

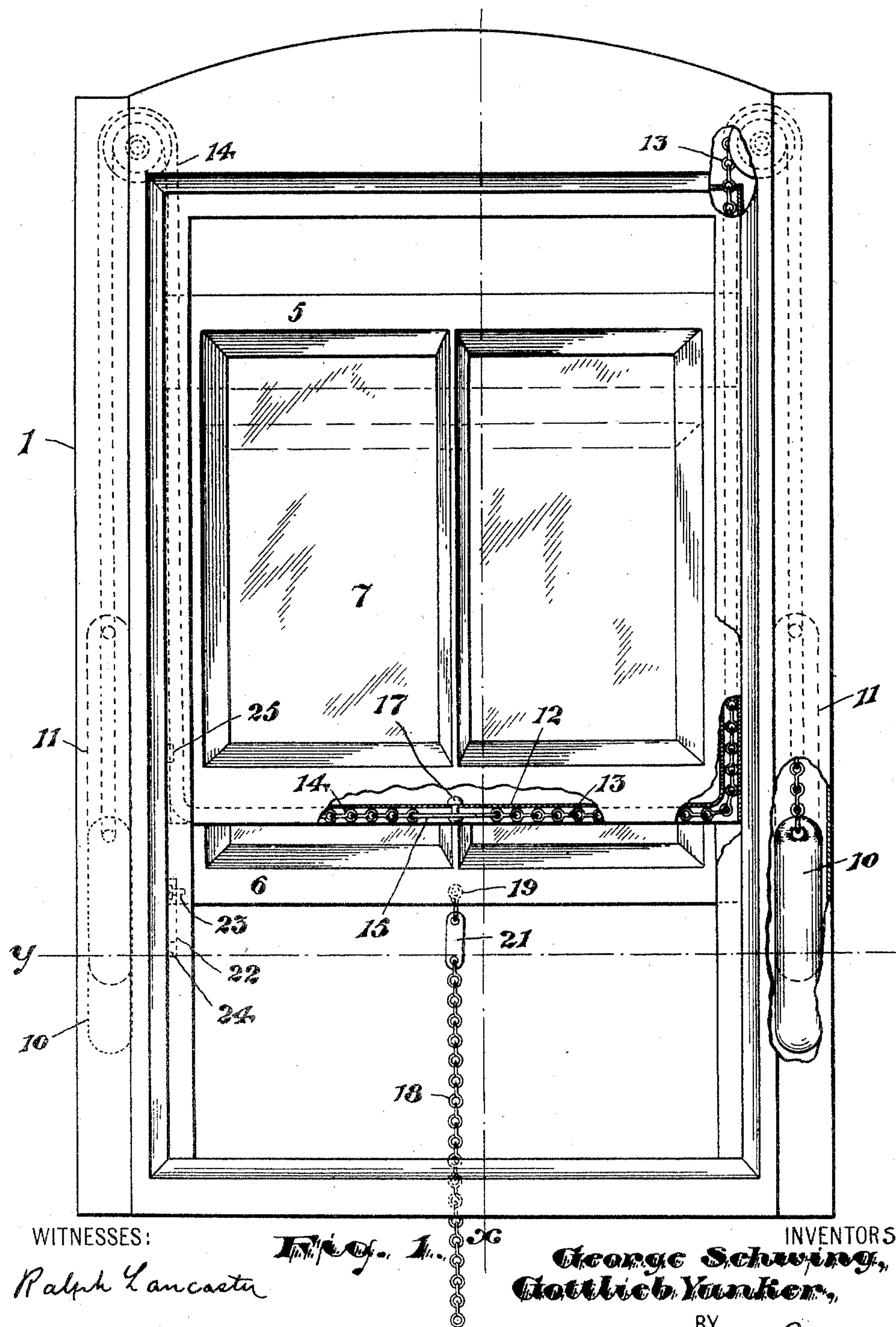
No. 776,948.

PATENTED DEC. 6, 1904.

