July 8, 1941. E. C. BOOTH 2,248,487

CHAIR

Filed Feb. 24, 1940

Fig. 3.

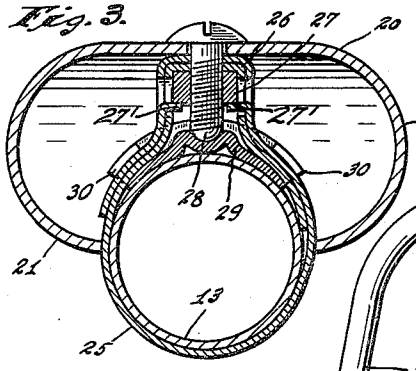


Fig. 1.

Fig. 2.

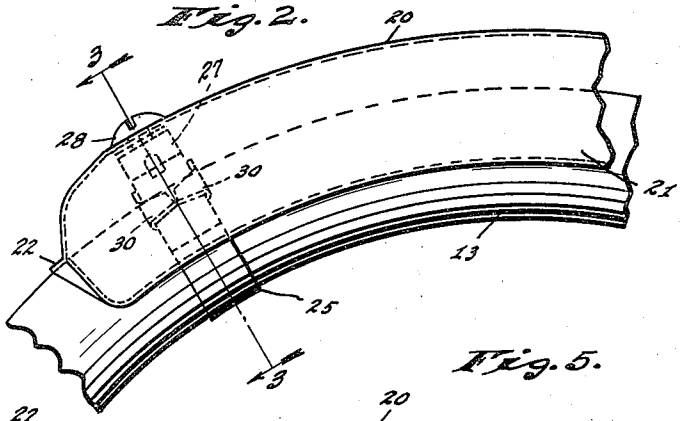


Fig. 4.

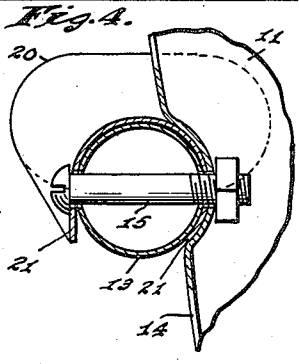
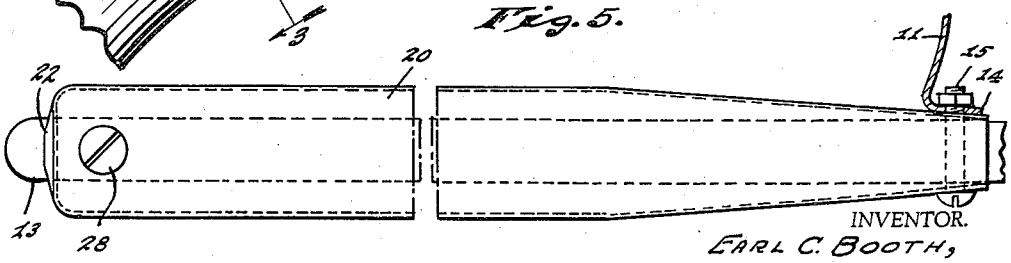


Fig. 5.



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2,248,487

CHAIR

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Application February 24, 1940, Serial No. 320,542

5 Claims. (Cl. 155—198)

My invention relates to metal chairs, especially to that type of chair in which there is incorporated an arm formed of bent tubing. It is the object of my invention to provide an auxiliary arm member which will promote the comfort of the occupant of the chair by increasing the effective width of each chair-arm. A further object of my invention is to produce an auxiliary arm member which can be economically manufactured and which can be mounted on the chair by simple and inexpensive means. Still another object of my invention is to so construct the auxiliary member, the chair, and the attaching means that the omission of the auxiliary member will not interfere with the appearance or use of the chair.

