

No. 765,271.

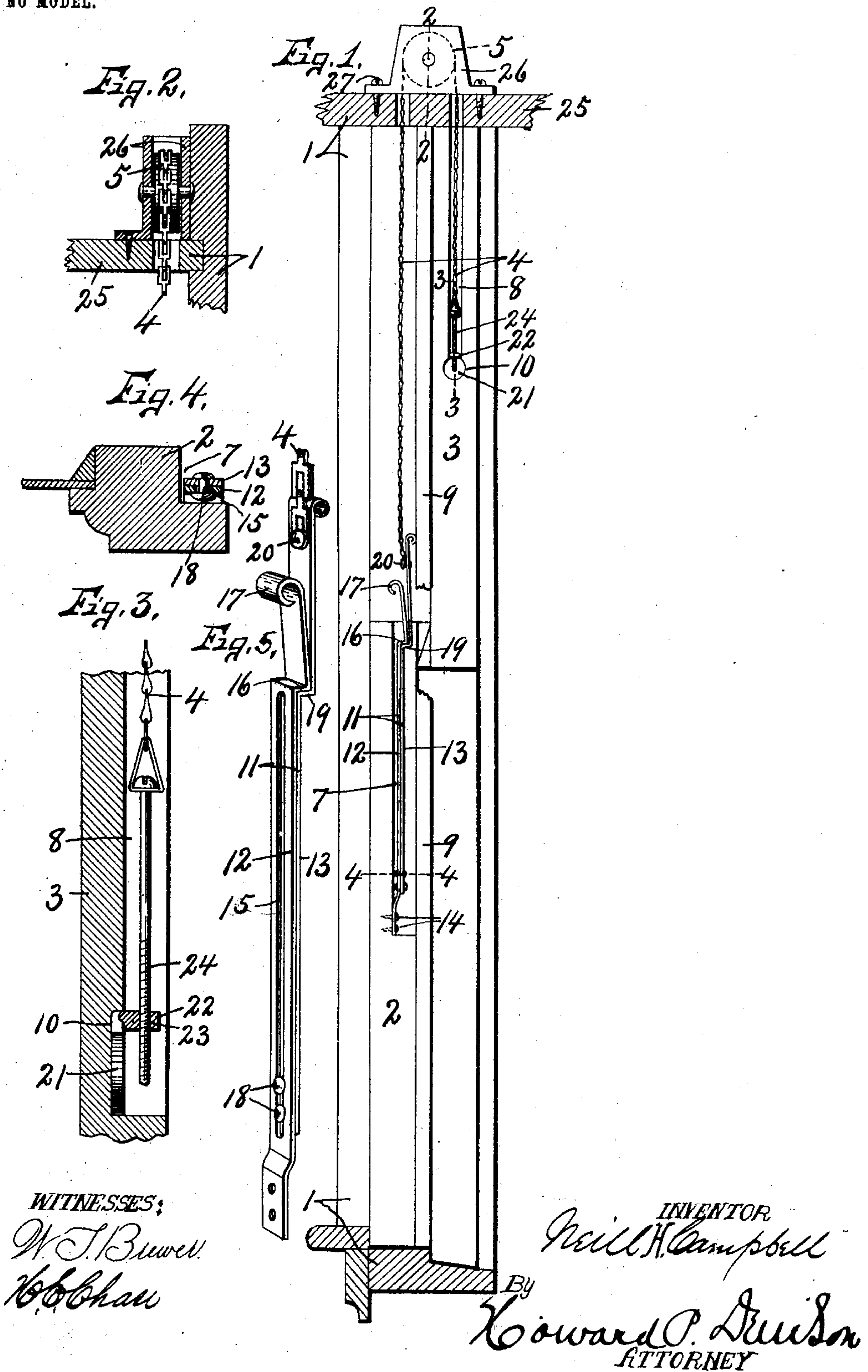
PATENTED JULY 19, 1904.

N. H. CAMPBELL.

SASH HANGER.

APPLICATION FILED MAR. 12, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

NEILL H. CAMPBELL, OF BINGHAMTON, NEW YORK.

SASH-HANGER.

SPECIFICATION forming part of Letters Patent No. 765,271, dated July 19, 1904.

Application filed March 12, 1903. Serial No. 147,424. (No model.)

To all whom it may concern:

Be it known that I, NEILL H. CAMPBELL, of Binghamton, in the county of Broome, in the State of New York, have invented new and
5 useful Improvements in Sash - Hangers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in
10 sash and hangers therefor.

The primary object of my invention is to connect the sash in such manner that one sash substantially balances the other and both move
15 simultaneously in opposite directions—that is, when the lower sash is elevated the upper sash is lowered, and vice versa.

Another object is to provide means whereby one of the sash may be adjusted relatively to the other to take up any slack in the connect-
20 ing-cable.

A further object is to include in the connection between the two sash interlocking members which are adapted to be sprung out of interlocking engagement with each other, one
25 of the members having a sliding movement upon the other for permitting one of the sash to be moved a limited distance independently of the other—as, for instance, the movement of the upper sash downwardly for ventilating
30 purposes irrespective of the lower sash.

Further objects will appear in the subsequent description.

In the drawings, Figure 1, I have shown an edge view of two window-sash as mounted in a
35 suitable frame and connected by my improved hanger. Figs. 2, 3, and 4 are sectional views taken, respectively, on lines 2 2, 3 3, and 4 4, Fig. 1. Fig. 5 is a perspective view of the detached interlocking bars of the connection
40 between the sash.

