

T. F. Hall,
Sash Balance.

No 22,365.

Patented Dec. 21, 1858.

FIG. 3

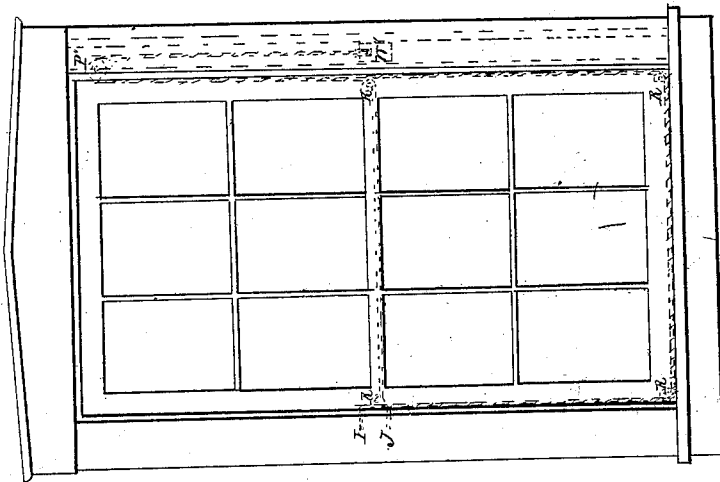


FIG. 4

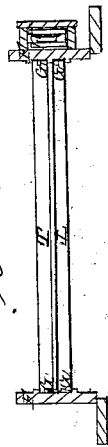


FIG. 1

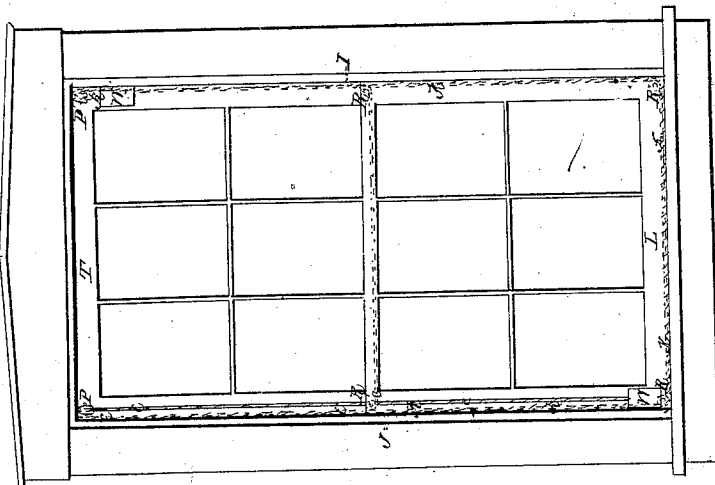
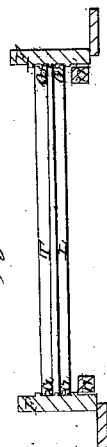


FIG. 2



Witnesses:
L. Brigue
S. C. Skimes

Inventor:
T. F. Hall

UNITED STATES PATENT OFFICE.

THEODORE F. HALL, OF MARIETTA, OHIO.

HANGING WINDOW-SASH.

Specification of Letters Patent No. 22,365, dated December 21, 1858.

To all whom it may concern:

Be it known that I, T. F. HALL, of Marietta, in the county of Washington and State of Ohio, have invented a new and Improved Mode of Balancing Sash in Windows; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figures 1 and 2 are respectively vertical and horizontal sections of a common window frame and sash. Figs. 3 and 4 are respectively vertical and horizontal sections of a box window frame and sash.

Similar letters of reference indicate corresponding parts in the several figures.

F represents the window frame; T, the upper sash; L, the lower sash; C, the cord supporting sash T; K, the cord supporting sash L; P P' P'', pulleys on the window frame; G, grooves in the sashes; R, pulleys or friction rollers in the grooves in the sashes; I, the point where the cord C is attached to the frame; J, the point where the cord K is attached to the frame; W', weights attached to cords C and K; W'', weight in box frame.

The construction and operation will be readily understood.

Grooves are cut in the stiles and lower rails of the sashes of sufficient size to receive the cords. In these grooves at the lower corners of the sash are placed the pulleys or friction rollers R R R R.

Pulleys P P' are attached to the window

frame near the top corners thereof as shown in the drawings.

In common frames the cord C is fastened to the frame at I passes in the grooves of the upper sash beneath the pulleys R R and over pulley P and is attached to the weight W. The cord K is fastened to the frame at J, passes in the grooves of the lower sash beneath the pulleys R R, over pulley P' and is attached to weight W'. In box frames the cord may be fastened at I (Fig. 3) pass beneath the pulleys in the upper sash, over a pulley near the top of the box frame, beneath a pulley in weight W'', over another pulley near top of box, through the grooves and beneath the pulleys in the lower sash and be fastened in frame at J. Or if desirable, instead of the weight W'', two weights in the box may be employed having separate cords attached permanently to each of them.

It will be seen that by this arrangement the sashes are suspended on the cords and balanced by the weights or a weight, and can be raised and lowered at pleasure.

What I claim as my invention and desire to secure by Letters Patent is—

The employment and arrangement of pulleys or friction rollers at the lower corners of sash and the balancing of the sash on cords in combination with pulleys and weights or a weight substantially as above set forth.

T. F. HALL. [L. s.]

Witnesses:

STEPHEN NEWTON,
M. CLARKE.