July 23, 1957 A. C. HOVEN ET AL 2,800,171

CHAIR CONSTRUCTION

Filed May 18, 1955 3 Sheets-Sheet 1

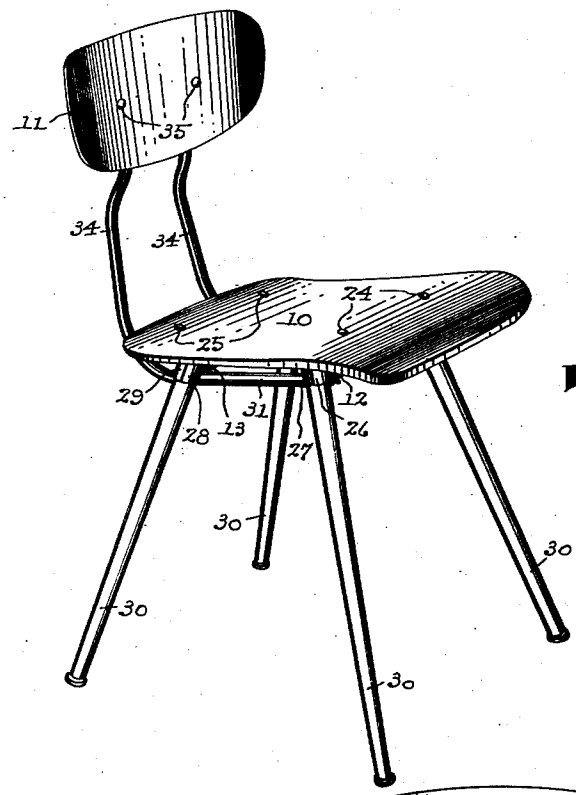


Fig. 1

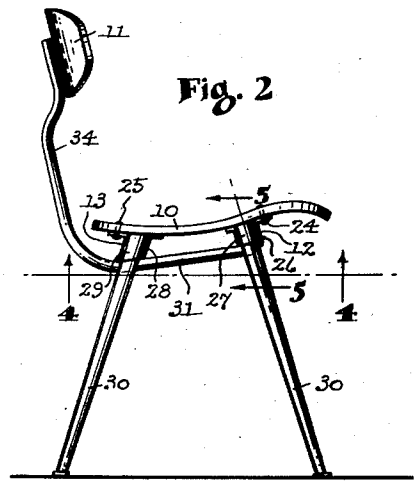


Fig. 2

