(No Model.)

F. E. LEVANSELER.

STEP LADDER CHAIR.

No. 353,315. Patented Nov. 30, 1886.

Fig. 1.

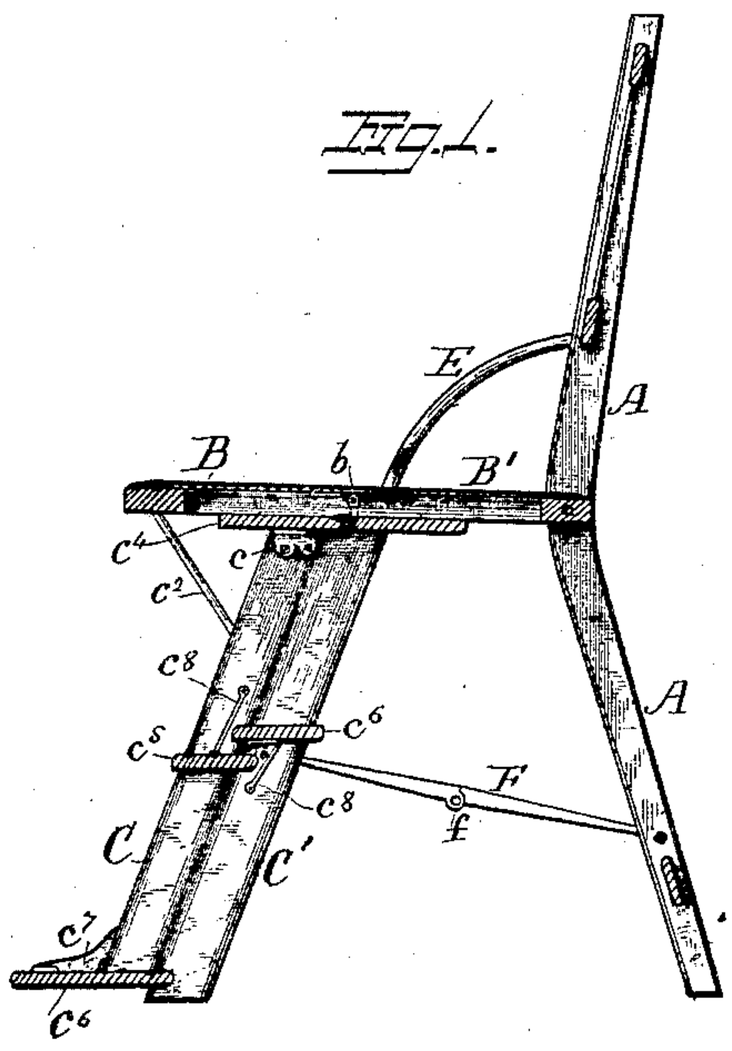


Fig. 2.

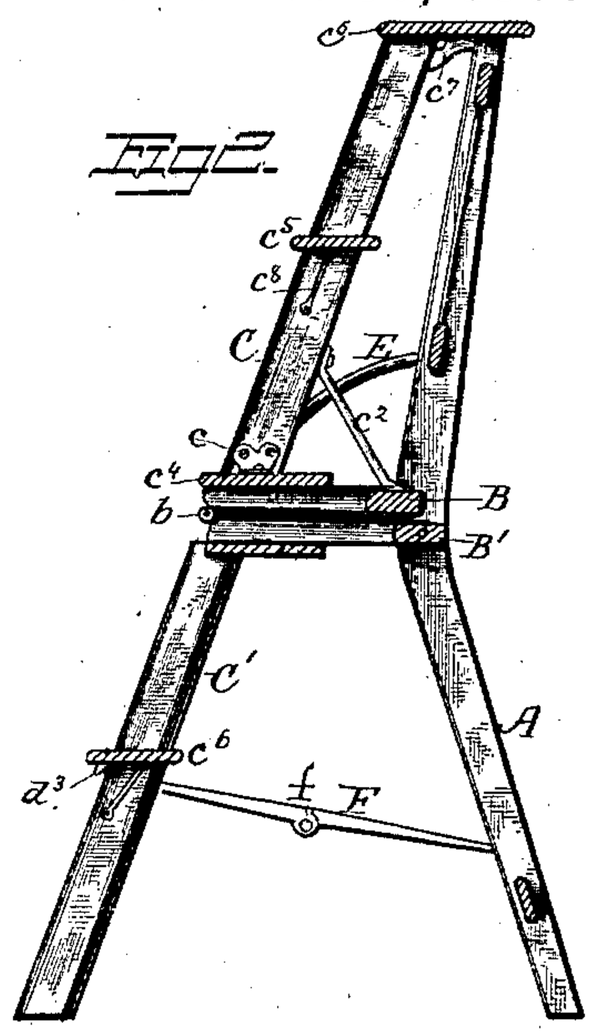


Fig. 3.

