Aug. 13, 1957 C. P. LILJENGREN 2,802,518

ARMREST CONSTRUCTION

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FIG.1

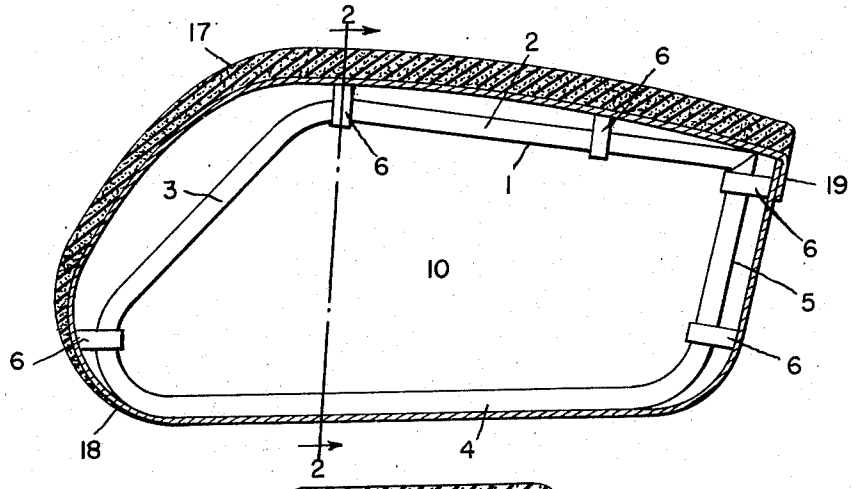

FIG.2

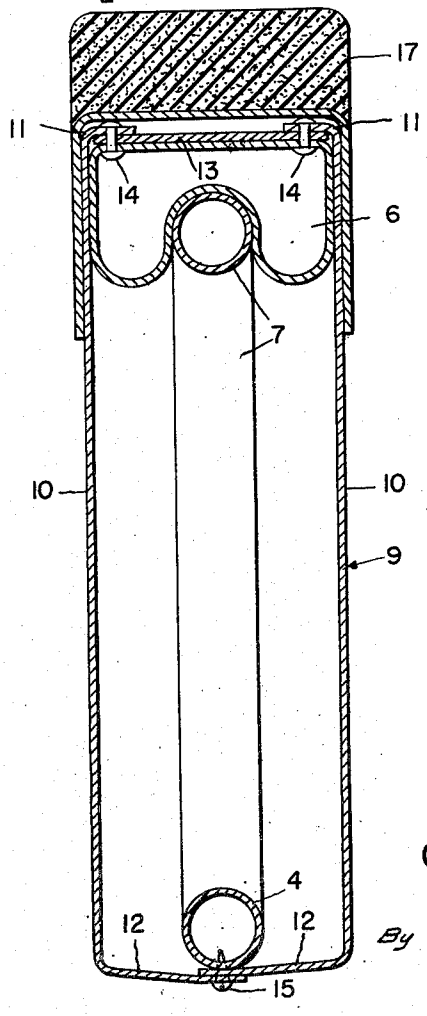

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FIG.3

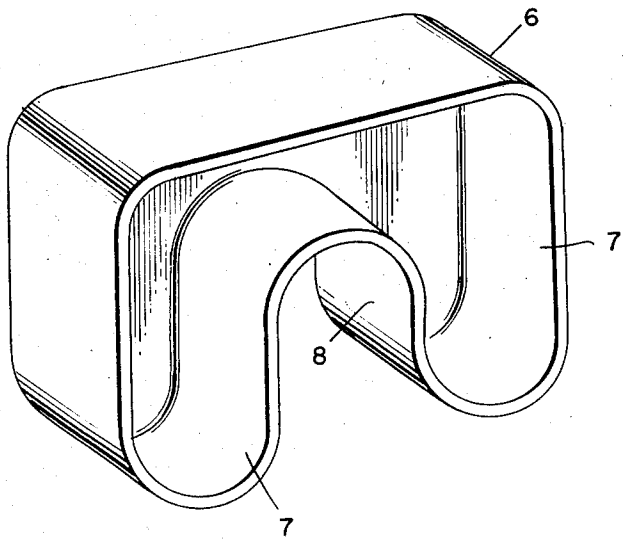


FIG.5

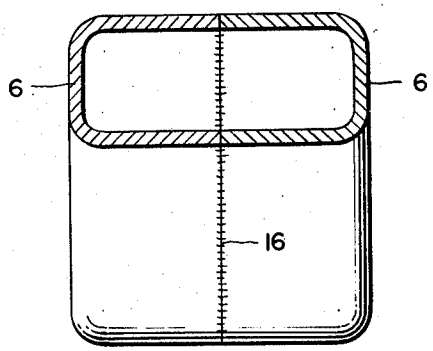
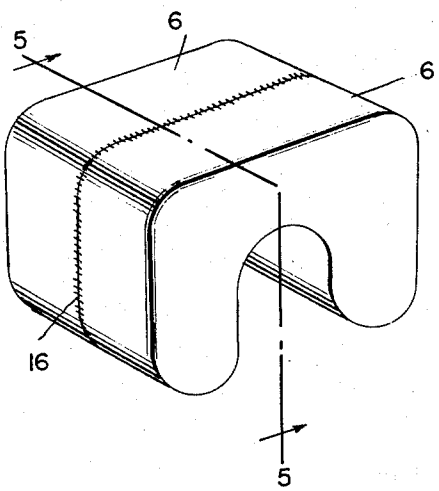


FIG.4



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2,802,518

ARMREST CONSTRUCTION

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Application December 23, 1952, Serial No. 327,570

1 Claim. (Cl. 155—198)

This invention relates to a chair or seat arm-rest construction, and its general object is to provide new and improved means for readily securing a covering or shell in position upon the arm-rest framework.

A further object of the present invention is to provide such a side arm-rest cap that in assembling the same on the framework covering a simple one-step operation is involved, the structure of the cap inherently coacting with the framework covering to provide for interlocking without requiring additional securing means, and yet which cap can be removed for replacement, if so desired, by a simple reversal of the assembling step.

It is a further important object to provide simple means for supporting the transversely flat, longitudinally curved peripheral portion of the framework covering on the cylindrical surface of the rod stock of which the framework is comprised.

