R. C. KERR.

FOLDING CHAIR.

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1,366,913.

Patented Feb. 1, 1921.

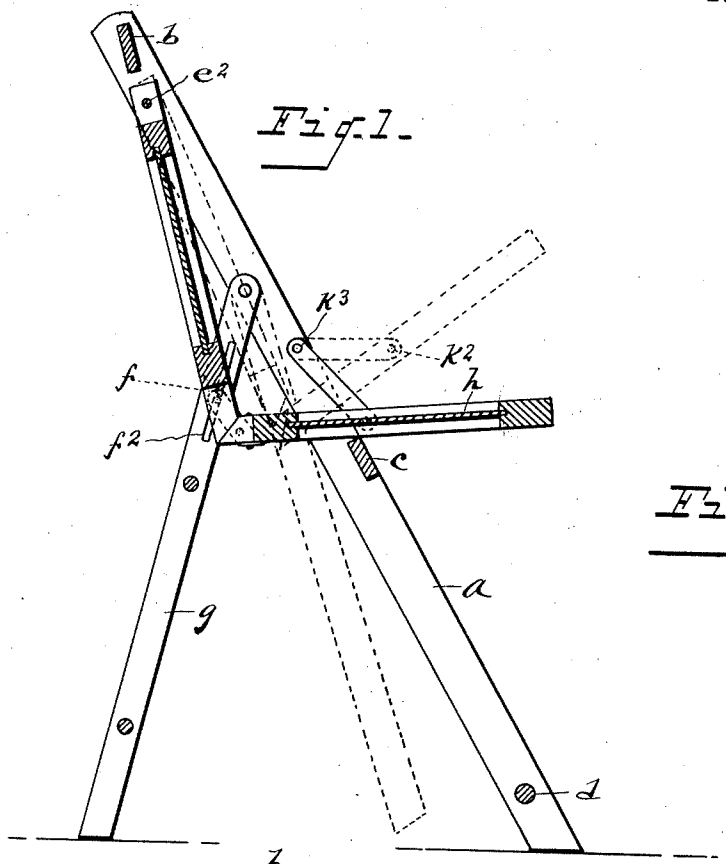


Fig. 1.

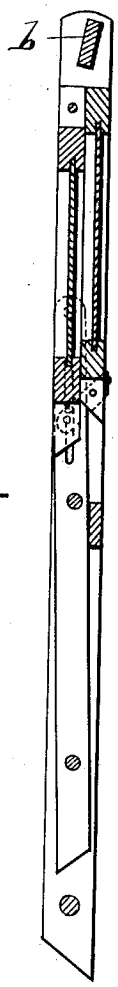


Fig. 2.

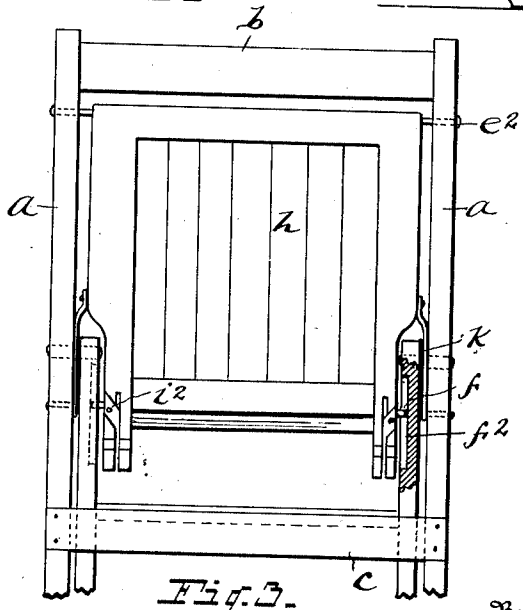


Fig. 3.

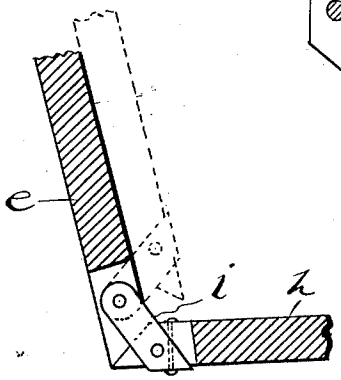


Fig. 4.

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FOLDING CHAIR.

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To all whom it may concern:

Be it known that I, ROBERT C. KERR, citizen of the United States, residing at Reading, county of Hillsdale, State of Michigan, have invented a certain new and useful Improvement in Folding Chairs, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in folding chairs. My improved chair is so designed and constructed that the folded parts are included within the uprights when the chair is folded. It is further constructed so that the chair will not fall down when folded, but require a distinct effort to open the same.

In the drawings,—

Figure 1 is an elevation partly in section of the chair open.

Fig. 2 is a view similar to Fig. 1, the chair being here shown folded up.

Fig. 3 is a front elevation, the lower portion of the chair being broken away.

Fig. 4 is a detail of the hinged joint between the back and the seat bottom.

The uprights are indicated by *a* and comprise a pair of rails which are connected together at the top by a bar *b* which acts as a part of the seat back when the chair is open. The cross-bar *c* connects the uprights at their middle portion and is adapted to support the seat when the chair is open; near the foot of the uprights they are connected by a cross-bar *d*.

The chair back *e* is pivoted to the uprights *a* by a metal cross-bar e^2 adapted to yield upwardly under pressure, during the folding of the chair. Near the bottom of the chair back on opposite sides are projecting gudgeons *f* adapted to be received in slots f^2 extending longitudinally of the chair legs *g* so that when the chair back is folded within the uprights it will carry with it the legs which will likewise fold inwardly as shown in Fig. 2.

