Nov. 1, 1949 G. R. SCARLETT 2,486,987

PREFABRICATED CHAIR

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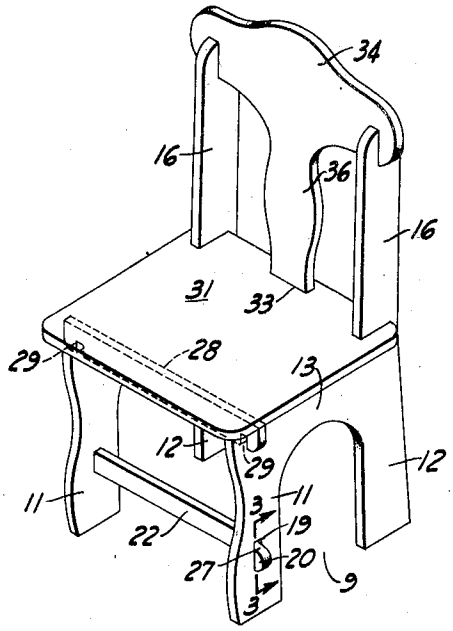


FIG. 1

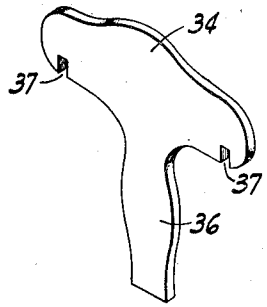


FIG. 2

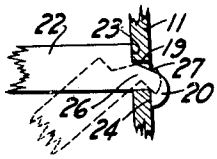


FIG. 3

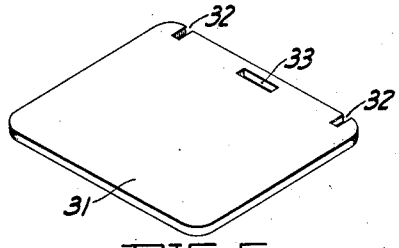


FIG. 5

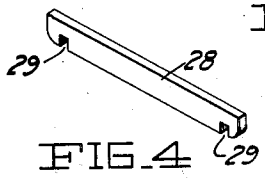


FIG. 4

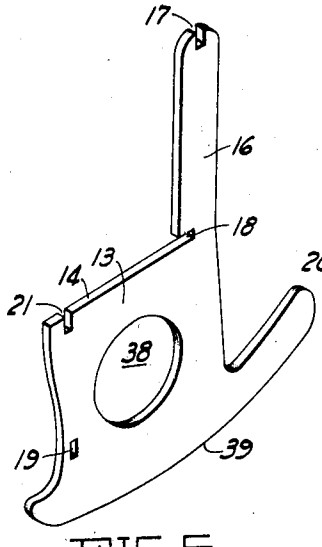


FIG. 6

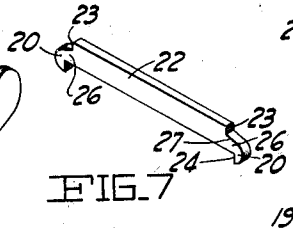


FIG. 7

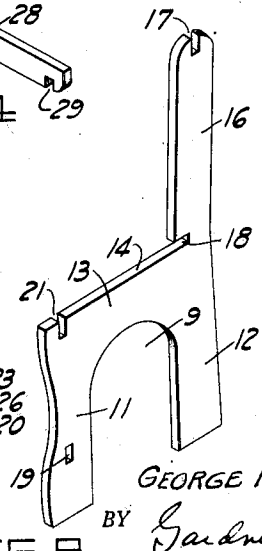


FIG. 8

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PREFABRICATED CHAIR

George R. Scarlett, Oakland, Calif.

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5 Claims. (Cl. 155—196)

1

This invention relates to assembled structures comprising a plurality of component parts temporarily interfitted to form a self-support unit.

An object of the invention is to provide an article of furniture designed to be marketed in disassembled condition and which is capable of assembly to form a usable article devoid of any extraneous elements such as nails or screws for holding the component parts together.

