(No Model.) 2 Sheets—Sheet 1.

R. A. REW.

VENTILATING MECHANISM.

No. 399,437. Patented Mar. 12, 1889.

Fig. 1.

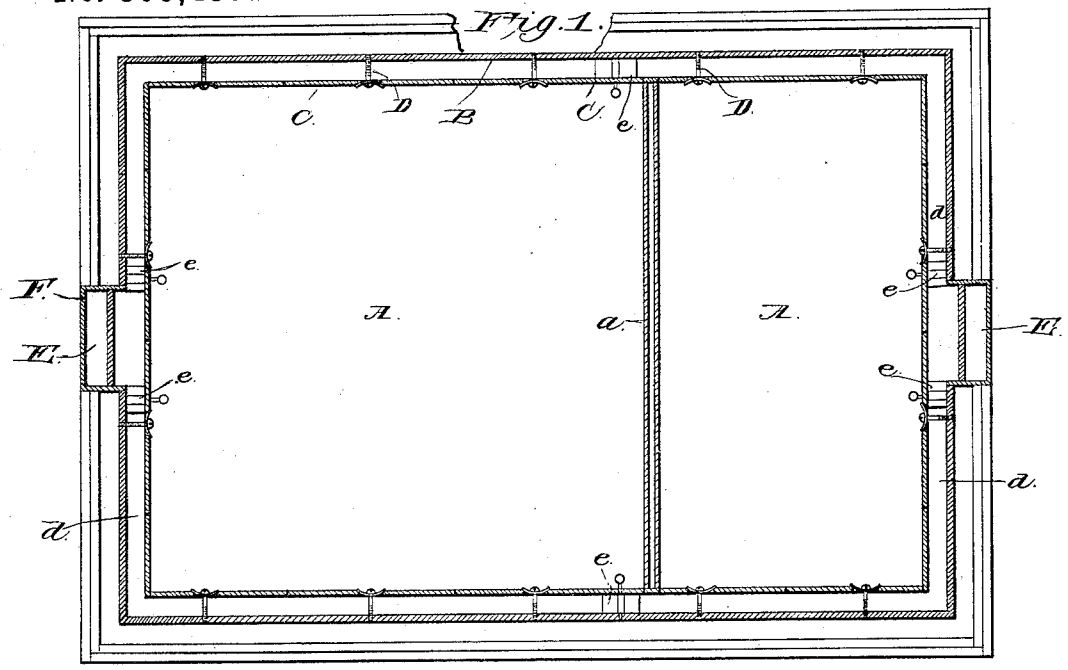


Fig. 2

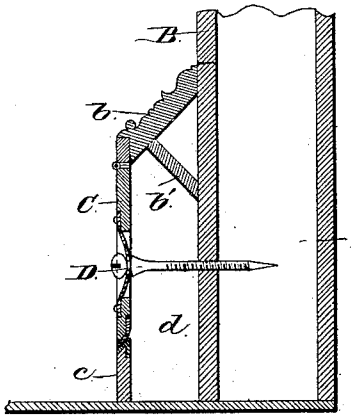
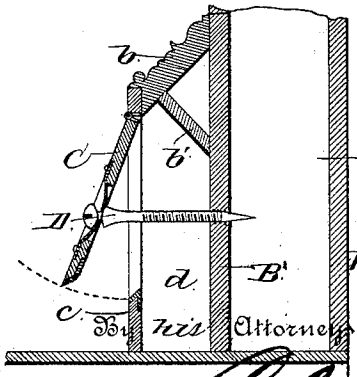


