

Nov. 18, 1941.

G. C. GILKISON

2,263,209

CHAIR

Filed Sept. 9, 1939

2 Sheets-Sheet 1

Fig. 1.

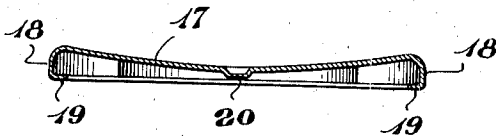
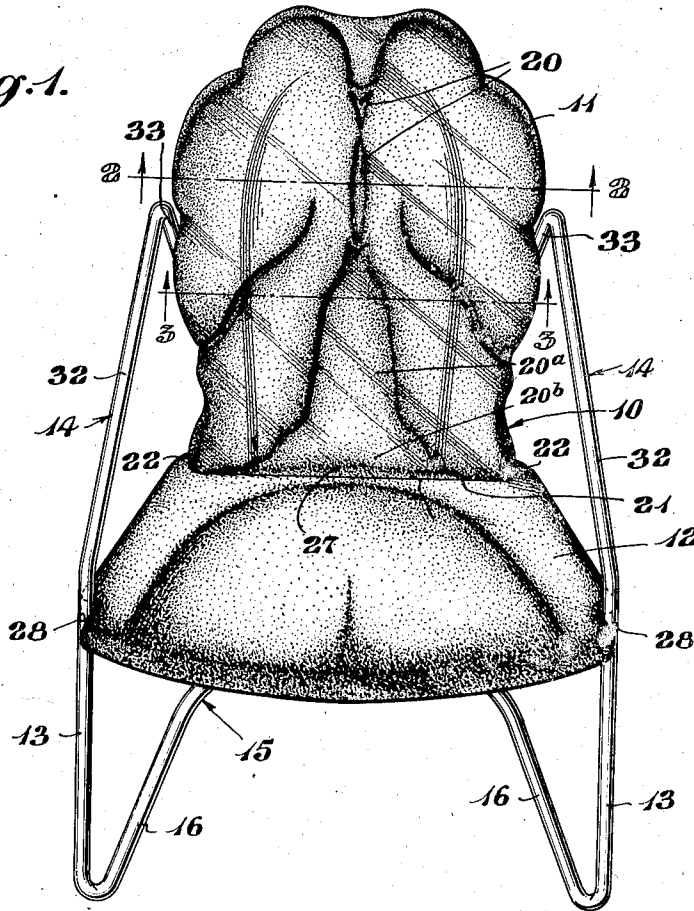


Fig. 2.

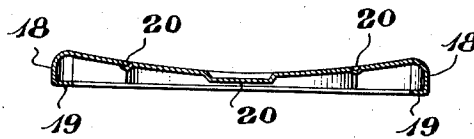


Fig. 3.

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2 Sheets-Sheet 2

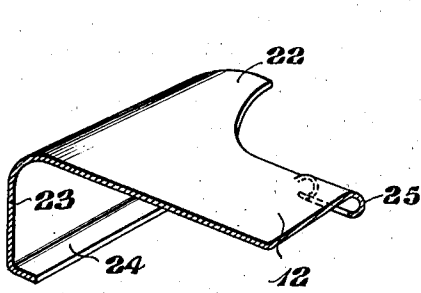


Fig. 5.

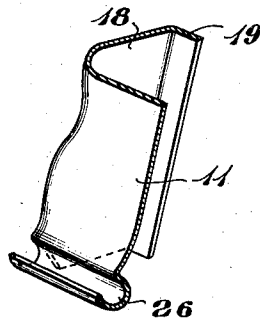


Fig. 6.

