

(No Model.)

J. C. MERRITT & L. A. C. MÜLLER.

FOLDING CHAIR.

No. 317,402.

Patented May 5, 1885.

Fig. 1.

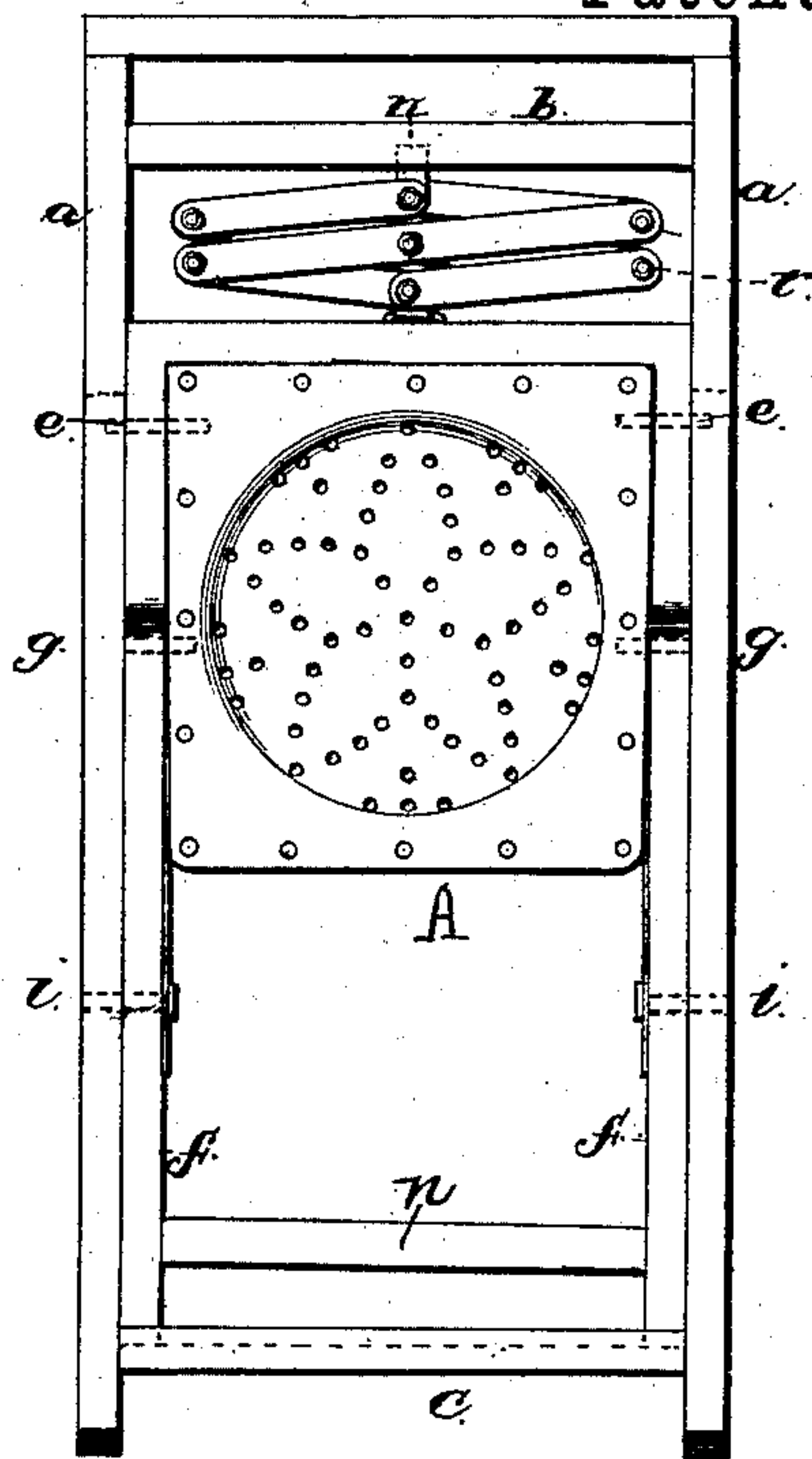


Fig. 2.

