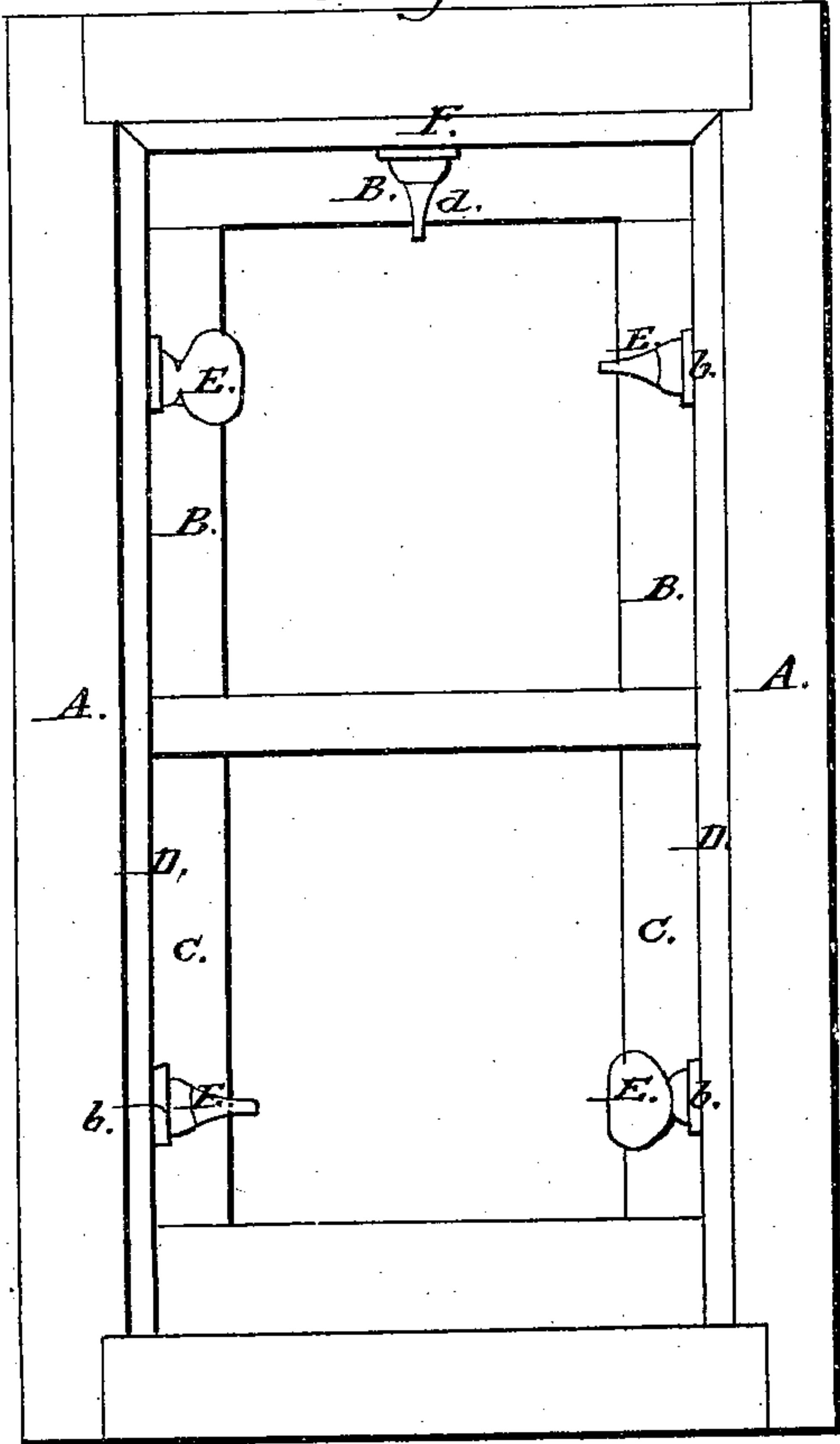


O. Ward,
Window Frame.

No. 96,644.
Fig. 1.



Patented Nov. 9. 1869.
Fig. 2.