A further object of the invention is to provide a novel interlocking joint between component members of a structure of the character described.

Other and equally important objects of the invention will become apparent to those skilled in the art as the detailed description of the invention, hereunto annexed, proceeds. It is to be understood that the invention is not to be limited to the specific form thereof herein shown and described as various other embodiments thereof may be employed within the scope of the appended claims.

Referring to the drawing:

Figure 1 is a perspective view of an article of furniture, exemplified as a chair, embodying the principles of my invention.

Figure 2 is a perspective view of the back member.

Figure 3 is a fragmental vertical sectional view of a portion of the rung. The plane in which the view is taken is indicated by the line 3—3 of Figure 1.

Figure 4 is a perspective view of the tie bar.

Figure 5 is a perspective view of the seat member.

Figure 6 is a perspective view of a rocker type of side member.

Figure 7 is a perspective of the complete rung.

Figure 8 is a perspective view of a stationary type of side member.

My invention resides in the proportions, the arrangement of parts and the interlocking joints by means of which the parts may be connected together to provide a usable structure and while the structure itself may take one of many forms, I have chosen to illustrate and describe the invention as embodied in the chair shown in the drawing; it being obvious that features shown and described in this embodiment will suggest their use in a variety of different component parts for other structural designs. The illustrated chair comprises a pair of identical side members, one of which is shown disengaged in Figure 8 and which is constructed of a unit piece of plywood or other material possessing comparative strength characteristics. A notch 9 extending upwardly into the side member from its bottom edge divides the lower portion of the member into front and rear legs 11 and 12, respectively, joined by an integral bridge 13 whose upper surface 14 provides a horizontal seat ledge. An integral back stile 16, substantially coextensive with the rear leg 12, rises from the rear end of the seat ledge 14 and is provided, at its upper end, with a vertically opening back-member notch 17 and, at its junction with the seat ledge 14, with a horizontal forwardly opening seat notch 18 whose lower side is co-planar with the surface 14. The leg 11, at a point intermediate of its vertical length, is provided with a rung aperture 19 and substantially vertically aligned with and above the aperture is an upwardly opening tie bar notch 21 intersecting the surface 14.

2

Means are provided for interconnecting and locking a pair of the side members together to form the main support structure for the chair. As shown in Figure 7, I provide a rung 22 at each end of which is formed an integral attachment hook 20, shaped to create an upper abutment 23, defining one terminal of the upper surface of the rung, and a lower abutment 24, defining one terminal of the lower surface of the rung. The relative horizontal spacing between the abutments 23 and 24 is equal to the thickness of the chair side member. The method of connection of the rung to the side members is illustrated in Figure 3. The hooks are so designed in relation to the vertical length of the aperture that the former may be inserted through the aperture in only a certain manner. As shown by the dotted lines of the drawing the remote tip of the hook may be started into the aperture only when the rung occupies an angular position with respect to the side member. After insertion of the hook, the rung may be swung upwardly to the full line position wherein it will be perpendicular to the side member and wherein the upper and lower abutments 23 and 24 will be in intimate engagement with the inner and outer faces of the side member. It will be observed that the root thickness of the hook stem 26 in the plane of the upper abutment 23 is equal to the vertical length of the aperture 19 so that the rung, when in its final position is effectively locked against vertical movement, the hooks 20 of course preventing separation of the side members and the rung in a horizontal direction. The angular surface 27 extending from the curved end of the hook 20 to intersect

the plane of the abutment 23 is so shaped that it will just clear the upper surface of the aperture 19 as the hook is passed therethrough in the manner above described. As is best shown in Figure 4, I also provide a tie bar 28 provided in its lower edge with notches 29 spaced apart according to the desired spacing of the chair side members. The tie bar, as will be seen in Figure 1, is inserted into the notches 21 and forced downwardly thereinto until the notches 29 straddle the side members at the bottoms of the former notches thus further securing the side members together and providing a bridge having its upper surface in planar coincidence with the seat ledges 14.

