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3,547,491

QUICK ASSEMBLED FURNITURE.

Filed May 6, 1968

3 Sheets-Sheet 1

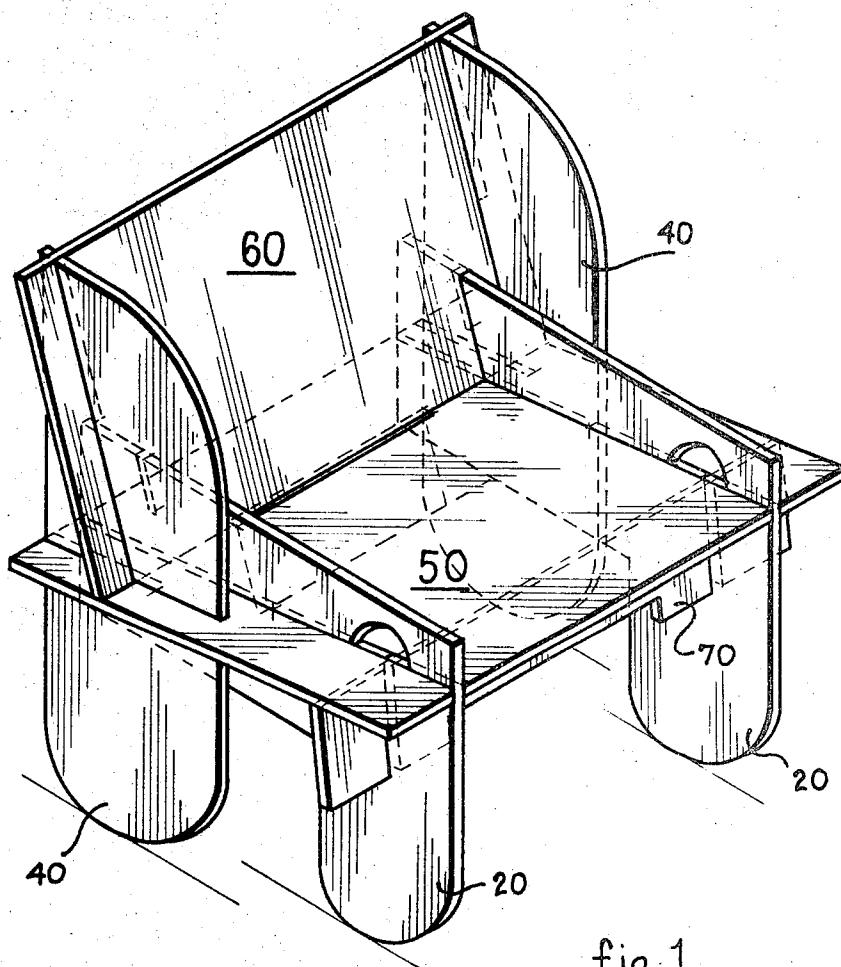


fig. 1

