Sept. 1, 1953 R. L. WATSON 2,650,652

COLLAPSIBLE CHAIR

Filed July 17, 1950 2 Sheets-Sheet 1

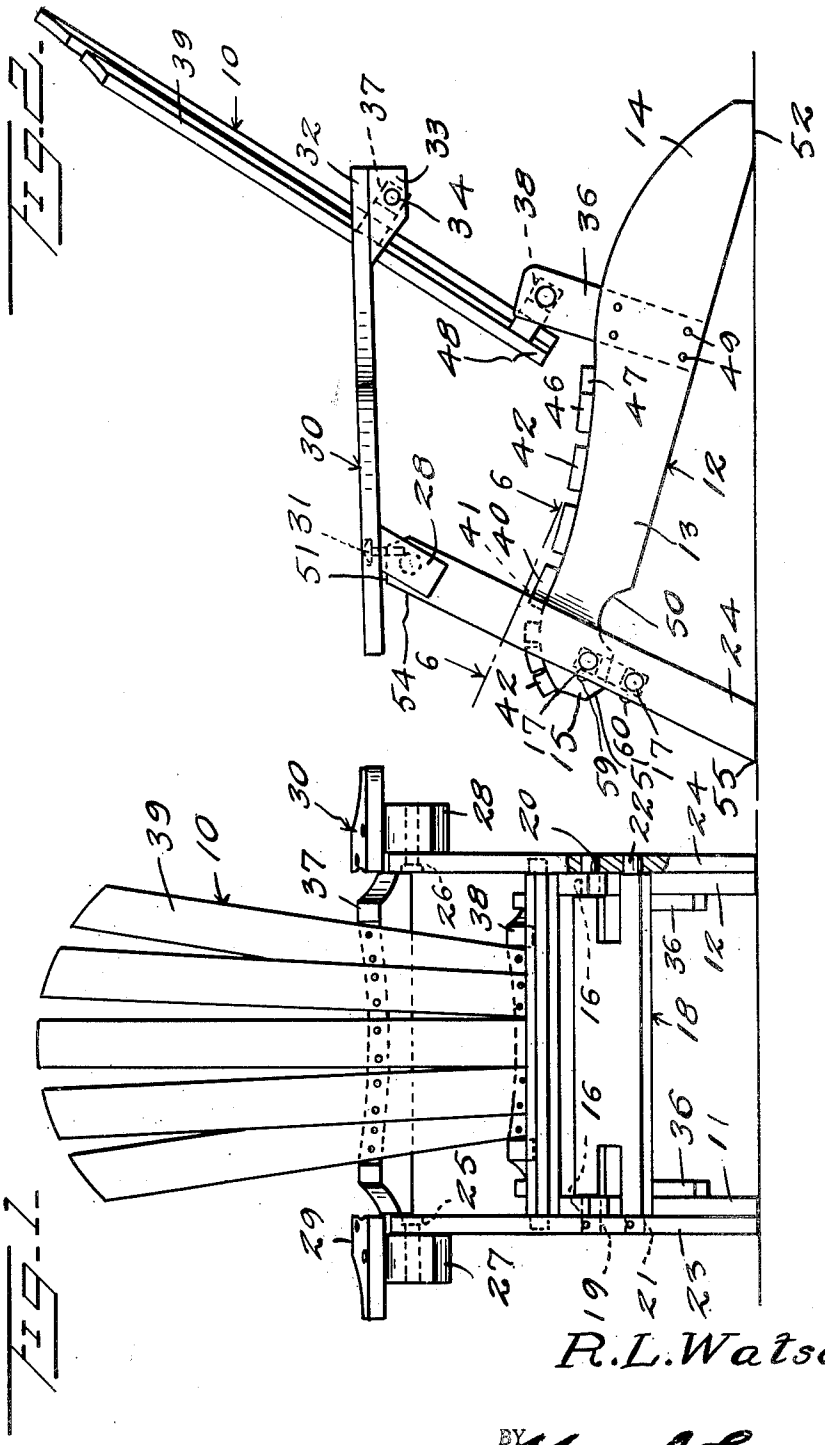

FIG. 2.

FIG. 1.

