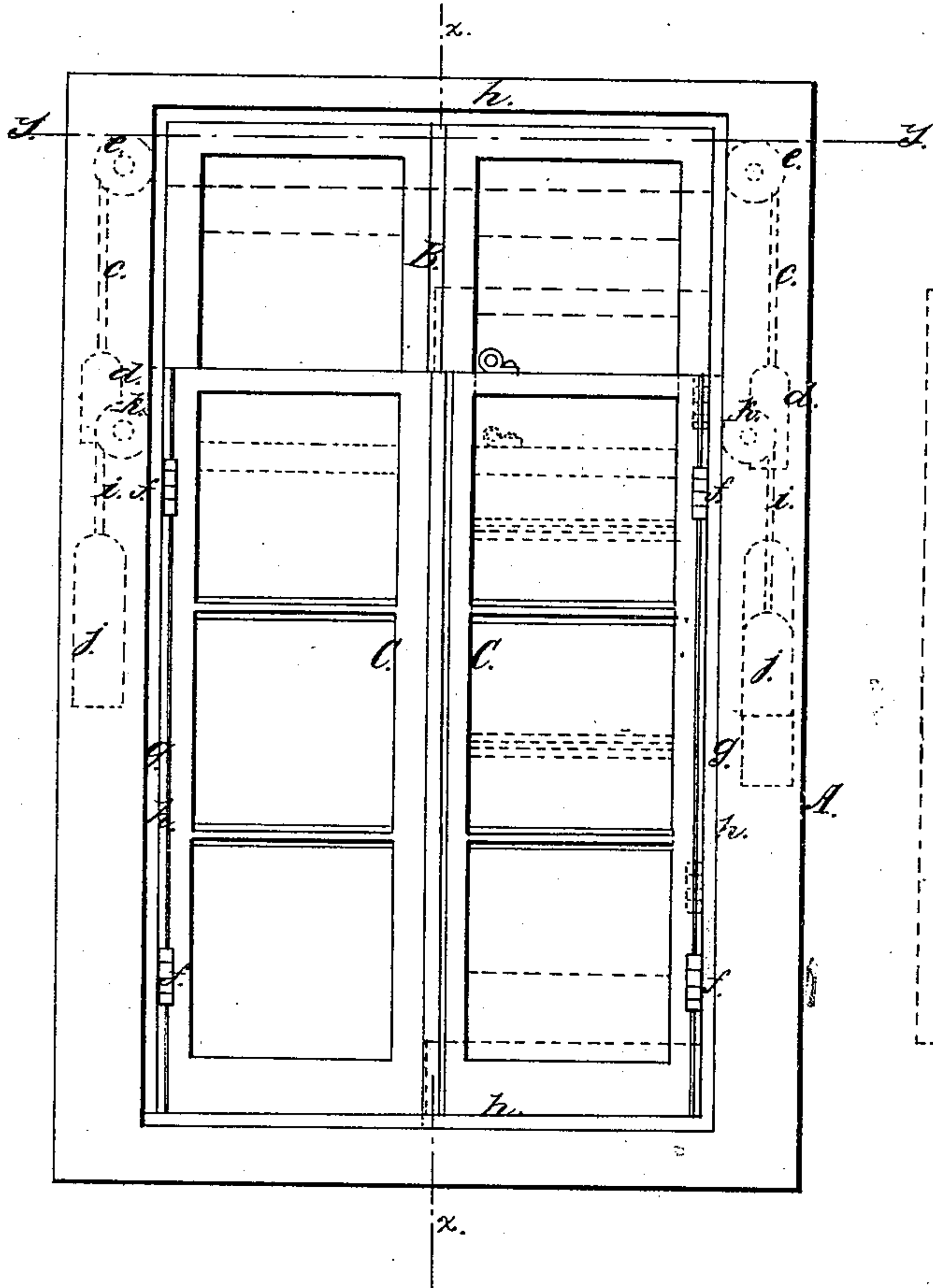


*W. S. Ford.*  
*Window Sash.*

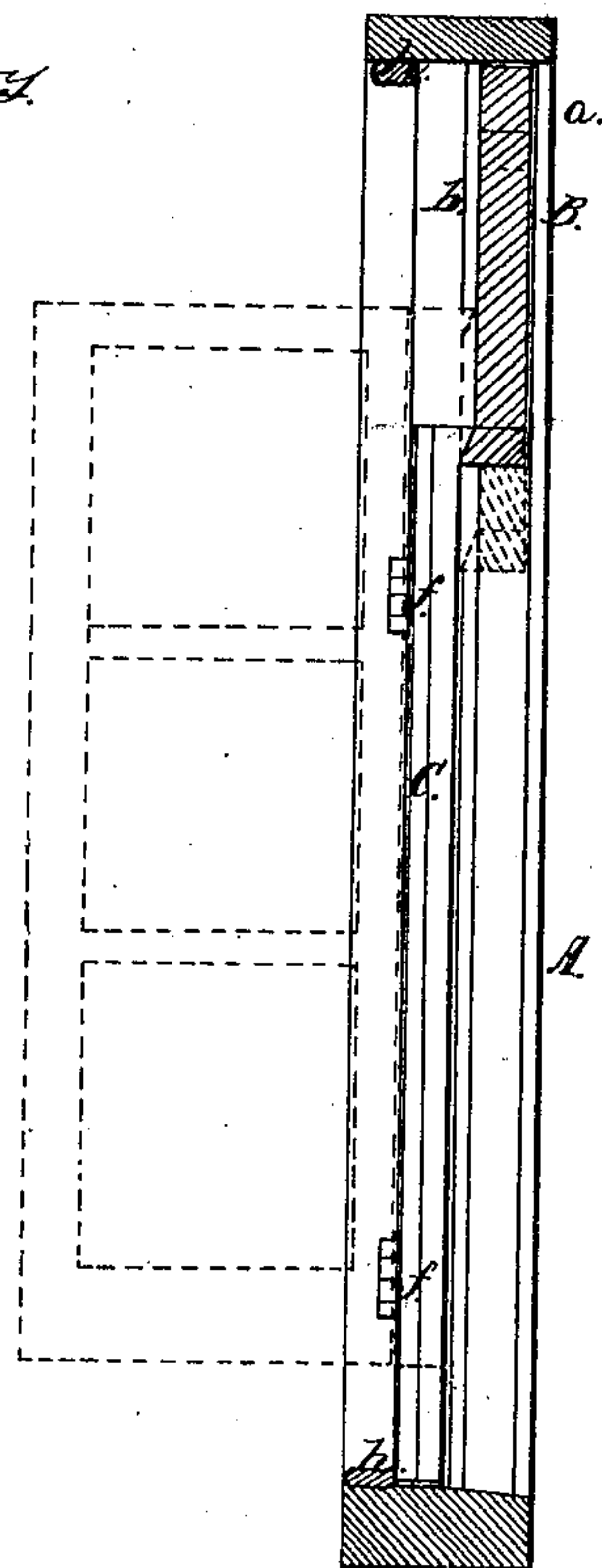
*N<sup>o</sup> 13,032.*

*Patented Jan. 12, 1865.*

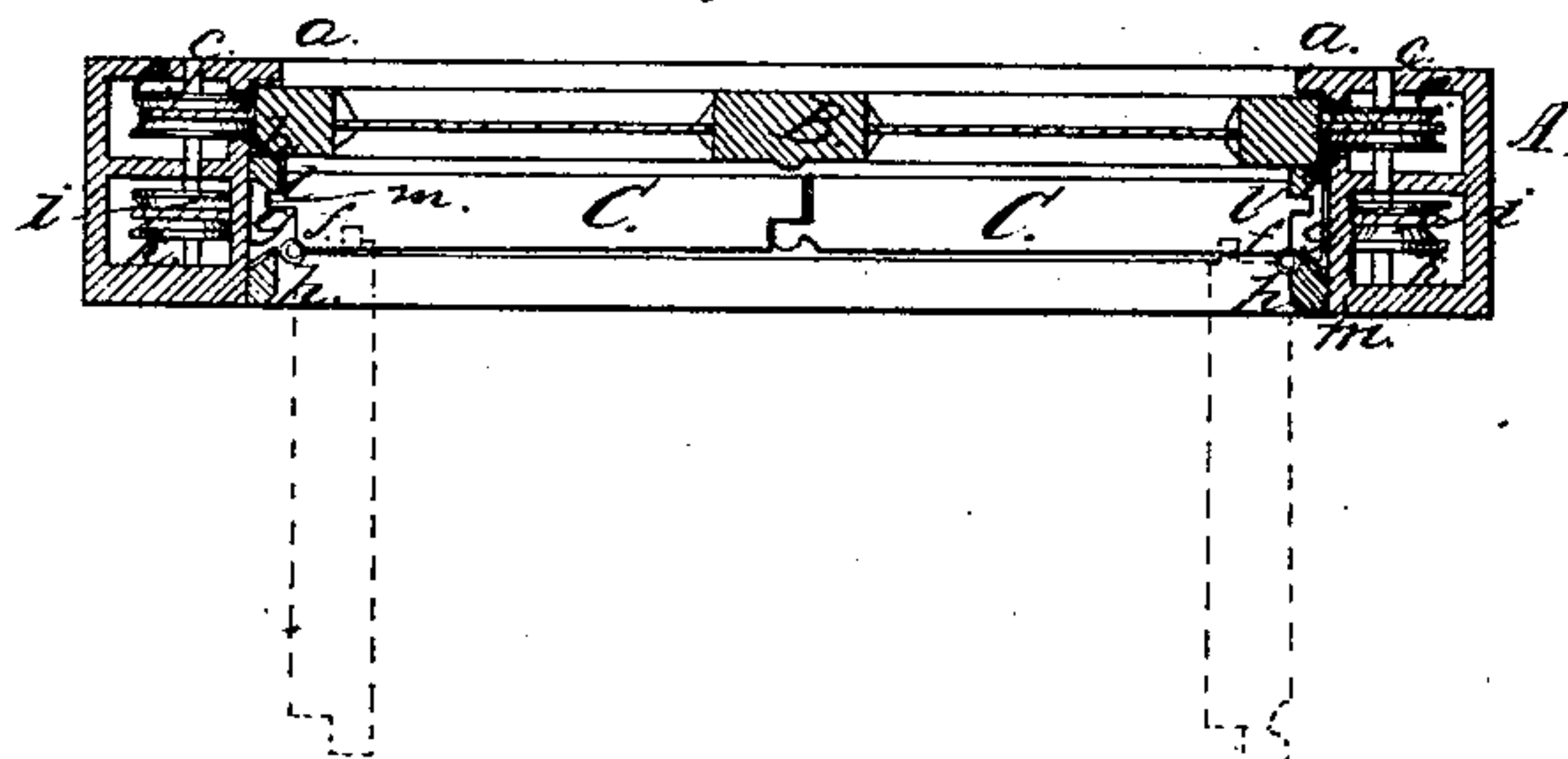
*Fig: 1.*



*Fig: 2.*



*Fig: 3.*



# UNITED STATES PATENT OFFICE.

WM. S. FORD, OF NEW YORK, N. Y.

## IMPROVEMENT IN WINDOW-SASHES.

Specification forming part of Letters Patent No. 13,032, dated June 12, 1855.

*To all whom it may concern:*

Be it known that I, W. S. FORD, of the city, county, and State of New York, have invented a new and useful Improvement in Hinged or Folding Sashes, commonly termed "French Windows;" and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of my improvement. Fig. 2 is a vertical transverse section of the same, *x x*, Fig. 1, showing the plane of section. Fig. 3 is a horizontal section of the same.

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

The nature of my invention consists in placing the sashes within the casing or frame so that said sashes may be raised or lowered like the ordinary windows, and also be opened and closed, like the French windows, by swinging on hinges, as will be presently shown and described, whereby the bottom stop-bead may be used and the windows rendered weather-tight, and also secured without the fastenings now required for French windows.

A represents the casing or frame of the window, which is constructed in the manner precisely similar to those made for the ordinary sliding sashes. Within the upper part of the casing there is placed a small sash, B, which is fitted between the outer ledges or beads, *a*, of