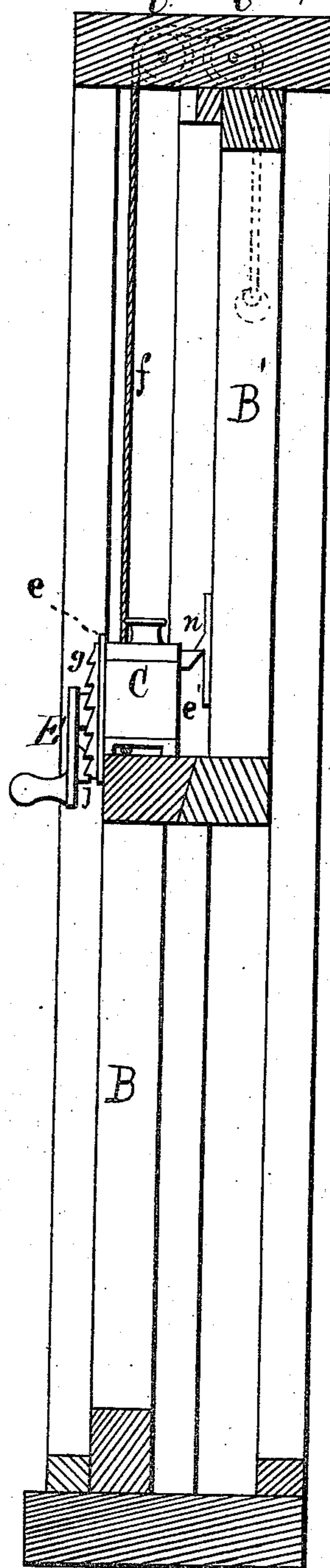
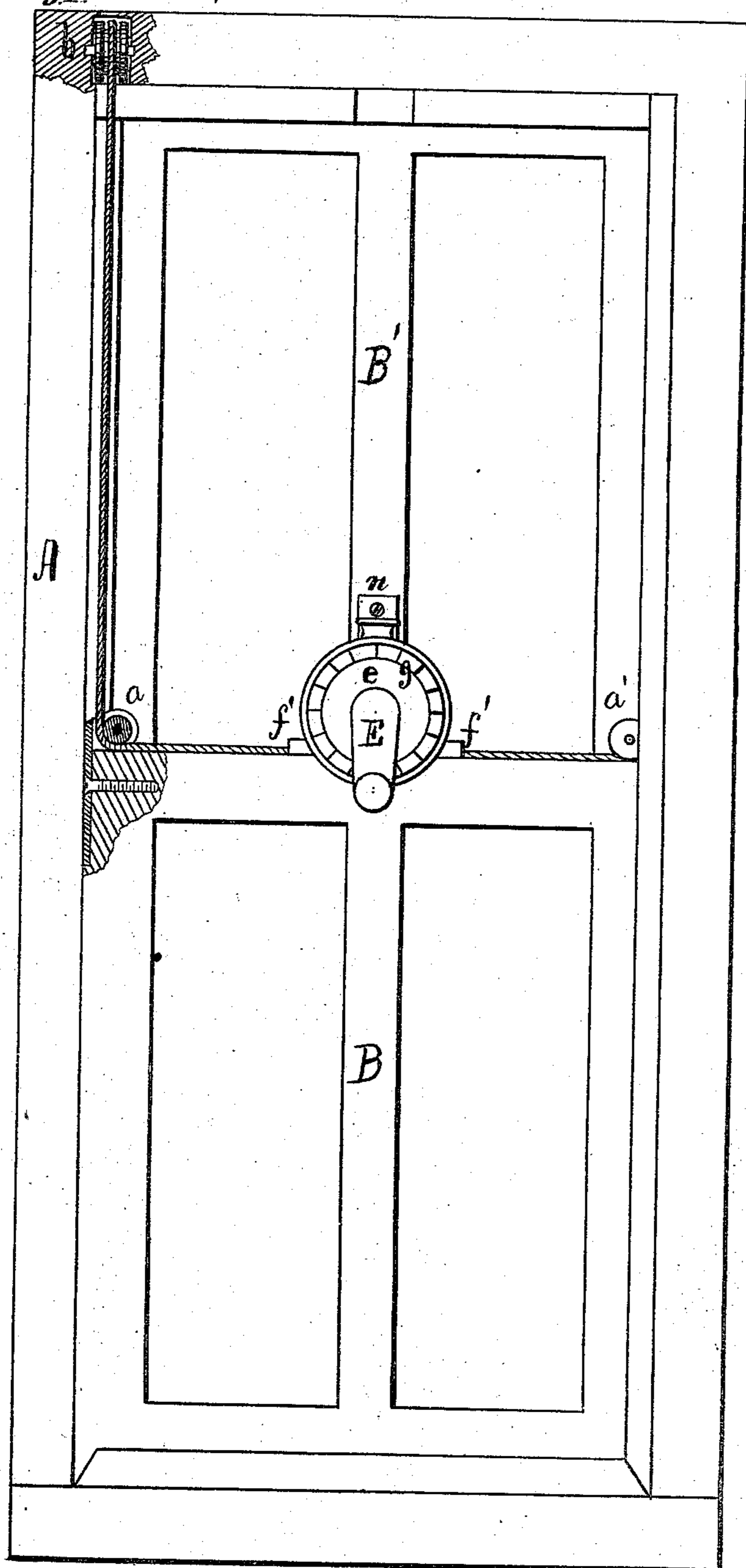


