May 28, 1940. A. R. HAUBER 2,202,630

CHAIR

Filed May 23, 1938

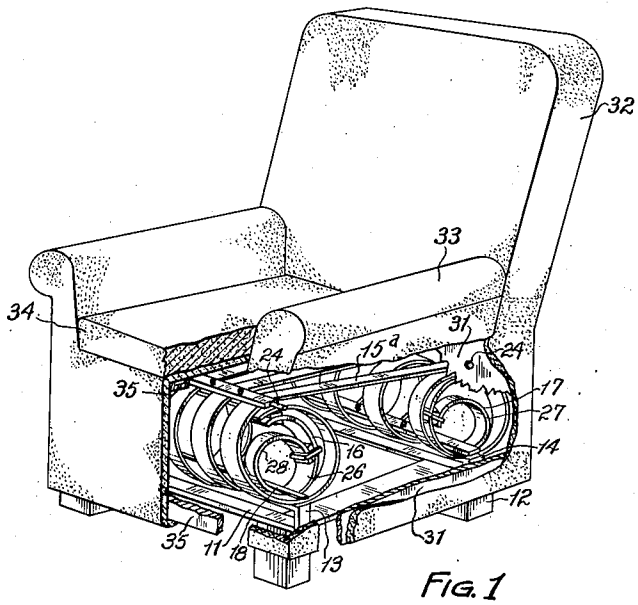


FIG. 1

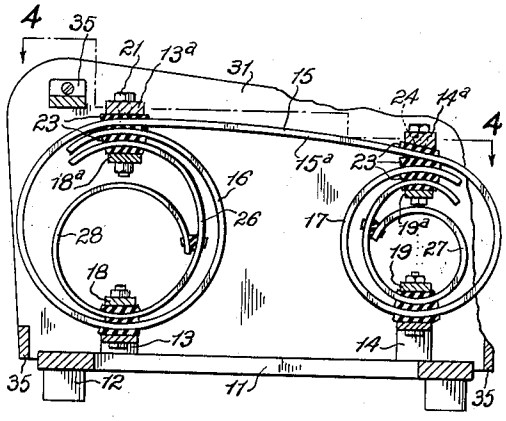


FIG. 2

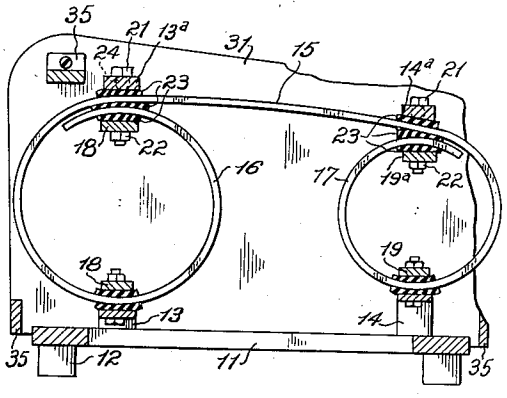


FIG. 3

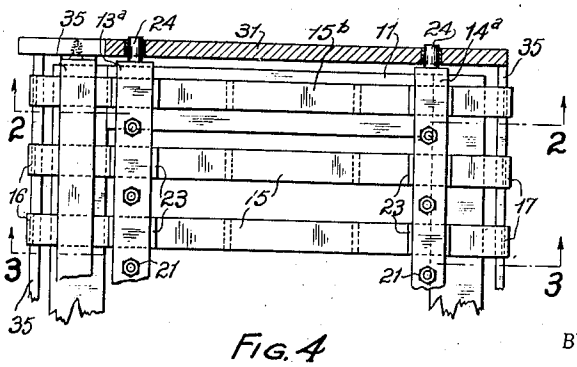


FIG. 4

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1 Claim. (Cl. 155—179)

This invention relates to seat or chair springs and particularly to the type of resilient seat supporting means that utilizes flat springs made of coiled strips of metal.

The primary object of this invention is to construct a resilient seat support that will not buckle, bulge or get out of shape.

Another object is to provide a chair with a resilient base suitable for supporting the seat frame, which frame may consist of the cushion, back, sides and arms, independent of the chair legs.

A further object is to provide a spring seat that is simple to construct, economical to manufacture and yet strong and durable.

A still further object is to provide such seat with springs of variable tension which will satisfactorily accomodate persons of decidedly different weights.

