

L. ROBINSON.
Window-Ventilators.

No. 144,413.

Patented Nov. 11, 1873.

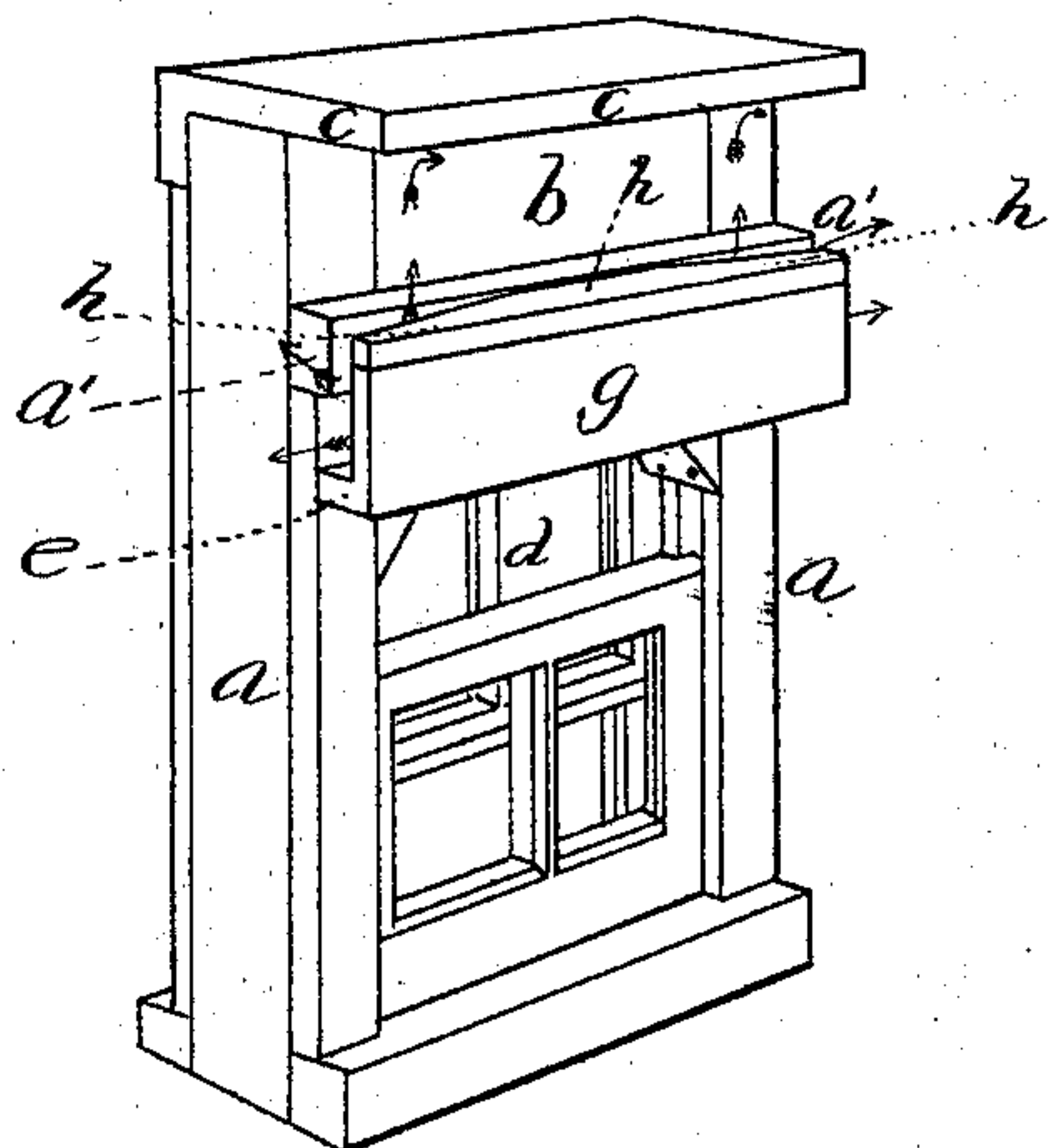


Fig. 1.

