May 2, 1933. L. LEIGH 1,906,233

CHAIR AND SUPPORTING DEVICE

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Fig. 1.

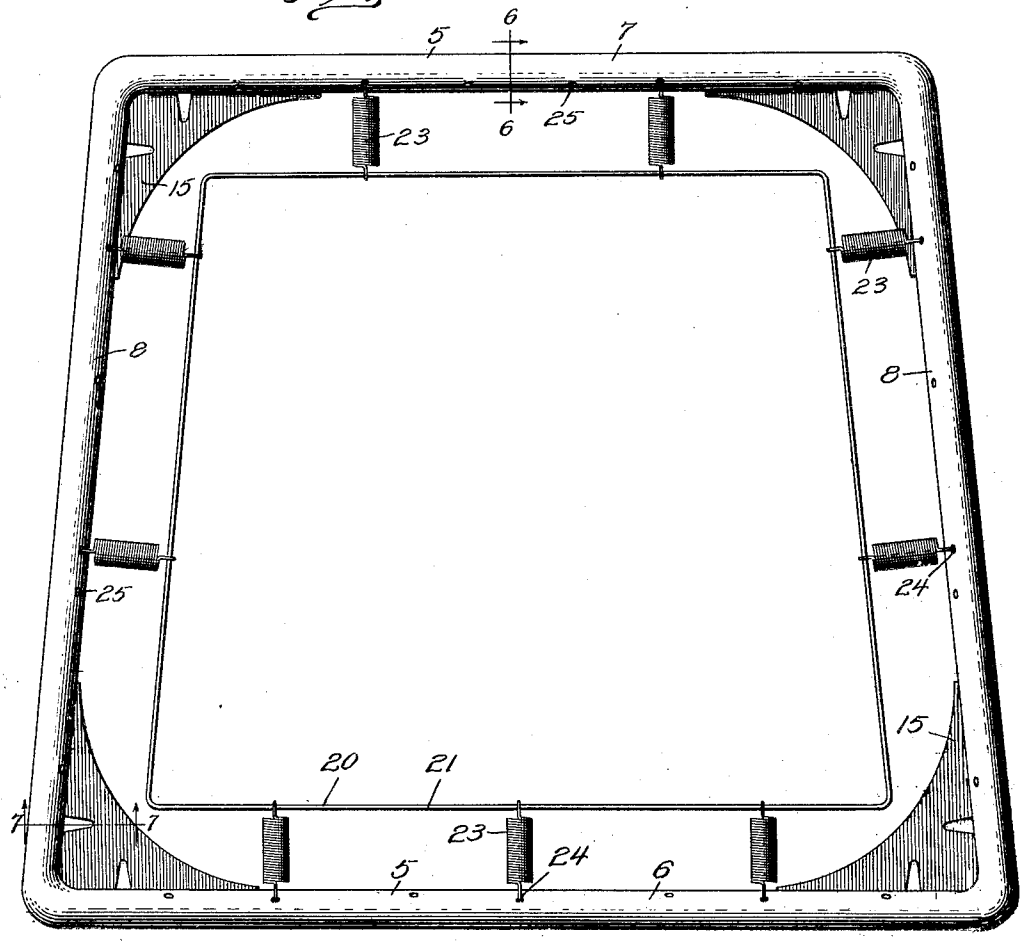


Fig. 2.

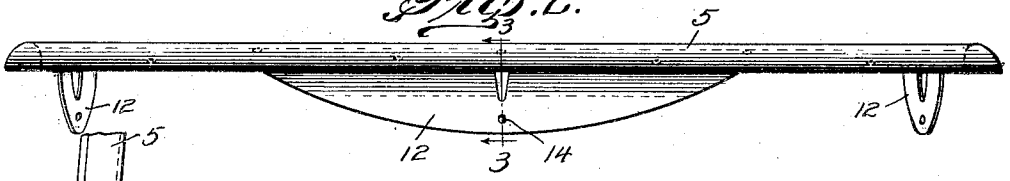


Fig. 8.

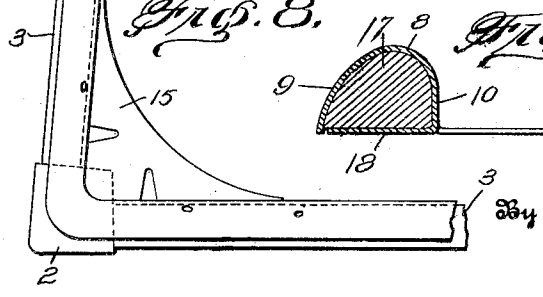


Fig. 7.

