(No Model.)

J. A. CRANDALL.

FOLDING CHAIR.

No. 398,943. Patented Mar. 5, 1889.

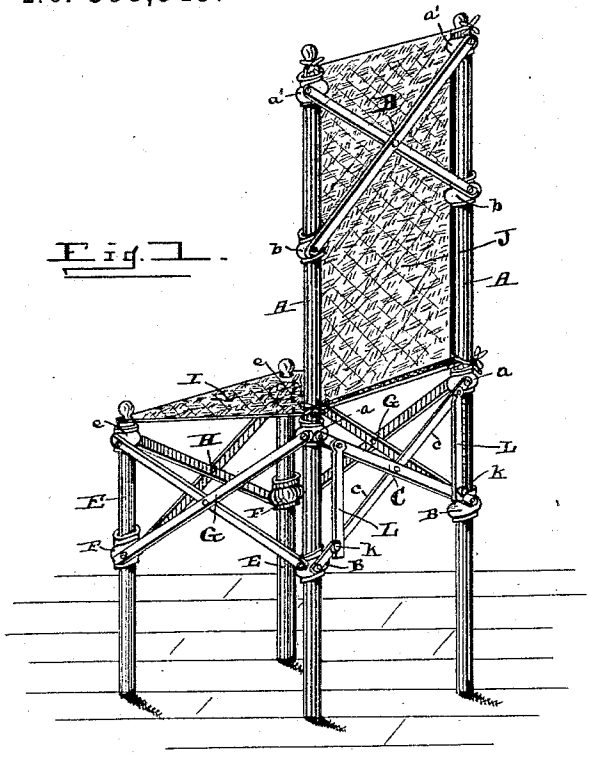


Fig. 1.

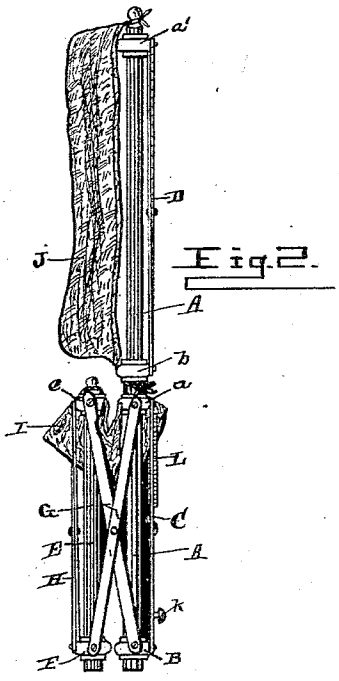


Fig. 2.

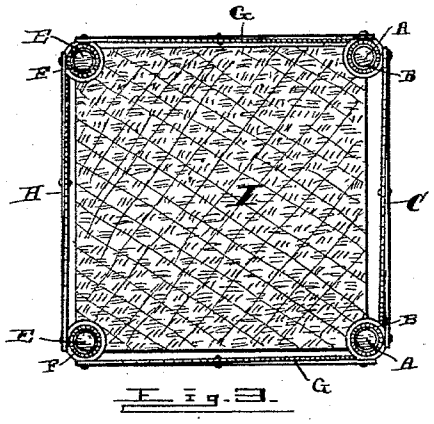


Fig. 3.

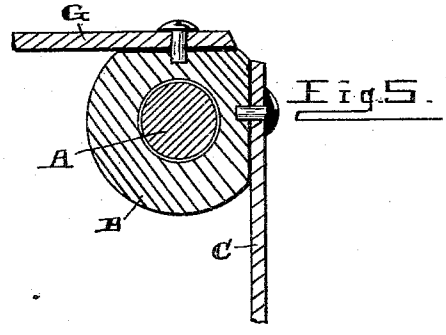


Fig. 5.

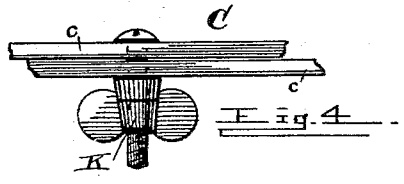


Fig. 4.

WITNESSES.

P. L. Brooks.

A. E. Sowell

INVENTOR.

J. A. Crandall

Wm. Alexander

Attorney

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JESSE A. CRANDALL, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO GEORGE A. HURD, OF SAME PLACE.

FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 398,943, dated March 5, 1889.

Application filed October 3, 1888. Serial No. 287,072. (No model.)