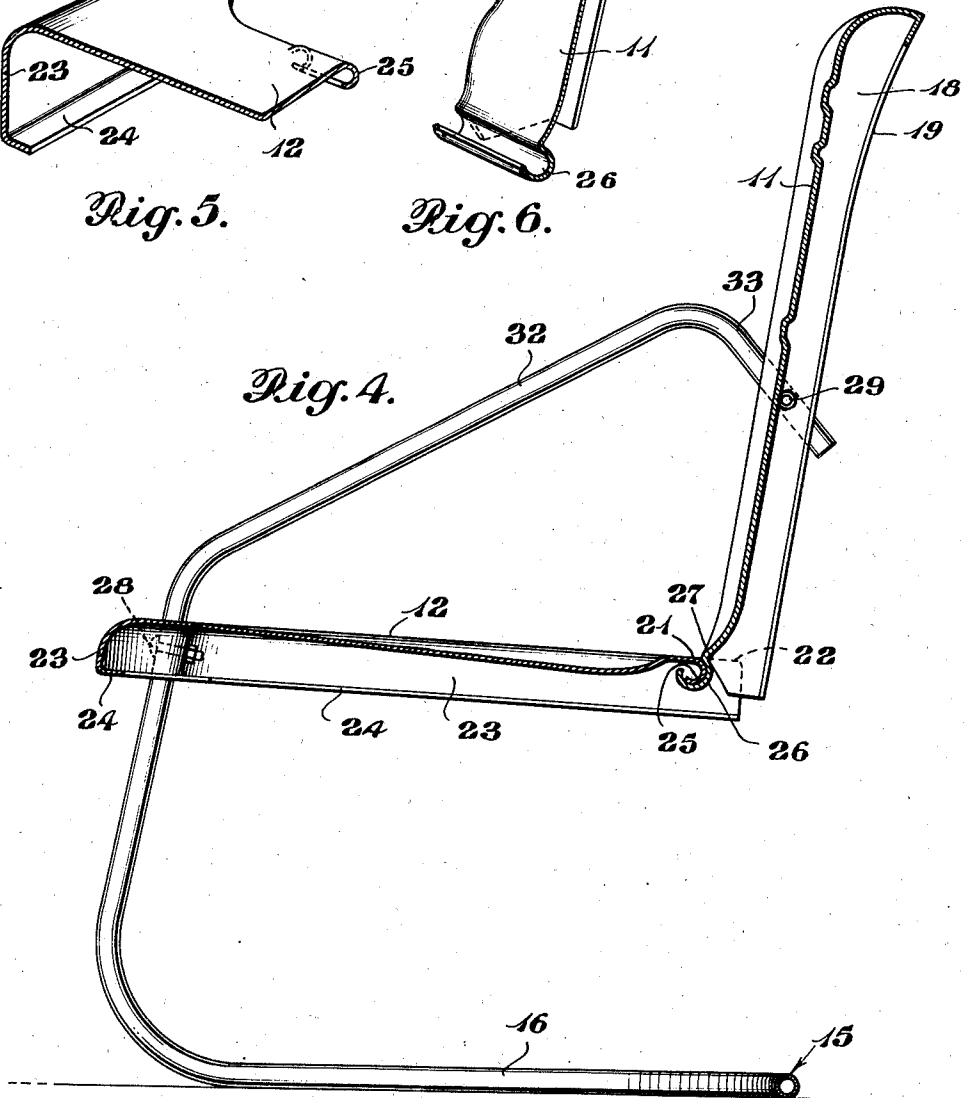


Fig. 4.

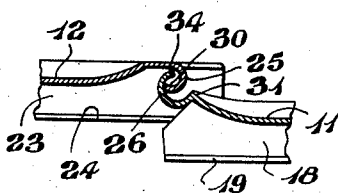


Fig. 7.

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UNITED STATES PATENT OFFICE

2,263,209

CHAIR

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Application September 9, 1939, Serial No. 294,185

8 Claims. (Cl. 155—194)

This invention relates to metal chair construction and more particularly to metal chairs involving stamped metal chair backs and seats and bent or formed stock frames therefor.

Prior to the instant invention it has been customary to stamp metal chair backs and seats out of sheet metal as individual units; form rods, metal strips or tubes into chair frames; drill the chair backs, and seats, and frames at a plurality of locations to take nuts and bolts, and then ship the chairs in knockdown form to retail stores where the chairs were assembled by the use of bolts to lock the frames, and chair backs, and seats together. While this construction permitted chair parts to be shipped economically, the assembling of the parts into the finished chair was not an easy job, and required considerable time and care to prevent scratching of the finish and otherwise marring the new appearance in order to prevent the chairs from becoming unsaleable.