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Fig. 3.

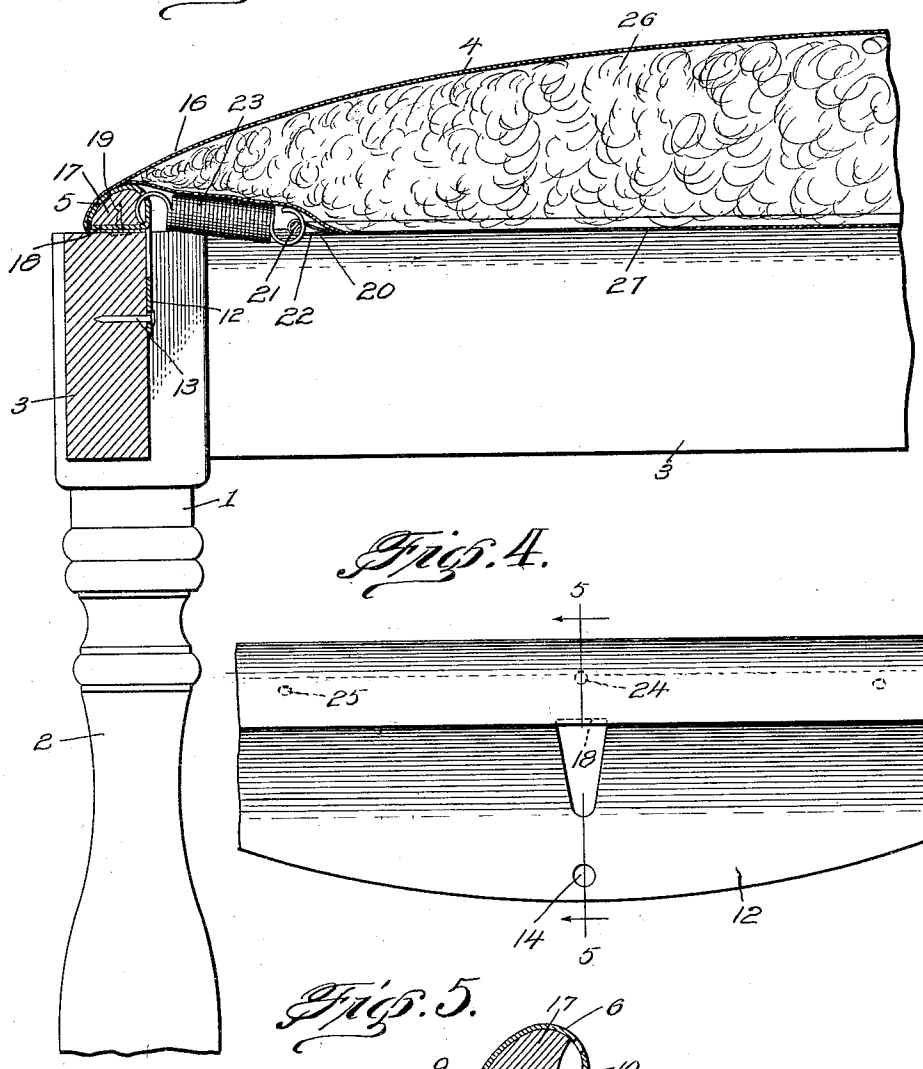


Fig. 4.

Fig. 5.

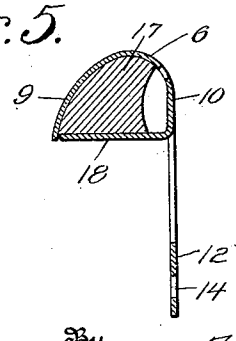
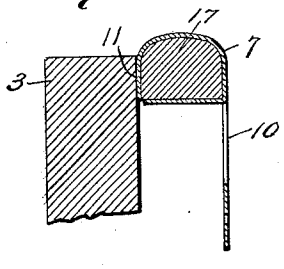


Fig. 6.



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Patented May 2, 1933

1,906,233

UNITED STATES PATENT OFFICE

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CHAIR AND SUPPORTING DEVICE

Application filed December 15, 1930. Serial No. 502,493.

This invention relates to chairs or other devices for supporting human beings and, more particularly, to such with removable seats or supporting portions.

The principal object of my invention, generally considered, is to provide a rigid frame of compact design normally supported on the rails of a chair, couch, or the like, and removable therefrom for the attachment or replacement of upholstery, and which will permit utilizing the entire area between the rails for spring action.