Similar reference characters indicate corresponding parts in all the views.

In carrying out the objects of this invention I have shown, Fig. 1, a window-frame 1,
45 in which is movable a lower sash 2 and an upper sash 3, which are connected to the opposite ends of a flexible connection or cable 4, carried by a sheave or roller 5.

The upright edges of the lower and upper
50 sash are provided with lengthwise recesses or

grooves 7 and 8, the recess in the lower sash being in the form of a rabbet opening from its face adjacent to the parting-strip 9, and the one in the upper sash is in the form of a groove centrally arranged in the edge of the
55 sash, the lower end of the latter recess or groove terminating in a circular enlargement 10.

The opposite edges of each sash are substantially alike with reference to the rabbet 7,
60 groove 8, and annular enlargement 10, and the connections between the sash are duplicated at the opposite edges of the sash, and it is therefore necessary to describe only one of these
65 connections.

The lower sash is provided with an anchor 11, which consists of a pair of upright spring-bars 12 and 13, arranged in close relation to each other within the recess 7 and extending
70 from the lower end of the recess to points above the upper edge of the lower sash.

The inner bar is secured at its lower end to one of the walls of the recesses by suitable fastening means, as screws 14, and is formed with a lengthwise slot 15 and a lateral offset or
75 shoulder 16 at the upper end of the slot and just beneath the upper edge of the sash, the upper end of the bar 12 being bent over for forming a suitable finger-piece 17, whereby
80 said upper end of the bar may be sprung inwardly.

The bar 13 normally extends downwardly to a point in proximity to the lower end of the bar 12, the lower end of this bar 13 being
85 provided with studs 18, which project through the slot 15 and serve to hold the bars in close relation to each other. The upper end of the bar 13 is provided with a lateral shoulder 19, which normally interlocks with the lower
90 face of the shoulder 16, and the upper sash is directly connected to this bar, so that when the upper sash is lowered the interlocking shoulders 16 and 19 serve to draw the
95 lower sash upward and, vice versa, when the lower sash is lowered these same shoulders operate to return the upper sash to its closed position.

When it is desired to lower the upper sash independently of the lower sash for ventilating purposes, the upper ends of the bars 12 and
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13 are sprung apart for disengaging the shoulders 16 and 19, whereupon the bar 13 is free to slide upwardly along the bar 12, the studs 18 serving to guide the bar 13 in its upward
5 movement and to hold the bars in operative relation to each other.

One end of the cable 4 is secured to the upper end of the bar 13 at a point above the upper end of the bar 12 by any suitable fastening means, as a rivet 20, and extends upwardly over the sheave or pulley 5 and then downwardly and is connected to an anchor 21, which fits within the circular recess 10. This anchor 21 is provided with a lateral off-
10 set 22, having a threaded aperture 23, engaged by an adjusting-screw 24, the upper end of the adjusting-screw being swivel-connected to the adjacent end of the cable 4.

It is evident from this description that the connection of the cable with the sash may be adjusted so as to take up any slack in the cable and to insure the proper closing of both sash. For instance, should the lower sash be moved downwardly to the limit of its movement in engagement with the sill 24 and it was found that the upper sash did not close against the header 25 then the attendant could readily adjust the screw 24 in the anchor 23 to draw the sash to its closed position
25 by simply removing the stops and drawing the sash outwardly enough to expose its edges and then rotating the screws by a suitable tool or by hand. These hangers may be installed in either new or old buildings, and
35 when placed in position when the window is first formed I preferably mount the sheave or pulley above the header 25, as seen in Figs. 1 and 2. In this instance the sheave is mounted in a suitable supporting-case 26,
40 which is secured by fastening means, as screws 27, to the upper face of the header and is entirely concealed from view and free from exposure to the elements even when the window is open.

45 Having thus described my invention, what

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

1. In a sash-hanger, the combination with two sash, an anchor-bar secured to one of the sash, a second bar slidable lengthwise of the
50 former bar, said bars having shoulders detachably interlocked with each other, a flexible member having one end secured to the second bar and its other end attached to the other sash, and a sheave over which the flexi- 55 ble member renders.

2. In combination with lower and upper sash, a sash-hanger comprising two anchor-bars movable lengthwise of each other and having interlocking shoulders detachable one
60 from the other, one of the bars being attached to the lower sash and formed with a lengthwise slot and the other being connected to the upper sash by means of a cable and provided with studs projecting through said slot and 65 operatively connecting the bars, and a sheave for the cable.

3. In combination with lower and upper sash, a sash-hanger comprising two spring-bars having interlocking shoulders adapted
70 to be sprung apart, one bar being attached to the lower sash and formed with a lengthwise guide, and the other being movable along the guide, studs operatively connecting the bars, a cable having one end attached to the latter 75 bar and its other end attached to the upper sash and a sheave for the cable.

4. In combination with lower and upper sash, a sheave, a cable riding on the sheave and having one end adjustably attached to the
80 upper sash, a spring-bar attached to the other end of the cable and operatively connected to but movable independently of the lower sash.

In witness whereof I have hereunto set my
85 hand this 7th day of March, 1903.

NEILL H. CAMPBELL.

Witnesses:

J. D. APPLEY,

R. W. MEEKER.