No. 703,077. Patented June 24, 1902.

W. E. NIVISON.

FOLDING CHAIR.

(Application filed Aug. 29, 1901.)

(No Model.)

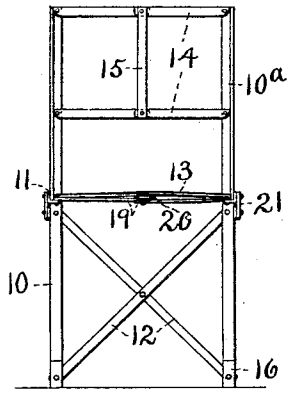


FIG. 1.

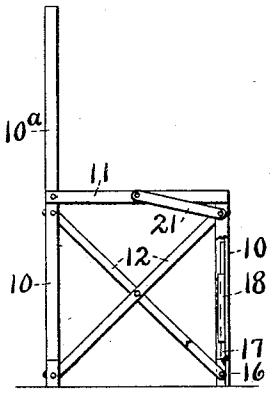


FIG. 2.

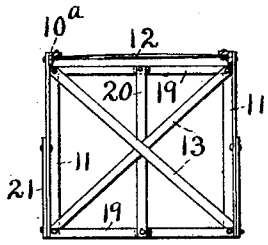


FIG. 3.

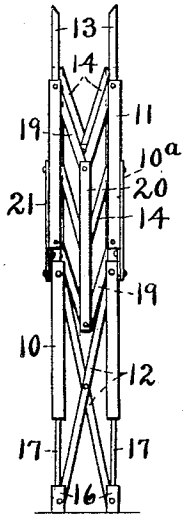


FIG. 4.

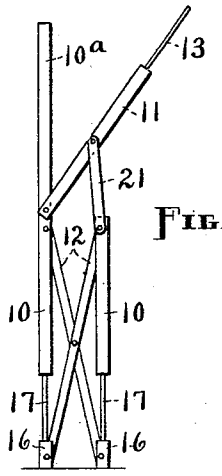


FIG. 5.

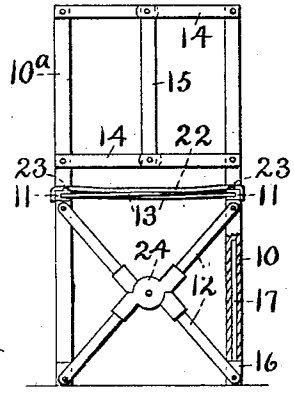


FIG. 6.

WITNESSES:
John Andrews
Geo. L. Oliver

INVENTOR:
William E. Nivison
By
W. Preston Williamson
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM E. NIVISON, OF BRITTON, MICHIGAN, ASSIGNOR OF ONE-HALF TO CHARLES N. GOODMEN, OF ALGANSEE TOWNSHIP, BRANCH COUNTY, MICHIGAN.

FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 703,077, dated June 24, 1902.

Application filed August 29, 1901. Serial No. 73,722. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. NIVISON, a citizen of the United States, residing at Britton, in the county of Lenawee and State of Michigan, have invented a new and useful Folding Chair, of which the following is a specification.

My invention relates to chairs in which pivoted diagonal and parallel braces and supports are employed to connect the upright members and the seat-bars and extension-feet are provided whereby said chair is capable of being folded in two directions; and the objects of my improvement are to provide a strong, durable, cheaply-constructed, and easily-operated chair that can be closed or folded either front to back, side to side, or both, so as to occupy but little space, yet one which is firm and stable when extended for use. This invention also permits of the use of very light material in the construction of a folding chair when desired. I attain these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my chair extended; Fig. 2, a side view of the same, parts of one of the front legs and side braces being broken off to show the extension-foot arrangement; Fig. 3, a plan view of the seat, the upper part of the back being broken off; Fig. 4, a front view showing the chair partially folded; Fig. 5, a side view, the chair partially folded; and Fig. 6, a front view of a modified construction, a portion of one of the legs being broken away to show the extension-foot arrangement.

Similar figures refer to similar parts throughout the several views.