INVENTOR

R. L. Watson

BY Kimmel & Crowell

ATTORNEYS

Sept. 1, 1953 R. L. WATSON 2,650,652

COLLAPSIBLE CHAIR

Filed July 17, 1950 2 Sheets-Sheet 2

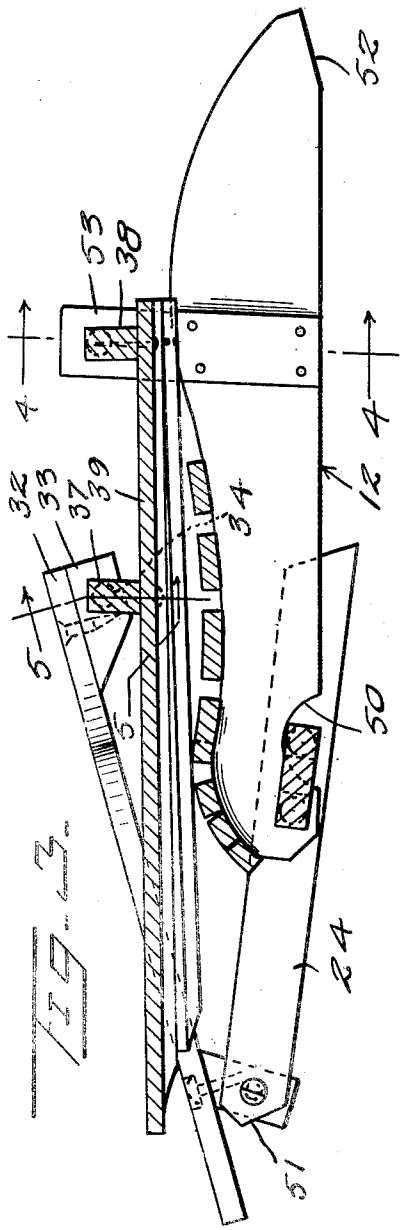

FIG. 3.

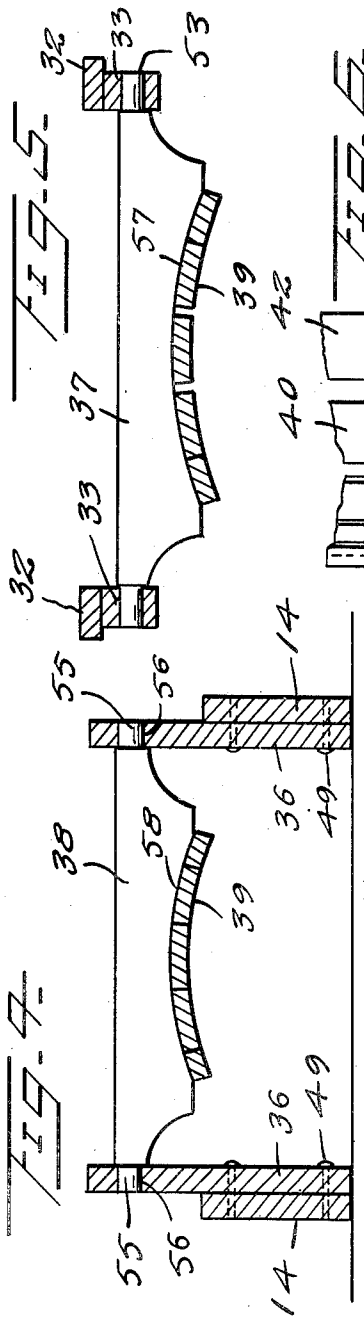

FIG. 5.

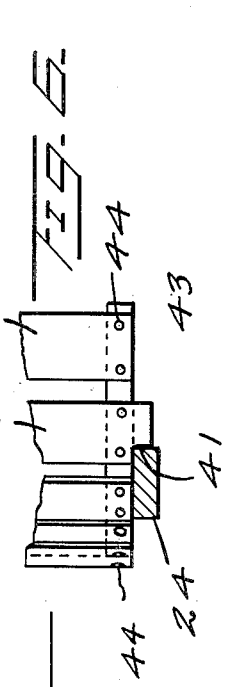

FIG. 6.

FIG. 4.

