Feb. 8, 1949. E. A. PURNELL 2,461,082

FURNITURE

Filed March 5, 1945

FIG. 1.

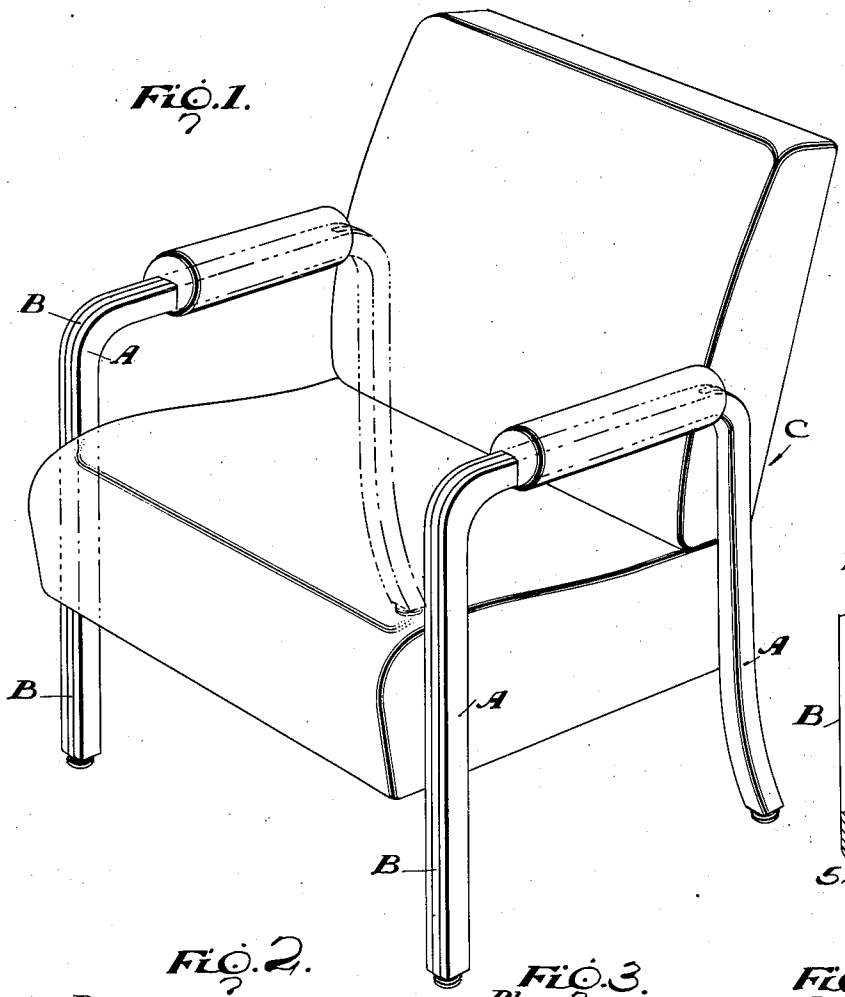


FIG. 8.

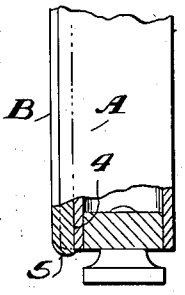


FIG. 2.

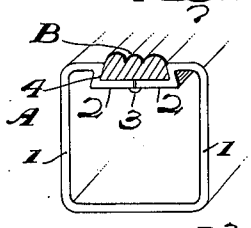


FIG. 3.

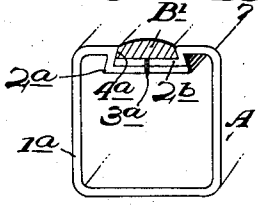
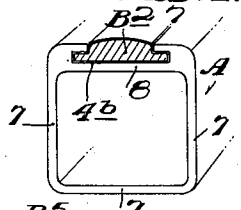


FIG. 4.



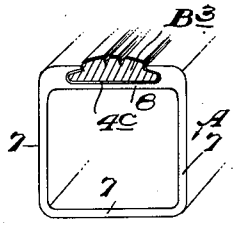


FIG. 5.