In those prior metal chairs in which the chair frames acted as the chair arms, it was conventional to form the stock that made up the chair arms in a manner to copy the formation of the conventional stuffed or wooden chair. Thus formed metal arms were not always comfortable as arm rests for their upper surface areas did not correspond to the upper surface areas of the wooden and stuffed chair from which they were copied.

It is an object of the instant invention to provide a metal chair comprising stamped back and seat parts and form metal stock frames which may be readily assembled with a minimum of bolted joints.

It is a further object of the instant invention to provide a metal chair including a formed metal stock frame with a portion of the frame including novel arm rests which insure a restful position of users' arms, though the bearing surface of the metal stock be relatively small.

Other objects and the nature and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a view in perspective of a chair in accordance with the invention;

Fig. 2 is a section taken along line 2—2 of Fig. 1 and looking in the direction of the arrows;

Fig. 3 is a section taken along line 3—3 of Fig. 1 and looking in the direction of the arrows;

Fig. 4 is a transverse sectional view of the chair shown in Fig. 1;

Fig. 5 is a perspective fragmentary view of a

rear portion of the seat of the chair shown in Fig. 1;

Fig. 6 is a fragmentary perspective view of a portion of the chair back adapted to cooperate with the fragment of the chair seat shown in Fig. 5; and,

Fig. 7 is a fragmentary sectional view of the joint between the chair back and chair seat prior to complete assembly.

Referring to the drawings, the chair 10 comprises a stamped metal back 11, a stamped seat 12, and a one piece tubular frame 13, which frame includes side arms 14 and floor bearing support 15. Though the frame 13 is illustrated as being of one piece and made of tube stock, it is contemplated that this frame may be made of flat bar stock, of tubular stock in more than one piece, and of stock of other sectional configuration. When the frame 13 is made of tubular stock and of more than one piece, it is preferred that the rear portion of the bearing support 15 take that form of a removable U member which is adapted to be telescopically associated with the rearwardly extending side bars 16 of the bearing support 15, and when this embodiment of the invention is utilized the removable U shaped piece is bolted to the rearwardly extending side arms 16 of the floor bearing support 15.

Referring in particular to Figs. 1, 2 and 3, the chair back is a one piece metal stamping comprising a generally concave front portion 17, rearwardly turned side portions 18 and inwardly turned ends 19. This construction has been found to have inherent great strength and contributes to the comfort of the user of the chair 10. Further strengthening the chair back 11 are the embossed portions 20 which also serve as a metal take-up expedient for upon the stamping of the metal chair back to form the rearwardly turned portions 18 and the inwardly turned portions 19 excess metal is present in the concave front portion 17 which would buckle upon use if it were not for the take-up embossings 20. Hence, the metal take-up embossings 20 serve a dual function of strengthening the chair back by increasing the radius of gyration of the front 17 of the chair back and also they take up excess metal to prevent buckling. At the lower central portion of the chair back 11 a relatively large embossing 20a not only makes for the two advantages set forth above but also makes for the comfort of the user by providing an enlarged depressed lower portion 20b which accommodates the rear portions of the hips of the user, thereby making the chair back approach the comfort of

a stuffed chair though the chair back is made of metal.

Referring to Figs. 1, 4, and 5, the chair seat 12 at its rear edge 21 is formed with a pair of rearwardly extending corner portions 22 which serve to lock the chair back 11 against movement to either side after the chair back and chair seat are assembled in operative position. The chair seat 12, like the chair back, has a downwardly depending side portion 23 and an inwardly turned edge 24 to provide for the greater strength of the chair seat.

