

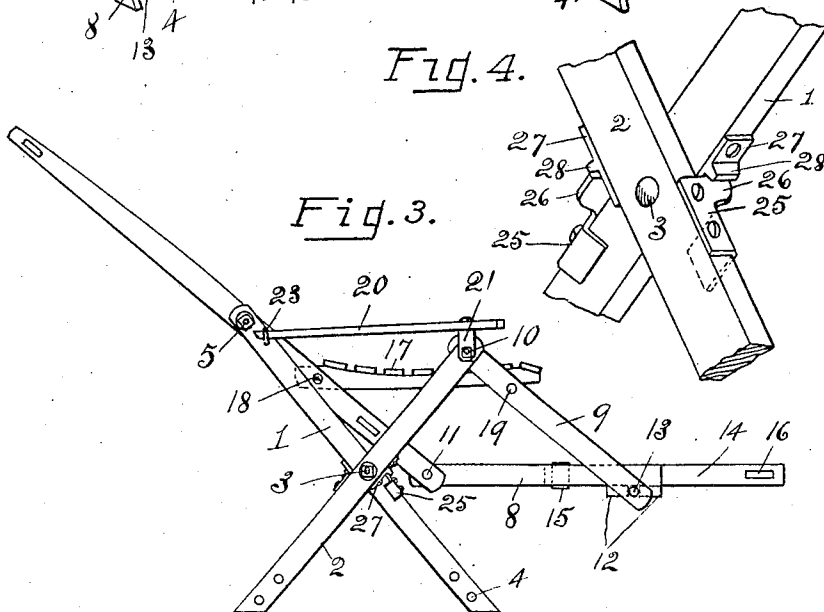
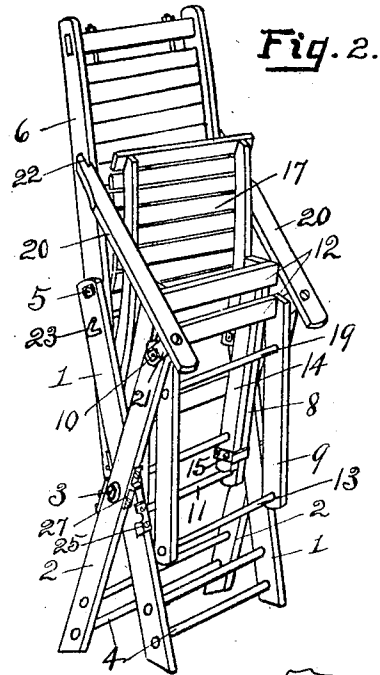
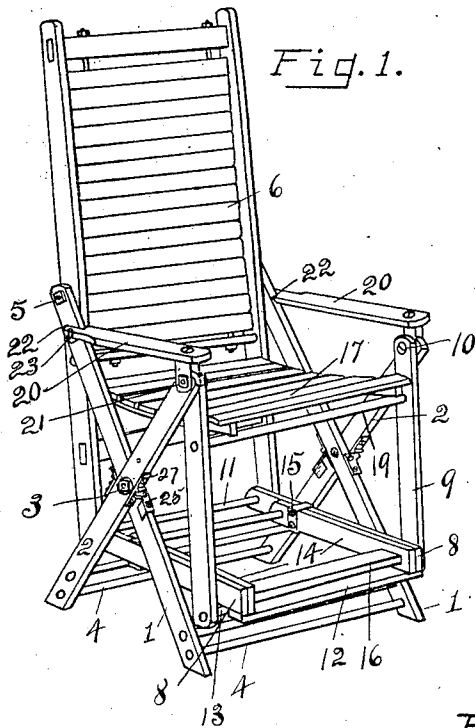
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PATENTED APR. 9, 1907.

C. J. VAN VALKENBURG.

FOLDING CHAIR.

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WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES JEWELL VAN VALKENBURG, OF MANCHESTER, MICHIGAN.

## FOLDING CHAIR.

No. 849,584.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed March 26, 1906. Serial No. 308,174.

*To all whom it may concern:*

Be it known that I, CHARLES JEWELL VAN VALKENBURG, a citizen of the United States, and a resident of Manchester, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Folding Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to chairs, and more especially to folding chairs of the reclining type; and it has for its primary object the provision of a novel, simple, light, and improved construction of chair of the kind which may be folded into compact form when not in use and when set up may have its back adjusted to the degree of inclination desired by a simple action or movement of the body of the person seated therein, while the seat and foot-rest, which have connection with and are relatively movable by the back, remain in substantial horizontal parallelism.

Among other objects of my invention are the provision, in combination with the foot-rest, of an independently-adjustable extension member and the provision, in combination with the crossed legs, of improved means thereon for limiting the opening movement thereof.

To this end the invention consists of certain novel features of construction, combination, and arrangement of the parts, as will be hereinafter more fully described and finally claimed.

In the accompanying drawings, illustrating the invention and forming a part of this specification, Figure 1 is a perspective view of the chair set up and in erect position. Fig. 2 is a similar view with the chair shown partially folded. Fig. 3 is a side elevation of the chair in reclining position with the foot-rest extended, and Fig. 4 is an enlarged perspective view of a portion of the crossed legs with the means thereon for limiting their opening movement.