INVENTOR

R. L. Watson

BY Kimmel & Crowell

ATTORNEYS

Patented Sept. 1, 1953 2,650,652

UNITED STATES PATENT OFFICE

2,650,652

COLLAPSIBLE CHAIR

Raymond L. Watson, Elkridge, Md.

Application July 17, 1950, Serial No. 174,317

1 Claim. (Cl. 155—139)

1

This invention relates to a collapsible chair, and more particularly a chair formed with fixed pivot points about which respective back and leg members turn to effect a folded condition of the chair without loss of rigidity.

Most collapsible chairs are inherently unstable and insecure due to the multiplicity of flexible joints formerly considered necessary in a conventional chair of this type.

Therefore, it is among the objects of this invention to provide a collapsible chair construction that is simple, rugged and formed with a minimum of parts.

A further object is to provide a combined pivot and brace construction in a foldable chair.

Still a further object is to provide a folding chair in which all of the parts are securely connected together.

Another object is to provide a foldable chair having a back portion that overhangs a portion of the seat when unfolded.

Other objects and features of the present invention will become apparent from the following description when read in conjunction with the accompanying drawings, and the invention consists in the novel form, combination and arrangement of parts hereinafter described in detail, shown in the drawings and claimed in the appended claim.

In the drawings, wherein like reference characters refer to like parts in the different views:

Figure 1 is a front elevational view of the chair of this invention.

Figure 2 is a side elevational view.

Figure 3 is a side sectional view of said chair totally collapsed.

Figure 4 is a section taken on line 4—4 of Figure 3.

Figure 5 is a section taken on line 5—5 of Figure 3.

Figure 6 is a fragmentary detail plan view of the seat showing the leg stop.

Referring now in detail to the various views, the collapsible or foldable chair of this invention is shown generally as numeral 10. Chair 10 is preferably formed of wood construction with the various parts cooperating to effect a sturdy chair free from any tendency to develop side sway. Such construction, I have discovered, can be effected by having all of the folding parts rotate about pivots formed as extensions of non-flexible cross-members. In this manner I attain mortise-and-tenon joints never considered possible before in a chair of this type.

The chair 10 is formed with a pair of longitudinally extending spaced base or side members 11 and 12 that provide a mid-section 13, or seat area, spaced forwardly of a pair of ground engaging rear feet 14. Each of the side members 11 and 12 consists of a relatively wide board or plank placed on edge and have front end portions 15 transversely apertured as at 16 to rotatably receive a round tenon, as hereinafter explained.

2

Extending between members 11 and 12 is an H-shaped cross-member 18. H-member 18 is formed with a pair of top tenons 19 and 20 spaced from a pair of bottom tenons 21 and 22. The tenons 19, 20, 21, and 22 are formed as oppositely disposed four corner like equally extended extensions of member 18 with the top pair 19 and 20 being adapted for rotatable mounting in apertures 16 with their ends protruding beyond the outer surfaces of side members 11 and 12 respectively. The top tenons 19 and 20 are preferably formed of greater length than the bottom tenons 21 and 22.

Disposed at the front of chair 10 are a pair of front legs 23 and 24. The front legs 23 and 24 are centrally apertured as at 17 to fixedly receive the tenons 19, 20, 21 and 22 of the H-member 18 with top portions 54 extendible above the side members with the bottom ends 55 engageable with the ground. Fixedly carried by the legs 23 and 24 respectively are transverse pivot pins 25 and 26. Rotatably carried by pins 25 and 26 respectively are arm mount blocks 27 and 28. Secured at one end to blocks 27 and 28 respectively by suitable securing means as dowels 31 are a pair of arms 29 and 30. Dependently attached to the rear end 32 of each arm 29 and 30 is a rear pivot block 33 transversely bored as at 34. Extending between the rear pivot blocks 33 is a transverse back member 37 having extended rounded ends 53 adapted to rotate in bores 34.

Fixedly secured to the side members 11 and 12 by suitable screw means 49 are a pair of extensions 36 that form spaced mounts for a second transverse back member 38 similar in construction and mounting as that of member 37. Member 38 is also formed with oppositely extended ends as at 55 rotatably mounted in apertures 56 formed in extensions 36.

