

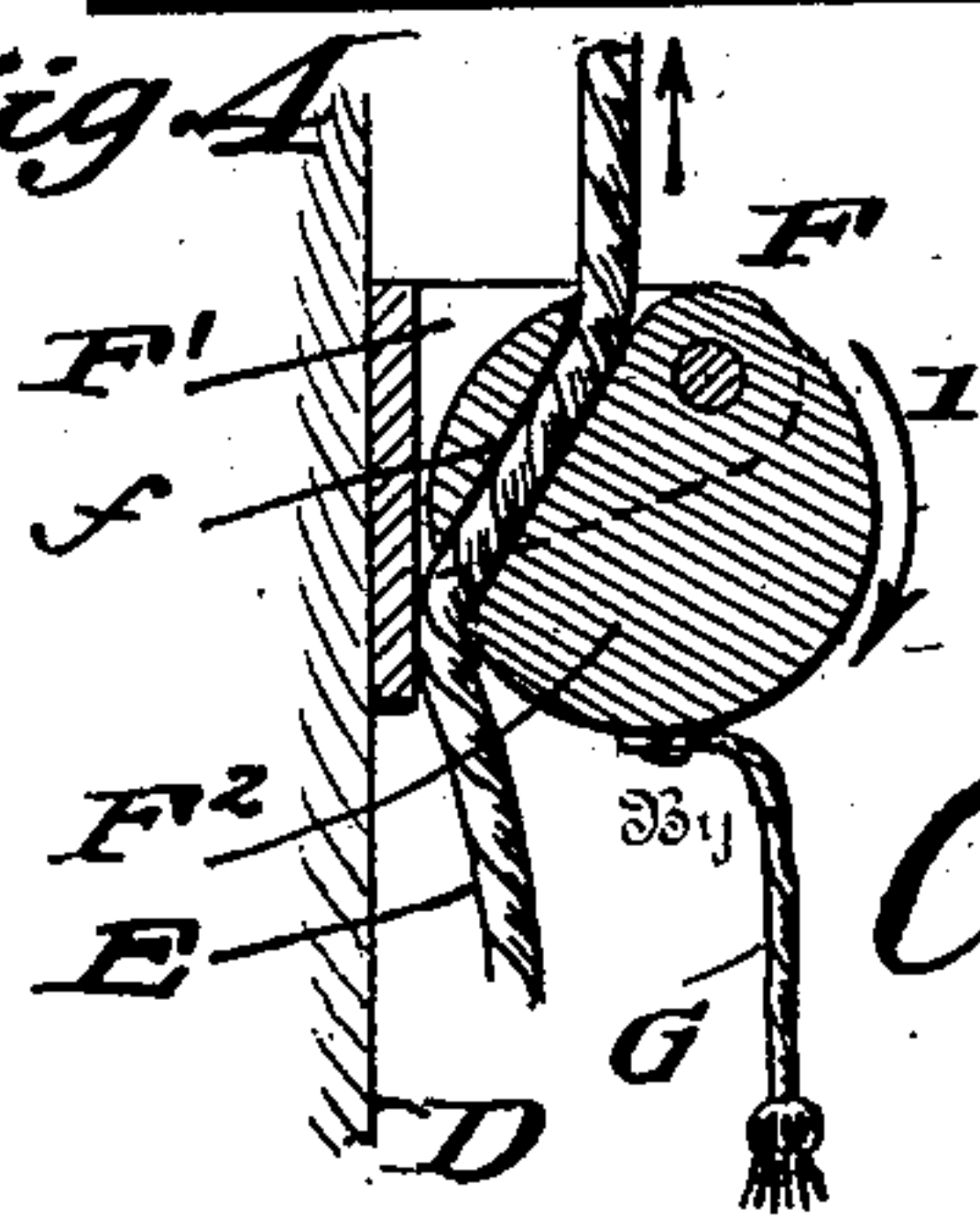
