Aug. 26, 1941. C. J. TULLY 2,253,825

CHAIR SEAT

Filed May 29, 1939

Fig. 1

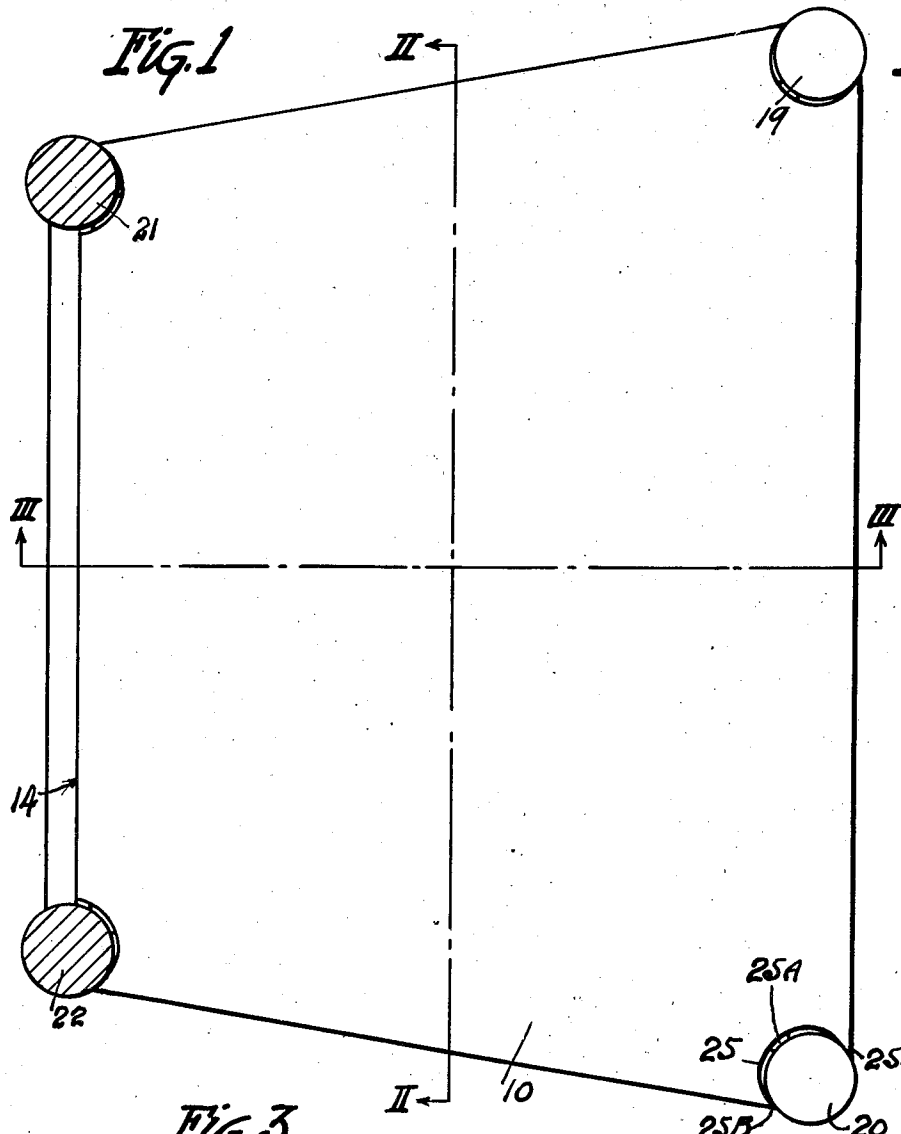


Fig. 2.

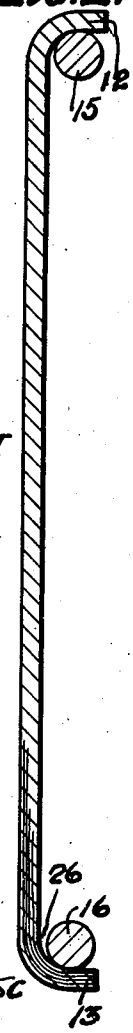
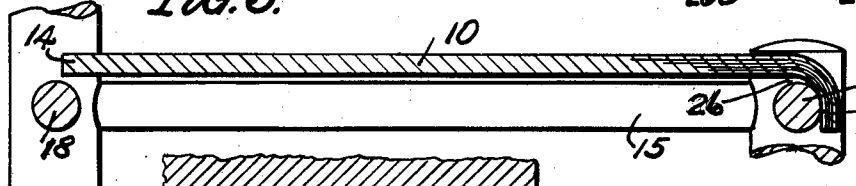


Fig. 3.