It is a further object of this invention to provide such a means that will have universal application in supporting relatively flat surfaces on relatively round or cylindrical surfaces.

With these and other more detailed objects in view, the arm-rest construction embodies the provision of elements, which for short I will call ox-bows, for cooperative association with the endless rod of the frame of the rest to provide relatively flat support surfaces, there being a unitary cover piece which fits over the framework and ox-bows and is secured in place by screws connected to the bottom rod of the frame. A cap is slid over the upper surfaces of the cover piece and by its self-indexing action finally reaches a close relationship with the cover piece which is resistant to accidental removal without requiring the provision of conventional securing means.

More specific details of the invention are described hereinafter.

The invention is therefore illustrated in the accompanying drawings in which:

Fig. 1 is a side elevational view of the seat unit side frame with the outer shell removed so as to better disclose the tubular frame showing one form of the invention utilizing the yokes shown in Fig. 3;

Fig. 2 is a vertical transverse sectional view with the shell added and taken substantially along the plane of line 2—2 of Fig. 1;

Fig. 3 is an enlarged detail perspective view of one of the arm rest supporting framing yokes;

Fig. 4 is a perspective showing of a modified form of yoke essentially consisting of a pair of opposed yokes as shown in Fig. 3 joined together as by a weld;

Fig. 5 is a vertical sectional view taken substantially along the plane of line 5—5 of Fig. 4.