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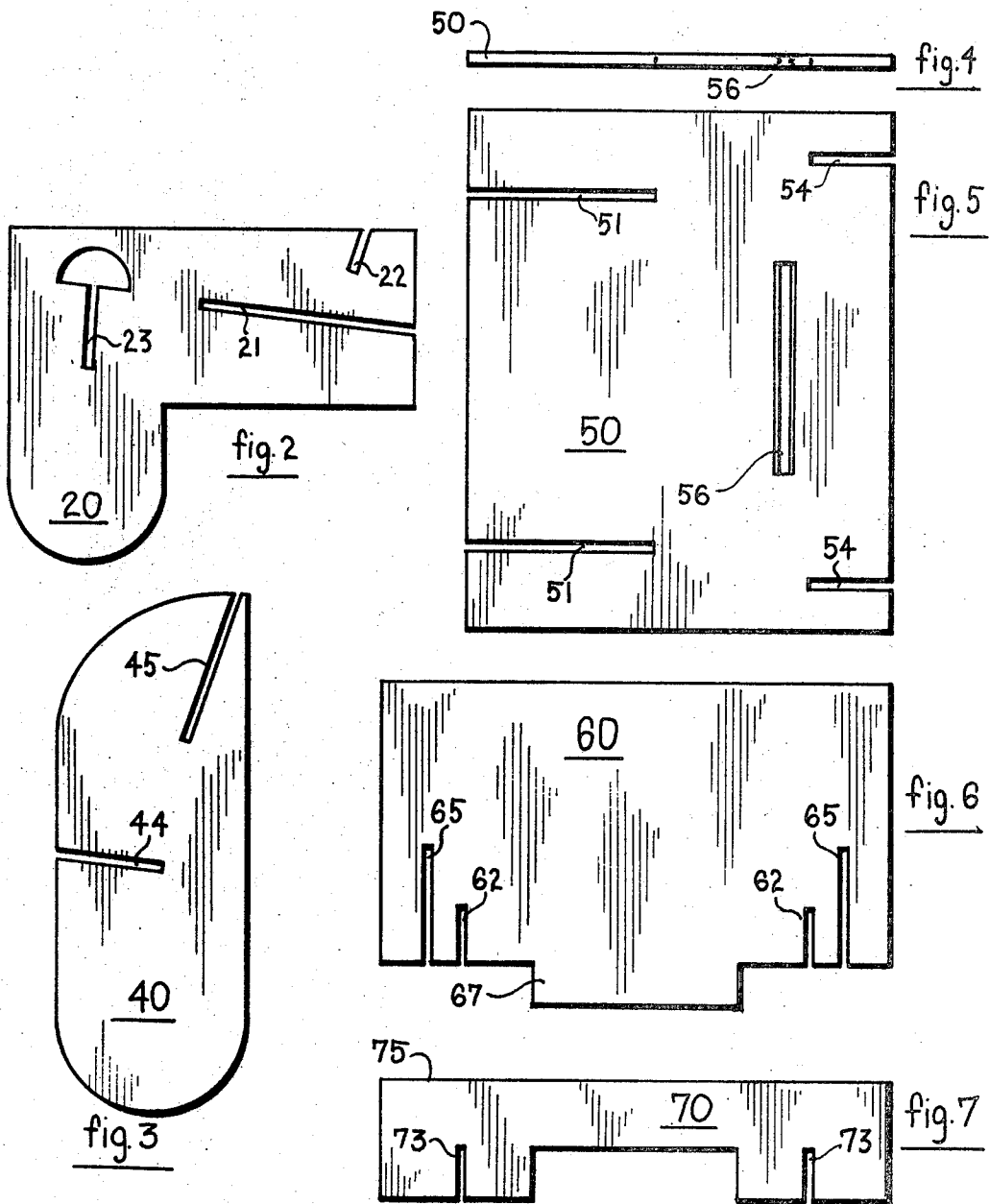
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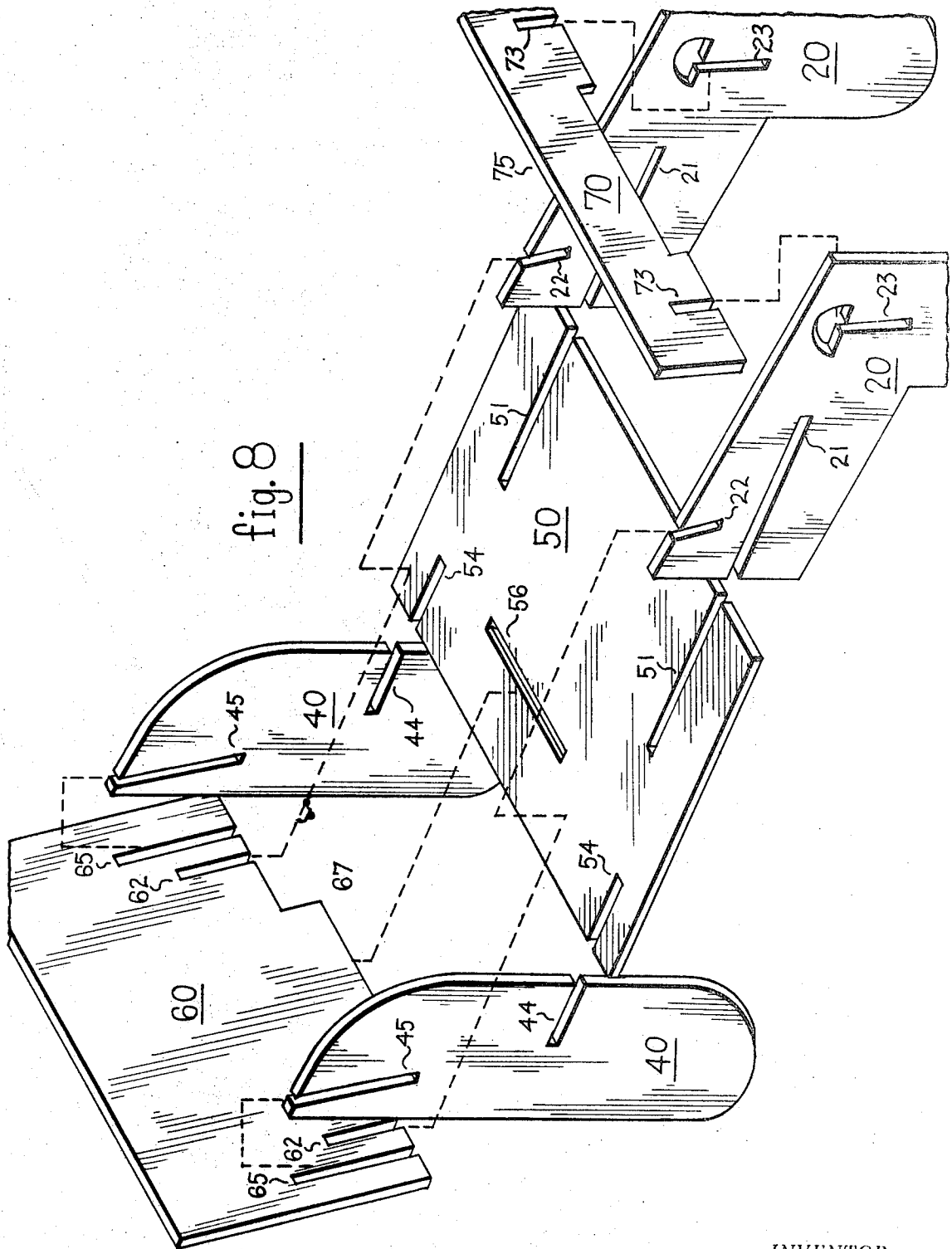


