Feb. 20, 1951 C. E. PLATT 2,542,354

SEAT CUSHION SPRING ASSEMBLY

Filed April 11, 1949

Fig. 1

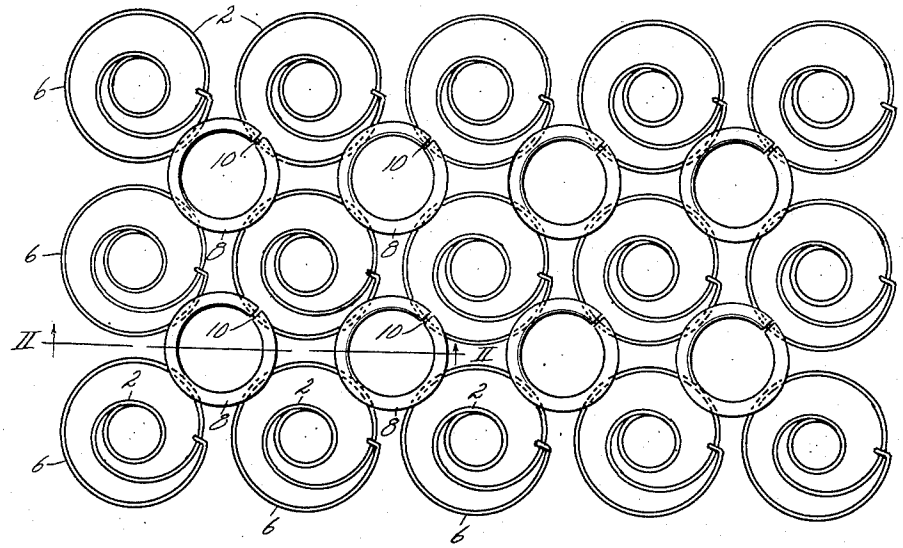


Fig. 2

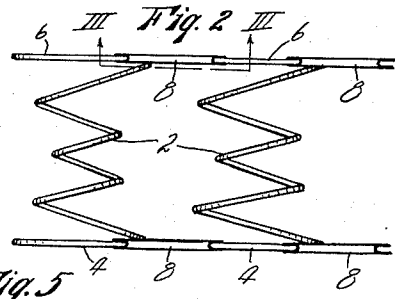


Fig. 4

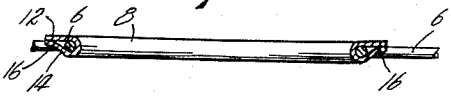


Fig. 5

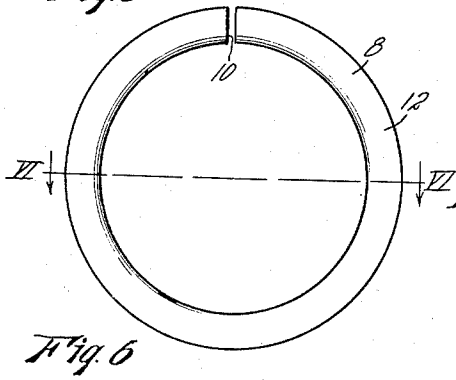


Fig. 3

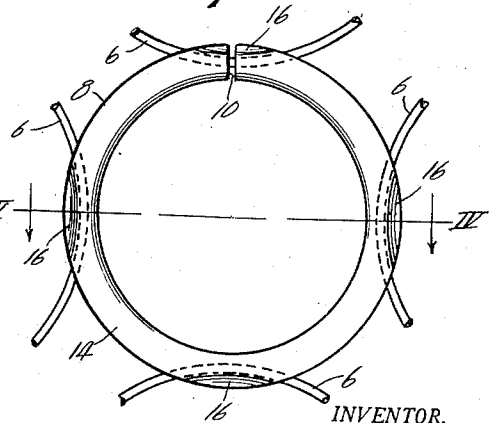
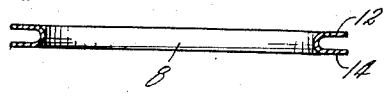


Fig. 6



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SEAT CUSHION SPRING ASSEMBLY

Cornelius Eugene Platt, Carthage, Mo.

Application April 11, 1949, Serial No. 86,789

4 Claims. (Cl. 155—179)

1

This invention relates to new and useful improvements in seat cushion spring assemblies, and has particular reference to a novel means for assembling the constituent coil springs to form the completed cushion.

The principal object of the present invention is the provision, in a seat cushion spring comprising a plurality of coil springs, of means for joining said springs comprising a plurality of connecting rings each having the form of an annular, outwardly opening channel adapted to engage the base loops of the adjacent coil springs, the walls of said ring being crimped about said spring base loops. This structure provides a spring assembly in which the springs are securely joined, secured against lateral movement, in which a load supported by the cushion is distributed over a larger number of springs, and which presents a relatively smooth surface to any upholstery supported by said springs.

Other objects are simplicity and economy of construction, a small number of parts, and adaptability for use in spring cushions of a wide variety of types.

