

- [54] **FOLDING CHAIR**
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- [51] Int. Cl. **A47c 4/04**
- [58] Field of Search **297/17, 16, 51, 296,**
297/298, 353, 306, 300, 460, 284

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Attorney—Olsen and Stephenson

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[57] **ABSTRACT**

A folding chair having a back with an upright member with a cross member attached together by means of a fastener which locks the cross member to the upright member at right angles when the chair is erected and which allows the cross member to rotate with respect to the upright member and slide toward its midpoint to a closed position when the chair is folded. The upright member when folded to its closed position also serves as a carrying handle for the folding chair.

8 Claims, 7 Drawing Figures

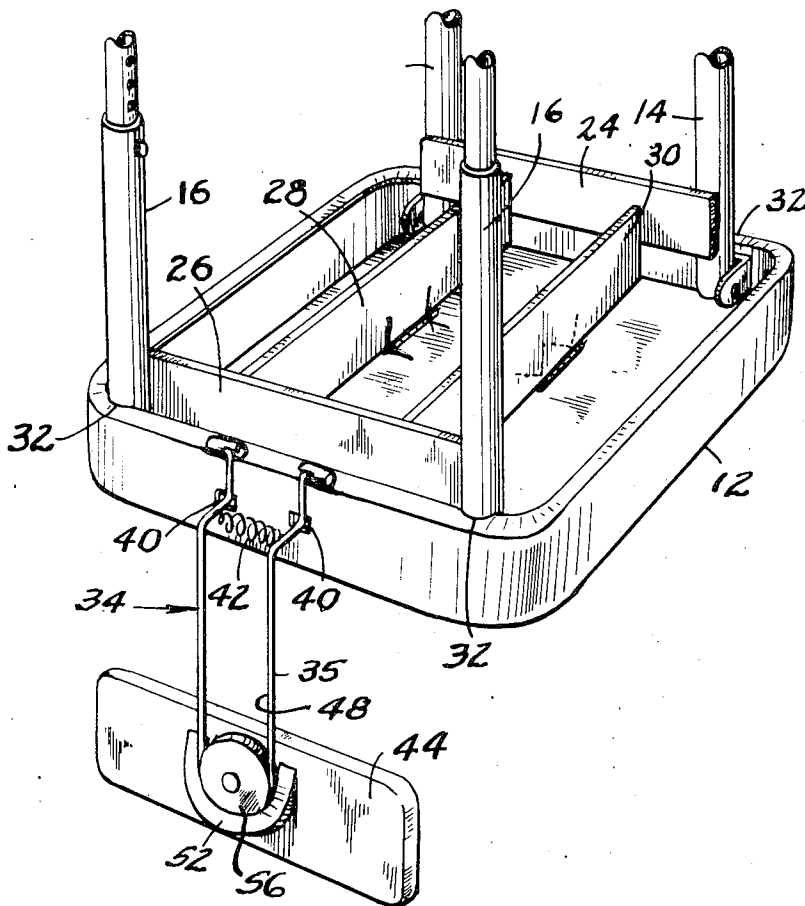


FIG. 1

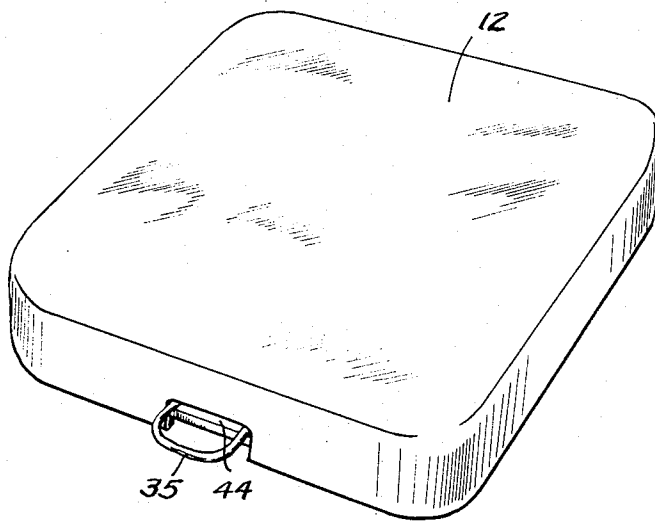
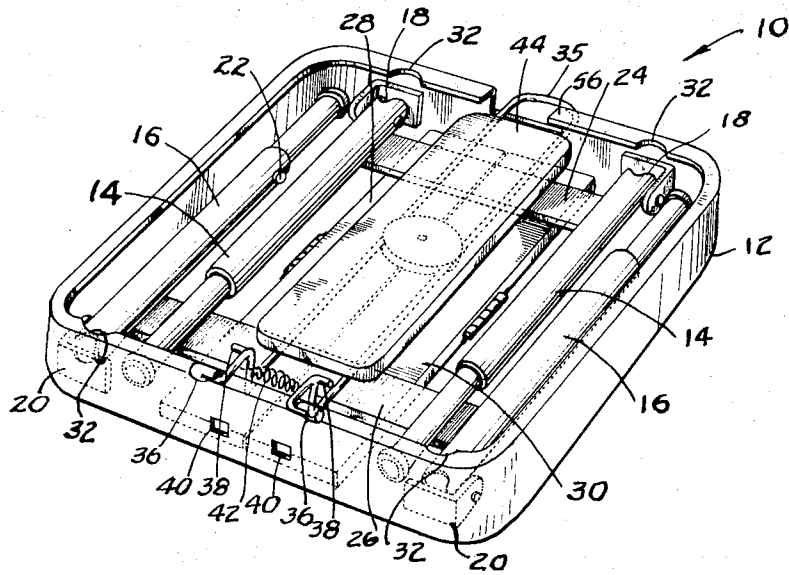