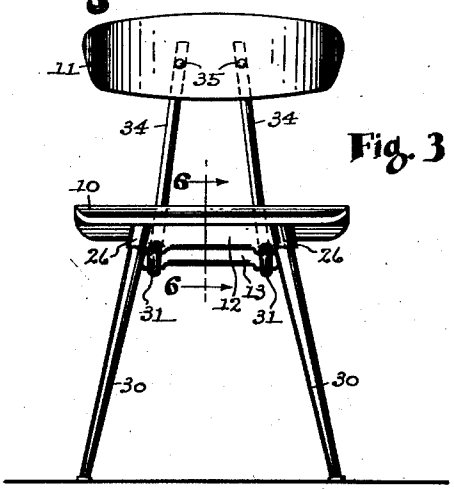


Fig. 3

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CHAIR CONSTRUCTION

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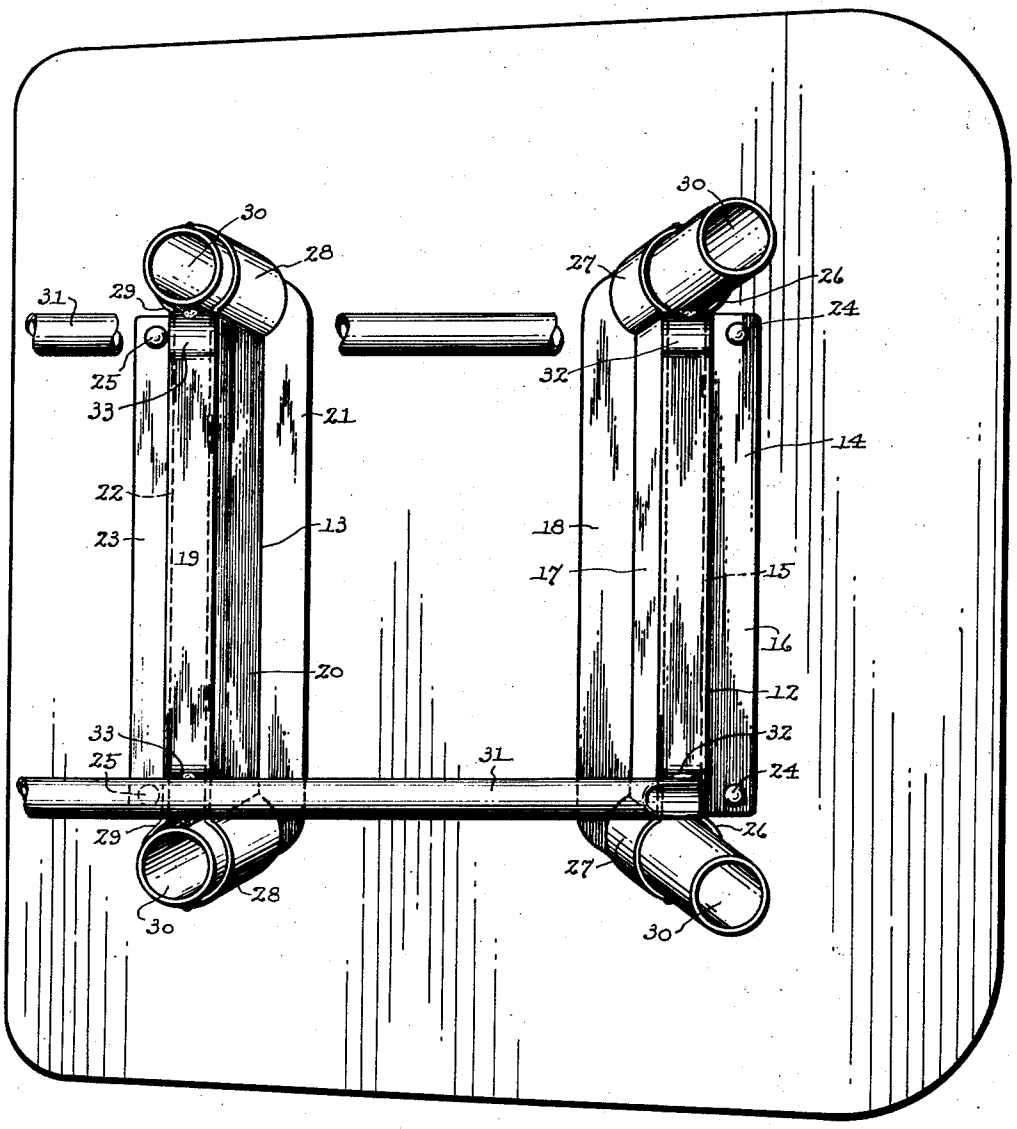


