No. 671,654. Patented Apr. 9, 1901.

H. W. OTTO.

WINDOW VENTILATOR.

(Application filed Feb. 11, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

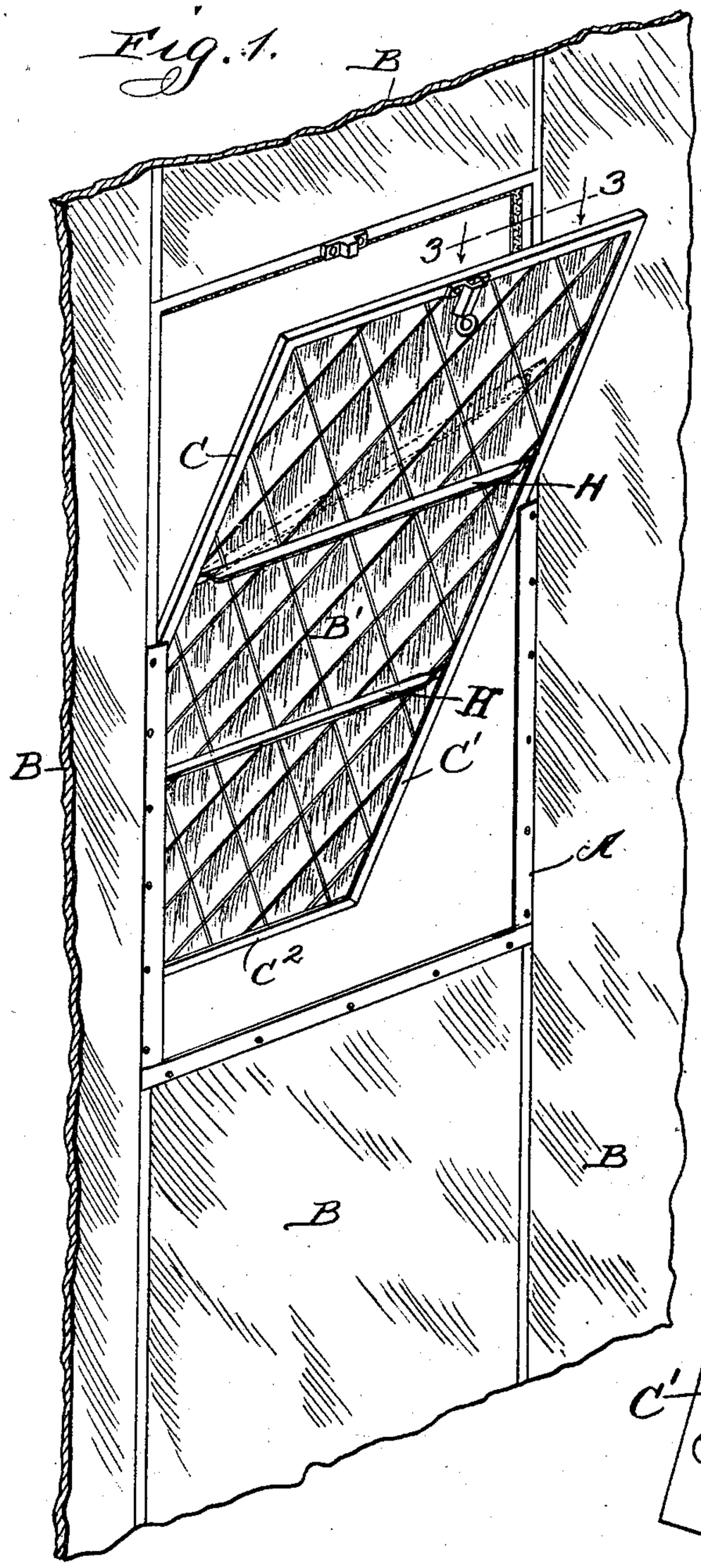
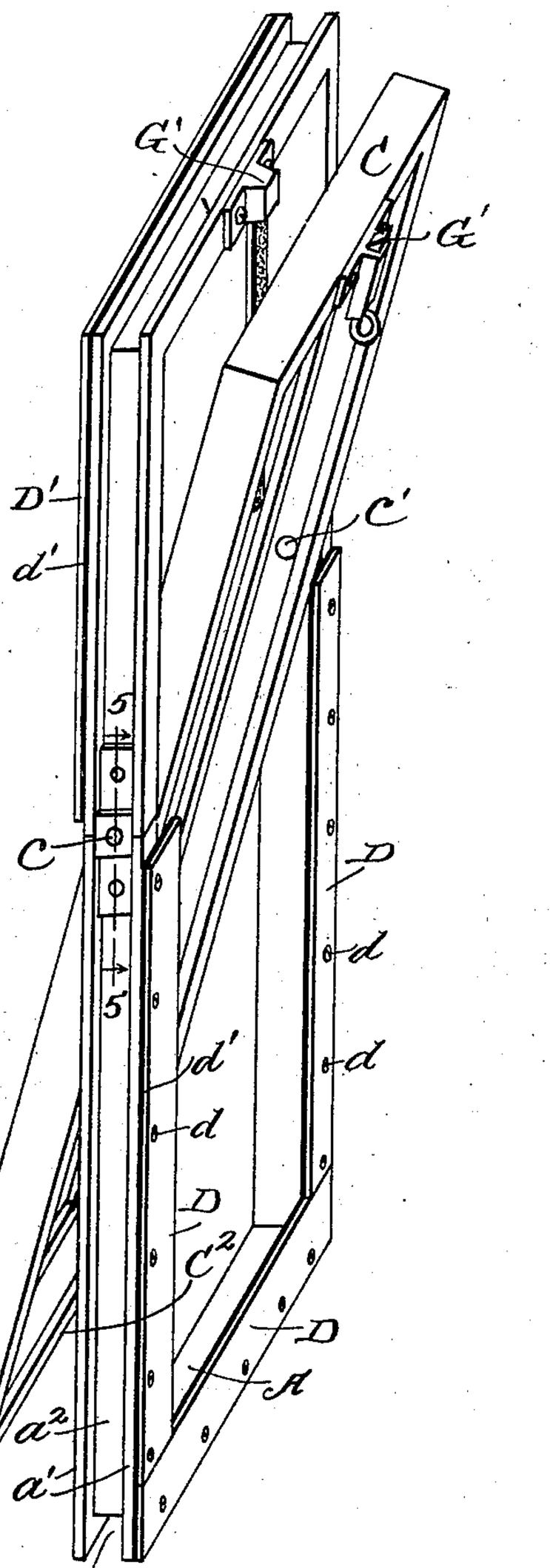