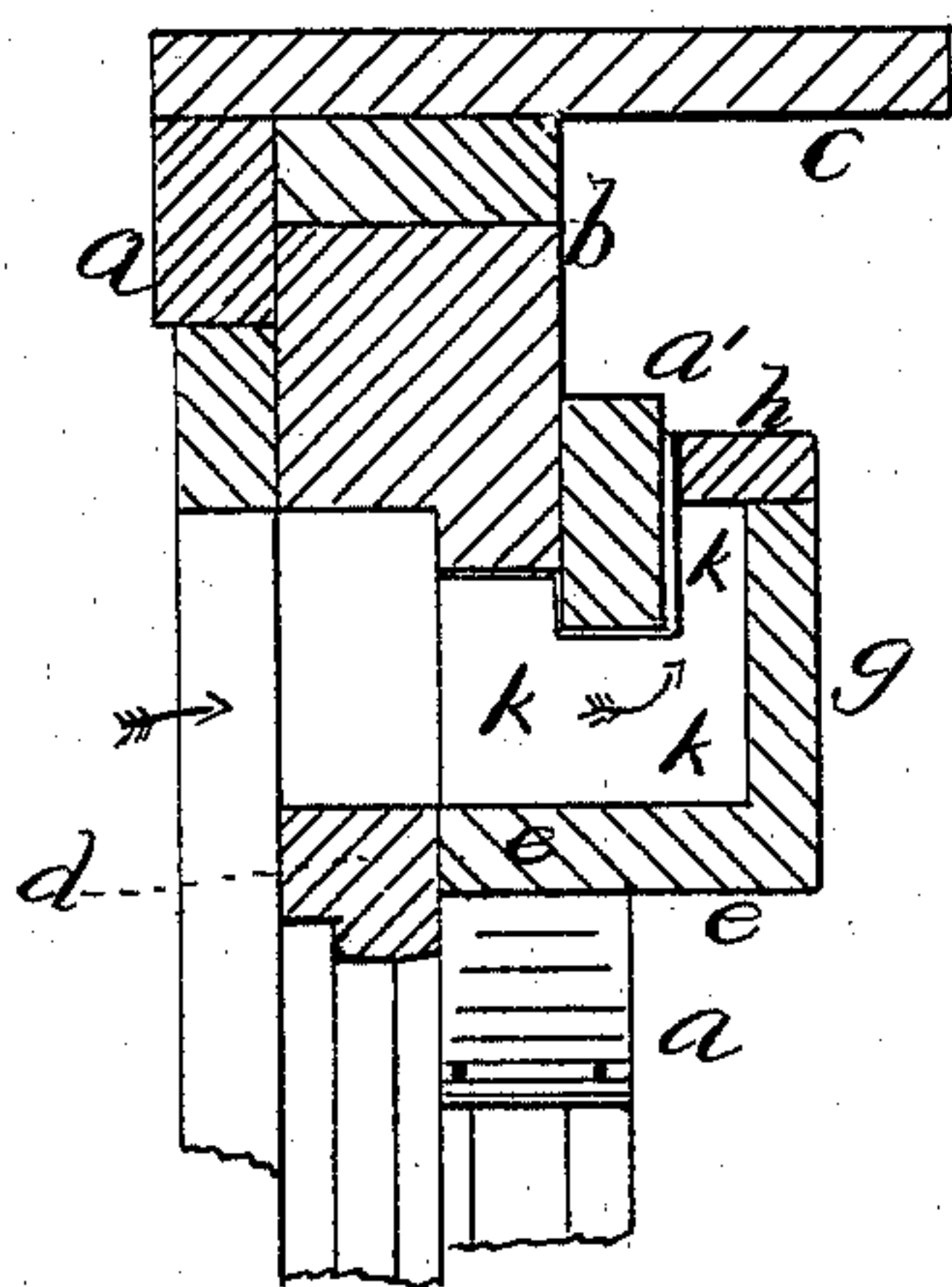


Fig. 2.