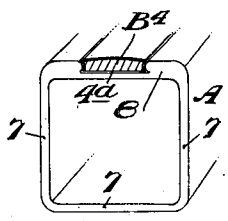


FIG. 6.

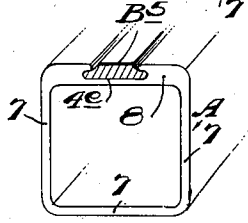


FIG. 7.

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2,461,082

FURNITURE

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Application March 5, 1945, Serial No. 580,980

1 Claim. (Cl. 155—194)

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This invention relates to an improvement in furniture of the type used in offices, homes, on shipboard, and in railway cars, and more particularly to ornamenting metal furniture made of aluminum.

Aluminum furniture has been finished in various ways. In most cases, the aluminum surface is buffed and lacquered to provide the familiar over-all satin finish. On the other hand, in some cases, the aluminum frames have been painted or otherwise ornamented to obtain harmonious color effects. Upholstery has also been used in connection with aluminum frames. However, no satisfactory means of permanently and attractively ornamenting aluminum furniture frames has heretofore been satisfactorily developed in view of the numerous considerations and problems involved in attaining this desirable end. A prime consideration in effecting permanent and desirable ornamentation is to provide mechanical means which is not only feasible and practical from the standpoint of acceptable manufacturing procedures, but also thoroughly reliable in use, particularly in the respect that no rough edges, or sharp edges, must ever be present to snag clothing or hosiery, and also in the respect that it will readily withstand such usage or wear as may occur if the aluminum furniture is used in more or less public places or conveyances.

Moreover, aluminum furniture frames are usually made of tubing which affords a relatively restricted or limited opportunity for mechanical operations because of the wall thickness, small exposed areas available for ornamentation, and other inherent characteristics of the tubing. Additionally, welding ornamental strips or the like to the tubing is not appropriate, because, from a manufacturing standpoint, welding is not only expensive in view of the operations involved in uniting an ornamental strip to the aluminum tube, but the result of the welding operation leaves scars that require subsequent finishing operations, such as additional polishing and buffing to obtain a smooth surface, all of which contribute to the ultimate cost. On the other hand, the use of tongues or tangs on strips for fitting into holes at various points is not acceptable for the reason that since the strip is surface attached, the exposed edges of the strip offer the ever present possibility of bulging or inviting cleavage, not to speak of resistance to lateral bending or shifting under handling; catching the clothing; or pinching the flesh, thereby giving the impression of cheap short-lived construction which is the

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antithesis of what is expected of aluminum furniture.

Accordingly, a primary object of the invention is to provide novel means for effecting the ornamentation of aluminum furniture which is practical from the manufacturing standpoint as well as extraordinarily practical and satisfactory from the standpoint of the user in the sense that the ornamentation is permanent, smooth, and permits of a relatively wide choice of materials to obtain the desired results.

A further object is to provide novel means for uniting ornamental strips with furniture frames made of aluminum tubing.

With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings in which:

Figure 1 is a perspective view of a chair having aluminum frames provided with ornamentation in accordance with the present invention.

Figures 2 and 3 are detail perspective views, partly in section, and illustrating the embodiment of the invention wherein the ornamentation is applied to tubing made by rolling.

Figures 4, 5, 6 and 7 are additional perspective views, partly in section, illustrating the embodiment of the invention in extruded tubing sections.

Figure 8 is a detail elevation of the bottom of a chair leg showing how an end of the ornamental strip may be anchored.

Similar references designate corresponding parts throughout the several figures of the drawing.

Referring first to Figure 1, it will be understood that a chair C has been selected as an example of furniture to be ornamented in accordance with the present invention. However, table legs, and other furniture parts may be similarly treated. The chair is provided with the side frames A whose front face is fitted with the strip B of contrasting color. This strip may be of metal or any other suitable material, and may have a surface ornamental coating, or, in the case of a plastic may have inherent color.