Fig. 2.



Witnesses:
R. J. Jacker
A. Gustafson

Inventor:
Hermann W. Otto.
By Chas. C. Tillman
Atty.

No. 671,654. Patented Apr. 9, 1901.

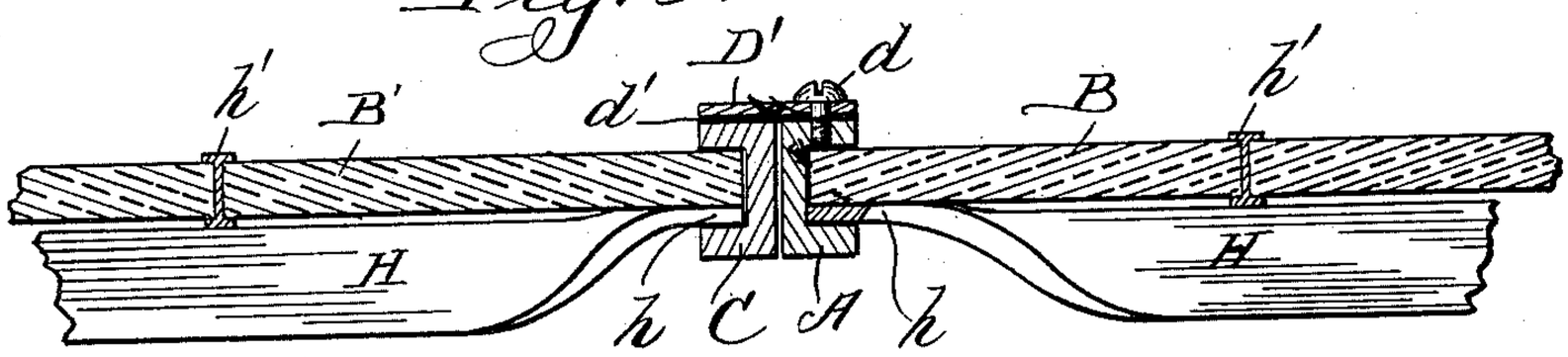
H. W. OTTO.

WINDOW VENTILATOR.

(Application filed Feb. 11, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.



