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LINER FOR UPHOLSTERED SPRING UNITS

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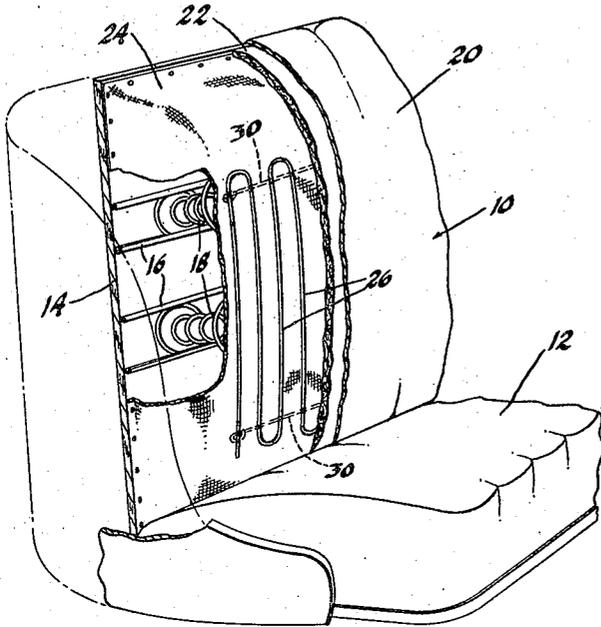


Fig. 1

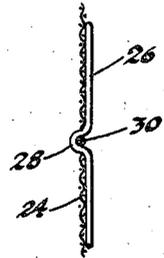


Fig. 5

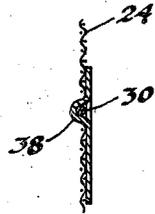


Fig. 6

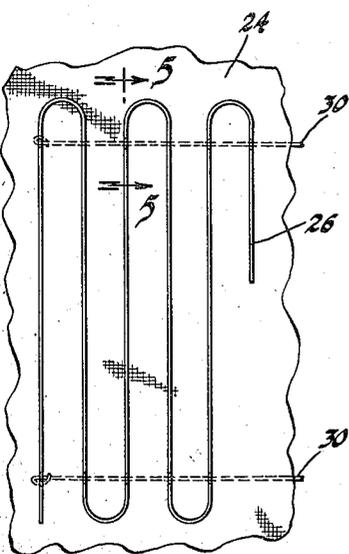


Fig. 2

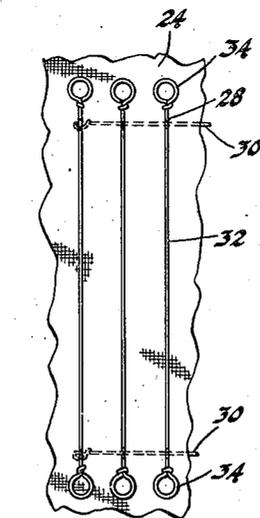


Fig. 3

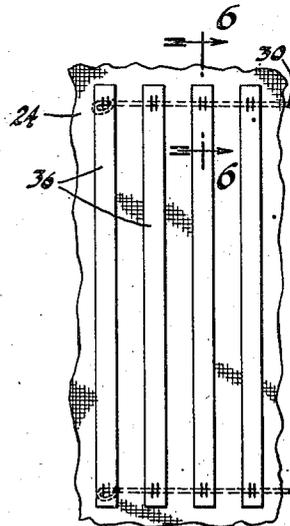


Fig. 4

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LINER FOR UPHOLSTERED SPRING UNITS

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1

This invention relates to an improved liner or covering adapted to be interposed between a spring unit and upholstery covering material for the springs.

An object is to provide a liner or spring cover in the form of a flexible sheet which may be placed over a spring unit, such as a plurality of the conventional hour-glass type of coil springs used in automobile seat or back cushions, furniture, spring beds, inner spring mattresses or the like, underneath the upholstery covering material, which liner is so constructed as to prevent the upholstery covering material from sagging down or being pressed into or between the coil springs.

