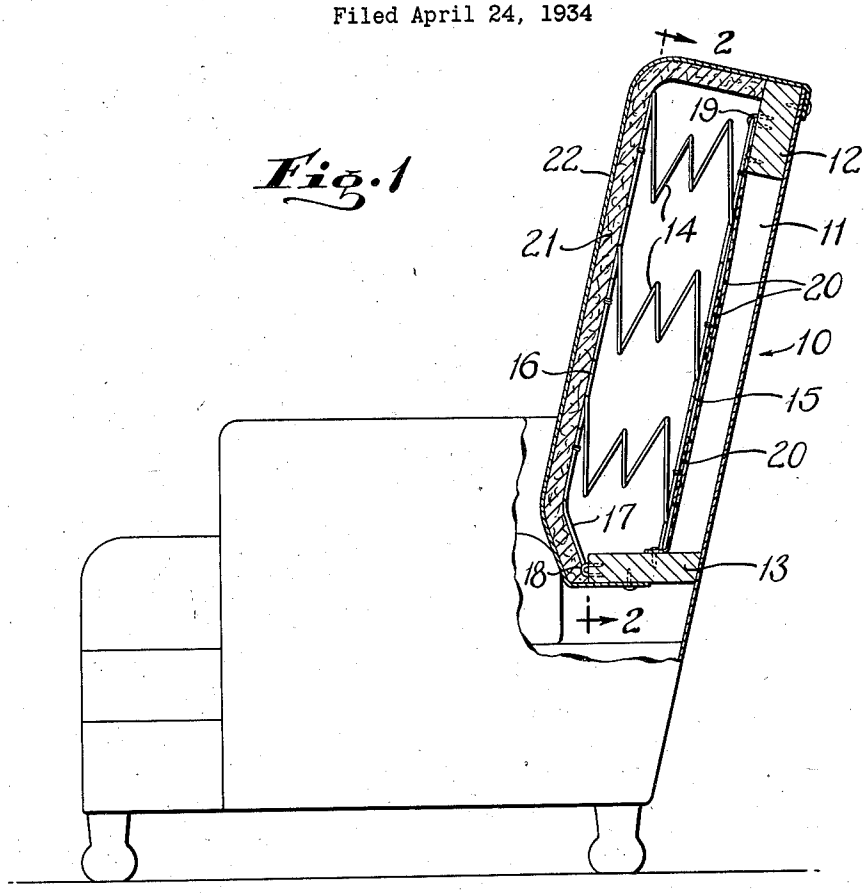
July 21, 1936. H. W. STERNBERG 2,048,414

SPRING CUSHION STRUCTURE

Filed April 24, 1934

Fig. 1



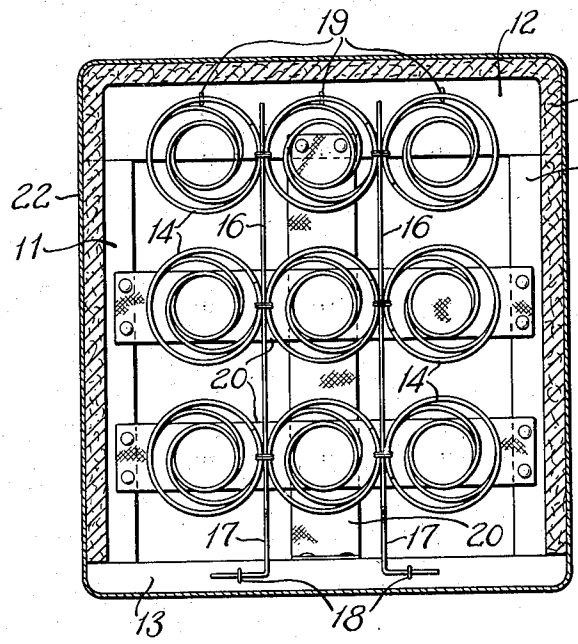


Fig. 2

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SPRING CUSHION STRUCTURE

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Application April 24, 1934, Serial No. 722,091

5 Claims. (Cl. 155—179)

The present invention relates to improvements in upholstered chairs, settees and the like and more particularly to spring cushioned backs for the same.

There is a tendency for the springs in seat-back cushions to sag in use or to be displaced upwardly when the occupant of the chair bears his weight against the back of the seat. This results in discomfort and also in time mars the appearance of the back cushion because it tends to take a permanent sag.

It is an object of the present invention to overcome this difficulty by providing a spring structure which will retain its position against displacement vertically.

A common spring filling for a seat-back cushion consists of a unit comprising a series of springs clipped together. This unit is commonly secured to a support at the rear side of the cushion, while the forward side is free; hence the tendency for the forward part of the cushion to sag.

It is an object of my invention to provide a support for the forward face of the spring unit which is substantially unyieldable to vertical thrusts but is readily yieldable to transverse forces.