Fig. 4

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CHAIR CONSTRUCTION

Filed May 18, 1955 3 Sheets-Sheet 3

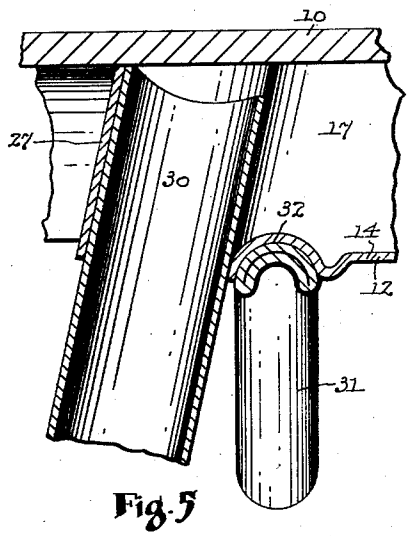


Fig. 5

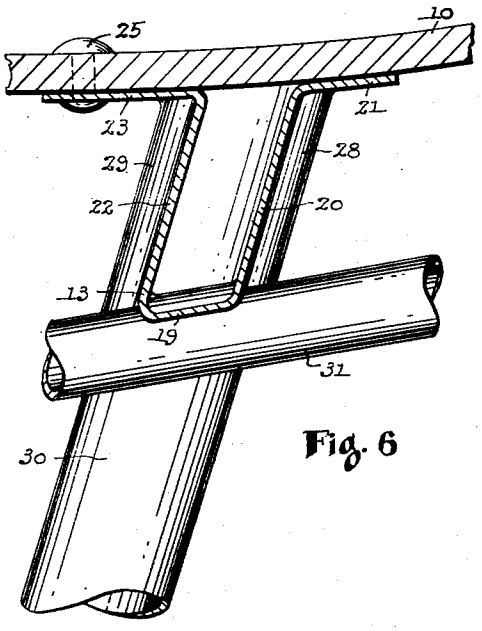


Fig. 6

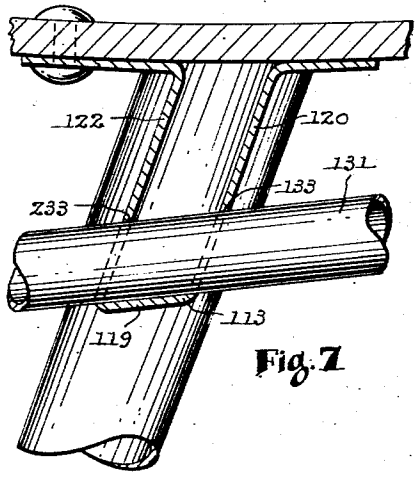


Fig. 7

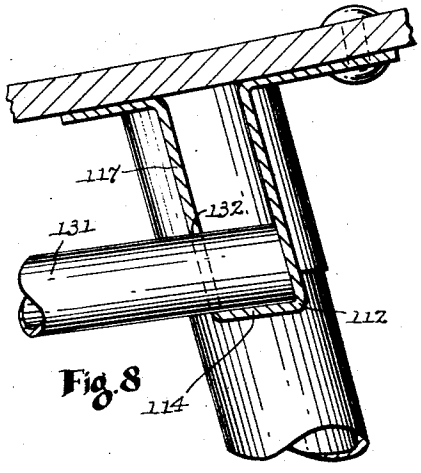


Fig. 8

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CHAIR CONSTRUCTION

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Application May 18, 1955, Serial No. 509,178

10 Claims. (Cl. 155—191)

The present invention relates to chairs.

The primary objects of the invention are to provide a chair having a seat and back of plywood or the like and a metal supporting frame therefor which is simple and especially sturdy in construction and reasonably economical in manufacture.

Illustrative embodiments of the invention are shown in the accompanying drawings, wherein:

Figure 1 is a perspective view of a chair constructed according to the invention;

Figure 2 is a side elevational view of the same;

Figure 3 is a front elevational view of the same;

Figure 4 is an enlarged fragmentary horizontal sectional view of parts of the chair taken on line 4—4 of Figure 2;

Figure 5 is an enlarged fragmentary sectional view of parts of the chair taken on line 5—5 of Figure 2;

Figure 6 is an enlarged fragmentary sectional view of parts of the chair taken on line 6—6 of Figure 3;

Figure 7 is a fragmentary sectional view of parts at the rear of the chair, similar to Figure 6 but showing a modified construction; and

Figure 8 is a similar sectional view of parts at the front of the modified chair.

Referring now in detail to these drawings wherein like parts are designated by the same numerals in the several views, and referring first particularly to Figures 1 through 6, the chair there shown generally comprises a metal supporting frame or structure on which are mounted a seat 10 and a back 11, the seat and back being desirably made of plywood, plastic or other suitable material.