A seat 31, shown in Figure 5 and comprising a rectangular section of plywood or the like material, is provided having a pair of notches 32 in its rear edge and an elongated aperture 33 paralleling the said rear edge and positioned substantially medially of the sides of the seat. The notches 32 are spaced apart equivalent to the spacing between the chair side members to that, when the seat rested on the ledges 14 and pushed rearwardly, the former notches will move into interlocking engagement with the seat notches 18 thus securing the seat against rearward, transverse or up-movement relative to the chair. The seat also, it will be noted, secures the tie bar 28 in position against upward displacement.

I further provide a back member, shown in detached relation in Figure 2, comprising an integral piece of plywood or the like having a horizontal head portion 34 from which depends a comparatively narrow tongue 36. Downwardly opening notches 37 are provided in the lower edge of the head portion 34 and are spaced apart a distance equal to the spacing of the chair side members. Attachment of the back member may be effected, as will be seen in Figure 1, by bringing the notches 37 into registry with the stile notches 17 and the lower end of the tongue 36 into registry with the seat aperture 33. Downward pressure on the back member will then move the notches 37 and 17 into interlocking relationship and the tongue 36 will be caused to enter the aperture 33. When in this latter position it will be noted that the back member, by the engagement of the tongue 36 with the aperture 33, securely locks the seat 31 against displacement forwardly of the chair and is the final key which locks the assembly of parts together. It will also be noted that the points of contact of the back member with the upper end of the stiles 16 and with the seat 31 respectively form a triangular pattern which lends maximum horizontally transverse stability to the chair.

In Figure 6 I have shown a chair side member modified slightly from the form shown in Figure 8. In this design the notch 9 is replaced by an aperture 38 so as to provide a continuous curvilinear rocker 39 along the bottom of the side member. A pair of these members, when assembled with the other unmodified members previously described, will produce a rocking chair.

The various component parts of the chairs of my invention are comparatively simple figures which lend themselves well to quantity and precision production so that, in regard to the latter feature, selected parts from various groups of the components will be readily interchangeable. The material of which the chairs are constructed preferably plywood of 3/8 inch thickness or more since this material is comparatively common and plentiful. However other similar substances such as hard-pressed pulp board, with a resinous binder to increase its strength, or any of the sheet plastic materials of suitable thickness may be employed.

Having thus described my invention in detail, what I claim as new and desire to secure by Letters Patent is:

1. A take-apart chair of the character described comprising a pair of side frames each having upper and lower sections integrally connected together, said lower section having a ground engaging portion at the bottom and a seat ledge at the top, each frame having at the base of said upper section a notch with a side overlying said ledge, said lower section also having therein an aperture, a rung extending between the sections and through the apertures therein and having end portions engaging the inner and outer sides of the frames adjacent the apertures, a seat member resting upon said ledges and having the rear portion thereof inserted within said notches and provided with notches near the rear edge thereof for the reception of the base portions of said upper sections, said upper sections having at the top thereof an upwardly opening notch, and a back member having portions seated in said last mentioned notches and a portion interlocked with said seat member to retain said seat member in the first mentioned notches.

2. A take-apart chair of the character described comprising, a pair of side frames each having upper and lower sections integrally connected together, said lower section having a ground engaging portion at the bottom and a seat ledge at the top, each frame having at the base of the upper section a notch with a side overlying said ledge at one end thereof, and said lower sections each having an upwardly-opening notch in said ledge adjacent the front edge thereof, a rung extending between and releasably connected with said lower sections, a tie-bar seated in said last mentioned notches with the upper side coplanar with said seat ledges, a seat member resting upon said ledges and said bar and having rear edge portions inserted in said first mentioned notches, said upper sections having upwardly opening notches at the top, and a back member engaged in the notches at the top of the upper member and having a lower portion interlocked with said seat near the rear edge thereof to retain the latter against transverse displacement on the seat ledges.