FIG. 2

FIG. 3

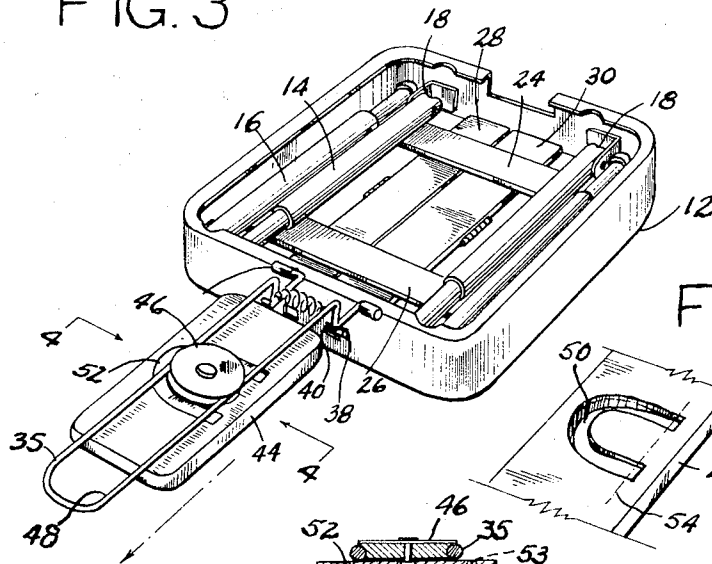


FIG. 5

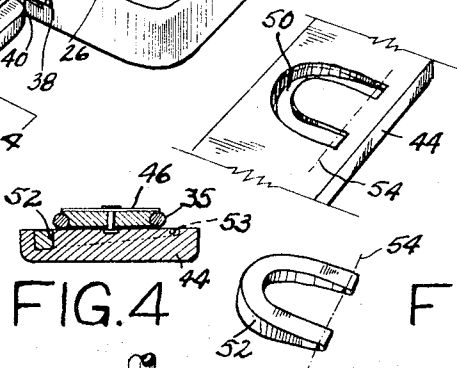


FIG. 4

FIG. 6

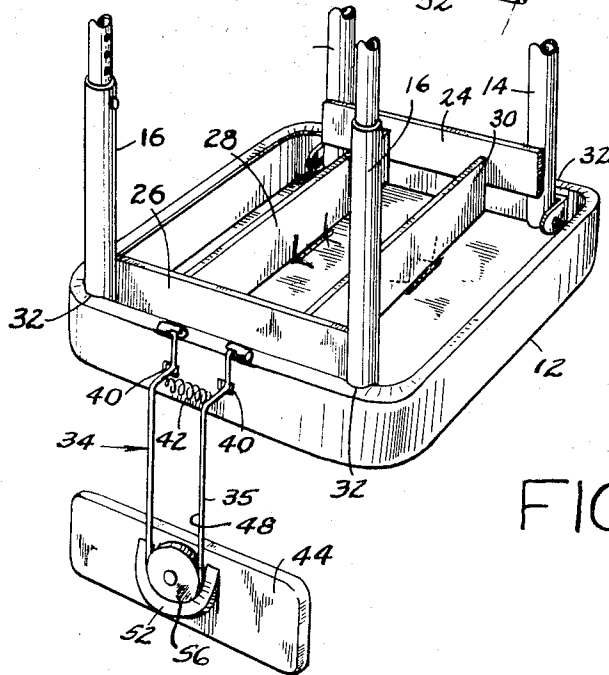


FIG. 7

FOLDING CHAIR

BACKGROUND OF THE INVENTION

The present invention relates to chairs and more particularly to foldable chairs which can be collapsed into compact, easily carried units. In the design of a folding portable chair, it is important that the chair, when folded, be compact and easy to carry. In prior art units, efforts have been made to realize this objective by collapsing the legs and back of the chair into the seat portion to obtain a flat, essentially rectangular shaped configuration. However, solutions for fitting the back within the confines of the seat portion have not been entirely satisfactory.

SUMMARY OF THE INVENTION

The present invention provides a construction and arrangement of a folding chair which utilizes in an optimum manner the internal space of the seat portion to overcome the problems inherent in prior art units.

The invention provides a folding chair which has an essentially rectangular seat and frame within which the legs and back fold to form a flat compact structure which is easy to carry. To utilize the internal space most efficiently the back of the chair comprises two parts, an upright member which folds and is locked at its base and a cross member which is attached at the opposite end of the upright member to form a T-shaped back. When the chair is folded, the cross member is unlocked from its erected position, rotated to an essentially parallel position with respect to the upright member, and moved toward the midpoint of the upright member. The upright member is then folded at its base to lay across the length of the seat. When folded in this position the upright member protrudes at the front edge of the seat to form a handle and the back is positioned in the space defined between the folded telescoping legs of the chair.

Thus, it is among the objects of this invention to provide an improved back for a folding chair. Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the folding chair showing the underside with the legs and back folded to a closed position;

FIG. 2 is a perspective view of the folding chair showing the topside when the chair is folded;

FIG. 3 is a perspective view similar to FIG. 1 with the back partially unfolded;

FIG. 4 is a sectional view of the back fastener assembly as seen along line 4-4 of FIG. 3;

FIG. 5 is a fragmentary perspective view of the back showing a portion of the fastener connection for the back;

FIG. 6 is a perspective view of one component of the fastener connection removed from the back; and

