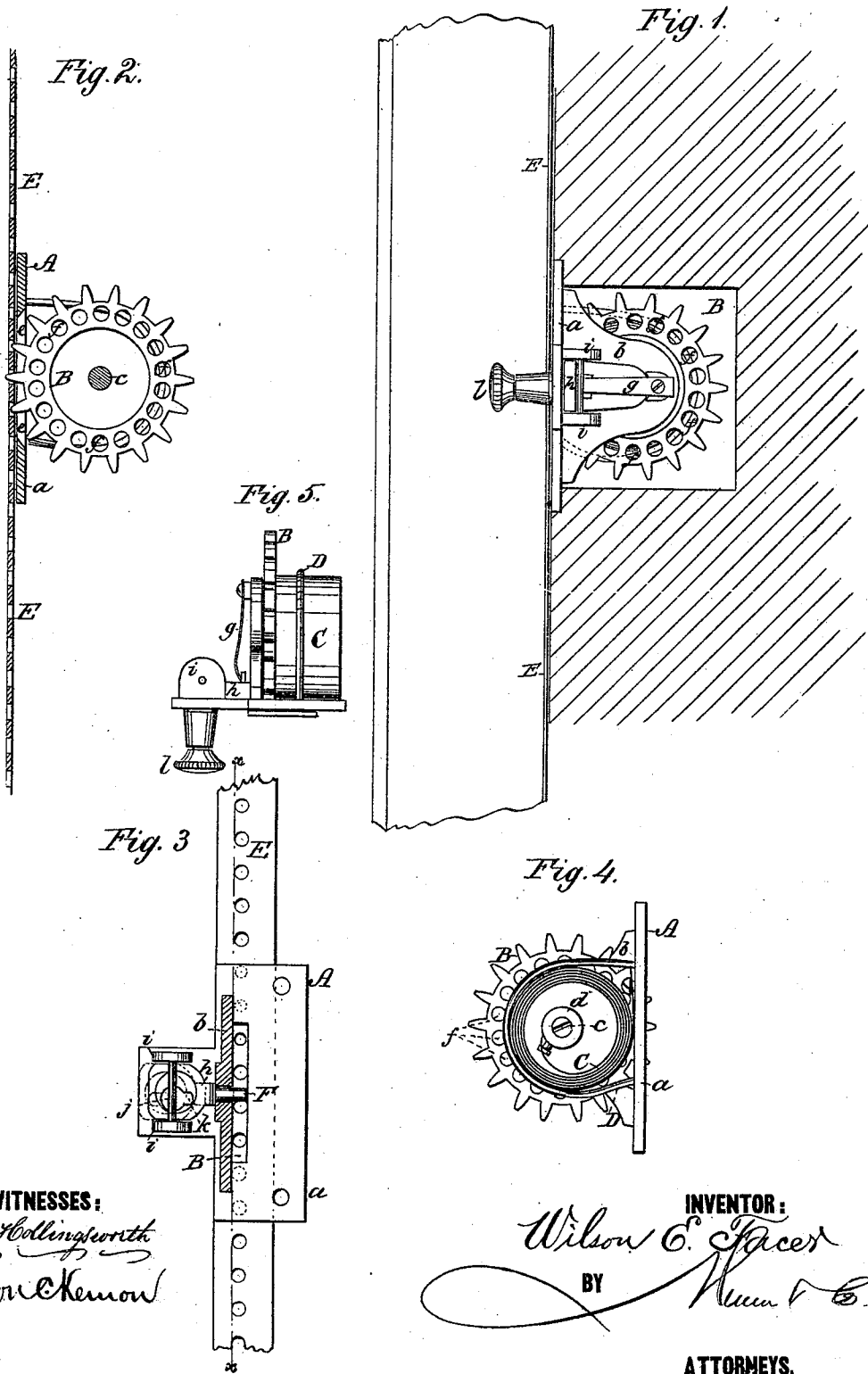


W. E. FACER.
SASH-BALANCE.

No. 175,442.

Patented March 28, 1876.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILSON E. FACER, OF TORONTO, CANADA.

IMPROVEMENT IN SASH-BALANCES.

Specification forming part of Letters Patent No. **175,442**, dated March 28, 1876; application filed February 15, 1876.

To all whom it may concern:

Be it known that I, WILSON E. FACER, of Toronto, Canada, have invented a new and Improved Sash Balance and Lock; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a side view of the device contained in a recess in the window-frame and applied to the sash; Fig. 2, a vertical section through line *xx* of Fig. 3; Fig. 3, a rear edge view with wheel and spring removed; Fig. 4, a view of Fig. 1 from the opposite side; Fig. 5, an end view.

My invention relates to certain improvements in sash-balances. It belongs to that class of sash-balances in which the tension of a coiled band-spring operates through a toothed wheel and a rack-bar on the window-sash to balance the same; and it consists in the peculiar construction and novel arrangement of devices for locking the wheel, and thus holding the window-sash in any desired position against the uneven tension of the spring or the attempts of burglars, as hereinafter more fully described and definitely claimed.

In the drawing, A represents the metallic frame carrying the working devices, which frame is made with a face-plate, *a*, that is set flush with the side of the window-frame, and a support, *b*, at right angles thereto, which extends into a recess cut into the window-frame. To said support is attached a stud, *c*, upon which revolves a toothed wheel, B, having a hub, *d*. To this hub is attached one end of a coil-spring, C, the other end being fastened to the face-plate *a* of the main frame. D is a restraining loop or band fastened at each end to the plate *a*, and encompassing the spring, so as to limit its too great freedom of motion. The teeth of wheel B pass through a slot, *e*, in plate *a*, and mesh with the perforations of a bar, E, or a rack-bar attached to the side of the window-sash. The spring and toothed wheel are so arranged with respect to the

window-sash that the latter winds up the spring upon its downward movement, and allows it to expand or unwind on the upward or hoisting movement. The weight of the window-sash is by this means sustained and balanced by the strength of the spring, so that a slight application of force will suffice for either hoisting or lowering the window-sash. To hold the sash stationary and permanently locked, when down, against the efforts of burglars, and to hold it fixedly against the unequal tension of the spring at different heights when raised, I construct the toothed wheel with a row of perforations, *f*, near its periphery to receive a locking-bolt, F. Said bolt slides back and forth through the support *b*, and is attached to the end of a spring, *g*, which forces the bolt through the support *b* into the perforations *f*, to hold the wheel rigid and stationary. The said bolt is attached to a slide, *h*, moving in between guide-lugs *i i*, which slide is hollowed out from the interior, and inside the same is eccentrically journaled a shaft, *j*, carrying at one end a bit or cam *k*, and at the other a knob, *l*. The knob projects upon the outside of the window-frame, and when turned withdraws the bolt from the holes in the wheel, and allows the sash to be moved up or down.

From the above description it will be seen that the device performs the triple function of sash-balance, sash-holder, and sash-lock, and will be found to be free from the troublesome breakage and wearing away of the cord when weights are used, and an effective security against house-breakers and thieves.

Having thus described my invention, what I claim as new is—

The combination, with restraining-loop D, coil-spring C, and toothed wheel B, having perforations *f*, of the bolt F, spring *g*, slide *h*, and knob-shaft *j*, carrying cam *k*, substantially as and for the purpose described.

W. E. FACER.

Witnesses:

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