With these objects in view, as well as other objects which will appear in the course of the specification, reference will be had to the drawing, wherein:

Figure 1 is a plan view of a section of a seat cushion spring assembly embodying the present invention.

Fig. 2 is a fragmentary section taken on line II—II of Fig. 1.

Fig. 3 is an enlarged fragmentary section taken on line III—III of Fig. 2.

Fig. 4 is a section taken on line IV—IV of Fig. 3.

Fig. 5 is an enlarged plan view of one of the connecting rings.

Fig. 6 is a section taken on line VI—VI of Fig. 5.

Like reference numerals apply to similar parts throughout the several views, and the numeral 2 applies to a plurality of coil springs, said springs being of the standard hour-glass shape as shown, or of the conventional cylindrical or conical shapes, and each having a substantially circular lower base loop 4 and upper loop 6. Said springs are disposed in parallel rows with their axes parallel and with bottom loops 4 and upper loops 6 disposed respectively in common parallel planes, this arrangement being common in spring cushions. Said springs are assembled to form the completed cushion by a plurality of like connecting rings 8.

As best shown in Figs. 5 and 6, each of said connecting rings is formed of sheet metal, and is

2

split at 10. In cross-section said ring has the form of an outwardly opening U-shaped channel, as best shown in Fig. 6, having side walls or flanges 12 and 14 spaced apart a distance slightly greater that the diameter of the wire from which springs 2 are formed. As shown in Figs. 1, 3 and 4, connecting rings 8 are disposed intermediate the upper loops 6 of springs 2, said loops being adapted to project between the walls 12 and 14 of rings 8 at spaced positions about the peripheries of said rings. When the connecting rings are so positioned, the portions of walls 12 and 14 projecting inside of spring loops 6 are crimped together, as indicated at 16, and springs 2 are thereby permanently and securely joined to form a spring cushion.

The lower base loops 4 of springs 2 may be similarly joined by connecting rings 8, as indicated in Fig. 2, in which case a spring cushion which can be inverted to use either side is produced. In many cases, however, it is not desired to produce an invertible cushion, and in this case the lower ends of springs 2 may be attached to any suitable rigid support, not shown. The edges of the spring assembly produced by the use of rings 8 may be bound in any suitable manner.

In Figs. 3 and 4 it will be noted that ring wall 12, or the wall at the outer surface of the spring cushion, is left planar, while wall 14, or the wall toward the interior of the cushion, is bent to contact wall 12. This produces a smoother surface for engaging upholstery to be carried by the spring assembly, and reduces the possibility of tearing or otherwise damaging said upholstery. Said ring, having each a substantial annular area, also provide considerable support area for the upholstery, and tend to prevent upholstery from working into the spaces within and around springs 2. Furthermore, since rings 8 are securely fixed to the springs, there being at most only a limited possible relative movement therebetween, said rings serve to distribute any load placed on said spring cushion over a larger number of springs.

In Figs. 1 and 3 it will be noted that split 10 of each ring 8 is disposed substantially radially relative to one of springs 2, so that one of the crimped portions 16 of the ring bridges said split. This securely anchors the ends of said ring adjacent said split, and prevents said ends from damaging upholstery disposed thereover. This is deemed an advantage, since while rings 8 could be welded to form continuous rings, or could be formed without splits from sheet stock, it has been found much more economical to form

the rings from strip stock and to leave the ends unconnected.

While a specific embodiment of my invention has been shown, it is apparent that many variations of structure and design could be made without departing from the spirit of the invention, and it is therefore respectfully requested that the protection granted me extend to all subject matter properly falling within the scope of the appended claims.

What I claim is:

1. A seat cushion spring assembly comprising a plurality of coil springs, and a plurality of connecting rings disposed intermediate said springs, each of said rings having a pair of outwardly projecting spaced apart annular flanges receiving loops of the adjacent springs clampingly therebetween.

2. In a seat cushion spring assembly having a plurality of coil springs with their upper end loops disposed in a plane, a plurality of connecting rings disposed intermediate said springs in the plane of said end loops, each of said rings having the form of an outwardly opening channel receiving therein portions of the end loops of the adjacent springs, the portions of said channel walls extending within said spring loops being crimped together to secure said spring loops within said channels.

3. In a seat cushion spring assembly having a plurality of coil springs with their upper end loops disposed in a plane, a plurality of connecting rings disposed intermediate said springs in the plane of said end loops, each of said rings being split at one point in its periphery and having the form of an outwardly opening channel receiving therein portions of the end loops of the adjacent rings, the portions of the walls of said channel extending inside of said spring loops being crimped together, one of said crimped portions bridging the split of said ring.

4. In a seat cushion spring assembly having a plurality of coil springs with their upper end loops disposed in a plane, a plurality of connecting rings disposed intermediate said springs in the plane of said end loops, each of said rings being formed of sheet metal and having the form of a U-shaped channel having outwardly extending walls, and receiving therein portions of the end loops of the adjacent springs, the upper walls being planar and the portions of the lower walls extending within said spring loops being offset upwardly to secure said spring loops to said ring, and said ring having a radial split therein intersecting one of said wall portions.

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