March 21, 1939. C. A. VAN DERVEER 2,151,628

CHAIR SEAT

Filed Dec. 14, 1936

Fig. 1.

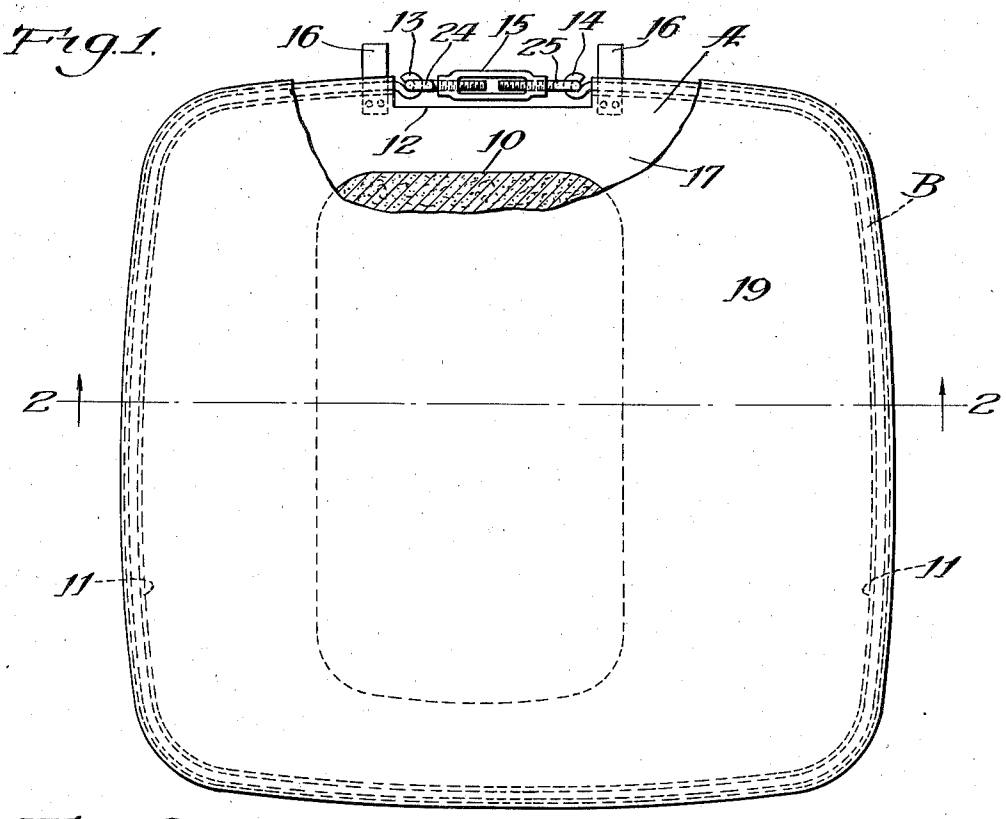


Fig. 2.

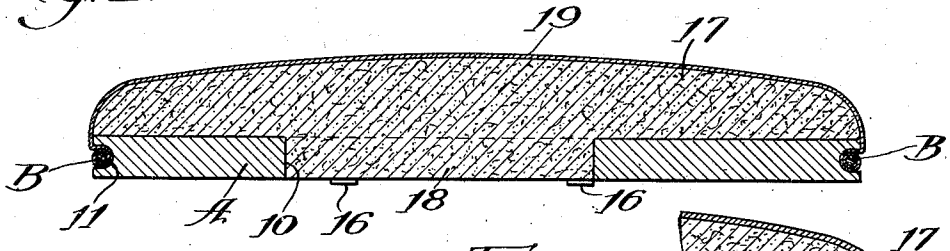


Fig. 3.

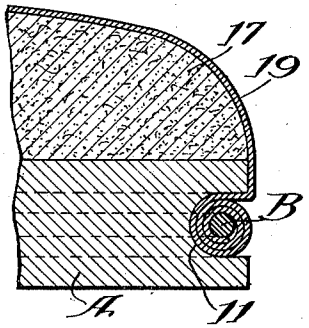
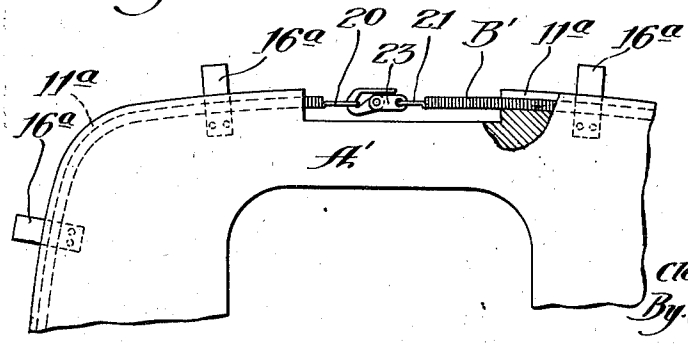


Fig. 4.



