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ATTACHING DEVICE FOR CHAIR LEGS AND THE LIKE

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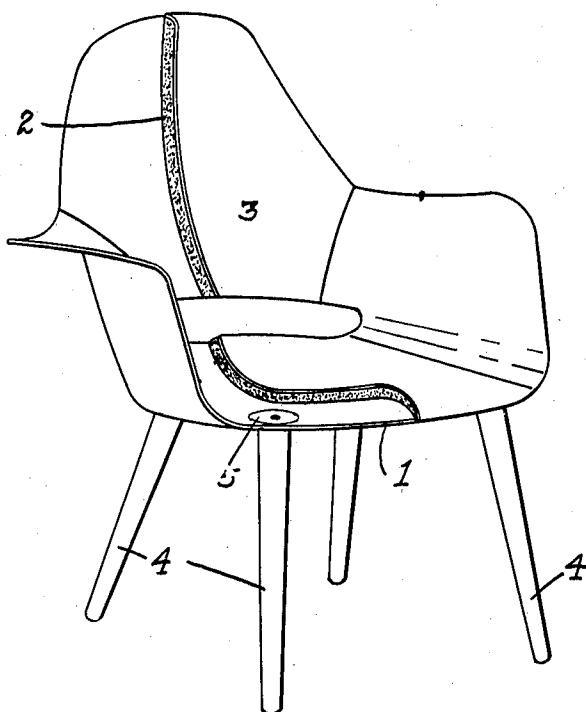


Fig. 1

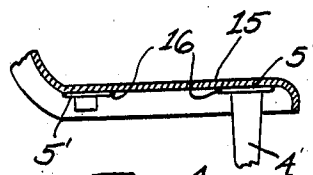


Fig. 4.

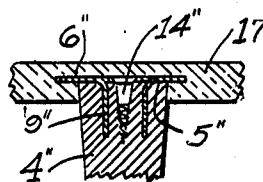


Fig. 5.

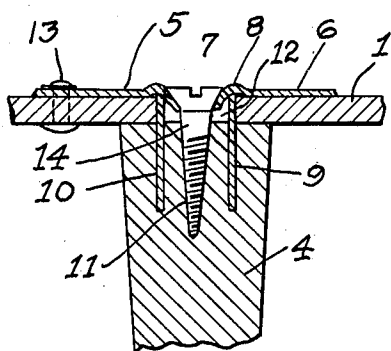


Fig. 2.

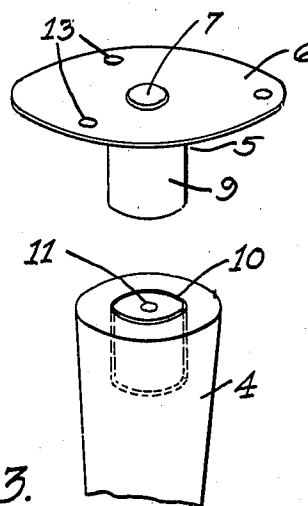


Fig. 3.

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ATTACHING DEVICE FOR CHAIR LEGS AND
THE LIKE

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5 Claims. (Cl. 155—196)

The present invention relates to an improved device for attaching legs to the seats of chairs, sofas or any other articles of furniture wherein it is desired to firmly attach a leg, or similar brace, to a member which is to be supported.

The invention has particular reference to articles of furniture employing plywood as a base and a covering which completely conceals the plywood in the finished article. While ordinary plywood has sufficient strength for this purpose and is very readily worked into various forms, difficulties are encountered in securing legs or braces to such a plywood base, due primarily to the fact that plywood is not thick enough to permit the use of the usual holes for receiving the ends of the legs.

According to the present invention, there is provided an improved attaching device, particularly adapted for use in any article of furniture employing a plywood base, whereby a leg or brace can be attached to the base with an extremely rigid connection between the two members. Briefly stated, the invention resides in providing a metallic fixture readily applied to the plywood base, which fixture cooperates with a prepared end of the leg and an attaching screw, so that the related parts are firmly held together in their assembled relation.

The above and other advantageous features of the invention will hereinafter more fully appear from the following description, considered in connection with the accompanying drawing in which:

Fig. 1 is a view in perspective of a completed article of furniture embodying the invention, with parts being broken away to show the construction.

Fig. 2 is a vertical sectional view, illustrating the attachment of a leg to a plywood base.

Fig. 3 is an exploded view, illustrating the relation of the parts of the device prior to assembly.

Fig. 4 is a fragmentary sectional view illustrating the application of the attaching device to the underside of the surface to be supported.

Fig. 5 illustrates the attaching device forming an integral part of a molded base.

Referring to the drawing, the invention is shown for purposes of illustration as being embodied in a piece of furniture, such as a chair, which employs a base 1 of plywood suitably molded so as to provide a support for a cushion 2 and a covering 3, as indicated in section. The base 1 is supported by a number of legs 4, and the present invention resides in the provision of an improved device for attaching the legs 4

firmly to the base 1 in spite of the thinness of the plywood and the fact that it presents a somewhat rounded under surface corresponding to the curvature of the seat.

As best shown in Figs. 2 and 3, the attaching device consists of a metallic fixture 5 providing a circular flange 6 having a central opening 7 surrounded by a raised reinforcing bead 8. The under side of the flange 6 has a sleeve 9 secured thereto within the depression of the bead 8, as by welding, so that the sleeve and the flange are in effect, one piece.

