

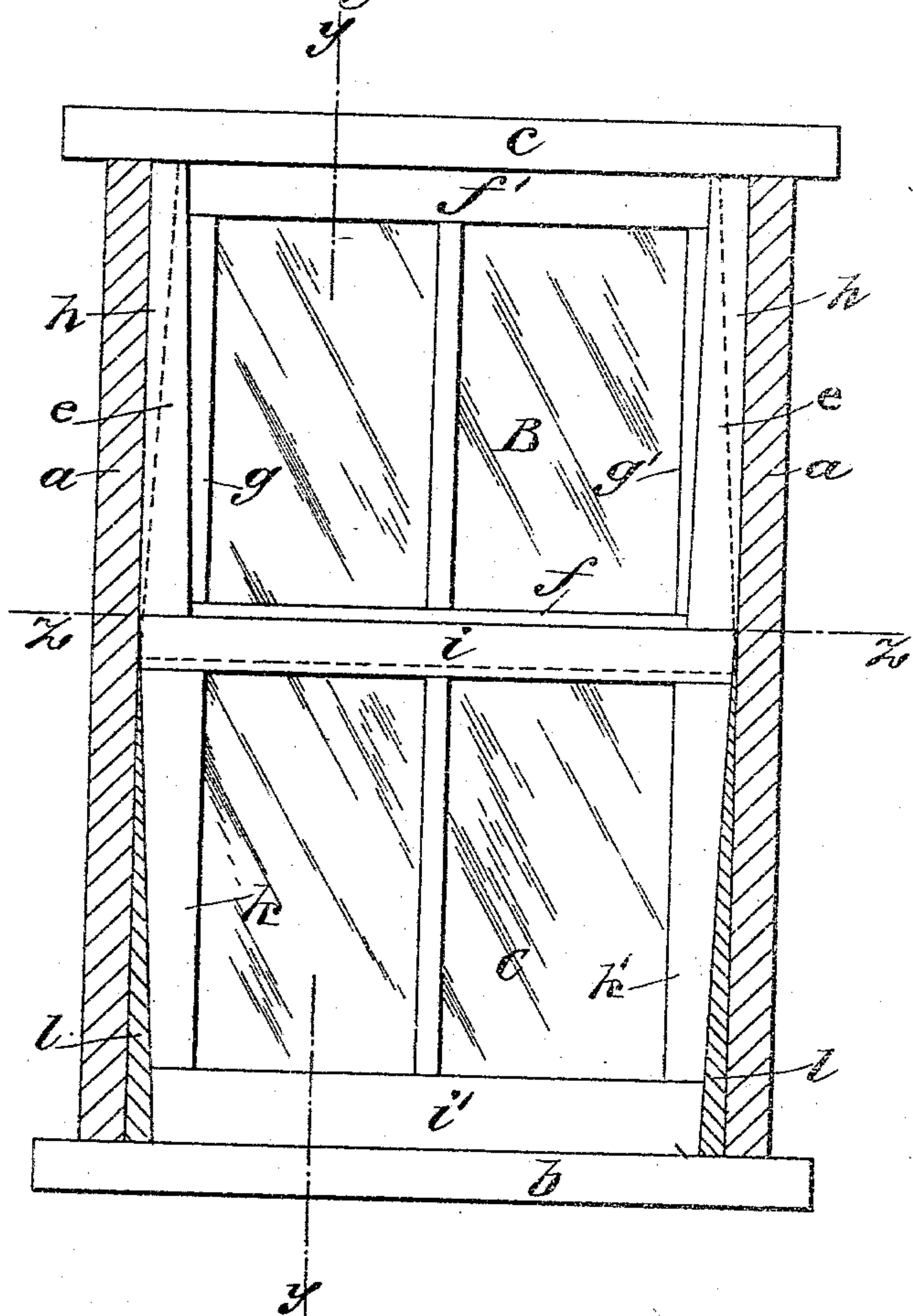
(No Model.)