the casing or frame and the parting-beads *b*. This sash B has cords *c* and weights *d* attached to it, the cords working over pulleys *e* in the sides of the casing or frame, and slides in the casing or frame, the same as the upper sash of ordinary windows.

C C are two sashes, which occupy the greater portion of the casing or frame A, and are about of the same proportion as the French windows. The sashes C are attached by hinges *f* to strips *g g*, which work between the stop-beads *h* and the parting-bead *b*. The inner sides of the strips *g g* are beveled, and also the inner sides of the parting-beads *b* and the stop-beads *h*, and the strips *g g* are thereby secured between the parting-beads and stop-beads in dovetail form, as shown clearly in Fig. 3. The strips *g* are allowed to slide up and down between the parting-beads *b* and the stop-beads *h*, and have cords *i* and weights *j* attached to them, the cords working over pulleys *k* in the sides of the casing or frame. (See Fig. 3 and dotted lines in Fig. 1.) It will be seen that

as the sashes C are attached to the strips *g g* by hinges both the strips and sashes may be raised and lowered, like the ordinary sliding windows. The back stiles of the sashes C are provided with lips *l*, which, when the sashes are closed, fit in recesses *m* in the back sides of the strips *g* and form a weather-proof joint. (See Fig. 3.) The stop-bead *h* extends all around the inner edge of the casing or frame A, as usual, as shown in Fig. 1, and consequently when the sashes C C are closed and shoved down the lower edges of the sashes C will be on