Each of the back members 37 and 38 is preferably formed with a concaved inner surface as shown at 57 and 58 respectively dimensioned and shaped to receive a plurality of back slats 39 nail or screw fastened thereto, as best illustrated in Figure 1. The curved surface 58 is preferably formed with a lesser radius than that of surface

57 so as to effect a tapering of the back that is, not only comfortable to the user and form-fitting, but also pleasing in appearance. The slats 39 are positioned to extend from a position above transverse member 37 to a point below apertures 56 with slat ends 48 movable under said apertures on rotation of member 38.

Extending across the top of side members 11 and 12 and slightly to the rear of apertures 16 formed in said members is a transverse seat member 40 having opposite ends extended to form right angular recesses as at 41 to engage with and brace legs 24 when positioned in an open-chair position. Disposed at both sides of seat member 40 are a suitable number of other parallel members 42 having their ends 43 terminated coextensive with said side members and are held in place by suitable nails 44, or the like.

Disposed to the rear of members 42 is a rear seat member 46 formed with an extended rear edge 47 that normally projects under slat ends 48 and is formed with a curvature complementary to that of the back 39. This construction allows for a close working relationship between the seat and back avoiding the undesirable gap conventional to the prior chairs of this type.

In the operation of my chair assuming that it is in an open chair position, as best illustrated in Figures 1 and 2, wherein the front legs 24 are pivoted about tenons 19 and 20 to effect extension forwardly of the bottoms 55 thereof, stability of position of the chair is insured by the legs 24 wherein they are locked against further movement by engagement in the angular recesses 41. Legs 24 are securely fastened to the ends of tenons 19, 20, 21, and 22 by suitable locking screws, or nails, 59 and 60, positioned in the leg edges. On a collapsed position of the chair being desired, all that is necessary is to lift chair up and forwardly with the bottom 55 of the legs being pushed back to rotate the legs about tenons 19 and 20 which effects rotation of blocks 27 and 28 around pivots 25 and 26 as well as rotation of the back members 37 and 38 with the back 39 being moved forwardly and under apertures 56 of extensions 36 to the collapsed position as shown in Figure 3.

It is to be noted that the forward ends 15 of side members 11 and 12 are preferably formed with an under cut-out section 50 adapted to receive the bottom extensions of the H member 18 effecting a parallel positioning of the back 39 relative to the side members. This construction enables the chair 10 to be collapsed to a minimum thickness thereby making it ready of stacking and economical of storage or transportation space.

I have discovered that by arranging the pivot

tenons 19 and 21 cooperatively with the H-shaped brace 18 that all loading is so equally divided over the various pivot points that all tendency for the chair to sag loose on repeated operation and use has been eliminated.

While the foregoing specification sets forth specific details of construction, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed.

I claim:

A collapsible chair comprising a seat having dependently extending spaced side members, said side members having rear ends forming fixed rear legs and front ends transversely apertured, a transverse member having pivot portions extendible through said apertures with opposite ends disposed outwardly of said side members, a second transverse member having opposite ends extending coextensive with and spaced from said ends of the pivot portions of the first member, a spacer connecting said transverse members together to form a rigid member, a pair of rockable front legs fixed to said opposite ends, a stop means extending outwardly of said side members to limit the rearward rocking of said legs, a pair of chair arms rotatably secured at their forward ends to said legs with their rear ends spaced above said side members, pivot blocks having cylindrical apertures therein, depending from said rear ends a pair of spaced mounts having cylindrical apertures therein disposed rearwardly of said seat, a cross member comprised of a transverse flat portion having cylindrical ends rotatably carried by said mounts, a second cross member comprised of a transverse flat portion having cylindrical ends rotatably secured between said pivot blocks, and a back fixedly secured to said cross members for folded movement toward said seat on forward rocking of said legs, said seat having an extended center portion disposed under the back with said back foldable thereover, and said side members having under-cut portions spaced rearwardly of the front legs to receive said second transverse member with the chair totally collapsed.

RAYMOND L. WATSON.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,195,461	Koenig	Apr. 2, 1940
2,468,491	Dorschner	Apr. 26, 1949

FOREIGN PATENTS

Number	Country	Date
66,396	Norway	May 23, 1941