A further object is to provide such a liner which is of a rugged, efficient construction and which is cheap and easy to manufacture.

More specifically an object is to provide a liner adapted to be interposed between the spring unit and the upholstery covering, which liner comprises a flexible fabric sheet provided with an improved type of resilient strip reinforcement which will function efficiently under all of the varying conditions of use of the upholstery covered spring to prevent the upholstery cloth and padding from being pushed into or between the coil springs of the unit.

Other objects, advantages and meritorious features of the invention will more fully appear from the following description, appended claims and accompanying drawing wherein:

Fig. 1 is a perspective of a fragment of an automobile seat and back partly broken away to expose my improved liner.

Fig. 2 is a plan of a fragment of the liner shown in Fig. 1.

Fig. 3 is a plan of a fragment of a liner of a modified form of construction.

Fig. 4 is a plan of a fragment of a liner of a second modified form of construction.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 2.

Fig. 6 is a sectional view taken on line 6—6 of Fig. 4.

The invention is illustrated as embodied in the back cushion in an automobile seat. In Fig. 1, 10 indicates the back cushion assembly and 12 the seat cushion assembly. The frame which carries the coil springs of the back cushion assembly is indicated as 14 and is provided with a series of supports 16 upon which are mounted conventional hour-glass type of coil springs 18. The upholstery shown comprises upholstery cloth 20 stretched over padding 22. My invention is embodied in the liner which is interposed between the upholstery material and the spring unit.

2

This liner comprises a sheet of fabric 24 which may be secured in position in any suitable manner to overlie the springs. Such fabric sheet may be formed of burlap or any other suitable material.

To prevent the upholstery material from being pressed into the spring coils 18 or into the space between such coils, I provide a reinforcement for the burlap strip 24, which reinforcement may be of the character illustrated in Figs. 2, 3 and 4 of the drawing.

In Figs. 1 and 2 this reinforcement is shown as consisting of a flexible strip 26 which may be spring wire bent into a sinuous zig-zag arrangement. In Figs. 1 and 2 this strip, so shaped, is kinked adjacent to its ends as at 28, as shown particularly in Fig. 5. The strip is placed upon the burlap and the kinks are thrust through the burlap to project beyond its opposite side as shown in Fig. 5.

To secure this sinuously bent strip 26 in overlying relationship upon the burlap, a flexible resilient strip 30, which may be spring wire, is extended along the opposite side of the burlap sheet through the kinks 28, as shown in Figs. 2 and 5. These securing strips 30, two being employed, are fastened at one or both ends to the end length of the strip 26 and hold the strip 26 in its overlying position on the burlap sheet as shown in the drawing.

The successive spaced apart substantially parallel lengths of the strip 26 are permitted freedom of slidable movement with respect to the longitudinal strips 30 and linearly thereof and as permitted by the normal flexibility of the assembly and strip 26 itself to accommodate for distortion arising under use of the cushion. It is apparent also that under the distortions arising from use of the assembly movement of the strip 26 transversely of the longitudinal securing members 30 would also be permitted within limits inasmuch as the successive lengths of the strip 26 might be deflected to permit the strip 30 to escape from the kinks of strip 26. Said strips 30 would return to seat within the kinks upon return of the liner to its normal plane.

In Fig. 3 there is illustrated a modification of the invention wherein the spaced apart substantially parallel resilient strips of material are separate lengths 32 instead of being successive lengths of a sinuously bent continuous strip as shown in Fig. 2. The separate lengths 32 are provided with loops 34 at the ends. They are kinked at 28 in the same manner as the continuous strip 26 so as to receive through the kinks the longitudinal securing elements 30. The separate lengths 32 all overlie one side of the burlap

3

sheet. The securing strips 30 extend over the opposite side of the burlap sheet and the arrangement is similar to that shown in Figs. 1 and 2 except as herein described.

