

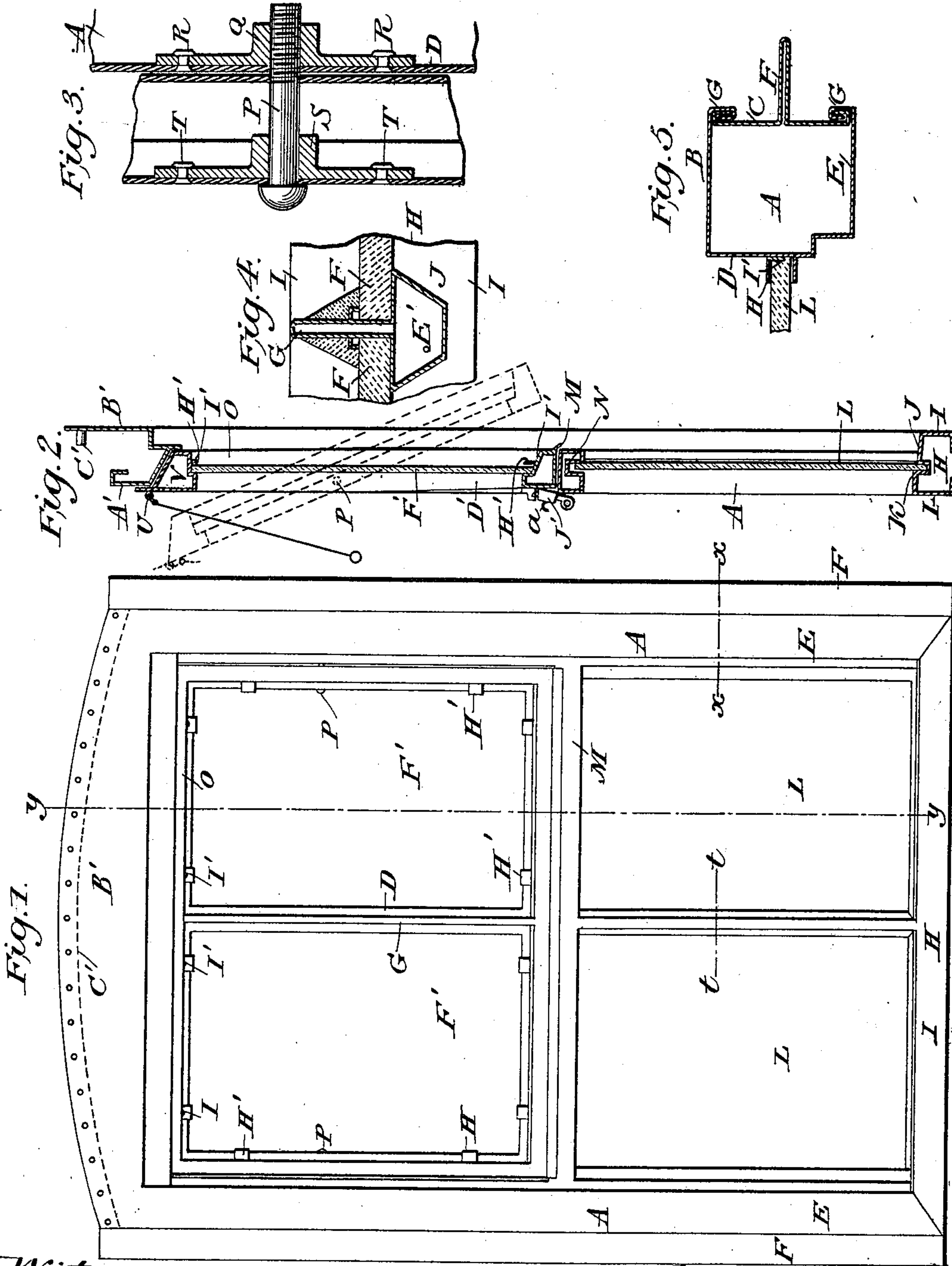
No. 654,273.

Patented July 24, 1900.

A. NIEDERMEYER.
FIREPROOF WINDOW.

(Application filed Jan. 26, 1900.)

(No Model.)



Witnesses:

H. A. Ott
E. L. Ruch

Inventor:

August Niedermeyer
By Ennis & Wheeler
Attorneys

UNITED STATES PATENT OFFICE.

AUGUST NIEDERMEYER, OF MILWAUKEE, WISCONSIN.

FIREPROOF WINDOW.

SPECIFICATION forming part of Letters Patent No. 654,273, dated July 24, 1900.

Application filed January 26, 1900. Serial No. 2,848. (No model.)

To all whom it may concern:

Be it known that I, AUGUST NIEDERMEYER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Fireproof Windows, of which the following is a specification.

My invention relates to improvements in fireproof windows for buildings; and it pertains to the construction of the window-frame, the window-sash, the means for supporting the window-sash in the frame, and the means for supporting the glass in the sash.

The same is further explained by reference to the accompanying drawings, in which—

Figure 1 represents a front view of the window. Fig. 2 represents a vertical section drawn on line *y y* of Fig. 1. Fig. 3 represents a vertical section of one side of the sash and window-frame drawn through the sash-supporting pivot, and Fig. 4 is a horizontal section drawn on line *t t* of Fig. 1. Fig. 5 is a cross-section drawn on line *x x* of Fig. 1.

