Aug. 17, 1937. H. H. HIATT 2,090,295

SPRING CONSTRUCTION

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Fig. 1.

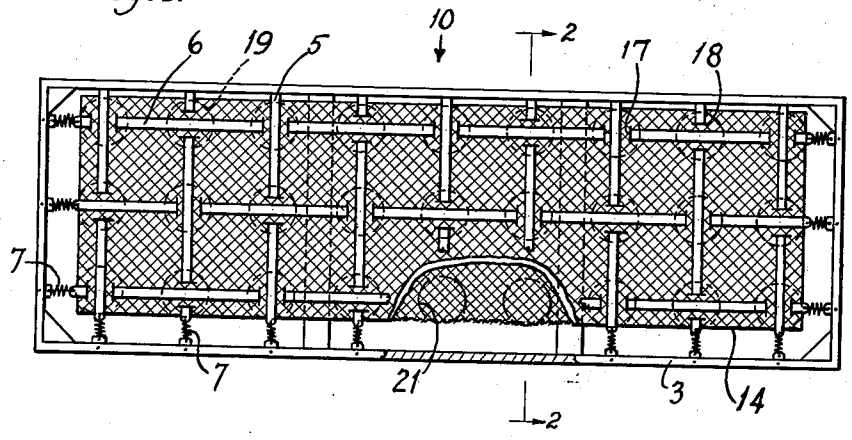
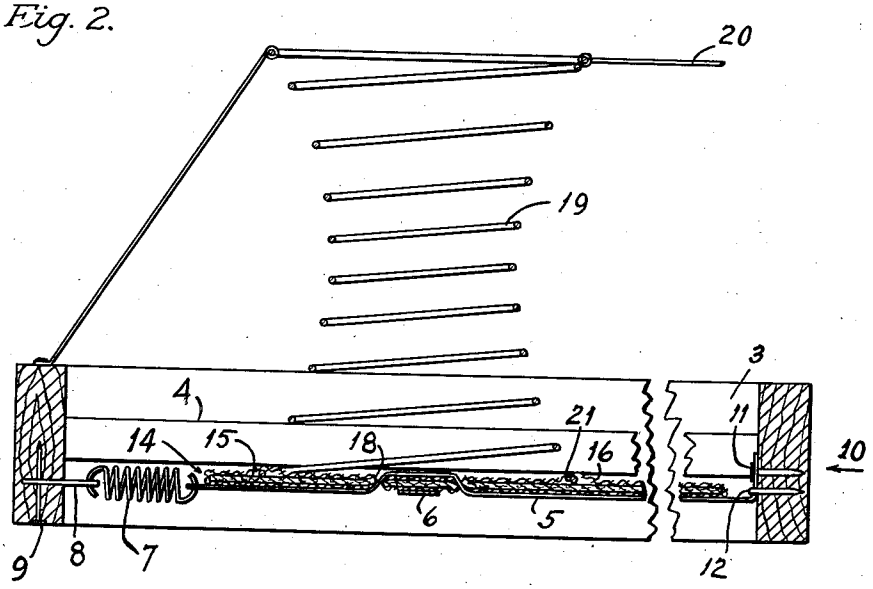


Fig. 2.



INVENTOR.
Hayden H. Hiatt
BY
Carlos G. Stratton
ATTORNEY.

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SPRING CONSTRUCTION

Hayden H. Hiatt, Los Angeles, Calif.

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7 Claims. (Cl. 155—179)

My invention relates to spring construction that is especially adapted for davenports, easy chairs, and the like.

More particularly the principal objects of my invention are to provide a resilient bottom that will prevent the spring construction from sagging but not interfere with its comfort, and to provide a spring construction that utilizes the strength of woven metal strips but so constructing such a spring bottom that it will not squeak.

Another object is to provide means for preventing the woven metal strips from slipping laterally.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description.

In the drawing, like reference characters designate similar parts in the several views.

Figure 1 is an underneath plan view, partly broken away, showing a davenport spring construction comprising an embodiment of my invention.

Figure 2 is an enlarged, broken section, taken along the line 2—2 of Figure 1, looking in the direction of the arrows.

Referring more in detail to the drawing, the reference numeral 3 designates generally an open frame in which an embodiment of my invention is mounted. Cross members 4 are provided in the frame for rigidity. The cross members and the frame define generally the spaces for supporting cushions of a davenport.

Extending from side to side and from end to end within the frame 3 are transverse and longitudinal metal bands or strips respectively indicated by the characters 5 and 6. The bands are interwoven, as will be more fully explained hereinafter.

Apertured plates 8 mount the metal bands within the frame 3, through the intermediary of helical springs 7. Each plate is driven into an inner face of the frame and held in place by a nail 9 driven through an aperture of the plate, as indicated in Figure 2.

One end of each helical spring is hooked through another opening in the adjacent apertured plate 8, and the other end of the spring is hooked through an opening adjacent the end of the metal strip supported thereby, as also suggested in Figure 2.

The front of the davenport has been indicated by the arrow 10. At said front side, the helical springs are omitted, whereby to maintain the front of the davenport approximately vertical at all times. The ends of the metal strips at the front side have shown Figure 2 as being held in place by a nail 11 and a staple 12. It is to be understood that other fastening means may be employed.