fig. 8

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3,547,491  
**QUICK ASSEMBLED FURNITURE**  
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6 Claims

## ABSTRACT OF THE DISCLOSURE

The unit of furniture is made from six flat pieces; four legs, a seat and a back. Each piece is grooved and interlocks with the other pieces during assembly. All pieces are reversible and no tools or fasteners are used in assembly or disassembly.

This invention relates to furniture and more particularly to furniture that can be quickly assembled and disassembled.

An object of this invention is to provide furniture that is assembled solely from interlocking components.

Another object is to provide furniture that is assembled from flat components.

Another object is to provide furniture made of components that interlock during assembly.

Another object is to provide furniture that has reversible interlocking components; thus allowing a quick rearrangement to expose different surfaces.

Another object is to provide furniture that is assembled without tools or fasteners.

Another object is to provide furniture that can be quickly hand assembled and disassembled.

FIG. 1 is an isometric view of an assembled article of furniture, specifically a chair.

FIG. 2 is an elevation view of a front leg.

FIG. 3 is an elevation view of a rear leg.

FIG. 4 is an edge view of the seat from the side.

FIG. 5 is a plan view of the seat.

FIG. 6 is an elevation of the back.

FIG. 7 is an elevation of the front cross-piece.

FIG. 8 is an exploded view of the chair components in position to be assembled.

Much furniture has in the past been designed to be quickly assembled and disassembled; these designs have had the shortcomings of requiring either:

- (a) precisely manufactured components,
- (b) special tools,
- (c) extra fasteners,
- (d) extensive storage space.

Even if these shortcomings were overcome, furniture of the past has not had reversible components and more importantly after assembly the units were unstable. The furniture would rack back and forth or rack left and right and a seated person would feel uneasy seated on such an unstable structure. The present invention provides a simple solution to these problems and provides a furniture unit that interlocks when assembled to provide a stable and comfortable seat.

The invention is described in the embodiment of a chair; it being understood that many pieces of furniture are similar, and thus the following description is not intended to be limiting.

FIG. 1 shows an assembled chair. The chair is constructed of two identical front legs 20 and two identical rear legs 40. There is a seat 50, a back 60, and an optional cross-piece 70.

All components of the chair are constructed from rigid flat material such as 1/2" or 3/4" thick plywood panels. Each component is grooved with straight 1/2" or 3/4" wide

grooves 21 and 44 determines the slope of the chair; in the interlocking components of the chair.

The front leg 20, FIGS. 1 and 2, contacts the floor with a rounded foot and contains a slanted groove 21 for receiving a groove 51 of the seat 50. The front leg 20 includes a groove 22 which during assembly receives a groove 62 of the back 60. Leg 20 includes a mushroom-shaped opening and groove 23, which receives groove 73 of the cross-piece 70.

