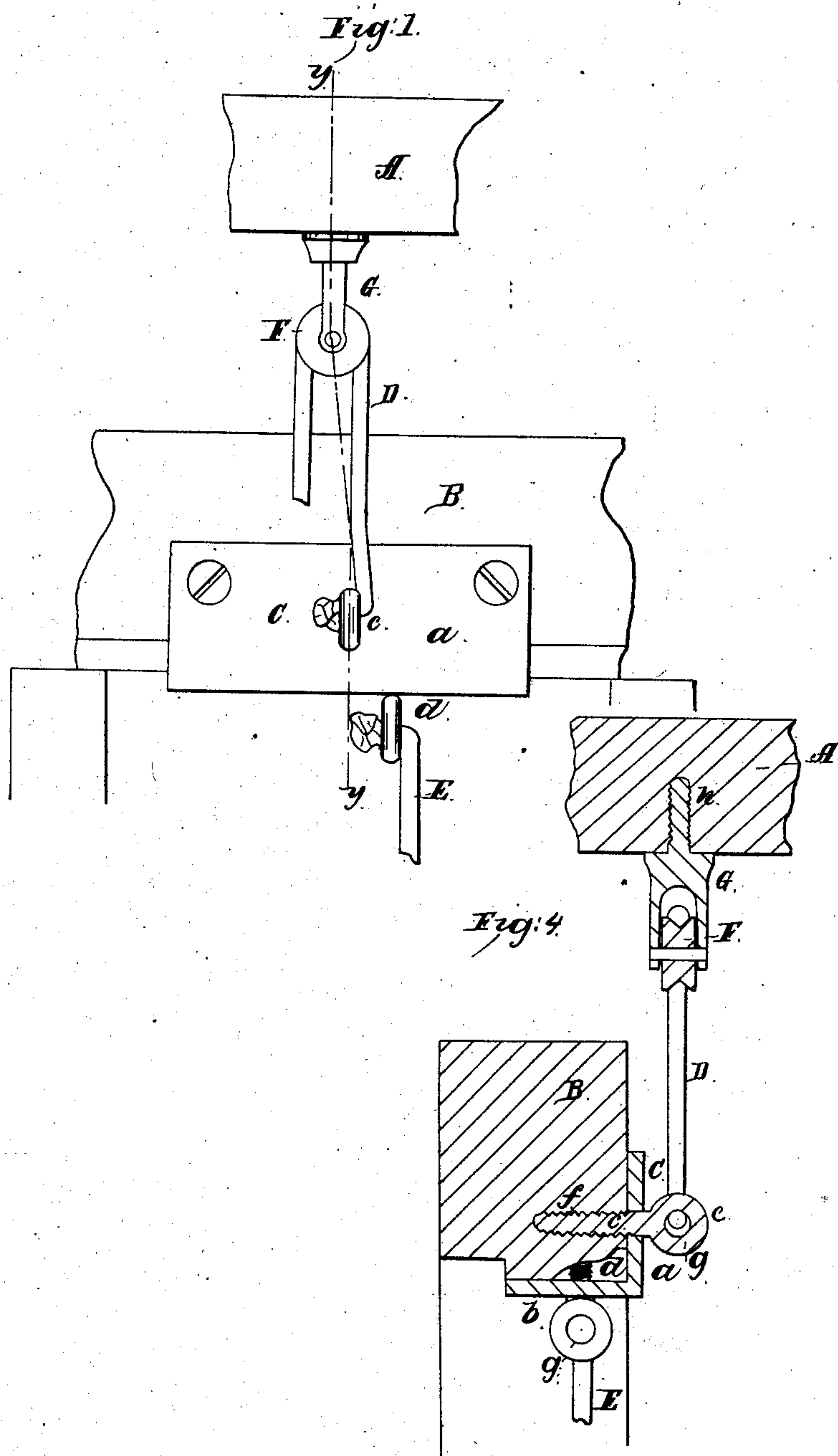


J. Le Ferre,

Sash Balance.

N<sup>o</sup> 69,952.

Patented Oct. 15, 1867.



Witnesses:  
W. J. Cambridge.  
L. E. Patchell.

Inventor:  
John Le Ferre  
By his Attorneys,  
Toschemacher & Stearns

# United States Patent Office.

JOHN LE FERRE, OF CHARLESTOWN, MASSACHUSETTS.

*Letters Patent No. 69,952, dated October 15, 1867.*

## WINDOW-SASH ELEVATORS.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN LE FERRE, of Charlestown, in the county of Middlesex, and State of Massachusetts, have invented certain improvements in Window-Sash Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention consists in a plate permanently secured, by screws or otherwise, to the upper end of either sash, and provided with screw-pins furnished with eyes, either sash being opened by pulling a cord, one end of which is secured to one of the eyes of the screw-pins, while the other end of the cord is led over a pulley pivoted to a block, the upper end of which is provided with a screw-thread for securing it in place in the upper side of the window-frame, a cord being also fastened to the other eye for the purpose of pulling the sash down.

To enable others skilled in the art to understand and use my invention I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the window-frame, and B the sash, constructed in either of the ways shown in Figure 1. To the cross-bar, at the upper end of the sash, is screwed a plate, C, of the forms shown in Figure 4. The plate shown in fig. 4 is bent around to form an elbow, the two portions, *a* and *b*, of the plate being at right angles to each other, the portion *a* being secured to the front of the upper end of the sash, while that, *b*, is secured to the under side of the same. Each plate, C, is provided with holes for the passage of two pins, *c* *d*, one of the ends of each of which is provided with a screw-thread, *f*, while the other end is bent around to form a hollow ring or eye, *g*, to which to attach the cords D E, that, D, leading upward over a pulley, F, which turns freely in a block, G, the upper end of which is provided with a screw-thread, *h*, by which it is secured to the under side of the window-frame, the cord D leading down within reach of the party desirous of raising the window-sash. The cord E leads directly down from its eye, *g*, and is also within reach when the window-sash is up and requires pulling down. The eyes *g*, to which to attach the cords D E, may be formed on the plate C itself, and instead of two eyes one only may be used, to which both cords may be attached.

The construction of the parts, as herein shown and described, is more simple, as it dispenses with the hinges and use of one plate, and as it can be permanently attached to the sash the inconvenience of the clamping-screw is avoided. The angular plates that are secured to the sash will prevent the splitting thereof, and prevent the plate itself from being loosened by the ordinary wear and jostle in elevating the window. In using a simple plate on the face of the sash, instead of the angular plate, the strain in elevating the window would be directly on the wood of the sash, which is usually of light material, and the screws would soon become loose and split the sash, whereas in the mode herein described the strain is brought to the under edge of the sash and the difficulties thereby obviated.

### *Claim.*

The arrangement of the angular plates C and screws *f*, provided with loops *g*, in combination with the pulley F and block G, connected to the window-frame, and operated by the cord D, in the manner and for the purposes specified.

JOHN <sup>his</sup> X LE FERRE.  
mark.

### Witnesses:

P. E. TESCHEMACHER,  
N. W. STEARNS.