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C. P. TRIMBLE

SPRING CUSHION AND THE LIKE

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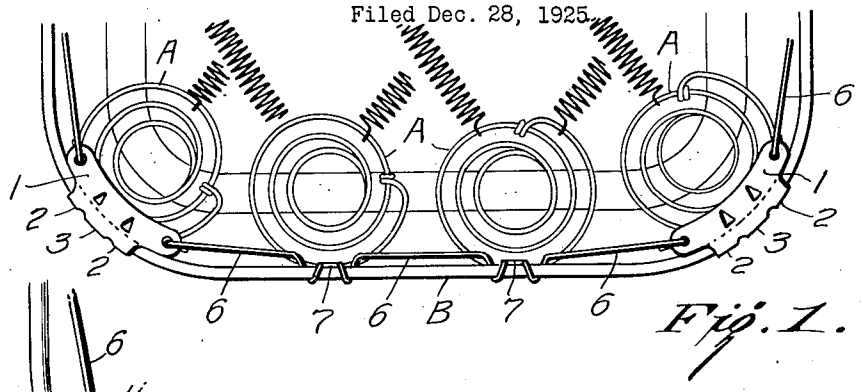



Fig. 1.

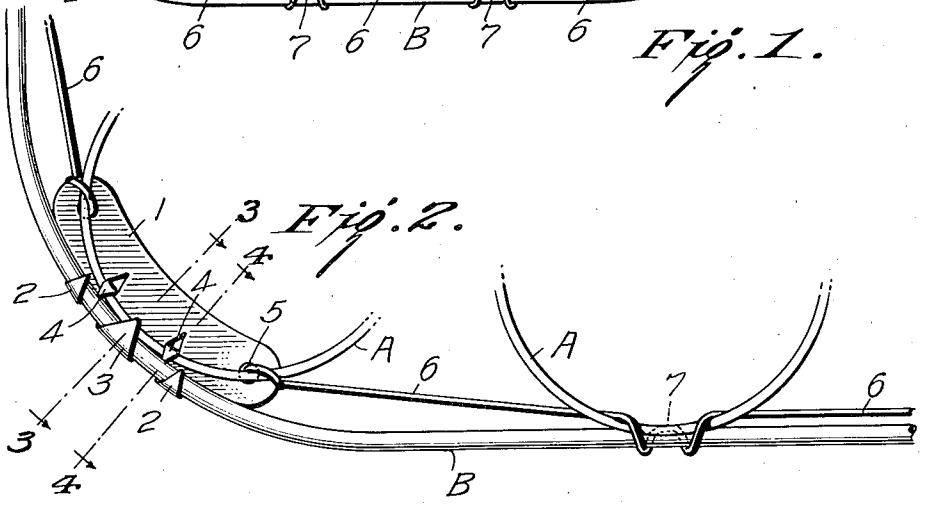



Fig. 2.

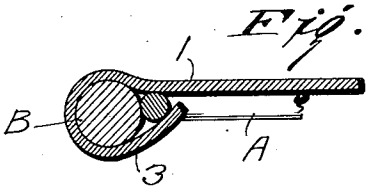



Fig. 3.

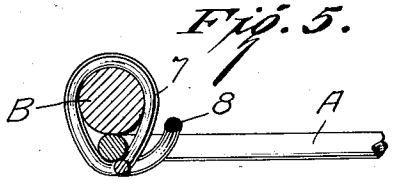



Fig. 5.

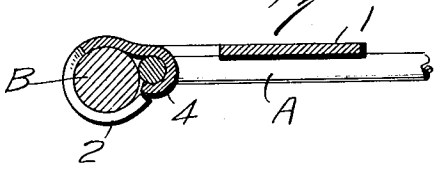



Fig. 4.