L. FEGLEY.
Sash-Balances.

Fig. 1. No. 154,597.

Patented Sept. 1, 1874.



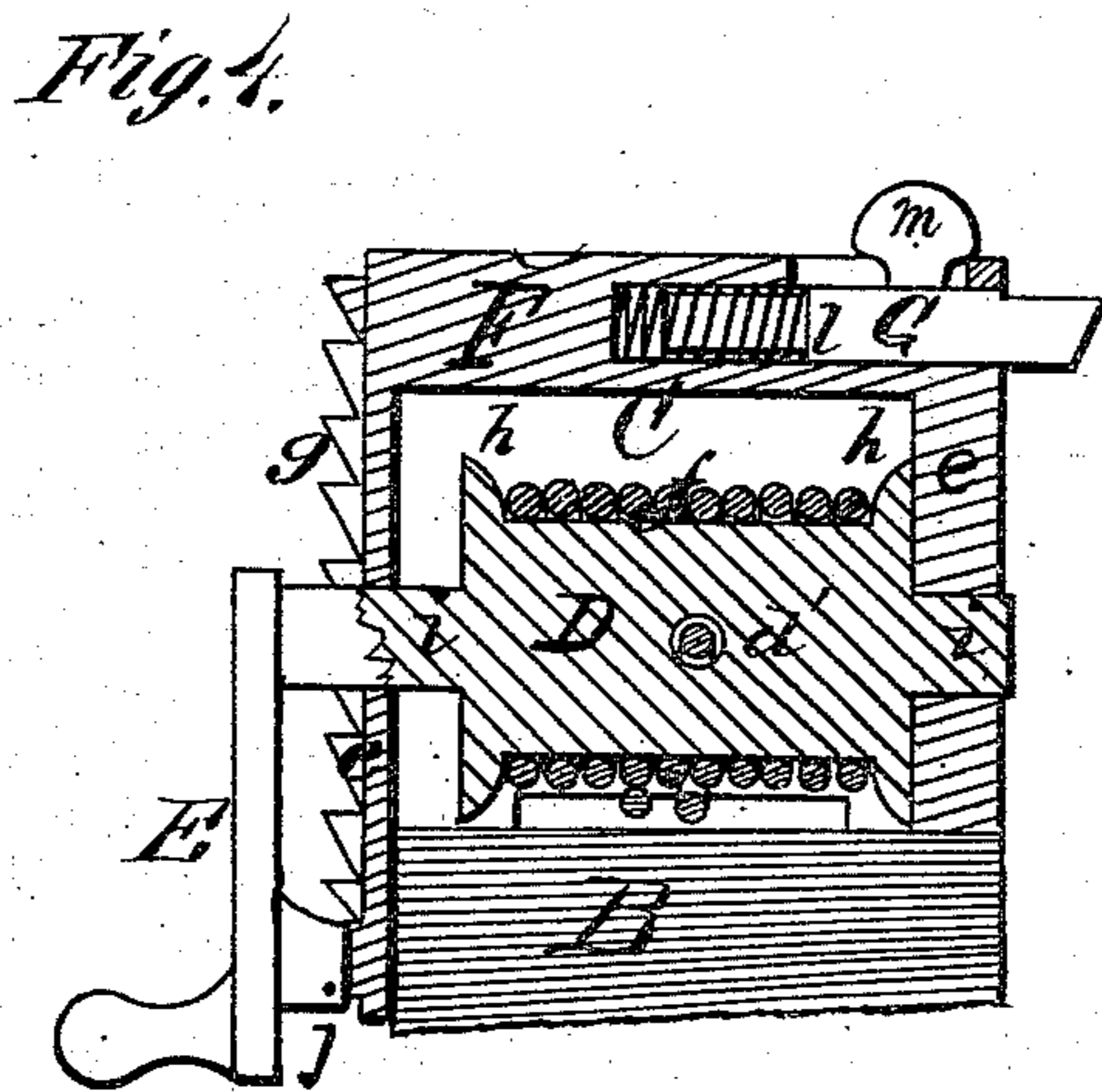
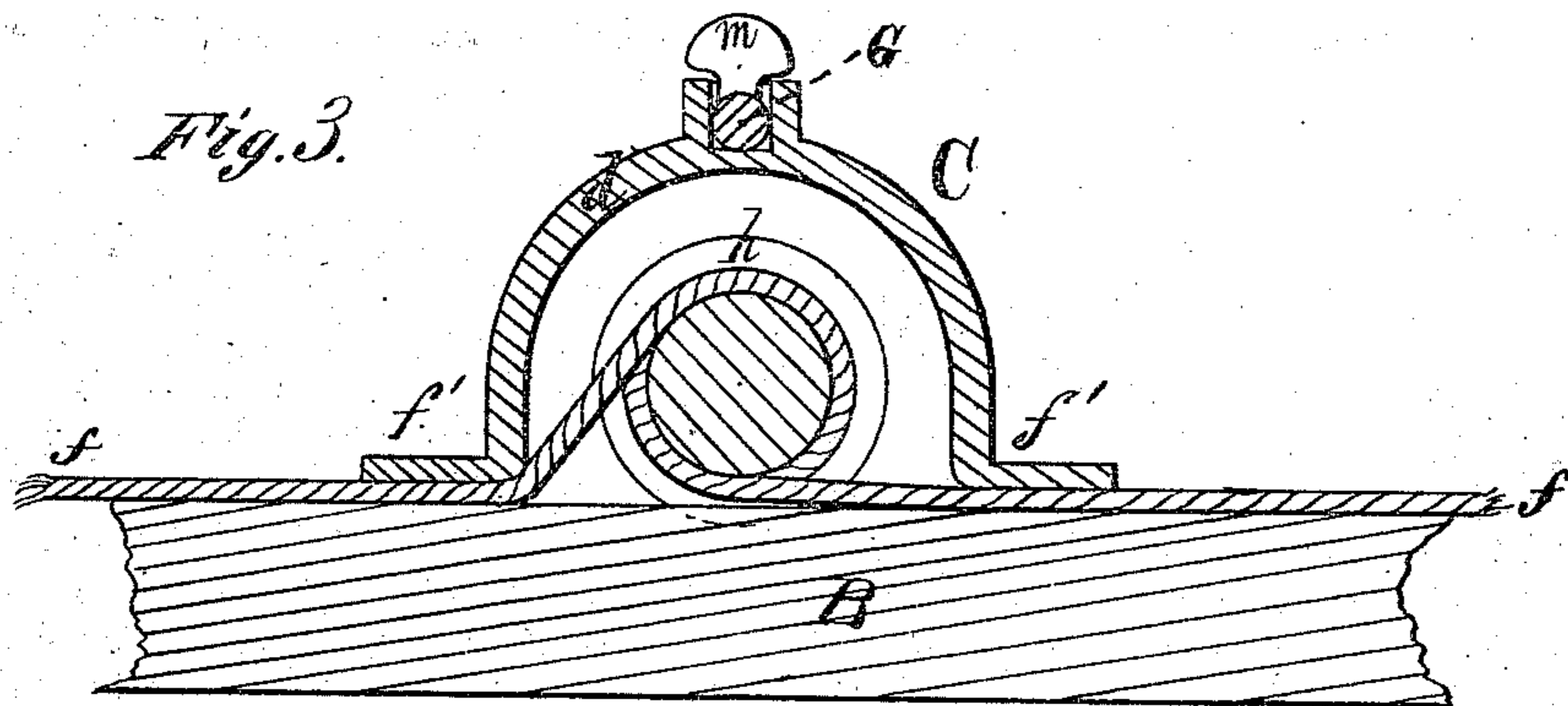
Witnesses.
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Geo. S. Upham

Inventor.
Lewis Fegley
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UNITED STATES PATENT OFFICE.

LEWIS FEGLEY, OF PORT CARBON, PENNSYLVANIA.

IMPROVEMENT IN SASH-BALANCES.

Specification forming part of Letters Patent No. **154,597**, dated September 1, 1874; application filed June 20, 1874.