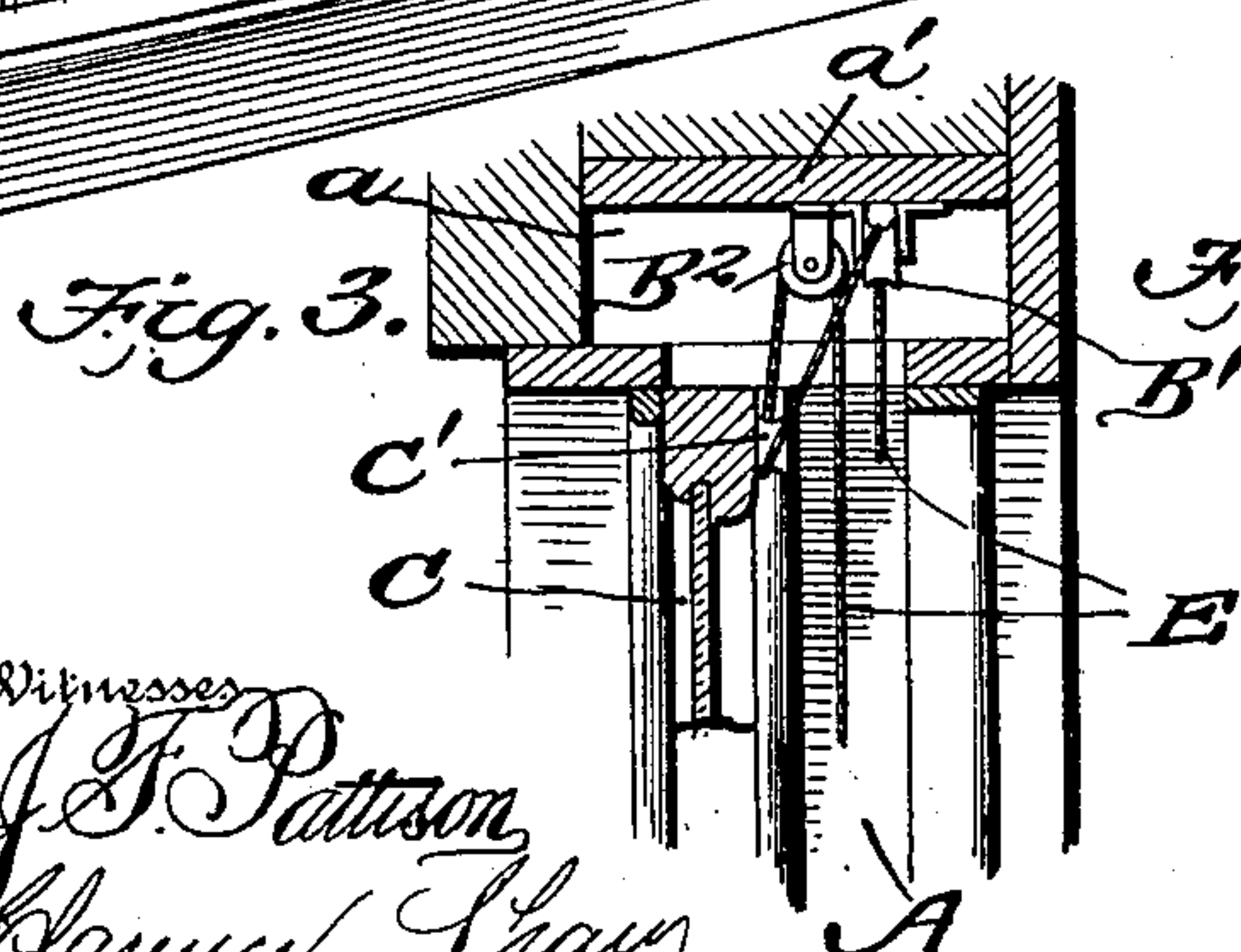
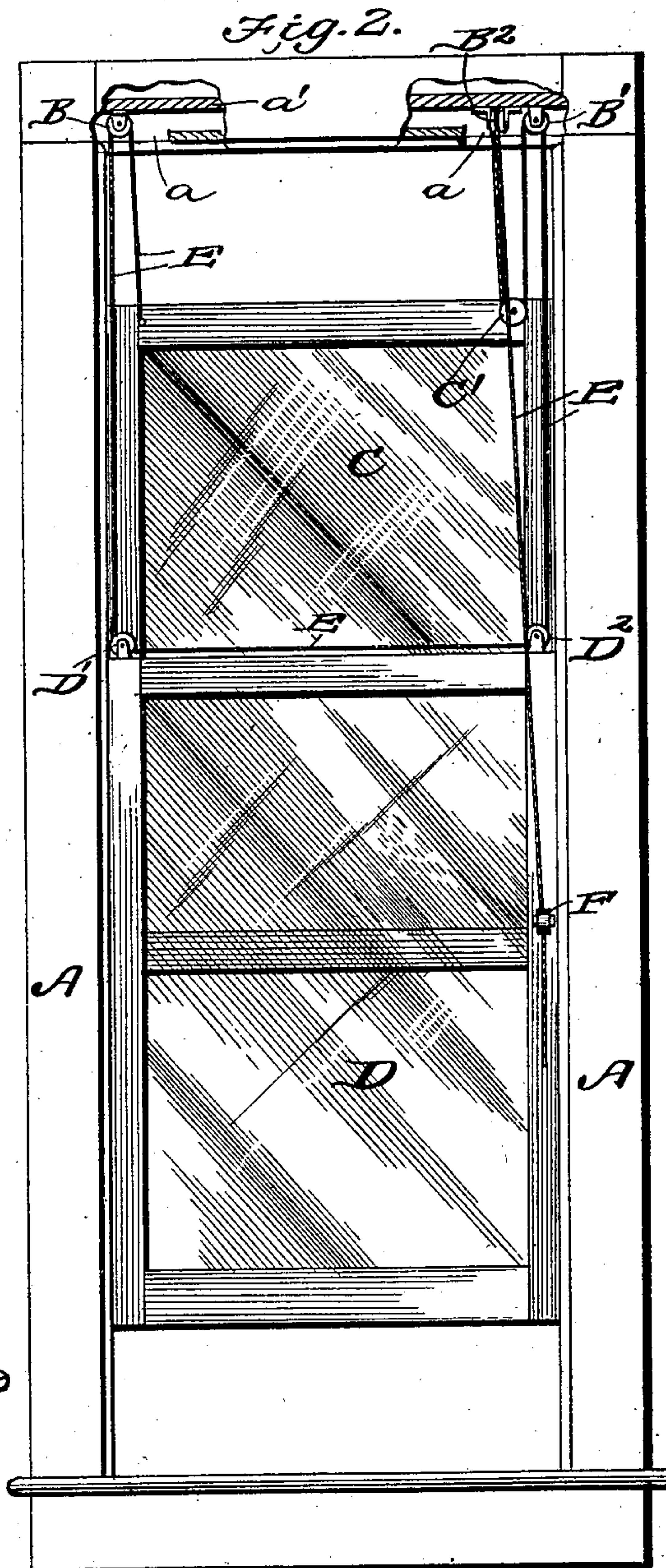