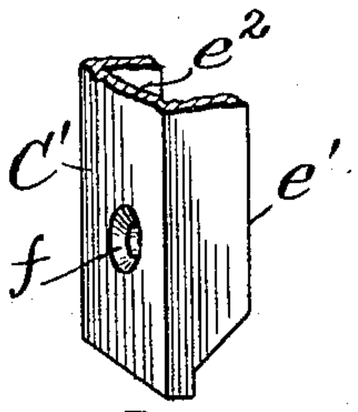
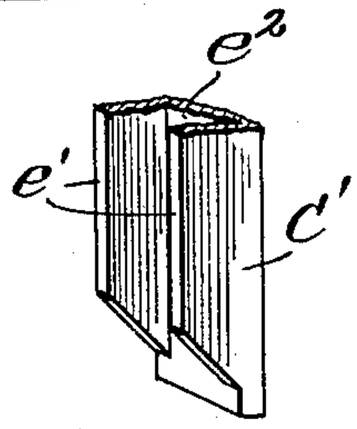
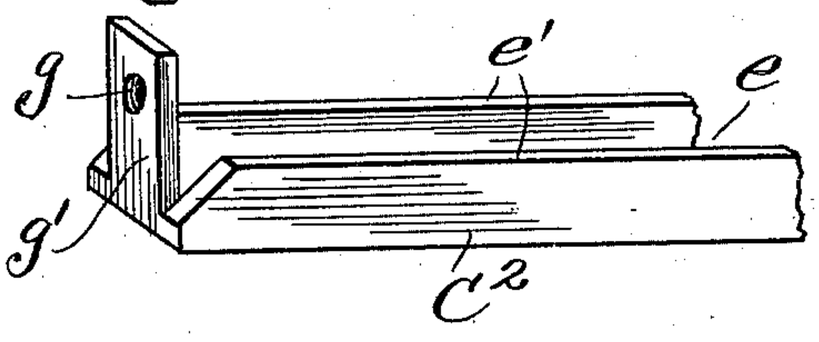


Fig. 4.





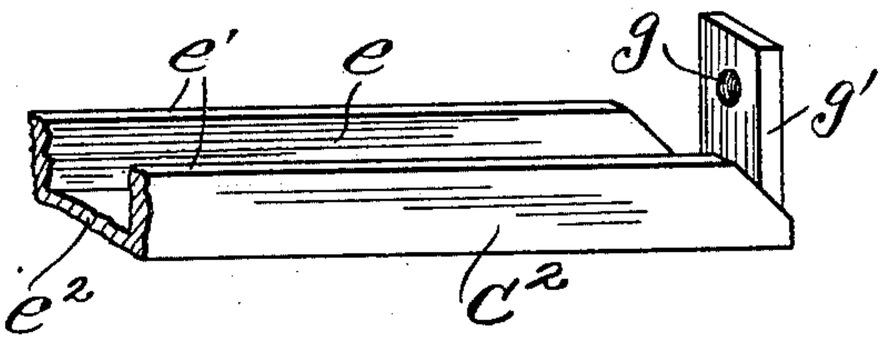


Fig. 5.

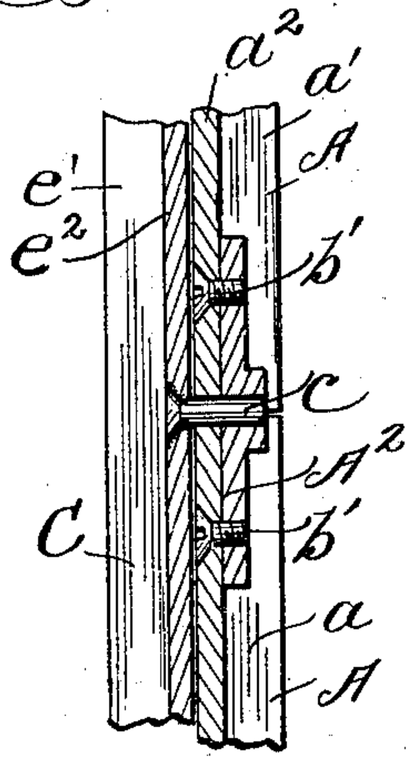


Fig. 6.