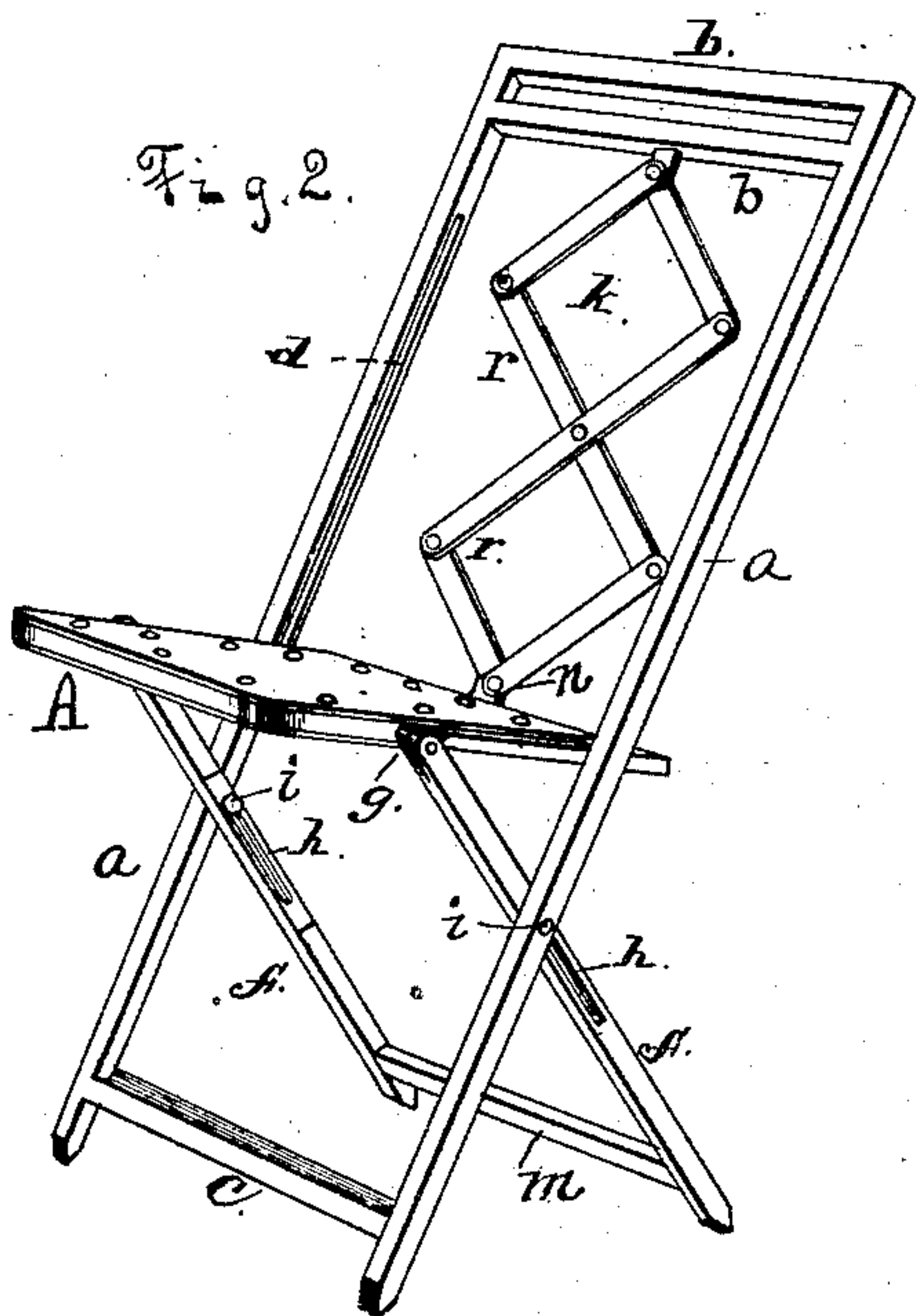
