No. 707,841. Patented Aug. 26, 1902.

B. J. HARRISON.

PORTABLE FOLDING CHAIR.

(Application filed Dec. 28, 1901.)

(No Model.)

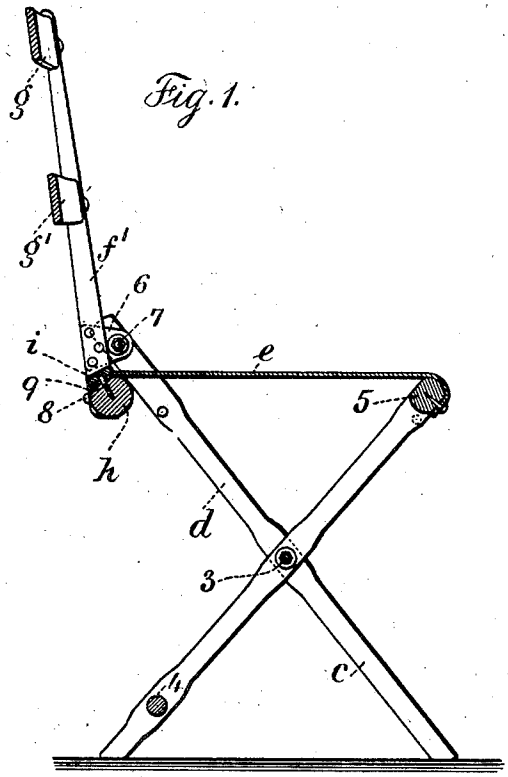


Fig. 1.

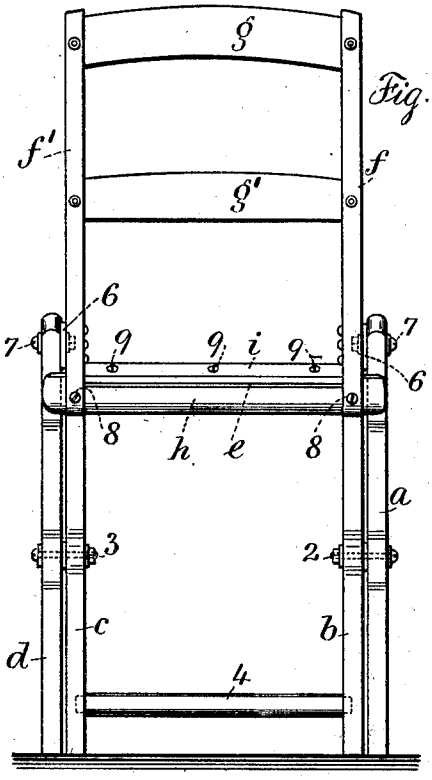


Fig. 2.

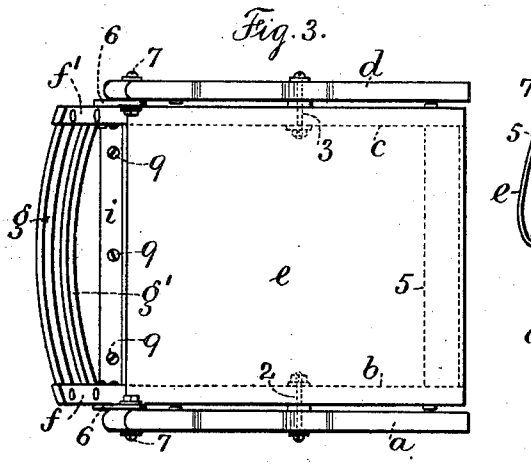


Fig. 3.

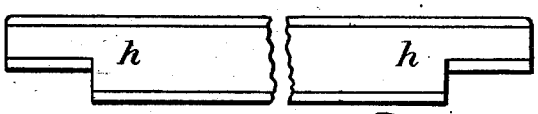


Fig. 6.

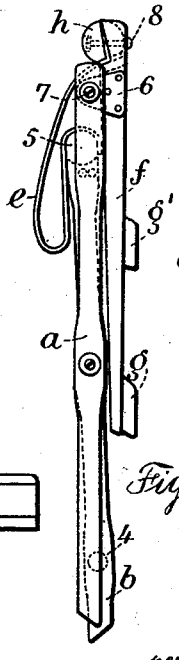


Fig. 4.

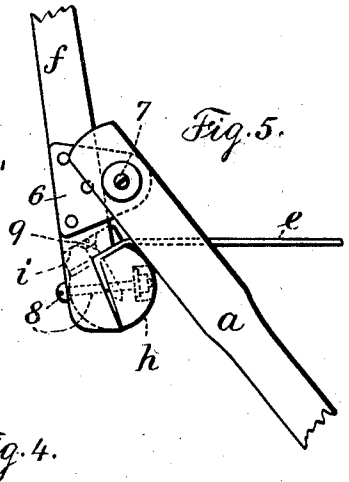


Fig. 5.

