

July 8, 1947.

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2,423,798

SIDE FRAME FOR CHAIRS AND THE LIKE

Filed Jan. 15, 1944

2 Sheets-Sheet 1

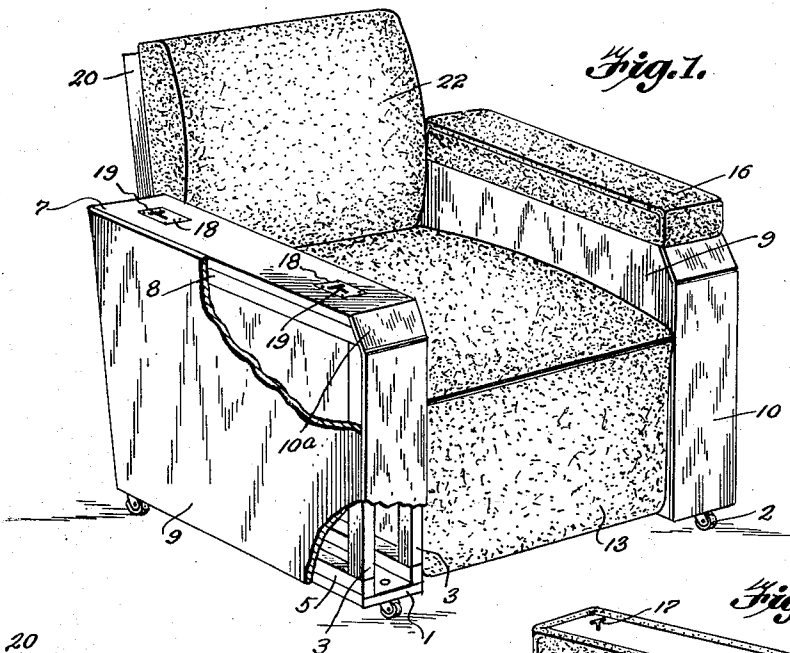


Fig. 1.

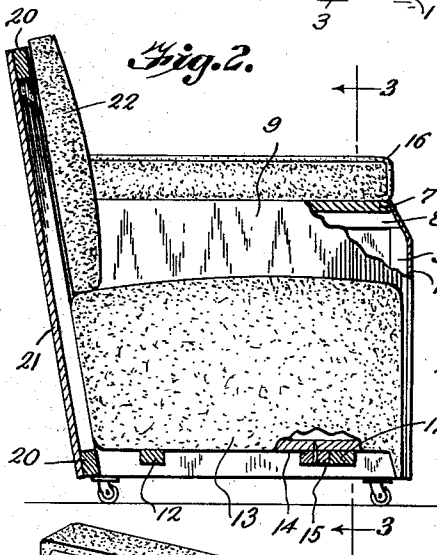


Fig. 2.

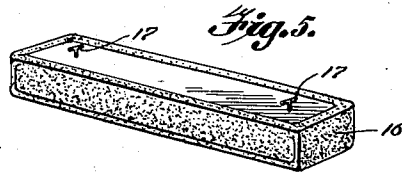


Fig. 5.

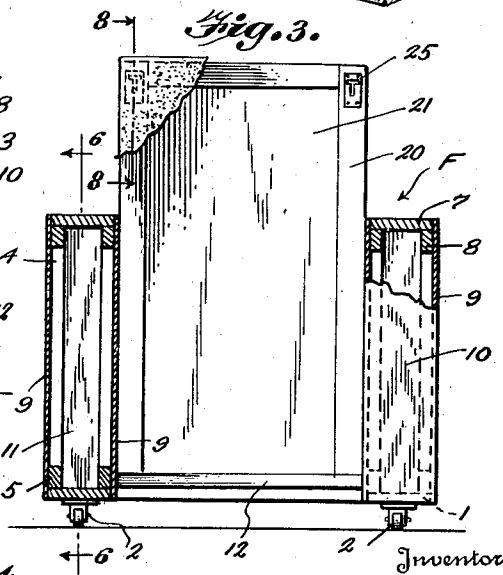


Fig. 3.