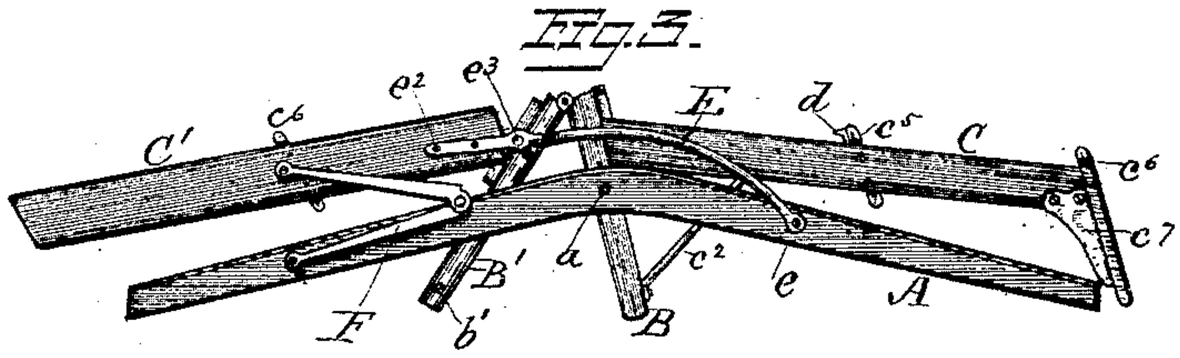


Fig. 4.

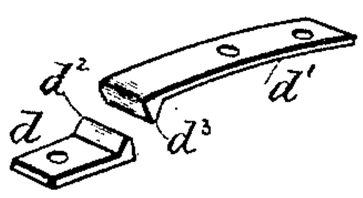


Fig. 5.

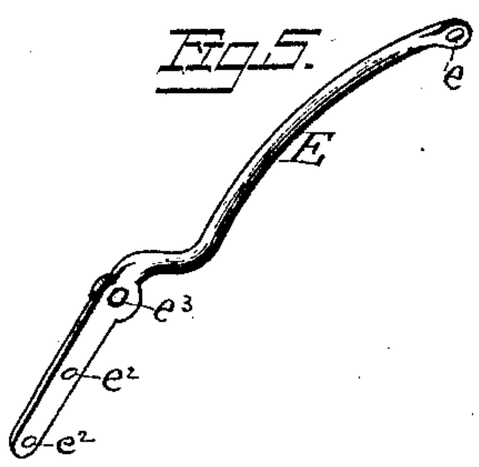
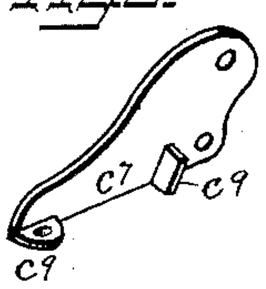


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANK E. LEVANSELER, OF ST. CLOUD, MINNESOTA.

STEP-LADDER CHAIR.

SPECIFICATION forming part of Letters Patent No. 353,315, dated November 30, 1886.

Application filed March 22, 1886. Serial No. 196,170. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. LEVANSELER, a citizen of the United States, residing at St. Cloud, in the county of Stearns, State of Minnesota, have invented certain new and useful Improvements in Step-Ladder Chairs, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in step-ladder chairs in which the seat is formed of two halves hinged together, and the front half can be folded upon the rear half to produce a step-ladder; and the objects of my improvement are not only to make a strong and inexpensive chair, but to permit said chair to be folded into small compass for transportation. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section through a chair constructed in accordance with my invention. Fig. 2 is a vertical section of the same transformed into a step-ladder. Fig. 3 is a side view of the same folded for transportation. Fig. 4 is a perspective view, on a large scale, of the catch and keeper used to prevent the separation of the front portion of the chair from the rear portion while moving the chair about. Fig. 5 is a perspective view of one of the side arms. Fig. 6 is a perspective view of one of the brackets connecting the foot part of the chair or the top round of the ladder with its side supports.

