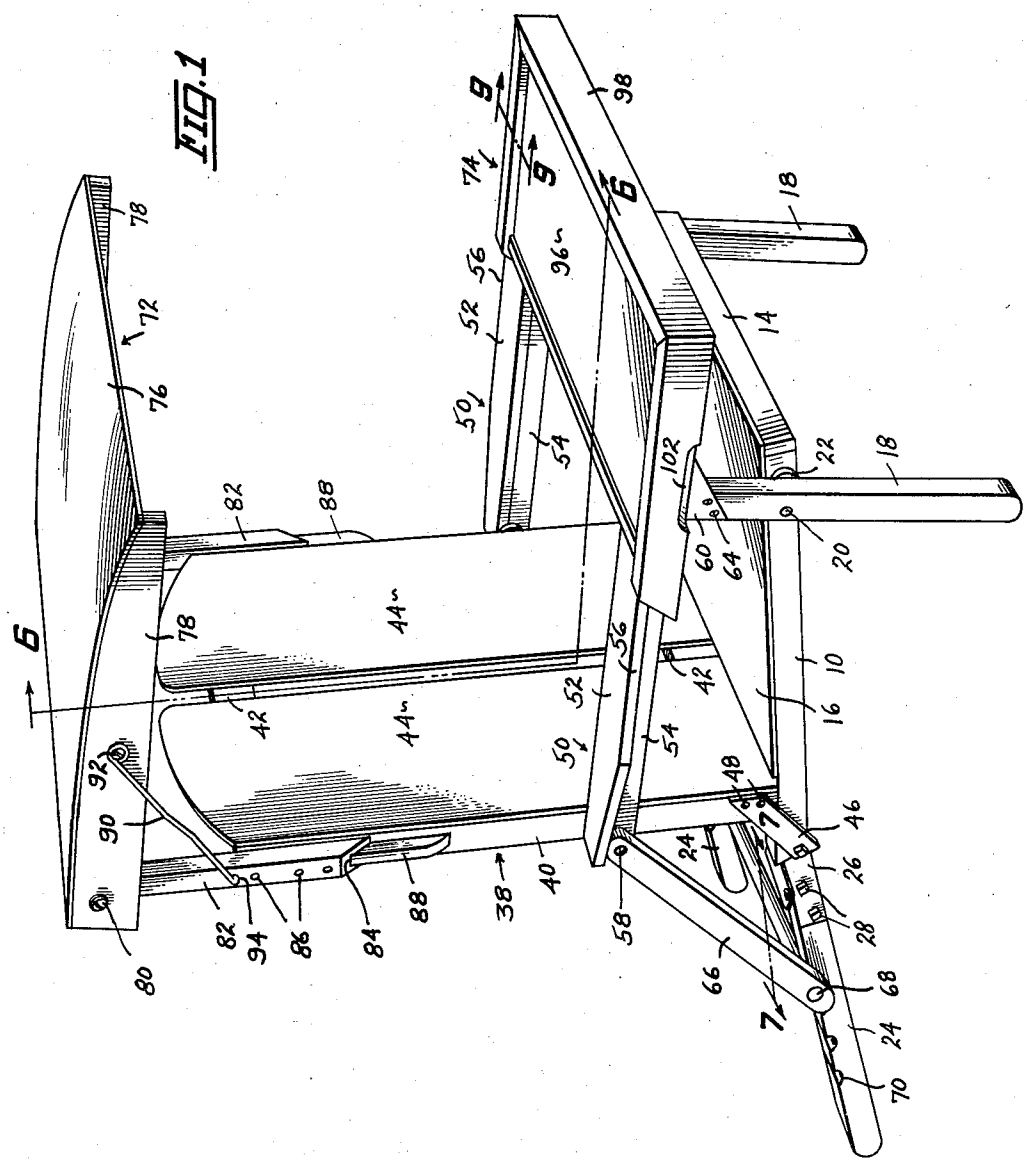
June 3, 1958 D. L. R. HEDMAN 2,837,140

FOLDING YARD CHAIR

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FIG. 1



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FIG. 2