In Figure 2 of the drawing, it will be seen that the frame A is made from a tubing section 1, formed by the rolling method and all of its walls are of equal thickness. In this case, it will be

observed that three walls of the tube 1 are of flat or co-planar formation while the fourth wall has its marginal edges formed with the inset angular portions 2, whose related inner or bottom portions which lie in the same plane, are welded together at their meeting edges. The side and bottom walls of the angular portions 2 are such that when the aforesaid meeting edges are welded, as indicated at 3, a countersunk substantially dove-tailed groove or key channel 4 is provided. This channel is intended to receive the strip B, which may be of spring metal, plastic, or other material, and preferably, of a color which contrasts with the finish of the outer surface of the tube 1. The strip B may be inserted or fitted in the channel by a sliding movement or by springing the same into the place by blows from a rubber mallet. Thus, it will be seen that the strip or insert B not only covers the welded seam 3, but is firmly locked in the countersunk channel 4 so that it cannot escape sidewise or at right angles to the bottom of the channel after it is slidably placed therein. Moreover, the outer or exposed surface of the strip forms a smooth surface which offers no projections, burrs, or fins which would tend to catch clothing. While, in most cases, no special means are required to prevent shifting of the strip after it is once fitted in the channel, because the bend or curve in the arms or legs prevents relative longitudinal movement, nevertheless, it is preferably to make the strip or insert B slightly longer than the tubing and then bend or clinch one end 5 thereof, as shown in Figure 8, inwardly at the foot of the leg or other part of the furniture frame which is not exposed to garment contact.

Figure 3 of the drawings illustrates a rolled tube 1^a wherein the channel 4^a is formed by the angular flanges 2^a and 2^b made in one wall during rolling. In this form, the bottom walls of the channel 4^a are overlapped and then welded together as at 3^a. The strip B', when inserted completely fills the channel and covers the welded seam.

Figures 4, 5, 6 and 7 all show extruded tubing sections 6 wherein three walls 7 thereof are of uniform thickness while the fourth wall 8 is of greater thickness or depth than the other three. During the extruding procedure the thickened wall 8 in each of Figures 4–7 inclusive, is provided with a channel of appropriate cross-section to slidably receive and hold or lock an ornamental strip therein.

In Figures 4 and 5 the channels 4^b and 4^c which respectively receive the strips B^2 and B^3 are of substantially inverted T-shaped formation and the said strips are of mating cross-sectional form.

In Figure 6 the channel 4^d has its marginal edges rounded and the strip B^4 conforms.

In Figure 7 the channel 4^e is of dove-tailed cross sectional shape and the strip B^5 is of similar cross section.

In practice, one face of the tubing section is provided with a key channel throughout its length, preferably before bending into frame form. This face is preferably the exposed or front face of the tube although it, of course, may

be a side face where the tubing is of rectangular cross section. Although tubing of rectangular cross section is generally used, it will be apparent that the invention will be the same with respect to the tubing of circular or other cross section.

The distinctive feature of the invention is that the tubing of aluminum or other metal is provided with a countersunk or depressed groove or channel during its manufacture for receiving a strip of metal, plastic or other material, which is preferably of a different color from the finish of the major surface of the tubing. In all cases, the channels or grooves are of such cross section as to form a key for interlocking and holding a strip of substantially similar cross section or a thin strip of transversely arched cross section in place. Because the edges of the channel cover the key edges of the strip, the contiguous exposed edges of the channel and the strip are of glass-like smoothness, thereby presenting no garment hazards while at the same time providing ornamentation of a lasting and permanent nature befitting the longevity of the furniture frame itself.

Without further description, it is believed that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes may be resorted to within the scope of the appended claim.

I claim:

An article of metallic furniture including a tubular metallic element having certain walls thereof relatively thin and another wall thereof of materially greater thickness and provided with a closed-bottom channel having a mouth portion opening through the outer face of said last-mentioned wall, the mouth portion of said channel being a lesser width than the bottom portion of said channel to provide lips at the sides of said mouth portion overhanging the bottom side portions of said channel, and an ornamental strip disposed in said channel, opposite side portions of said strip being disposed in opposite side portions of said channel beneath and in contact with said lips and at least a portion of the bottom of said strip being in contact with the bottom wall of said channel, whereby said strip is retained securely in said channel, the outer face of said strip being exposed and serving in effect as a continuation of the outer face of the wall having said channel therein.

EDWARD A. PURNELL.

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