily, being about three-inches thick, that is, equalling the combined thicknesses of the other two layers.

Thus there is provided a cushion or mattress in which the padding is applied directly to the spring-assembly, that is, without the customary, intermediate, textile-fabric layer, in which the bulging of the padding into the ends of the springs is materially reduced, in which no more padding is employed than has been usual, and in which danger of noise incident to the padding rubbing on the springs is avoided.

10 An inspection of the drawing will show that these rows 14—15 of sisal-fibres which tie the two layers together are spaced apart a distance essentially less than the diameter of the end-coils of the springs, which assures that under all circumstances at least one such row will extend across the open terminal coil of each spring, these rows of intertangled fibres assisting the other structural features of the construction to reduce the cupping effect referred to by reason of their reinforcement of the innermost cotton-stratum.

Although the drawing shows a cushion or mattress padded on both sides, it is to be understood that the invention applies equally well to spring-cushions padded only on one side.

25 It follows from an understanding of the invention as defined by the appended claims and of the structure illustrated and described that various minor changes may be incorporated in the cushion without departure from the heart and essence of the invention and without the sacrifice of any of its material benefits.

I claim:

1. In a padded spring-cushion, the combination of a spring-assembly, a first cotton-batting cushion layer bearing directly on said assembly, a second sisal cushion layer outside of and bearing on said first layer, a third resilient padding layer outside of and bearing on said second layer, said second sisal layer having certain of its fibres needled through and interlaced in spaced rows with the fibres of said first and second layers, and a cover for the padded spring-assembly.

2. The structure presented in claim 1 in which said rows of interlacing sisal-fibres are spaced apart a distance less than the diameter of the ends of the springs of the assembly, whereby at least one such row of interlacing fibres will be in register with the end of each spring.

3. The structure presented in claim 1 in which said third layer is padding of a thickness greater than that of said first layer.

4. The structure presented in claim 1 in which said third layer is of cotton-batting of a thickness greater than that of said first layer and in which said rows of interlacing sisal-fibres are spaced apart a distance less than the diameter of the ends of the springs of the assembly, whereby at least one such row of interlacing fibres will be in register with the end of each spring.

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