Beneath the seat 10 is a pair of parallel, horizontally disposed, forwardly-rearwardly spaced, upwardly opening channel bars, the front channel bar being designated 12 and the rear channel bar being designated 13. The front channel bar 12 has a lower web portion 14 (see Figures 4 and 5) from which there extends upwardly a front wall 15 having a front flange 16 extending forwardly from its upper edge, and a rear wall 17 having a rear flange 18 extending rearwardly from its upper edge. The rear channel bar 13 is similar and has a lower web portion 19 (see Figures 4 and 6) from which there extends upwardly a front wall 20 having a front flange 21 extending forwardly from its upper edge, and a rear wall 22 having a rear flange 23 extending rearwardly from its upper edge. The chair seat 10 is supported on the flanges 16, 18, 21 and 23 of channel bars 12 and 13. Fastening means are provided for securing the seat 10 to the channel bars and as here shown comprise rivets 24 passing through flange 16 and through the seat, and rivets 25 passing through flange 23 and through the seat.

The front and rear walls 15 and 17 of the front channel bar 12 have end portions which extend outwardly beyond the web 14 of this channel bar. The end portions 26 at opposite ends of the front wall 15 are bent or curled forwardly, then outwardly and then rearwardly as best seen in Figure 4. The end portions 27 of the rear wall

17 are bent or curled rearwardly, then outwardly and finally forwardly to connect with the curled end portions 26 of the front wall, the adjacent end portions 26, 27 being welded together to form downwardly opening substantially cylindrical front leg sockets.

The front and rear walls 20 and 22 of the rear channel bar 13 have similar end portions which extend outwardly beyond the web 19 of this rear channel bar. The end portions 28 at opposite ends of the front wall 20 are bent or curled forwardly, then outwardly and then rearwardly, while the end portions 29 at opposite ends of the rear wall 22 are bent or curled rearwardly, then outwardly and finally forwardly into welded connection with the curled end portions 28 of the front wall 20, thus forming downwardly opening substantially cylindrical rear leg sockets.

Legs 30 are provided for the chair and as here shown are of tubular metal which may be of downwardly tapering form. The upper ends of these legs 30 are seated in the leg sockets of the channel bars 12 and 13, the channel bars being so disposed and so formed that the legs 30 depending therefrom are downwardly divergent.

The pair of back supports 31 for the chair are likewise desirably fabricated from metal tubing. As seen in Figures 4 and 5, the forward ends of the back supports are seated in recesses 32 embossed in the lower part of the front channel bar 12. The back supports 31 extend rearwardly from the front channel bar 12 into engagement with the rear channel bar 13 which is likewise embossed to form recesses 33 for seating the back supports. The back supports 31 are preferably welded to the channel bars 12 and 13 at their points of intersection. From the rear channel bar 13, the back supports extend upwardly in the rear of the chair seat, and the chair back 11 is secured to these upright portions 34 of the back supports as by means of rivets 35.

The rear channel bar 13 is at a slightly lower level than the front channel bar 12, thus conforming to the shape and slope of the chair seat 10. The lower forward portions of the back supports 31 likewise slope from the front channel bar 12 rearwardly-downwardly beneath the seat 10 to the rear channel bar 13.

In the modified construction shown in Figures 7 and 8, the back supports 131 extend through circular openings 132 in the rear wall 117 of the front channel bar 112 and rest on the web 114 of this front channel bar. Extending rearwardly, the back supports 131 pass through aligned circular openings 133 and 233 in the front wall 120 and the rear wall 122, respectively, of the rear channel bar 113 and rest on the web 119 of this rear channel bar. These connections between the back supports and the channel bars are also desirably welded.

It will thus be seen that the invention provides a novel chair construction in which the metal supporting frame for the chair seat and back is simple but nevertheless sturdy and durable, and while but two specific embodiments of the invention have been herein shown and described it will be understood that numerous details thereof may be altered or omitted without departing from the spirit of the invention as the same is defined by the following claims.

We claim:

1. In a chair: a pair of parallel, horizontally disposed, forwardly-rearwardly spaced, upwardly opening front and rear channel bars, the front channel bar having a flange extending forwardly from the upper edge of its front wall and the rear channel bar having a flange extending rearwardly from the upper edge of its rear wall; a chair seat supported on said flanges; fastening means passing through the flanges and the chair seat for securing the seat to the channel bars; legs for the chair secured to and

depending from the opposite ends of said channel bars; a back support comprising a substantially horizontal portion having its front end secured to the front bar and extending rearwardly therefrom beneath the chair seat into engagement with the rear bar, and a substantially vertical portion extending thence upwardly in the rear of the chair seat; and a chair back mounted on the upper end of said back support.