G. SCHWING & G. YUNKER.
AUTOMATIC FIRE WINDOW.
APPLICATION FILED JUNE 1, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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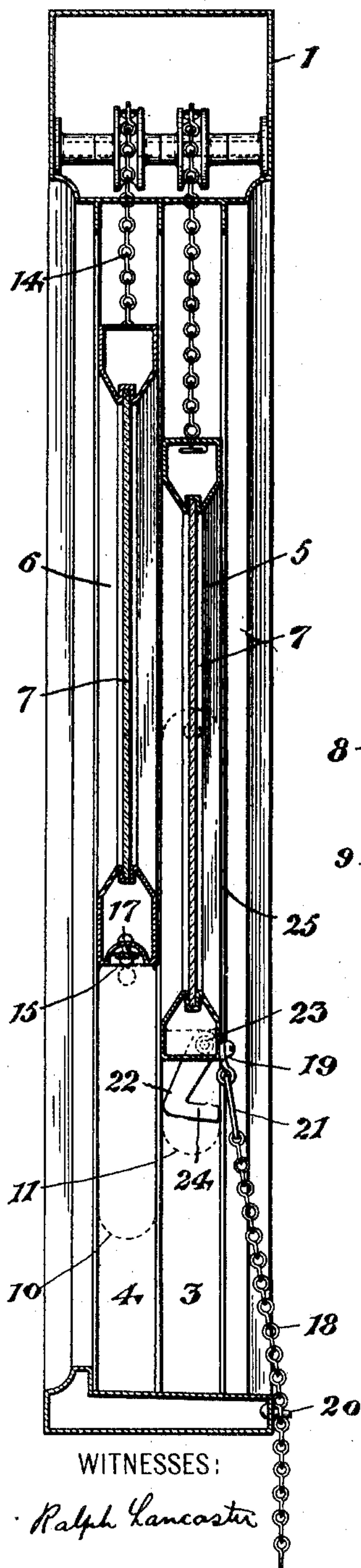


Fig. 2.

