C. B. RAWSON.

Combined Chair and Step-Ladder.

No. 165,688. Patented July 20, 1875.

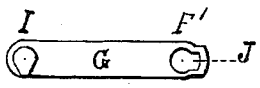

FIG. 2.

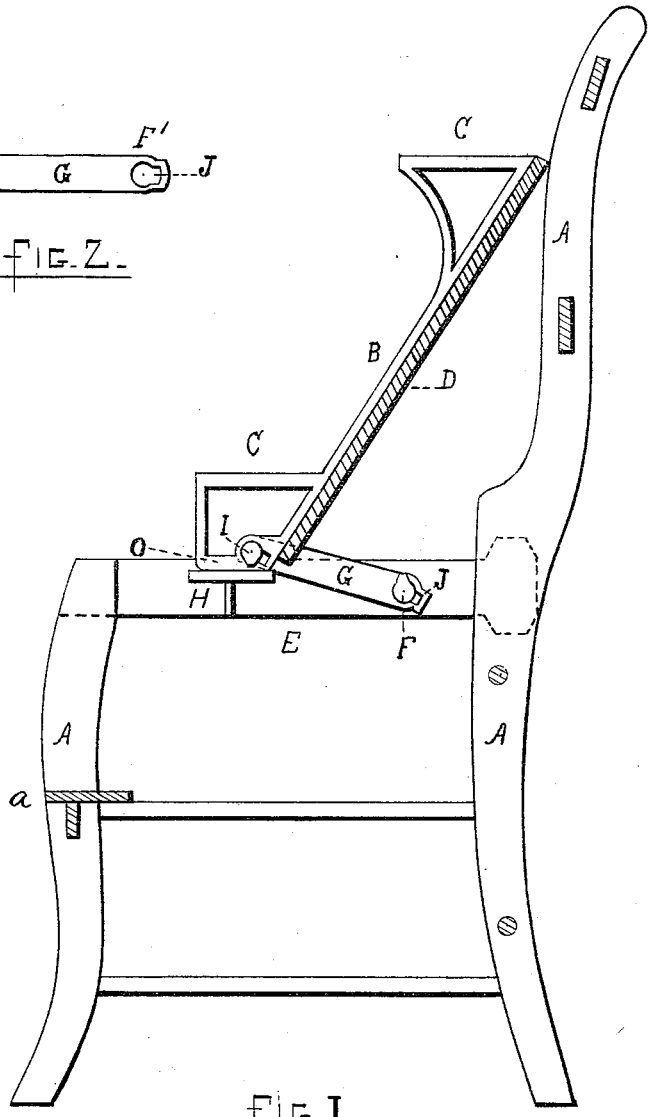

FIG. I.

Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES B. RAWSON, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN COMBINED CHAIRS AND STEP-LADDERS.

Specification forming part of Letters Patent No. 165,688, dated July 20, 1875; application filed August 17, 1874.

To all whom it may concern:

Be it known that I, CHARLES B. RAWSON, of Worcester, State of Massachusetts, have invented an Improved Combined Chair and Step-Ladder, of which the following is a specification:

My invention relates to certain improvements in the mode of constructing a combined chair and step-ladder, in which the seat is provided with steps upon the under side, and so arranged that it may be raised against the chair-back to form a step-ladder, as is fully described in the Letters Patent granted to me by the United States, and dated December 3, 1872.

My present invention consists in the use of a projecting foot, O, upon the lower bracket, attached to the seat, for the purpose hereinafter set forth; also, in the mode of attaching the link G to the chair rail and seat; and also in the combination, with the connected parts, of a metallic chair-rail, E, having a step, H, to sustain the seat, and a projecting stud, F, with a spur or lip, to hold the link in position, all of which is fully described in the following specification, and shown in the accompanying drawings, in which—

Figure 1 shows a vertical sectional elevation of a combined chair and step-ladder embodying my invention, the side nearest the spectator having been removed. Fig. 2 represents the link G.

Like letters refer to like parts in the several drawings.

A A A represent the chair-frame; B, a metal strip, connecting the brackets C C, to which the "treads" are attached, forming the steps upon the under side of the seat. D shows the seat in sectional view. E is the chair-rail, made of brass, malleable iron, or other suitable material; F, a stud upon the rail E, having a spur or lip projecting upward from its end, to prevent the link G from slipping off. H is a step, forming a part of the rail E, upon which the foot O rests, to sustain the seat when raised in the position shown in the drawing. I represents a stud upon the end of the link G, having a spur or lip similar to the stud F. The hole F′ in the link G has a slot, J, upon one side, large enough to slip over the spur upon the stud F, when the link is turned in the proper position, and a hole with a similar slot in the foot O allows the stud I to enter, thereby attaching the link G to the chair-rail E, and also to the strip B, uniting the brackets C C, and attached to the seat D. The chair-rail E is then securely fastened to the chair-posts, which prevents the link G from assuming a position that will allow it to become detached from the rail E or the foot O.

In constructing the combined chair and step-ladder, as described in Letters Patent granted me December 3, 1872, the lower edge of the seat, when raised, rested against a step or tread, passing entirely across the chair from one rail to the other, causing the space from the floor to the highest bracket to be divided into four steps—one at *a*, one at H, and one at each of the brackets C C. This division of the space was found too small, and the use of the short projecting step H allows the use of three steps, as shown in Fig. 1.

In all modes of constructing my combined chair and step-ladder hitherto adopted, the lower edge of the seat, when raised, has been made to rest against the edge or corner of the step or tread at H, and in such cases the load, when applied at or near the forward edge of the lower bracket C, would frequently cause the seat to fall forward, often to the great danger of the person using the step-ladder. This difficulty was obviated by moving the lower edge of the seat D forward, thus giving the seat, when raised, a greater inclination. This lowered the upper edge of the seat, giving the upper bracket a less elevation, and also bringing a greater strain upon the chair-back, which it has been sought to obviate by using a longer chair-seat. This renders the use of longer rails necessary than are ordinarily used in similar chairs, thereby greatly increasing the cost of manufacture.

In my present mode of constructing my combined chair and step-ladder, I place the seat, when raised, in the position required by the form and size of the chair to give the proper inclination for a step-ladder, and to the bottom of the strip B, which is firmly secured to the under side of the seat D, I cause a foot, O, to project forward horizontally as far as the end of the lower bracket C, resting for its whole length upon the projecting step H. The

end of the foot O and the bracket C may be united, if desired, as shown in Fig. 1, to give greater support to the bracket.

It will thus be seen that in whatever position the load may be applied to the lower bracket C, the center of gravity will always fall within a point of support.

By the above-described mode of constructing my combined chair and step-ladder, the metallic side rails E, with their steps H and studs F, the strips B, with the brackets C C, and having a slot to receive the stud I, and the link G, in the form shown, may all be cast sufficiently accurate to be united without being fitted in the workshop, and the labor only remains, in "setting up" the chairs, of attaching the side rails to the chair-frame, and the strips B to the seat D, thus saving a large amount of the expense hitherto involved.

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

1. The combination, in a combined chair and step-ladder, of the seat B C D with the foot O, provided with a slot to receive the stud upon the link G, and projecting horizontally forward as far as the edge of the lower step, as described, and for the purpose set forth.

2. The combination, with the rail E, having a suitable rest, the seat D, and brackets C C, of a link, G, having a stud, I, with a spur, as shown and described, and hole F′, with slot J, as described, and for the purpose set forth.

CHARLES B. RAWSON.

Witnesses:
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