Jan. 5, 1943. H. L. KRAEFT 2,307,138

METALLIC CHAIR FRAME

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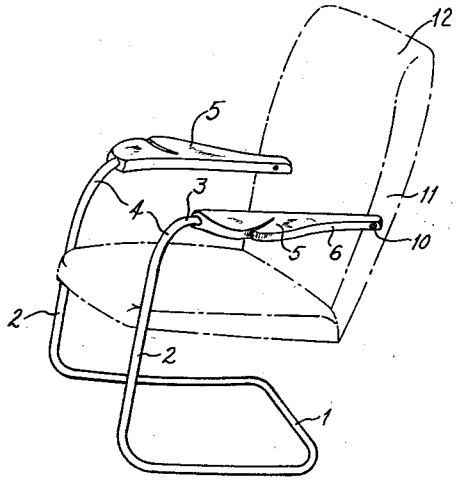


FIG. 1.

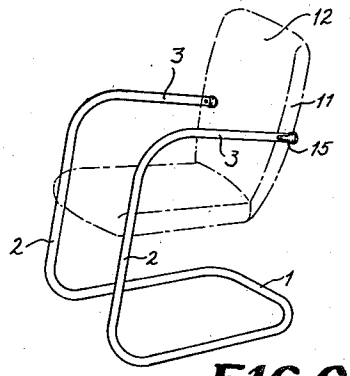


FIG. 6.

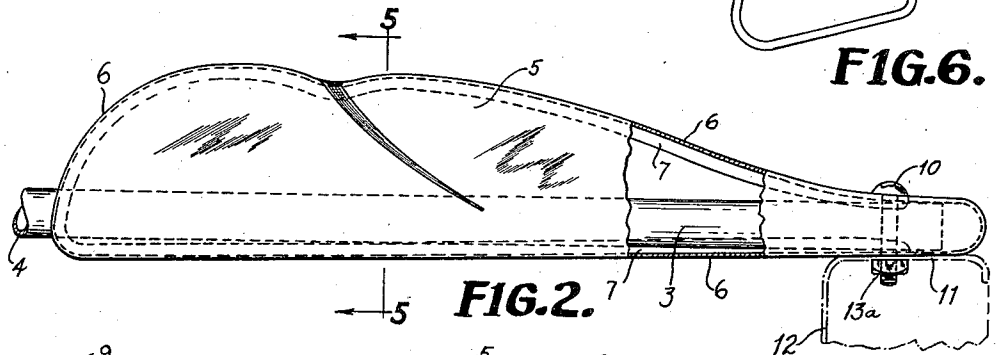


FIG. 2.

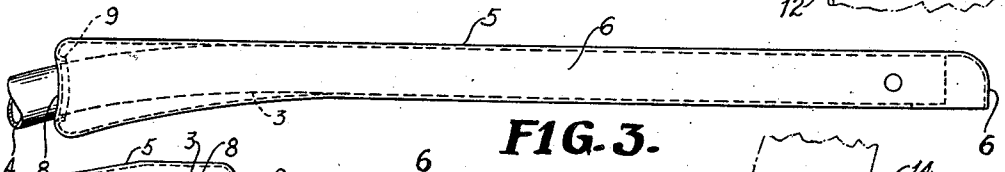


FIG. 3.

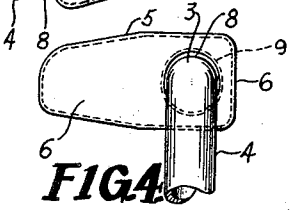


FIG. 4.

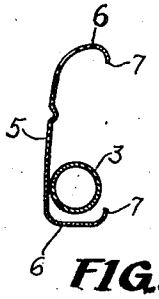


FIG. 5.

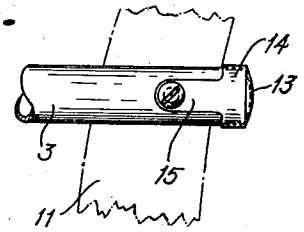


FIG. 7.

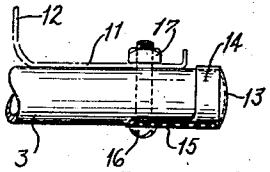


FIG. 8.

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METALLIC CHAIR FRAME

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6 Claims. (Cl. 155—198)

This invention relates, as indicated, to metallic chair frames, but has reference more particularly to arm rests for such chair frames and to auxiliary attachments for the arm sections of such frames.

It has heretofore been proposed to attach sheet metal arm rests to the arm sections of tubular metal chairs by means of screws or other fastening means the heads of which were usually exposed in such a position as to cause the tearing of the clothing of the occupant of the chair. In some cases, the rear end of the arm sections of the tubular chair were left open, and the jagged or rough edges of such opening likewise formed a hazard insofar as the tearing or injury to clothing was concerned.

It is a primary object of the present invention to provide an arm rest which can be readily and securely attached to the arm sections of tubular metal chairs by the use of a minimum number of exposed screws or other fastenings, which fastenings are so located as to avoid the above-mentioned hazards.

A further object of the invention is to provide an arm rest which functions to close the above-mentioned opening at the rear end of the arm section of the tubular portion of the chair, as well as to cover the edges of such openings, so as to further eliminate any hazard to the clothing of the occupant of the chair.