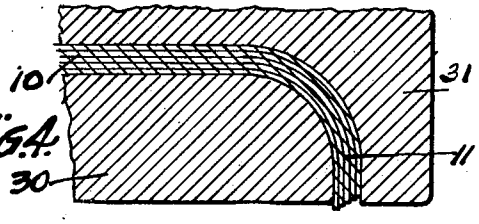


Fig. 4.

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CHAIR SEAT

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6 Claims. (Cl. 155—186)

This invention relates to seats for chairs. It has especial reference to a low cost wooden seat which can be attached to a chair frame without the use of tools or attaching members, which has smooth rounded front and side edges and inherent resiliency.

For many years a low-priced chair has been made, the chair having a frame with four top rungs at substantially the same level, and a seat formed of narrow flat strips, usually of thin wood, passing around the side rungs and extending across the chair from side to side, with which similar strips extending from front to back have been interwoven. Labor regulations have so increased the cost of this construction as to force its abandonment. The present invention utilizes the frame construction noted and provides therefor an economic seat.

The objects of the present invention are:

To make a seat which is low is cost, sufficiently thin to have inherent resiliency and of great strength relative to the thickness of material used.

A further object is to make a seat of this class which can be readily secured to the chair frame without attaching members and which when so placed will readily remain attached and require very considerable effort for its detachment.

And a further object is to make a seat with attaching portions which by the manner of their engagement with the chair rungs add to the resiliency of the structure.

The means by which the foregoing and other objects are accomplished and the method of their accomplishment will readily be understood from the following specification upon reference to the accompanying drawing, in which:

Fig. 1 is a sectional plan of a chair frame with the seat shown in place thereon.

Fig. 2 is a section taken as on the line II—II of Fig. 1, parallel to the front and back rungs of the chair, showing the engagement of the seat with the side rungs.

Fig. 3 is a fragmentary fore and aft sectional elevation taken as on the line III—III of Fig. 1, showing the engagement of the seat with the front rung and the relation of the seat to the back rung.

Fig. 4 is a fragmentary sectional elevation, approximately full size, showing the shaping of one of the engaging edges of the seat and the means and method of forming the seat and these edges.

Referring now to the drawing in which the various parts are indicated by numerals:

10 is the seat, 11 a downwardly turned forward edge, and 12 and 13 downwardly turned side edges, the rear edge 14 of the seat being left flat. 15 and 16 are the side rungs of the chair frame, 17 the front rung, 18 the back rung, 19, 20 the front legs and 21, 22 the back legs. The seat is arcuately cut away at each of its corners, as at 25, to partially embrace the front legs and similarly cut away to partially embrace the back legs.

In plan the seat conforms to the rung plan of the chair frame, the side edges converging from front to rear along the same lines as do the side rungs 15, 16.

The seat is made of plywood, five layers preferably being used, as most clearly shown in Fig. 4. In forming the seat the layers of plywood are placed in usual manner with the grain of the wood alternately lengthwise and crosswise, the sheets used being slightly wider and longer than the finished length and width of the finished seat, including the turned down edges. Preparatory to assembling the sheets are roughed out to shape and the corners cut away at least a sufficient amount to permit bending of the edges. The sheets are coated with glue in usual manner and are assembled and placed between male and female forming dies 30, 31 under heavy pressure and are there held until the glue has set and the sheets have been united into an integral structure with downwardly curved edges. Subsequently the seat is removed from the dies, the back edge of the seat and the lower edges of the downwardly turned flange portions, both front and sides, are trimmed to proper shape and the leg openings are likewise trimmed. In trimming, the leg openings are preferably so cut that when the seat is placed on the chair frame, the opening at 25A is slightly spaced away from the leg, whereas the downwardly turned edges contact the legs at 25B and 25C.

