(No Model.)

L. MERRIMAN.

HOUSE VENTILATION.

No. 323,587. Patented Aug. 4, 1885.

Fig. 1.

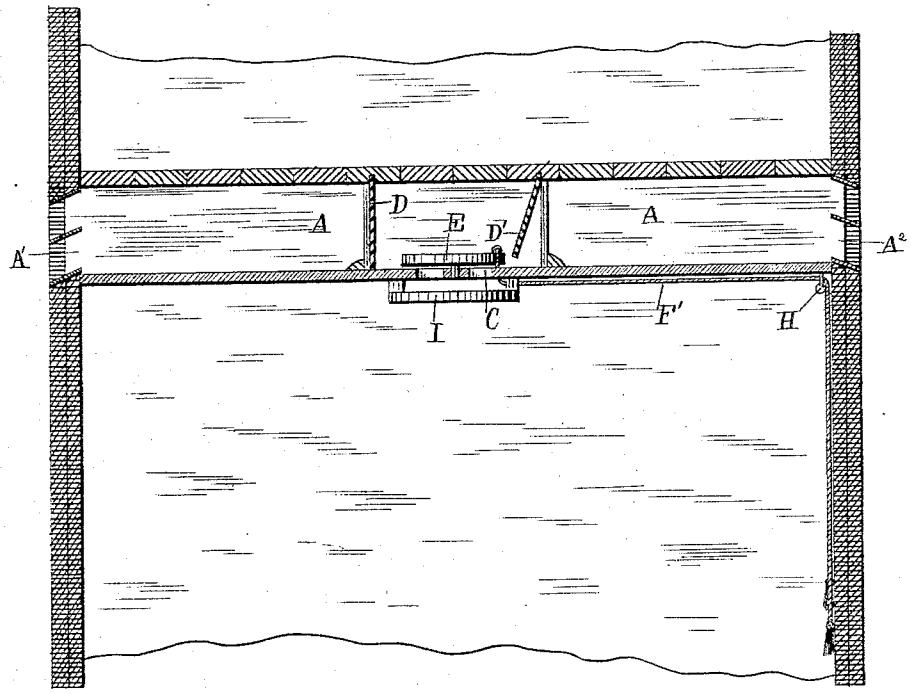


Fig. 2.

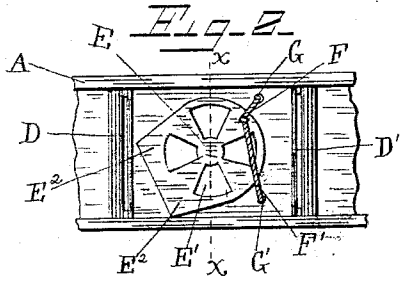


Fig. 4.

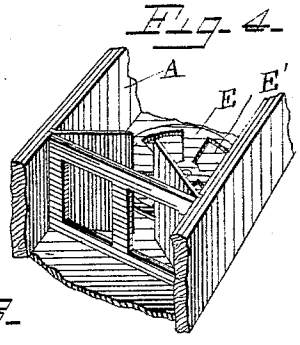
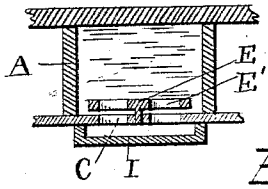


Fig. 3.



Witnesses.
R. W. Bishop.
R. B. Griffin

Inventor
Lewis Merriman
By R. S. & A. P. Lacey
Attys.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

LEWIS MERRIMAN, OF BELOIT, WISCONSIN, ASSIGNOR OF ONE-HALF TO WM. S. HINMAN, OF SAME PLACE.

HOUSE-VENTILATION.

SPECIFICATION forming part of Letters Patent No. 323,587, dated August 4, 1885.