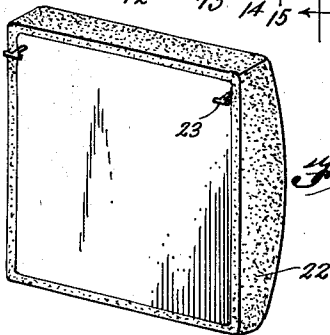


Fig. 4.

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Fig. 6.

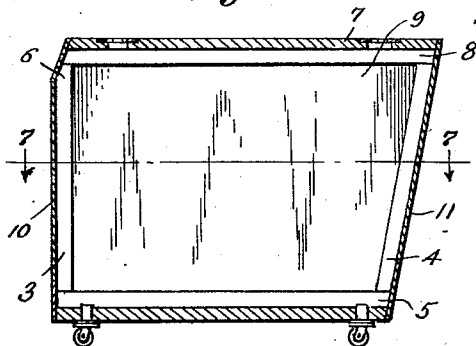


Fig. 7.

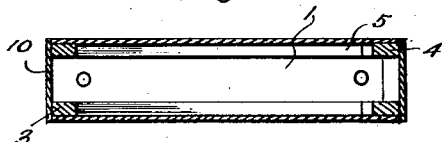


Fig. 11.

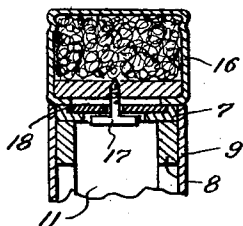


Fig. 9.

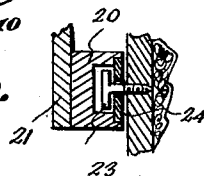


Fig. 10.

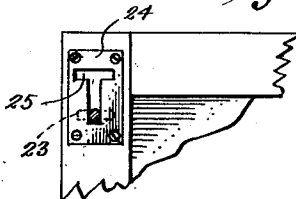
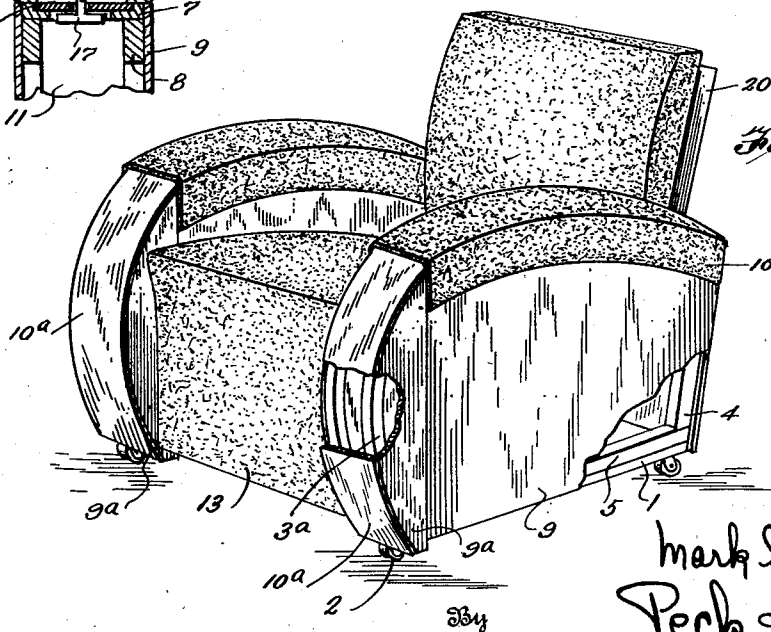


Fig. 12.



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UNITED STATES PATENT OFFICE

2,423,798

SIDE FRAME FOR CHAIRS AND THE LIKE

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Application January 15, 1944, Serial No. 518,431
In Great Britain March 22, 1939

1 Claim. (Cl. 155—184)

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This invention relates to chairs and like articles of furniture and has for object the provision of improved constructions which shall be stronger and cheaper than those hitherto employed while having certain added advantages.