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UNITED STATES PATENT OFFICE.

BENJAMIN J. HARRISON, OF WHITEPLAINS, NEW YORK, ASSIGNOR TO ANNA MAY HARRISON, OF WHITEPLAINS, NEW YORK.

PORTABLE FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 707,841, dated August 26, 1902.

Application filed December 28, 1901. Serial No. 87,522. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN J. HARRISON, a citizen of the United States, residing at Whiteplains, in the county of Westchester and State of New York, have invented an Improvement in Portable Folding Chairs, of which the following is a specification.

My invention relates to that form of folding or portable chairs in which there are pairs of X-legs, a flexible seat, and a back pivoted to the X-legs and adapted to swing, a part of the back coming against the X-legs as the seat is occupied and put under strain. These portable seats or chairs have heretofore been used largely at public gatherings and funerals, and they may be folded and superimposed into close and compact form for transportation. Heretofore the part of the back to which one end of the flexible seat has been secured was the part directly pivoted to the X-legs and a part formed as an extension of the back was the part coming in contact with the X-legs when the seat was occupied and strain applied. Therefore the same pivot carried the strain and the weight; and the object of my present invention is to so alter the construction and modify the form of seat that these factors are divided and the seat so made stronger and more durable.

In carrying out my present invention the back-frame is pivoted to the longer members of the pairs of X-legs by means of plates secured to the side bars of the back-frame above the lower ends of the bars and pivot-bolts securing the same to the members of the X-legs, and the flexible seat is at one end secured to a bar extending across between the lower ends of the side bars below the plates and pivotal connection to the back to the X-legs, and this cross-bar is of peculiar construction and is so made that the fabric of the flexible seat is positively gripped and held between solid opposing surfaces for its entire length and forward of any points of incision in the fabric. This cross-bar is preferably circular in cross-section, with one side or surface removed to form a flattened portion and the ends notched to provide faces in axial planes against which the notched lower ends of the side bars of the back-frame come in contact and to which they are secured, and I provide a strip of wood overlying the flexible seat between the side bars of the back-frame and secured to the cross-bar by screws passing down through the flexible seat into the cross-bar, the said strip of wood securing the flexible seat to the cross-bar between the side bars of the back-frame and the edges of the flexible seat beyond the strip of wood being secured between the lower ends of the side bars and the ends of the cross-bar.

In the drawings, Figure 1 is a vertical cross-section representing my improvement. Fig. 2 is a rear view, and Fig. 3 a plan of the same. Fig. 4 is a side elevation of the portable chair or seat folded. Fig. 5 is a side elevation at the pivotal connection of the pairs of X-legs to the back-frame and the connection of the flexible seat to the back-frame, and Fig. 6 is a plan of the cross-bar alone. Figs. 5 and 6 are shown of larger size for clearness.

a b represent the right-hand pair of pivoted folding X-legs, and 2 the pivot-bolt connecting the same.

c d represent the left-hand pair of pivoted folding legs, and 3 the pivot-bolt connecting the same. The legs *a d* are longer than the legs *b c*. The legs *b c* are connected adjacent to one end by a rung 4 and at the other end by a top rung 5, to which latter rung one end of the flexible seat fabric *e* is secured by nails in the usual manner.

f f' represent the side bars of the back-frame, and *g g'* cross-bars of curved form connecting the said side bars, the bar *g* being at the upper end and the bar *g'* about intermediate in the length of the side bars. The lower ends of the side bars upon the forward faces are provided with notches at an inclination, which inclination is substantially an acute angle to the face. Plates 6 of substantially triangular form are secured to the side bars adjacent to their lower ends and upon their opposite faces or sides, and pivot-bolts 7 pass through these plates and through the upper ends of the legs *a d*, pivotally connecting the back-frame to the pairs of pivoted folding X-legs.

The flexible seat fabric *e* should occupy a substantially horizontal position when the chair is opened out for use, and one end of the said flexible seat should be secured to a

part connected with the back-frame, and the pivot-bolts 7 come appreciably above the horizontal plane of the said seat *e*.