Referring to Figs. 4, 5, 6 and 7 the rear edge portion 21 of the seat 12 has a curled lower lip portion 25 which cooperates with the slightly larger curled lip portion 26 formed at the end of the lower portion 27 of the chair back 11. The curled portion 25 connects with the rear edge 21 of the chair seat 12 smoothly, whereas the curled portion 26 depending from the lower portion of the chair back 11 coacts or connects with the lower portion of the chair back in a slightly different way. The lower portion 27 of the chair back extends downwardly and outwardly to engage the rear portion 21 of the seat 11 smoothly and the curled portion 26 curves in the opposite direction from the lower portion 27 to form a humped junction, whereby a smooth concealed joint between the chair back and chair seat is provided. In addition, the joint between the chair back and the chair seat need not involve any bolts or screws to hold the same in place when the frame 14 is associated with the chair back and chair seat by the bolts 28 securing the frame 14 to the chair seat and bolts 29 which secure the frame to the chair back. Referring to Fig. 7 in particular, the chair back 11 and chair seat 12 are shown in partially assembled position. When assembling the chair back with the chair seat the curled edge 26 integral with the chair back is hooked over the outermost edge 30 of the curled portion 25 of the chair back 12 and then the chair back 11 is rotated in a counterclockwise direction to bring the chair back into the position illustrated in Fig. 4 with the humped portion 31 of the chair back engaging the rear edge 21 of the chair seat 12 which rear edge portion 21 is exposed to the view of the user of the chair. The joint between the curled portions 25 and 26 does not extend into the rearwardly extending corner portions 22 of the chair seat 12 as will be readily apparent upon inspection of Figs. 5 and 6 which show the elements ready for assembly.

Referring to Figs. 1 and 4, it will be apparent that the upper side portions 32 of the chair frame 14 are angularly disposed in an unconventional manner with the rear portions elevated and the front portions extending toward the seat 12 of the chair. This special configuration permits of a particularly desirable reposed position for the arms while they were bent with the hands upon the lap of the user of the chair and the elbows extending across the chair arms and with the hands lower than the elbows as is most comfortable. It will be appreciated that as the chair frames are made of metal stock which may be quite narrow, they are not as comfortable as upholstered arms when the arms of the chair are used for the purpose of resting the forearms of the user. When the forearms of the user are rested not directly above the arms of the chair and accordingly if the arms of the user are crooked with the elbows extending across the sloped portions 32 of the frame 14 with the hands

lower than the elbows a very comfortable rest position will be achieved. The upper rear portions 33 of the frame 14 depend downwardly and are engaged at an intermediate point with the rearwardly depending portion 18 of the chair back 11. This engagement is made by means of bolts 29. The bolts 28 and 29 are the only bolts used to hold the chair in assembled position; the only other fastening means is the joint between the curled ends 25 and 26 which requires no bolts and is locked in position by the rearwardly extending corner portions 22 of the chair seat 12. As the outside diameter of the curled portion 25 is greater than the opening between the end 34 and the hump 31 of the chair back 11, the assembling must take place as illustrated and described in connection with Fig. 7.

As the metal chairs described above are made of simple elements, they are relatively inexpensive to fabricate. Decoration may be made by simply dipping the parts in desired color pigmented paints or by spraying or otherwise inexpensively coating the parts. It is contemplated that the parts be shipped unassembled, in order that freight rates be a minimum for in unassembled position the chair parts take up much less volume than when the chair is assembled. While the chair frame has been shown in one piece is it contemplated that this be made in a plurality of parts so that it may be packed in a smaller volume. These features make it possible for the retailer to offer to the consumer at a relatively very low price, a chair which is comfortable, attractive, fool-proof, and otherwise desirable for commercial, outdoor, indoor play room or other use. Upon receipt of the parts by the retailer it is only necessary to first assemble the chair back 11 and chair seat 12 by hooking the two curled ends together as shown in Fig. 7 and then rotating the chair back 11 in a counterclockwise direction to that shown in Fig. 4, then the chair frame 14 is bolted to the chair back and chair seat by the bolts 29 and 28 to form a relatively strong assembly with a minimum of joints and bolts.

