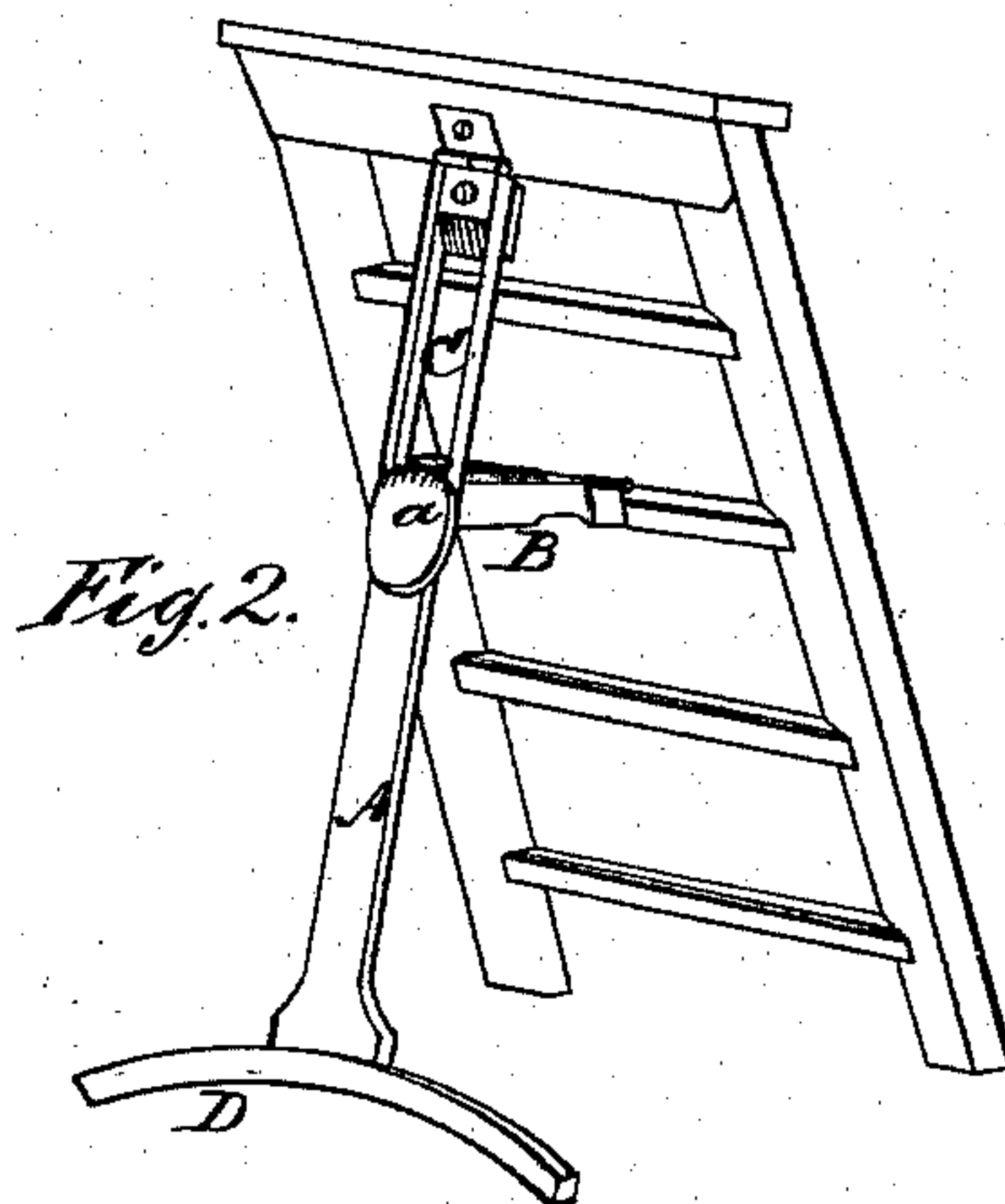
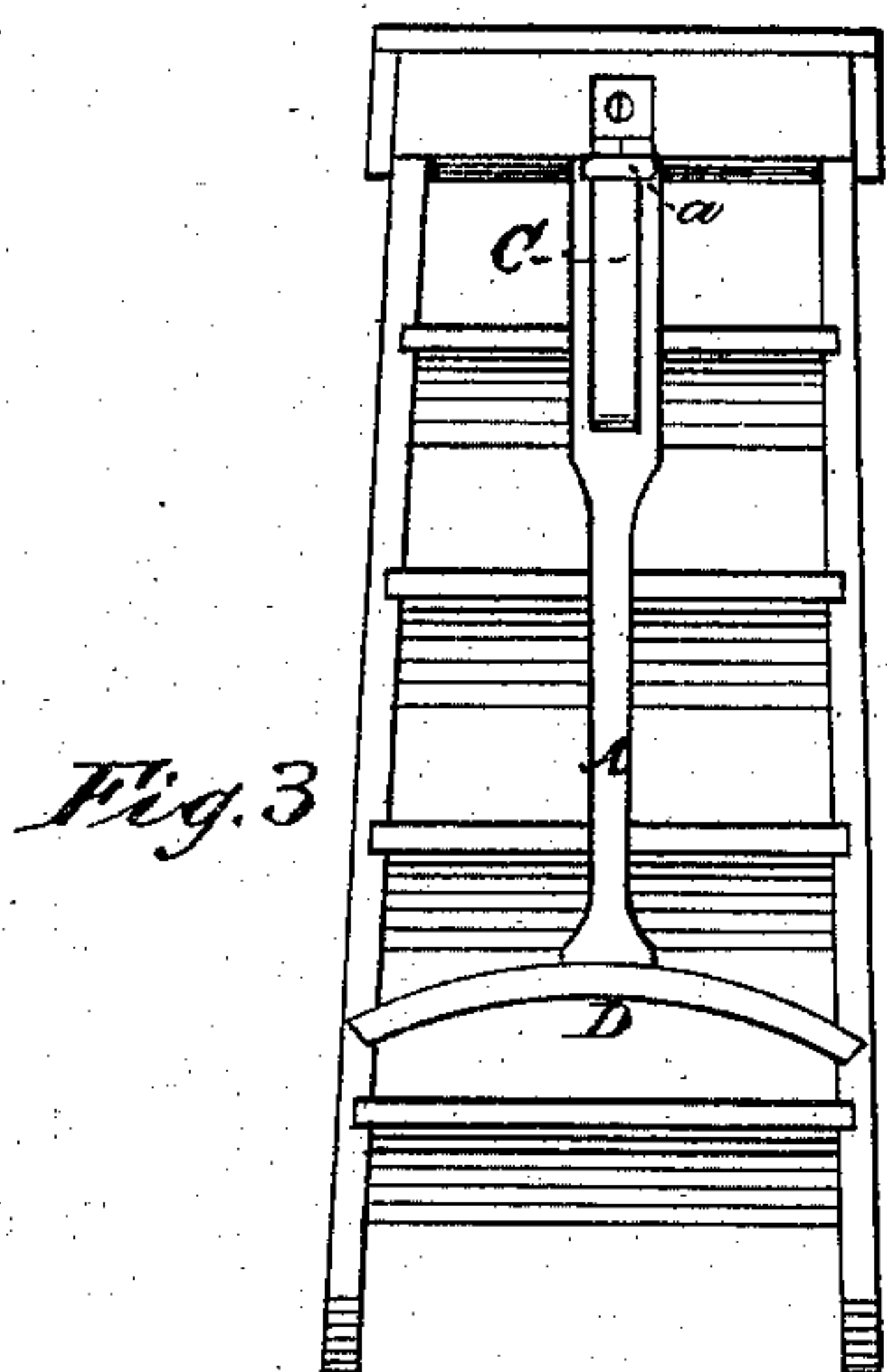