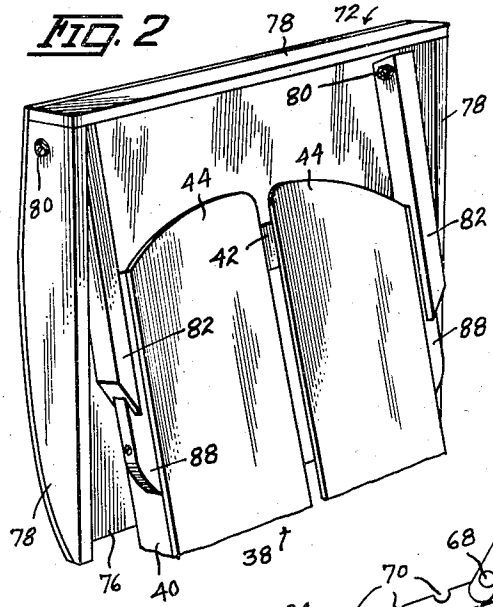
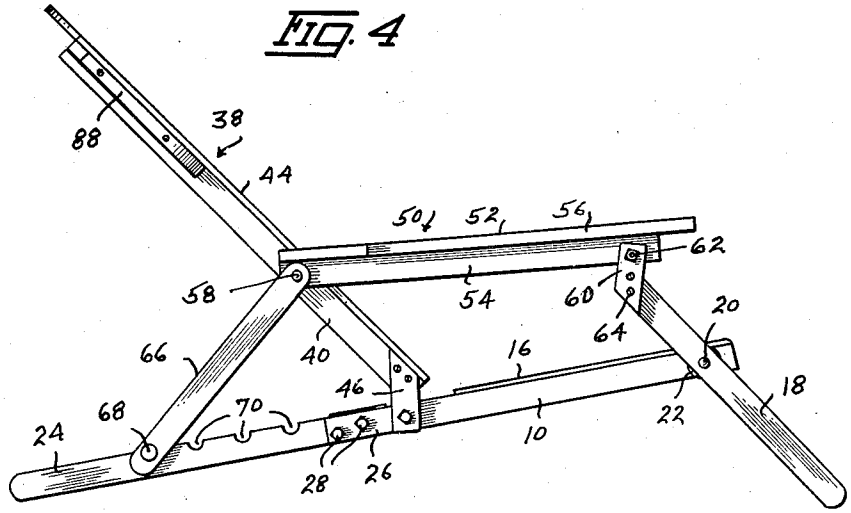


FIG. 3

FIG. 4



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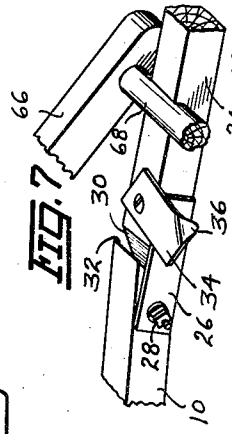