It will be obvious to those skilled in the art that various changes may be made in this device without departing from the spirit of the invention and therefore the invention is not limited to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. A chair capable of being shipped in knock-down form and readily assembled for the retail trade comprising a chair back, a chair seat, and a frame, means to connect the frame securely to the chair back and chair seat, the rear portion of said seat being formed with a curled lip extending along a substantial portion of the rear edge of said seat, the rear corners of said seat extending further rearwardly than the remainder of the rear edge of said seat to provide a lock for the lower portion of the chair back which extends between and below the rearwardly extending corner portions of the chair seat, the lower portion of said back being formed with a slightly larger curled lip, the junction of said larger curled lip with the lower portion of the chair back forming a hump which when the chair is assembled makes for a smooth transition between the chair back and the chair seat, the said curled lip of said chair back having an opening extending parallel to the axis of said

curled lip and having its transverse dimension less than the outside diameter of the curled lip of said chair seat, said lips subtending such an angle that the chair back and the chair seat may be assembled and locked by slipping the edge of the curled lip of the chair back into the opening of the curled lip of the chair seat and rotating the chair back into normal position.

2. A chair including a chair back and a chair seat, a joint between said chair back and chair seat, said joint including a curled lip portion formed integral with said chair seat and a slightly larger curled lip portion formed integral with said chair back; said lip portions each subtending such an angle that they may be assembled and locked by inserting the edge of the larger curled lip into the space between the edge of the smaller curled lip and the chair seat, and then rotating the chair back relative to the chair seat to cause the smaller curled lip to be received within the larger curled lip.

3. A metal chair comprising a chair seat, a chair back, said chair seat having a rear portion formed with a curled lip extending along a part of said rear portion, the rear corners of said seat extending further rearwardly than the remainder of the rear edge of said seat to provide a lock for the lower portion of the chair back which extends below and between the rearwardly extending corner portions of the chair seat, the lower portion of said back being formed with a slightly larger curled lip, the two curled lips subtending such an angle that they form a joint between the chair back and the chair seat and the rearwardly extending rear corner portions of the chair seat cooperating with the said joint to lock the same when the chair back and chair seat are in assembled position.

4. The structure recited in claim 3, the said larger curled lip being formed integral with the lower portion of the chair back and the latter being formed with a hump where the lip joins the remainder of the back in order to make for a smooth transition between the chair back and the chair seat when the parts are assembled.

5. The structure recited in claim 3, the said curled lip of the chair back having an opening extending parallel to the axis of said curled lip and having its transverse dimension less than the outside diameter of the curled lip of said

chair seat, whereby the chair back and the chair seat may be assembled and locked by slipping the edge of the curled lip of the chair back into the opening of the curled lip of the chair seat and rotating the chair back into normal position.

6. A chair comprising a back, a seat, the lower end of the back and the rear end of the seat terminating in curved substantially semi-cylindrical portions coacting one with the other to provide a complete joint, said portions each being open in a plane axially of the joint and the curves formed by said portions being such that the edge of one portion will engage in the opening of the other portion when the back and seat are opened outwardly from their normal assembled angle.

7. A chair including a chair back and a chair seat of sheet metal, a joint between said chair back and chair seat, said joint including curled lip portions formed integral with said chair seat and chair back, one of said lip portions being slightly larger than the other; said lip portions each subtending such an angle that they may be assembled and locked by inserting the edge of the larger curled lip into the opening of the smaller curled lip and rotating the parts back to normal.

8. A chair capable of being shipped in knock-down form and readily assembled for the retail trade comprising a chair back, a chair seat, a frame, means to connect the frame securely to the chair back and the chair seat, the rear portion of said seat being formed with a curled lip extending along a substantial portion of the rear edge of said seat, the rear corners of said seat extending further rearwardly than the remainder of the rear edge of said seat to provide a lock for the lower portion of the chair back which extends between and below the rearwardly extending corner portions of the chair seat, the lower portion of said back being formed with a curled lip, one of said curled lips being larger than the other and formed at its inner end with a hump which when the chair is assembled makes for a smooth transition between the chair back and the chair seat, the curled lips subtending such an angle that the chair may be assembled and locked by slipping the edge of the larger curled lip into the opening of the other curled lip and rotating the parts back to normal.

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