In carrying out my invention in its preferred form, I provide the chair-back with a rearwardly extending flange which is overlapped by the rear end of each of the chair-arms, such chair-arms being preferably formed of metal tubing bent to the desired shape. The auxiliary member is formed of sheet metal and is of a general channel shape in cross-section, the two flanges of the channel extending downwardly on opposite sides of the chair-arm. At the rear of the auxiliary member, the channel-flanges closely embrace the arm so that a single bolt passed through the channel flanges, the arm, and the flange on the chair-back may be used to hold the rear ends of the auxiliary member and arm in place. At its extreme front end, the auxiliary member is formed to be seated upon the chair-arm; but rearwardly from this point of engagement with the chair-arm, the auxiliary member is spaced upwardly and outwardly from the arm to provide space for the reception of a clamp, desirably a clamp of the general type employed in association with flexible hoses. Such a clamp embodies a band of metal and a tightening screw; and in using it for the purposes of my invention, the band surrounds the chair-arm and the tightening screw passes through the auxiliary member and acts as a common means for tightening the clamp and for holding the front end of the auxiliary member in place.

The accompanying drawing illustrates my invention: Fig. 1 is a side elevation of a chair equipped with my auxiliary arm member; Fig. 2 is a fragmental side elevation, on an enlarged scale, of the front end of the auxiliary member and the associated portion of the chair-arm; Fig. 3 is a section on the line 3—3 of Fig. 2; Fig. 4 is a section on the line 4—4 of Fig. 1; and Fig. 5 is a plan view of the auxiliary member in place on the chair-arm.

The chair shown in the drawing is more fully illustrated and described in my co-pending application Serial No. 317,235, filed February 8, 1940. It comprises a seat 10, a back 11, and a pair of side members formed of bent metal tubing. The lower portions 12 of these side members serve to support the chair resiliently from the ground or floor, while the upper portions 13 form arms each of which extends from a point near one front corner of the seat 10 to a point intermediate the height of the back 11. As brought out in my co-pending application, the back 11 is desirably formed of sheet-metal and provided with a rearwardly extending flange 14 shaped to provide a groove within which the rear end of the arm 13 is received, the rear end of the arm being held in place by a bolt 15 which extends through the arm and flange.

The auxiliary arm member 20, which is applied to each of the arms 13 in accordance with the present invention, consists of a sheet-metal stamping of a channel-shape in cross-section. For the greater part of its length, the auxiliary arm member 20 is desirably wider than the arm 13, its sides 21 curving downwardly and inwardly into close association with the arm 13. Over its rear portion, the auxiliary arm member 20 tapers rearwardly until at its rear end its width approximates the diameter of the material forming the arm 13, as is clear from Fig. 4. At its extreme front end, the side walls 21 are brought inwardly and the upper wall downwardly to form a seat 22 which conforms to the shape of the arm 13 and rests thereon to hold the upper wall of the member 20 spaced outwardly and upwardly from the arm 13, as is clear from Fig. 2.

The rear end of the auxiliary arm member 20 is desirably held in place by the bolt 15 previously described. To this end, the side walls 21 of the auxiliary arm member are provided with holes aligned with the hole in the rear end of the arm 13, and the bolt 15 is passed therethrough. When the bolt 15 is tightened, the inner side wall 21 of the auxiliary arm member 20 is clamped between the arm 13 and the flange 14 and is forced to conform to the shape of the arm-receiving groove in the flange 14, all as shown in Fig. 4.

For the purpose of securing the front end of the auxiliary arm member 20 to the arm 13, I may employ a clamp of the type used on hoses. The particular clamp illustrated in the drawing (Fig. 3) comprises a strap 25 of flexible metal which is

bent into a generally circular shape with its ends overlapping. The overlapping portions of the strap are provided with interfitting offsets 26 within which there is disposed a screw-threaded nut 27 conveniently held in place by tongues 27' struck from the material of the strap and extending inwardly beneath the nut. A screw 28 passes through the nut 27 and has its inner end received in a seat provided therefor in a saddle member 29. The saddle member 29 is disposed within the circle formed by the band 25 and is provided with ears 30 bent over the band 25 to hold the parts of the clamp in assembled relation.