FIG. 7

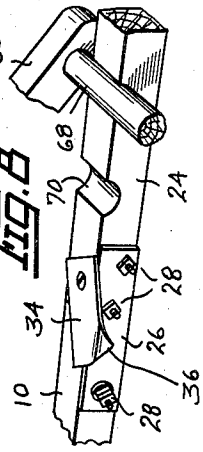


FIG. 8

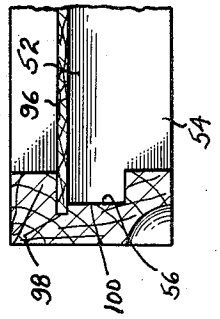


FIG. 9

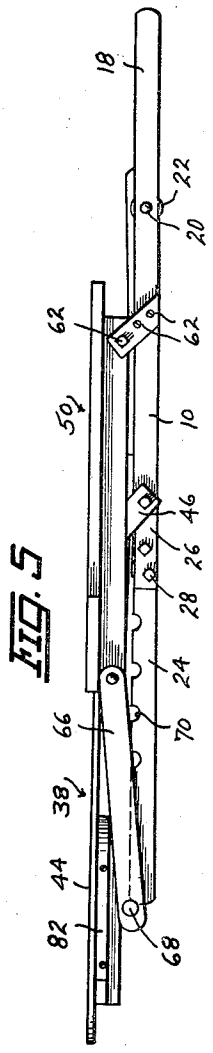


FIG. 5

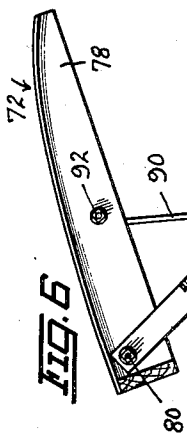
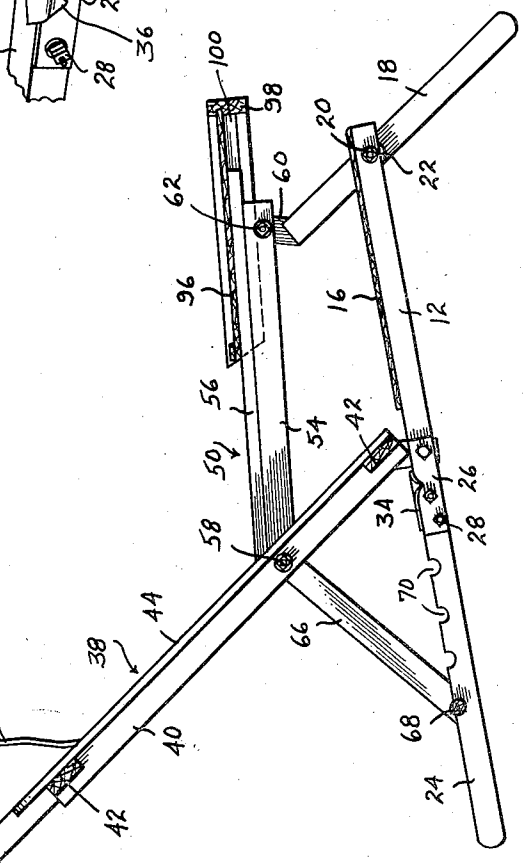


FIG. 6



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FOLDING YARD CHAIR

Dean L. R. Hedman, Des Moines, Iowa

Application July 2, 1956, Serial No. 595,240

6 Claims. (Cl. 155—117)

My invention relates to folding chairs and more particularly to improved construction in chairs intended primarily for use in yards, porches and the like.

A variety of folding chairs of this type are in use which employ either wood or metal frames onto which flexible coverings or webbings are attached for the seat and back portions and I have found that for extensive use under conditions where such furniture is continually exposed to the elements these chairs are rather frail and subject to rapid deterioration.

It is therefore one of the important objects of this invention to provide a foldable chair having solidly constructed frame, seat and back portions but which can be easily folded into an exceedingly compact unit for storage.

Another object inhering in this invention is to provide a sturdy chair of the above class that is comfortable to use and adjustable to several positions.

Still another object herein is the provision of a canopy and table member for selective use with this chair and which accessories are improved in structure over similar accessories heretofore used.

Other objects and advantages of this invention reside in the details of construction and correlation of the various parts and will be apparent as the description proceeds.

This invention consists of novel parts and combination of parts to be hereinafter described whereby the objects set forth are attained, as pointed out in the claims and illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view showing a preferred embodiment of my invention,

Fig. 2 is a perspective view of the back portion of this chair showing the canopy reversed and folded for nonuse.

Fig. 3 is a side elevation showing this chair in its most upright position,

Fig. 4 is a side elevation showing this chair in its most inclined position,

Fig. 5 is a side elevation showing the completely collapsed position of this chair,

Fig. 6 is a side elevation partly in section taken on the line 6—6 of Fig. 1 and showing the chair in inclined position,

Fig. 7 is a fragmentary perspective of a leg joint in open position taken from the line 7—7 of Fig. 1,

Fig. 8 is a view similar to Fig. 7 but showing the joint closed and locked, and,

Fig. 9 is a cross sectional view taken on the line 9—9 of Fig. 1.

Referring to the drawings a seat frame is formed from the spaced side frame members 10 and 12 (Figs. 1 and 6) and the front cross member 14 connected to the forward ends of members 10 and 12 together with the solid or rigid seat portion 16. All portions of the seat and the other parts to be described, except fastening means, are preferably made of wood since this chair is intended to be of the type that can be left in the yard and exposed to the elements except in seasonal climates where it can be folded and stored when not in use as will later appear.

Various legs, braces and the like which are to be described are the same on each side of the seat and therefor to simplify the description, like parts will be given like numbers. Legs 18 are pivotally secured to the forward end portions of the frame sides 10 and 12 by any suitable means such as the nuts and bolts 20. Washers 22 are employed between the legs and frame to facilitate pivotal movement in an obvious manner. Rear legs 24 are in effect an extension of the frame sides 10 and 12, and which are pivotally secured to the rear end of such sides by the splice-like operating plates 26 held in place by bolts and nuts 28. At the juncture of sides 10 and 12 and leg members 24, the sides are mitred 30 (Fig. 7) at preferably 60 degrees and a complementary inverse mitre 32 is provided on each leg 24 so that the engagement of the mitred surfaces adds to the strength of the leg when such leg and corresponding frame side lie in the same plane as shown for example in Fig. 4. To hold the joint between legs 24 and the frame sides in place, a holding plate 34 is pivotally mounted on the top of each leg 24 so it can be moved across the joint at times as shown in Fig. 8. One edge of plate 34 is crimped 36 to engage the side plate 26 and thus limit its movement in one direction.

