

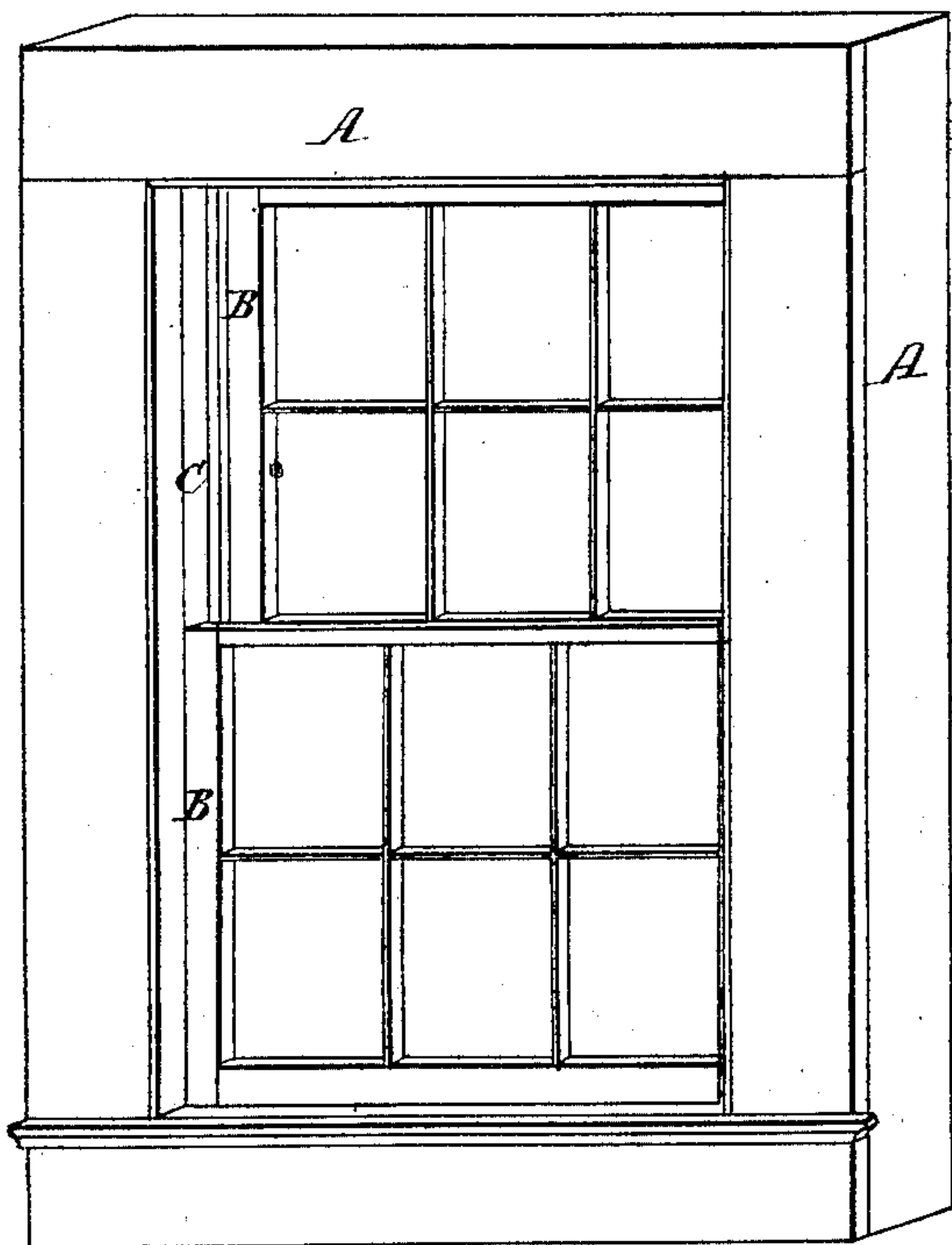
*King & Rowland,*

*Sash Holder.*

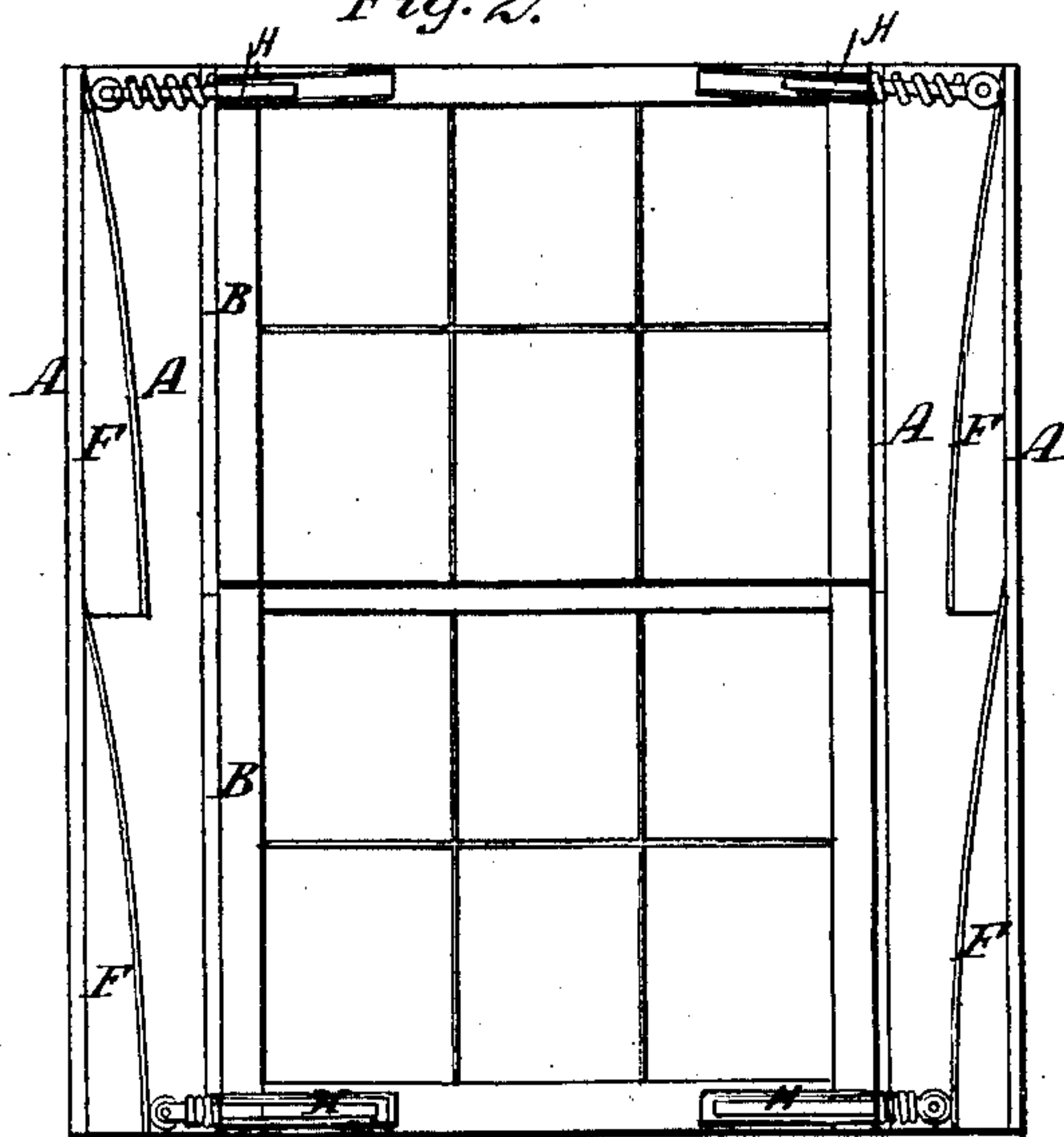
*No. 111,946.*

*Fig. 1.*

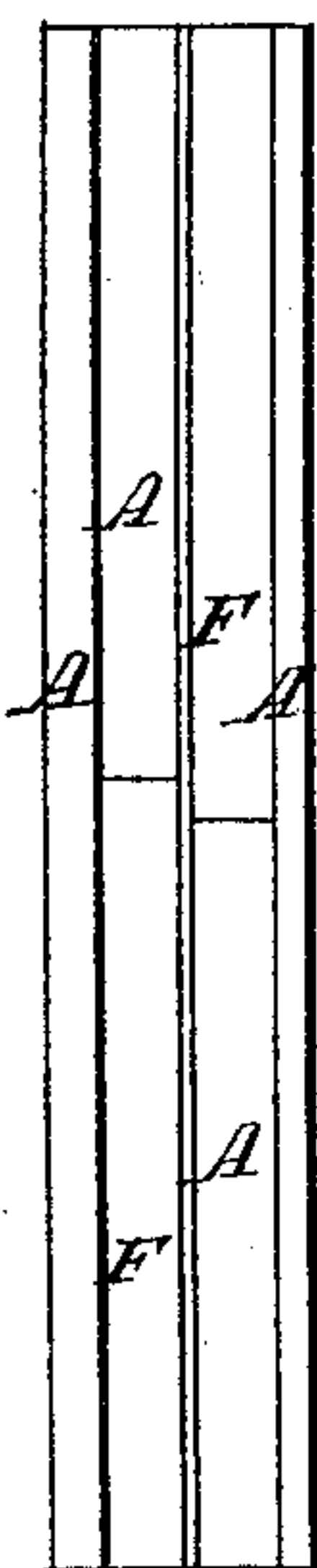
*Patented Feb. 21. 1871.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Witnesses*  
*W. M. Gooding*  
*E. Kirkpatrick*

*Inventors*  
*Wm Haskell King*  
*Garret Rowland.*

# United States Patent Office.

WILLIAM HASKELL KING, OF NEWARK, NEW JERSEY, AND JARED ROWLAND, OF WILLIAMSBURG, NEW YORK, ASSIGNORS TO WILLIAM HASKELL KING.

Letters Patent No. 111,946, dated February 21, 1871.

## IMPROVEMENT IN SASH-HOLDERS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that we, WILLIAM HASKELL KING, of the city of Newark, in the county of Essex, in the State of New Jersey, and JARED ROWLAND, of Williamsburg, in the