Supported by the interwoven metal strips is a bottom member 14 for the davenport. This bottom member comprises a sheet 15 of flexible material covered by a fabric 16. The sheet 15 may be of pressed, fibrous material, such as cardboard, composition, or the like, and the fabric is preferably burlap or other coarse fabric. The fabric is shown in the drawing as covering both the top and bottom surfaces of the sheet 15; in fact, is shown as a bag completely enveloping the sheet 15.

The bottom member is provided with a plurality of pairs of slits 17 and 18. The pairs of slits 17 and 18 are alternately transverse and longitudinal of the frame respectively. The metal strips 6 and 5 are respectively threaded through the slits 17 and 18. At each point where the interwoven strips 5 and 6 cross each other, the combined thickness of the sheet 15 and its top and bottom fabric coverings 16 is between the overlapping portions of the strips, as best shown in Figure 2.

Coiled springs 19 are mounted upon the bottom member 14. Conventional tying cords 20 are employed to tie the several coiled springs together and to the frame 3. It will be noted that a coiled spring 19 is placed at each overlapping of the metal strips 5 and 6. The lowermost turn 21 of each coiled spring is caught under the fabric covering on top of the sheet 15. The broken away portion of Figure 1 shows that turn 21 of the coil is threaded in and out of said fabric, in order to obtain a firm foothold without the necessity of sewing.

In the use of a davenport, easy chair, or the like, embodying my spring construction, the overlapping portions of the metal strips will not squeak, due to the interposition of the sheet 15 and its fabric covering.

By my spring construction, the durability, strength and non-sagging features of metal strips are utilized with the noiselessness of fabric webbing. Moreover, the comfort is not in any way interfered with, and the metal strips will not slip laterally.

While I have illustrated and described what I now regard as the preferred embodiment of my invention, the construction is, of course, subject to modifications in numerous ways without departing from the spirit of my invention. I, there-

fore, do not wish to restrict myself to the particular form of construction illustrated and described, but desire to avail myself of all modifications which may fall within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In furniture spring construction, the combination of a frame, metal strips arranged within the frame, a comparatively stiff bottom member, a fabric covering for the bottom member, the bottom member and the fabric covering having coinciding slits, the strips being interwoven with the bottom member and its said covering at said slits, and a series of coiled springs interwoven in the said covering, the bottom member separating the springs from the strips, whereby to eliminate squeaking, the fabric being held in place by being interwoven with the strips and the fabric in turn holding the springs in place.

2. In furniture spring construction, a frame, overlapping metal strips arranged longitudinally and transversely within the frame, a comparatively stiff bottom member provided with slits that extend transversely and longitudinally with respect to the frame, the strips being interwoven in said slits, and the bottom member being disposed between overlapping portions of the strips, the longitudinal strips being interwoven in the transverse slits and the transverse strips being interwoven in the longitudinal slits, whereby to prevent the bottom member from slipping either transversely or longitudinally, and the comparative stiffness of the bottom member tending to maintain the overlapping portions of the strips in their respective positions.

3. In furniture spring construction, a frame, metal strips arranged longitudinally and transversely within the frame, whereby they overlap, a comparatively stiff sheet, fabric covering for the top and bottom surfaces of the sheet, the sheet and fabric having coinciding slits, certain of the slits being at an angle to other slits, the metal strips being woven respectively through the slits that extend at an angle to each other, whereby to hold the sheet against slipping in either of two directions, the sheet and the fabric covering being disposed between overlapping portions of the metal strips, the sheet providing comparative rigidity to the spring construction and the fabric covering reducing friction between the metal strips and the stiffener.

4. In a spring construction, the combination of a frame, overlapping metal strips arranged within the frame, resilient means supporting the strips within the frame, a bottom member comprising a comparatively stiff sheet of material and a fabric covering the bottom member having slits in the planes of the strips, the strips being woven in and out of said slits in such a manner that the strips are respectively above and below portions of the bottom member at the overlapping portions of the strips, and a series of coiled springs mounted on the bottom member.

5. Spring construction of the character described, comprising a frame, metal strips arranged longitudinally and transversely within the frame, resilient means supporting the strips within the frame, a comparatively stiff but flexible bottom member having series of slits arranged in pairs, adjacent pairs of the slits being oppositely arranged, and the strips being woven in and out through the slits, and springs mounted on the bottom member.

6. Spring construction of the character described, comprising a frame, metal strips arranged within the frame, a pressed cardboard bottom member, a burlap bag enveloping the cardboard, the cardboard and burlap bag having coinciding slits, the strips being woven through said slits, and springs mounted on the bottom member, the bottom member separating the metal strips from each other and separating the springs from the strips.

7. In furniture spring construction, the combination of a frame, metal strips resiliently supported within the frame, a bottom element comprising a comparatively stiff member and a fabric top covering for said member, the bottom element having slits, the strips being woven in and out of said slits, and a series of coiled springs within the frame, the springs being caught in said fabric and resting on top of the comparatively stiff bottom member, the strips being beneath said bottom member in the vertical plane of the lowest coils of the springs, whereby said member separates the springs from the metal strips.

HAYDEN H. HIATT.