Jan. 14, 1936. H. O. KLEE 2,027,644

UPHOLSTERING OF METAL SURFACES

Filed March 29, 1933

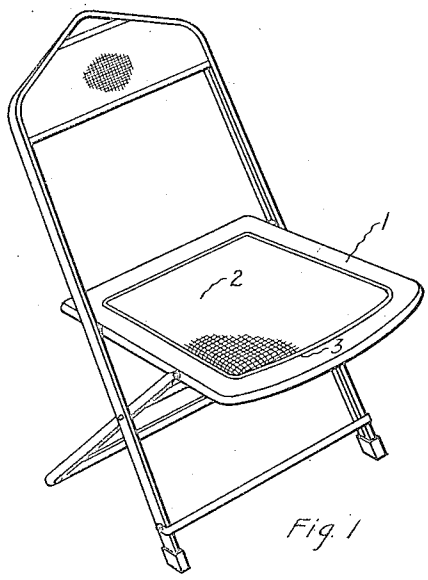


Fig. 1

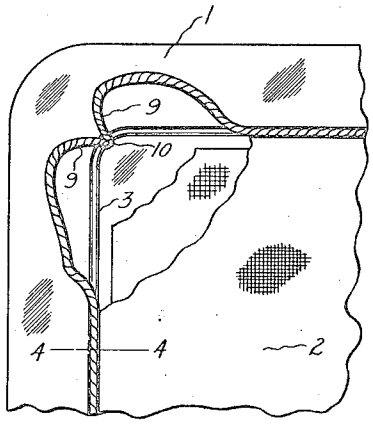


Fig. 3

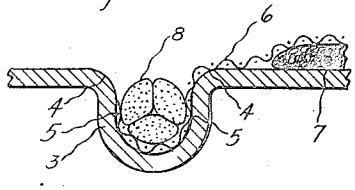


Fig. 4

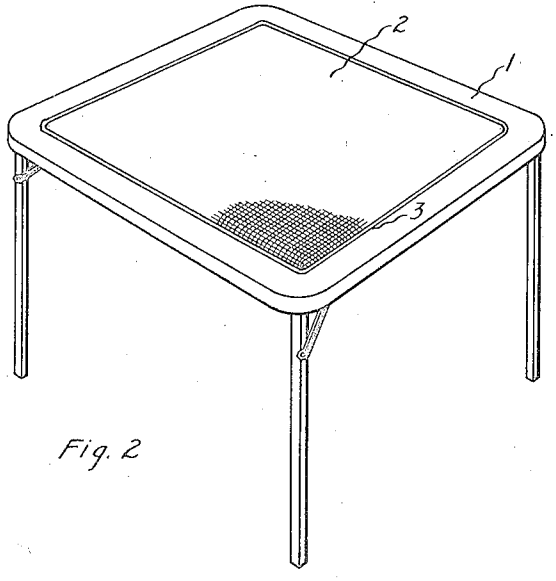


Fig. 2

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UNITED STATES PATENT OFFICE

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UPHOLSTERING OF METAL SURFACES

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Application March 29, 1933, Serial No. 663,384

1 Claim. (Cl. 155—184)

The present invention relates to improvements in the upholstering of all-metal surfaces and has particular reference to upholstered table tops and chair seats and the like.

One of the primary objects of this invention is to provide means for securing a padded fabric surface in position upon an all-metal surface which is simple and inexpensive in application and which readily permits the removal of the original and the replacement of a new fabric.

Another object is to provide means for upholstering a surface in which the upholstering is terminated within the border of the surface and attractively secured in position without the employment of the usual finishing tape or binder for concealing the means of fixation.

A further object is to provide an upholstered all-metal surface in which the rigidity of the surface is increased through a drawn groove constituting a reinforcing rib within which the upholstering is clamped.

Other objects of the invention reside in the novel features of construction and combination and arrangement of parts as more fully hereinafter set forth.

In the accompanying drawing, wherein a preferred form of my invention is disclosed by way of example,

Figs. 1 and 2 are perspective views of chair and table structures having all-metal surfaces embodying my invention.

