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2,115,879

CHAIR STRUCTURE

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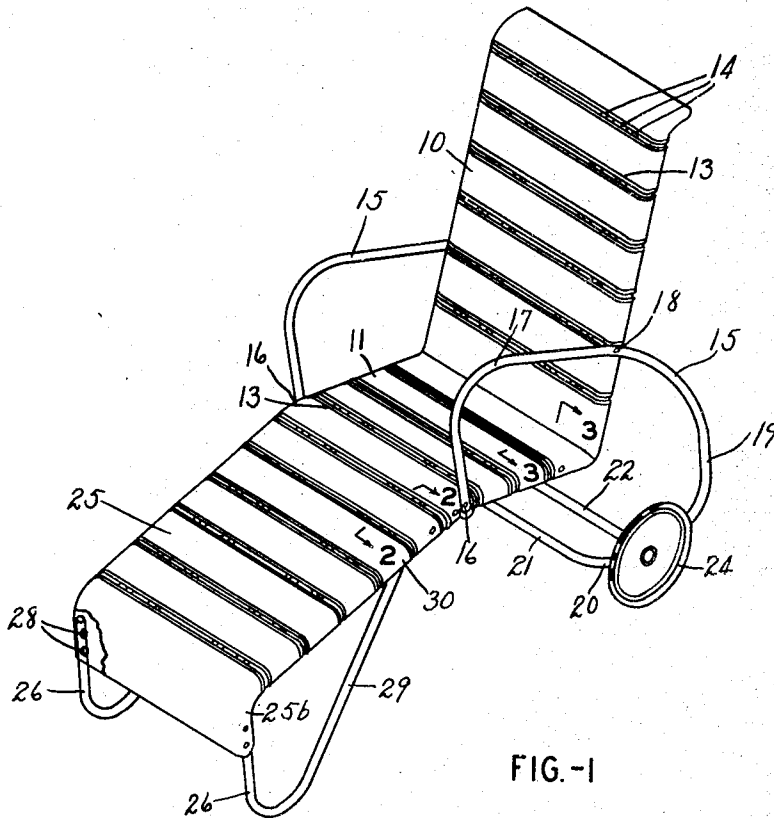


FIG. -1

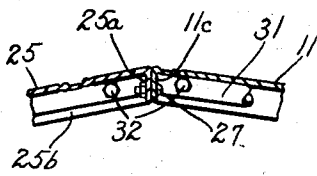


FIG. -2

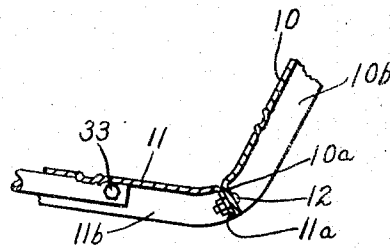


FIG. -3

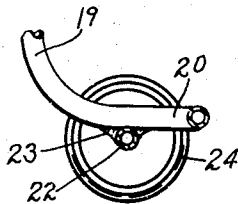


FIG. -4

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CHAIR STRUCTURE

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3 Claims. (Cl. 155—194)

This invention relates to improvements in chair structures.

One of the objects of the present invention is to provide a very simple chair structure comprising back and seat members each formed from a single sheet of metal, the members being adapted to meet along straight meeting edges where they are provided with angularly extending flanges which are rigidly secured together.

Another novel feature of my invention is the provision of sheet metal back and seat members having straight meeting edges provided with integral flanges rigidly secured together, the sheet metal members also having longitudinally extending deformations providing a rigidifying effect. If desired, the sheet metal members may also have rigidifying deformations extending crosswise of the chair.

My invention also involves a chair structure embodying any of the above mentioned features and suitable supporting frame means which here includes a continuous metal member at each side of the chair and secured to a side edge of the seat member and extending upwardly and rearwardly and secured to a side edge of the back member and then extending downwardly to support the chair in any suitable manner on a surface.

My invention also provides a novel form of chair supporting frame means which includes a continuous metal bar or tube secured to the seat and back of the chair on one side and extending downwardly, then forwardly, then across the chair, then rearwardly and then upwardly and forwardly and secured to the back and seat of the chair on the opposite side. This supporting frame member may carry wheel means where desirable.

The above mentioned features are generally applicable to any type of chair structure and in addition thereto, I have provided certain novel features in connection with a wheel chair wherein a limb supporting portion extends forwardly of the seat portion of the chair and is provided at its forward end with novel leg frame means adapted to serve as handles when the chair is wheeled, making use of wheels supported at the back end of the chair. This leg frame means may be arranged in a novel manner and here has suitable leg portions and portions integral therewith and extending rearwardly therefrom beneath the limb-supporting portion and the seat portion of the chair and secured thereto, both to provide a strong construction for wheeling the chair about and in one form strengthening the

joint between the seat portion and the limb supporting portion of the chair. This leg frame means may also be secured to the arm rests and wheel frame means previously mentioned whereby the entire frame means of the chair is strongly formed and rigidly secured together.

Other novel features of my invention will be apparent from the accompanying drawing and description and the essential features will be set forth in the claims.

In the drawing, Fig. 1 is a general perspective view of a wheel chair embodying my invention, one portion being broken away to more clearly show the structure; Figs. 2 and 3 are detail fragmental sectional views taken respectively along the lines 2—2 and 3—3 of Fig. 1; and Fig. 4 is a fragmental detail view showing a manner of mounting the wheel means.

