2 Sheets—Sheet 1.

M. W. & J. FERGUSON.

VENTILATING BULK-WINDOWS.

No. 192,245. Patented June 19, 1877.

Fig. 1.

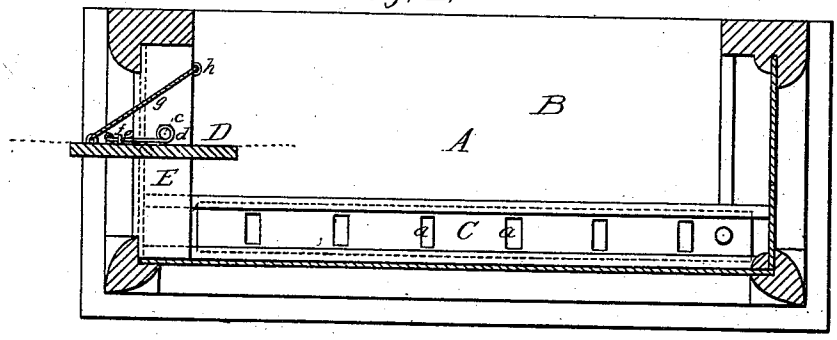
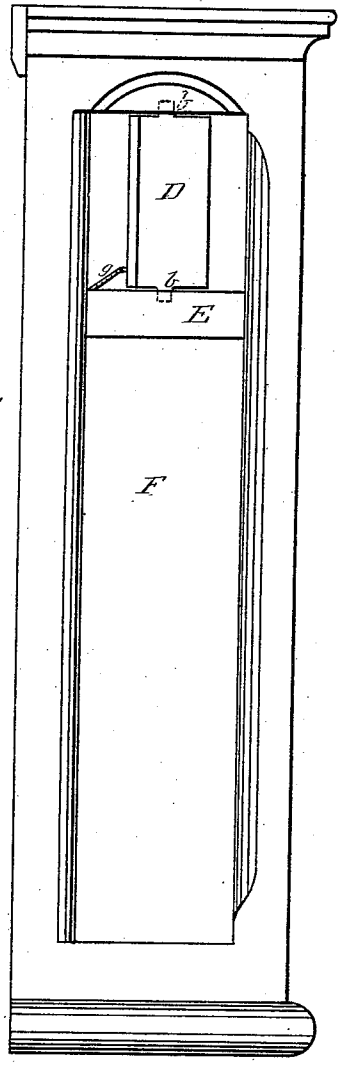


Fig. 2.



WITNESSES

Mary P. Utley.
W. C. Mosi

INVENTORS

M. W. Ferguson,
James Ferguson.
by E. W. Anderson,
ATTORNEY

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

M. W. & J. FERGUSON.

VENTILATING BULK-WINDOWS.

No. 192,245. Patented June 19, 1877.

Fig. 3.

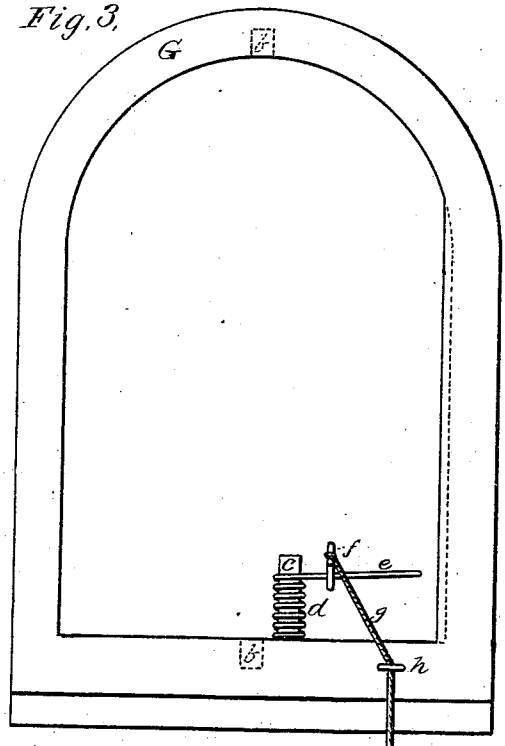
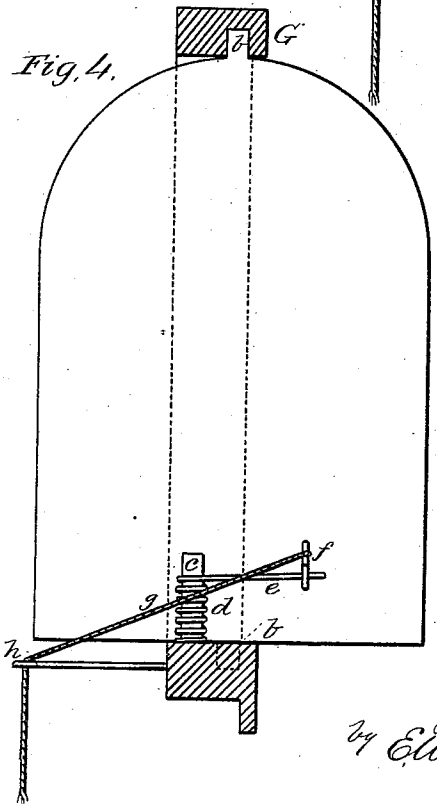


