

J. S. Lester,

Sash Balance.

No. 106,268.

Patented Aug. 9. 1870.

Fig. 1

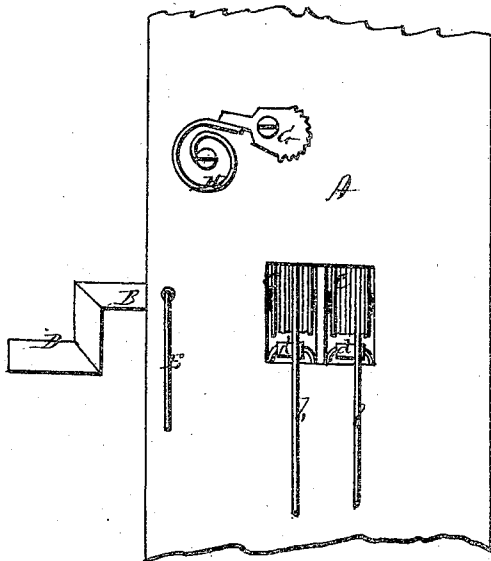


Fig. 2

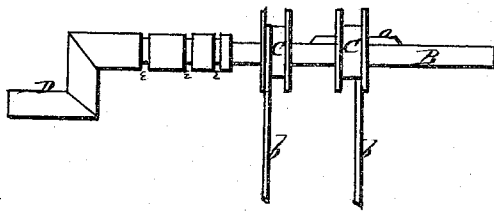


Fig. 3



Witnesses
L. L. Smith,
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James S. Lester
per
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United States Patent Office.

JAMES S. LESTER, OF KNOXVILLE, TENNESSEE.

Letters Patent No. 106,268, dated August 9, 1870.

IMPROVEMENT IN DEVICES FOR OPERATING WINDOWS.

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, JAMES S. LESTER, of Knoxville, in the county of Knox and in the State of Tennessee, have invented certain new and useful Improvements in Sash-Balances; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a "sash-balance," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of the window-frame, with my balance attached.

Figure 2 is a side view of the shaft, with rollers, constituting my sash-balance.

Figure 3 is a side view of one of the rollers.

A represents a portion of the window-frame, in which are made two mortises, corresponding with the upper corner of the lower sash and lower corner of the upper sash, the mortises, however, being on a line, as shown in fig. 1.

Through the frame, and passing through the centers of said mortises is a shaft, B, provided with a crank, D, at its outer end, and having a feather or projecting bar, *a*, running longitudinally for a suitable distance on that portion of the shaft which passes through the mortises above mentioned.

On the shaft B, in each of the mortises in the frame A, is placed a roller, C, the eye of which is provided with a slot, *i*, as shown in fig. 3, for the feather *a* to pass through.

On these rollers are wound cords, *b b*, in opposite directions, and said cords are attached to the lower corners of the upper and lower sashes, respectively.

When the shaft B is so placed that its feather *a* passes through both of the rollers C C, it will readily be seen that both sashes may be operated at one time, and that they balance each other.

When it is desired to operate the upper sash alone, the shaft B is pushed in sufficiently far, so that the feather *a* will clear the inner roller, and hence only operate on the outer. By reversing this operation,

the lower sash alone may be operated whenever desired.

At the lower edges of the mortises in the window-frame are small rollers, *d d*, over which the cords *b b* pass, so as to prevent the too rapid wearing out of the cords. These rollers also serve another purpose, namely, to cause the sashes to run smoothly as they bear against the sashes on the sides of the grooves made for the cords.

The eyes of the rollers C C are beveled, so as to facilitate the entering in of the feather *a*.

Near the outer end the shaft B is provided with three circumferential grooves, *e e*, placed a suitable distance apart, and a spring catch, E, is attached to the frame A, so as to enter in either one of these grooves. These grooves are so placed that, when the catch E is in the center groove, both rollers will be operated, and, when in the outer groove, only the roller connected with the upper sash will be operated. When the catch is in the inner groove the roller connected with the lower sash will be turned.

The sash-balance thus constructed may be used on either or both sides of the window-frame, as may be desired.

In connection with this balance, it will be necessary to use a catch for holding either sash in the desired position, whether up or down. For this purpose I attach to the frame A a cam, G, corrugated or toothed on the side toward the sash, which is pressed against the sash by means of a spring, H.

Having thus fully described my invention,

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

1. In combination with the shaft B, having feather *a*, the rollers C C, having their eyes beveled, and provided with slots, *i i*, placed within the mortises on the window-frame, and connected, by cords *b b*, with the upper and lower sash, respectively, substantially as and for the purposes herein set forth.

2. In combination with the above, the spring catch E, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 23d day of July, 1870.

JAMES S. LESTER.

Witnesses:

C. L. EVERT,
A. H. MARR.