W. H. STOW.

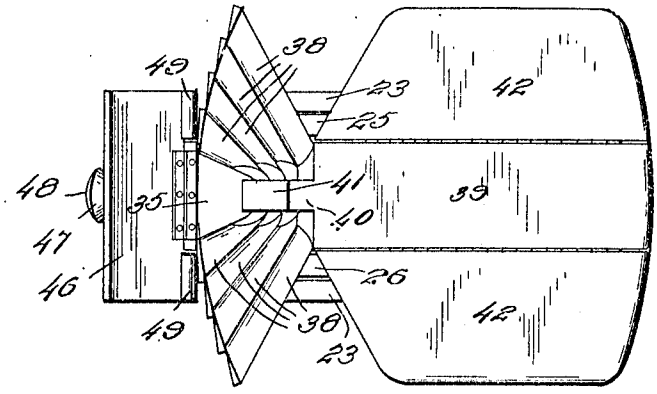
FOLDING CHAIR.

APPLICATION FILED AUG. 5, 1908.

954,221. Patented Apr. 5, 1910.

4 SHEETS—SHEET 1.

Fig. 3.



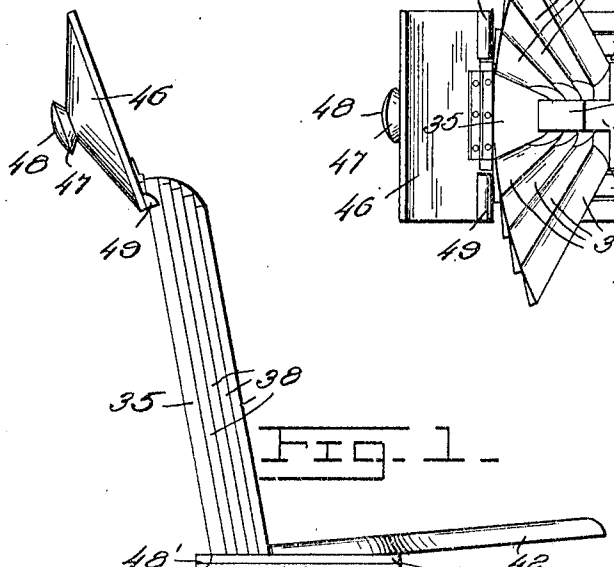
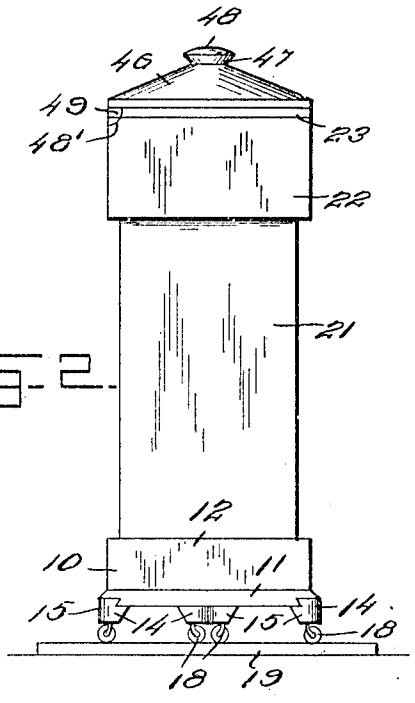


Fig. 1.

Fig. 2.



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Witnesses

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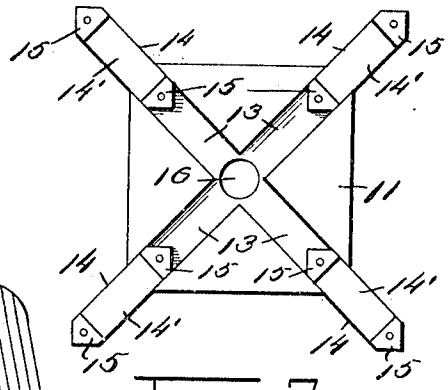

Fig. 7.

