Jan. 8, 1929. 1,698,243

F. E. SCHULTE

FOLDING CHAIR

Filed March 12, 1928

FIG. 1.

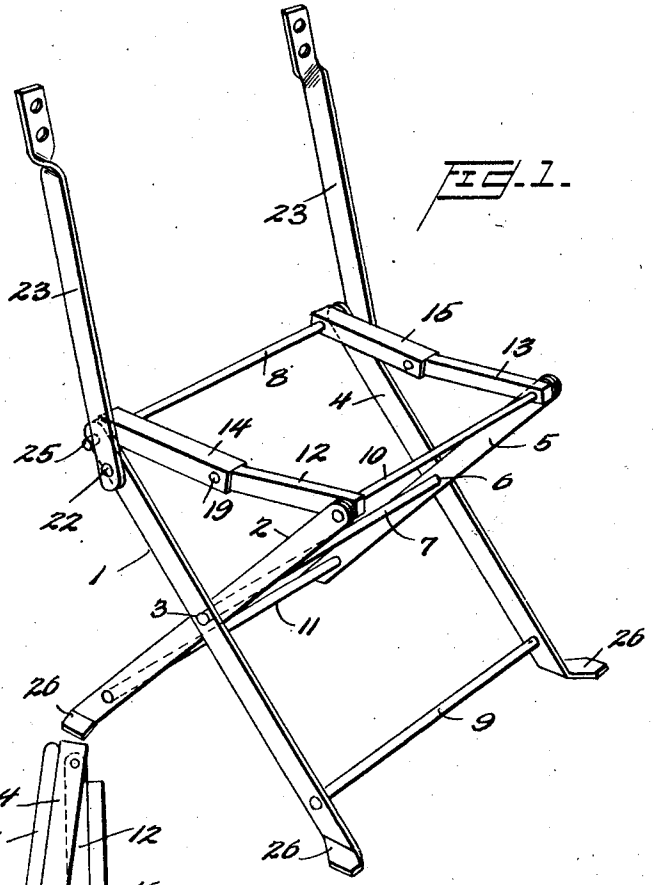


FIG. 2.

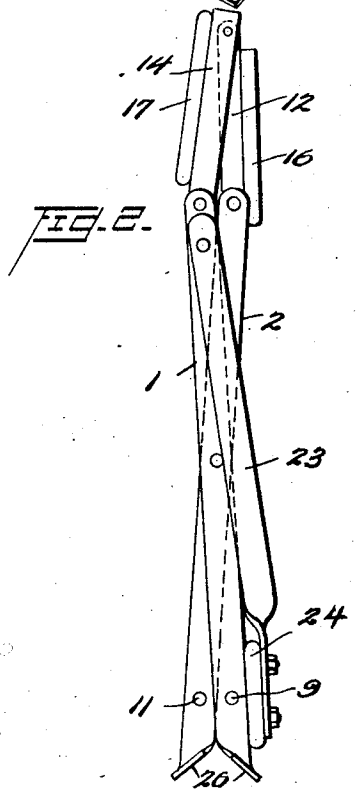
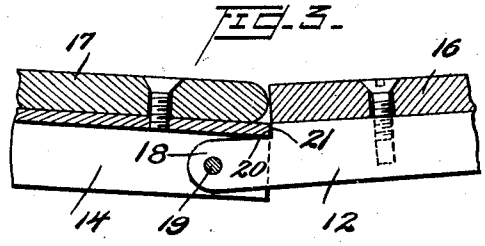


FIG. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK E. SCHULTE, OF BALTIMORE, MARYLAND.

FOLDING CHAIR.

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This invention relates to folding chairs, and more particularly to those adapted for porches, parks, boats, automobiles, etc.

Among the objects of this invention is the provision of a folding chair that may be readily collapsed in a substantially flattened condition by a minimum of operations. A further object of this invention is the provision of a folding chair wherein the seat of the chair may be either collapsed from the position for seating or brought into the seating position from the collapsed state by a single movement and whereby only one movement is necessary to bring the back of the chair from the position of use to a collapsed state or from the latter state to the position for use.

Other, further and more specific objects of this invention will become readily apparent to persons skilled in the art from a consideration of the following description when taken in conjunction with the drawings wherein:

Fig. 1 is a perspective view of the frame work of the chair.

Fig. 2 is a side elevation showing the chair in collapsed state.

Fig. 3 is a fragmental sectional view of a portion of the frame work supporting the seat of the chair.

My device comprises a pair of cross legs 1 and 2 intersecting at 3 and the pair of cross legs 4 and 5 intersecting at 6. A cross bar 7 passes through the legs 1 and 2 at 3 and through the legs 4 and 5 at 6, and affords pivots about which these legs may be swung.

Cross rods 8 and 9 also connect the bars 1 and 4 while the cross bars 10 and 11 connect the bars 2 and 5. The frame work for the seat comprises the bars 12 and 13 pivoted upon the cross bar 10 and extending into the channels 14 and 15, respectively, to which they are hinged. These channels are at their other ends pivoted upon the cross rod 8. The seat comprises 2 portions, the portion 16 resting upon bars 12 and 13, while the portion 17 rests upon the channels 14 and 15.