In Fig. 4 the reinforcement is shown as consisting of a series of lengths of flat spring strips 36 arranged successively in the same manner as the lengths 32 shown in Fig. 3. These strips overlie one surface of the burlap sheet as illustrated. Each strip has punched therefrom a kinked portion 38 which extends through the sheet of burlap as shown in Fig. 6. The longitudinal securing members 30 extend through the kinks 38 in the same manner as has hereinabove been described with respect to the first two modifications.

In each of the modifications, the spaced apart parallel lengths are slidable lengthwise along the securing elements 30 as necessitated by deformation resulting from use of the structure and as heretofore set forth, the lengths of strip 26 and strip 32 shown in Figs. 2 and 3, respectively, may have a permitted limited movement under stress transversely of the longitudinal strips 30 as also hereinabove described. The entire assembly is relatively cheap and inexpensive to manufacture. The strips 26, 32 and 36 are held securely against detachment from the burlap sheet by the longitudinal securing elements 30 in a more efficient manner than if they were merely stitched to the burlap. The reinforcing strips 26, 32 and 36 overlie that surface of burlap which is remote from the springs 18. The burlap sheet is sandwiched between the strip members 26, 32 or 36 and the longitudinal securing members 30 and such members are interlocked together through the burlap.

What I claim is:

1. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, a strip of resilient material shaped to form a linear succession of sinuous zig-zag folds overlying one face of the sheet, successive folds of the strip kinked through the sheet along a line spaced from one end of the folds, and a resilient strip extending over the opposite face of the sheet transversely of the folds of the first strip and through said line of kinks interlocking the two strips together.

2. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, a resilient strip shaped to form a linear succession of sinuous zig-zag folds overlying one face of the sheet, successive folds of the strip kinked through the sheet adjacent to each end and along a line spaced from such end of the folds, and a pair of strips of resilient material one for each line of kinks extending over the opposite face of the sheet transversely of the folds of the first strip and through said two lines of kinks.

3. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, resilient strip material arranged in a linear succession of substantially parallel spaced apart strip lengths overlying one face of the sheet, successive lengths being kinked through the sheet along a line extending transversely of said lengths, a resilient element extending over the opposite face of the sheet transversely of said succession of lengths through said line of kinks.

4. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, resilient strip material ar-

4

ranged in a linear succession of substantially parallel spaced apart strip lengths overlying one face of the sheet, successive lengths being kinked through the sheet spaced from opposite ends of the lengths forming two spaced apart parallel lines of kinks, two resilient elements extending over the opposite face of the sheet transversely of said succession of lengths and through said two lines of kinks.

5. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, a linear succession of separate substantially parallel spaced apart resilient strip lengths overlying one face of the sheet, each length being kinked through the sheet, a resilient element extending over the opposite face of the sheet slidably through said kinks.

6. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, a linear succession of separate substantially parallel spaced apart resilient strip lengths having angularly disposed end portions and overlying one face of the sheet, each length kinked through the sheet spaced from one end forming a line of kinks extending transversely of the succession of lengths, and a strip of resilient material extending over the opposite face of the sheet slidably through the line of kinks.

7. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, a linear succession of separate substantially parallel spaced apart resilient flat strips overlying one face of the sheet, said strips having portions spaced from opposite ends thereof of kinked through the sheet forming two lines of kinks extending transversely of said succession of strips spaced from opposite ends thereof and two resilient elements extending over the opposite face of the sheet through said lines of kinks.

8. A liner for use between a supporting spring unit and upholstery covering therefor comprising a fabric sheet, a resilient strip bent to form a linear succession of sinuous zig-zag folds overlying one face of the sheet, successive folds of the strip kinked through the sheet along a line transversely of the folds, a resilient strip extending over the opposite face of the sheet transversely of the succession of folds of the first strip, said last named strip extending through said kinks and thereby being interlocked at intervals with the successive folds of the first strip limiting movement of the folds linearly thereof relative to said transversely extending strip while permitting movement of the folds linearly of said transversely extending strip.

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