the outer side of the bottom or lower stop-bead, and as the sashes open or swing inward it will be seen that the bottom stop-bead serves as a fastening. In order, therefore, to open the sashes C, they are first shoved upward within the casing or frame till their lower edges are above the bottom stop-bead, *h*, as shown in red, Fig. 1. The sashes C may then be swung inward.

The above improvement obviates the great objection to French windows—the difficulty of making them weather-proof. The storm will beat underneath the lower edges of the sashes and the sill of the casing or frame. Numerous devices have been invented to prevent this—elastic weather-strips, &c.; but they are liable to get out of order, and are not effectual, and, besides, add to the expense of construction. With the ordinary French windows French fastenings are also required, which are expensive, and the better kinds nearly as complicated as a bank lock.

In my improvement no fastening is required to keep the sashes C closed, for the bottom stop-bead, *h*, effects this, and also renders the sashes at their lower ends perfectly weather-proof.

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

Constructing folding hinged or French windows as herein shown, or in an equivalent way, so that the hinged sashes C C may be raised and lowered, the same as the ordinary sliding sashes, and also be allowed to swing as French sashes, whereby said sashes are kept closed without the application of any special fastening, and also rendered perfectly weather-proof, as herein described.

WM. S. FORD.

Witnesses:

JOS. GEO. MASON,  
WM. TUSCH.