

H. T. Standard,

Sash Balance.

N^o 31,412.

Patented Feb. 12, 1861.

Fig. 2.

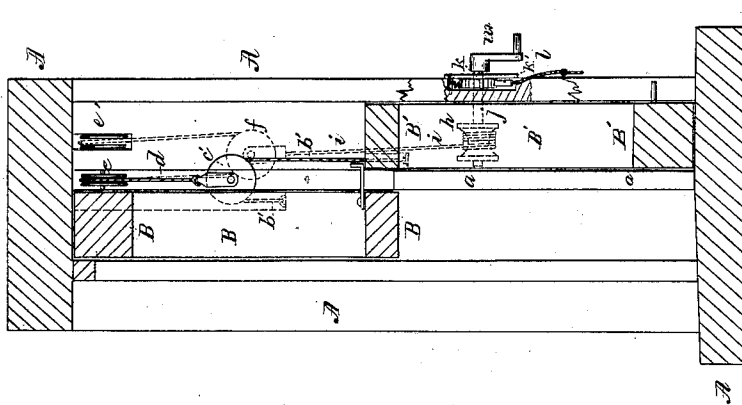
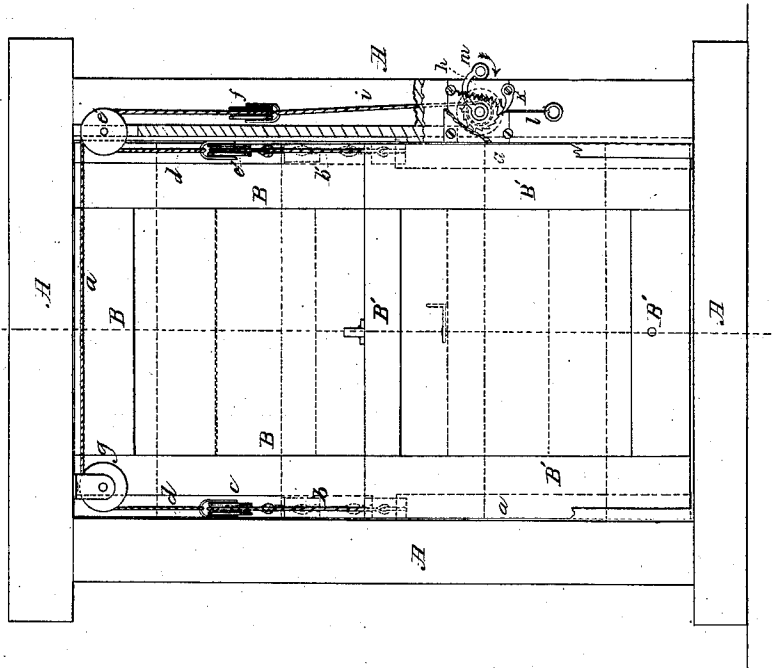


Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

H. T. STANARD, OF WAYNE, MICHIGAN.

HANGING AND OPERATING WINDOW-SASHES.

Specification of Letters Patent No. 31,412, dated February 12, 1861.

To all whom it may concern:

Be it known that I, H. T. STANARD, of Wayne, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Operating Window-Sashes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of a window frame with its sash, and a section of one of the uprights of the frame. Fig. 2 is a vertical transverse section through the middle of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in hanging and balancing two sashes by cords running over pulleys which are suspended and capable of being raised and depressed by a common windlass as will be hereinafter described, whereby the sashes may be fastened or secured in any desired position by the same device by which they are elevated or lowered.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

In the drawings A, represents the window sash frame or casing. B, is the upper and B', is the lower sash. These parts are constructed and fitted together in the usual manner for ordinary windows, with the exception of the middle stop strips *a, a*, which in the present case do not extend from the sill to the top cross rail of frame A, but only about half way, for the purpose hereinafter explained.