According to one feature of the invention an article of furniture, such as a chair, settee or the like, is constructed with an open frame and the frame is covered on both sides with multi-ply wooden panels or sheets to produce a smooth exterior and, in some parts, a smooth interior, the plywood extending over all those areas where upholstery is not necessary for the comfort of the user.

Another feature of the invention is a chair or the like in accordance with the preceding paragraph comprising an upholstered seat and upholstered back and arm-rests which are removably attached to the plywood-covered frame. It is preferred that the securing means for the detachable parts be so constructed and arranged that there is an interlocking effect, one of the parts having to be removed before the others may be detached.

In one example of the invention an occasional or fireside chair is constructed with a pair of side frames connected by a seat frame and a back frame, the side frames and back frame being covered with sheets of plywood on their outer and inner faces to produce a wooden chair having a smooth exterior and interior and also an appearance of solidity. The plywood may be veneered so that, when polished, the chair appears to be made from an expensive wood or it may be finished by painting or spraying. Any suitable seat may be placed on the seat frame, preferably a spring upholstered seat which is removable. The back may also be provided with a removable pad or cushion while the upper ends of the sides, which constitute the "arms" of the chair, are preferably each furnished with an upholstered arm-rest built on a separate frame which may be detachably engaged with the respective side.

Another example is an easy chair which is constructed substantially as above described with the exception that the back frame is merely covered with plywood on its rear face. An upholstered spring-interior back-rest or pad is supported on the front face of the back frame and a similar seat pad is supported on the seat frame. The frames of the back and seat pads are provided with releasable catch members adapted to engage cooperating parts on the back frame and seat frame, respectively. The removable uphol-

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stered arm-rests are detachably connected to the sides of the chair, as by headed studs and cooperating keyhole slots. It is preferred to arrange the various catches and disengageable means in such manner that the removable parts may only be detached in a predetermined order. For example, the edges of the back pad may be arranged to overlap the rear ends of the arm-rests to an extent sufficient to prevent detachment thereof from the chair sides and the catch on the back pad may be disposed so that it is inaccessible while the seat pad is in place. The latter would then be arranged with its catch at a convenient location, say, beneath its front edge, so that removal of the seat pad permits removal of the back pad and the arm-rests in that order.

It should be noted that the plywood-covered frames are very rigid and strong while being cheaper to produce than upholstered frames, whereas the upholstered parts may readily be detached for cleaning, repair or recovering purposes. The articles of furniture in accordance with the invention are, furthermore, very hygienic and are easily kept clean and dust-free.

It will be appreciated that the frame is such that the plywood can readily be applied to it. Thus it should not have breaks in the line of any particular member. Otherwise the plywood may not only be difficult to apply but the appearance of the finished article would be unsatisfactory.

Referring to the accompanying drawings:

Fig. 1 is a perspective view of a chair embodying the invention, with parts thereof broken away.

Fig. 2 is a central sectional view through the chair.

Fig. 3 is a view of the invention taken on line 3—3 of Fig. 2, with the arm rest cushions eliminated.

Fig. 4 is a perspective view of the under or rear side of the removable chair back cushion, particularly showing parts of the chair back cushion locking means.

Fig. 5 is a perspective view of the under side of an arm rest, particularly showing parts of the arm rest locking means.

Fig. 6 is a view taken on line 6—6 of Fig. 3.

Fig. 7 is a view taken on line 7—7 of Fig. 6.

Fig. 8 is a view taken on line 8—8 of Fig. 3, particularly showing the removable chair back cushion locking means.

Fig. 9 is a view taken on line 9—9 of Fig. 8.

Fig. 10 is a view of the permanent chair back with parts thereof broken away, and particularly showing part of the removable chair back cushion locking means.

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Fig. 11 is a vertical section through an arm and arm rest cushion with parts thereof broken away.

