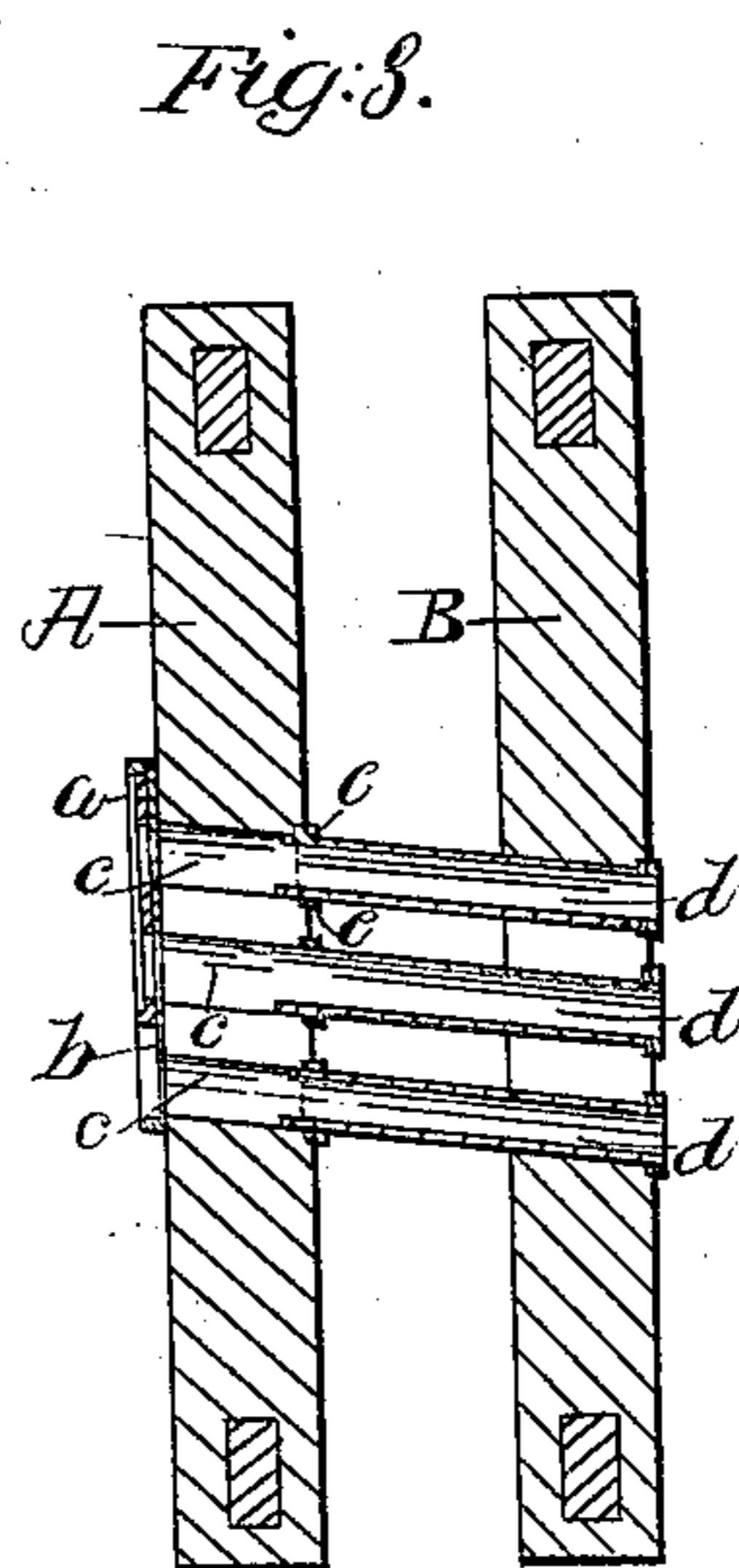
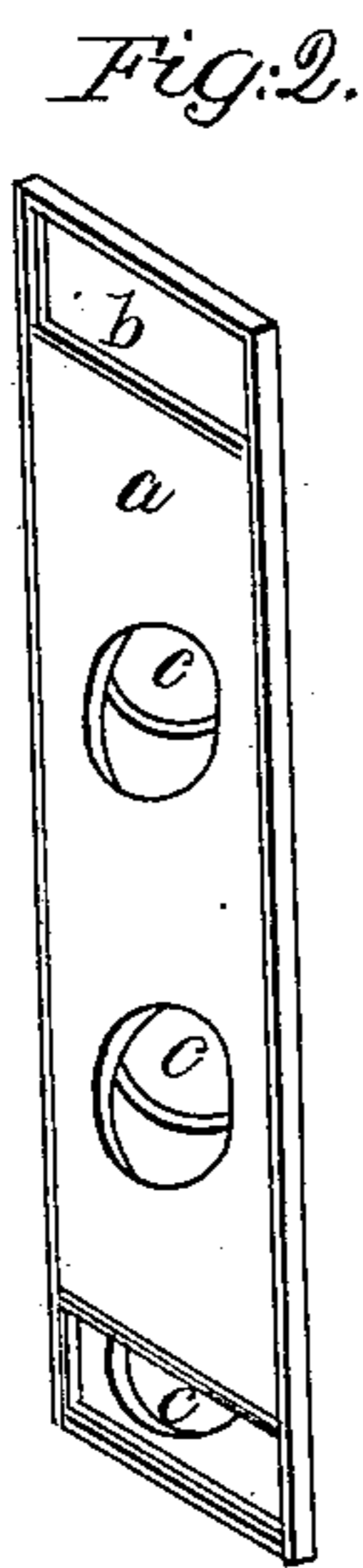