To all whom it may concern:

Be it known that I, JESSE A. CRANDALL, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Folding Chairs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a view of my improved chair opened. Fig. 2 is a view of the same closed. Fig. 3 is a bottom plan view. Figs. 4 and 5 are details.

This invention is an improvement in folding chairs. Its object is to improve the construction of such chairs, so that they will be not only equally as strong as the non-folding chairs, but may be closed in a smaller bundle than ordinary folding chairs. My invention consists in the hereinafter-described construction and arrangement of parts.

Referring by letter to the drawings, A A designate the two similar rear legs of the chair, which are preferably extended to form the back-supports thereof, and which are each provided, near their center, with an enlargement or fixed knob, *a a*, and at top with a similar knob, *a' a'*, which knobs may be turned with the legs, if desired.

B B are loose rings or sliding pieces on legs A A below knobs *a a*, and *b b* are similar sliding pieces between knobs *a* and *a'*.

C designates a closing X-brace composed of two equal bars, *c c*, pivoted together at center, and connected, respectively, at their opposite ends to the knobs *a a* and sliding pieces B B.

D is a similar X-brace, the ends of which are connected to knobs *a'* and pieces *b*. When legs A A are closed together, the X-braces are distended, and pieces B *b* slide downward, as is evident, and when the legs are separated the X-braces are closed and the pieces slide upward.

E E are the front legs of the chair, having knobs *e e* at their upper ends, which may be turned therewith, and sliding pieces F F below these knobs.

G G are X-braces connected, respectively, to knobs *e* and *a* and F and B at opposite sides of the chair, so when pieces B are raised or lowered, as described, the braces G G will be opened or closed, thus drawing legs E E toward or separating them from legs A A, the sliding pieces F F permitting this action of braces G G. H is a similar X-brace connecting legs E E, being attached to knobs *e e* and pieces F F, so when pieces F F are raised or lowered by the opening or closing of braces G G, as described, the brace H is similarly opened or closed, its opening separating legs E E and its closing drawing them together. By this arrangement of sliding pieces and pivoted X-braces the chair can be opened or closed simply by pulling apart or pushing together legs A A, or any pair of the legs, as the movement of one brace is transmitted direct to all the others. The system of braces keeps the legs at corresponding distances from each other, whether closed, or partially or wholly extended, and the size of the chair can be readily varied according to the extent of opening of the braces. The seat I is preferably made of flexible material, so that it will fold with the legs, and is attached at its corners to knobs *a e* of the legs. The back J is also of flexible material and is attached to knobs *a* and *a'*.

In some cases it is desirable to lock the chair when closed or extended, and to do this I make the pivot of one of the braces of a threaded bolt provided with a thumb-nut at K, so by tightening the nut I can bring the members of the brace together and prevent their movement; or, if desired, I can employ the strips L L, which are pivoted at one end to the ends of the members of the brace, and are hooked over retaining-studs *k k* on the ends of the opposite members. It will thus appear that I have an ordinary-looking chair, which can be folded into a very small compass, and when folded it will occupy hardly one-quarter of the space required when opened.

Having thus described my invention, I claim—

1. The combination of the front and rear pair of legs, the sliding pieces thereon, and the X-braces thereof connected to said pieces at

their lower ends, with the pair of side X-braces connected to the upper ends of the legs and to the sliding pieces, whereby all the braces are opened or closed simultaneously, substantially as set forth.

2. The combination of the rear legs extended to form the back-support, and the upper and lower X-braces connecting the same, having sliding connections with the legs at their lower ends, with the front pair of legs, the X-brace connecting the same, and the side pairs of X-braces connecting the front and rear legs, the lower ends of the braces being connected to sliding pieces on the legs, substantially as specified.

3. The combination of the front and rear pairs of legs and the sliding pieces thereon, the X-braces connecting the same, attached to said sliding pieces at their lower ends, with the side X-braces connecting the front and rear pairs of legs, and connected at their lower ends to said sliding pieces, and the locking device for the braces, substantially as described.

4. The combination, in a folding chair, of the pieces forming the rear legs and back-supports, and having knobs at center and top, and sliding pieces below each knob, and the X-braces connected to said knobs and sliding pieces, with the front pair of legs having knobs at top and sliding pieces below the knobs, the X-brace connected to said knob and sliding pieces, and the side pair of X-braces connected to the fixed knobs and sliding pieces of one front and one rear leg, and the flexible seat and back, all substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JESSE A. CRANDALL.

Witnesses:
OTTE ROBINSON,
NOAH TEBBETTS.