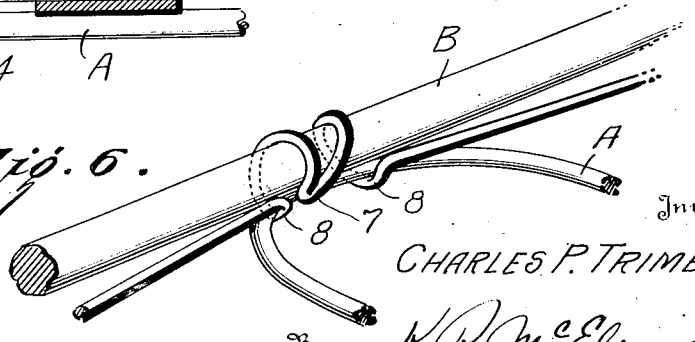



Fig. 6.

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# UNITED STATES PATENT OFFICE.

CHARLES P. TRIMBLE, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO FORT PITT BEDDING COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## SPRING CUSHION AND THE LIKE.

Application filed December 28, 1925. Serial No. 78,009.

This invention relates to spring cushions and the like and it comprises a spring cushion having advantageously coiled springs and a border frame to which the springs are anchored, together with a clip for anchoring the springs to the frame to prevent relative movement, the clip having a body portion with advantageously integral prongs or tangs and arranged to be positioned at certain points on the border frame with the prongs encircling it and one of the convolutions of a coiled spring, in combination with an additional coiled spring securing member provided with means to hold the coiled springs to the frame at separate points and between two of the clips positioned as aforesaid, such clips being preferably arranged at the corners of the frame and shaped to conform thereto and provided at their end with means for attachment of the coiled springs securing member whereby the coiled springs may be firmly anchored to the frame by said clips and between the clips by said securing member; all as more fully hereinafter set forth and as claimed.

In the manufacture of automobile seats, mattresses, and cushion seats in general, it is necessary that all the parts be of strong and rigid construction. Usually cushion seats and the like comprise a lower border frame carrying spring supporting members and an upper border frame. Between these two frames are located a plurality of vertically arranged coiled springs tied together usually by means of horizontal springs at the top and having one or more of the upper convolutions tied to the upper border frame. Sometimes these upper convolutions of the vertical spring are tied to the upper border frame by means of wire or the like wrapped around the frame and one or more convolutions of such springs, and sometimes the springs themselves are arranged to pass over and around the frame, but the separate anchoring of each spring is disadvantageous in that the springs are apt to move out of alinement particularly in seats which in use are subjected to severe strains. The wire is apt to slide along the border frame and the seat loses its shape and effectiveness.

Among other objects of the present invention is the provision of a strong and rigid inexpensive seat of the type referred to, the provision of means for securely anchoring the vertical springs to the upper border frame, not only along the sides but at the corners, and the provision of means arranged in such a way as to conform to the border frame so that the seat may be easily and smoothly upholstered.

With above and other objects in view the invention comprises a clip having prongs advantageously struck from one edge and adapted to be wrapped around the seat frame at the corners at spaced intervals along its length to engage a convolution of one of the vertical coiled springs, the clip being also provided with means for holding the extremities of a securing device arranged to hold the coiled springs to the frame at points between the clips.

Referring more in detail to the accompanying drawing, wherein like reference characters indicate like or corresponding parts throughout the several figures,

Figure 1 is a top plan view of a seat showing position of corner clips;

Figure 2 is a bottom detailed plan view showing the fastener secured in position upon the border wire;

Figure 3 is a detailed sectional view taken on line 3—3 of Figure 2;

Figure 4 is a detailed sectional view taken on line 4—4 of Figure 2;

Figure 5 is a transverse sectional view showing the wire connecting member between the metal clips and its cooperation with the border wire, and

Figure 6 is a detailed perspective view showing the wire connecting member supporting one of the springs in cooperating relation with the border wire.

In the drawing, A represents ordinary coil wire springs such as are employed in the con-

struction of automobile seats, bed springs, chair-couch cushions and the like, while B is the border frame of wire or the like.

The metal clip 1 comprises a flat curved body portion which is adapted to be secured to the border wire B in a rigid relation by means of the integral prongs 2 which encircle the border frame. These prongs 2 are formed by cutting away a portion of the main body of the clip and are so cut as to provide an intermediate prong 3 which is larger than the two end prongs 2. This intermediate prong 3 is adapted to encircle the border wire B as well as engage the top convolution of the corner springs A for retaining the same adjacent the border wire B and preventing relative movement between the spring and the border wire.