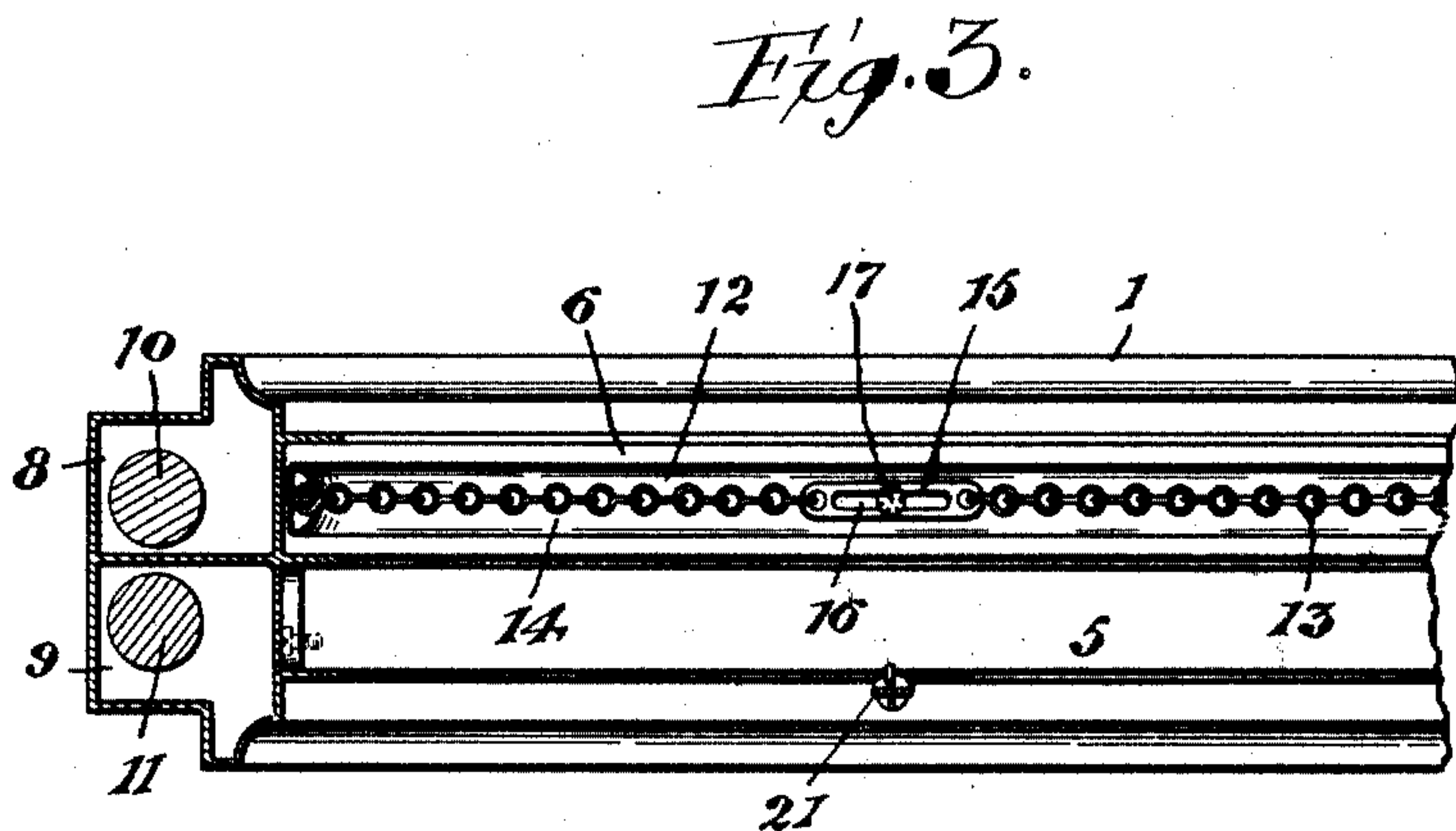


Fig. 3.