Another object of my invention is the provision of a metal frame made in the form of a channel and conforming to the outline of a chair seat, and constituting a one-piece unit for the attachment of preferably coil springs for resiliently holding a flexible seat center in place.

A further object of my invention is the provision of a metal base for a removable spring-contained chair seat, which base has its sides generally channel shape in section and containing a wood filler for attaching upholstery in a concealed location.

Other objects and advantages of the invention relating to the particular arrangement and construction of the various parts will become apparent as the description proceeds.

Referring to the drawings illustrating my invention, the scope whereof is defined by the appended claims:—

Figure 1 is a plan of an embodiment of my metal frame adapted for forming a chair seat.

Figure 2 is a front elevation of the frame shown in Figure 1.

Figure 3 is a fragmentary transverse sectional view on the line 3—3 of Figure 2, looking in the direction of the arrows, and showing my frame with associated upholstery applied to a chair.

Figure 4 is a fragmentary view, on an enlarged scale, showing a portion of the front side of the frame, such as shown in Figure 2.

Figure 5 is a transverse sectional view on the line 5—5 of Figure 4, looking in the direction of the arrows.

Figure 6 is a transverse sectional view on the line 6—6 of Figure 1, looking in the direction of the arrows.

Figure 7 is a transverse sectional view on the line 7—7 of Figure 1, looking in the direction of the arrows.

Figure 8 is a fragmentary plan of one corner of the frame shown in Figure 1, and illustrating the manner of application of said frame to a chair.

Referring to the drawings in detail, like parts being designated by like reference characters, I have shown a portion of a chair 1 comprising legs 2 connected by rails 3 of any usual construction. Normally supported on the rails 3 of the chair 1 is my improved chair seat, generally designated by the reference character 4, and comprising, in the embodiment illustrated, a metal frame 5 preferably formed by pressing a piece of sheet metal to the form desired. In the embodiment described, my frame comprises a front side 6, a back side 7, and side portions 8 extending between said front and back sides, all of said sides being generally inverted channel shape in section and formed with preferably curved outer flanges 9 along the front and sides of the frame, generally straight inner flanges 10 along the inside of the frame, and a generally straight flange 11 along the outside of the back element or side of the frame.

The front and sides of the frame 5 are desirably supported on the front and side rails 3 of the chair 1 with the back 7 of the frame 5 normally engaging the front of the back rail 3, which is preferably flush with the front of the chair back (not shown). Between the corners of the frame 5 the inner flanges 10 are preferably extended downwardly, as indicated at 12, to form portions

lying alongside the inner surfaces of the chair rails 3 with the front and side extensions adapted for connection to the front and side rails, as by means of nails, or other securing means 13, passing through apertures 14 therein. The flange extensions 12 preferably taper to maximum depth midway between the corners, as shown most clearly in Figure 2. At the corners, generally horizontal flange portions 15 are preferably provided forming rigidifying gussets, as shown most clearly in Figure 1.

To provide for the attachment of the associated upholstery cover 16 in a concealed location, wood filler means, or strips 17, are desirably secured between the flanges 9, 10 and 11 of the frame 5, in any desired manner, as by means of integral tabs 18 struck from the flanges 12 and/or gussets 15 of the frame and bendable to securing position beneath the filler means or strips 17, as shown most clearly in Figures 5 and 7. It will, therefore, be seen that the filler strips 17 are securely held in place in the channels of the frame 5, and the upholstery cover 16 may be secured to said strips, as by means of tacks 19, as shown most clearly in Figure 3, when the frame is removed from the associated chair, and when replaced, said tacks will be held and concealed between the frame and the chair rails, so that it is unnecessary to use braid or other tack covering means.

A flexible seat center 20, which may comprise a wire peripheral portion 21 and any desired flexible material 22 filling the space between the sides thereof to provide for the support of the upholstery 26, as shown most clearly in Figure 3, is desirably secured to the frame 5, as by means of preferably helical springs 23, with their inner ends hooking over the peripheral portion 21 of the seat center, and their outer ends hooking through apertures 24 in the inner flange portions 10 of the seat frame 5. Other apertures 25 are desirably formed in the inner flanges 10, and disposed at a slightly lower elevation, for receiving tacks or other means for securing the filling retainer cloth or lower upholstery envelope 27 to the filler 17, if it is desired to attach the cloth to the inside of the frame 5, rather than bringing it over the frame and attaching it to the wood filler underneath, like the upholstered cover.