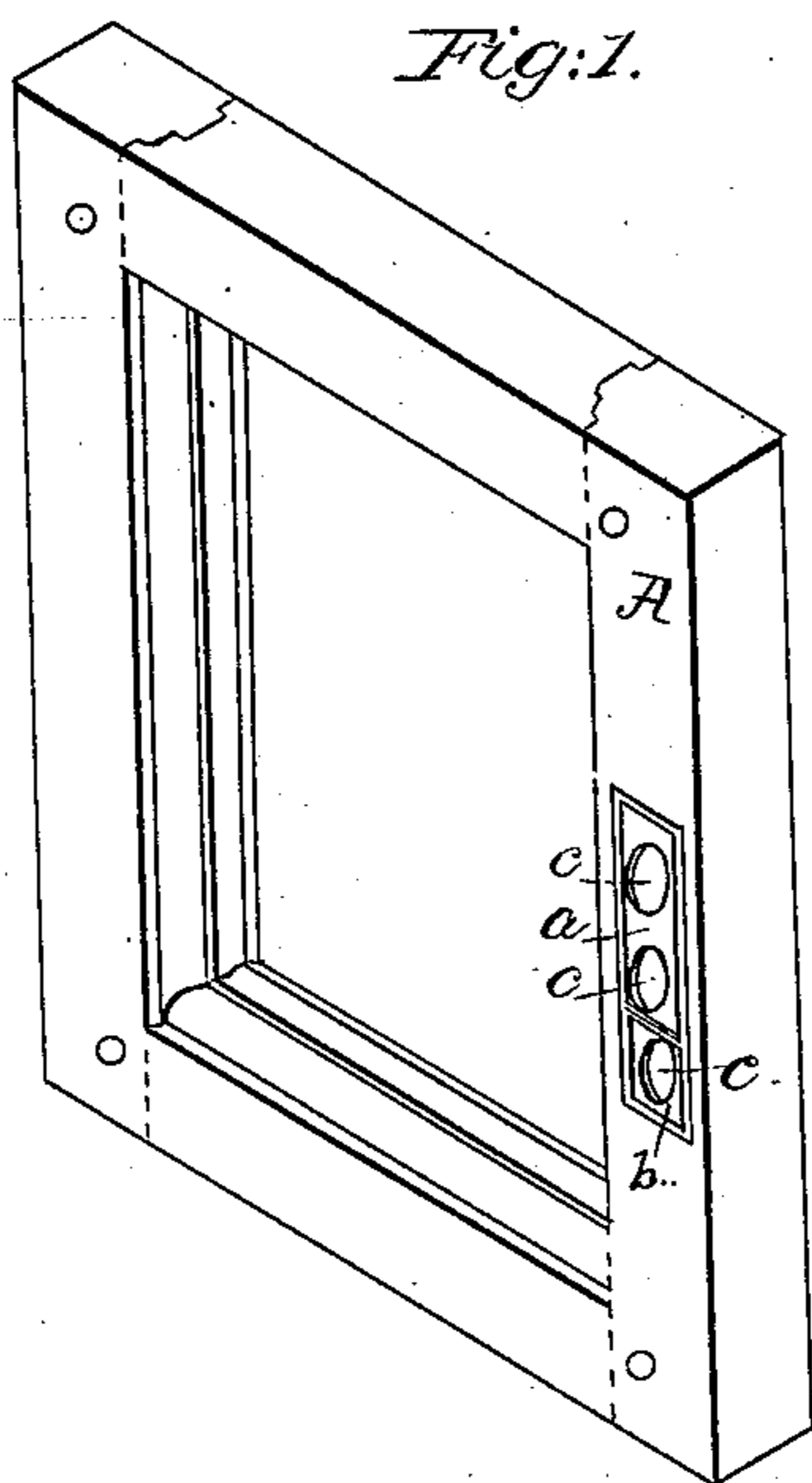