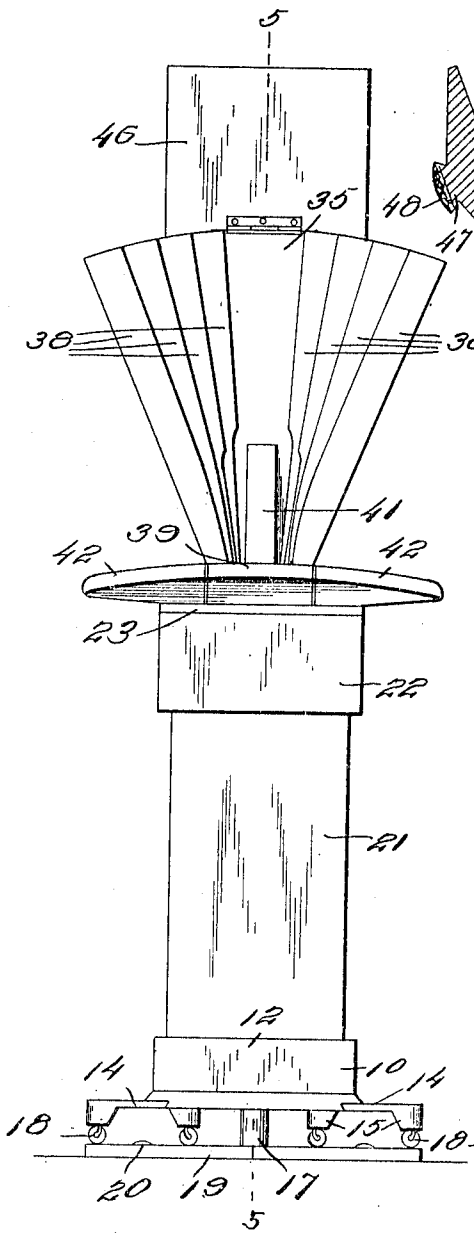

Fig. 4.

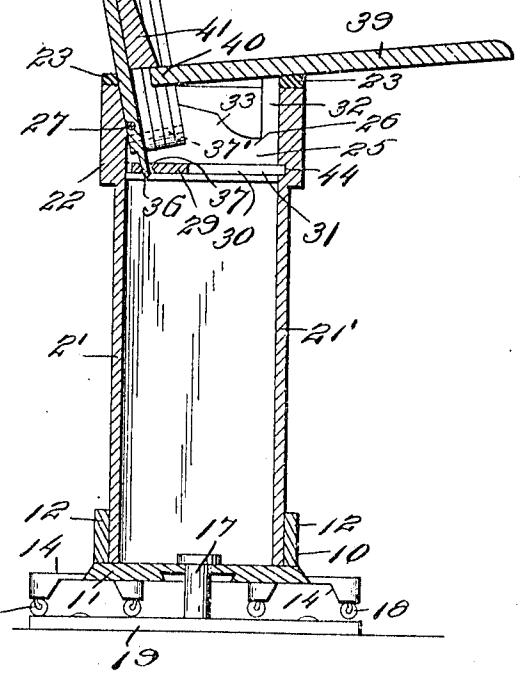

Fig. 5.

Witnesses

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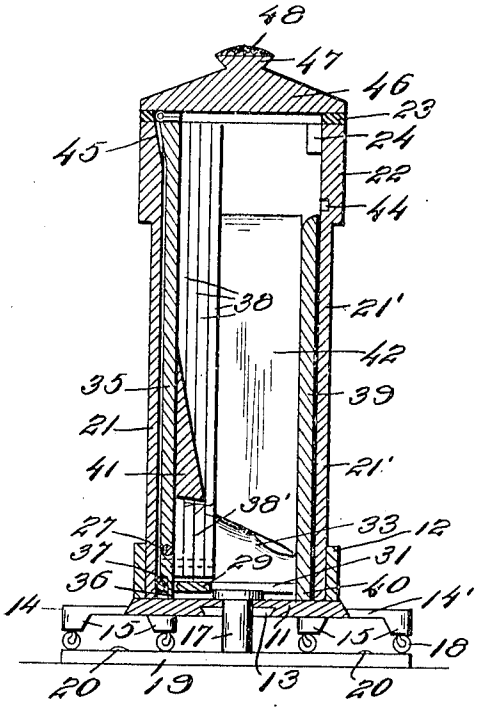

Fig. 6.

