

*R. E. Monaghan,  
Sash Holder.*

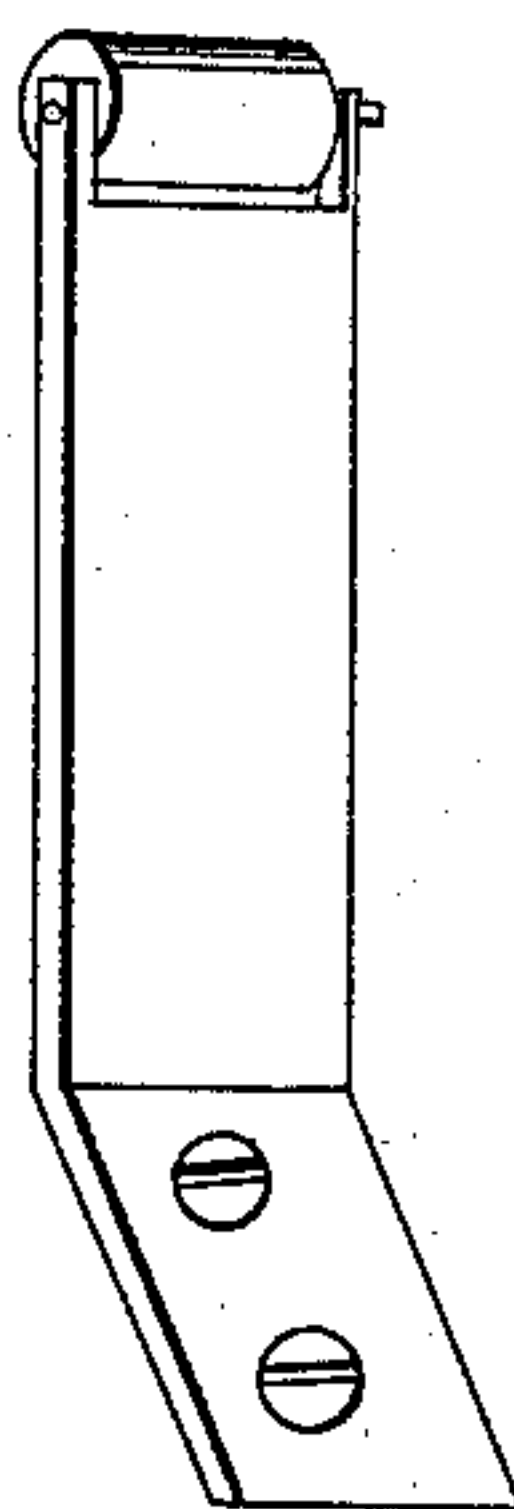
*N<sup>o</sup> 56,080.*

*Patented July 3, 1866.*

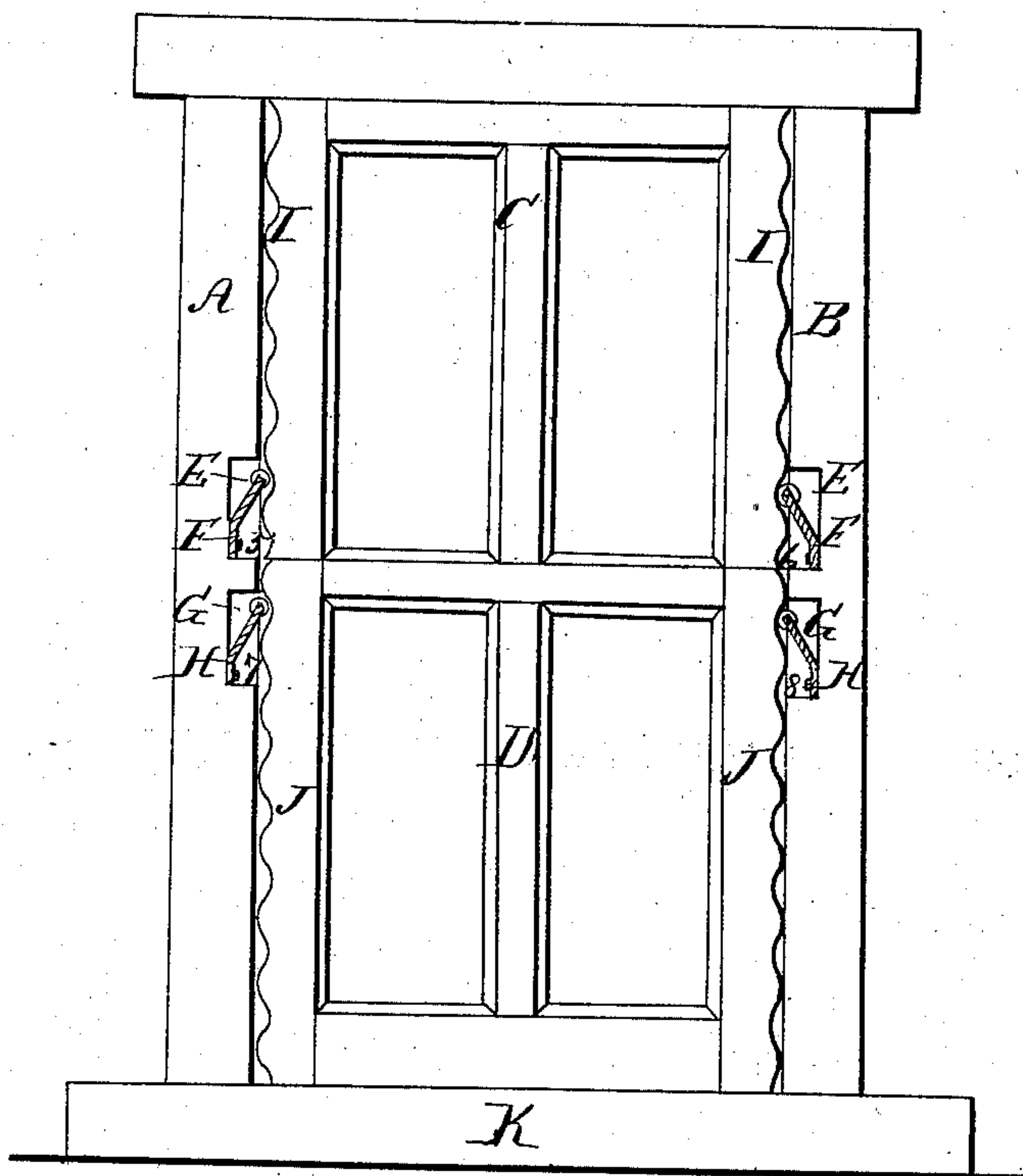
*Fig: 3.*



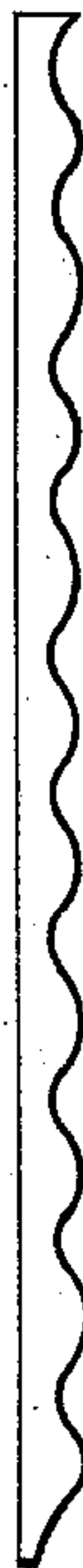
*Fig: 4.*



*Fig: 1.*



*Fig: 2.*



*Witnesses;*

*Wm. H. H. H.  
Simon H. H. H.*

*Inventor;*

*R. E. Monaghan*

# UNITED STATES PATENT OFFICE.

R. E. MONAGHAN, OF WEST CHESTER, PENNSYLVANIA.

## IMPROVEMENT IN SASH-FASTENINGS.

Specification forming part of Letters Patent No. 56,080, dated July 3, 1866.

*To all whom it may concern:*

Be it known that I, R. E. MONAGHAN, of West Chester, in the county of Chester and State of Pennsylvania, have invented a new and useful Improvement for Raising and Lowering Window-Sashes, Doors, Gates, and other perpendicular slides; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

The explanation and illustration of my improvement as applied to an ordinary window will fully explain its general application.

Figure 1 of the drawings is a perspective view of an ordinary window with the facing removed, showing the whole structure and application of my invention; Fig. 2, a longitudinal section of alternating inclined planes; Fig. 3, end view of wheel or roller and spring, and Fig. 4 an oblique view of the wheel or roller and spring.

The parts as represented in Fig. 1 are as follows:

A and B represent the jambs of an ordinary window; C, the upper sash, and D the lower sash. E E are two small wheels or rollers, and F F are two flat springs bearing or carrying the same on the axles 1 2. The springs are fastened in recesses in the jambs by screws.

G G and H H are like wheels or rollers and springs, one pair or set being for the upper and the other for the lower sash. I I and J J are alternating and successive inclined planes formed on the sash, or made of strips of hard wood, metal, hard rubber, or other substance, and attached to the upright edges of the sash. K is the sill of the window.

All the parts as represented in the illustrations, after being attached in their respective places upon the window-frame, or jambs and sash, are operated in the following manner: The wheels or rollers E E and G G, working on the axles 1, 2, 3, and 4 on the ends of the springs F F and H H, freely yield to but press upon the inclined planes I I and J J in raising or lowering the sashes, causing but slight friction or wear, while the pressure of the springs is sufficient to force the wheels or

