Jan. 20, 1942. G. D. SCHERMERHORN 2,270,562

CHAIR STRUCTURE

Filed July 24, 1939 2 Sheets-Sheet 1

Fig. 2.

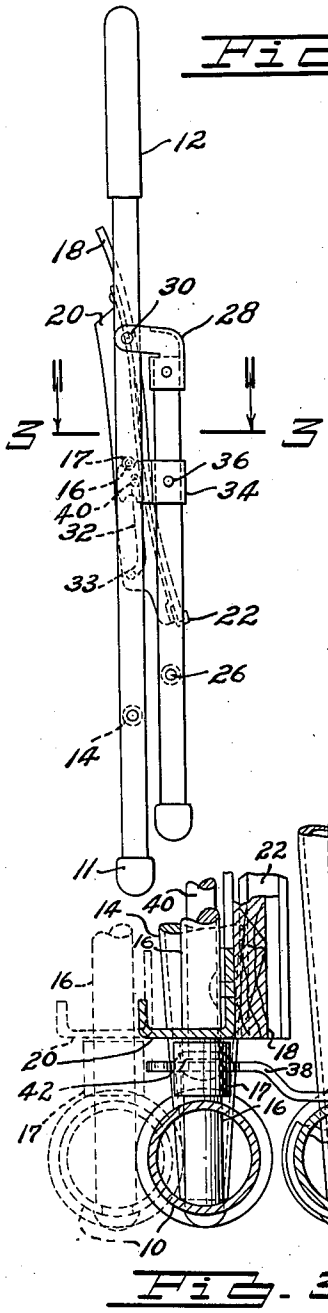


Fig. 1.

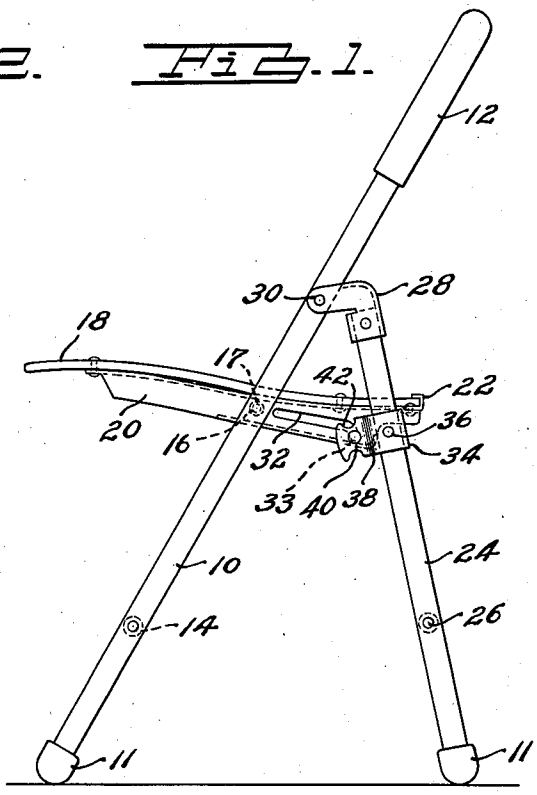


Fig. 3.

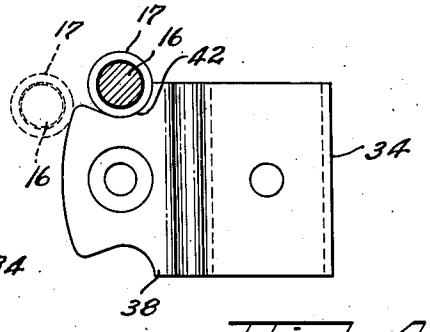


Fig. 4.

INVENTOR.
George D. Schermerhorn
BY
Parker & Burton
ATTORNEYS.

Jan. 20, 1942. G. D. SCHERMERHORN 2,270,562

CHAIR STRUCTURE

Filed July 24, 1939 2 Sheets-Sheet 2

Fig. 6.