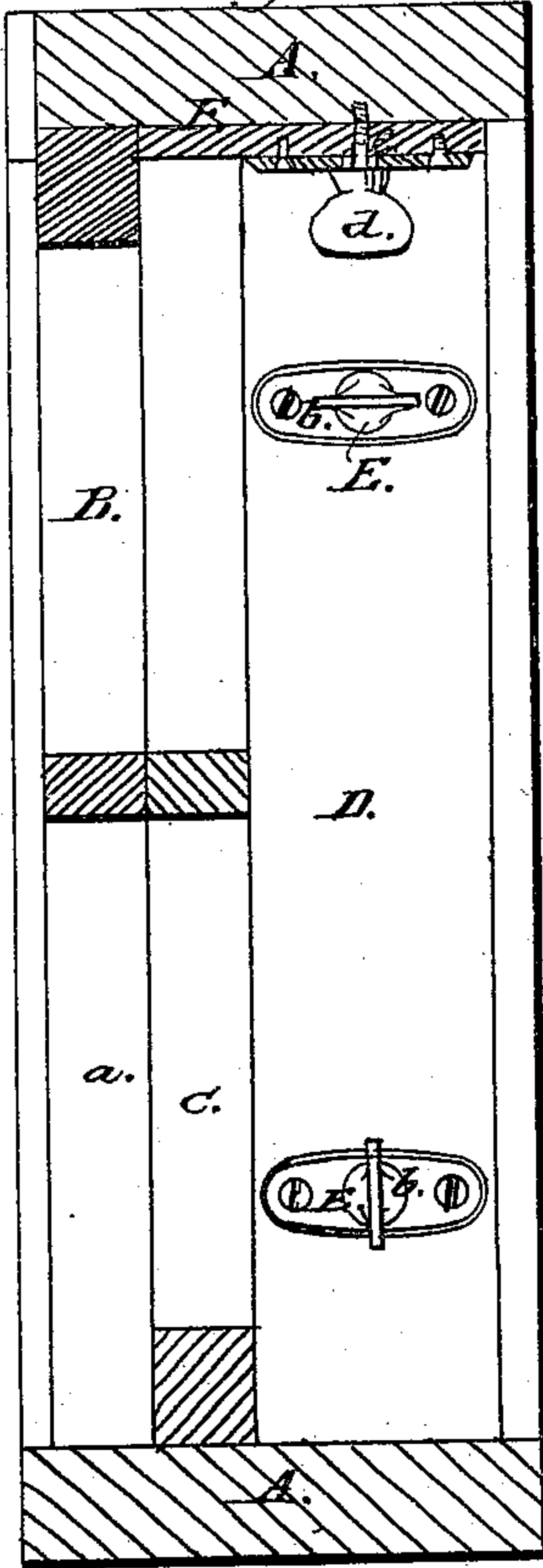
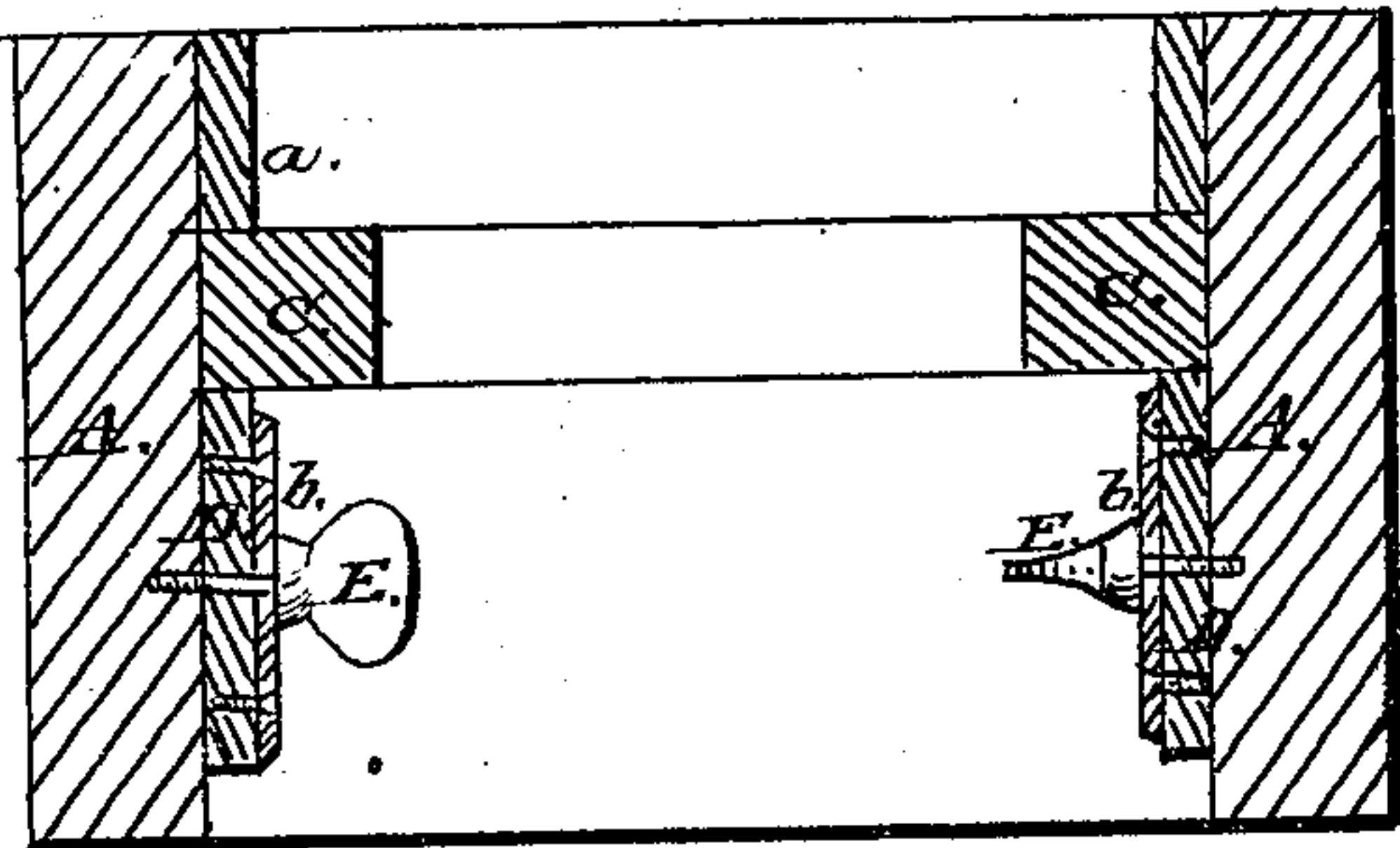