A fuller understanding of these and other objects and features of the invention will be had by referring to the following specifications taken in connection with the accompanying drawing in which like parts are designated by like reference characters and in which:

Figure 1 is a perspective view of a chair having springs of this invention;

Figure 2 is a side sectional view of an outer spring taken along the lines 2—2 of the Figure 4;

Figure 3 is a side sectional view of an inner spring taken along the lines 3—3 of the Figure 4; and

Figure 4 is a plan view partly in section taken along the lines 4—4 of the Figure 2.

A chair embodying the instant invention consists of essentially two parts, the base which supports the coiled spring portions and the chair structure or seat member which resiliently rests upon the coiled portions.

In the drawing the base consists of a rectangular frame 11 mounted on suitable legs 12. Extending laterally across the frame 11 are two parallel supports 13 and 14, of which the front support 13 is slightly lower than the rear support 14, and mounted on the supports 13 and 14 are a plurality of springs 15.

The springs 15 are made of flat strips of spring steel and have downwardly and inwardly coiled spiraled ends 16 and 17. The front spirals 16 are slightly larger than the rear spirals 17 and are, therefore, a little more resilient.

The springs 15 are mounted longitudinally parallel to each other and rigidly on the lateral supports 13 and 14 at the bottom arcs of their spirals 16 and 17, and are tightly held in a vertical position by clamp-bars 18 and 19.

The clamp-bars 18 and 19 extend laterally through the spirals 16 and 17 and are parallel to and contiguous to the parallel supports 13 and 14 respectively. Simple nuts and bolts 21 and 22 projecting through the supports 13 and 14, between the springs 15 and through the clamp-bars 18 and 19, are suitable for this assembly. The supports and the clamp-bars can very well be made of stamped metal, wood, or other suitable material.

Similarly, the tops of the spirals 16 and 17 are attached together by the upper front and back supports 13*a* and 14*a* respectively, and the upper front and back clamp-bars 18*a* and 19*a* respectively.

In order to deaden sound, and to facilitate and ease the operation of the springs 15, an insulating material 23 is inserted between the leaves of the spring and between the contiguous supports and clamp-bars. The insulating material 23 may be made of textile fabric, leather or rubber.

The two side springs 15*a* and 15*b* are made to include or to be supplemented by small buffer springs 26 and 27 respectively, to provide for comfortable use by persons of more than average weight. The buffer springs 26 and 27 are shaped somewhat like the Figure 6 and are fastened within the spirals 16 and 17 by the same supports, clamp-bars and insulating material.

In normal use a person of average weight will depress the springs 15, 15*a* and 15*b* and their respective spirals 16 and 17 about two inches or until the upper clamp-bars 18*a* and 19*a* almost touch the top of the inside loops 28 of the buffer springs 26 and 27. If a person of heavier weight uses the chair having these springs, the extra weight will be absorbed by the auxiliary spring action of the inside loop portions 28.

Extending laterally and outwardly beyond the side of the springs 15*a* and 15*b* and attached to the upper supports 13*a* and 14*a* are round pegs or pins 24 on which there rests or rides the chair structure sides 31. The sides 31 have small holes 25 for accommodating the pins 24 and are attached together and prevented from spreading or coming off of the pins 24 by the lateral braces 35.

The chair sides 31 support the back 32, arms 33, cushions 34 and all upholstery and coverings and are supported solely by the two upper supports 13*a* and 14*a* and their respective four pins 24. The rectangular structure formed by the sides 31 and braces 35 is slightly larger than the frame

11, does not touch it at any point and also does not touch the floor, with the result that the seat portion, and the back and arm members are caused to float or rest on the springs alone.

While the invention is described herein in its preferred form, and while specific terms and language have been used, it is to be understood that the present disclosure is illustrative rather than restrictive and that no limitations upon the invention are intended other than those which are imposed thereon by the scope of the appended claim.

I claim:

In a chair, a resilient support, comprising in combination, a horizontal base member; a plurality of co-extensive longitudinal bowed flat springs having large front downwardly extending and inwardly coiled spiraled ends and having small rear downwardly extending and inwardly coiled spiraled ends; a plurality of spiraliform buffer springs mounted within some of the spiraled spring ends; a first pair of lower co-acting clamp-bars and support members extending laterally across the coiled ends joining the springs to the said base; and a second pair of upper co-acting clamp-bars and support members extending laterally across the said springs, the said upper support members having projecting mounting pins.

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