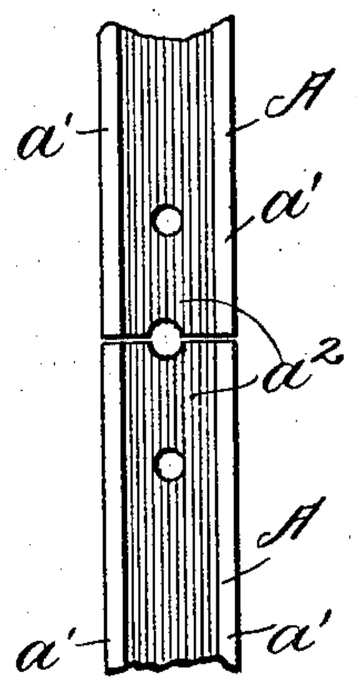
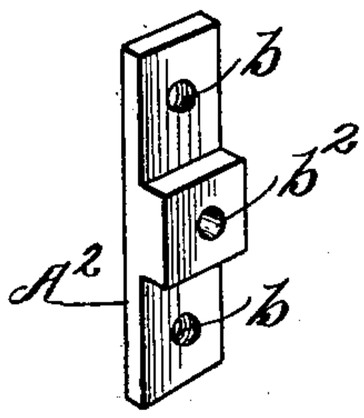


Fig. 7.



Witnesses:
R. J. Jaeker,
A. Gustafson

Inventor:
Hermann W. Otto.
By Chas. C. Tillman,
Atty.

UNITED STATES PATENT OFFICE.

HERMANN W. OTTO, OF CHICAGO, ILLINOIS.

WINDOW-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 671,654, dated April 9, 1901.

Application filed February 11, 1901. Serial No. 46,887. (No model.)

To all whom it may concern:

Be it known that I, HERMANN W. OTTO, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Window-Ventilators, of which the following is a specification.

This invention relates to improvements in window-ventilators, and especially to that class of ventilators employed in art-glass windows—such, for instance, as the windows of churches and other structures in which art glass or stained glass is employed; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are to provide a window-ventilator which shall be simple in construction, strong, and durable, and which may be so placed in the window as to be entirely surrounded by the stained or art glass or only partly surrounded thereby—that is to say, it may be placed in the central portion of the window or to one side or the top thereof.

Another object is to construct the ventilator so that it will automatically close and in such a manner that the glass may be readily inserted in the frame and held in position so as not to rattle or become loose.

Still another object is to so construct the parts of the ventilator that a close and noiseless joint between the frames of the ventilator will be afforded.

Other objects and advantages will be disclosed in the subjoined description.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of an art-glass window with my improved ventilator in position therein, showing it open for the purpose of ventilation. Fig. 2 is a perspective view of the frames of the ventilator detached from the window. Fig. 3 is an enlarged plan sectional view taken on line 3 3 of Fig. 1 when the pivoted frame is closed. Fig. 4 is a fragmental perspective view of a portion of the inner or pivoted frame. Fig. 5 is a vertical sectional view through a portion of the two frames of the ventilator, taken on line 5 5 of Fig. 2 of the drawings when the pivoted frame is closed and looking in the direction indicated by the arrows. Fig. 6 is an outer view of a like portion of the outer frame of the ventilator, and Fig. 7 is a perspective view of a piece employed for securing the ends of the outer frame together.

Similar letters refer to like parts throughout the different views of the drawings.

A represents the outer or stationary frame of the ventilator and is preferably formed of one piece bent to form a rectangular figure, as is shown in Figs. 1 and 2 of the drawings, but which may be formed into any suitable shape. This frame is formed on its outer surface with a channel a, the sides a' of which are at right angles to its bottom a^2, and is for the purpose of receiving and retaining the glass B of the window, which glass may be located entirely around the frame A or on one or more sides thereof. The ends of the frame A are secured together by means of a piece A^2, which is located in the channel a at the juncture of said ends and is provided with openings b for screws b', which are preferably countersunk on the inner surface of the frame and pass through the same and engage the openings b in the piece A^2, which is provided with a central opening b^2 for the reception of a pivot or pin c, which passes through one of the sides of the inner frame C and the outer frame, as is clearly shown in Figs. 2 and 5 of the drawings. The head of the pin c is preferably countersunk in the inner surface of the pivoted or inner frame C, so as not to interfere with the glass B', located in said frame.

