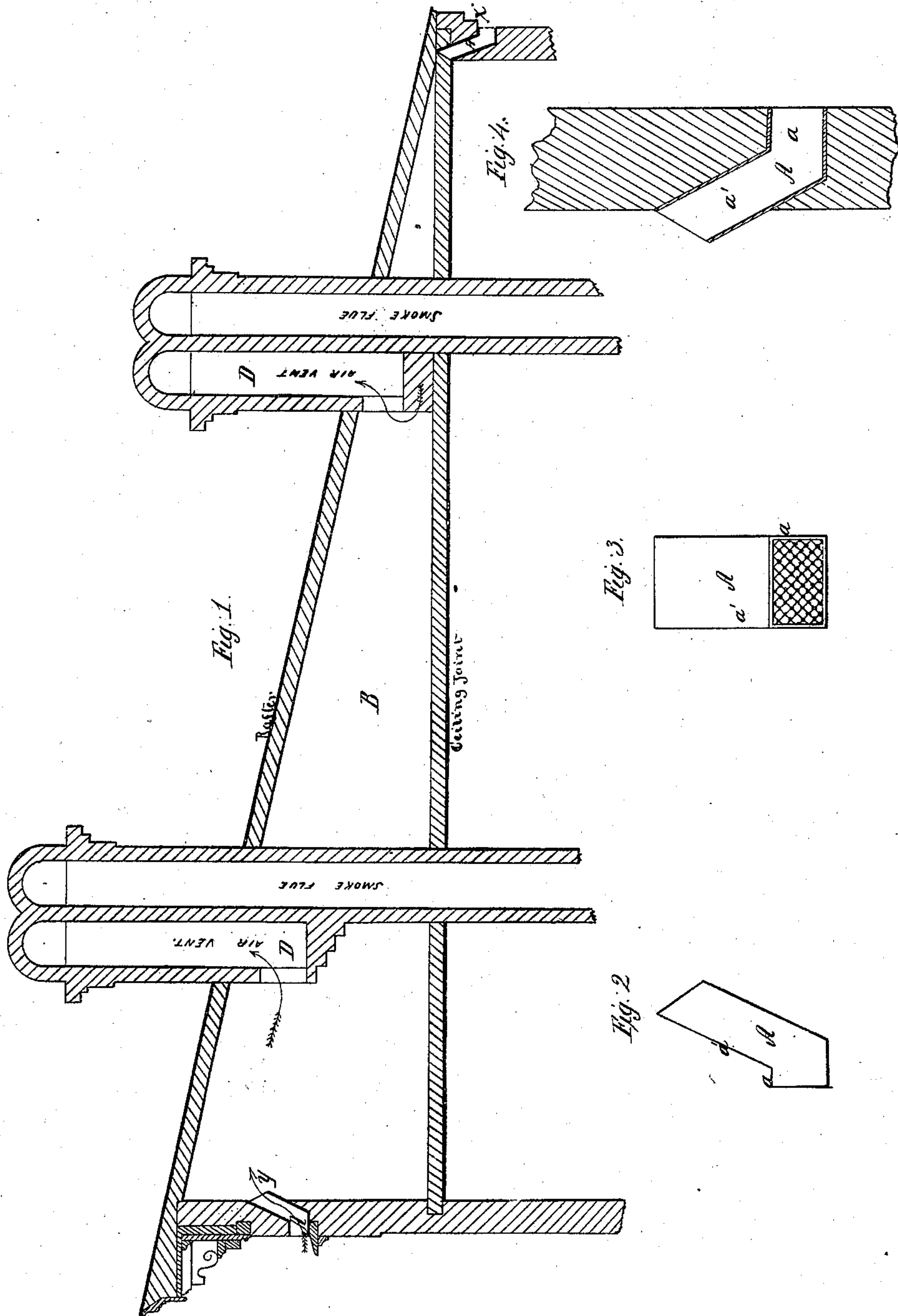


G. J. Zimmerman.

House Ventilation.

N^o 86,622.

Patented Feb. 2, 1869.



Witnesses,
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GEORGE J. ZIMMERMAN, OF BALTIMORE, MARYLAND.

Letters Patent No. 86,622, dated February 2, 1869.

IMPROVEMENT IN VENTILATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE J. ZIMMERMAN, of the city and county of Baltimore, and State of Maryland, have invented a new and improved Ventilator for Buildings; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional view of the cock-loft of a building ventilated by my invention;

Figure 2, a side elevation of my improved ventilator;

Figure 3, a front view thereof; and

Figure 4, a sectional view of the same when inserted into a wall.