rollers into the notches formed by the alternating inclined planes, thereby holding the sashes at any desired elevation.

If, in the structure of some windows, doors, gates, &c., it should be preferable to attach the alternating inclined planes to the jambs, and the wheels or rollers to the sash, door, gate, &c., that mode can be as well adopted, involving the same principle and producing the same results.

The strength and pressure of the springs can be regulated in their manufacture to suit the weight of the sash and the size of the windows, doors, gates, &c., upon which they are to be used. In damp weather, when the wood-work may swell, the springs yield to the free working of the wheels or rollers.

I do not confine myself to the precise spring as described in my specification and drawings, as any spring manufactured in different ways and in different shapes can be used to produce the same effect and accomplish the same objects.

The application of my improvement to doors, gates, and other perpendicular slides is similar to the description of the application to ordinary windows.

I do not herein claim a revolving wheel or roller fixed on the end of a spring or operated on by a spring, as this has been before used for a variety of purposes; but I am not aware that it ever has been used for a similar purpose as herein set forth.

I am also aware that continuing alternating inclined planes have been used in machines; I therefore do not claim the same.

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

The application of alternating inclined planes attached to both sides of window-sash, doors, gates, and other perpendicular slides, and the use of wheels or rollers and springs operating on both sides of the sash, doors, gates, and other perpendicular slides, and acting as braces to support the sash, doors, gates, and other perpendicular slides, for the purposes above set forth and described.

R. E. MONAGHAN.

Witnesses:

W. HIBBARD, Jr.,  
WM. WHITEHEAD.