One of the novel features of my chair is the formation of a back member 10 and a seat member 11 each out of a single sheet of metal and which members may have formed therewith, integrally or otherwise, flanges 10a and 11a along straight meeting edges. When the chair is assembled, these flanges are rigidly secured together by any suitable means, such as the bolts 12 illustrated.

To rigidify the back and seat members, the metal thereof may be deformed longitudinally, as for instance by forming the side flanges 10b and 11b. To further rigidify and decorate these members, deformations extending crosswise thereof may be provided as indicated at 13. The back and seat members may be further decorated and ventilated by openings, such as those indicated at 14.

Frame means for supporting the chair seat and back members above a floor or other surface is provided and this frame means also has novel characteristics. On each side of the chair is a continuous metal frame bar or tube 15, each such bar or tube being secured at 16 to a side edge of the seat portion, then extending upwardly and rearwardly as at 17 to a point 18 where it is secured to a side edge of the back portion, then extending downwardly as at 19, and then horizontally forwardly as at 20. The portions 20 if desired may be disconnected portions on opposite sides of the chair and may rest upon a floor or other supporting surface directly. However, to cheapen and strengthen the present chair structure, the portions 20 are connected by an integral cross portion 21 extending beneath the seat of the chair from side to side thereof. Thus in the preferred form of the device the arm

means on both sides and the support means at the rear of the chair are formed of a single continuous member.

Where the chair is to be supported on wheels, the wheel means may well be supported from the horizontal portions 20 above described, which portions are substantially parallel on opposite sides of the chair. As here shown, an axle 22 is secured to the portions 20 by any suitable means, such as by the welding 23, and a pair of wheels 24, one on each side of the chair, are rotatably mounted on axle 22.

My invention is here illustrated as embodied in a lounging chair having a limb supporting portion 25 extending forwardly from the seat portion 11 and provided at its forward end with supporting legs 26. One manner of forming the limb supporting portion 25 is shown in Fig. 2 wherein such portion at the rear edge thereof is provided with an integral flange 25a adapted to meet a flange 11c of the seat 11. These flanges are rigidly secured together by suitable means, such as the bolts 27. The limb supporting portion may be provided with rigidifying deformations as already described in connection with the chair seat and back members, the side flanges of the limb-supporting portion being marked 25b.

The supporting legs 26 may be arranged in a novel manner to coact with other portions of the chair. As shown in the drawing, the end portions of the supporting legs 26 at the front of the chair are secured at 28 to the flanges 25b of the limb-supporting portion. The supporting legs then extend downwardly to the floor and are bent rearwardly and upwardly as at 29 to a point 30 where they meet the side flanges of the limb supporting portion of the chair and then extend therealong rearwardly below the chair seat portion. These rearwardly extending portions 31 of the supporting legs extend past the joint flanges 25a-11c, being rigidly secured at 32 on opposite sides of this joint so that such portions 31 thus serve to strengthen the joint, the width of the joint flanges 25a-11c being such as to provide between the ends thereof and the flanges 25b, 11b of the limb-supporting and seat portions, respectively, the necessary spaces for the passage of the frame-supporting portions 31. As shown in Fig. 3, the portions 31 extend rearwardly to a point beneath the seat at 33 and are there secured in a suitable manner to the seat portion as for instance by the bolts indicated, which pass through the seat flanges 11b. At the points 16 the securing bolts pass through both the frame arm means and the frame leg portions 31 so as to provide a rigid connection at these points. It will be seen from the above described chair struc-

ture that in the lounge type of chair with or without wheels, the rearwardly extending leg portions serve to strengthen the chair materially. In the wheel type of chair, the leg portions 26 provide handles by which the forward end of the chair may be raised to wheel the same on the wheels 24. At the same time where the arms means 15 is rigidly connected to the rearwardly extending leg portions 31, as at 16, and secured to the seat and back as previously described, it gives a very strong frame by which the entire chair structure may be tilted about the axle 22.

It will be noted that certain features of my invention are applicable to any chair. Particularly, I desire to point out the simplicity, cheapness and strength of a chair in which the back and seat are formed each of a sheet of drawn steel, having the integral flanges 10a and 11a extending angularly to the sheets and secured together at 12.

What I claim is:

1. In a wheel chair structure having connected back and seat portions, support means including a continuous metal member secured to one edge of said seat portion then extending upwardly and rearwardly to said back portion and secured to one edge thereof, said member then extending downwardly, then horizontally in a front and rear direction, then horizontally across to the opposite side of the chair, then horizontally in a front and rear direction parallel to said first mentioned horizontal portion, then upwardly to a point where it is secured to the other side edge of the back portion, then forwardly and downwardly where it is secured to the other side edge of the seat portion, an axle carried by said parallel horizontal portions, and wheels carried by said axle.

2. In a chair, complementary seat and back members of sheet metal, outwardly flanged along their contiguous edges and interconnected by means joining their flanges, and having correspondingly turned flanges at their side edges concealing said joined flanges when the chair is viewed from the side.

3. In a chair, complementary seat and back members of sheet metal, said members being curved adjacent their adjoining edges such that the curvature of one is in continuation of the curvature of the other, and said members having outwardly turned flanges along their said contiguous edges, and means interconnecting said flanges, each member having flanges at its side edges connected to one of the first named flanges to maintain said curvature and conceal said interconnected flanges.

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