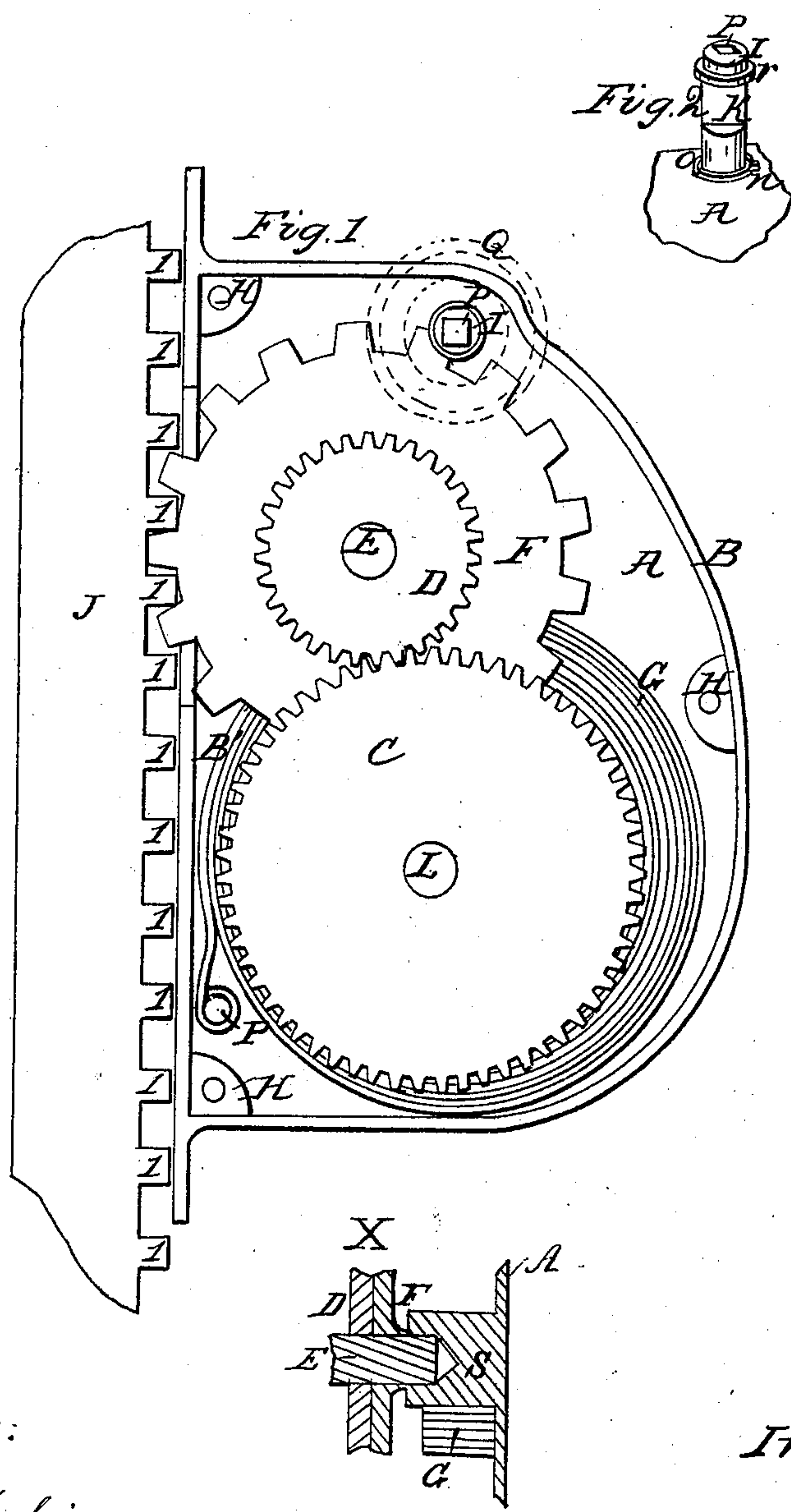


*C. A. Schaefer,*  
*Sash Balance.*

*N<sup>o</sup> 64,910.*

*Patented May 21, 1867.*



*Witnesses:*

*Geo. Chipin*  
*A. Hayward*

*Inventor:*

*Chas. A. Schaefer*

# United States Patent Office.

CHARLES A. SCHAEFER, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, FRITZ FRILLMAN, WILLIAM WOLFF, AND JOHN SCHACHTSCHOBER, OF THE SAME PLACE.