Fig. 12 is a perspective view of a modified form of chair embodying the invention, with parts thereof broken away.

My invention, while being particularly disclosed in the drawings as applied to a chair, may, with equal facility and equal effectiveness be applied to any article of furniture, and hence it is my clear intention that furniture of a variety of types shall fall within the spirit and scope of this invention.

Referring to the accompanying drawings I have used the letter F to generally designate the basic arms and seat frame of an article of furniture, such as a chair. The various elements of such frame are preferably glued together, or may, if desired be secured to each other by means of dowel pins or the like. An outstanding disadvantage of furniture, and one which my invention overcomes, is that the glued elements of the frame often come apart. This is particularly the case during the winter, when furniture, and particularly the glued elements of the frame thereof are subject to the adverse effects of relatively high temperatures which prevail in homes and buildings. The furniture construction of my invention provides a protection against such adverse effects of heat and dry air, as well as providing a reinforcing medium for the basic framework of the article of furniture to prevent the warping thereof and to provide a greatly strengthened structure.

The basic framework F is shown in the drawings for purposes of description and not of limitation, comprises a pair of spaced parallel horizontally disposed bottom arm members 1, each carrying at the front and rear ends thereof casters or the like 2, so that the finished article of furniture may be readily moved from place to place. It will be understood that the distance the members 1 are spaced apart determines the width of the article of furniture being built, and it will become clear from the description to follow that the width of each member 1 determines the width of the chair or the like arm to be built thereon. Front and rear pairs of spaced vertical arm frame members or posts 3 and 4, respectively, are mounted on spaced horizontally disposed supporting elements 5 which are laid on the bottom arm members 1 adjacent the longitudinal edges thereof. In the particular form of my invention which is shown the top forward edge of each front vertical arm frame member 3 is cut off to provide a bevelled surface 6 and each rear vertical arm frame member 4 is inclined rearwardly from the perpendicular relative to bottom arm members 1. Such constructions as the above are not essential and are not intended to limit my invention to the precise form shown.

The top of each arm framework is formed by a flat horizontally disposed member 7 of substantially the same dimensions as the members 1, the members 7 being mounted on bridging elements 8 which are mounted on the tops of the vertical arm frame members 3 and 5 to extend therebetween. It will thus be apparent that I have provided framework for the arms of a chair or other article of furniture. Each of the members comprising such framework may be glued together at all meeting surfaces, or if preferred dowel pins may be used for this purpose.

The arm frameworks which have hereinbefore been described are covered with sheets or panels of plywood or the like non-warpage relatively thin

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and smooth surfaced substantially rigid material, which is secured to such frameworks by means of glue applied at all meeting surfaces. Thus plywood or the like panels 9 are affixed to the arm framework on both the inner and outer sides thereof, and plywood or the like panels 10 are affixed to the front vertical portions of the frameworks, and similarly plywood or the like panels 11 are affixed to the rear vertical portions of the frameworks. All of such panels are the same size as the frameworks and therefore cover the sides and ends thereof.

When the application of the panels is complete it will be evident that I have provided two arm members for an article of furniture, which are of hollow construction and which include an interior basic supporting framework, and an exterior enclosing and reinforcing structure formed of panels.

After the hollow arm members are complete, the plywood sheets or panels may be covered with veneer or may be painted. Instead of veneering, or painting, or otherwise applying an exterior decorative surface to the plywood sheets after they have been incorporated with the framework, they may if found more convenient be so decorated and covered before being combined with the framework.

After the two arm frameworks are constructed as above described they are joined together into permanent chair or the like forming position by means of two cross pieces or rigid connecting bars 12 which extend between and are glued to the lower surfaces of the inner plywood sheets 9, as particularly shown in Fig. 3 of the drawings. These cross pieces or elements 12 while functioning to combine and support the two arm frameworks, also, as will be hereinafter described, provide a bed for the upholstered seat for the chair or other article of furniture.

