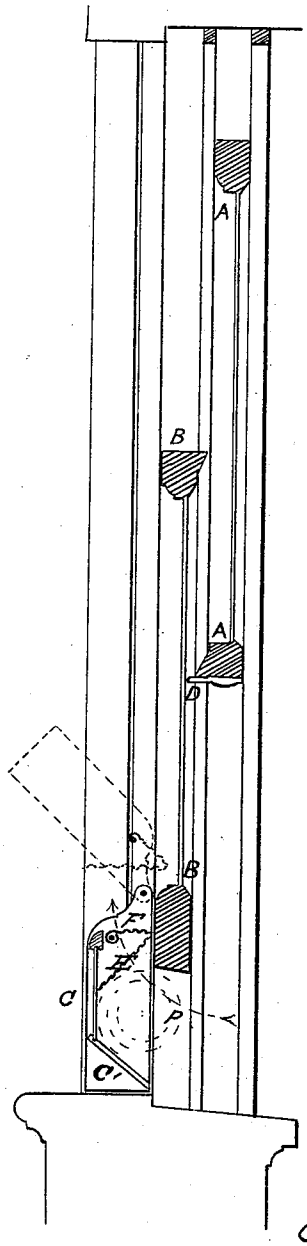
J. W. BROWNE.

WINDOW-VENTILATORS.

No. 193,638. Patented July 31, 1877.



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UNITED STATES PATENT OFFICE.

JAMES W. BROWNE, OF BROOKLYN, NEW YORK, ASSIGNOR TO FREDERICK W. GRIFFITH AND GEO. P. BYRNE, OF NEW YORK CITY.

IMPROVEMENT IN WINDOW-VENTILATORS.

Specification forming part of Letters Patent No. **193,638**, dated July 31, 1877; application filed August 1, 1874.

To all whom it may concern:

Be it known that I, JAMES W. BROWNE, of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Window-Ventilators, whereof the following is a specification:

My said invention is intended to facilitate ventilation, while excluding dust and insects.

It consists in a novel construction, combination, and arrangement of parts, as will be fully hereinafter set forth, and is an improvement, in part, on the device patented to me in Letters Patent No. 150,463, dated May 5, 1874, to which reference may be had.

The drawing is a vertical transverse section of a sash, window, and frame, with my device for ventilation thereto applied.

A B are the vertically-sliding sashes, constructed the same as those in common use. C C′ is a ventilator, constructed and applied substantially as shown and described in the before-mentioned Letters Patent.

To increase the efficacy of this ventilator I employ a strip, D, attached to the lower rail of the upper sash, so that when the sashes are not entirely closed the space between the pane of glass of the lower sash and the edge of the lower rail of the upper sash shall be entirely closed by said strip, so as to obviate the secondary current of air which would be created were this space open.

It is obvious that the strip, which may be of any suitable material, may be placed on the upper rail of the lower sash. By means of this strip the efficacy of the ventilator is greatly augmented, especially where there is but slight motion in the outside air.

E and F are gauze-screens for preventing the passage of dust and insects through the ventilator. The screen E is arranged at about a right angle to the deflector C′. By thus arranging it in relation to the deflector a horizontal current of air coming in contact with the deflector is thrown from it onto the screen at an angle equal to the angle the current of air made with the deflector. This is found, in practice, to more effectually arrest the passage of the dust, particles, &c., through the screen, while it does not perceptibly retard the circulation of air through the ventilator; and this may be explained by the fact that the particles of dust, &c., strike the inclined deflector C′ of the ventilator, and are thence deflected onto the screen E, whose inclination presents less area of opening to the particles than if they met the screen at right angles thereto.

The screen F is arranged horizontally in the ventilator, or at right angles to the plane of the sash, which arrangement has several advantages over the vertical screen shown and described in the before-mentioned patent, inasmuch as the area of screen presented to the dust carried by the inflowing air remains fixed, whatever be the height of the sash, whereas, where the screen is arranged vertically, and covered by the sash, the area of the screen presented to the inflowing air is the same as that of the opening of the sash; and although the quantity of dust is proportionately diminished, and the portion of the screen presented to it is consequently acting as well as when the entire screen is presented, yet, if the quantity of dust be diminished without diminishing the area of the screen, it is evident that it (the screen) is operating more effectively, because the quantity of dust which would, in the vertical screen, be confined to a small area, is, in the horizontal screen, spread over a large area, and therefore more effectually arrested. The horizontal screen also prevents articles from falling into the ventilator, and may be more readily cleaned of dust, &c.

By preference, the air-deflector is made of glass or other transparent medium.

For convenience in cleaning it, the screen is removably attached thereto, so as to be swung away from the glass, as indicated by dotted lines, or the screen or screens may be arranged for sliding, as in grooves, instead of swinging.

The screens E and F may be made separate from, or in one piece with, each other; and in the latter case both screens swing or move off together, as indicated in dotted lines, as aforesaid. Either or both of the screens may be used in the ventilator.

The devices shown and described in Letters Patent No. 141,254, of July 29, 1873, granted to J. C. Bates, are hereby disclaimed.

I claim as my invention—

1. The combination of the sashes A B, strip D, and ventilator C C′, constructed and operating substantially in the manner described and specified.

2. The combination, with the ventilator-case and sliding sash window, of the inclined deflector C′ and gauze-screen E, situated at right angles to the deflector C′, constructed and operating substantially in the manner described and specified.

3. In a ventilator, constructed and operating substantially as described, the screen F, arranged horizontally in such ventilator, or at right angles to the plane of the sash, constructed and operating substantially in the manner described and specified.

4. In combination with the ventilator, the screens E and F, made in one piece, or united and pivoted at each extremity to the ends of the ventilator, constructed and operating substantially in the manner described and specified.

JAMES W. BROWNE.

Witnesses:

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