Fig. 3



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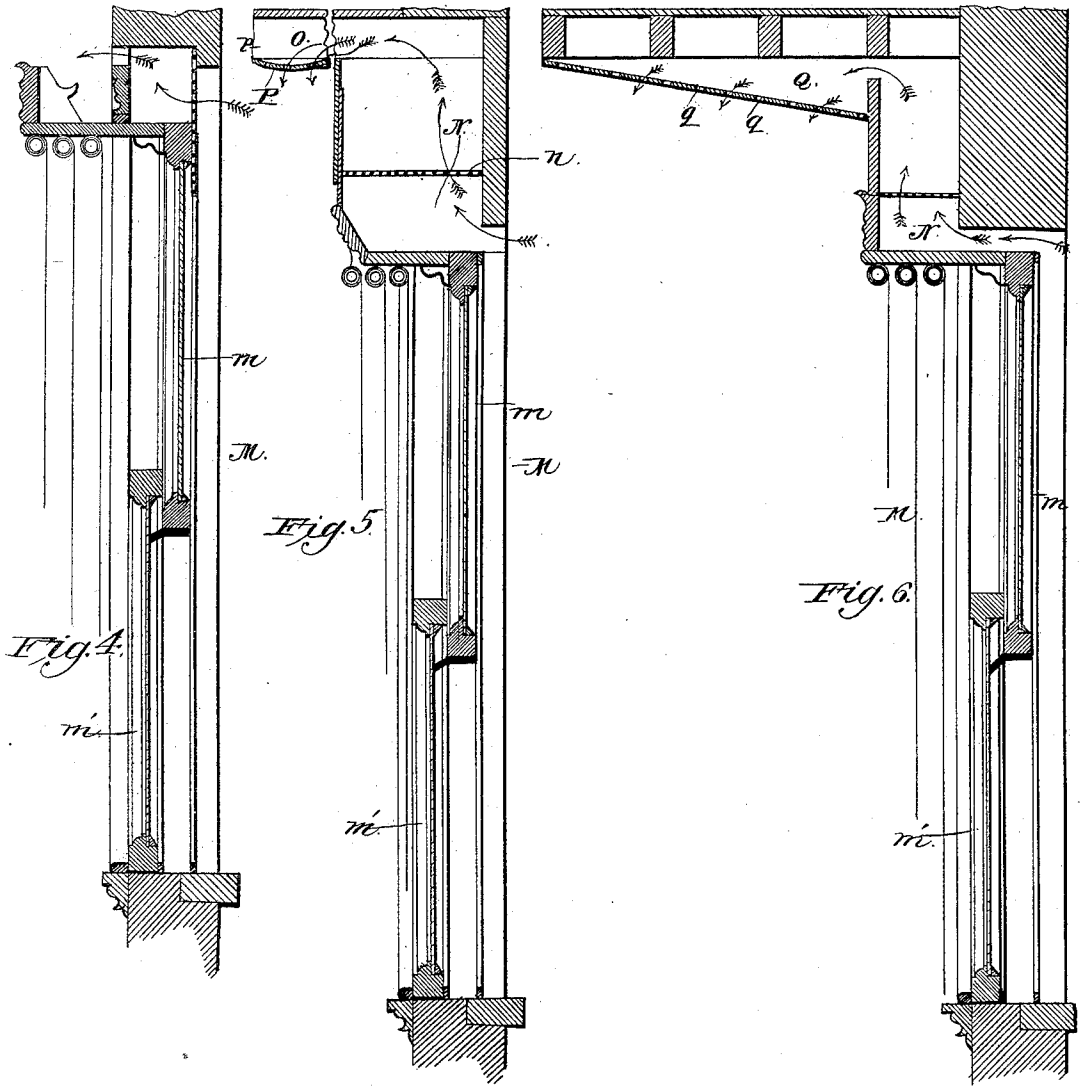
N. PETERS. Photo-Lithographer. Washington, D. C.

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UNITED STATES PATENT OFFICE.

RICHARD ALLEN REW, OF MANKATO, MINNESOTA.

VENTILATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 399,437, dated March 12, 1889.

Application filed March 29, 1888. Serial No. 268,729. (No model.)

To all whom it may concern:

Be it known that I, RICHARD ALLEN REW, a citizen of the United States, residing at Mankato, in the county of Blue Earth and State of Minnesota, have invented new and useful Improvements in Ventilating Mechanism, of which the following is a specification.

The invention relates to improvements in ventilating mechanism attached to buildings made in compartments, the object being to provide means whereby the cold pure air admitted into the separate rooms shall be admitted from above the windows or adjacent to the ceiling and mix with the warm air rising thereto, while the foul or impure air shall be carried off from near the floor; and it consists in the construction and novel combination of parts hereinafter described, illustrated in the drawings, and pointed out in the claims.

In the drawings, Figure 1 is a horizontal section of a building having stories of two rooms, each with the ventilating apparatus applied thereto. Fig. 2 is a vertical sectional view showing the construction and arrangement of the horizontal air-flues adjoining the floor, the sections being closed. Fig. 3 is a similar view, the sections being open. Figs. 4, 5, and 6 are vertical sections of windows of different styles, to which modifications of the invention have been applied.