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2,151,628

CHAIR SEAT

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5 Claims. (Cl. 155—178)

This invention relates to a chair seat, and more particularly to a chair seat which is suitable for use in buses, etc., or wherever ease and speed of assembly is important. The improved structure is obviously used as well in chair backs as in chair seats.

An object of the invention is to provide a chair unit structure in which the upholstery cover fabrics may be readily and efficiently secured in place, and which can be assembled and dismantled in a short time and with a minimum effort.

Another object is to provide a strong unit structure of few parts, each part being sturdy and of simple construction.

A further object is to provide a chair unit structure assembled in a novel manner to make the cover fabric secure on all sides.

In chair constructions now in use various devices have been used to secure the fabrics to the framework. The use of tacks or snaps is common for this purpose. I am familiar also with a type of U-shaped rod which has its ends tightened in adjacent corners of a frame. Such devices are not claimed in this invention.

In the present structure I provide a single band which extends on all edges of the frame and which may have its ends drawn together to make the fabric fast. For the purpose of the invention, it is deemed sufficient to refer to an illustration showing a chair seat, although it will be seen that this invention is directly applicable to the chair back.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which—

Fig. 1 is a broken plan view of a chair supporting unit according to my improved structure; Fig. 2, a sectional view, the section being taken as indicated at line 2—2 of Fig. 1; Fig. 3, a fragmentary enlarged view showing the edge of the fabric rolled about the band; and Fig. 4, a broken plan view of a modification.

In the following detailed description I use the term "unit" or "supporting unit" in the sense of either a chair seat or a chair back, it being understood that substantially the same structure may be adapted for either use.

In the unit as illustrated in Figs. 1 to 3, A designates a frame, and B, a resilient band.

The frame A may be of wood or any suitable material, and is preferably of general rectangular form having four sides and rounded corners. Its interior portion is cut away to form the opening 10 which serves to lock padding material in place.

At its edges frame A is provided with a rather deep groove 11 which extends about all four edges of the frame. The continuity of the groove 11 is not broken at the corners of the frame, and the groove extends uniformly along the sides and about the rounded corners. The bottom of the groove is rounded in form and so provides a neat socket for a band of cylindrical form.

One edge of frame A, preferably the edge which is to be the back of a chair seat or the least conspicuous edge of a chair back, may contain an inwardly cut recess 12. Such a recess provides a space for the means used in drawing the ends of the band together.

The band B may consist of a simple metal rod of a general shape conforming to the periphery of the frame and adapted to fit loosely in the groove 11. The ends of band B may be formed into hooks 13 and 14 as illustrated in Fig. 1. Screw eyes 24 and 25, in engagement with hooks 13 and 14, connect the ends of the band into the two ends of a turnbuckle 15.

Metal ears 16 are attached on the bottom side of the frame and project outwardly beyond the edge. These ears are adapted to be bent over the groove to secure the band in place. Ears 16 may be attached at any edge of the frame as desired, but by being placed adjacent the ends of the band as illustrated in Fig. 1, they are more effective in preventing displacement of the band.

A pad 17 of some yielding material is placed over the top of frame A and has its top surface curved to provide the desired contour of the seat or back. Pad 17 has a lower portion 18 which fits within locking opening 10 to securely position the pad with respect to the frame. The pad 17 may be formed of any suitable yielding material; in this embodiment I prefer the use of sponge rubber because of its resilience and durability.

Over pad 17 is placed a cover fabric 19 which is substantially coextensive with frame A and which may be of any desired material, color or pattern. The edges of fabric 19 are secured within groove 11 by band B, and in this way the fabric is held tightly against the top of pad 17.