FIG. 7 is an inverted perspective view of the folding chair in its erected configuration.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Before explaining the present invention in detail, it is

to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Referring to the drawings, a folding chair 10 has an essentially rectangular frame 12 with telescoping front legs 14 and telescoping rear legs 16 pivotally attached by means of brackets 18 and 20, respectively. The legs 14 and 16 are telescoped and held by means of a pin or plunger 22 in each leg. The front legs 14 are maintained parallel by a support plate 24, and the rear legs 16 are maintained parallel by a support plate 26. Support flaps 28 and 30 are hinged to the frame 10 and swing out to contact the plates 24 and 26 and thus hold the legs 14 and 16 in their erected positions in which the legs abut indentations 32 as seen in FIG. 7.

A back member 34 comprises a flexible U-shaped rod 35 pivotally attached at its lower terminal ends to the frame 12 by means of hollow notched ferrules 26. The U-shaped rod 35 has projections 38 which provide retention means to engage the frame 12 in the holes 40 when the U-shaped rod 35 is in its erected position and is being forced outward into the notched portion of ferrules 36 by compression of spring 42 as best seen in FIG. 7.

A cross member 44 comprises part of the back member 34 and is attached to the U-shaped rod 35 by means of a bracket or fastener 46 which is journaled in the cross member 44 and has its periphery engaged within the channel 48 defined within the U-shaped rod 35. The cross member 44 has a horseshoe-shaped cutout 50 disposed around the fastener 46, and a horseshoe-shaped clasp 52 is pivotally mounted by pins 53 along an axis 54 in the cutout 50.

The fastener 48 operates in conjunction with the clasp 52 to secure the cross member 44 in an essentially rigid position at the top of the U-shaped rod 35. This is accomplished when the clasp 52 pivots out of the plane of the cross member 44 in response to gravity and overlaps the U-shaped rod 35 and the fastener 46 as seen in FIG. 7. The U-shaped portion of the clasp 52 and the closed upper end of the rod 35 are thus engaged to inhibit rotation therebetween. When the clasp 52 is manually pushed back into the cutout 50, the cross member 44 can rotate freely on the fastener 46. With the cross member 44 rotated parallel to the U-shaped rod 35, the clasp 52 is held in a retracted position by the U-shaped rod 35 contacting the clasp 52 (FIG. 4) and the cross member 44 can be moved along the channel 48 defined between the upright legs of the rod 35 to a midway position for folding, as shown in FIG. 3.