county of Kings, in the State of New York, have invented a new and improved Device for the Suspension of Window-Sash; and we do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings making a part of this specification.

The nature of our improvement consists in curved inclined planes for counteracting the weight of the sash.

Figure 1 is a perspective view.

Figure 2 is a longitudinal elevation.

Figure 3, a transverse section of the inclined planes.

Figure 4, a transverse section of the window-jamb.

Figure 5, a perspective view of spring friction-roller shaft and sleeve.

A represents the external portion or casing of the window.

B is the sash.

C is the jamb.

D, the slot in the jamb, through which shaft H and spring J pass.

F F, the curved inclined planes.

G, the friction-roller.

H, the shaft on which the spring J works.

I, the sleeve into which shaft H slides.

J, the spring which forces the friction-rollers against the inclined planes.

From the above description it will be seen that by lowering the sash B the friction-rollers G G, running on the curved inclined planes F F, will contract the springs J J and force shafts H H into sleeves I I, thus producing a lifting-power counterbalancing the weight of the sash, each plane being as long as the sash, curved, loose, or stationary.

What we claim, and desire to secure by Letters Patent, as our improvement is—

Curved inclined planes, in combination with the springs J J, shafts H H, and sleeves I I, constructed and operated in the manner and for the purpose shown.

WM. HASKELL KING.  
JARED ROWLAND.

Witnesses:

W. M. GOODING,  
E. KIRKPATRICK.