A still further object of the invention is to provide a tubular chair in which the use of a sheet metal arm rest of the foregoing character is dispensed with, but in which a closure is provided for the rear opening of the arm section of the tubular portion of the chair, in order to eliminate the hazard hereinbefore mentioned.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing, forming a part of the specification, and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a perspective view of a tubular chair having associated therewith an arm rest embodying the invention, the seat and back of the chair being indicated by the dot-dash lines;

Fig. 2 is a plan view of the right hand arm rest, showing more clearly the manner in which such rest is secured to the chair, and indicating the back of the chair in dot-dash lines;

Fig. 3 is a side elevation of the arm rest;

Fig. 4 is a front elevation of the arm rest;

Fig. 5 is a cross-sectional view, taken on the line 5—5 of Fig. 2;

Fig. 6 is a perspective view of a chair having associated therewith a novel end closure for the arm section of the tubular portion of the chair;

Fig. 7 is a fragmentary plan view of the closure shown in Fig. 6; and

Fig. 8 is a fragmentary side elevation of the closure shown in Fig. 7.

Referring more particularly to Figs. 1 to 5 inclusive, a tubular chair, as ordinarily constructed, comprises a tubular portion formed from a single piece of tubing and consisting of a U-shaped base section 1, upright leg sections 2 and substantially horizontal arm sections 3, which are connected to the leg sections by means of curved sections 4.

The arm rest, which is the subject of the present invention, is formed from sheet metal and comprises a board arm rest portion 5, preferably having a contour, as shown in Fig. 2 adapted to provide a comfortable rest for the arm of the occupant of the chair, a depending skirt or flange 6 which extends entirely around the arm rest portion 5, and a short inturned flange 7 at the bottom of the flange 6, the flange 7 extending around the arm rest, with the exception of a short portion at the rear end of the arm rest, as is apparent from Fig. 2.

The forward end of the flange 6 is deeper than the remaining portion thereof, so as to accommodate the curved section 4 of the chair without disturbing the substantially horizontal disposition of the portion 5 of the arm rest, and this forward end is slightly concaved, as viewed in Fig. 3, an opening 8 being formed in this forward concaved end of the flange for the reception of the arm and curved sections of the tubular portion of the chair. A flange 9 surrounds this opening. This opening is preferably pierced and flanged after the arm rest is completely formed. The rear end of the flange 6 is preferably curved in both a horizontal and vertical direction, as shown in Figs. 2 and 3 respectively, so as to provide a smooth rounded surface which is not likely to tear the clothing of the occupant of the chair.

In attaching the arm rest to the chair, the arm rest is slipped over the arm section 3 which passes through the opening 8, and is moved to the position shown in Figs. 2 and 3. In this position of the arm rest, the rear end of the section 3 of the chair is wedged to some extent in the rear end of the arm rest, and a wedging action is also obtained by engagement of the somewhat springy flange 9 with the curved section 4 of the chair.

This wedging action at two points is sufficient to cause the arm rest to be retained on the chair in its substantially horizontal position of use, so that very little is required in the way of additional securing means, to retain it in this position. Such additional means consists, in this case, of a screw bolt 10, which is passed through openings in the flange 6 at a point adjacent the rear end of the arm, and an opening in the flange 11 with which the back 12 of the chair is usually provided, and a nut 13a which secures such bolt to the flange 11. This single fastening means is sufficient to firmly retain the arm in position on the chair.

An arm rest, as thus constructed and secured to a tubular chair, is devoid of fastening means so positioned as to cause the tearing of the clothing the occupant of the chair, and is effective to close the opening at the rear end of the arm section of the tubular chair, thereby eliminating the exposure of jagged or rough edges which form a further hazard to clothing.

In that form of the invention shown in Figs. 6, 7 and 8, the arm sections 3 of the tubular portion of the chair themselves function as arm rests, but in order to close and cover the openings at the rear of such arm sections, a cap is provided, having a convex rear face 13, which engages the end of such arm section, an annular flange 14 which embraces the tube 3 adjacent said opening, and a tab or ear 15 extending from said flange and conforming in cross-section to the curvature of the tube. After the cap has been positioned on the tube 3, a screw bolt 16 is passed through the tab 15 and tube 3, and into an opening in the flange 11 of the back 12, a nut 17 securing the cap as well as the tube 3 to the chair back. The cap, it will be noted, is as effective as the skirt 6 of the arm rest 5, in covering the exposed jagged or rough edges at the rear opening of the tube 3.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a chair having tubular arm rest sections open at the rear, arm rests secured to said sections, said arm rests having rounded flange portions at the rear concealing the openings in said arm rest sections.

2. An arm rest for chairs comprising a sheet metal member having a body portion, a depending flange extending entirely around said body portion, and an opening formed in the forward end of said flange, said opening being bounded by a flange.

3. In a chair having an arm rest section, an arm rest having a depending skirt having an opening in the forward end thereof bounded by an annular flange, said arm rest section extending through said opening and into the rear end of said arm rest skirt, said arm rest section being in wedging engagement with said flange and the rear portion of said arm rest being narrowed whereby the sides of said skirt are spaced less than the width of the arm rest section and a wedging engagement of the arm rest section with the arm rest is provided.

4. In a chair having tubular arm rest sections open at the rear, arm rests mounted on said sections, said arm rests having depending portions at the rear concealing the openings in said arm rest sections.

5. In a chair having tubular arm rest sections open at the rear, arm rests mounted on said sections, said arm rests having means at the rear concealing the openings in said arm rest sections.

6. An arm rest for chairs comprising a sheet metal member having a body portion, and a depending flange extending entirely around said body portion.

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