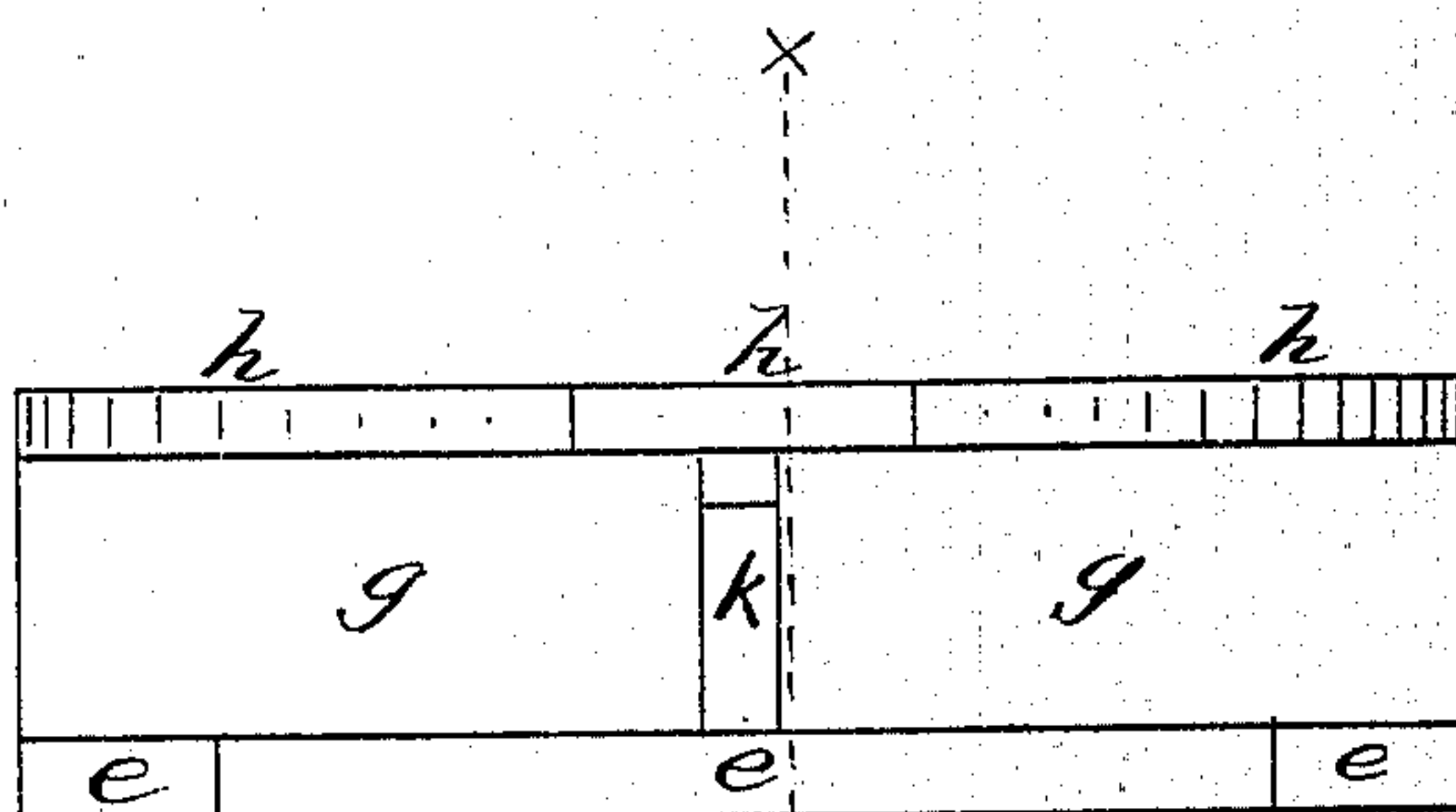


Fig. 3.

Witnesses

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LUTHER ROBINSON, OF NEWTON, MASSACHUSETTS.

IMPROVEMENT IN WINDOW-VENTILATORS.

Specification forming part of Letters Patent No. 144,413, dated November 11, 1873; application filed September 9, 1873.

To all whom it may concern:

Be it known that I, LUTHER ROBINSON, of Newton, in the county of Middlesex and State of Massachusetts, have invented a new and valuable Improvement in Window-Ventilators, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention is intended for use in windows of dwelling-houses, offices, or in any other cases where a more perfect, and consequently more expensive, system of ventilation is not desired. The principal objections to the window-ventilators now in use are, first, that they are usually placed at the lower portion of the window, and, consequently, obstruct the view and cause a too direct draft of air upon the persons who may be in proximity to it; and, second, that they all, as far as my observation extends, have a tendency to produce small currents of air in the room to be ventilated, or, in other words, to localize the air which enters through the ventilator. My ventilator is placed at the top of the window, out of the way, and, by means of its peculiar construction, tends to diffuse the air as it enters over the top and out at the sides of the ventilator, so that no unpleasant current of air is felt and concentration is impossible. The nature of the invention in detail is more fully described below.