The outside diameter of the sleeve 9 is appreciably less than the outside diameter of the upper end of the leg 4 which is to be attached, as is evident from Fig. 3. Prior to the attachment of the leg 4, its upper end is provided with a circular groove 10 of such width and depth as to closely receive the lower end of the sleeve 9. The groove 10 is concentric with respect to an opening 11 formed in the center of the leg, with a considerable thickness of leg material disposed between the opening 11 and the groove 10.

Preparatory to attaching a leg to the base 1, an opening 12 is formed in the plywood large enough to freely receive the sleeve 9, after which the flange 6 is secured to the upper side of the base by means of rivets 13. The prepared leg 4 is then attached to the base by inserting the downwardly projecting end of the sleeve 9 in the groove 10, after which the attachment is completed by inserting a wood screw 14 in the flange opening 7, and screwing it down into the leg opening 11. The completed joint then appears as in Fig. 2, from which it is evident that the portion of the screw 14 which is received in the leg opening 11, is surrounded by the metallic sleeve 9 seated in the groove 10. Therefore, any tendency for the wood to spread away from the opening 11 as the screw is turned in, will result in the wood making an extremely tight fit with the sleeve 9, which is in turn firmly united to the base 1.

With a leg 4 attached to a plywood base 1 by means of the fixture 5, as described above, the resulting joint is as strong, if not stronger, as that which would be obtained with a leg received in a hole provided in a base as thick as the combined depth of the flange 6 and sleeve 9. Furthermore, with the metallic sleeve 9 entirely surrounded by wood forming the walls of the groove 10, it is evident that any shrinkage or swelling of the wood due to atmospheric conditions, will result in contraction of the wood upon the exterior of the sleeve, or expansion of the wood within its

interior. In other words, the joint will not work loose as a result of shrinkage or swelling, as frequently results when the parts joined are both of wood.

When the legs 4 have been attached to the base 1, the fixtures 5 are substantially flush with the upper surface thereof. Consequently, when the cushion 2 and cover 3 are attached to the base, the existence of the fixtures is entirely concealed from above, while the juncture between each leg and the base has the same appearance as the ordinary wood-to-wood joint.

While the attaching device has been described above as being particularly adapted for use in connection with a plywood base, the invention contemplates its use in connection with other types of material. For example, in Fig. 4 the fixtures 5' are shown as being attached to the underside of a sheet metal chair seat 15, as by spot welding, at 16. For this construction, the uncovered upper side of the seat 15 is entirely smooth, with the welded-on fixtures 5' providing means for attaching legs 4' in the manner previously described, and each leg being firmly secured in position by reason of the cooperation between the fixture sleeve and the groove in its end, as shown in Fig. 2.

In Fig. 5 the invention is shown as being embedded in a construction in which a base 17 for a table, or other article of furniture, is molded from a plastic material. When utilizing this construction, a fixture 5'' is first assembled on a leg 4'' and secured in position by means of the screw 14''. The base 17 is then formed directly on the required number of legs, each equipped with a fixture 5'', by molding any suitable plasticizable material around the flanges 6'' so as to embed the latter within the base. The several legs then form a substantially integral part of the completed base, with the flanges 6'' serving to firmly anchor the fixtures so that the legs cannot work loose from the molded material.

I claim:

1. In an article of furniture, an arrangement for attaching a leg to a base, comprising in combination, a base of relatively thin material, a metallic fixture secured to said base and providing a sleeve extending from one side of said base, a wooden leg having one end surface providing a groove for closely receiving said sleeve, and an attaching member extending through a central opening in said fixture, providing a head seated around said fixture opening and a threaded shank received in a central portion of the leg surrounded by said groove for securing the grooved end of said leg in abutting relation to said base.

2. In an article of furniture, an arrangement

for attaching a leg to a base, comprising in combination, a plywood base for an article of furniture, a metallic fixture, means for securing said fixture, to said base with said fixture providing a sleeve extending through an opening in said base, and within said securing means a wooden leg having one end surface providing a groove for closely receiving said sleeve, and an attaching member extending through a central opening in said fixture, providing a head seated around said fixture opening and a threaded tapered shank received in a central portion of the leg surrounded by said groove, with said shank serving to expand the said central leg portion within said fixture sleeve.

3. In an article of furniture, an arrangement for attaching a leg to a base, comprising in combination, a plywood base for an article of furniture, a metallic sleeve providing a flange riveted to said base and a cylindrical sleeve extending through an opening in said base, within the riveted area of said flange, a wooden leg, with one end thereof abutting said base and providing an annular groove for closely receiving said fixture sleeve when the parts are assembled, and a wood screw, providing a head seated in a central opening within said fixture and a shank screwed into the central portion of said leg within said fixture sleeve.

4. In an article of furniture, an arrangement for attaching a leg to a base, comprising in combination a base providing a relatively flat surface, a fixture providing a flange secured to said base, with a hollow portion of said fixture extending from said base within said flange, a leg for the support of said base providing a groove at one end for receiving the hollow portion of said fixture, and means cooperating with said fixture and a central portion of said leg bounded by said groove for securing said leg and base together, with the grooved end of said leg abutting said base.

5. In an article of furniture, an arrangement for attaching a leg to a base, comprising in combination a base providing a relatively flat surface, a fixture providing a flange secured to said base, with said fixture having a sleeve extending from said base within said flange, a leg for the support of said base providing an annular groove at one end for closely receiving the sleeve of said fixture, an attaching member extending through a central opening in said fixture flange, with said attaching member providing a head seated within said fixture opening flush with said flange, and a body in threaded engagement with a central portion of said leg within said groove and encircled by said sleeve.

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