G. W. HENRY.  
WINDOW SASH AND FRAME.

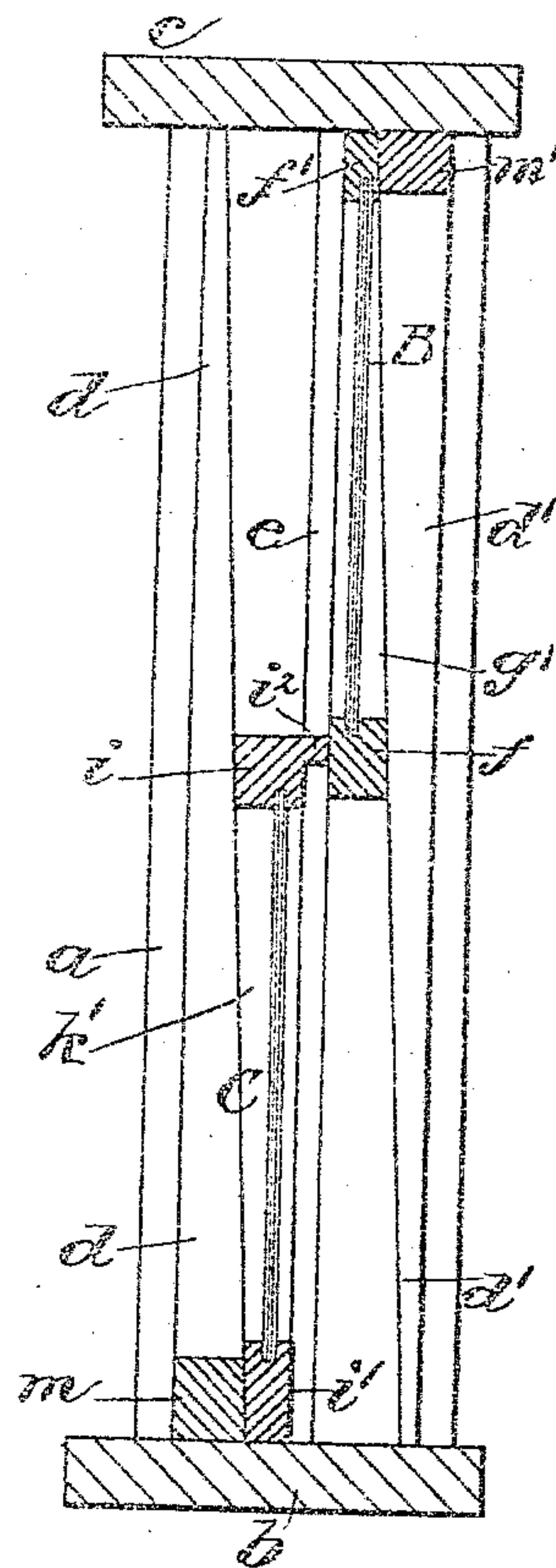
No. 321,603.

Patented July 7, 1885.

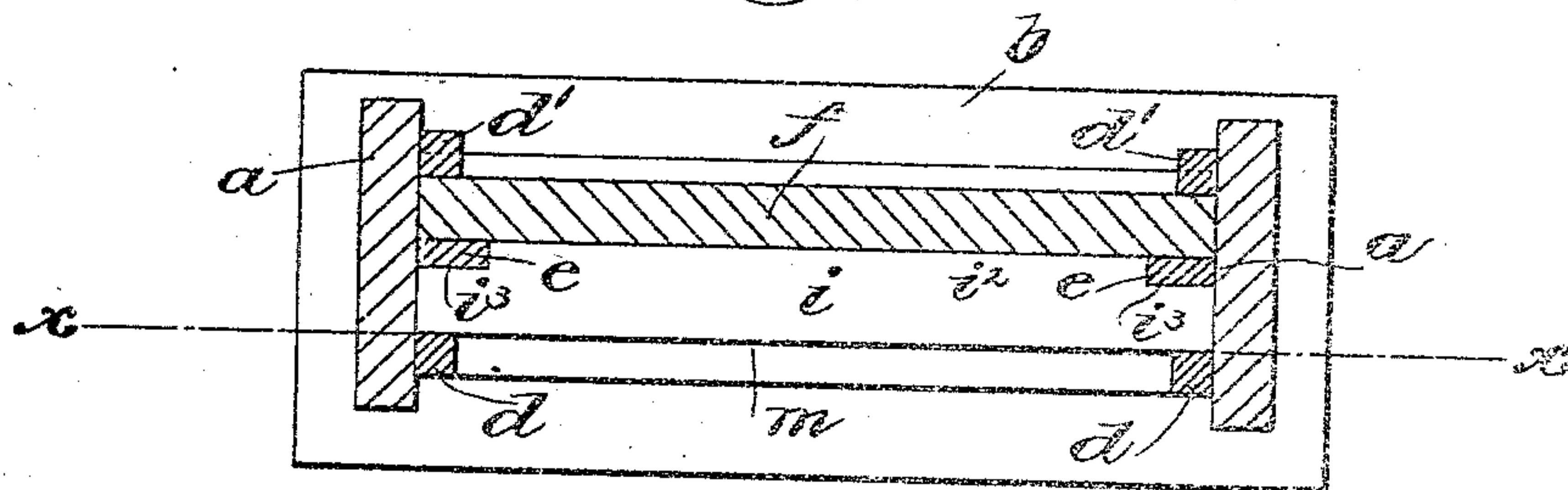
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. HENRY, OF ELIZABETH, NEW JERSEY.