In assembling the unit, the edges of fabric 19 are rolled over band B in the manner illustrated in Fig. 3 of the drawing. Only the extreme ends of band B need be left free from the edge of fabric 19. With the edges of the fabric about it, band B is drawn down over pad 17 and about

the edges of frame A to groove 11. The ends of the band are then drawn together by tightening the turnbuckle 15 to cause the band to enter groove 11 and press the fabric edges firmly against the bottom of the groove. This tends also to draw the fabric taut over the top of pad 17. Ears 16 may then be bent upward and over against the fabric edge as security against any possible misplacement of the band.

When it is desired to dismantle the unit the ears 16 may be turned back to their original position and the turnbuckle loosened. This loosens all the parts of the structure, and each part may be packed separately for transportation if desired.

The embodiment of my invention shown in Fig. 4 comprises a frame A' of the same type and general construction as frame A illustrated in Figs. 1 to 3. In this embodiment the band B' is in the form of a coil spring and characters 20 and 21 represent the two ends of the spring. In the same manner as the preferred embodiment, band B' extends completely about the periphery of frame A' and is disposed in groove 11a. A fastener 23 connects the ends of spring B' and is adapted to draw the ends of the spring together as the connection is made. Ears 16a are attached on the bottom side of the frame A' at desired points on the periphery of the frame, and are adapted to be bent over in the manner described in connection with ears 16 of the preferred embodiment.

The manner of assembly of the modified form above described is substantially the same as that of the preferred form and will not be repeated.

The band used to tighten the cover against the frame has been illustrated in Figs. 1 to 3 in the form of a resilient rod or bar, and in Fig. 4, as a coil spring. It is understood that this band may also be of rubber or any suitable elastic material. In some respects an elastic band, such as the band illustrated in Fig. 4, is more advantageous than the resilient bar of Figs. 1 to 3. Such a band pulls evenly against the bottom of the groove and conforms readily to the curved surface of the groove and insures that the fabric will be pressed against the bottom of the groove at all points. In the case of an elastic band the fastener may be omitted and the band be endless and circular in form if so desired.

Too, the ears 16a take on a new function when an elastic band is used. The elastic band, not being rigid in any respect, might be dislodged from the groove at various points and may even tend to crawl along the groove. The ears 16a clamp against the spring and fabric and secure them to the frame at these points.

While as particularly described above and as shown in Fig. 3 the edge of the fabric is to be rolled about the band, it is understood that the edge portion of the fabric may be attached to the band in other ways such as being stitched about it or by simply being extended within the band.

Instead of the rod B being formed of steel or rubber, it may be formed of cord, the ends of the cord being tied together after the fabric has been secured thereto. Likewise, the spring B' in Fig. 4 may be omitted and cord, chain, flexible wire, or other suitable tightening element may be used.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

What I claim as new, and desire to secure by Letters Patent, is:

1. In a chair, a supporting unit comprising a frame of generally rectangular formation and having rounded corners, said frame having at its edges an outwardly opening groove and having an inwardly cut recess at one of its edges, a one-piece resilient bar positioned in said groove, and a turnbuckle disposed in said recess and connected at each end with an end of said bar.

2. In a chair, a supporting unit comprising a frame having about its peripheral edge an outwardly opening groove and containing a recess inwardly of its edge, a resilient band extending about the periphery of said frame and disposed in said groove, a sheet of flexible fabric substantially coextensive in size with said frame and having its edge portion rolled about said band, and means disposed in said recess and attached to the ends of said band for drawing said band taut against the bottom of said groove.

3. In a chair, a supporting unit comprising a frame having its peripheral edge equipped with an outwardly opening groove and having at one portion in said peripheral edge an inwardly cut recess, a retaining member positioned in said groove, and a clamping member disposed in said recess and connected at each end to said retaining member for tensioning said retaining member within said groove.

4. In a chair, a supporting unit comprising a frame having its peripheral edge equipped with an outwardly opening groove, said frame having at one portion near its peripheral edge an inwardly cut recess, a coil spring positioned in said groove and extending about the periphery of said frame, and clamping means disposed in said recess and connected at each end with the end of said spring for tensioning said spring within said groove.

5. In a chair, a supporting unit comprising a frame having its peripheral edge equipped with an outwardly opening groove and having also an inwardly cut recess at one portion in said peripheral edge, a resilient confining member disposed in said groove, and a clamping member disposed in said recess and connected at each end with said resilient member for clamping said resilient member under tension within said groove.

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