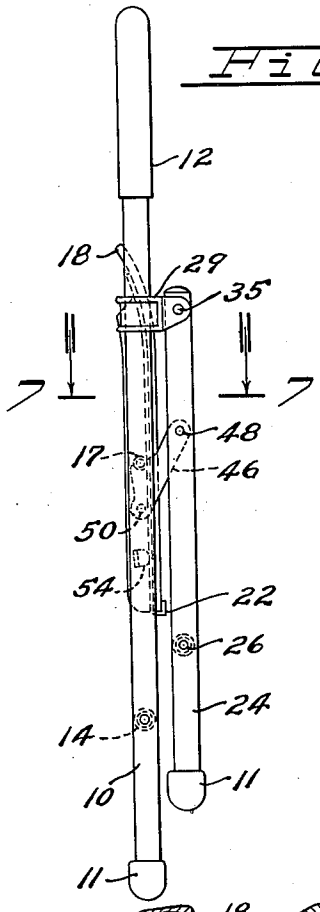
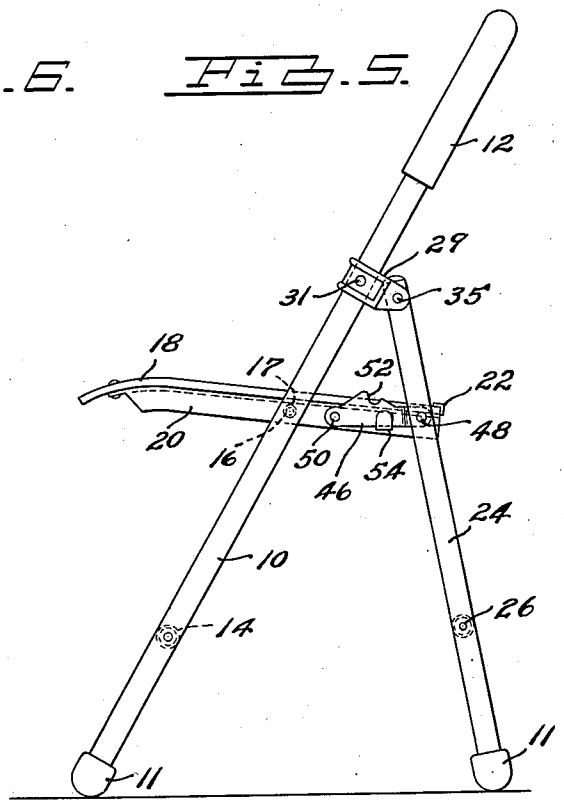


Fig. 5.



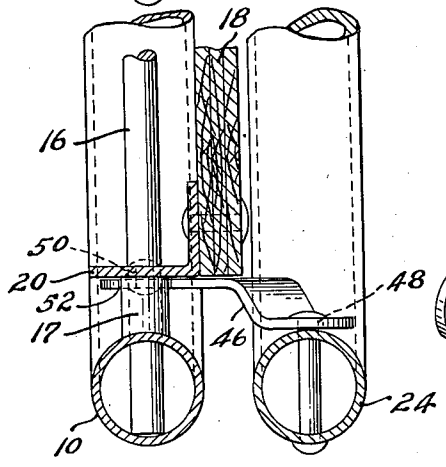


Fig. 7.

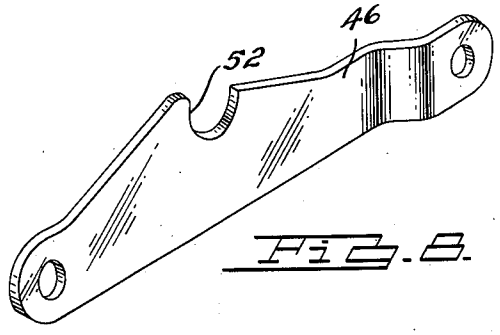


Fig. 8.

INVENTOR.
George D. Schermerhorn

BY Parker & Burton
ATTORNEYS.

Patented Jan. 20, 1942

2,270,562

UNITED STATES PATENT OFFICE

2,270,562

CHAIR STRUCTURE

George D. Schermerhorn, Reading, Mich.

Application July 24, 1939, Serial No. 286,105

4 Claims. (Cl. 155—142)

This invention relates to improvements in folding chairs and particularly to improved means for releasably locking the chair in the folded relationship.

More specifically, an object is to provide a folding chair having a pair of front legs and a pair of rear legs and a seat supported upon a pivot rod extending between the front legs, which pivot rod is provided with a bearing portion at each end between the side rail of the seat and the adjacent front leg and means is provided coupling each rear leg with the seat, which means has a portion adapted upon the folding of the chair to enter the space between the corresponding front leg and the adjacent side rail of the seat and to releasably engage the bearing portion of the seat pivot rod to hold the chair in folded relationship.