Application filed November 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEWIS MERRIMAN, a citizen of the United States, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in House-Ventilations; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to the ventilation of houses, private or public; and it consists in certain construction, combination, and arrangement of parts, as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 represents a detached section of a part of a house provided with my improvement. Fig. 2 is a plan view of the portion of the flue or viaduct and the discharge devices. Fig. 3 is a transverse section on line *x x*, Fig. 2. Fig. 4 shows a modification.

In carrying out my invention a flue or viaduct, A, is arranged above the room B which it is desired to ventilate. This viaduct extends entirely across the building, opening at A′ on one side thereof and at A^2 on the other side, as shown in Fig. 1. It is manifest that the number of viaducts may be two, three, or more, as desired, so they intersect each other at the point where the discharge-opening C opens from the viaduct A into the room B. The object of opening the viaduct on opposite sides of the house is to provide for the reception of the fresh air, whether the wind is blowing in one or the other direction.

A check-valve, D, is arranged in the flue A, between the end A′ and the discharge C. This valve is so constructed that it will offer no obstruction to the passage of air through end A′ to the discharge C, but will close against the passage of air on the reverse direction. A similar valve, D′, is arranged in the flue between end A^2 and the discharge C, and is constructed to operate with reference to its opening A^2 in a like manner to the operation of the valve D, before described. These valves D D′ may be formed of plates pivoted or hinged at their upper edges and free to swing inwardly toward the opening C, as shown in Fig. 1; or they might be formed, as shown in Fig. 4, each consisting of two plates hinged at their outer edges and movable at their inner edges toward the discharge-openings, and various other modifications or changes could be made in the form of the check-valves without departing from the spirit of my invention.

In operation, it will be seen, one or the other end of the viaduct receives the surcharge of air, which opens the adjacent check-valve, closes the reverse valve, and seeks passage down through the discharge-opening C. This form of ventilation is desirable in warm weather without fires, as well as in cold weather when stoves or any other mode of heating is employed. The superheated air will accumulate in the top of the room, and is rapidly carried off by the expansive plastered ceiling. By my invention the cold fresh air is spread and commingled with the heated stratum, and the extra heat is appropriately utilized.

While the construction before described gives good results, I prefer to use in connection therewith devices whereby to regulate the ingress of air into the room and devices to deflect or spread same after it has entered the room.

To regulate the admission of fresh air dampers—such as butterfly-valves—may be arranged one in each wing of the flue, and properly set by hand, the operator standing on a chair, step-ladder, or other support. I prefer, however, to employ the construction I will now describe.

I make the discharge-opening C of a series of holes disposed in a circular line. Over this opening I journal a plate, E, provided at proper intervals with holes E′, separated by an intervening imperforate portion. By rotating this plate the holes E′ may be perfectly registered with the holes forming the discharge, or the latter holes may be stopped by the imperforate part of the plate E, or the said plate E may be adjusted to open the discharge-holes to any desired degree.

The plate E is preferably formed with eccentric extension E^2, which engages on one or the other side of the flue or viaduct when the discharge-holes are completely opened or closed, as will be understood from Fig. 2.

To operate the plate E, I attach to it near its periphery two cords, F F′, which are thence carried one through each of openings G G′, formed through the ceiling, and carried over pulleys H, and suspended along the side wall in convenient reach from the floor. By pulling one of these cords the discharge-holes will be opened and the others will be closed.

The deflecting-plate I is suspended slightly below the ceiling and directly under the discharge-opening. It is made larger than said opening, so that its edge will extend beyond the walls thereof. The effect of this plate is to deflect the air forced down against it and to distribute same equally to all parts of the room, by which disposition of the fresh air all injurious draft and currents of air are prevented.

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

In ventilation, the combination of a flue or viaduct extended above the room and having its ends opening in two or more directions, and having a discharge-opening leading into the room intermediate the ends of said viaduct, means whereby to regulate the operating area of said discharge-opening, and check valves or gates arranged on opposite sides of the discharge-opening and between said opening and the receiving ends of the viaduct.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS MERRIMAN.

Witnesses:
N. M. KING,
E. P. KING.