Referring to the drawings, 1 1 and 2 2 represent the pairs of front and rear legs, respectively, of the chair embodying my invention, the legs of one pair crossing those of

the other pair and being pivotally connected at their point of crossing by a bolt or other suitable means, as shown at 3. The legs of each pair are rigidly spaced at their lower ends by one or more bars or rungs 4, and the legs 1 1 of the front pair are made slightly longer than the legs 2 2 of the rear pair and have their upper or extended ends pivotally attached, as at 5, to the side bars of the back frame 6 of the chair, thus forming a support on which the back is permitted to swing. These side bars are spaced apart by suitable transverse pieces and when the chair is set up extend downwardly to adjacent the horizontal plane of the upper connecting bars or rungs 4 of the legs, as shown. A horizontally-disposed frame 8 is pivoted at its rear end to the lower end of the back frame 6 and has its forward end swingingly supported by the pendent frame 9, which is pivotally suspended from the upper or forward ends of the rear legs 2 2, as shown at 10.

The side bars of the frame 8 have their rear ends rigidly spaced by a rung 11, the ends of which are extended and pivotally engaged to the lower end of the back, while the forward ends of said bars are connected by the two transverse bars 12, which are secured to the under sides thereof and slightly spaced longitudinally of the frame to form a transverse receiving slot or recess for the reception of the lower rung 13 of the pendent frame 9. An extensible foot-rest 14 is slidably mounted between the side bars of the frame 8, as shown, and has its forward end supported in parallelism therewith by the transverse bars 12, on which it loosely rests, and its rear end supported by suitable clamps or sleeves 15, one of which is fixed to each side bar of the foot-rest and slidably engages the upper and lower surfaces of the abutting side bar of the frame 8. A cross-piece 16 rigidly connects the side bars of the foot-rest 14 and acts as the foot-support. A seat 17 is pivoted at its rear end, as at 18, to the side bars of the back frame 6 and has its forward end loosely resting upon the rung 19 in the pendent frame 9, by which it is supported in horizontal position except when the chair is folded.

It will be apparent by reference to the drawings that when the back is in erect or vertical position the figure described by the lower portion of its side bars, the frame 8, pendent frame 9, and seat 17 is substantially that of a square and that when the back is in inclined position the figure thus described is

substantially that of a rhombus, thus causing the seat and foot-rest to each maintain a substantially horizontal position irrespective of the degree of inclination of the back. An arm-rest 20 is pivotally attached at its forward end to the upper end of each leg 2 2 by means of a U-shaped bracket 21, the legs of which project downward on opposite sides of the attached leg 2 and are carried by the pivot 10, or it may be secured to the associated leg 2 in any other suitable manner. These arm-rests are notched at their rear ends, as at 22, to engage the upper portion of the front legs 1 1, and each is supported at such end and prevented from outward lateral movement by an L-shaped support 23, one of which projects from the outer face of each leg 1.

The means employed for limiting the opening movement of the crossed legs 1 and 2 consists in securing a metal member 25 to either one or both of the crossing legs of each set, the said member 25 being formed with a lateral extension or wing 26, which projects in position to abut the contiguous face of the companion leg when it reaches a fixed point in its opening movement. In order to prevent the wing or stop 26 from coacting with the wood or other material forming the legs, a metal plate 27 is secured on the companion leg in position to receive the thrust of the wing or stop, and in order to further strengthen the stop means and prevent a slipping of the coacting parts a spur or lug 28 is formed on the surface of the plate 27 in position to overlap or coact with the outer face of the wing 26, as shown in Fig. 4. The crossed legs of each set are preferably provided one each side of their pivot with this stop means, as shown, as the chair is thereby strengthened and the strain more evenly distributed.

When the chair is set up, it normally maintains an erect position, as shown in Fig. 1, but may be adjusted to any desired recumbent position by the person seated therein bearing abnormally with his back against the chair-back, thus forcing the frame 8, carrying the foot-rest 14, forward and upward toward the plane of the seat 17 and only slightly moving said seat due to its proximity to the pivots on which the back 6 and pendent frame 9 swing, as shown in Fig. 3. The folding of the chair is accomplished by first folding the seat 17 up against the back 24, then raising the frame 8, with the associated foot-rest, from engagement with the rung 13 of the pendent frame 9 and up against the back-frame 6 and seat 17, then raising the

rear ends of the arm-rests 20 from the supporting-hooks 23, and, finally, closing the crossed legs together, thereby compactly folding the parts substantially as shown in Fig. 2.

It is obvious that the chair is not only readily and easily adjustable to form a reclining-chair and capable of being folded into a compact article without the removal of retaining-bolts or the like, but also that the skeleton form of constructing the parts thereof renders it light and easily movable without depreciating its strength.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a chair, the combination of a foldable crossed-leg support, a back pivoted thereto and extending a distance below such pivot, a pendent frame pivoted to the support in advance of the back, a horizontally-disposed frame pivoted at its rear end to the lower end of the back, a seat pivoted to the back intermediate its ends, said horizontal frame and seat both being loosely supported at their forward ends by the pendent frame, an extensible foot-rest slidably carried by the horizontal frame, arms pivoted to the support, the whole being adapted to be folded into compact form with the seat, horizontal frame, and foot-rest folded upwardly against the back, the seat being interposed between the back and said frame, the arms raised on their pivots, the crossed legs folded, and the pendent frame still pendent in compact relation to the back and coöperating with the horizontal frame and seat to prevent a lowering thereof relative to the back, substantially as described.

2. The combination with the crossed pivotally-connected legs, of a stop member secured to one leg and having a lateral projection for coacting with the alining face of the other leg at a predetermined point in its opening movement, and a plate fixed to said other leg in position to receive the thrust of the stop member and having a spur or lug formed thereon for engaging the outer face of the projection on the stop member, substantially as described.

In testimony whereof I have hereunto signed this specification in the presence of two subscribing witnesses.

CHARLES JEWELL VAN VALKENBURG.

Witnesses:

G. M. LEE,  
N. E. TAYLOR.