Like parts are referred to by the same reference-letters throughout the several views.

The respective sides *A A* of the window-frame are formed in a rectangular shape of sheet metal consisting of the vertical walls *B*, *C*, *D*, and *E* and the outwardly-projecting flange *F*. The walls *B*, *E*, and *D* are preferably formed of a single sheet of metal, which is united at its outer edges with the wall *C* by the folding joints *G*. The object of the flange *F* is to furnish a supporting-bearing in the masonry of the wall for holding the window-frame in place. The bottom cross-piece *H* of the window-frame is also formed of sheet metal and consists of the side walls *I* and *J*. The upper wall *J* is provided with a recess *K* for the reception of the lower edge of the glass *L*.

M is the central cross-piece of the frame, which is provided with a recess *N* for the reception of the upper edge of the glass. The recess *N* is of such depth that it will permit the glass *L* to be raised therein until the lower edge of the glass is brought above the recess *K*, when said glass is permitted to drop into the lower recess a slight distance, but not far enough to disengage its upper edge from the recess *M*, whereby said glass is retained in place, as indicated in Fig. 2 by said recess.

While the sash for the lower glass is formed integral with the window-frame, the upper glass is supported in a separate hollow movable sash *O*, which sash is pivotally supported from the frame at its respective sides upon the bolts *P P*, an enlarged view of which is shown in Fig. 3. The bolts *P* are rigidly secured at their inner ends to the wall of the window-frame by the flanged nuts *Q*, which flanged nuts are in turn secured to the wall of said frame by the rivets *R R*, while the outer ends of said pivotal bolts *P* have bearings in the flanged collars *S*, which flanged collars are secured to the sash *O* by the rivets *T T*. By this arrangement the inner ends of the bolts *P* are screwed firmly into the flanged nuts *Q*, whereby they are rigidly supported in the horizontal position shown and afford a rigid substantial support for said swinging sash. The swinging sash *O* is preferably pivoted slightly above its center of gravity, so that when not otherwise supported it will drop to the vertical in the closed position shown in Figs. 1 and 2. To provide for said windows automatically closing in case of fire, they are retained in the open position by a combustible or fusible connection *U*, which communicates between the upper end of said sash and a stationary connection *a*, whereby in case of fire said fastening will be either burned or fused, when said window will drop of its own gravity to said closed position, as stated. The upper end *V* of said pivotal window-sash *O* is preferably formed at an angle to its outer wall to conform to the angle of the lower surface of the upper horizontal portion of the window-frame *A'*, whereby said parts are brought closely together and form a tight joint when the window is shut. The vertical front wall *B'* of the frame is provided with an inwardly-projecting flange *C'*, which engages in the seams of the wall of the building and assists in holding the frame in place. When the windows are small, a single light of glass may be employed, which extends the entire width of the sash. When, however, a wide window is used, the sash is subdivided by the central bar *D'*, a cross-section of which is shown in Fig. 4, consisting of a hollow column *E'*, against which the lights of glass *F' F'* are placed, and a central vertical flange *G'*, which

is interposed between the edges of the glass F' F', as shown in said Fig. 4. The lights of glass F' are held in place by the flexible sheet-metal lugs H', which are preferably made of
 5 copper and are secured to the sash by the rivets I'. The flexibility of said lugs H' will permit of their being bent down against the surface of the glass, and in case the glass
 10 and thus the glass may be replaced many times without injury to the retaining-lugs.

J' is a lock of ordinary construction, by which the pivotal sash O is locked in its closed position.

15 Heretofore it has been common to support all glass of a window in separate movable sash. It is obvious that by thus forming glass-supporting recesses and bearings in one end of the window-frame one of the sash is
 20 dispensed with.

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

1. A fireproof window, consisting in the
 25 combination of hollow sheet-metal rectangular side pieces A, provided, at its sides, with vertical retaining-flanges F', and at its upper end with horizontal retaining-flanges B' and C'; hollow central sheet-metal cross-pieces
 30 H, M and A', said cross-pieces H and M being

provided with retaining-recesses and bearings for the reception of the window-glass; a separate movable sash O pivotally supported at its respective sides to the sides of the window-frame; and a fusible or combustible at-
 35 tachment for holding said movable sash in its open position, substantially as and for the purpose specified.

2. In a fireproof window, the combination of a window-frame having hollow sheet-metal
 40 sides and end cross-pieces; a movable glass-supporting sash located in said frame; bolt-supporting flanged nuts Q rigidly secured to the sides of said window-frame; bolt-receiv-
 45 ing flanged collars S rigidly secured to the sides of said window-sash; and pivotal sash-supporting bolts P, having their screw-threaded ends firmly fixed in said flanged
 50 nuts, and their opposite ends located in said flanged collars, and adapted to pivotally support said sash at its respective sides from said frame, all substantially as and for the purpose specified.

In testimony whereof I affix my signature in the presence of two witnesses.

AUGUST NIEDERMEYER.

Witnesses:

LOUIS D. BIERACH,
 JAS. B. ERWIN.