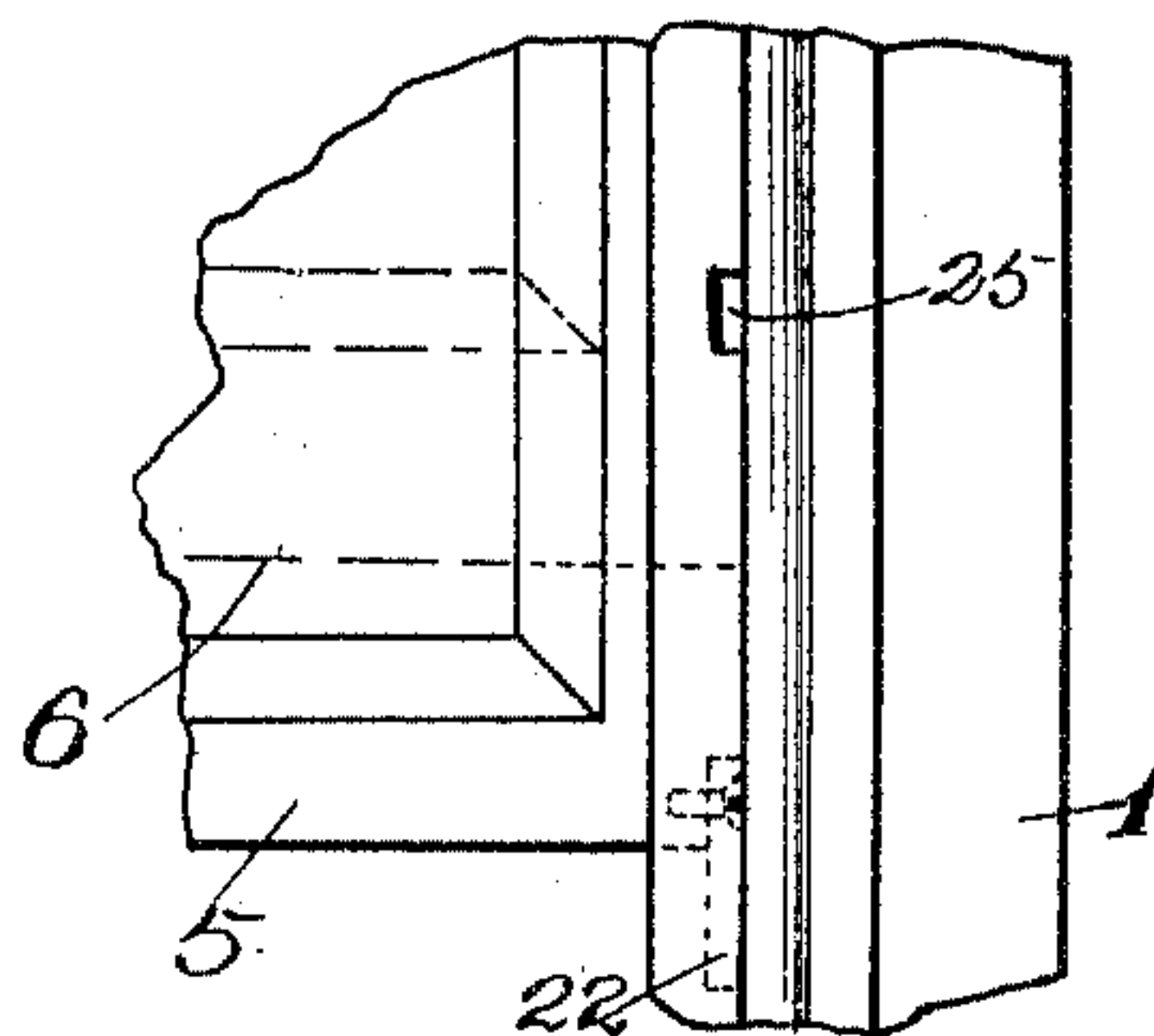


Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE SCHWING AND GOTTLIEB YUNKER, OF NEWARK, NEW JERSEY,
ASSIGNORS TO THE NEWARK CORNICE AND SKYLIGHT WORKS, A COR-
PORATION OF NEW JERSEY.

AUTOMATIC FIRE-WINDOW.

SPECIFICATION forming part of Letters Patent No. 776,948, dated December 6, 1904.

Application filed June 1, 1904. Serial No. 210,650. (No model.)

To all whom it may concern:

Be it known that we, GEORGE SCHWING and GOTTLIEB YUNKER, citizens of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Automatic Fire-Windows; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to fireproof windows, and more particularly to means for automatically closing the same when subjected to heat, the objects of the invention being to avoid the objections of pivoted or revolving windows and to apply heat-closing means to a double-hung window or one comprising upper and lower sashes which slide vertically; to apply independent closing means to each of the sashes, whereby they operate independently of each other; to secure an impervious closure at the upper part of the window, so as to effectually prevent flames passing therethrough; to provide automatic lock or catch means for holding the upper sash in closed position, so that it cannot by any possibility fall away from the upper part of the window; to secure a simple and cheap construction and one which shall present a neat and pleasing appearance, and to secure other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved double-hung fireproof window and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is an inside elevation of a window of our improved construction, the lower sash being shown slid upward and the upper

one drawn downward slightly below the lower sash and portions of the sashes and window-frame being broken away to show the construction more clearly. Fig. 2 is a vertical section of the window as upon line *x*, Fig. 1; and Fig. 3 is a horizontal cross-section on line *y*, Fig. 1, looking upward against the bottom of the two sashes. Fig. 4 is a detail view of a portion of the window-frame from the outside, showing the recess or aperture to receive a certain gravity-catch.

In said drawings, 1 indicates a window-frame of any construction suited to fire-windows, preferably of sheet metal, as shown in the drawings, and of any well-known formation. Said frame provides at the inner faces of its upright sides channels 3 4 for the upper and lower sashes 5 6 to run in, said sashes being also formed of sheet metal with panes of glass 7 mounted therein. The said sashes, it will be understood, are free to slide vertically, one past the other, from the top to the bottom of the window-frame, as is common in ordinary windows, the window-frame 1 providing weight-pockets 8 9 for the weights 10 11, by which the said sashes are hung.

Coming now more particularly to the features of our invention, the lower sash 6 of the window is provided at its outer lateral edges and bottom with a longitudinal groove or recess 12, and in said groove are arranged the weight-chains 13 14, each extending downward along a side of the sash and around its lower corner inward along the bottom edge to the center of the sash. The ends of said chains 13 14 are connected at said center of the bottom of the sash by a fusible link 15, said link 15 being slotted longitudinally, as at 16, to receive a bolt 17, secured to the bottom of the groove 12. It will thus be understood that under ordinary conditions the lower sash works like any other sash hung upon weights; but when the said sash is pushed upward or opened the fusible link 15 at the bottom thereof is exposed, so that if a current of heat or flame passes through the window said link will be melted. Because of the slot 16 obviously such melting would release both chains

13 14 from the sash, so that said sash would drop by its own weight to closed position.