2. In a chair: a pair of parallel, horizontally disposed, forwardly-rearwardly spaced, upwardly opening front and rear channel bars, the front and rear walls of said channel bars having end portions extending outwardly beyond the webs of the bars, the end portions of the front walls of the bars being bent forwardly, then outwardly and then rearwardly, and the end portions of the rear walls of the bars being bent rearwardly, then outwardly and finally forwardly thus forming with the bent end portions of the front walls downwardly opening leg sockets; legs for the chair having their upper ends seated in said sockets; and a chair seat supported on the channel bars.

3. A chair according to claim 2 characterized by having the end portions of the front and rear walls of the channel bars curled so that the leg sockets formed thereby are substantially cylindrical for receiving the upper ends of tubular metal legs.

4. A chair according to claim 2 characterized by having the end portions of the front and rear walls of the channel bars so bent that the leg sockets formed thereby and the chair legs depending therefrom are downwardly divergent.

5. A chair according to claim 3 characterized by having the end portions of the front and rear walls of the channel bars so curled that the substantially cylindrical leg sockets formed thereby and the tubular metal legs depending therefrom are downwardly divergent.

6. In a chair: a pair of parallel, horizontally disposed, forwardly-rearwardly spaced, upwardly opening front and rear channel bars each having a front flange extending forwardly from the upper edge of its front wall and a rear flange extending rearwardly from the upper edge of its rear wall; a chair seat supported on said flanges; legs for the chair secured to and depending from the opposite ends of said channel bars; a pair of back supports comprising substantially horizontal portions having their front ends secured to the front channel bar and extending rearwardly therefrom beneath the chair seat into engagement with the rear channel bar, and substantially vertical portions extending thence upwardly in the rear of the chair seat; and a chair back mounted on the upper ends of said back supports.

7. A chair according to claim 6 characterized by having the rear channel bar at a slightly lower level than the front channel bar and by having the back supports extending from the front channel bar rearwardly-downwardly beneath the chair seat into engagement with the rear channel bar and thence upwardly.

8. A chair according to claim 7 characterized by having metal channel bars, tubular metal legs and tubular metal back supports, the upper ends of the legs being welded to the channel bars, and the back supports being welded to front and rear channel bars at their points of intersection.

9. In a chair: a pair of parallel, horizontally disposed, forwardly-rearwardly spaced, upwardly opening front and rear metal channel bars each having a front flange extending forwardly from the upper edge of its front wall and a rear flange extending rearwardly from the upper edge of its rear wall, said rear channel bar being at a slightly lower level than said front channel bar, the front and rear walls of said channel bars having end portions extending outwardly beyond the webs of the bars, the end portions of the front walls of the bars being curled forwardly, then outwardly and then rearwardly, and the end portions of the rear walls of the bars being curled rearwardly, then outwardly and finally forwardly into welded connection with the curled end portions of the front walls thus forming downwardly opening substantially cylindrical leg sockets; tubular metal legs for the chair having their upper ends seated in said sockets and welded therein, said legs depending from the sockets divergently; a chair seat supported on the upper front and rear flanges of the channel bars; fastening means passing through some of the flanges and the chair seat for securing the seat to the channel bars; a pair of tubular metal back supports having their front ends welded to the front channel bar and extending rearwardly-downwardly therefrom beneath the chair seat into welded engagement with the rear channel bar and thence turned upwardly in the rear of the chair seat; and a chair back mounted on the upper ends of said back supports.

10. In a chair: a pair of parallel, horizontally disposed, forwardly-rearwardly spaced front and rear channel bars each having a substantially horizontal web portion and front and rear walls extending substantially vertically from said web portion, the front and rear walls of said channel bars having end portions extending outwardly beyond said bar's web portion and the pairs of adjacent end portions being oppositely bent to form downwardly opening leg sockets; legs for the chair having their upper ends seated in said sockets; and a chair seat supported on the channel bars.

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