The invention is illustrated as embodied in a folding chair of the Y-type provided with a pair of uprights which serve as front legs and a pair of rear legs pivoted to the uprights to fold thereagainst or to be outspread rearwardly therefrom. The seat is supported upon a pivot rod between the front legs and means pivotally couples each rear leg with the adjacent side rail of the seat. The seat pivot rod is provided at each end between the side rail of the seat and the corresponding front leg with a bearing portion preferably in the form of a roller adapted, upon the folding of the chair, to be releasably engaged by a locking part carried by the corresponding rear leg to releasably lock the chair in the folded relationship. Such locking part may be formed as a notched portion of the means which couples each rear leg with the adjacent side rail of the seat and which notched portion is adapted upon the folding of the chair to enter the space between the corresponding front leg and the adjacent side rail of the seat to accomplish its locking engagement.

In one embodiment of my invention the side rails of the seat are provided with slots disposed rearwardly of the seat pivot rod. Each rear leg is provided with a bracket having a pivot engaging in the slot of the adjacent side rail of the seat. Such bracket has a notched portion which projects forwardly and is adapted upon the folding of the chair to enter the space between the corresponding front leg and the adjacent side rail of the seat and to ride over the bearing roller disposed between said corresponding front leg and the side rail of the seat and to engage therewith to releasably lock the chair in the folded relationship.

In another embodiment each rear leg is coupled with the seat by means of a link pivoted at one end to the leg and at the opposite end to the adjacent side rail of the seat. Such link has a notched portion that, upon the folding of the chair, enters the space between the corresponding front leg and the adjacent side rail of the seat and rides over the bearing roller of the seat pivot rod and engages therewith to lock the chair in the folded relationship.

Other objects, advantages, and meritorious features of this invention will more fully appear from the following specification, appended claims, and accompanying drawings, wherein:

Figure 1 is a side elevation of a chair embodying my invention with the chair disposed in the occupant supporting position,

Fig. 2 is a side elevation of the chair shown in Fig. 1 and with the chair disposed in the folded relationship,

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 2,

Fig. 4 is a fragmentary side elevation of the locking bracket,

Fig. 5 is a side elevation of a chair embodying a slightly modified form of my invention with the chair shown in occupant supporting position,

Fig. 6 is a side elevation of the chair shown in Fig. 5 but with the chair shown in the folded relationship,

Fig. 7 is a cross-sectional view taken on line 7—7 of Fig. 6, and

Fig. 8 is a perspective of the link which couples the rear leg of the chair of Fig. 5 and the seat which is provided with the locking portion forming a part of my improvement.

In the two embodiments of my invention illustrated in the drawings the chair shown is of the Y-type and has a pair of uprights or front legs 10 braced apart at the top by a back 12 and at the bottom by a cross piece 14. A seat pivot rod 16 extends between these front legs and upon which is mounted a seat 18 having supporting side rails 20. The seat is of such a width as to provide a space between each side rail and the front leg and the seat pivot rod is provided with a bearing member in the form of a roller 17 mounted thereon between the side rail of the seat and the adjacent front leg. A rail 22 of channel form extends along the rear edge of the seat between the side rails 20.

There is provided a pair of rear legs 24 braced apart near their lower ends by a cross rod 26. Each rear leg is pivoted at its upper end to the corresponding front leg by an L-shaped bracket 28 secured originally to the rear leg but pivoted

by a pin 30 to the front leg as shown in the figures of the drawings.

Each rear leg is also coupled with the seat. As here shown each side rail 20 of the seat is provided with a slot 32. This slot extends from a point spaced rearwardly of the seat pivot 16 toward the rear end of the side rail and terminates at its rear end in a downwardly extending notched portion 33. Each rear leg is provided with a bracket member 34 securely fixed thereto as by having a part which encircles the rear leg and is rivetted thereto by a rivet 36. This bracket has a forwardly extending offset portion 38. A pivot rod 40 extends between the forwardly offset portions of the two brackets which are secured to the two rear legs and this pivot rod extends through the slots 32 in the two side rails of the seat. The pivot rod is shown in Figs. 1 and 3.

The forwardly extending portion of the bracket 38 is notched as at 42 to ride over the roller 17 as shown in Fig. 4. The parts spring sufficiently and resistingly so that the notched portion of the bracket will ride over the roller and the roller will seat within the notch 42 and releasably hold the chair in the folded relationship.