In said drawings, A represents the rear legs and back of the chair; C′, the middle legs supporting with the rear legs the rear half, B′, of the seat. The front half, B, of the seat is connected to the rear half by a pair of hinges, *b*. To the under side of the front half of the seat are secured the front legs, C, by means of nails or screws and of the angle-irons *c* and brace-rods c^2. To the under side of the seat is secured transversely the step c^4 of the step-ladder, and about half-way down the front legs, C, is secured the step c^5, and adjacent to the lower end of the leg C is secured, by means of screws and of iron brackets c^7, the broad step c^6, that forms the top step of the ladder when the chair is transformed into a ladder. About half-way down the legs C′ is secured the step c^6, and this step, as well as the step c^5, is firmly united to their supporting-legs by short diagonal braces c^8.

To temporarily latch the legs C and C′ together, their steps c^5 and c^6 stand secured to said legs a short distance one above the other, and to the upper side of the step c^5 is secured in the middle of its length the catch *d*, having its beveled upper lip, d^2, projecting upward toward the step c^6, and to the under side of the step c^6 is secured the latch *d*′, having its beveled hook d^3 projecting downward, not only toward the catch *d*, but so that its hook d^3 will (when the legs C C′ are brought together) pass the lip d^2 with frictional contact and become interlocked therewith.

When it is desired to unlatch the front legs to transform the chair into a step-ladder, the operator simply presses upon the step c^5 with his foot. It causes this step to slightly bend down in the center and releases the catch *d* from engagement with the latch, and while thus pressing he applies his hand under the front edge of the seat B and lifts it half an inch, more or less. The front half of the seat is then free to be folded upon the rear half and the chair transformed into a ladder, as shown in Fig. 2. The operator may also transform the chair into a step-ladder by pressing with his foot upon the brace F to hold the rear portion of the chair firmly to the floor while he raises the front portion of the seat B with his hand.

To increase the rigidity of the chair, curved arms E have their upper ends secured at *e* to the rear legs or back of the chair, while their lower ends have perforations e^2 to receive screws or bolts to enter the side of the legs C′, and perforations e^3 to receive screws to enter the side of the seat B′ adjacent to its front edge. The rear portion of this seat B′ is supported by screws passing through the perforations *a* in the rear legs, and engaging with the perforations *b*′ in the side of the seat B′ adjacent to its rear edge. To retain the lower portion of the legs A and C′ connected, but to also permit said legs to be folded together in a comparatively small space, the hinged braces F are used. They have a shouldered hinge, commonly called a "foot-rule" hinge, *f*, substantially half-way between their two ends. To well support the outer edge of the broad step c^6 and connect it to the legs C, the brackets c^7 have side lugs, c^9, as shown in Fig. 6.

To fold the step-ladder chair in a small compass, as shown in Fig. 3, only two screws on a side are temporarily removed—viz., the screw that enters the rear perforation, b', in the seat B′ after passing through the perforation a in the rear legs, and the screw that enters the forward portion of said seat B′ after passing through the perforation e^3 in the arms of the chair. The braces F are then folded and the seat B and B′ pushed through the rear legs or back A of the step-ladder chair. It will be noticed that as the steps c^5 c^6 do not come opposite each other when folded, they, as well as the others, are broader than the legs C and C′, and thus give a good support for persons using them.

I do not claim in this case the step-ladder chair provided with eight legs, shown in my application filed March 29, 1886, Serial No. 196,937, as it shows a chair in which the rear half has to be revolved and deposited upon the front half to produce a step-ladder, and the hinged brace unites only the legs supporting the front half of the seat, but the spring-catch is substantially the same.

Having now fully described my invention, I claim—

1. A step-ladder chair having the front half of the seat hinged to the rear half, and adapted to be folded upon the latter to produce a ladder, the step c^5, overtopped by the step c^6, and said step provided with a flat metal catch screwed to the under side of one of the steps and having a projecting lip, and a latch having a hook adapted to become interlocked when the chair-seat is open, substantially as described.

2. The combination of the rear half of a step-ladder-chair seat, its back, and legs, the front half of the seat and legs having steps c^6, and the rear legs secured by removable screws to said rear half of the seat, with the hinged brace F, uniting said legs, substantially as and for the purpose described.

3. The combination of the rear half of a step-ladder-chair seat, its back, and legs, the front half of the seat and legs having steps c^6, and the rear legs secured by removable screws to said rear half of the seat, with the arms E and the hinged brace F, substantially as and for the purpose described.

4. The combination of the rear half of a step-ladder-chair seat, the front half of the seat and legs having a step, c^6, the rear legs, the back, the arms E, and the legs C, secured to the front half of the seat, and provided with the braces c^2, and the removable screws entering the rear end of the seat, and the arms, whereby said arm-chair is adapted to be folded for transportation, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK E. LEVANSELER.

Witnesses:
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