In assembling the chair, the clamp 25, with the screw 28 removed therefrom, is slipped over the rear end of the arm 13 before the arm is clamped to the back 11 by the bolt 15. The auxiliary arm member 20 is then put into place, and the bolt 15 is inserted and tightened. The clamp 25 is now moved along the arm 13 until the nut 27 comes into alinement with a hole provided in the upper surface of the auxiliary arm member 20 near the front end thereof; and the screw 28 is then inserted through that hole and into the nut. Desirably, the front end of the auxiliary arm member 20 is so shaped that the head of the screw 28 will engage the upper wall of the auxiliary arm member slightly before its inner end becomes seated in the saddle 29. As a result of this, tightening of the screw 28 will first draw the lip 22 against the arm 13, and further tightening of the screw will cause the material of the auxiliary arm member to yield until the inner end of the screw engages its seat in the saddle 29. Thereafter, continued rotation of the screw will move the nut 27 radially outward relative to the arm 13 and will cause the strap 25 to become tightened. By suitably proportioning the auxiliary arm member and the clamp it is possible to have the upper wall of the auxiliary arm member become clamped between the head of the screw 28 and the outermost of the off-sets 26 when the clamp is tightened to the desired degree, and such proportioning is preferred.

It is to be noted that the auxiliary arm member, through the use of the clamp 25, can be applied to the chair without the necessity for any machining operations thereon. This enables the chair-manufacturer to make a standard form of chair which can readily be supplied either with or without the auxiliary arm members, and chairs without the arm members are not marred or rendered more expensive to manufacture by the incorporation therein of provisions for the attachment of auxiliary arm members.

I claim as my invention:

1. In a chair having a back and seat, said back having at each side a rearwardly projecting flange, an arm formed of bent round stock secured to said seat near each front corner thereof and having its rear end overlapping said flange, an auxiliary arm member for each of said arms formed of sheet metal and of a general channel shape in cross-section to provide downwardly projecting side walls between which the associated arm is received, said auxiliary arm member at least for a portion of its length being materially wider than the associated arm, a bolt extending through said side walls, the associated arm, and the flange on said back, and a clamp secured to each arm near the front end of the associated auxiliary member, said clamp comprising a band of flexible material embracing the arm and a screw for tightening said band upon the arm, said screw threadedly engaging means on the band and passing through the associated auxiliary arm member to hold the latter in place.

2. In a chair having a back, a seat, and a pair of arms, said arms being formed of round stock, an auxiliary arm member for each of said arms formed of sheet metal and of a general channel shape in cross-section to provide downwardly projecting side walls between which the associated arm is received, said auxiliary arm member at least for a portion of its length being materially wider than the associated arm, means for securing the rear end of each auxiliary member to its associated arm, and a clamp secured to each arm near the front end of the associated auxiliary member, said clamp comprising a band of flexible material embracing the arm and a screw for tightening said band upon the arm, said screw threadedly engaging means on the band and passing through the associated auxiliary arm member to hold the latter in place.

3. In a chair having a back and seat, said back having at each side a rearwardly projecting flange, an arm formed of bent round stock secured to said seat near each front corner thereof and having its rear end overlapping said flange, an auxiliary arm member for each of said arms formed of sheet metal and of a general channel shape in cross-section to provide downwardly projecting side walls between which the associated arm is received, said auxiliary arm member at least for a portion of its length being materially wider than the associated arm, a bolt extending through said side walls, the associated arm, and the flange on said back, and means for securing the front end of each auxiliary member to its associated arm.

4. In a chair having a back, a seat, and a pair of arms, said arms being formed of round stock, an auxiliary arm member for each of said arms formed of sheet metal and of a general channel shape in cross-section to provide downwardly projecting side walls between which the associated arm is received, said auxiliary arm member at least for a portion of its length being materially wider than the associated arm, means for securing the rear end of each auxiliary member to its associated arm, and a clamp encircling each arm near the front end of the auxiliary member, said clamp including an internally threaded element and a clamp-tightening screw threadedly engaging said element, said clamp-tightening screw passing through the auxiliary member to hold the latter in place.

5. In a chair having a back, a seat, and a pair of arms, an auxiliary arm member for each of said arms formed of sheet metal and of a general channel shape in cross-section to provide downwardly projecting side walls between which the associated arm is received, said auxiliary arm member at least for a portion of its length being materially wider than the associated arm, means for securing the rear end of each auxiliary member to its associated arm, a clamp engageable with each of said arms near the front end of the auxiliary member thereon, and common means for tightening said clamp on the arm and holding the front end of the auxiliary member in place.

EARL C. BOOTH.