*Letters Patent No. 64,910, dated May 21, 1867.*

## IMPROVEMENT IN HANGING AND LOCKING SASH.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM THIS MAY CONCERN:

Be it known that I, CHARLES A. SCHAEFER, of Chicago, in the county of Cook, and State of Illinois, have invented a Device for Hanging and Locking Sash; 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 accompanying drawings and letters marked thereon, making a part of this description, in which—

Figure 1 is an elevation of my invention, with the front plate removed in order to show the inside arrangements.

Figure 2 is a perspective representation of the lock used for holding the sash in position after having been moved to the required place.

The nature of my invention consists, first, in supporting sash by means of cog-gearing and a coil spring, so arranged as to elevate and lower the sash at will, and retain them in any desired position; second, in arranging a peculiar-constructed lock for holding the sash rigidly in position when closed, or at other points when required.

In order to give a correct understanding of my invention I have marked each part with the same letter, and will now give a detailed description.

A represents the back plate, and B B' the rim or sides, of the box in which my device is arranged, the face plate being removed to show the gearing, &c. The projections H have screw holes, for the purpose of fastening the face plate, in a manner similar to lock-cases. L is a shaft of cog-wheel C, the ends of which turn in holes made in back plate A, and in front plate, (not shown.) This wheel meshes into wheel D, having shaft E operating in front and back plates, the same as shaft L. The cog-wheel F is also attached to the shaft E, and is made to operate the rack 1 1 1, &c., attached to the sash J, shown by red lines. G shows a common coil spring, one end of which is attached to shaft L, and the other end to the post P, fig. 1, and operates the gearing above described, and is made strong enough to balance the sash when raised. I make the wheel D about one-half of the size of wheel C, for the purpose of moving the sash J as far as necessary without uncoiling spring so much as to cause its force to be checked by being cramped in the case A B B'. An elevated step is made for the back end of the shaft E to rest in, and serve as a stop for the spring G to strike against and prevent friction, which occurs if the spring, when uncoiled, were allowed to press against shaft E. Drawing X shows the step S, shaft E, and spring G in position after the latter has been uncoiled. The lock I is shown more clearly at fig. 2, and is made to revolve half way around in the front and back plates of the case, and has a notch, K, in its periphery, for the purpose of permitting the wheel F to revolve when the sash J is to pass up or down; and also has a nib or stop, n, rigidly attached to the back end, which strikes against an elevated semi-rim, o, and is thereby prevented from being turned out of place. A key-hole is made in the front end of lock I for the purpose of inserting through the casing and into the lock a key or stem of a knob, in order that the sash J may be permanently fixed in any given position. The red lines a, fig. 1, show the position of the knob, which is supposed to project outward from the inside casing of the window far enough to be easily operated.

### *Operation.*

The case A B B' must be inserted in a mortise made in the jamb-casing in the same manner as a common lock, and secured by screws r, put through the face plate B', as seen at fig. 1, after which a knob can be fitted to the casing, so as to lock and unlock the wheel F, when desired, by simply turning the lock I half around.

Having thus fully described my device, what I claim, and desire to secure by Letters Patent, is—

The half round locking-stud I, in combination with a rack, J, and pinion, F, to lock a window-sash at any desired point, substantially as set forth.

Witnesses:

GEO. L. CHAPIN,  
A. HAYWARD.

CHAS. A. SCHAEFER.