*S. Darling,*  
*House Ventilator,*  
*No 68,353, Patented Sept. 3, 1867.*



*Witnesses:*  
*Stephen C. Plurin.*  
*William Caldwell.*

*Inventor:*  
*Samuel Darling.*  
*J. W. Porter -*  
*Attorney.*

# United States Patent Office.

SAMUEL DARLING, OF BANGOR, MAINE.

*Letters Patent No. 68,353, dated September 3, 1867.*

## WINDOW-VENTILATOR.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, SAMUEL DARLING, of Bangor, in the county of Penobscot, and State of Maine, have invented a new and improved Mode of Ventilating Buildings, Railway Cars, Coaches, Ships, and all apartments where it is applicable; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view of my invention applied to a window-sash.

Figure 2 is a perspective view of the register detached from the sash, and

Figure 3 is a vertical section of an inner sash and ventilator combined with an outside or double window or sash.

Similar letters of reference indicate corresponding parts in the several figures.

My invention is designed to meet the constantly-growing demand for a simple and cheap means for ventilating apartments of any description where a window is used. Many attempts have been made to ventilate apartments not originally constructed with reference to ventilation, but most, if not all the plans hitherto devised, require some material change in the building or apartment, or some expensive appliance, and most of them are not so easily adjusted and controlled as to be acceptable to the general public.

The object of my invention is to afford a means within the reach of the poorest, and controllable by a child, and yet susceptible of being applied to any window-sash, or to double sashes where the rigor of the climate demands their use.

To this end my invention consists in making perforations, of any proper size or number, directly through the sash of the window, and then applying to the inner side of the sash a metallic plate, having similar holes corresponding in size and number, and upon this plate affixing another plate to slide thereon, this latter plate being somewhat shorter than the first, and having preferably one less in number of similar holes.

It further consists in a modification of this general plan to adapt the same to apartments where double sashes, so called, or one sash placed outside another, with a space between the two, are used, as in the more northern tier of the States.

Fig. 1 of the accompanying drawings represents a perspective view of the frame of an ordinary sash with my invention applied thereto.

Fig. 2 represents the two plates used in my improvement detached from a sash, and on a scale somewhat larger than in fig. 1.

Fig. 3 shows the construction and manner of applying my invention to double sashes, the figure showing a cross-section of the side of a sash directly through the centre of the openings of the ventilating device.

The same letters refer to similar parts in all the figures.