My chair may be made of metal, as shown in the first five figures, in which the leg-braces are placed inside of the legs, or it may be constructed of wood, with the leg-braces on the outside, as shown in Fig. 6, or any other suitable material or materials may be employed. This chair comprises the four legs 10, the two back-bars 10^a, which are simply prolongations of the rear legs, the two seat-bars 11, the leg-braces 12, the seat-supports 13, and the back-braces 14 and 15. There are four pair of leg-braces 12, each pair having a central pivot and extending diagonally between the legs 10. The upper terminals of the braces 12 are pivoted to the legs and the lower terminals are pivoted to the feet 16. Each foot 16 is provided with a rod 17, which is arranged to slide in the socket 18 on the inside of each leg when the latter consists of an angle-iron, as shown in Fig. 2, or said rod operated in a suitable channel bored into the leg when of wood, as shown in Fig. 6. When the chair is extended for use, the bases of the legs rest upon the tops of the feet, but when closed the braces 12 force said feet away from said legs, the sliding rods 17 serving as connecting-guides for the feet. This movement is necessary to permit of the folding of the chair. The parallel back-braces 14 really consist of four pieces pivoted at their outer ends to the bars 10^a, with the contiguous ends of each brace pivoted together and to the vertical brace 15. The seat-bars 11 have their rear ends pivoted to the bars that make up the rear legs and back-bars, and the front ends of said bars 11 rest upon the top of the front legs when the chair is extended. The supports 13 are pivoted at their rear ends to the bars 11, the forward ends of said supports normally resting on said bars or in recesses provided to receive them when the bars are of wood, in which latter event they may be secured in place by the removable pins 23. Of course such pins may be used in the other construction also. The skeleton frame thus formed may be augmented by either the braces 19 and 20 or the fabric covering 22, or both. The parallel braces 19, pivoted to the bars 11 and to the brace 20, are similar in construction and operation to the back-braces 14. The two side connecting-straps 21, each pivoted to one of the bars 11, and a front leg serve to render the front of the chair more rigid and assist in opening and closing the same.

When the chair is made entirely of wood, it can be folded more compactly if the leg-braces are pivoted to the outside of the legs, and I prefer to employ the four-way hinge 24 with these braces.

To close my chair, turn the seat from a horizontal to a vertical position against the back, and if the straps 21 be present this operation will assist in drawing the front legs backward;

otherwise they must be pushed back independently. Next draw down the braces 15 and 20, provided the latter are present, which operation causes the braces 14 and 19 to close up and contract the sides of the chair. Since the supports 13 are pivoted only at one end, they turn freely on their pivots and offer no resistance when the seat is folded. If the pins 23 are used, they must be removed before the chair can be closed laterally. As the braces 12 are straightened or brought more nearly vertical by closing the chair the feet 16 become separated from the legs in the manner before explained. The closing process may be facilitated by applying pressure at various points where and when required.

For the sake of better illustrating my invention when the parts are abnormally disposed, as in folding, I have shown the chair only partially closed in Figs. 4 and 5; but it will be understood that said parts can be very compactly shut together in practice.

It is often desirable to fold a chair in one direction only, such displacement being all that is required, and I provide for this by making of my chair an independent two-way folding device.

Minor changes in construction may be made without departing from the nature of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An independent two-way folding chair comprising legs having extension-feet, diagonally-pivoted braces connecting said legs and a seat adapted to be turned against the back to fold laterally, substantially as set forth.

2. An independent two-way folding chair comprising legs having extension-feet, diagonally-pivoted braces connecting said legs, a seat adapted to be turned against the back and be folded laterally, and a laterally-folding back, substantially as set forth.

3. The combination, in a folding chair, of legs having extension-feet, diagonal pivoted braces pivoted to said legs and feet, seat-bars pivoted to the rear uprights, and a member or members connecting said bars, adapted to fold laterally, substantially as set forth.

4. The combination, in a folding chair, of legs having extension-feet, diagonal pivoted braces pivoted to said legs and feet, seat-bars pivoted to the rear uprights, and straps pivoted to said bars and the front legs, substantially as set forth.

5. The combination, in a folding chair, of legs having extension-feet, diagonal pivoted braces pivoted to said legs and feet, seat-bars pivoted to the rear uprights, and seat-supports pivoted at their rear terminals to said bars, adapted to be diagonally disposed normally, substantially as set forth.

6. The combination, in a folding chair, of legs having extension-feet, diagonal pivoted braces pivoted to said legs and feet, seat-bars pivoted to the rear uprights, seat-supports pivoted at their rear terminals to said bars, adapted to be diagonally disposed normally, parallel folding braces and a connecting central brace pivoted to said folding braces and bars, substantially as set forth.

7. In combination with the legs and pivoted diagonal leg-braces of a folding chair, feet provided with rods attached to said legs and capable of vertical movement, substantially as described.

8. In combination, legs having extension-feet, diagonal pivoted braces pivoted to said legs and feet, seat-bars pivoted to the rear uprights, folding seat-supports attached to said bars, back-bars, folding parallel braces, a central brace pivoted to said parallel braces and to said back-bars, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM E. NIVISON.

Witnesses:

JOHN ANDREWS,

GEO. L. OLIVER.