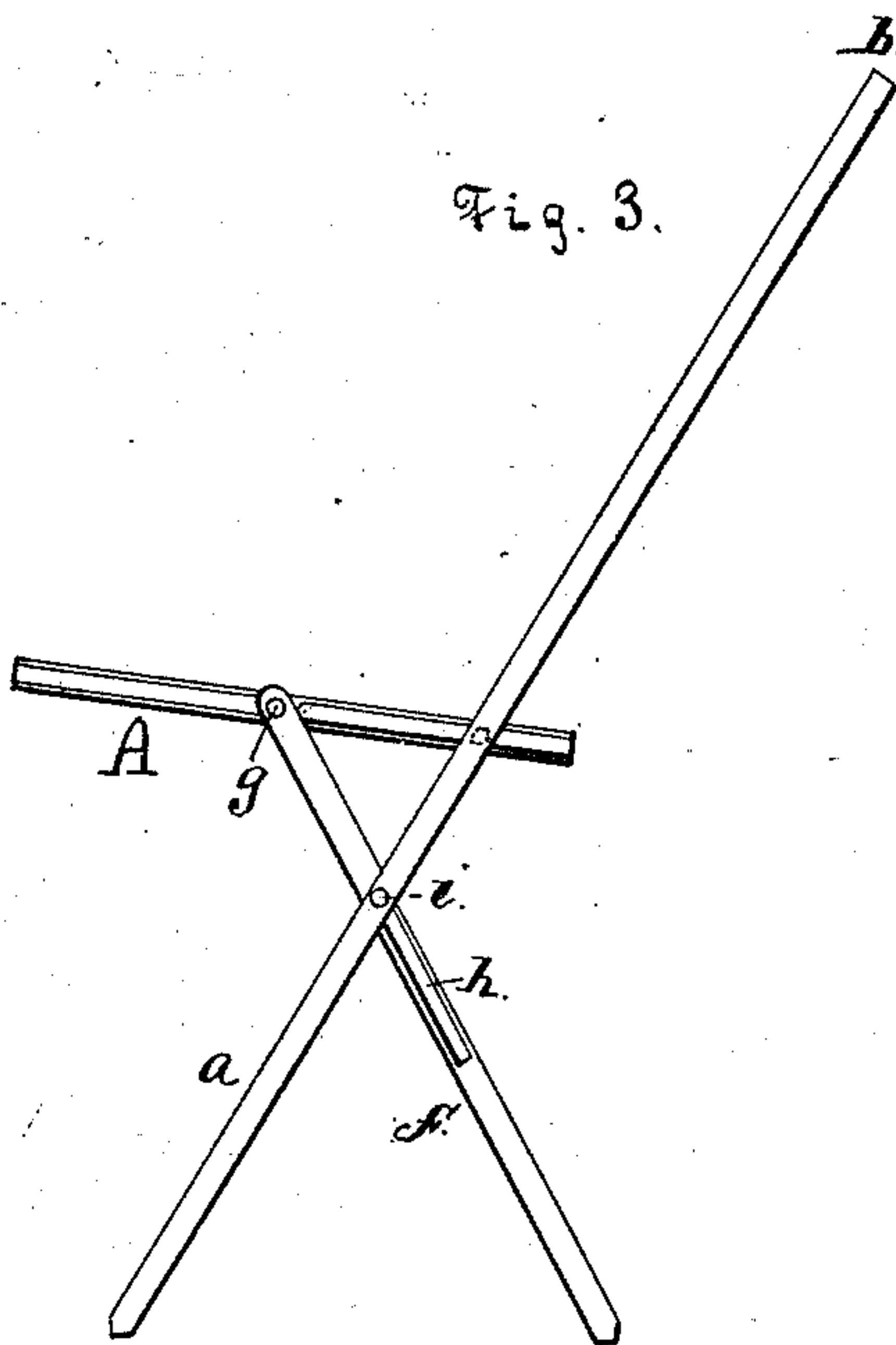


