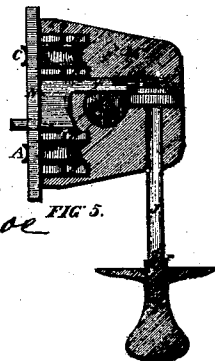
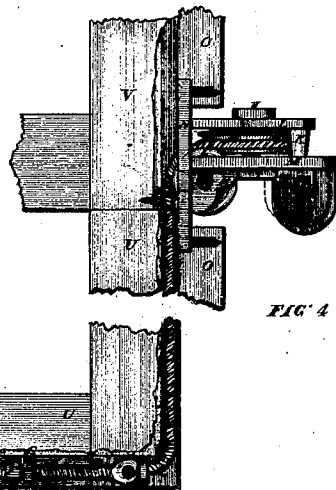
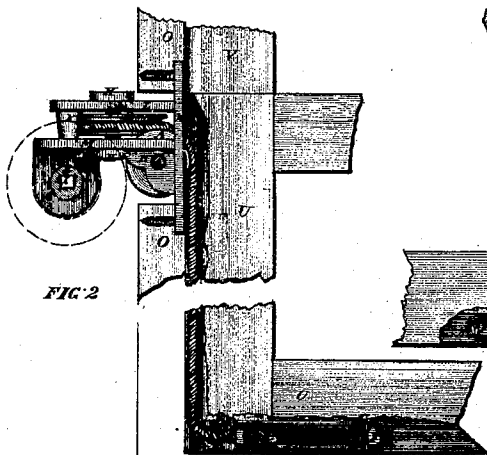
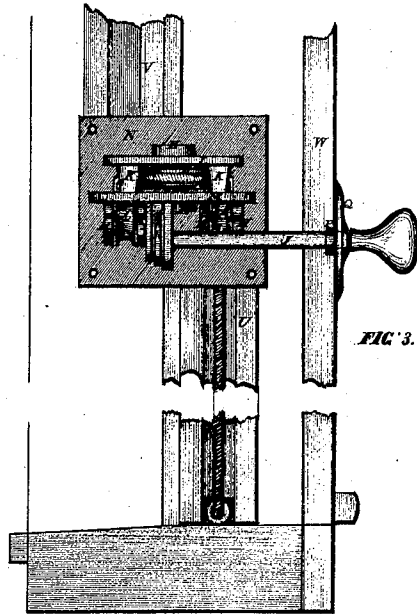
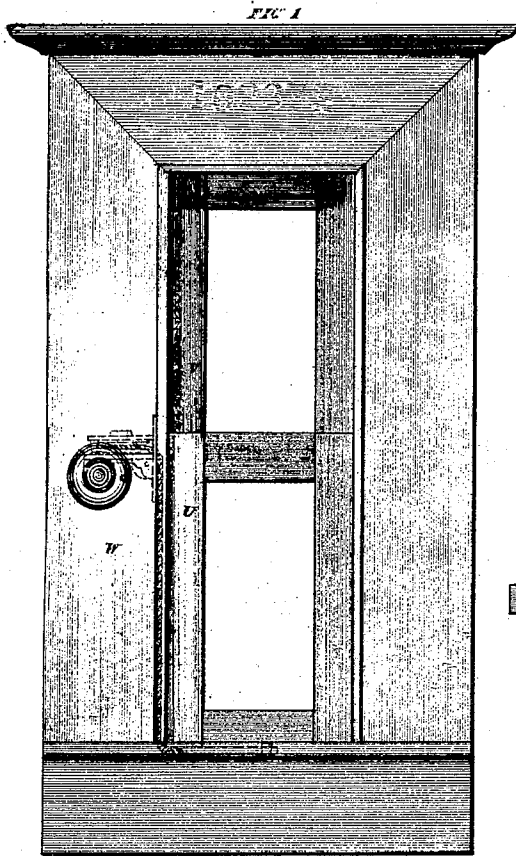


W. H. Doe,

Sash Cord Guide.

No. 102379.

Patented Apr. 26, 1870.



C. Palmer }  
Wm. P. Taylor } witnesses

William. H. Doe  
Inventor

# United States Patent Office.

WILLIAM H. DOE, OF OSHKOSH, WISCONSIN.

Letters Patent No. 102,379, dated April 26, 1870.

## IMPROVEMENT IN SASH-BALANCE AND LOCK.

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, WILLIAM H. DOE, of the city of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented a new and Improved method of Balancing and Locking Window-Sash; and I do hereby certify that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

To enable others skilled in the art to construct and use the invention, I will proceed to describe it.

The nature of my invention relates to the arrangement of a combination of vertical sheaves with a horizontal roller and a lock-bolt, all upon a single plate, for convenient insertion into the middle of the jamb-casing, the sheaves and roller being the medium by which the upper and lower sash balance each other, by means of the cord passing over them, and the lock-bolt serving to lock the sash in any position.

Figure 1 is a front elevation of a window with the apparatus dotted in place.

Figure 2 is a front view of the apparatus, with the face-casing removed, and the sash fragmentary, showing the groove with the cord and stirrup.

Figure 3 is a side view of the apparatus with the jamb removed, showing the edge of the sash.

Figure 4 is a rear view of the apparatus with the outside face-casing removed, and the sash fragmentary.

Figure 5 is a view of the under side of the apparatus, showing the lock turned in.

A is the vertical sheave adjacent to the lower sash.

B is the roller.

C is the vertical sheave adjacent to the upper sash.

D is the point at which the cord is fastened to the upper sash.

E is the stirrup, and

F the nut by which the tension of the cord is adjusted.

G is a stop, fixed to the sash, against which the nut F operates.

H H are boxes against which the journals of the sheaves and roller work.

I (fig. 2) is the socket in the crank-wheel into which the working rod J of the lock is fitted.

K K are studs by which the plates L and M are connected.

N is the face-plate set flush with the jamb O.

J is the working rod of the lock, provided with a shoulder, P, which, in combination with the plate Q, keeps the rod in place.

R is the crank-wheel, with crank-pin S working in a slot in the lock-bolt T.

U is the lower sash.

V is the upper sash.

W is the face-casing.

Having thus described my invention,

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

The sheaves A and C and the roller B, arranged as described, and the lock-bolt T, operated as shown, all arranged on one plate for convenient insertion at one operation.

WILLIAM H. DOE.

Witnesses:

C. PALMER,

WM. P. TAYLOR.