In the drawing, Figure 1 represents a view, in perspective, of a window-frame and sash with my ventilator attached to the inner side of the frame, and the upper part of the sash drawn down far enough to admit the air into the ventilator. A projection above shows the position of the ceiling. Fig. 2 is a vertical section of the same, the ventilator being represented as cut through the line *x x*, and the sash being in the position shown in Fig. 1. The lower portion is represented as broken off. Fig. 3 is a front or outside elevation of the ventilator detached from the window-frame.

Similar letters of reference indicate corresponding parts.

a a' represent the window-frame. *b* represents that portion of the wall of the room which is between the top of the window and the ceiling. *c* shows the position of the ceil-

ing. *d* is the upper portion of the window or sash. *e* is the floor of my ventilator, and consists of a horizontal flat piece of wood, or other suitable material, extending entirely across the window and frame, and attached to the window-frame, being supported in any suitable manner. This floor *e* extends back as near as practicable to the window-sash, to prevent the air from falling directly in front of the window and annoying persons in its immediate vicinity. *g* is an upright piece of the same length as *e*. This spreading-plate *g* prevents the air from entering in an unbroken mass, and deflects and diffuses it vertically and laterally, thus protecting the occupants of a room from dangerous or uncomfortable currents. The position of this plate *g* at an appreciable distance in front of the window-casing is important. If it were on a line with the front of the casing, or within it, there would be much less vertical and no lateral diffusion of the air, and no substantial benefit would be secured by the use of the ventilator. *h* is the top or roof of the ventilator, and is a horizontal flat piece of the same length as *e* and *g*. Unlike the plate *g*, however, it is not of uniform width. At its center, and perhaps for a short distance each side of the center, it extends from *g* nearly or quite to the frame *a'*, occupying all or nearly all the space. From the center, or near the center, it gradually decreases in width until at its ends it is quite narrow. The office of the roof *h* is, by preventing free vertical movement, to insure lateral diffusion of the air passing through the ventilator. *k* is a partition, which separates the inside of the ventilator into two chambers. This partition acts an important part in side winds, where the wind strikes the house obliquely. Were it not for this partition the air, under such circumstances, would be apt to pass through the ventilator and into the room chiefly at one side only. The partition *k* divides the entering air into two portions, and conducts it into the room diffused as perfectly as in any other wind.

In practical operation, my ventilator works as follows: The upper sash *d* is lowered as much as desirable, (the extreme being shown in Fig. 2,) and the air passes through the ventilator into the room. Some of the air passes directly up over about the center of the ventilator,

more and more passes up as the roof *h* grows narrower and the space wider toward its ends, and a large quantity passes out laterally at the openings in the ends. The air passing into the room over the top of the ventilator strikes the ceiling, perhaps, and then diffuses and descends. The air passing out of the ventilator laterally spreads each side, and is diffused over the room without exposing an audience, if there be one, to objectionable currents.

The principal advantages of my ventilator over all other window-ventilators are, first, its position at the top of the window, comparatively out of sight and not obstructing the view; second, it allows the air to enter at the entire width of the window, thus favoring efficiency and avoiding concentration; third, by means of its peculiar construction, it diffuses the air all over the room, protecting the occupants against violent currents.

It will be seen that the window itself forms a perfect regulator or valve. The top *h* may be made of some perforated material or network, so as to form a partial obstruction to the rising air.

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

1. The spreading-plate *g*, in the position described, in combination with the floor *e*.

2. A window-ventilator combining, with the floor *e* and plate *g*, a top or roof which acts as a partial obstruction to the ascent of the air, substantially as specified.

3. The arrangement, with the ventilator *egh*, of the partition *k*, substantially as and for the purpose hereinbefore set forth.

Witnesses: LUTHER ROBINSON.

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