A more specific object of my invention is to provide a spring unit with vertical tie wires which at the forward face of the unit extend downwardly and are attached to the bottom rail of the seat-back. This provides a support against vertical displacement of the unit either up or down and yet does not destroy the resiliency of the cushion as a whole.

Other objects and advantages of my invention will appear in the following description of a preferred embodiment and the novelty and scope of the invention will thereafter be pointed out in the claims.

In the accompanying drawing;

Figure 1 is a view in side elevation of an arm chair embodying my invention with the back of the chair in section so as to disclose the inner spring structure; and

Fig. 2 is a view in section taken on the line 2—2 of Fig. 1.

In the drawing, I have used the reference numeral 10 to indicate in general the back of the arm chair. This back comprises a pair of side frame members 11 connected by a top rail 12 and a bottom rail 13. A spring unit is supported on this frame and comprises a series of coil springs 14 which are clipped together in horizontally spaced rows with vertically disposed tie wires connecting the rows together. The tie wires at the rear of the spring unit are indicated by the reference numeral 15 and the forward tie wires 16 have extensions 17 below the springs. These extensions are stapled, as indicated at 18, to the bottom rail 13. The spring unit is supported at the rear by staples 19 connecting the top row of springs to the top rail 12 and strips of webbing 20 extend from the top rail to the bottom rail and also horizontally from one side frame member 11 to the other. A suitable padding 21 is placed over the spring unit and a suitable cover 22 of leather, fabric or the like, encloses the entire cushion.

In operation it will be found that the extensions 17 will prevent the cushion from sagging and will maintain it against upward as well as downward displacement. Because of the length and resiliency of the extensions 17, the resiliency of the cushion will be maintained in spite of the fact that these extensions are stapled at their lower ends to the bottom rail. It will be noted that these extensions are curved toward the rear of the chair back so that they will yield resiliently to vertical thrusts, but such yielding is comparatively slight.

While I have described this invention as applied to an arm chair it will be understood that it may be applied equally well to other forms of seats having cushion backs. It will be understood, therefore, that the embodiment described above is to be taken as illustrative and not limitative of my invention and I reserve the right to make various changes in form, construction, and arrangement of parts without departing from the spirit and scope of the following claims.

I claim:

1. A chair-back structure of the character described comprising a frame formed of a pair of side members with a top rail and a bottom rail connecting the same, strips of webbing extending from one frame member to the other and from one rail to the other, a spring unit bearing against the frame and webbing strips, said bottom rail extending forwardly under said unit, said unit comprising horizontal rows of coil springs and vertical tie wires connecting the rows at the forward and the rear faces of the unit, the rear ends of the top row of springs being secured to the top rail, the tie wires on the forward face of the unit extending downwardly and fixed to the forward edge of the bottom rail, but being free at their upper ends so as not to hinder free flexure on the upper ends of the unit, and a padded covering over the unit secured to said frame.

2. A seat-back structure of the character de-

scribed, comprising a series of coil springs fastened together in a unit, a support against which the rear face of the unit bears, said support including a bottom rail extending forwardly under the unit, said unit including struts extending downwardly from the forward face thereof, said struts being secured to and having a thrust bearing on said bottom rail but being free at their upper ends so as not to hinder free flexure of the upper end of the unit, and a padded covering fitted over the unit and secured to the support.

3. A seat-back structure of the character described, comprising a series of coil springs fastened together in a unit, a support against which the rear face of the unit bears, said support including a bottom rail extending forwardly under the unit but of less thickness than the unit, said unit including struts extending downwardly from the forward face thereof, said struts being bent rearwardly at their lower ends and fixed to the bottom rail but being free at their upper ends so as not to hinder free flexure of the upper end of the unit, and a padded covering fitted over the unit and secured to the support.

4. A chair-back structure of the character described, comprising a supporting frame, a spring unit supported thereon, said unit comprising a series of coil springs disposed in horizontally spaced rows and vertically disposed tie wires connecting the rows at the rear and front faces to the unit, each tie wire being fitted between an adjacent pair of springs in each row, and clips securing the adjacent pairs of springs to each other and to the tie wires, the tie wires at the rear face of the unit being secured at opposite ends thereof to the support, said support being formed with a forwardly extending bottom rail, the tie wires at the front face of the unit being free at their upper ends but being fixed at their lower ends to said bottom rail so as to serve as struts for supporting the forward face of the unit against sagging, and a padded covering for the unit secured to said support.

5. A seat back structure of the character described, comprising a series of coil springs fastended together in a unit, a support against which the rear face of the unit bears, said support also extending forwardly under the unit, struts extending downwardly from the forward face of the unit, said struts at their lower ends being secured to and having thrust bearing on the forwardly extending portion of the support, the struts being free from the support at their upper ends so as not to hinder free flexure of the upper end of the unit, and a padded covering fitted over the unit.

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