From the foregoing disclosure, it will be apparent that I have provided a seat frame of compact design that is removable, and which will permit utilizing the entire area between the side, front and back rails of the chair, or supporting device with which associated, for spring action. It will also be noted that the inner flanges of the front and sides of the frame are adapted to slide inside the front and side rails of the chair as the seat is put in place, the back 7 of the frame being suspended from the rear portions of the side rails, and that the ends of the springs, formed as hooks, are passed through holes near the top of the frame channel or inner flange thereof, so that the ends of the hooks seat themselves against the inside wall or flange of the channel, permitting a ball or pivotal action as the spring is flexed, and also increasing the area over which the springs act to points even beyond the inside frame of the chair. It will be seen that the back flange of the rear portion 7 of the frame 5 is substantially vertical instead of sloping and curved, like the corresponding flanges on the front and side portions, so that it will fit close to the back rail of the chair proper, and have a neat appearance.

Although I have shown a preferred embodiment of my invention adapted for utilization with a chair, it is to be understood that I do not wish to be limited to such use, or the exact construction thereof, as modifications may be made within the spirit and scope of the appended claims.

I claim:—

1. A removable seat comprising an integral sheet metal frame with sides adapted to rest on the front and side rails of a chair, the sides of said frame being generally inverted channel shape in section with the inner flanges of the channel extended downwardly intermediate the corners to lie alongside the inner sides of the chair rails for holding said frame in place and forming normally horizontal gussets at the corners to rigidify the construction, wood fillers disposed in the channel of the frame and forming means on which to tack upholstery, integral tabs struck from the flanges and gussets to hold the fillers in place, a flexible center, and helical springs connecting the peripheral portion of said center to said frame.

2. A removable seat comprising an integral sheet metal frame with sides adapted to rest on the front and side rails of a chair, said frame being generally inverted channel shape in section with the inner flanges of the channel extended downwardly intermediate the corners to lie alongside the chair rails for holding said frame in place, wood fillers disposed in the channel of the frame and forming means to which to attach upholstery, a flexible seat center, and helical springs connecting the peripheral portion of said center to said frame.

3. An integral sheet metal frame with sides adapted to rest on rails of a chair, the sides of said frame being generally channel shape in section with a flange of the channel extended downwardly to lie alongside the chair rails for holding the frame in place, a wood filler received in said channel section to provide means on which to tack upholstery, a flexible seat center, and springs connecting the periphery of said center to said frame.

4. A removable seat comprising a sheet

metal frame with sides adapted to rest on chair rails, said frame being generally channel shape in section with gussets at the corners rigidifying the sides thereof and portions of said channel flanges adapted to engage side faces of the chair rails for holding the seat in place, wood fillers disposed in the channel of the frame and forming means for attaching upholstery, a flexible seat center, and springs connecting the periphery of said center to said frame.

5. A removable seat comprising a sheet metal frame with sides adapted to rest on the rails of a chair, the sides of said frame being generally channel shape in section with portions of the channel flanges adapted to engage side faces of the chair rails for holding the seat in place, filler means disposed in the channel of said frame to secure upholstery thereto, means for holding the filler means in place, a flexible seat center, and springs connecting the periphery of said center to said frame.

6. A removable member adapted to support a human being comprising an integral sheet metal frame with sides adapted to be supported in elevated position, said sides being generally inverted channel shape in section with the inner flanges of the channel extended down intermediate the corners to engage the supporting means for holding the frame in place and forming normally horizontal gussets at the corners to rigidify the construction, wood filler means disposed in the channel of the frame and adapted for the attachment of upholstery in a concealed location, and integral means struck from the frame and bendable to position for holding the filler means in place.

7. A device of the character described comprising a sheet metal frame adapted to be supported in elevated position, said frame having sides generally inverted channel shape in section with inner flanges extended downwardly to engage the sides of the supporting means for holding the frame in place, filler means disposed in said channel for securing upholstery thereto, a center member for said frame, and springs securing the peripheal portion of said member to the sides of said frame.

8. A seat comprising an integral sheet metal frame with sides adapted to rest on rails of a chair, said frame being generally channel shape in section with flange portions extended downwardly to lie alongside the chair rails for holding said frame in place, means disposed in the channel of the frame sides for securing upholstery thereto, a seat center, and springs securing the peripheral portion of said center to said frame.

9. A member, adapted to support a human being, comprising a sheet metal frame with sides adapted to be supported in elevated position, said sides being generally inverted channel shape in section with flange portions of said channel extended down to engage the supporting means for holding the frame in place, means disposed in the channel of the frame sides for securing upholstery thereto, and means for holding the securing means in position.

In testimony whereof I have affixed my signature.

LEIGHTON LEIGH.