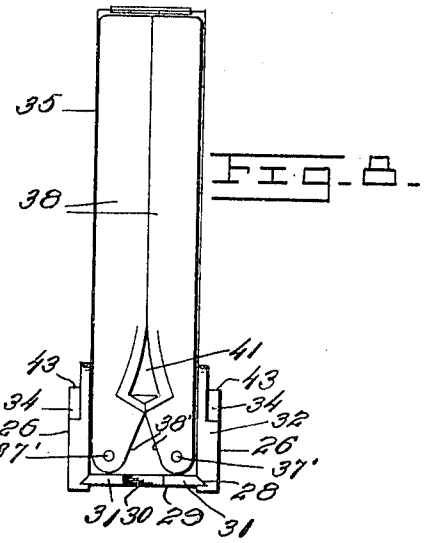

Fig. 8.

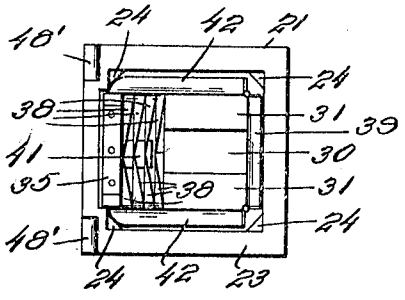

Fig. 10.

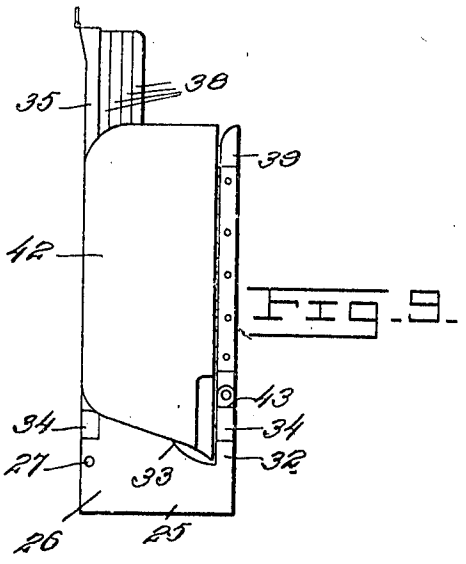

Fig. 9.

Witnesses

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4 SHEETS—SHEET 4.