I employ a cross-bar *h*, preferably of circular form in cross-section. One side or surface of this bar is removed to provide a longitudinally-flattened portion, and the ends of this bar are notched to provide faces in the axial plane of the bar. This cross-bar is as long as the over-all measurement to the outside of the legs *a d*, and the notches are made of a length agreeing with the measurement widthwise of both legs of the pairs, the back-frame being of a width across agreeing with the width of the frame formed by the legs *b c* and the rungs 4 and 5. Figs. 5 and 6 show clearly the construction of this cross-bar, and the same is secured to the side bars *f f'* at their lower notched ends by bolts 8. A strip of wood *i* extends between the side bars *f f'*, overlying the flattened portion of the cross-bar *h*. The end of the flexible seat passes between the cross-bar *h* and the strip of wood *i*, and screws 9 pass down through the strip *i* through the flexible seat *e* into the cross-bar *h* in connecting the cross-bar and the strip of wood and securing part of the seat in place. The side portions of the flexible seat at this end pass between the flattened portion of the cross-bar and notched end of the cross-bar and the notches at the lower ends of the side bars *f f'*, the said flexible seat being cut so as to be bent down into the space between the axial faces at the ends of the cross-bar and the inclined faces at the ends of the side bars or, in other words, into and only as far as the corner of the angle of the notches at the ends of the side-bars *f f'*, so that there is a continuous and substantially unbroken line of the seat fabric held and firmly gripped between the strip of wood *i* and the lower ends of the side bars *f f'* and so much of the entire length of the cross-bar *h* as agrees with the width of the flexible seat. This cross-bar *h* is secured in this way to the lower ends of the back-frame side bars forward of the direct line of said side bars sufficiently for the forward curved surface of said cross-bar to bear against the under surface of the legs *a d*, as shown in Figs. 1, 2, and 5, so that when the chair is opened and occupied said cross-bar and legs receive the weight and strain at a point below the point where the back-frame is pivoted to the upper ends of the legs *a d*.

This form of chair is very much stronger, more rigid, and satisfactory than the form manufactured heretofore by me. It is easily constructed and is eminently satisfactory in use.

I claim as my invention—

1. The combination with the pairs of pivoted folding X-legs, of a back-frame, a flexible seat secured at one end to the inner frame of the pairs of X-legs, a cross-bar connected to the lower ends of the back-frame and to which the other end of the flexible seat is secured, the flexible seat being longitudinally of full width and agreeing in width with its supports, and devices for pivotally connecting the said back-frame to and between the inner surfaces of the outer pair of pivoted X-legs at a point forward of the back-frame and above the point of attachment to the cross-bar of the flexible seat, substantially as set forth.

2. In a portable folding chair, the combination with the pairs of folding X-legs, the back-frame and the flexible seat, of plates secured to the outer faces of the side bars of the back-frame and projecting forward of the edge face of the side bars, and pivot-bolts connecting said plates to the upper end of the longer members of the X-legs, whereby the flexible seat in width agrees with the width of the back-frame and leg-frame and the back-frame is adapted to fold over upon the flexible seat and leg-frame, substantially as set forth.

3. In a portable folding chair, the combination with the pairs of folding X-legs and the back-frame pivoted thereto, of a cross-bar longer than the width of the back-frame, a part adapted to be connected thereto and means for securing the cross-bar to the lower ends of the back-frame side bars below and beyond the points of pivotal connection of the said back-frame to the folding X-legs, and a flexible seat secured at one end to the inner frame of the pairs of X-legs and at the other end and in its full width to the said cross-bar of the back-frame between the same and the parts adapted to be connected thereto, substantially as set forth.

4. In a portable folding chair, the combination with the pairs of pivoted folding X-legs, the back-frame pivoted thereto and the flexible seat, of a cross-bar having a longitudinally-flattened surface, end notches providing faces in the axial plane of the bar, a strip of wood and means for securing the same to the cross-bar with one end of the flexible seat intervening, said end of the flexible seat also intervening between the notched ends and the lower ends of the back-frame side bars, substantially as set forth.

5. In a portable folding chair, the combination with the pairs of pivoted folding X-legs and the flexible seat connected at one end thereto, of the back-frame side bars having notches at their lower ends at inclinations which are substantially acute angles to the edge faces, pivotal connections for the side bars to the longer members of the pairs of X-legs adjacent to said notched ends but appreciably distant therefrom, a cross-bar of circular form in cross-section with a longitudinally-flattened portion and ends notched to provide faces in axial planes, a strip of wood and screws for securing part of one end of the flexible seat to the said cross-bar between the side bars of the back-frame, the

said flexible seat being notched at the corners of the angular notches at the ends of the side bars and the sides of the flexible seat at the same end being between the notched ends of the side bar and the notched ends of the cross-bar, whereby this end of the flexible seat is securely held over its entire length both at the end where the same is notched and adjacent thereto over an unbroken portion, substantially as set forth.

Signed by me this 26th day of December, 1901.

B. J. HARRISON.

Witnesses:
GEO. T. PINCKNEY,
BERTHA M. ALLEN.