Hinged to the bottom of the chair back *e*, and forming a miter joint therewith, as shown in Fig. 4, is the seat bottom *h*. This hinge is formed between the lower edge of the side rails of the back and rearward ends of the side rails of the seat in such a manner that when the meeting ends of the side rails come together, as shown in Fig. 1, they form a miter joint. These meeting ends are slotted to receive the link *i* by means of which they are hinged together. This link *i* is turned over after being fastened to the seat bottom, forming a supporting flange i^2 thereunder, which flange is securely fastened to such seat bottom, as shown.

This seat bottom *h* is further pivotally supported from the uprights by means of links *k* pivoted to opposite sides thereof at k^2 and to the separate uprights at k^3 as shown in Fig. 3. This pivotal connection is of such a character that when the chair is opened the seat bottom will rest on the cross-bar *c* instead of being supported by these links *k*. The link *k* is pivoted to the upright *a* at k^3, at such a point thereon that when the seat is folded up, as it draws the chair back in toward the uprights elevating same, such action of elevation, as it approaches the vertical is against the resistance of the spring rod e^2. This elevation of the chair back takes place when the seat bottom approaches its highest point in this folding operation and just before it passes the center of its pivotal point with the uprights.

It will be apparent that there will be a slight elevation of the chair back as the rear end of the seat bottom will be somewhat elevated in this folding operation and will carry the chair back with it. As the seat bottom is folded, in passing the center k^3 it will be slightly lowered and the seat back will lower therewith. The seat bottom is therefore restrained from falling outwardly when folded up, requiring distinct pressure to open the same.

It will be seen that the spread of the legs of the chair is such that the chair will not tilt forward even though the weight were placed directly on the front of the seat bottom, because of the peculiar formation of the chair the seat bottom projecting back between the uprights a peculiarly comfortable chair is provided and the weight is carried entirely by the cross-bar *c*. In the normal sitting posture there will be an upward tension on the back of the chair resisted by the spring pivot rod e^2.

What I claim is:

1. In a folding chair, a pair of uprights connected and braced, a pair of short legs pivoted thereto, a chair back pivoted near its top within said uprights in such a manner as to yield resistingly upward under

pressure, a seat pivoted within said uprights by means of links pivoted at each side thereof and pivoted to the adjacent upright member, said seat pivoted to said back so as to fold upwardly thereagainst and so as to elevate said back against the yielding resistance of its pivotal connection with the uprights when the seat is folded up and just as the seat passes the center of the pivot point of the links with the uprights, said chair back adapted to spring downwardly after the seat bottom has been folded up thereagainst, yieldingly locking the same in its folded relation.

2. In a folding chair, a pair of uprights connected and braced, a pair of short legs pivoted thereto, a seat bottom pivoted by means of links to said uprights, a chair back pivoted at the lower end to said seat bottom and at the upper end to said uprights in such a manner that when the seat bottom is folded up within the uprights against the back, said back is forced to yield resistingly upward and adapted to spring back again in place when the folding operation is completed.

3. In a folding chair, a pair of uprights connected and braced, a pair of legs connected and braced provided with longitudinally extending slots, said legs pivoted within said uprights so as to fold therein, a back pivoted near its top within said uprights by means of a yielding cross-rod connecting said uprights and provided near its bottom with gudgeons projecting from opposite sides thereof received within longitudinal slots in said legs adapted to draw the legs within said uprights when the back is folded therein, a seat bottom hinged at its rear to said back so as to form a miter joint therewith when the same is opened and adapted to fold upwardly thereagainst, a pair of links secured at opposite sides of said seat bottom and to said uprights.

4. In a folding chair, a pair of uprights connected and braced, a pair of legs provided with longitudinally extending slots pivoted within said uprights so as to fold therein, a chair back pivoted near its top within said uprights by means of a yielding cross rod connecting said uprights so as to fold therein, provided near its bottom with gudgeons projecting from opposite sides thereof received within said slots so as to draw said legs within said uprights when the back is folded therein, a seat hinged to said back so as to form a rigid joint therewith when the same is opened and adapted to fold upwardly thereagainst, a pair of links pivotally secured to said uprights pivoted to opposite sides of said seat bottom so that when the seat bottom is folded upwardly against said seat back drawing the same within said uprights, the back will be slightly elevated against the resistance of said yielding pivot rod as the seat bottom passes the center where it is pivoted to the uprights.

5. In a folding chair, a pair of uprights connected and braced together, a pair of legs connected and braced together provided with longitudinally extending slots and pivoted within said uprights so as to fold therein, a seat back pivoted within said uprights by means of a yielding pivot rod intervening separate uprights near the top thereof and provided near its bottom with pivotally projecting gudgeons received in the slots in said lugs so as to draw them within said uprights when the chair back is folded therein, a seat bottom hinged to said back forming a miter joint therewith when opened adapted to fold upwardly thereagainst within said uprights, a pair of links pivotally hinging said seat bottom to said uprights in such a manner that when the seat bottom is folded upwardly within said uprights the seat back is drawn upwardly against the resistance of the yielding pivot rod as the seat back passes the center of its pivot point with the uprights, and yields downwardly after it has passed such pivot point, locking such chair in such folded position.

In testimony whereof I sign this specification.

ROBERT C. KERR.