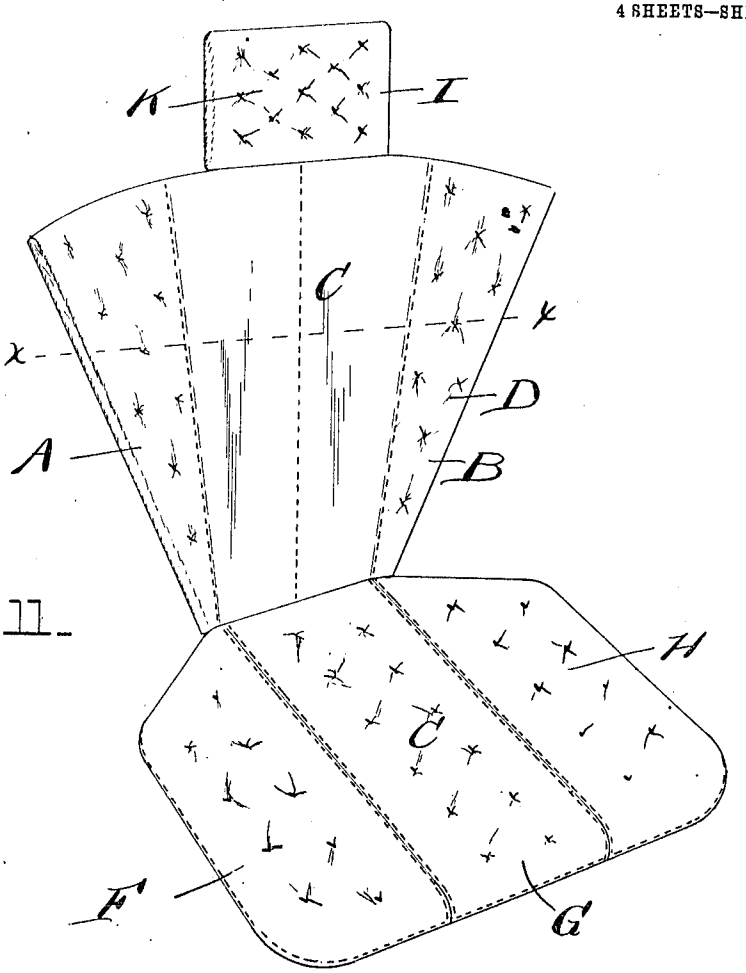

Fig. 11.

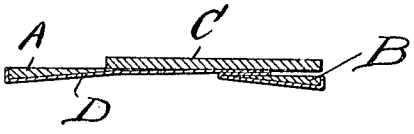

Fig. 12.

Witnesses

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UNITED STATES PATENT OFFICE.

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FOLDING CHAIR.

954,221. Specification of Letters Patent. **Patented Apr. 5, 1910.**

Application filed August 5, 1908. Serial No. 447,089.

To all whom it may concern:

Be it known that I, WILLIAM H. STOW, a citizen of the United States, residing at Fennville, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Folding Chairs, of which the following is a specification.

This invention relates to chairs, and more particularly to folding chairs, and has for its object to provide a chair which may be used in auditoriums and similar places, and which may be folded to occupy little space when not in use, the arrangement being such that the back and seat of the chair are contained within the supporting member, and thus protected from dust, dampness and so forth.

Another object is to provide a chair of this kind which when folded, will be reduced both laterally and longitudinally, so as to produce spaces between the adjacent chairs, facilitating the passage of an audience to or from the seats.

Another object is to provide a chair of this kind which will include adjustable feet movable to suit different conditions and arranged to lie at times wholly beneath the supporting upright to occupy little space during transportation.

Other objects and advantages will be apparent from the following specification, and it will be understood that changes in the form, proportion, materials, and minor details may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification and in which like characters of reference indicate similar parts in the several views, Figure 1 is a side elevation of the complete chair in operative position. Fig. 2 is a view showing the chair folded. Fig. 3 is a top plan of Fig. 1. Fig. 4 is a front view. Fig. 5 is a vertical section taken from front to rear of the seat on line 5—5 of Fig. 4. Fig. 6 is a similar section taken vertically through the folded chair. Fig. 7 is a bottom plan of the base portion with the feet extended. Fig. 8 is a front elevation of the back of the chair, the seat being removed. Fig. 9 is a side elevation of the seat and back and connecting portions removed from the upright. Fig. 10 is a top plan showing the chair folded with the top removed. Fig. 11 is a perspective view showing an upholstered chair. Fig. 12 is a section on line x—x of Fig. 11 through the back of the chair, one side thereof being folded.