Fig. 3.



Witnesses.

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Att'n

UNITED STATES PATENT OFFICE.

JAMES C. MERRITT AND LAWRENCE A. C. MÜLLER, OF HIGHLAND FALLS, NEW YORK; SAID MÜLLER ASSIGNOR TO JOSEPH DENTON, OF SAME PLACE.

FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 317,402, dated May 5, 1885.

Application filed December 3, 1883. (No model.)

To all whom it may concern:

Be it known that we, JAMES C. MERRITT and LAWRENCE A. C. MÜLLER, citizens of the United States, and residents of Highland Falls, in the county of Orange and State of New York, have invented a new and Improved Folding Chair; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front view of the chair when folded; Fig. 2, a perspective and Fig. 3 a side view of the same when in position for use.

Like letters designate corresponding parts in all of the figures.

The chair is composed of a main frame, which constitutes the front legs and back frame of the chair, of a seat, and back legs, which cross the front legs, and these parts are so connected with each other that the chair may be folded up perfectly flat and with the seat and back legs entirely within the main frame, and may be opened either way and used whichever way it may be opened. The construction of the chair also comprises a back of peculiar construction, and means for locking the parts together when folded. The main frame consists of side strips, *a a*, which constitute the front legs of the chair, and of cross-pieces *b c*, which connect the side strips at or near their ends thus making a firm and substantial frame-work for the chair. The seat *A* is located between the side strips or front legs, *a a*, and at the point where it is connected with them is of the full width between said legs. The back legs, *f f*, are pivoted at their upper ends to or near to the forward edge of the seat, and cross the front legs between them, being connected therewith. In order to permit the seat to be of the full width between the front legs it is cut away on both sides at and forward of the points *g g*, where it is pivoted to the back legs. The lower ends of the back legs are preferably connected together by a cross-piece, *m*, to add to the firmness of the chair. The back and front legs are beveled at their lower ends, so as to rest better on the floor. The connections between the seat and front legs, and between the front and back legs, respectively, are sliding connections, and their operation is such that the seat and

back legs slide upward between the front legs when the chair is being folded, and when the chair is folded both the seat and back legs are entirely inclosed within the main frame. As all of the pieces used to compose the seat and legs are straight pieces, when the chair is folded it is perfectly flat, and is of no greater thickness than that of the material used, and the other dimensions of the chair when folded are those of the frame *a a b c*. The space thus occupied by the folded chair is reduced to a minimum, which is of great advantage when the chair is not in use, or is to be packed for transportation; and in packing there is no waste space between the chairs, as, being flat, one lies directly on the one beneath.

The preferred connections between the seat and front legs, and between the front and back legs, which admit the folding of the chair as above indicated, are as follows: The front legs are formed on their inner sides with slots or grooves *d d*, at the bottom of which rest pins *e e*, secured to the seat. When the chair is being folded, the pins *e e* slide upward in the slots *d d*, which extend upward far enough to permit the seat and back legs to be drawn entirely within the frame *a a b c*, or, what is the same thing, to permit the lower ends of the back legs to clear the bottom cross-piece, *c*. As the lengths of the two sets of legs below the points where they are connected must, when the chair is in use, be approximately equal, a sliding connection must be used between the two sets of legs to permit the back legs being drawn entirely within the main frame. The back legs are therefore provided with grooves or slots *h h* on their outer sides, in which rest pins *i i*, fixed to the front legs, *a a*. When now the chair is being folded, this connection between the back and front legs permits an upward movement of the back legs sufficient for their lower ends to rise above the lower cross-piece, *c*. When the chair is in position for use, the pins *e e* on the seat rest at the bottoms of the grooves *d d* in the front legs, the position of the back of the seat being thus determined, and the pins *i i* on the front legs rest at the tops of the grooves *h h* in the back legs, thus determining the position of the front of the seat.

It is manifest, in order to permit the folding

of the chair in the manner described, that in connecting the two sets of legs together the slots must be formed in the back legs, and the pins be carried by the front legs, otherwise no support would be afforded to the front of the seat.