In the construction of Figs. 5 to 8, inclusive, the seat 18 supported upon side rails 20 is pivoted between the front legs 10 upon the seat pivot rod 16 and said front legs are braced apart at the bottom by cross rod 14 and at the top by a back 12, all as described in connection with the construction of Figs. 1 to 5. The rear legs 24 braced apart by the cross rod 26 are pivoted to the front legs by a bracket portion 29 in a manner similar to that described in connection with the structure of Figs. 1 to 5 but differing in detail therefrom. In these figures the bracket 29 is fixed by a rivet 31 to the front legs and is pivoted to the rear legs by a rivet 35 as shown in Figs. 5 and 6. Each of the legs may be provided with a cushion foot 11 as shown in the several figures. The seat 18 of Figs. 5 and 6 is provided with a rear rail 22 extending along its rear edge and connected with the side rails all as described in connection with the structure of Figs. 1 and 2. In this construction also the seat pivot rod 16 is provided with rollers 17 as hereinabove described.

In the structure of Figs. 5 to 8 each rear leg is pivotally articulated with the seat through means of a link 46 which is pivoted at one end as at 48 to the rear leg and at the opposite end as at 50 to the side rail of the seat. This link has a projecting portion provided with a notch 52. When the chair is folded this notch 52 engages the roller 17 in much the same manner that the notch 42 of the bracket portion 33 engages the roller in the structure of Figs. 1 to 5. The engagement is shown in Fig. 7 of the drawings. It is of such a character that the legs are releasably locked in the folded relationship. In this embodiment each side rail of the seat has a lug 54 struck outwardly and upwardly therefrom and which is adapted to engage over the link so as to restrain the upward movement of the rear end of the seat when the chair is open to the occupant supporting position as shown in Fig. 5.

What I claim:

1. A folding chair of the Y-type comprising a pair of front legs, a seat pivot rod extending between said legs, a seat having side rails supported upon said rod, each side rail being slotted rearwardly of said rod, a pair of rollers on the rod one between each side rail of the seat and the adjacent front legs, a pair of rear legs pivoted at their upper ends to the front pair of legs to fold thereagainst or to be outspread rearwardly therefrom, a bracket rigidly secured to each rear leg and projecting forwardly therefrom and provided with a pivot slidably mounted within the slot of the adjacent side rail of the seat, said bracket provided at its forward end with a notched portion adapted upon the folding of said two pairs of legs together to enter the space between the corresponding front leg and the adjacent side rail of the seat and to ride over the corresponding roller to bring its notch into engagement with the roller to releasably lock said two pairs of legs in folded relationship.

2. A folding chair of the Y-type comprising a pair of front legs, a seat pivot rod extending between said legs, a seat having side rails supported upon said rod, said seat pivot rod having an exposed bearing between each front leg and the seat, a pair of rear legs pivoted at their upper ends to the front pair of legs to fold thereagainst or to be outspread rearwardly therefrom, a link pivotally connecting each rear leg with the adjacent side rail of the seat, said link having an upwardly projecting notched portion adapted upon the folding of said two pairs of legs together to enter the space between the corresponding front leg and the adjacent side rail of the seat to bring its notch into releasable engagement with the exposed bearing of the seat pivot rod, said seat provided on each side with a projecting abutment adapted to engage the under side of the link on such side of the seat when the chair is unfolded.

3. A folding chair comprising a pair of uprights, a seat pivot rod extending therebetween, a seat having side rails and pivotally supported upon said rod, said rod having a bearing at each end between the seat and the adjacent upright, a pair of rear legs pivoted at their upper ends to the uprights to fold thereagainst or to be outspread therefrom, said two rear legs being spaced apart the same distance as the two uprights whereby each rear leg is disposed within the same fore and aft plane as its corresponding upright, a coupling element secured at one end to each rear leg and extending forwardly toward the seat and movably coupled at the opposite end with the adjacent side rail of the seat, said coupling element having a notched projecting portion adapted upon the folding of the rear legs against the uprights to enter the space between the side rail of the seat to which it is coupled and the adjacent upright and to ride underneath the corresponding bearing of the seat pivot rod exerting pressure upwardly thereon and to releasably engage the same within said notch to releasably maintain the chair in the folded relationship.

4. A folding chair comprising a pair of uprights, a seat pivotally supported therebetween upon a pivot rod having an exposed bearing between each upright and the adjacent side of the seat, a pair of rear legs pivoted at their upper ends to the uprights to fold thereagainst or to be outspread therefrom, a bracket secured at one end to each rear leg and projecting forwardly therefrom and pivotally and slidably coupled at its opposite end with the adjacent side of the seat, the opposite end of the bracket having a notched portion adapted upon the folding of the rear legs against the uprights to enter the space between the adjacent side rail of the seat and the corresponding upright with its notch engaging the bearing portion of the seat pivot.

GEORGE D. SCHERMERHORN.