A back member 38 comprises a suitable frame with the upstanding sides 40 and cross pieces 42 covered by a back rest 44 which I preferably make in two sections. At the bottom of each back frame side 40 and on the outer side thereof is angularly disposed a plate 46 which is rigidly secured at one end to the sides by screws or bolts 48. The other end of plate 46 is pivotally connected to the seat frame sides 10 and 12 by one of the bolts 28 on plate 26 so that back 38 can be inclined rearwardly. (Figs. 4 and 6.) Arms 50 have the flat arm rest portion 52 and the support 54 below and in line with one edge of portion 52 so that the other edge portion provides the longitudinally extending shoulder 56 as seen in Fig. 9. Arms 50 are pivotally secured at the rear to back frame sides 40 by a bolt 58 through support portion 54 and near the forward ends of the arms they are pivotally connected to a plate 60 by the bolt 62. Plate 60 in turn is rigidly secured to the upper end portion of the front legs 18 by any suitable means such as screws 64.

A stabilizer for back 38 in its various positions is in the form of a brace 66 pivotally connected at one end to each back side 40 by bolt 58 which also holds the rear end of the arms 50. Braces 66 extend downwardly and rearwardly from bolt 58 and are connected at their lower ends by the cross rod 68. Rod 68 can be removably seated in correspondingly spaced notches 70 provided in the rear legs 24 to adjust the inclination of back 38 relative to seat 16.

Thus far described this chair can be adjusted to different positions as seen in Figs. 3 and 4. When in upright position plate 34 (Fig. 7) is moved to allow the break in the joint between the rear legs 24 and the seat frame sides 10 and 12. When inclined, plate 34 covers the joint to prevent any accidental movement at this point and in the inclined position it will be noted that seat members 10 and 12 form in effect a continuous rear leg which pivotally connects directly with the front legs 18 (Figs. 4 and 6).

It will also be noted that as the back 38 is inclined, the front legs 18 are also inclined so that the seat 16 is somewhat lower to the ground and inclined slightly from front to rear. This seat angle together with the angle of back 38 in its most inclined position (Fig. 4) allows a person to lie in a most restful and relaxing position. As pointed out previously, this chair is made very sturdily and preferably from wood since it is intended for

yard use primarily and is not intended as a chair to be transported from place to place. Similar chairs of this type are non-collapsible and must therefore remain in the yard the year round. While my chair can also remain in the yard at all times, there are many areas where yard furniture is used only seasonally and therefore I have made this type of chair collapsible so that it can be stored in a minimum of space during seasons of nonuse, if desired. To collapse this chair, it is only necessary to raise the cross rod **68** from notches **70** and the entire chair will fold as shown in Fig. 5. It is not beleved that any other chair of this construction can fold into the compactness illustrated in Fig. 5 and thus the utility of a sturdy and solid chair is present together with considerable ease of folding the same to store it or get it out of the way temporarily, if that is required.

For use with this chair I provide a canopy or awning **72** and a table or tray member **74** (Fig. 1) and while no invention is claimed per se in these accessories, they have certain structural innovation that add considerably to their use. The canopy includes the top **76** mounted to a suitable frame **78**. The width of frame **78** approximates the distances between the sides **40** of back **38** and pivotally depending from each rear side of frame **78** by means of a bolt **80** is the bracket or brace **82**. Each brace **82** is formed with a longitudinal slot **84** on the inner side and a plurality of spaced recesses **86** on the outer side. Thus arranged, the slot **84** in each brace **82** slidably engages a rail **88** mounted to the upper portion of each back side **40** as shown in Figs. 1 and 2. Thus the canopy **72** is positioned (Fig. 1) for use and the link member **90** pivotally secured at one end **92** to frame **76** has the hook portion **94** at the other end to selectively seat in one of the recesses **86** whereby the canopy can be adjusted when the back **38** is inclined. If the canopy is not desired at any particular time, it can be lifted off of the back **38**, reversed so that the top **76** is toward the rear of back **38** and the brackets **82** re-engaged with opposite rails **88** as shown in Fig. 2. This allows the canopy to hang suspended on the rear side of back **38** entirely out of the way but available for use whenever desired.

The table **74** includes a table surface **96** recessed within a suitable frame **98** and each side member of frame **98** (Fig. 9) is formed with a longitudinal groove or channel **100** that is complementary in shape to the shoulders **56** on the arms **50**. By this arrangement the table **74** can be slid onto the arms **50** with the shoulders **56** serving as a rail to guide and support the table in channels **100**. Finger tip grooves **102** are form in each side of the table frame to facilitate handling it or carrying it as a tray. Thus for eating purposes, tray or table **74** can be loaded and a person can, after seating himself in the chair simply slide the tray onto arms **50**. Very little contact between grooves **100** and shoulders **56** is required to support the tray and therefore a wide range of adjustment of the tray on the chair is available as the major portion of the tray can be off of the arms without affecting its stability.