Fig. 3.



WITNESSES:

S. N. Piper

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PER

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OTIS WARD, OF SUNDERLAND, VERMONT.

Letters Patent No. 96,644, dated November 9, 1869.

IMPROVED WINDOW-FRAME.

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

To all persons to whom these presents may come:

Be it known that I, OTIS WARD, of Sunderland, of the county of Bennington, and State of Vermont, have made a new and useful invention, having reference to Window-Frames and the sashes thereof; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is an inner side elevation,

Figure 2, a vertical section, and

Figure 3, a horizontal section of a window-frame and its two sashes, as provided with my invention.

In such drawings—

A denotes the window-frame; and B, the upper, and C, the lower sash thereof.

The upper sash, as the frame A is represented, may be supposed not to be movable vertically, the lower sash being capable only of being slid up and down, with reference to the window-frame.

The two sashes are shown as resting against each other, the lower one being supported, on its outer surface, against guides *a a*, applied to or forming part of the side bars of the frame, and serving also as supports to the upper sash.

Against the inner face of each vertical slide-bar of the lower sash, is one of two movable guide-bars D D. These bars extend from the lower to the upper bar of the window-frame, and are arranged against the inner faces of its side bars of such frame.

Each guide D is held to the window-frame by two or any other suitable number of clamp-screws E E, which go through slots *c c* in the guide, (or in metallic shoulder-pieces *b b*, fixed thereto,) and screw into the window-frame, the slots being arranged horizontally, so as to enable the guides to be easily moved either toward or away from the sashes.

Another such movable guide I apply to the under

side of the top bar of the window-frame, and so as to rest against the inner side of the upper bar of the upper sash, the same being as shown at E in the drawings.

This latter guide is to be fastened to the window-frame by one or more clamp-screws, *d*, going through slots, *e*, in the guide, and a shoulder-piece to each screw, such screw being screwed into the window-frame.

The upper sash rests on the tops of the guides *a a*, and is otherwise held in place by the movable plate F and its screw or screws. The said movable plate F, provided with clamp-screws, as described, not only serves to make a close joint along the upper edge of the upper sash, but to keep such sash there from falling back, so as to bind and wear the lower sash, while the latter is being raised against the guides D D.

The bars D D, movable in manner as described, serve not only as guides to the sash, while it may be in the act of being either raised or depressed, but, with the window-frame, the upper sash and the guides *a a* form grooves for the lower sash to play in.

In case of shrinkage, or swelling of either sash or the window-frame, so as to cause the lower sash either to run too loosely, or to bind in its grooves, the guides D D may be moved, more or less, either toward or away from the sashes, so as to cause the lower one to play with the desirable freedom.

I claim, as my invention, the following, viz:

The combination and arrangement of the adjustable plate F, provided with one or more clamp-screws, as described, with the sashes, the window-frame, and the adjustable guides D D.

OTIS WARD.

Witnesses:

SARAH A. HYDE,
ISAAC T. HYDE.