To all whom it may concern:

Be it known that I, LEWIS FEGLEY, of Port Carbon, in the county of Schuylkill and State of Pennsylvania, have invented a new and valuable Improvement in Sash-Balances; 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 drawing is a representation of a front view of my sash-balance, and Fig. 2 is a sectional view. Figs. 3 and 4 are detail views.

This invention has relation to sash-balances, wherein are used sash-cords, passing over pulleys in the window-frame, and on the sashes to which the said cords are attached, whereby, when the lower sash is raised, the upper sash will be lowered, and vice versa. The novelty consists in a windlass for winding up the sash-cord, which windlass is applied in its bearings so as to have endwise play, whereby a tooth, upon a crank-arm rigidly secured to the end of the windlass-shaft, may be engaged with or disengaged from a toothed rack upon a face-plate of the windlass-case, thereby admitting of the sashes being balanced, or of either of them being lowered or raised independently of the other.

In the annexed drawings, A designates a window-frame, into which are set in the usual well-known manner an upper sash, B', and a lower sash, B. *a a'* designate grooved pulleys, which are rigidly secured at either end of the top rail of the lower sash, B, and *b b'* designate grooved pulley-wheels, applied in pairs on each side of the window-frame and at the top part thereof. C designates a semi-cylindrical hollow cover for a windlass, consisting of a rounded top, *d'*, and two closing portions, *e e'*, for the ends thereof, and which also afford bearings for the shaft of the said windlass. *f' f'* are flanges constructed upon the edges of the cover C, whereby it is conveniently and rigidly secured to the top rail of the lower sash B. The front end *e* of the cover C is circular in form, and it is provided with a circular toothed rack, *g*, for a purpose hereinafter to be explained. D rep-

resents a winding-drum, having flanges *h* constructed upon both ends thereof, which will prevent the sash-cord, when being wound around its periphery, from becoming engaged with the actuating shaft or its attachments. The said drum is applied within the cover C, and has bearings for its shaft *i* in the ends *e e'* thereof. E designates a crank-arm, having a handle at right angles thereto, by means of which it is actuated, which crank-arm is rigidly secured to the shaft *i* in any suitable manner, and is provided with a tooth, *j*, upon its under surface, to engage with the toothed rack *g*, for a purpose hereinafter to be explained. Through the periphery of the winding-drum D a perforation, *d'*, is made, through which is passed a sash-cord, *f'*, of suitable length and strength, which passes thence over the pulleys *a a'*, and then over the pulleys *b b'*, and it is then rigidly attached to the upper ends of the top rail of the upper sash B'. If the slack of this cord be now taken up by working the windlass, and the tooth *j* of the crank-arm E be engaged with the tooth-rack *g*, by pushing the windlass inward, so as to keep the said cord properly tense, the sashes B B' will balance one another, so that if the one be raised the other will be lowered. The two sashes being in the position shown in Fig. 1, the lower sash may be raised by operating the winding device, first pulling the winding-crank outward to release the tooth from the rack, and it may be held in any desired position by bringing the tooth *j* and rack *g* into engagement, as above described. The two sashes being in the position as above indicated, the upper sash may be lowered by disengaging the tooth *j* from the rack *g*, and secured at any desired elevation by re-engaging the tooth and the rack.

I have described the windlass cover and frame as being constructed of separate pieces, which were subsequently united, but I may, if I so prefer, cause them to be cast in one piece.

F designates a hollow rectangular bolt-holder, which is cast upon the upper surface of the windlass-cover C, and has in its rear end, and on its upper surface, a longitudinal slot, *k*. Within this bolt-holder, in the hollow portion thereof, is applied a bolt, G, around the shank of which is coiled a spring, *l*, and upon which is rigidly secured a stud, *m*, by means

of which the said bolt may be retracted when desired. The outer end of the bolt G is adapted to be engaged with a catch, *n*, which is rigidly secured to a suitable portion of the upper sash, and which, when thus engaged, will prevent either sash from being readily lowered or raised from the outside.

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

1. In a device for balancing window-sashes, the combination, with the sashes B B', pulleys *a a' b b'*, of a sash-windlass, perforated for the passage of the cord *f'*, and having endwise play, for the purposes set forth, substantially as specified.

2. The combination, with the sash-balance

ing endwise-moving windlass-shaft *i*, of the rack *g* and toothed crank E, substantially as specified.

3. The windlass-case for balancing window-sashes, having a ratchet-face and journal-seats, in combination with an endwise-moving windlass-shaft, and a pawl-crank rigidly connected thereto, substantially as specified.

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

LEWIS FEGLEY.

Witnesses:

WILLIAM FOXALL,
JOHN DELKER.