The two sashes B and B', are connected by cords *b, b'*, one of the ends of which being attached to the upper cross rail (outside) of the lower sash B', and the opposite ends of these cords *b, b'*, being attached to each side of the upper sash B, at about the middle of the length of the uprights of this sash as represented in Fig. 2 of the drawings. These cords *b, b'*, are of a strength sufficient to support the two sashes B, B'.

c, c', are two pulleys over which the cords *b, b'*, run; these pulleys are suspended from the top of the frame A, by a cord *d*, which passes up from the pulley *c'* over a stationary pulley *e*, and down and under a movable pulley *f*, thence up again over a stationary pulley *e'*, and across the under side of

the top cross rail of frame A, to a stationary pulley *g*, and over this pulley down to the pulley *c*. The movable pulley *f*, is connected to a spool *h*, by a cord *i*, and by winding up or unwinding the cord *i*, on spool *h*, the pulley *f*, with the pulleys *c, c'*, will be raised or depressed.

The spool *h*, is keyed to a rod *j*, which has its bearings in the frame A, and one end of this rod projects out beyond the inside edge of the frame A, and has a small crank *m*, secured to it, by means of which the spool may be turned in either direction.

A ratchet wheel *k*, is keyed to the rod *j*, and a spring pawl catches into the teeth of this ratchet wheel *k*, and prevents the spool *h*, from unwinding the cord *i*, and allowing the sash to fall.

The pawl *k'*, and ratchet *k*, allow the sashes to be stopped at any desired position. A cord *l*, is attached to the pawl *k'*, and one end of this cord hangs in a position to be conveniently used. By drawing on this cord the pawl *k'*, will be disengaged from the ratchet wheel *k*, and the spool *h*, may be turned by the crank *m*, in either direction, to the right or to the left.

The pulley *f*, is arranged within a box and plays up and down freely within this box as represented in Fig. 1.

The stationary pulleys *e, e'*, and *g*, should be mortised into the frame A, so as not to be in the way to prevent the raising of the window sash to the top rail of frame A.

The stop strips *a, a*, between the window sashes B, B', usually extend from the bottom of the sill of the sash frame to the cross rail at the top of this frame, but in the present case these pieces *a, a*, extend only about half way up so as to allow the two pulleys *b, b'*, to play up and down close up to the inside surfaces of the uprights of frame A.

The inside side edges of the sash B, are rabbeted as represented in Fig. 1 to receive a part of each pulley *c, c'*, to allow the sash to be moved up or down freely without throwing these pulleys *c, c'*, out of their vertical hanging position.

The operation of the several parts herein above described is as follows: To let down the upper sash B, the catch or pawl *k'*, is disengaged from the ratchet wheel *k*, by drawing on the cord *l*, and the crank *m*, is turned so as to unwind the cord *i*, from spool *h*, and allow the pulley *f*, together with

the pulleys *c, c'*, to slacken the cord *d*; the pulleys *c, c'*, will now descend and allow the sash *B*, to fall by its own gravity, as rapidly as the crank *m*, is turned backward. By winding up the cord *i*, again on the spool *h*, turning the crank *m*, this time in a direction with the arrow in Fig. 1, the pulley *f*, will be drawn down and this pulley will raise the pulleys *c, c'*, and with them the upper sash *B'*, as high as may be desired. The pawl *k'*, will now prevent the spool *h*, from rotating backward and consequently keep the sash *B'*, in the desired position. Now by continuing to wind up the cord *i*, on spool *h*, after the upper sash *B*, has been raised as high as it will go, the lower sash will also be raised in the same way. By raising the lower sash *B'*, while

the spool *h*, is fixed, the upper sash *B*, will drop just as far as the lower one is raised 20 the cords *b, b'*, running over the pulleys *c, c'*, as before described and these pulleys remaining in the same place.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is— 25

The two sashes *B, B'*, connected by cords *b, b'*, running over suspended pulleys *c, c'*, in combination with the cord *d*, stationary pulleys *g, e e'*, movable pulley *f*, cord *i*, and 30 spool *h*, with its accessories all arranged and operating as herein specified.

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Witnesses:

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