A represents a sash; *c* represents the openings bored or cut directly through any part of a sash which may be found most desirable or convenient for the purpose; *b* is a thin plate of metal, having any desired number of holes corresponding to the opening *c*; *a* is another metallic plate, preferably made shorter than the plate *b*, and having also, by preference, one less in number of similar holes, and at the same distance apart. This shorter plate is fitted to slide in any well-known manner in the plate *b*. I prefer to have it slide in grooves in the edges of plate *b*, as shown, and when moved to the upper end of *b* the openings in this plate are all uncovered, and when moved to the lower end they are all closed. These plates I attach to the sash by screws passing through the under plate *b* into the wood. I prefer to make the openings *c* in the sash so that they shall incline downward and outward, as shown in fig. 3. When it is desirable to give to the exterior of the sash a finished appearance metallic thimbles may be inserted in the perforations in the sash, as shown at *e e e* in fig. 3. When double windows are used, as I have shown at B, fig. 3, I form holes in the outside sash, corresponding in size, form, and number with those in the inside sash, and then insert short tubes *d d d*, which extend into the inner sash, as shown. And thus, when the ventilator is opened, by sliding up plate *a* the fresh air from out of doors flows directly into the room without coming in contact with that contained between the windows, so that the room may be ventilated in winter without any necessity for moving the inside sash, or removing or opening any part of the outer one, this outer one being generally a fixture in the winter, and having no provision for being raised or opened in any way. The downward inclination of the openings or tubes prevents the freezing, or clogging, or filling of the same, by permitting rains, sleet, dust, &c., to run off.

Any desired number of these ventilators may be inserted in a sash, so as to multiply the means of supply of fresh air to any desired extent. They may also be inserted in both the upper and lower sashes of windows at any degree of elevation from the floor that may be found convenient, and also in any part of a sash; and a great variety of the valvular device may be employed to let on or shut off the air in its passage through the rail of the sash; the device that I have shown being selected as among the least expensive and most readily applied. Net-work may be placed over the apertures in the sash to prevent the ingress of insects in warm weather.

Besides the simplicity, cheapness, and facility of being applied to a sash, other advantages may be stated as appertaining to my invention. When used upon the windows of buildings the sashes may be permanently fastened as a security against burglars, and yet ample ventilation be secured. Nor is this mode of ventilation affected by the cold or heat, by wet or dry weather, so as to become inoperative from any of these causes. When, by reason of freezing in the colder seasons, or by swelling caused by rains and damp atmospheres in other seasons, windows of all kinds, whether in buildings, cars, vessels, or elsewhere, are unreliable in their free working in their casements, so as not to be raised at will to supply air, the application to the same of my invention meets the difficulty and affords the remedy. In travelling-cars and coaches also each traveller may draw his own supply of air.

I am aware that perforated plates, and also revolving ventilators, and various other contrivances have been inserted, but at considerable inconvenience, labor, and expense, in the walls of apartments for the purposes of ventilation. Also, I am aware that hinged or swinging planes or pieces of glass have been used; also that lapping strips of glass arranged with air-spaces between them have been used instead of an ordinary pane of glass, and for a similar purpose. I am also aware that it has been proposed in making new sashes to construct them with extensions at top and bottom for the reception of ventilators extending all across the width of the window. But neither of these nor any other means for ventilation, as far as I am aware, has ever been applied directly to, inserted in, or combined with the sash of an ordinary window.

My device is readily, cheaply, and easily applied to any window-sash, easily controlled, and the amount of air introduced by it susceptible of being graduated at will.

I claim combining with an ordinary window-sash a ventilating device inserted in the sash itself, substantially as described.

I claim, in combination with a ventilating device, substantially such as described, openings or perforations in the sash inclining downward and outward.

I claim, in combination with double sashes, one or more ventilating-tubes inserted therein, and provided with a valve, substantially as described.

SAMUEL DARLING.

Witnesses:

JOHN E. HALL,  
C. P. BROWN.