## WINDOW SASH AND FRAME.

SPECIFICATION forming part of Letters Patent No. 321,603, dated July 7, 1885.

Application filed November 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. HENRY, of Elizabeth, Union county, and State of New Jersey, have invented a new and Improved Window Sash and Frame, of which the following is a full, clear, and exact description.

This invention consists of a window frame and sash constructed in such manner, with inclined or wedging surfaces, that practically airtight joints will be formed at all points between the sash and frame when the sash is lowered to closed position, as will be hereinafter described and claimed.

Reference is to be made to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of my invention, taken on the line *x x* of Fig. 3. Fig. 2 is a transverse sectional elevation taken on the line *y y* of Fig. 1; and Fig. 3 is a sectional plan view taken on the line *z z* of Fig. 1.

*a a* represent the side pieces of the window-frame, *b* represents the window-sill, and *c* the lintel.

*B* represents the upper and *C* the lower window-sash, held in place in the window-frame by the stop strips or beads *d d* and *d' d'* and the division-strips *e e*, (shown clearly in Fig. 3.)

The lower strip, *f*, of the upper sash, *B*, is thicker horizontally than the upper strip, *f'*, and the side strips, *g g'*, of the said sash *B* are beveled or inclined at their outer surfaces, being made thickest at their lower ends, as shown clearly in Fig. 2, and the said inclined outer surfaces of the strips *g g'* run against the stop strips or beads *d' d'*, the inner edges of which are inclined, being made widest at the top, as shown in Fig. 2, so that these inclinations cause the sash *B* to be wedged firmly against the division-strips *e* when the sash *B* is closed.

The strips *g g'* of the said upper sash, *B*, are also beveled or inclined at their edges, being made widest at their lower ends, as shown in dotted lines in Fig. 1, and these outer-inclined edges run against the wedge-pieces *h h*, secured to the side pieces, *a a*, of the window-frame, so that sash *B* when closed will wedge itself in the frame and form per-

fectly-tight joints all along its side edges with the said wedge-pieces *h*.

The upper strip, *i*, of the lower sash, *C*, is thicker than the lower strip, *i'*, and the side pieces, *k k'*, are inclined or beveled at their front surfaces and run against the inner inclined edges of the stop strips or beads *d d*, which are made widest at their lower ends, so that when the sash *C* is closed it will be held with a wedging action against the division-strips *e e*, thus forming perfectly-tight joints. The strips *k k'* are also inclined at their edges, as shown clearly in Fig. 1, and these inclined edges run against the wedge-pieces *l l*, so that these oppositely-inclined surfaces wedge the lower sash, *C*, in the frame when closed down, thus making the joints perfectly tight in the frame in all directions.

The cross-pieces *m m'*, secured, respectively, upon the window-sill *b* and to the lintel *c*, have beveled inner surfaces to effect wedging action with the strips *f' i'* of the upper and lower sashes when closed, to cause tight joints to be formed at the top and bottom of the window, and the strip *i* of the lower sash, *C*, is cut away, as shown at *i<sup>3</sup> i<sup>3</sup>*, Fig. 3, to form the tongue *i<sup>2</sup>*, the ends of which run against the adjacent edges of the division-strips *e*, which edges of the said strips are inclined, the strips being made widest at the bottom, so that the ends of the tongue *i<sup>2</sup>* when the sash *C* is closed will wedge between the division-strip *e* and form tight joints with the said division-strips.

In this manner it will be seen that the sashes *B C* are held against inclined or wedging surfaces in all directions, front, back, and edgewise, so that when they are closed no air, dust, or snow can enter the window, and there will be no rattling of the sash in the window-frame.

It will be understood that I may apply my invention to various other uses—such, for example, as solid sliding hatchways or doors, and to other frames placed in openings and adapted to slide, and embodying the same principle of construction—and hence I do not confine myself to the single application to windows.

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

1. A window-sash constructed with inclined

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side edges and inclined front or outer surfaces, the frame being formed with oppositely-inclined surfaces, substantially as and for the purposes set forth.

- 5 2. A window-sash made thicker and wider at its one end than at its other end, substantially as described.

3. The inclined division-strips *e*, in combination with the sash C, formed with the lip *i*<sup>2</sup>, substantially as described.

GEORGE W. HENRY.

Witnesses:

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C. SEDGWICK.