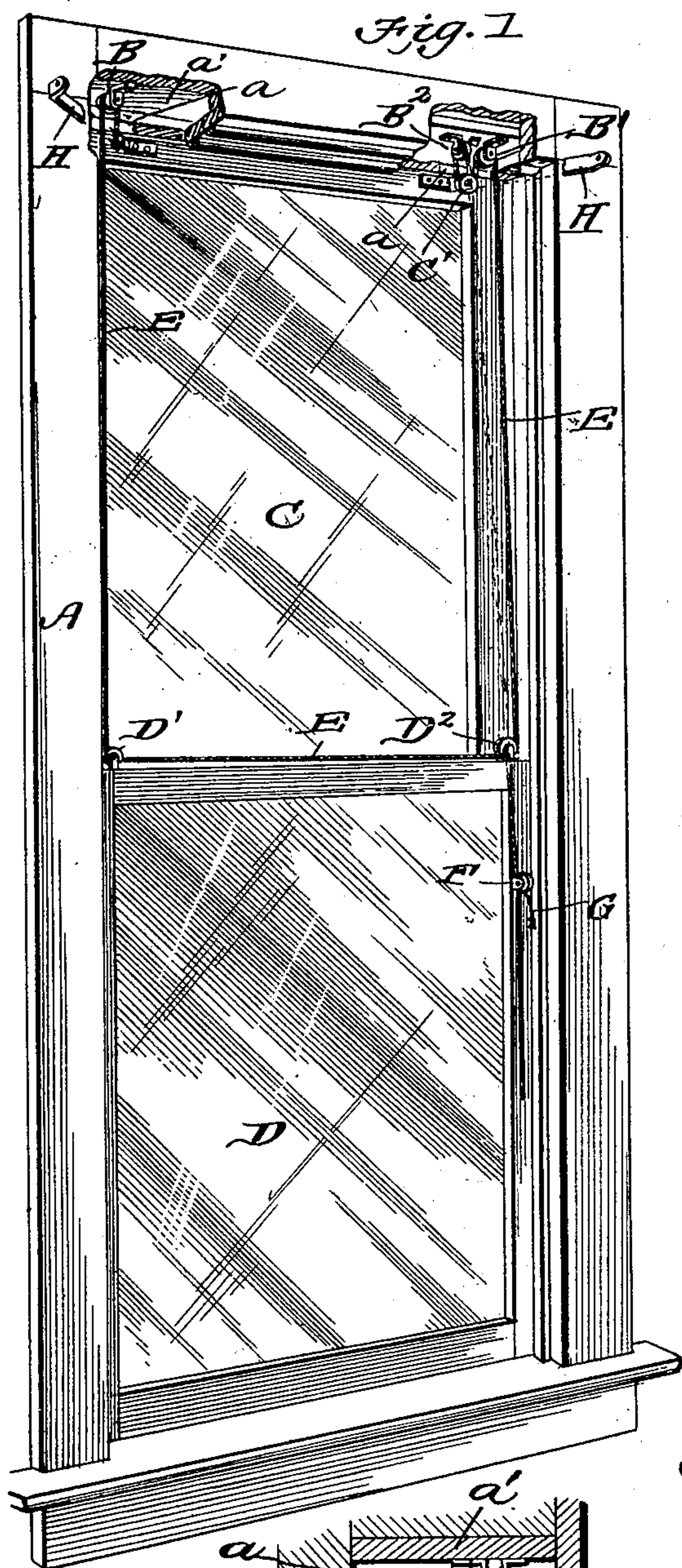
No. 706,008.

