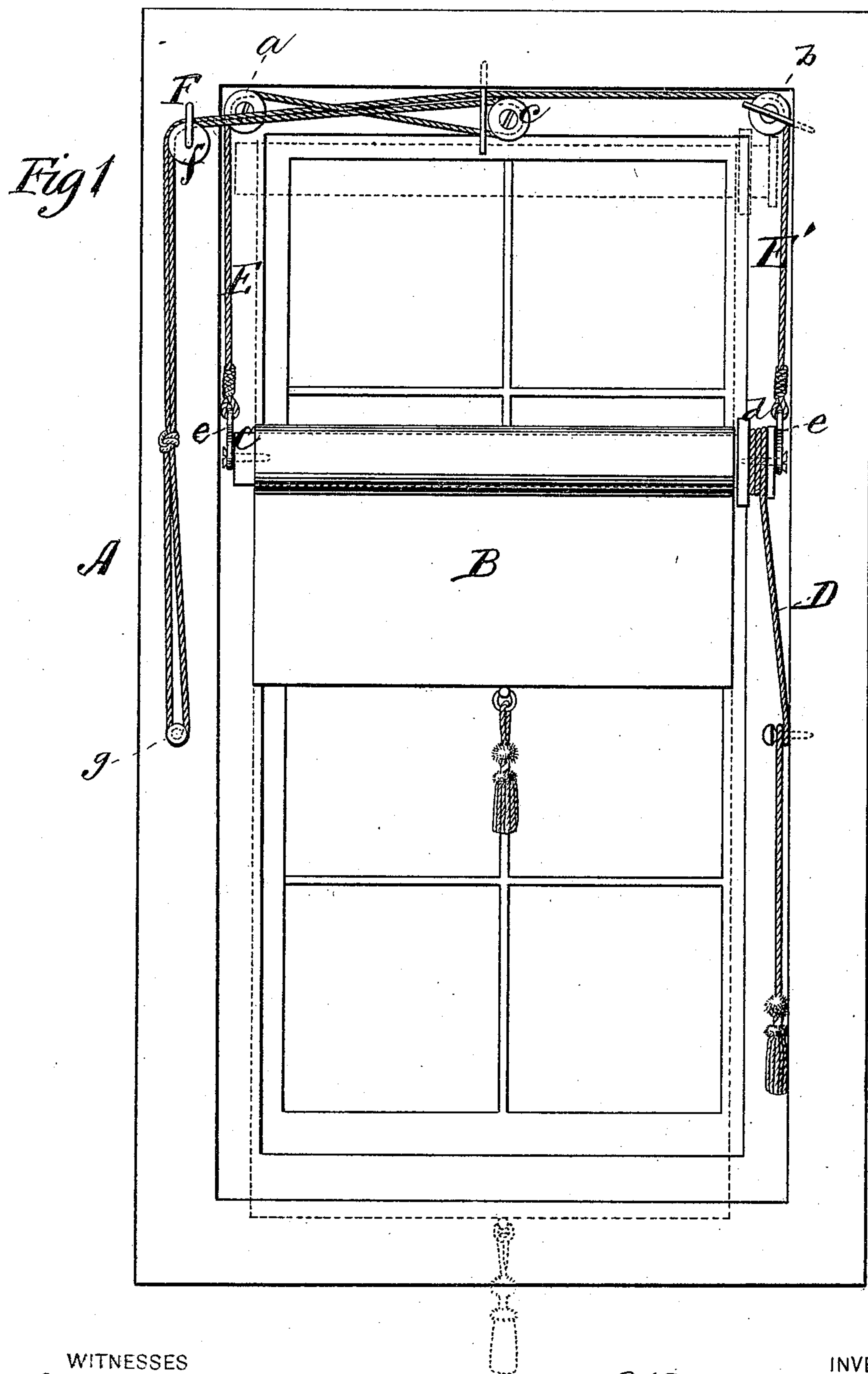


W. P. HAINES.  
CURTAIN-FIXTURES.

No. 174,809.

Patented March 14, 1876.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

WILLIAM P. HAINES, OF WEST MIDDLEBURG, OHIO.

## IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. **174,809**, dated March 14, 1876; application filed January 8, 1876.

*To all whom it may concern :*

Be it known that I, WILLIAM P. HAINES, a resident of West Middleburg, in the county of Logan and State of Ohio, have invented a new and valuable Improvement in Fixtures for Operating Window Shades or Blinds; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front view of my device for operating window-curtains.

This invention has relation to improvements in window-curtain operators, which are designed not only to wind up the curtain, but also to lower and raise it in the window-frame, so as to admit light from above or below, as may be requisite; and the nature of the invention consists in the arrangement and novel construction of the various devices used, whereby the above-mentioned desirable results are obtained in a cheap and reliable form, as will be hereinafter more fully explained.

In the annexed drawings, the letter A designates a window-frame, having at its upper edge three pulleys, *a b c*, the first two of which are situated at the corners of the sash within the frame, and the latter at the middle of the same, as shown in Fig. 1. B represents an ordinary window-curtain, which is secured in the customary manner to a roller, C, having upon one end a pulley, *d*, in the groove of which is secured an operating cord, D. This roller is journaled in metallic hangers *e*, attached to cords E E', which pass upward over pulleys *a b* at the corners of the window-frame. As shown in Fig. 1, cord E passes across the frame and around the central pulley *c*, whence it is carried through a guard, F, having a pulley-wheel, *f*, near the upper part of the frame and outside thereof, and cord E' is carried completely across the frame, and is also passed through guard-loop F, over pulley *f*, when both cords are knotted together at intervals. When this cord is drawn downward, the roller being in the position shown in Fig. 1, the said roller will be gently raised to the upper part of the window-frame, closing the opening therein. (Shown in Fig. 1.) The curtain will be held in this position by engaging the cord with a knob,

*g*, on the side of the frame. The curtain may be raised or lowered independently of the use of cords E E', the roller being in any position in the frame, in the following manner: By drawing downward upon a tassel attached to the lower part of the said curtain, the latter will be unwound from the roller, which, being journaled in hangers *e e'*, is thus caused to rotate, at the same time winding up operating-cord D in the groove of the pulley *d*, and when it becomes necessary to raise the curtain the roller will be made to rotate in the opposite direction, thus winding the curtain about the said roller by drawing downward upon the said cord.

The advantage of this construction (the employment of the central pulley *c*) is, that curtain D is made to fill up the entire space between the jambs of the frame, instead of leaving an interstice at each side for the admission of light, and it is necessary for the accomplishment of this result, when the curtain is hung within the frame, that this pulley, or its equivalent, should be used, as by passing the cord E upward between it and the jamb of the window it will hold the end of the roller and the edge of the curtain in contact therewith, or so nearly so as to cover the edge rails of the sash, and thus exclude the light, and by giving this cord a turn around the said pulley, and then uniting it with cord E', both ends of the roller may be simultaneously and equally raised or lowered. Cords E E', being passed through a guard over a pulley, *f*, will be prevented from escaping from the latter, and a great annoyance will thus be done away with.

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

1. In combination with the rollers *a b*, arranged inside the frame, cords E E', and roller C, the pulley *c* between rollers *a b*, around which cord E passes before uniting with cord E', substantially as specified.

2. In combination with the operating-cords E E', passing over pulleys *a b* next the frame, the intermediate pulley *c*, guard F, and pulley *f*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses, December 13, 1875.

WILLIAM P. HAINES.

Witnesses:

ISRAEL POOL,  
ISAAC POOL.