We are aware that sliding connections between the various parts of folding chairs are not new, and that pins and slots have been employed to constitute such connections; and although we have shown the connections between the parts of this chair as made up of pins and slots, we do not wish to confine ourselves to such connections, because any of the other well-known sliding connections, such as bands and clasps, may be used instead.

The essential arrangement required to permit the chair to fold as described is that the part of the connection which slides shall be carried by the seat, and slide upward along the front legs, as to that connection; and as to the connection between the two sets of legs, the part which slides should be carried by the front legs, and slide downward along the back legs.

When the chair is folded, as in Fig. 1, all of the connections being pivotal in their character and such that all of the parts turn or swing in the same plane, the seat and back legs can either be turned forward or backward in relation to the front legs, since, being situated between the front legs and the top and cross pieces there is nothing to interfere with their movement in either direction. It thus follows that the chair may be opened in either direction, and constitutes what may be termed a reversible folding chair; and, to provide for its use whichever way the chair may be opened, its seat is provided with a double bottom.

For convenience in handling, the chair may be provided with two cross-pieces, *b b*, at the top.

In addition to the back formed by the main frame, a back, *k*, is provided. This back is composed of strips *r r*, pivoted together to form what is termed a "lazy-tongs." This back is hinged so as to turn in the same plane with the other parts of the chair, at *n n*, to the cross-piece *b* and to the seat *A*. This back does not interfere with the folding of the chair, as it folds or shuts up as the seat is raised. The upper side of the bottom cross-piece, *c*, is formed with a groove or recess, and into this groove the beveled ends of the back legs are lowered after being folded within the main frame, preventing the legs from being turned and thus locking the chair. It is obvious that for this purpose the groove in the top of the cross-piece need not extend the whole length of the cross-piece, but that short recesses directly under the legs *f f* are all that is required.

We claim as our invention—

1. In a reversible folding chair, a main

frame consisting of side strips which constitute the front legs of the chair, a seat within said frame, and upwardly-sliding connecting parts located on said seat which engage said front legs, in combination with back legs pivoted at their upper ends to said seat and which cross the front legs within the same, and downwardly-sliding connecting parts located on the front legs, which engage said back legs, substantially as set forth.

2. In a reversible folding chair, a main frame consisting of side strips which constitute the front legs of the chair, and of top and bottom cross-pieces connecting said side strips, a seat within said frame, and upwardly-sliding connecting parts located on said seat which engage said front legs, in combination with back legs pivoted at their upper ends to the seat and which cross the front legs within the same, and downwardly-sliding connecting parts located on the front legs which engage said back legs, substantially as set forth.

3. In a reversible folding chair, a main frame consisting of side strips, *a a*, which constitute the front legs of the chair, and of top and bottom cross-pieces, *b c*, connecting said side strips, said side strips or front legs being provided with grooves *d d* and pins *i i*, and a seat, *A*, provided with pins *e e*, which rest in said grooves *d d*, and slide therein when the chair is being folded, in combination with back legs, *f f*, pivoted at their upper ends to said seat and provided with grooves *h h*, in which said pins *i i*, on the front legs, rest and slide when the chair is being folded, substantially as set forth.

4. In a folding chair, and in combination with the co-operative parts thereof, upwardly-extending front legs, a cross-piece connecting said legs at or near the top, a seat within said front legs, sliding connections between said seat and legs, and a lazy-tongs back connected to said cross-piece and to the seat, substantially as set forth.

5. In a folding chair, a seat, front legs, sliding connections between said seat and legs, and a cross-piece connecting the front legs at or near the bottom provided with a groove or recess on its upper side, in combination with back legs pivoted to the seat, and sliding connections between the back and front legs, said back legs being beveled on their lower ends, whereby they may engage in the said groove or recess when the chair is folded and thus lock the chair, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES C. MERRITT,
LAWRENCE A. C. MÜLLER.

Witnesses:

JAMES H. MELOY,
CAROLINE R. FITCHETT.