The radius of curvature of the die 30 over which the seat edges are bent down also is slightly greater than the radius of the chair rungs so that the seat when in place does not solidly seat on the rung, contact being made between the downwardly turned edges and the rung, with spaces 26 existing between the top of the rungs and the seat which adds much to the liveness or resiliency of the seat.

The seats formed, as above described, are placed over the rungs of the chair and are pushed down to place to effect the engagement, the inner surfaces of the turned down edges binding firmly

against the side edges of the rungs and the cut out portions effecting positive engagement with the chair legs. In effecting the engagement the pressure is exerted in the center of the seat, slightly bending the center of the seat downward and by release of the pressure thereon effecting a very tight engagement between the seat edges and the rungs and legs of the chair.

It will particularly be noted that the back edge of the seat is slightly above the back rung and is unsupported by such rung so that the resiliency of the seat is there effective. When load comes on the seat in use, outward pressure of the rungs against the side edges assists in flexing the seat and additionally adds to the comfort and resiliency of the structure.

I claim:

1. A plywood seat for a chair having round side and front rungs at substantially the same level, and legs projecting above the tops of such rungs, said seat being formed of a plurality of layers, and being glued together, the front and side edges of the seat being bent downward on a radius slightly greater than the radius of said rungs and being glued together while so bent whereby their curvature will be retained, the corners of the seat being cut away to permit such bending and to surround the legs of the chair.

2. A plywood seat for a chair having a frame with round side and front rungs at substantially the same level, and legs projecting above the tops of such rungs, said seat being formed of a plurality of layers, and being glued together, the front and side edges of the seat being bent downward on a radius slightly greater than the radius of said rungs substantially at right angles to said seat, and being glued together while so bent whereby their curvature will be retained, the corners of the seat being cut away to permit such bending and to surround the legs of the chair, the relative dimensions of the chair frame and said seat being such that engagement of said seat is effected between the inner surfaces of the vertical portions of said edges and the outer portions of said rungs.

3. A seat, in accordance with claim 2, for a chair having a back rung, in which the back edge of said seat is positioned normally out of contact with said back rung.

4. A plywood seat for a chair having a frame with round side and front rungs at substantially the same level, and legs projecting above the tops of such rungs, said seat being formed of a plurality of layers, and being glued together, the front and side edges of the seat being bent downward on a radius slightly greater than the radius of said rungs and being glued together while so bent whereby their curvature will be retained, the corners of the seat being cut away to permit such bending and to surround the legs of the chair, said chair frame and seat being relatively so dimensioned that engagement of said seat is accomplished between the inner surfaces of said edges and the outer portions of said rungs, and between the edges of the cut outs and said chair legs.

5. A seat structure for a chair having legs and upper rungs substantially at the same level, said seat structure comprising a plurality of layers of plywood, glued together, the front and side edges of said seat being downwardly turned substantially at right angles to the surface of the seat, the radius of curvature of such downwardly turned edges being slightly greater than the radius of the curvature of said rungs, the depth of the downwardly turned side edges being sufficient to extend below the center of the rungs when the seat is in place, said side edges being concurrently bent and glued whereby the curvature of the edges will be maintained, the corners of the seat being cut away to surround the legs of the chair and the cuts being so made in the flat portion of the seat that such flat portion of the seat is spaced away from the legs when the seat is in place, the width between the downwardly turned edges being such that engagement of the seat is made with the sides of the rungs rather than with the tops thereof.

6. A seat structure for a chair having legs and and round upper rungs substantially at the same level, said seat structure comprising a plurality of layers of plywood, glued together, the front and side edges of said seat being downwardly turned substantially at right angles to the surface of the seat, the radius of curvature of such downwardly turned edges being slightly greater than the radius of the curvature of said rungs, the depth of the downwardly turned side edges being sufficient to extend below the center of the rungs when the seat is in place, said side edges being concurrently bent and glued together whereby the curvature of the edges will be maintained, the corners of the seat being cut away to surround and partially engage the legs of the chair, said cuts being so made in the flat portion of the seat that such flat portion of the seat is spaced from the legs when the seat is in place, the width between the downwardly turned edges being such that engagement of the seat is made with the sides of the rungs rather than of the top thereof.

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