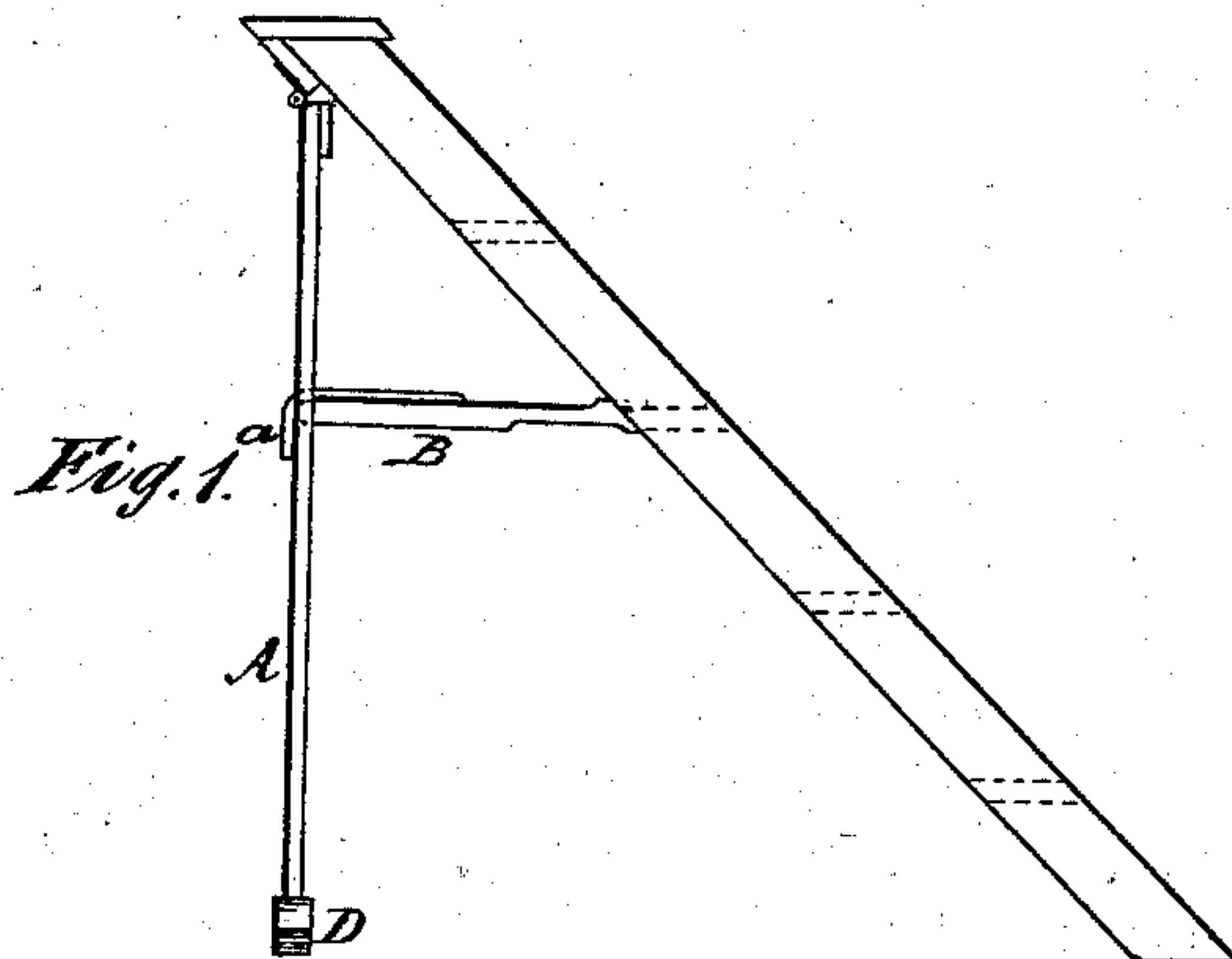