Referring now to the drawings, there is shown a chair including a base portion 10 consisting of a bottom plate 11 provided with upwardly extending wall portions 12 at its edges. The under face of the plate 11 is provided with a plurality of communicating radial dovetailed guide slots 13, which receive slidably therewithin similarly formed feet members 14, including intermediate plate portions 14′, and depending floor engaging end portions 15. These end portions are beveled as shown, to fit together at the inner ends of the feet, and to conform to the shape of the base portion at the outer ends of the feet. An opening 16 is formed through the plate 11 at its center, and receives a pivot fastener 17, by which the chair may be secured to the floor. The portions 15 of the feet are provided with casters 18, as shown. The pivot fastener 17 is engaged revolubly through the floor plate 19, which may be secured to a floor by means of fasteners 20. The wall portions 12 of the base 10 receive therewithin the lower portion of a hollow upright 21 enlarged at its upper end as shown at 22. Upon the upper edge of the enlargement, there is secured a resilient gasket 23 for a purpose to be later described, and within the upright at its top, there are secured a plurality of stop blocks 24. Slidably engaged within the upright 21, for vertical movement, there is a member 25, consisting of side plates 26 connected at their rearward portions by means of a transverse pivot rod 27. These side plates 26 are provided with grooves 28 at their lower portions and in their inner faces, and these grooves receive the edge portions of a horizontal slide 29 bifurcated at its forward portion as shown at 30, to produce spaced forwardly extending portions 31. At the forward ends of the side plates 26, there are upwardly extending fingers 32, the upper edges of the side plates being beveled downwardly and forwardly, as shown at 33. The fingers 32 and the rearward portions of the side plates 26 are notched as shown at 34 for engagement of the stop locks 24, to limit the upward movement of the member 25.

Pivoted upon the pivot rod 27, there is a

main back member 35, having a depending finger 36 which is engaged in a transverse slot 37 formed in the rearward portion of the slide 29. It will thus be apparent that when the back member 35 is moved upon its pivot, the slide will be moved in the grooves 28. A pair of forwardly extending pivot pins 37′ are carried by the back member 35 adjacent to the lower end thereof, these pivot pins being in parallel spaced relation. Engaged with each pin, there are a plurality of blades 38, which are movable to lie at times against each other and inwardly of the side edges of the back member 35, and at times to extend upwardly and outwardly in fan shape, as shown in the drawings, to complete the back of the chair.

Pivoted between the fingers 32, there is a main seat member 39, which is thus movable to lie at times in horizontal position, and at times in vertical position. This main seat member has at its rearward end, a finger 40 which lies at times between the lower portions of the blades 38, and is arranged to engage beveled inner surfaces 38′, located at the lower ends of the blades. The slant of these surfaces is varied, as will be understood, so that the foremost blades are given a greater outward slant than the remaining blades, when the seat member 39 is moved to bring its finger 40 upwardly. As shown, when the seat member is in horizontal position, the finger 40 engages a projection 41 carried by the main back member 35, and thus the movement of the seat member is limited.

Hinged to the sides of the seat member 39, there are supplemental seat wings 42, which lie normally in a common horizontal plane with the main seat member, but which are movable to lie at times at right angles to the member 39. It will thus be seen that when the member 39 has been moved into vertical position, the seat wings 42 may be moved upon their hinges to lie against the outer edges of the back blades 38 and main back member 35. The rearward edges of the seat wings thus rest upon the upper edges 33 of the side plates 26, and the several portions thus assume a rectangular form for passage into the supporting upright 21, as shown in the drawings. The upper portions of the fingers 32 are reduced transversely to produce horizontal shoulders 43, and these shoulders receive the seat wings 42 thereupon, when the latter are in operative position, thus supporting the seat wings.

A pair of recesses 44 are formed in the inner face of the forward wall 21′ of the supporting upright 21, and are arranged to receive the forward extremities of the spaced portions 31 of the slide 29, and the upper portion 45 of the rearward wall of the upright is beveled outwardly at its inner face, to permit of slight rearward movement of the main back member 35, this movement moving the slide 29 forwardly as stated in the foregoing, and engaging the forward ends of the portions 31 in the recesses 44. The movable portions are thus held against downward movement. A cap member 46 is hinged to the upper end of the main back member 35, and when the movable portions are within the upright 21, the cap 46 may be moved to rest upon the gasket 23, and thus close the upper end of the upright. The gasket thus prevents the entrance of dust, and also acts to deaden the noise incident to folding the chair. When the chair is in operative position, the cap extends outwardly and rearwardly at the upper end of the back member 35, to form a continuation thereof and to act as a head rest. A knob 47 is carried by the cap, and may be provided with a cushion indicated at 48, so that a hat may be secured thereupon by means of a hatpin. Recesses 48′ are formed in the upper edges of the enlargement 22 at the rearward portion thereof, these recesses having curved bottoms and being arranged to receive curved lugs 49, which, when the seat is moved into the upright, engage the curved bottoms of the recesses 48′, and cause the cap to move into operative position.