Secured to the front surface of the frame A by means of screws d or otherwise is a plate or plates D, which extend inwardly from said frame and have interposed between it or them and the front surface of the frame A a piece of felt d' or other suitable soft material, as shown in Fig. 2 of the drawings. The plate D extends downwardly from just below the pivot-point of the inner frame C, and the back or rear surface of the frame A is provided with a plate or plates D', which extend upwardly from just above the pivot-point of the frame C, and said plate or plates project over the inner perimeter of the outer frame in a manner similar to the plate or plates D on the lower front portion of the outer frame. Interposed between the plate or plates D' is a piece of felt d' or other suit-

able soft material. The frame C is made of a suitable shape to fit closely within the outer frame A and is pivotally secured by means of the pivots or pins *c* and *c'* therein, which are located above the middle of the sides of the inner frame, so that its lower portion will be heavier than its upper part, thus causing it to automatically close. The frame C is formed with a channel *e* on its inner surface, the sides *e'* of which are at right angles to the bottom e^2 of said channel, so as to form a rectangular channel for the reception of the glass B', located within the inner frame. The frame C is preferably made of two pieces C' and C^2, the ends of the pieces C' being provided with countersunk openings *f* to receive screws passed through the openings *g* of the ends *g'* of the portion C^2 of the inner frame. The ends of the pieces C' and C^2 are mitered, as shown in Fig. 4 of the drawings, so as to fit closely together, and the ends *g'* are bent so as to fit between the sides *e'* of the channel in the portion C', where they may be secured my means of screws located in the openings *g* and *f* therefor, as above stated. The glass B' within the inner frame, as well as the glass B located in the channel of the outer frame, may be held in position by means of bars H, which extend from one side of the frame to the other and have their ends turned so as to be at right angles to their edges, as at *h*. (Shown in Fig. 3 of the drawings.) By thus turning the ends of the bars H it is apparent that the portions *h* may be placed between the surface of the glass and the sides of the channels of the inner and outer frames, thus firmly holding the glass in position. When thus located, the bars H will rest on the lead bars or cames *h'*, which are employed in stained or art glass work.

To place the bars H in position, one of the turned ends thereof is first placed between the glass and one of the sides of the channel of the frame. When thus placed, the bar is held diagonally across the glass, as shown by dotted lines in Fig. 1 of the drawings, when its other end may be placed between the glass and the side of the channel on the opposite side of the frame, after which the bar may be pressed so as to be at right angles to the frame sides. The upper portion of the frame A may be provided with a catch G to receive a spring-bolt G', of the ordinary or any preferred construction, which may be located on the upper portion of the inner frame.

In Fig. 1 of the drawings I have shown the outer frame entirely surrounded by the glass B of the window; but it is apparent that said frame may be located so as to be only partially surrounded thereby. In Fig. 4 of the drawings I have illustrated the inner frame as having the removable piece C^2 at its lower end; but it is apparent that said removable portion may be located at the top or either side of said frame and that by so constructing this frame the glass may be easily inserted in the open ends of the channels.

It is apparent that the outer frame of the ventilator may be located in a wooden sash or so that a part of said frame or all of it may be secured to said sash.

By using the piece A^2 at the juncture of the ends of the outer frame it is evident that when said frame is secured to a wooden sash the screws therefor may be removed, thus allowing the ends of the outer frame to be sprung apart, so as to permit the pin *c* and the inner frame to be removed.

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

1. In a window-ventilator, the combination with an outer frame having on its outer surface a channel to receive the glass of the window, of a plate secured to the front surface of the lower portion of the frame and another plate secured to the rear upper portion of the frame, said plates projecting over the inner perimeter of the frame, an inner frame pivotally secured in the outer frame and having on its inner surface a channel to receive the edges of the glass for said frame, and a bar having its ends located between the glass and sides of the channel, substantially as described.

2. In a window-ventilator, the combination with an outer frame having on its outer surface a rectangular channel to receive the glass of the window, of a plate secured to the front lower surface of the frame, a piece of felt or other suitable soft material located between said plate and frame, another plate secured to the upper rear part of the frame, a piece of felt or soft material located between said plate and frame, the said plates and pieces of felt projecting over the inner perimeter of the frame, an inner frame pivotally secured in the outer frame and having on its inner surface a channel to receive the edges of the glass for said frame, and a detachable portion, substantially as described.

3. In a window-ventilator, the combination with an outer frame having on its outer surface a channel to receive the glass of the window of a piece detachably uniting the ends of said frame, a plate secured to the lower front surface of the frame, a piece of felt or other suitable soft material located between said plate and frame, another plate secured to the upper rear part of the frame, a piece of felt or soft material located between said plate and frame, the said plates and pieces of felt projecting over the inner perimeter of the frame, an inner frame pivotally secured in the outer frame and having a detachable portion and provided on its inner surface with a channel to receive the edges of the glass for said frame, substantially as described.

HERMANN W. OTTO.

Witnesses:
G. W. LEDYARD,
A. J. SCHOLER.