The clip is further provided with outstruck prongs 4 bent in an opposite direction to the prongs 2 and 3 for the purpose of engaging and encircling the upper coil of the corner springs A, thereby maintaining the corner coils securely in positon and adjacent the border wire B. A clip is advantageously used at the corners of the border frame and is flat on top and on its outer edge is curved to conform to the contour of the frame at the corners. There are openings 5 formed in the clip at opposite ends thereof to receive the free ends of additional spring securing means or supporting wires. These wires 6 are suitably secured to the clip 1 as by threading through holes in the clips at the extreme ends thereof and are provided at spaced distances with offset portions 7 adapted to receive and retain within the shoulders 8, formed by said offset portions, the upper coil of the springs A while the offset portions 7 are adapted to engage and encircle the border wire B, thereby holding the coils and border wire in rigid position with relation to each other.

These supporting wires or side spring holding means which are secured to the corner clips 1, are adapted to pass over a portion of the top convolution of the coil springs A, and are then bent under the top convolution as indicated through means of the shoulder 8. The offset portion 7, as clearly illustrated in Fig. 6 is then encircled around the border frame B for securely retaining the top convolutions of the springs A adjacent the border frame B and in rigid relation thereto. This prevents relative movement between the springs and the border frame. Being in cooperation with the corner clips 1, the springs A are maintained adjacent the border frame and thereby relieve any undue strain upon any one or more of the coil springs.

What I claim is:—

1. The combination with a cushion seat or the like having a frame and coiled springs secured thereto, of a plurality of spaced clip members having substantially flat body portions with means integral therewith for encircling the frame and a convolution of a coiled spring located adjacent thereto, together with means for tying said members together, the tying means comprising a wire having opposite ends secured to ends of the clip members and provided at intervals between said secured ends with hooked portions arranged to encircle the frame and a convolution of an adjacent coil spring, the wire being located substantially inside said border frame.

2. A spring cushion having springs and a border frame to which the springs are to be secured, clips for preventing relative movement of said springs and border frame, said clips positioned at the corners of said border frame and provided with prongs formed integral therewith to encircle the upper coil of a spring and the border frame and means for retaining said clips in spaced relation, said retaining means encircling the frame and a convolution of a coil spring intermediate said clips.

3. A spring cushion having springs and a border frame to which the springs are to be secured, substantially flat sheet metal clips for preventing relative movement of said springs and border frame, said clips positioned at the corners of said border frame and provided with means to encircle the upper coil of a spring and the border frame and means for retaining said clips in spaced relation, said retaining means encircling the frame and a convolution of a coil spring intermediate said clips.

4. A spring cushion having springs and a border frame to which springs are to be secured, clips for preventing relative movement of said springs and border frame, said clips positioned at the corners of said border frame and provided with prongs formed integral therewith to encircle the upper coil of a spring and the border frame and means for retaining said clips in spaced relation, said means comprising a wire having opposite ends secured to the ends of said clips and provided at intervals between said secured ends with hooked portions arranged to encircle the frame and a convolution of an adjacent coil spring, the wire being located substantially inside said border frame.

5. A spring cushion having springs and a border frame to which springs are to be secured, clips for preventing relative movement of said springs and border frame, said clips positioned at the corners of said border frame and provided with prongs formed integral therewith to encircle the upper coil of a spring and the border frame and means for retaining said clips in spaced relation, said means comprising a wire having opposite

ends secured to the ends of said clips and provided at intervals between said secured ends with hooked portions arranged to encircle the frame and a convolution of an adjacent coil spring, the wire being located substantially inside said border frame and offset with respect to the frame.

6. A spring cushion having springs and a border frame to which the springs are to be secured, a plurality of spaced sheet metal members provided with means for encircling the frame and a convolution of a coiled spring and means secured to said spaced members for tying said members together and including means for anchoring other coiled springs adjacent the frame to said border frame.

In testimony whereof, I have hereunto affixed my signature.

CHARLES P. TRIMBLE.