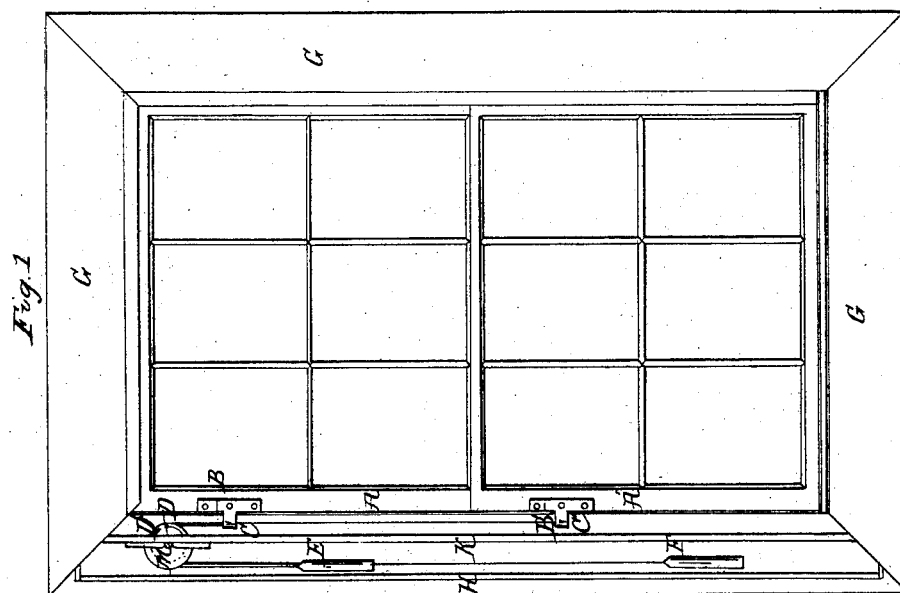
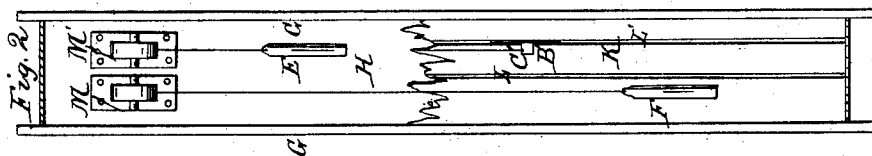


*J. H. Williams,*  
*Sash Balance.*

*N<sup>o</sup> 45,784.*

*Patented Jan. 3, 1865.*



*Witnesses:*

*Edw. Smith*  
*S. F. Parr*

*Inventor:*

*John H. Williams*

# UNITED STATES PATENT OFFICE.

JOHN H. WILLIAMS, OF OAKLAND, CALIFORNIA.

## IMPROVEMENT IN WINDOW-SASH SUSPENDERS.

Specification forming part of Letters Patent No. 45,784, dated January 3, 1865.

*To all whom it may concern:*

Be it known that I, JOHN H. WILLIAMS, of Oakland, county of Alameda, and State of California, have invented a new and Improved Window-Sash Suspender; and I do hereby declare that the within is a full and exact description of the same, referring to the drawings accompanying this specification, in which—

Figure 1 is a front elevation. Fig. 2 is an end view of the same, with letters of reference to indicate the corresponding parts of the several figures.

This invention consists in providing a sash-suspender so arranged that the cords, pulleys, and plate-hook are completely hid from view and without exposure to the weather, the whole so nicely balanced as to overcome a large amount of friction, which is known to exist in other methods for suspending sash.

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

I divide the space between the inner and outer casing of the window by means of a standard, which forms a double slot. To the standard are fastened two curved pulleys at

a distance of about four inches from the top, so arranged as that their axes is in the center of the standard and hid from view by means of a slot-bar, with sufficient space to allow the plate-hooks to act freely. To each sash to be suspended I fasten a curved plate-hook, with a hole for the cord to pass through, which is made fast to the curved plate-hook.

Fig. 1, G G G represents the frame casing. A is the upper sash. A' is the lower sash. B is the upper plate-hook. C and C' is where the cord is made fast. D and D' represent the pulleys. E and F represent the weights. H is the slot bar. K is the standard. M M are curved pulley-plates. L L represent grooves for the plate-hooks to traverse in.

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

The arrangement and combination of the pulley-plates M M, grooves L L, plate-hooks B B, and slotted bar H, substantially as described, for the purpose set forth.

JOHN H. WILLIAMS.

Witnesses:

C. W. M. SMITH,  
S. T. PARR.