In operation, when it is desired to open the seat, it is but necessary to grasp the knob 47, drawing the cap upwardly, and therewith the back member 35 and the portions connected therewith. When the shoulders formed by the notches 34 have engaged the stop blocks 24, the main seat member 39 is drawn downwardly and forwardly, which brings it into horizontal position. By reason of the fact that the finger 40 lies between the lower portions of the back blades 38, this movement of the seat member causes the finger to engage the beveled faces 38′ of the blades 38, thus moving the blades outwardly upon their pivots. When the seat has been brought into horizontal position, the finger 40 has engaged the projection 41, this engagement tilting the upper portion of the back member 35 rearwardly, projecting the slide 29 forwardly, and engaging the forward extremities of the portions 31 in the recesses 44, as shown particularly in Fig. 5. The seat is thus locked in position, and the seat wings 42 having been lowered into horizontal position, the chair is ready for occupancy. As stated in the foregoing, the movement of the seat member 39 is limited by a stop 41 carried by the forward face of the back member 35. When folding the seat, it is but necessary to raise the forward portion of the seat member 39 until it reaches a vertical position. The seat wings 42 are then folded inwardly, being brought into engagement with the outer edges of the back blades 38 which moves these blades into vertical position and brings

the seat wings against the sides thereof and against the sides of the back member. The several portions may then be moved downwardly into the supporting upright 21, when the cap 46 may be moved into position to close the upper end of the upright. By reason of the gasket 23, the upright is made dust proof.

It will be observed that in the use of chairs of this type, when the latter are folded, passages are formed between the adjacent chairs, and thus an audience may pass with ease to the seats. In case of fire, the seat may be quickly folded, thus providing aisles in all directions, through which the audience may pass out. The chairs may of course be used in a number of connections, as on ocean steamships, in camps, and when traveling. The seat is also adapted for use in the tonneaux of automobiles. It will be observed that the rearward inner corners of the seat wings 42 are shaped for engagement of the finger 32 in such a manner that the seat wings will be moved inwardly when the main seat member 39 is moved into vertical position.

In Figs. 11 and 12 of the drawings there is shown a form of the invention in which the chair is upholstered and in this form, the back consists of two blades A and B, to which the upholstering is fastened at its sides the upholstering also being fastened to the main back member indicated at C. The upholstering is indicated at D.

The seat is covered with upholstering material indicated at C, the latter being cut and sewed at the points of hinged connection of the seat members which are indicated at F, G, and H.

The cap indicated at I, is suitably padded to receive the head of the occupant thereagainst as shown at K.

It will be observed that when the parts of the chair are brought into operative position, tension will be placed upon the upholstering material and the latter will be held taut.

What is claimed is:

1. In a folding chair, the combination with a hollow supporting member, of a member movable vertically within the supporting member, a locking slide carried by the member and arranged for movement into and out of locking engagement with the hollow support, foldable back and seat portions connected with the member, means for bringing the back into unfolded position when the seat is unfolded, and means for moving the slide into locking position when the back is unfolded.

2. A folding chair comprising a hollow position, a seat pivoted for movement into and out of the support, said back comprising a plurality of blades pivoted for movement transversely of the support into folded position, a seat pivoted for movement into and out of horizontal position, said seat having side members foldable to embrace said blades as the seat is turned to vertical position, and a finger at the rear adapted to engage said blades and move the same to opened position as the seat is turned to horizontal position.