S. HEDGES.  
Ladders.

No. 156,635.

Patented Nov. 10, 1874.



Witnesses.

*Samuel Edwards*  
*Henry Van Noesen*

Inventor.

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# UNITED STATES PATENT OFFICE

STEPHEN HEDGES, OF HUDSON, NEW YORK.

## IMPROVEMENT IN LADDERS.

Specification forming part of Letters Patent No. **156,635**, dated November 10, 1874; application filed September 14, 1874.

*To all whom it may concern:*

Be it known that I, STEPHEN HEDGES, of the city of Hudson, State of New York, have invented an Improved Step-Ladder, of which the following is a specification:

The object of my invention is to make a step-ladder self-adjusting by providing it with a self-adjusting prop or support hinged to the back piece under the top step, and held in position by a brace or arm, one end of which is hinged to a step, the other provided with a metallic bar, passing through and playing up and down in a slot in the upper end of the prop, and secured there by its end being expanded and bent downward on the outside of slot, so that the space between the end of the wood arm, and this expanded dependent metallic end will form a recess or notch just sufficient to embrace the prop at the lower end of slot, and thus hold it firmly in position for use. The lower end of the prop is provided with an arched foot-piece of a length equal to the width of the steps to secure a broad and even bearing for the same, each end only touching the ground or floor.

Figure 1 is a side view or elevation of my improved step-ladder with the parts in position ready for use. Fig. 2 is a perspective view of same. Fig. 3 represents the same when closed up to set away or to pack for shipping.

The prop A is hinged at its upper end to the back piece under the top step, or it may be thus connected with the top step directly by attaching the hinge to bottom or under side of the step. From the hinge this prop is slotted downward about one-third its entire length. In this slot C the flat iron bar *a*, which is attached to the upper side of the arm or brace B, plays up and down. This bar *a* is expanded and bent downward outside the slot, giving to the arm B just the length required, and holding it in position. To prevent the prop A from moving inward toward the steps, or which is more usual, but the same in effect, of the steps pitching forward—as sometimes happens when the bottom of the prop stands

lower than the bottom of steps—the end of brace or arm B is cut at such point as to bear against the inside of prop at the bottom of slot C, so that the recess or notch between the end of arm B and the bend in bar *a*, which is in depth equal to the vertical thickness of arm B, embraces the prop A at bottom of slot C. Prop A being thus checked or braced on both sides at the bottom of slot C, it is held firmly in the position required. The metallic bar *a* being enlarged or expanded outside of slot in its dependent part, shoulders are thus formed on each side, which prevent it withdrawing, and the prop from spreading out beyond the permitted bounds. All that portion of the arm, as well as bar *a* attached thereto, which is required to move and operate within the slot C, is of such breadth only as to move freely therein, so that it may be closed up, as shown in Fig. 3, without touching the prop or brace by drawing the top up till the steps are in a vertical position, and may be kept so closed if packed, carried, or laid away prop-side up, and when required for use the prop and brace will immediately take their proper positions without aid, simply by giving the ladder or steps the needed inclination required for that purpose—that is to say, each will swing to its proper place provided the hinges and brace work freely as they should do.

What I claim as my invention is—

1. The single self-adjusting prop A, having its upper portion slotted, in combination with the arched foot-piece D, and single hinged arm or brace B, all constructed and arranged substantially as set forth.

2. The arm or brace B hinged to one of the steps of a step-ladder, and provided with the bent iron bar *a* attached thereto, and constructed as hereinbefore described, in combination with the slotted prop A, as and for the purpose set forth.

STEPHEN HEDGES.

Witnesses:

WHEELER H. CLARKE,  
HENRY VAN HOESSEN.