Referring to the drawings by letter, A A designate two adjoining rooms separated by the wall or partition *a* and having the fixed mop-board or skirting B, adjoining the floor, and the molding *b*, secured to and standing outward from the top of said mop-board and stayed in place by the brace-rods *b' b'*.

C C are hinged sections depending from the free edge of the molding and closing against the upper edge of the planking *c*, standing edgewise from the flooring a proper distance from the walls, the meeting edges of said sections and said planking being correspondingly beveled to cause the former to bear closely against the latter when closed, so as to make a close joint.

D D are adjusting bolts or screws the ends of which engage tapped openings in the mop-board, and by means of which the sections C may be closed air-tight or opened to any desired extent.

The meeting edges of the hinged sections C and the vertical planking *c* are preferably lined with rubber or felting to make the joints between closer, and an adjusting-bolt and section are preferably placed below each window and adjacent to each door, so that in cold weather the cold layer of air formed by the glass rendered cold by the outside air, or the cold air coming in through the door when opened, can be immediately allowed to escape through the flues *d*, formed by the mop-board and hinged sections.

E E are vertical air-escape flues rising from the basement to a suitable height above the house and communicating with the flues *d* in each story. The said vertical flues may be arranged in the corners of the rooms, if desired, or at the ends or sides, and may either be built with the house or added thereto.

e e are valves in the flues *d*, which are preferably arranged over or adjacent to the communicating openings between said flues and the vertical flues E, and also adjacent to the separating-partition *a* between the rooms, so that the flues *d* in one room can be cut off from those of the other, and the said flues can be cut off from the vertical flues; or the valves may be more or less opened to regulate the force and volume of the air-circulation.

The levers and link-rods are situated to one side of the flue, and the flue at the place where a register is situated has twice its usual transverse area, as the register, when it is entirely open, occupies one-half the transverse area at the place where it is situated, as the size of its bars and slots are the same.

M M are the windows, of which *m m* are the upper and outer and *m' m'* the lower and inner sashes.

The cold pure air from the outside is allowed to flow into the room over the top of the upper sash above the curtain bracket and fixture. The upper sash is pulled down a suitable distance (see Fig. 5) and the air passes thereover into the room adjacent to the ceiling.

In Fig. 4 it is shown as coming directly into the room; but in Fig. 5 it passes up into the chamber N above or in the upper part of the window-frame through the screen therein, which cleans it of dust, and passes into the flue O between the ceiling and the floor of the

room above, and flows out of openings in the rosette P, at or near the center of the ceiling *p*.

Fig. 5 also shows the window-frame as having a lambrequin bracket or molding and three curtains. The said bracket is preferably attached to the top of the upper sash, as shown. Fig. 6 shows the air as flowing out of the chamber N into a chamber, Q, made below the ceiling and having the perforations *q* for the escape of air.

A rubber closing-strip is attached to the bottom of the lower rail of the upper sash and projects against the glass of the lower sash to keep out insects, air, and dust.

The apparatus as described introduces into a room all the air desired in an easy, cheap, and most convenient manner, as the introduced air is mixed in small jets with the warmest air in the room near the ceiling and then gradually descends, the current being from above, below, and then out at the floor-level through the flues *d* to the vertical flues E.

Having described my invention, I claim—

1. The combination, in a house-ventilator, of the wall having the vertical escape-flue E, the mop-board arranged at a slight distance from the inner side of the wall on the floor, the molding *b*, connecting the upper side of the mop-board with the wall, and thereby forming a chamber, *d*, communicating with the lower end of flue E, the door or valve C, hinged at its upper edge to the mop-board and fitting snugly in an opening in the same, and the adjusting screw or bolt D, having its inner end engaging an opening in the side of flue E, and having its outer end swiveled in the door or valve, substantially as described.

2. The combination, with the window-frame having the upper and lower sashes, of the chamber N in the upper part of the frame communicating with the outer air, the chamber Q below the ceiling and having the air-perforations *q* in its lower side, said chamber Q communicating with chamber N, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

RICHARD ALLEN REW.

Witnesses:
GEO. T. BARR,
JNO. C. NOE.