The top of the sash 5 is also hung by weights in the usual manner, except that the said weights 11 are heavy enough to overbalance the sash and normally hold the same upward in closed position. When it is desired to open the upper sash, the same is pulled downwardly by means of a chain 18, attached to the lower part of the sash, as at 19, said chain having links any one of which may be hooked over a pin 20 on the lower part of the window-frame to hold the upper sash in any desired position. In said chain 18 near its upper part is inserted a fusible link 21, so that if the sash were open the passage of heat through the window would melt said link 21, and the sash would then be instantly closed by its weights.

To prevent any possibility of the upper sash dropping from its closed position—as, for example, if the weight-chains were melted off—we provide at the lower part of the upper sash 5 a catch or lock of any suitable construction adapted to automatically secure the upper sash when closed. We have shown for this purpose in the drawings a gravity-catch 22, comprising an elbow-shaped piece pivotally hung at the extremity of one arm to the lower part of the upper sash, as at 23, so as to swing at right angles to the plane of the sash and run in the channel 3 below the sash. The free arm 24 of the said catch normally slides upon the side wall of the channel; but when the sash reaches its closed position the extremity of said arm 24 passes through or falls into an aperture or recess 25 in said side wall of the channel and from which it must be released by the hand before the sash can be lowered. This construction of catch is advantageous in that it is simple and involves no springs or other parts liable to be put out of order by fire. Obviously, however, any other form of catch might be employed, and it will furthermore be understood that our invention could be applied to constructions of sashes and window-frames other than those particularly shown and described.

Having thus described the invention, what we claim as new is—

50 1. In a window, the combination of a frame, a sliding sash therein longitudinally grooved at its side and bottom edges, sash-weights in said frame, and chains extending from said weights along the grooved edges of the sash and being fusibly connected to the sash in the said bottom groove thereof.

2. In a window, the combination of a frame, a sliding sash therein having its side and bottom edges longitudinally grooved, a fusible link in said bottom groove, a bolt fastening

said link to the sash, sash-weights in said frame, and chains extending from said sash-weights to the opposite ends of said link.

3. In a window, the combination with a frame, a sash sliding in said frame and weights normally tending to slide said sash upward, of a fusible link depending from the lower edge of said sash, a chain depending from said link, a pin upon the frame-sill adapted to receive the links of said chain to hold the window open, and an automatic catch adapted to positively hold said window closed.

4. In a window, the combination of a frame, a sash mounted therein and longitudinally grooved or recessed at its bottom and side edges, sash-weights in said frame and chains extending from said weights along the grooved edges of said sash, and a fusible link connecting the ends of said chains at the bottom of the sash.

5. The combination with a window-frame, of a sash adapted to slide vertically in said frame, said sash being grooved at its bottom and side edges, a slotted fusible link arranged longitudinally in the said groove at the bottom of the sash, a bolt extending through said slotted link to connect it to the sash, weights arranged in said frame on opposite sides of the sash, and chains extending one from each weight to an end of the said link.

6. In a window, the combination with a vertically-sliding sash and means normally holding said sash in upper closed position, of a gravity-catch pivoted to the lower part of said sash and adapted to lie in the channel or runway therefor, the wall of said channel having a recess or aperture into which said catch falls when the sash is in a certain predetermined position, and means for holding said sash in open position.

7. In a window, the combination with a vertically-sliding sash and means normally holding said sash in upper closed position, of a gravity-catch pivoted to the lower part of said sash and adapted to lie in the channel or runway therefor, the wall of said channel having a recess or aperture into which said catch falls when the sash is in a certain predetermined position, and means for holding said sash in open position, said means being adapted to be released by exposure to heat.

In testimony that we claim the foregoing we have hereunto set our hands this 26th day of May, 1904.

GEORGE SCHWING.
GOTTLIEB YUNKER.

Witnesses:

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