The rear leg 40, FIG. 2, contacts the floor with a rounded foot and is made with a slanted groove 44 that receives a groove 54 of the seat 50. The slope of the grooves 21 and 44 determines the slope of the seat; in the design shown the seat 50 slopes downward and to the rear of the chair at an angle of about 15 degrees. The rear leg 40 also includes a groove 45 which receives groove 65 of the back 60. Grooves 45 and 22 are parallel and decline toward the rear of the chair at an angle of about 25 degrees. Grooves 45 and 22 receive the back 60 and thus determine the slope of the back in the assembled chair.

The seat includes a long notch 56 that is designed to receive a rectangular projection 67 on the lower surface of the back 60. If the projection 67 enters the notch 56 along a line perpendicular to the surface of seat 50 the notch 56 can be a rectangular slot, this construction allows the seat to be reversed. However, if the angle defined by the seat and the back is obtuse (100 degrees in the present case) the notch 56 must be cut at this angle (100 degrees) from both sides of the seat and the notch 56 in edge view would appear as shown in FIG. 4. This notch construction allows the seat to be reversed when the seat and back meet at an obtuse angle.

The assembly procedure for the chair is to engage the front leg grooves 21 with the seat grooves 51; by sliding them together; and then engage the rear leg grooves 44 with the seat grooves 54. With these five components assembled the chair will stand and the back panel 60 is slid downward into grooves 22 and 45 and at the same time inserting projection 67 into notch 56.

It will be observed that the back interlocks with each of the other five components, the seat also interlocks with each of the other five components of the chair.

As a means of bracing the front edge of the seat against vertical flexing, the cross-piece 70 can be connected between the two front legs by engaging grooves 23 with grooves 73 in the cross-piece. The upper edge 75 of the cross-piece is designed to just underlie the lower surface of the seat 50 and thus prevents a heavy weight on the seat from appreciably flexing the seat. If the cross-piece is used it is connected between the two front legs as the first step of the assembly.

The furniture of this invention requires no tools or fasteners for assembly or disassembly, the components can be quickly slid together to complete the assembly and if the back, for example, is red on one side and blue on the other, it can be quickly turned around to expose the other surface and thus change the appearance of the piece of furniture. The assembled unit has a stability and firmness that is to be expected only from furniture that is screwed and glued together. Because the seat and back panels of this invention interlock with each of the other components the furniture of this invention provides an equivalent stability without fasteners.

The invention claimed is:

1. An article of furniture assembled without fasteners from interlocking components, comprising; a seat containing grooves for engaging each of four legs and a back, two front legs each grooved to engage the seat and back, two rear legs each grooved to engage the seat and back, and a back that concurrently engages and interlocks with each leg and the seat.

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2. An article of furniture comprising six components; two interchangeable front legs, two interchangeable rear legs, a seat that may be reversed top surface for bottom surface, and a back that may be reversed front surface for rear surface, said seat and back each including surfaces for engaging every other component allowing said article to be assembled without fasteners.

3. An article of furniture assembled without fasteners, comprising; a seat, a back including a projection, and four legs, each leg being grooved to slidably receive said seat and each leg being grooved to slidably receive said back, and means defining a notch in said seat for receiving the projection of the back, said back being slidably engageable with said four legs and said seat to interlock the pieces of said article together.

4. An article of furniture comprising; two grooved front legs, two grooved rear legs, a back grooved to slidably engage each leg, and a seat grooved to slidably engage each leg and notched to receive the back, the back including a projection for engaging the notch in said seat.

5. An article of furniture assembled without fasteners comprising; a seat containing a notch, a back, two front

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legs grooved to slidably engage said seat and said back, two rear legs grooved to slidably engage said seat and said back, a projection on the back for engaging said seat notch, and during assembly said back being slidably received in said leg grooves and said seat notch to concurrently interlock with the seat and legs.

6. An article of furniture comprising six components; two front legs, two rear legs, a seat, and a back, said seat and back each including surfaces for engaging every other component allowing said article of furniture to be assembled without fasteners from said components.

**References Cited**

**UNITED STATES PATENTS**

1,257,389	2/1918	Platt	-----	297-440X
2,720,253	10/1955	Turner et al.	-----	297-442
3,300,245	1/1967	Rumble	-----	297-442X

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