Referring to the drawings, the framing structure of the arm-rest is shown best in Fig. 1. In the preferred embodiment shown, the structure is composed of light gauge, high strength steel tubing and includes an arm-rest frame structure shown generally at 1 which includes an endless element having a nearly horizontal upper support member or bar 2 which is diagonally downwardly and forwardly

bent at its front end to form the front support member 3, which member connects with the horizontal portion 4, the upright portion 5 connecting the aft ends of bars or rods 2 and 4.

An improved means and method of installing the arm-rests is shown in Figs. 1, 2, 3, 4 and 5. An ox-bow or yoke 6 is drawn from thin gauge metal into the approximate shape, illustrated in Fig. 3, the flange 7 serving to stiffen the yoke throughout. The arch 8 thus formed mates perfectly with the side frame tubing 2, or other substantially cylindrical member, as shown in Fig. 2. The side panel 9 may be formed from two identical metal pans 10 having top flanges 11 and bottom flanges 12. A connecting strip 13 attached to the pans by rivets 14 completes the metal shell. Of course, the shell can be of substantially one-piece construction open at the bottom for encasing the side arm-rest frames, in which case the bottom flanges 12 would be inturned when in position and secured by screws 15 to the tubular element 4. The ox-bows or yokes 6 are riveted into the metal shell at strategic places as shown in Fig. 1 serving to position the shell upon the side frame structure 1. Sheet metal screws 15 installed through the bottom flanges 12 of the metal pan and into the side frame structure 4 secure the shell firmly in place. The ox-bows or yokes 6 serve to square up the light sheet metal box structure acting as gussets and distributing the surface loads over a relatively large area of the metal cover 9. In addition, the above described panel is self-indexing on the arm framing structure and eliminates the need for accurate tooling to provide interchangeability of panels between the seats. The construction above described may be adapted for the installation of leg trim panels and generally to similar uses in other fields of manufacture.

A modified form of ox-bow is shown in Figures 4 and 5. This embodiment includes a pair of ox-bows 6 in opposing relationship and joined, as by weld, along abutting edges at 16. Figure 5 shows the cross-section whereby the ox-bow provides maximum strength per unit weight of material while providing a means for supporting flat surfaced elements on substantially cylindrically surfaced elements.

The side panel structure above described may be covered with suitable arm-rest padding (not shown) so as to also serve as an arm-rest or an optional arm-rest cap 17 may be formed with a channel type cross-sectional shape as shown in Fig. 2, the channel fitting closely over the side panel structure and attached by sliding from front to rear so that the portion 18 is turned back from the vertical tangential plane at A—A and the flange 19 is pressed downwardly over the upper rear corner portion of the frame structure for thus holding the cap in position on the side panel without requiring screws although the same may be employed, if desired, for added safety. Again, the installation of such an arm-rest cap requires only a minimum of tooling since this unit is self-indexing. Installation and removal is very simple, since any hold-down screws that may be employed are externally accessible.

Reference may be had to my prior Patent 2,702,071 issued February 15, 1955, which shows a seat construction for which the present invention is especially adapted although it will be understood that the invention may be utilized in other seat constructions or in fact wherever it is desired to support a relatively flat surface upon a cylindrical support.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claim rather than by the description preceding them and all changes that fall with-

in the metes and bounds of the claim, or that are its equivalent, are therefore intended to be embraced by the claim.

I claim:

A framing structure for supporting an arm-rest of a chair, which comprises a vertically disposed substantially endless tubular frame of curved cross section and a frame covering shell over the frame, said frame covering shell having an inner surface which is substantially flat, a hollow cupped adapter engaging said inner surface having a flat top with marginal vertically extending sides including a bottom forming the adapter into an ox-bow shape provided with a central upwardly extending arch section whose curvature at the top of the arch is predetermined to mate with the curvature of the tube of the frame when the adapter is saddled transversely on the tubular frame and whose bottom projections between which the arch is located terminate in curves reverse to the curvature of the arch for centering the adapter when it is applied straddlingly to the tubular frame while spacing the sides of the frame covering shell from the frame.

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