3. In a folding chair, the combination with a back including a main member and a plurality of blades pivoted to the member in parallel series, of a seat movable into and out of horizontal position and a finger carried by the seat and engaged between the blades, said finger being arranged for movement of the blades into unfolded position when the seat is moved into horizontal position.

4. In a structure of the class described, the combination with a hollow upright, of a member movably disposed within the upright, a locking slide mounted in the member, a seat connected with the member and a foldable back connected with the member, said back being connected with the slide for movement of the latter into locking engagement with the upright when the back is unfolded.

5. A chair comprising a back including a plurality of pivoted blades, said blades being arranged in parallel series, and having convergent adjacent faces and a seat pivotally connected with the backs, said seat including a finger extending between the convergent faces of the blades and arranged for engagement thereof to move the blades outwardly upon their pivots when the seat is brought into operative position.

6. A chair comprising a back member, forwardly extending parallel pivot pins carried by the back member, a plurality of blades pivoted adjacent to their lower ends upon each of the pins, said blades having their inner faces beveled upwardly and inwardly adjacent to their lower ends, a main seat member pivoted forwardly of the back member, a finger carried by the seat member and extending between the blades at their beveled portions for engagement of said beveled portions to move the blades outwardly when the seat is moved in one direction, a seat wing pivoted to each side of the seat member, said seat member being movable into and out of horizontal position, and means for moving the seat wings into engagement with the outer edges of the back blades when the member is moved out of horizontal position.

7. A chair comprising a back member, forwardly extending parallel pivot pins carried by the back member, a plurality of blades pivoted adjacent to their lower ends upon each of the pins, said blades having their inner faces beveled upwardly and inwardly adjacent to their lower ends, a main seat member pivoted forwardly of the back

member, a finger carried by the seat member and extending between and against the beveled faces of the blades and arranged for upward movement when the seat is moved into operative position to separate the blades, a seat wing pivoted to each side of the seat member, said seat member being movable into and out of horizontal position, means for moving the seat wings into engagement with the outer edges of the back blades when the member is moved out of horizontal position, a hollow support for the back and seat portions, said support being arranged to receive the back and seat portions therewithin when said portions are in folded position and means for automatically locking said portions against movement into the support when said portions are unfolded.

8. A folding chair, comprising a hollow support having a top closure, a vertically movable member traversing the interior of the support, means for locking said member in elevated position, a central back member pivoted on said movable member to move rearward and connected to the locking means to operate the same, blades pivoted to said back member to turn outward, a central seat member pivoted to the front of said movable member to turn to vertical and horizontal positions and having a finger to engage and move said blades and back member, and side extensions on said seat member adapted to fold and embrace the blades.

9. A folding chair, comprising a hollow support, a member vertically movable in the support, a locking slide for said member, a back pivotally supported on said member and connected to the slide to move the same into locking and unlocking positions, a seat pivotally supported on said member, and a finger on the rear of the seat engaging and moving the back to operate the slide.

10. A folding chair, comprising a hollow support, a member vertically movable in the support, a locking slide carried by said member, a back pivotally supported on said member to move forward and rearward, a depending finger on the back engaging the slide to move the same, a projection on the back, a seat pivoted on the front of said member to turn to horizontal position, and a rearwardly projecting finger on the seat to engage the projection on the back and move the back rearward when the seat is turned to horizontal position.

11. A folding chair, comprising a hollow support, a member vertically movable in the support, a horizontally movable locking slide carried by said member, a back pivoted on said member to move rearward and having a downwardly projecting finger engaging the slide to move the same, oppositely movable pivoted blades mounted on the back and having converging inner edges, a seat pivoted to the front of said member and having foldable side extensions, and also having a rearwardly projecting finger to engage the edges of the blades to move the blades outward, said finger also engaging a projection on the back to move the back rearward.

In testimony whereof I affix my signature, in presence of two witnesses.

WILLIAM H. STOW.

Witnesses:
LEONORR L. PARK,
LEONA S. WELTER.