3. A take-apart chair of the character described comprising a pair of side frames each having an upper and a lower section integrally connected together, said lower section having at the bottom a ground-engaging portion and at the top a seat ledge, each frame at the junction of the upper and lower section having therein a notch with a side thereof overlying the seat ledge at one end of the latter, said lower section having an upwardly-opening notch in the seat ledge adjacent the front edge of the latter, a rung extending between and having hook elements at its ends releasably engaged with said lower sections, a tie bar having notched end portions engaged in said upwardly-opening notches, said tie bar having a surface thereof coplanar with said seat ledge, a seat member resting upon said ledges and tie bar and having in an edge thereof notched portions registering with and entering the notches at the junctions of the frame sections, said upper

sections having vertically-extending notches at the top thereof, a back member having an upper portion provided with notches interengageable with said vertically-extending notches for detachably securing the back member to the upper sections of the side frames, and a lower portion of said back member interlocked with said seat member near the rear edge thereof and retaining the latter against displacement horizontally on sad seat ledge.

4. A take-apart chair of the character described comprising a pair of side frames each having an upper and a lower section integrally connected together, said lower section having at the bottom a ground-engaging portion and at the top a seat ledge, each frame at the junction of the upper and lower section having therein a notch with a side thereof overlying the seat ledge at one end of the latter, said lower section having an upwardly-opening notch located adjacent the front edge of the seat ledge and being further provided with an aperture extending therethrough, a tie bar extending between said lower sections and having end portions engaged in the notches at said other end of the seat ledge, said tie bar having a surface thereof coplanar with the seat ledge, a rung extending between said lower sections, passing through said apertures and having surface portions intimately engaged with the respective surfaces of the lower portions bordering said apertures, a seat member resting on said seat ledge and tie bar and having in one edge thereof spaced notches registered with the notches at the junctions between the upper and lower sections of the side frames and interengageable with said notches whereby the seat member is connected to the side frames against movement relative thereto in all but a horizontal direction, and a back member detachably engaged with said upper sections of the side frames and with said seat member near the rear edge thereof for restraining the seat member from movement in said horizontal direction.

5. A take-apart chair of the character described comprising a pair of side frames each having an upper and a lower section integrally connected together, said lower section having at the bottom a ground-engaging portion and at the top a seat ledge, each frame at the junction of the upper and lower section having therein a notch with a side theerof overlying the seat ledge at one

end of the latter, said lower section having an upwardly-opening notch located adjacent the front edge of the seat ledge and being further provided with an aperture extending therethrough, a tie bar extending between said lower sections and having end portions engaged in the notches at said other end of the seat ledge, said tie bar having a surface thereof coplanar with the seat ledge, a rung extending between said lower sections, said rung having at each end thereof a hook element including a pair of abutments rising from the opposite longitudinal surfaces of the rung and spaced apart, longitudinally of the latter, a distance equivalent to the thickness of the side frame, said abutments when the hook element is inserted in the side frame aperture and the rung is positioned perpendicular to the side frame being in intimate engagement with opposite surfaces of the side frame bordering said aperture, a seat member resting on said seat ledge and said tie bar, said seat member having in one edge thereof spaced notches registered with the notches at the junctions between the upper and lower sections of the side frames and interengageable with said notches whereby the seat member is connected to the side members against movement relative thereto in all but a horizontal direction, said seat member also having therein an axially vertical aperture near the rear edge thereof, and a T-shaped back member having an upper portion provided with notches interengageable with said vertically-extending notches for detachably securing the back member to the upper sections of the side frames, the lower portion of said back member being formed to enter the aperture of said seat member so as to interlock the back member and seat member and retain the latter against displacement horizontally on the seat ledge.

GEORGE R. SCARLETT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,559,111	Lees	Oct. 27, 1925
1,735,851	Burton	Nov. 19, 1929
1,747,900	Jenny	Feb. 18, 1930