When the back 34 is folded to the closed position shown in FIG. 1, and there is tension on the rod 35 at the ferrules 36, the cross member 44 can be moved toward the front of the frame 12 (FIG. 1) where it is frictionally held under a lip 56 and thus inhibit the folding chair 10 from accidentally unfolding while being carried.

What is claimed is:

1. A folding chair comprising a frame having front, rear, and side portions and a seat portion which define a chamber, and extensible legs and a back member

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mounted on said frame for folding within said chamber, wherein said back member comprises an upright member, a cross member, and a fastener means which connects said cross member to said upright member to permit folding said cross member in line with said upright member for folding said back member into said chamber and rigidly connects said cross member to said upright member when said back member is in its erected position, said upright member being a U-shaped rod with a closed upper end and open lower terminal ends, said U-shaped rod being pivotally connected at its terminal ends to said rear portion of said frame and including retention means for retaining the pivotally connected rod in its upright position, said retention means being releasable so that said U-shaped rod can be pivoted to its folded position, the length of said U-shaped rod being such that its closed upper end projects beyond said front portion to provide a handle for carrying the chair in its folded position.

2. A folding chair comprising a frame having front, rear, and side portions and a seat portion which define a chamber, extensible legs and a back member foldably mounted on said frame and adapted for folding within said chamber, said back member including an upright member, a cross member, and a fastener means which swivally and slidably connects said cross member to said upright member for folding into said chamber and rigidly connects said cross member to said upright member when said chair and said back are unfolded, said upright member including a U-shaped rod which defines a channel and has a closed semi-circular upper end, said fastener means including a cylindrical means mounted on said cross member and disposed within said channel and a locking means for locking said cylindrical means at said upper end of said channel so that said cross member is locked in non-rotating relationship with said upright member, said cylindrical means having a concave circumference which engages said channel and conforms in shape to said one end of said channel.

3. The folding chair that is defined in claim 2, wherein said locking means comprises a horseshoe-shaped member pivotally mounted on said cross member and adapted to move from an unlocked position within said cross member to a locked position in which said horseshoe-shaped member overlaps a portion of said concave circumference of said cylindrical means and said U-shaped rod disposed thereabout.

4. The folding chair that is defined in claim 1, wherein said front portion of said frame has a notch

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into which said U-shaped rod fits when the chair is in its folded position.

5. The folding chair that is defined in claim 1, wherein said fastener means includes a bracket fastened to said cross member and slidably mounted on said upright member for movement between said closed upper end and lower portions of said rod, and a clasp member pivotally mounted on said cross member for pivotal movement between a first position recessed within said cross member and a second position encompassing said closed upper end of said rod.

6. The folding chair that is defined in claim 5, wherein said cross member is connected to said bracket member for relative rotational movement so that said cross member can be rotated to a position in alignment with said upright member when said clasp member is in its first position.

7. A folding chair comprising a frame having front, rear, and side portions and a seat portion which define a chamber, and extensible legs and a back member mounted on said frame for folding within said chamber, wherein said back member comprises an upright member, a cross member, and a fastener means which connects said cross member to said upright member so as to permit folding said cross member in line with said upright member for folding said back member into said chamber and rigidly connects said member to said upright member when said back member is in its erected position, said upright member being a U-shaped rod with a closed upper end and open lower terminal ends, said U-shaped rod being pivotally connected at its terminal ends to said rear portion of said frame and including retention means for retaining the pivotally connected rod in its upright position, said retention means being releasable so that said U-shaped rod can be pivoted to its folded position, said fastener means including a bracket member fastened to said cross member and slidably mounted on said upright member for movement between said closed upper end and lower portions of said rod, and a clasp member pivotally mounted on said cross member for pivotal movement between a first position disengaged from said rod and a second position encompassing said closed upper end of said rod.

8. The folding chair that is defined in claim 7, wherein said bracket member has a pivotal connection with said cross member so that the latter can be pivoted to a position in alignment with said upright member for folding of said back member into said chamber.

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