My invention consists of a peculiarly-formed ventilating-box, having two sections, united at an angle of from forty degrees to eighty degrees, more or less, in such a manner as that, when the front section thereof is set upon a wall in a horizontal plane, with its front edge flush with the outer face thereof, the rear section shall project upwardly at a greater or less inclination to the rear face of the wall, as illustrated in fig. 4 of the drawings, so that rain or snow cannot beat into the building through the box.

Also, in the combination of these ventilators, inserted in the upper part of the walls of a house, so as to open into the space between the roof and the ceilings of the upper rooms, and allow a flow of cold air into such space, with vertical flues in the chimney-stacks, to carry off the heated air, and thus form constant currents through said space, preventing an intensity of heat under the roof in the summer season.

My ventilator, A, may be cheaply cast of iron, in one piece, in the form clearly indicated by figs. 2 and 3 of the drawings.

Its sections, *a a'*, are rectangular, and, for convenience in inserting the ventilator into a brick wall in building, I prefer to make the width of the box equal to the length of a common brick, and its height the width of two courses of bricks, although any other convenient size may be adopted in their manufacture, at pleasure.

The width of the top of the front section, *a*, from its front edge to the pitch of the rear section, *a'*, may be made equal to that of a brick. The rear section, *a'*, may be placed at such an inclination with the front section, *a*, as the thickness of the wall in which it is to be used, and the situation of the point at which ventilation is required, may demand.

Where the ventilators are to be used in supplying cold air to the narrow space between the rafters and the sheathing of a roof, (as at the point *x* of fig. 1,) the inclination needs to be greater than where the air is to be introduced into an enlarged open space, as at *y*, fig. 1.)

The front opening of the ventilator may be closed by a grating, more or less ornamental, as desired.

The ventilators may readily be built up into a wall in the erection thereof, without extra labor. Their peculiar form makes them entirely weather-proof. Being free from valves, they are ever in operation, indepen-

dently of all care of regulation, and cannot get out of order.

They are especially adapted to the ventilation of cock-lofts, or space B, fig. 1, under the roofs of buildings, to prevent the excessive heat which renders the upper rooms of houses, as ordinarily constructed, so close and uncomfortable in the summer season.

For this purpose, I insert a sufficient number of them in the upper courses of the walls of the house, so that their inner ends shall project into the open space under the rafters, (from their peculiar form, this is readily accomplished without interfering with the finish of the wall, the grated openings imparting, on the contrary, an ornamental appearance thereto,) and I then add, in combination with said weather-proof ventilators, A A, an extra flue, D, to each chimney-stack passing up through the loft, opening the same into the loft as closely as possible to the roof, as shown in fig. 2. An upward current is thus formed through said flues, by means of which the heated air in the loft is constantly carried off as fast as cold air is supplied through the ventilators, as illustrated by the arrows in the drawings.

Thus, by means of my invention, the upper stories of buildings may be kept as cool as any other portion thereof, with but a trifle additional expense in their construction.

My ventilators are also admirably adapted for supplying fresh air to stables, for they may be inserted in the wall so as to be over the heads of the animals, and the upward inclination of the rear sections causes the current of air entering thereby to be thrown upward and dissipated without creating a cold draught upon the animals.

I do not claim as my invention a ventilator consisting of a box having its ends parallel to each other, but cut off slantingly to the direction of the box itself, in such manner as that, when the box is placed in the wall, with its face flush with the face of the wall, its body shall be inclined, or have a slanting position from inside to outside, said box being provided with a netting and a pivoted valve, for I contemplate in my invention simply a ventilating-tube, or box, bent at an angle more or less obtuse, or a bent or curved tube, so formed as to extend and reach from the front face of the wall of a dwelling, under the moulding, near the top thereof, up through the wall, to the space immediately under or between the rafters of the roof, substantially as illustrated in fig. 1 of the drawings.

Having fully described my invention,

I claim, as a new article of manufacture, and desire to secure by Letters Patent—

A bent, curved, or L-shaped ventilating-box, or tube, of substantially the form herein set forth.

In testimony of my claim to the foregoing weather-proof ventilator, I have hereunto set my hand, this 17th day of November, A. D. 1868.

GEO. J. ZIMMERMAN.

Witnesses:

DAVID A. BURR,
W. BURRIS.