Adapted to rest on the bed formed by cross elements 12 is an upholstered seat forming cushion 13 having a bottom 14, and a stop member 15 depending downwardly therefrom and so disposed as to engage the rear side of cross element 12 to retain the seat in position against forward movement relative to the arm frameworks.

It is usually desirable that the top surfaces of the arms defined by members 7 be covered with an arm rest cushioning member. Such arm rest usually comprises an upholstered structure and it is highly desirable that the upholstered parts of furniture be readily removable therefrom for cleaning and the like purposes. It is obvious that the seat portion 13 may be removed from the article of furniture. I have also provided an arrangement for removably mounting arm rests on a chair or the like.

I provide upholstered or cushioned arm rests 16 which are adapted to rest on and be removably locked to the top arm framework members 7. On the under side of the arm rests I provide T-headed locking screws 17 which are fastened at longitudinally spaced points on the arm rests and project downwardly therefrom. The top arm framework members 7 are provided at longitudinally spaced points, corresponding to the positions of the locking screws 17 on the arm rests 16, with plates 18 securely fastened thereto, and countersunk therein. Such plates are provided with T-shaped slots 19 therein for removable locking reception of the locking screws 17. It will thus be apparent that the arm rests may be removably locked to the top arm members merely

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by placing the heads of the locking screws into the head of the slots 19 in the plates 18 and then sliding the arm rests forward into the stem of the slots.

The back of my chair or other article of furniture is formed of a frame 20 constructed of two vertical and two horizontal elements glued together at the corners. The rear side of such framework is covered with a panel of plywood glued to the framework. I provide a removable upholstered back cushion 22 which is provided with locking screws 23 similar to the locking screws 17. Complementary plates and T-shaped slots 24 and 25, respectively, are provided on the vertical members of frame 20. The function and operation of the locking screws 23, plate and T-slots 24 and 25 are the same as the similar elements described in connection with the arm rest locking means, and therefore will not now be repeated. However, it will be understood that I have provided an article of furniture in which all of the upholstered parts may be removed for cleaning and similar purposes.

The back is mounted on the chair by glue applied to the vertical back frame members and the interior panels 9. The back may be glued and mounted on the article of furniture at any angle relative to members 1 which may be desired.

In Fig. 12 of the drawings I show a modified form of my invention, in which similar reference numerals refer to parts which are the same as parts in my preferred form. The upholstered portions 13, 16, and 22 are removable and locked to the article of furniture similarly to those in the preferred embodiment of my invention. In this form of my invention the pairs of front vertical members 3a are bowed or of arcuate form and are covered by segmental side plywood sheets 9a which are separate from the plywood sheets or panels 9 but at mating edges are glued thereto. Front plywood sheets 10a are shaped to conform to the frame members 3a and are glued thereto. In all other respects the invention of Fig. 12 of the drawings is similar to the preferred embodiment of the invention.

I have provided a chair or other article of furniture which includes an interior framework covered by an exterior plywood or the like deco-

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orative and reinforcing covering, so that the whole arm framework is of hollow construction having unusual strength.

It is of further importance to note that I have provided a simple method of constructing a chair or similar article of furniture. For instance, substantial numbers of arm sections or frameworks may be built, then joined in pairs by means of the connecting bars 12 after which the backs are inserted. Time will be saved by following this economical method of manufacture.

What I claim is:

An article of furniture, comprising arm frameworks, each formed of an interior framework structure including a bottom flat horizontally disposed member, vertically disposed posts supported by said bottom flat horizontally disposed member, and a top flat horizontally disposed member fixedly supported by said posts and substantially rigid panels of thin sheet-like formation secured to vertical edges of the top and bottom flat horizontally disposed members to provide with such members a substantially air-tight hollow arm framework, rigid connecting bars secured to one of said panels on each arm framework and extending therebetween to space apart and connect said arm frameworks, and a back member of panel formation secured to the inside rigid panel of each hollow arm framework.

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