Fig. 3 is a broken plan view of a metal surface embodying my improved type of upholstering.

Fig. 4 is a cross sectional view taken on line 4—4 of Fig. 3.

In general, the present invention resides in the provision of a groove, preferably continuous, in the face of a relatively light gage metal surface which is to be upholstered. This groove constitutes the border of the upholstering and is preferably constructed with substantially parallel side walls perpendicular to the plane of the surface or else inclined inwardly toward the upholstering area. The upholstering material is first extended over the aforesaid groove and then clamped therein by forcing a pliable and distortable yet relatively firm member into the groove carrying the upholstering material therewith. In practice a tightly twisted textile cord has proven highly satisfactory, but it is readily apparent that other types of members may be employed for the calking of the upholstering material in the groove. Although I do not desire to be limited to any particular metal surface, with relatively light gage material, the higher the modulus of elasticity, the greater is the clamping action of the upholstering in the grooves by the calked cord or the like.

Having specific reference to the drawing, by way of illustration a chair and table are shown in Figs. 1 and 2 equipped with an all-metal surface 1 with an upholstered central portion. A groove 3 is drawn or otherwise provided at the border of the upholstered area. Preferably, this groove is continuous, but my invention is in no sense limited to any particular groove construction. As shown, the edges of the groove 3, at 4, are relatively sharply defined with substantially parallel sides at 5.

Upholstering material 6 of any well known type, preferably, having an irregular surface as a result of weaving or pattern embossing, covers the upholstered area and is extended over the groove 3. In practice, upholstering material with a fabric backing and an embossed coated face has been satisfactorily secured in position. If desired, the material 6 may be padded as at 7 with any well known material. When padding is employed, the degree of fixation of the material 6 in the groove 3 is increased by terminating the padding short of the edge of the groove 3 in order to increase the deflection of the material 6 into the groove.

The edges of the material 6 are preferably carried into the groove 3 by hard tightly twisted cord 8. This cord is substantially of the same diameter as the groove 3 with the result that upon being forced into the position shown in Fig. 4 by a calking or similar operation, the cord 8 and material 6 are under considerable compression, particularly at the points where the material 6 is engaged between the cord 8 and the parallel sides 5 of the groove. The calking or similar operation of positioning the cord 8 in the groove 3 results in a slight spreading of the groove 3. In the preferred form of my invention, the modulus of elasticity of the all-metal surface is relatively high in order that the clamping action of the material 6 by the cord 8 be augmented by the groove itself. Obviously, other types of material and members may be used in lieu of the cord 8. Any flexible and distortable yet relatively firm material may be used for this purpose. The irregular surface of the twisted cord is considered as contributing, to a decided extent, to the clamping properties of this type of member.

When a cord is used for clamping the upholstering in combination with a continuous groove, as shown in Figs. 1 and 2, one continuous length

may be inserted in the groove 3 with the ends 9 extended through an aperture 10 in the bottom of the groove. In this manner an attractive binder free from irregularity is provided covering the edges of the upholstering and retaining the same fixed within the groove. When desired the color of the cord 8 may harmonize with that of the upholstering material.

It is to be noted that not only does my improved manner of upholstering obviate the necessity of gluing, tacking, riveting or otherwise permanently securing the upholstering in position, but the provision of the groove 3 in the surface actually increases the strength and rigidity of the same. When the removal or replacement of the upholstering is desired, the ends 9 of the cord 8 are withdrawn from the aperture and the cord is readily lifted from the groove.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

An upholstered article of the class described comprising a light gage sheet metal surface of relatively high modulus of elasticity, a groove of substantial depth having parallel sides located in said surface, bordering the upholstered area, a relatively firm yet flexible tightly twisted textile cord of substantially circular cross section, an upholstering material covering said area and carried by said cord into said groove, and a hole located in the bottom of said groove through which an end of said cord extends whereby said cord may be tightly and neatly positioned in said groove, the walls of said groove bearing resiliently against said cord and material to frictionally clamp said material in said groove.

HENRY O. KLEE.