An important feature of my device resides in the limitation of movement of the frame work of the chair. As will be seen more readily by reference to Fig. 3, the bar 12 terminates at the one end into a tongue 18 extending into the channel 14 and this tongue is perforated to receive the pin 19 which also passes through sides of the channel 14 thus forming a hinged relationship between the bar 12 and channel 14. The downward movement of the bar and channel may be arrested either by the engagement of the tongue 18 with the roof of the channel 14, or when the edge 20 of the roof of the channel abuts the shoulder 21 of the bar 12. As a means of arresting the downward movement of the seat I prefer, however, to have the edge 20 of the roof of the channel strike the shoulder 21 of the bar 12 at the same time that the roof of the channel touches the tongue 18, because this gives a firmer seating. As will be observed by reference to Figures 1 and 3, this compound arresting movement takes place after the bars 12 and 13 and channels 14 and 15 are flexed somewhat below the straight line position. This affords a more comfortable seating position for the chair than if the limitation of the swinging movement of the bars 12 and 13 and channels 14 and 15 places these four members in alignment.

Any pressure upon the cross legs tending to diverge the top ends of the cross legs from each other while the channels and bars are in the position for seating will operate to change these members from the flexed position to that of straight alignment unless this pressure is counteracted by downward pressure upon the channels or bars. This pressure upon the cross legs may be downward pressure applied at various parts of the legs or pressure transmitted from the arms 23 of the chair back bearing against stops 25 extending from the rod 8. Normally, the weight of a person occupying the chair and bearing upon the bars and channels is sufficient to counteract any tendency to change from the flexed position to straight alignment.

The legs 1 and 4 are perforated near the upper ends, which perforations receive the pins 22, and journaled upon these pins are the arms 23 which form the frame work for the back 24 of the chair. This seat back may be swung forward and over the seat and its rear movement is arrested by the stops 25, which may be conveniently made by slightly extending rod 8 beyond the legs 1 and 4.

The frame work for the chair comprising the cross legs, the hinged channels and bars, the cross rods, and the arms supporting the back of the chair are preferably made of

metal, while the seat portions 16 and 17 and the back 24 are preferably of wood and are joined to the metal structure by screws or other suitable fastening means. The pins serving as pivots and the cross rods, some of which also serve as pivots, are preferably upset at the ends to provide rivets for securing same to the rest of the structure. I also prefer to bend the lower portion of the cross legs to provide the feet 26 for the chair.

In operation, the chair may be brought from the seating position to the collapsed state by two simple operations, namely, swinging of the back over the seat and until its movement is arrested by the lower front cross legs, and moving the hinged seat upwardly to the complete folded position shown in Fig. 2. To bring the chair back to the seating position from this state it is merely necessary to reverse each of these two operations. It will thus be seen that with my new construction, the chair may be folded or unfolded by a minimum of operations requiring no skill of adjustment or operation.

The present invention is not limited to the specific details set forth in the foregoing examples which should be construed as illustrative and not by way of limitation, and in view of the numerous modifications which may be effected therein without departing from the spirit and scope of this invention it is desired that only such limitations be imposed as are indicated in the appended claims.

I claim as my invention:

1. A folding chair having on each side thereof a frame comprising four adjacent arms in quadrangular arrangement pivotally connected to each other, two of the arms of each frame intersecting near their middle and forming cross legs for the chair, the other two arms forming a support for the chair seat and consisting of a link channel and a link bar, said bar having one end reduced and projecting into the channel to form a tongue and groove hinge with said channel and with a pin passing through the channel and through the reduced portion of the bar, said arms of the frame being adapted to fold from the seating position to a complete collapsed state by the movement of the hinged portions of the bars and channels upward and above the cross legs and adapted to unfold to a seating position by the movement of the hinged portions of the channels and bars downward toward the cross legs until the channel and bar are flexed below a straight line position and means upon the channel and the bar for arresting the downward movement of the channel and bar and thereby defining the seating position of said chair.

2. A folding chair having on each side thereof a frame comprising four adjacent arms in quardrangular arrangement pivotally connected to each other, two of the arms of each frame intersecting near their middle and forming cross legs for the chair and having feet at the free end, the other two arms forming a support for the chair seat and consisting of a link channel and a link bar, said bar having one end reduced and projecting into the channel to form a tongue and groove hinge with said channel and with a pin passing through the channel and through the reduced portion of the bar, said arms of the frame being adapted to fold from the seating position to a complete collapsed state by the movement of the hinged portions of the bars and channels upward and above the cross legs and adapted to unfold to a seating position by the movement of the hinged portions of the channels and bars downward toward the cross legs, compound means for defining the seating position of said chair and for arresting the downward movement of the channel and bar, said means comprising a shoulder on the bar at the base of the projecting tongue adapted to contact with the end face of the channel at the same time as the top of the channel engages the projecting tongue and an upper and a lower projecting pin extending outwardly from each cross leg near the rear top portion thereof, each of said lower pins affording a pivot for a pair of arms comprising the frame work of the back of the chair and each upper pin forming a stop for arresting the rearward movement of the back of the seat, said seat back being adapted to swing forward and over the seat until its movement is arrested by contact with the lower portion of the legs of the chair.

In testimony whereof I affix my signature.

FREDERICK E. SCHULTE.