Patented Aug. 5, 1902.

J. BARROW.  
SASH BALANCE.

(Application filed July 27, 1901.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

JACOB BARROW, OF WINDFALL, INDIANA.

## SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 706,008, dated August 5, 1902.

Application filed July 27, 1901. Serial No. 69,969. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB BARROW, a citizen of the United States, residing at Windfall, in the county of Tipton and State of Indiana, have invented a new and useful Sash-Balance, of which the following is a specification.

My invention is an improvement in sash balances and fasteners, and has for its object to provide an arrangement whereby the counterbalancing-weights and ropes may be dispensed with. To accomplish this object, I arrange a series of pulleys within the window-frame and upon the sashes, over and around which is passed a cord or rope that is securely held at one end to the upper sash and adjustably connected near its opposite end to the lower sash and by which the two sashes counterbalance each other and may be locked to any position to which they are adjusted.

A further object of my invention is to provide a lock to secure the lower end of the rope which shall be of simple construction and easy of operation; and with these objects in view my invention consists in the peculiar construction and novel combination of parts, as will be hereinafter fully described in the specification and pointed out in the claim, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a sash-frame embodying my improvements, parts of the frame being broken away. Fig. 2 is a face view of the same. Fig. 3 is an enlarged section of the upper end of the frame, and Fig. 4 is a detail view illustrating the lock.

In adapting my invention to windows it only becomes necessary to arrange a recess in the upper portion of the frame directly above the sash; otherwise the frames are exactly as those now used when the counterbalance-weights are omitted.

Referring in detail to the drawings, A indicates the window-frame, having its upper portion formed with recesses, as at *a*, and across the frame, above the recesses, is a beam *a'*, to the lower face of which is securely fastened pulleys B, B', and B<sup>2</sup>. The frame is provided with the usual raceways, in which the upper and lower sashes C and D work, and to the upper cross-frame of the lower sash and positioned upon either side thereof are pulleys D' and D<sup>2</sup>. To one side of the upper

sash C is fastened a cord or rope E, which is then extended up and over the pulley B, thence down around the pulley D', thence across the top of the sash and around pulley D<sup>2</sup>, when it is extended up over a pulley B', thence down around the pulley C', secured to the upper sash C, then up and over pulley B<sup>2</sup>, when it is finally carried down to the lower sash, where it is fastened to the catch or lock F. This lock is of a peculiar yet simple construction, consisting of a U-shaped bracket F', in which is eccentrically pivoted a block F<sup>2</sup>, having an aperture *f* arranged therein that is normally arranged on an angle to the vertical line of the sash. A cord G is connected to the blocks to facilitate the operation thereof, as will appear later on.

The operation of adjusting the upper and lower sash together or of either sash independent of the other is as follows: Should it be desired to adjust the upper sash—say for ventilation—the operating-cord G is given an outward pull, turning the block on its axis until the aperture attains practically a vertical position, which releases the cord, when the window may be adjusted as desired by reason of the cord slipping through the block, the sash dropping of its own weight until the cord G is released, which permits the lock to readjust itself and firmly hold the cord, locking the sash in place. Now to raise the lower sash it is only necessary to pull downwardly upon the cord E, which draws the sash up to any height desired, and if both the upper and lower sash are to be adjusted it will not be necessary to disturb the lock F; but by raising the lower sash the upper one will drop of its own weight and take up the slack in the rope.

The operation of closing the sashes will be readily understood.

By reference to Fig. 4 of the drawings the operation of the lock will be readily understood. It will be seen that the block has its axial bolt arranged near the upper edge thereof and the aperture arranged between the axis and the sash. The cord is passed through the aperture from the top and out through the bottom, and as the pull upon the cord is in an upward direction the tendency will be to revolve the block, as indicated by arrow 1, which brings the cord protruding through

the lower end of the block against the bracket, locking it firmly, as will be readily understood.

Having thus fully described my invention, 5 what I claim as new, and desire to secure by Letters Patent, is—

In a lock for sashes operated in the manner described, the combination of a bracket, a circular block eccentrically journaled there- 10 in, the said block having an aperture which

is normally arranged at an angle to the vertical line of the sashes, and a rope engaging the sashes and lock whereby through the weight of the upper sash the cord is held in the lock, and a cord for operating the lock, 15 substantially as shown and described.

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