Fig. 4.



WITNESSES

Mary F. Utley.
Walter C. Masi

INVENTORS

M. W. Ferguson,
James Ferguson,
by E. W. Anderson,
ATTORNEY

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MATTHEW W. FERGUSON AND JAMES FERGUSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN VENTILATING BULK-WINDOWS.

Specification forming part of Letters Patent No. **192,245**, dated June 19, 1877; application filed January 20, 1877.

To all whom it may concern:

Be it known that we, MATTHEW W. FERGUSON and JAMES FERGUSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Ventilating Bulk-Windows; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a horizontal section of this invention. Fig. 2 is a side view of the same, showing the ventilator in position. Fig. 3 is a front view of the ventilator. Fig. 4 is a transverse vertical section of the same.

This invention has relation to means for ventilating bulk-windows and other places; and it consists, mainly, in the construction and novel arrangement of the ventilator-valve, its frame, spring, and stop, and, in connection therewith, the registering draft-inlet and slide in the floor of the window, as hereinafter shown and described.

In the accompanying drawings, the letter A designates a projecting or bulk window, such as is usually built in the fronts of stores for the exhibition of goods.

These windows are seldom properly ventilated, and in cold weather the glass is liable to become so obscure by the condensation of vapor therein as to obstruct the view.

B designates the floor of the window, having along its front portion a series of air-inlets, and seated in a slideway above the same a register-slide, C, having the openings *a*, designed to coincide with the said inlets when in proper position. At the upper part of the window is located the ventilator-valve D. This consists of a plate, having central journals *b* at its upper and lower ends, upon which it turns.

The journals are seated in bearings let into the window-frame, the lower bearing being usually a transverse bar, E, above the glass F of the side of the window, as indicated in the drawings; or the ventilator may have an entire frame fitted to it, as indicated at G, said frame being usually cast in two pieces, and adapted to be put in any position needed. In such a cast frame the lower or transverse bar would correspond to the bar E, above referred to in connection with the window-frame. In this bar is seated a vertical stud, *c*, located obliquely in rear and at one side of the lower pivot *b* of the valve. Around this stud is arranged a spiral spring, *d*, one end of which is secured, while the other end is extended in the form of a free arm, *e*, and, passing through a loop-bearing, *f*, on the valve, bears against the side of the latter, to press it open, as indicated in Fig. 4 of the drawings.

In the open position, the valve is stopped from swinging beyond the transverse line indicated by dotted lines in Fig. 1 by means of the stud *c*, with which, in this position, it becomes engaged.

A cord, *g*, attached to a loop, is designed to pass through a bearing, *h*, and thence to hang down within reach.

In order to close the ventilator, the cord is pulled sufficiently to counteract the power of the spring *d* and pull the valve around in line with its frame and against a bearing, for which the stud *c*, in its oblique position, may be arranged to serve.

The valve may be closed partially, if desired, the cord *g* being tied to some convenient fastening when the valve is adjusted in the required position.

By the use of these devices the condensation of vapor upon the window-glass and other effects of a want of ventilation can be entirely prevented.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the centrally-pivoted valve D and its loop *f*, of the ventilator-frame, its stud *c*, arranged obliquely with reference to the valve-journal, and the spiral spring *d*, seated on said stud, and bearing, by

its extended arms, on said valve, substantially as specified.

2. A bulk-window having a spring ventilator-valve, D, at its upper end, and a pendent cord, *g*, attached thereto, and in its floor a series of air-inlets and a register-slide, C, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

MATTHEW W. FERGUSON.
JAMES FERGUSON.

Witnesses:
GEO. C. SHELMERDINE,
ALLEN H. GANGEWER.