It is submitted that the invention shown and described is aptly suited to achieve the purposes intended and is characterized by a combination of highly useful and mutually cooperating elements that combine their respective and proportionate functions in accomplishing the objects sought to be obtained.

It will be understood that the phraseology employed herein is for the purpose of description and not for limitation and that modifications and changes in the construction and arrangement of this invention can be made within the scope of what is claimed, without departing from the spirit and purpose thereof. It is thus intended to cover by the claims, any modified forms of structure or mechanical equivalents which may be reasonably included within their scope.

I claim:

1. A folding chair, comprising, a seat frame, front legs pivotally secured intermediate their ends to each forward side of said seat frame, a back frame pivotally secured to the rear of said seat frame, arms pivotally secured at respective ends to said front legs and back frame, back legs disposed respectively in endwise abutting alignment to each respective side of said seat frame, an operating plate rigidly connected at one end to each respective back leg and at the other end pivoted directly to each respective seat frame so as to exend adjacent the abutting ends thereof to afford pivotal connection between each back leg and the corresponding side of said seat frame, means on said back legs engageable with said seat frame across the abutting ends thereof for locking said back legs against pivotal movement at times, and brace means on said back frame releasably engageable with said back legs to allow selected inclination of said back frame relative to said seat frame.

2. A folding chair, comprising, a seat frame, a solid seat member thereon, front legs pivotally secured intermediate their ends to each forward side of said seat frame, a back frame pivotally secured to the rear of said seat frame, a solid back member on said back frame, back legs disposed respectively in endwise abutting alignment to each respective side of said seat frame, an operating plate rigidly connected at one end to each respective back leg and at the other end pivoted directly to each respective seat frame so as to extend adjacent the abutting ends thereof to afford pivotal connection between each back leg and the corresponding side of said seat frame, means on said back legs engageable with said seat frame across the abutting ends thereof for locking said back legs against pivotal movement at times, and brace means on said back frame releasably engageable with said back legs to allow selected inclination of said back frame relative to said seat frame.

3. A folding chair, comprising, a seat frame, front legs pivotally secured intermediate their ends to each forward side of said seat frame, a back frame pivotally secured to the rear of said seat frame, arms pivotally secured at respective ends to said front legs and back frame, back legs disposed respectively in endwise abutting alignment to each respective side of said seat frame, an operating plate rigidly connected at one end to each respective back leg and at the other end pivoted directly to each respective seat frame so as to extend adjacent the abutting ends thereof to afford pivotal connection between each back leg and the corresponding side of said seat frame, means on said back legs in lockable engagement with said seat frame to hold the same against relative pivotal movement at times, connecting means releasably connecting said back frame to said back legs, said connecting means adapted to be disengaged from said back legs whereby said seat frame and back legs can lie in the same plane, the back frame pivotable to a position on and parallel to said back legs, said arms foldable to a position of longitudinal extension of said back frame, and said front legs foldable to a position adjacent said seat frame.

4. A folding chair, comprising, a seat frame, front legs pivotally secured intermediate their ends to each forward side of said seat frame, a back frame pivotally secured to the rear of said seat frame, back legs disposed respectively in endwise abutting alignment to each respective side of said seat frame, an operating plate rigidly connected at one end to each respective back leg and at the other end pivoted directly to each respective seat frame so as to extend adjacent the abutting ends thereof to afford a pivotal connection between each back leg and the corresponding side of said seat frame, and means on said back legs in lockable engagement with said seat frame to hold the same against relative pivotal movement at times.

5. A folding chair, comprising, a seat frame, front legs

pivotally secured intermediate their ends to each forward side of said seat frame, a back frame pivotally secured to the rear of said seat frame, arms pivotally secured at respective ends to said front legs and back frame, back legs disposed respectively in endwise abutting alignment to each respective side of said seat frame, an operating plate rigidly connected at one end to each respective back leg and at the other end pivoted directly to each respective seat frame so as to extend adjacent the abutting ends thereof to afford pivotal connection between each back leg and the corresponding side of said seat frame, means on said back legs in lockable engagement with said seat frame to hold the same against relative pivotal movement at times, brace means on said back frame releasably engageable with said back legs to allow selected inclination of said back frame relative to said seat frame, and said front legs inclinable when said back frame is inclined to lower said seat frame relative to the ground.

6. A chair as defined in claim 5 wherein said means for locking said back legs against pivotal movement relative to said seat frame includes complementary mitred edges on said legs and respective seat frame sides, and a locking plate on said back legs movable over said mitred edges.

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