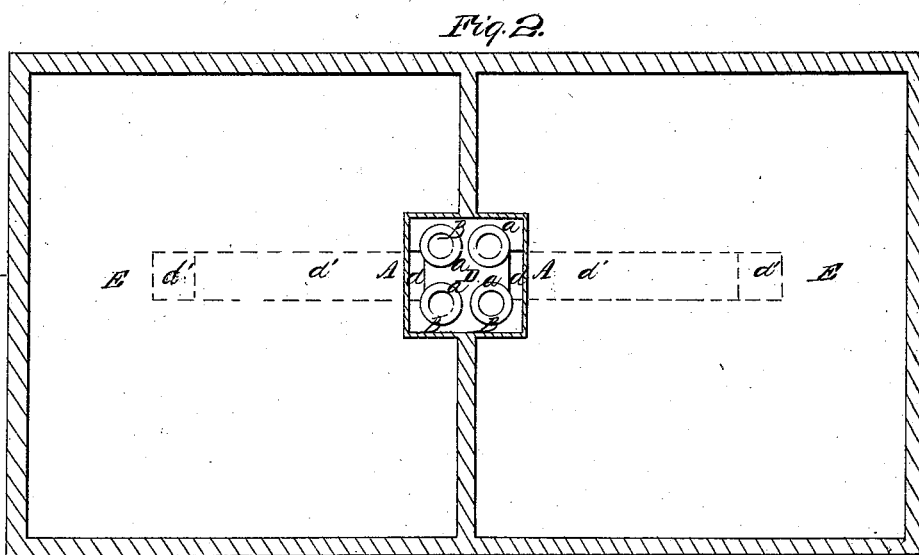
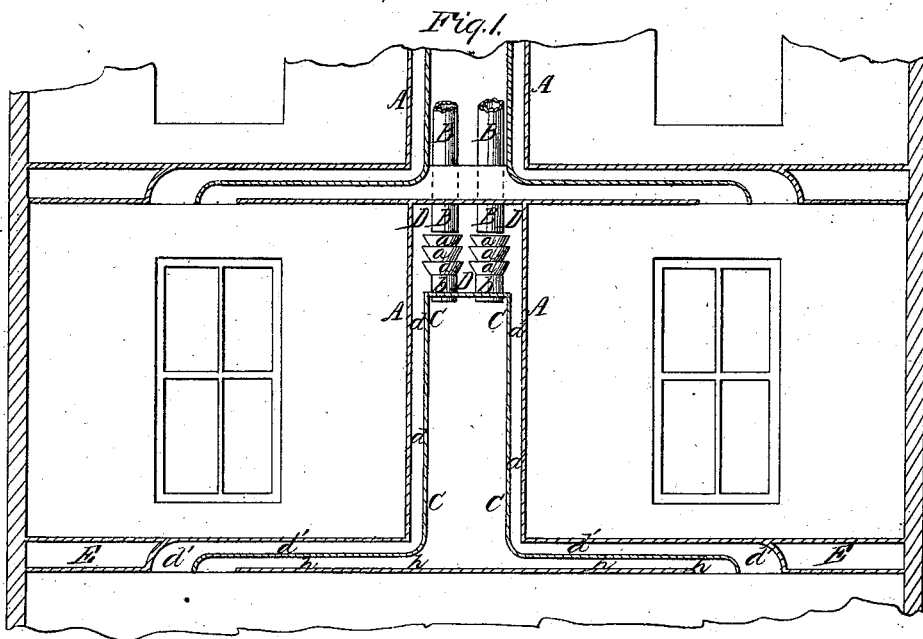


*B. J. Burnett,*  
*House Ventilator.*

*No 52,528.*

*Patented Feb. 13, 1866.*



*Witness:*  
*a. Leclerc*  
*L. Holmes*

*Inventor:*  
*B. J. Burnett.*

# UNITED STATES PATENT OFFICE.

B. J. BURNETT, OF MOUNT VERNON, NEW YORK.

## IMPROVED SYSTEM OF VENTILATING HOUSES, &c.

Specification forming part of Letters Patent No. 52,528, dated February 13, 1866.

*To all whom it may concern:*

Be it known that I, BENAJAH J. BURNETT, of Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Ventilators; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a central vertical section, showing the construction and mode of applying the ventilator. Fig. 2 is a horizontal transverse section, showing the arrangement, with reference to each other, of the vertical air-conducting shafts.

This invention relates to ventilators to be applied to the roofs of houses or other structures, and more especially to those constructed on the plan which is the subject of the first clause of the claim of my Letters Patent No. 45,814, dated January 10, 1865, and since improved by me, as fully set forth in an application for Letters Patent now pending.

The present improvement consists in certain novel means whereby a continual circulation of fresh air is more effectually maintained throughout the different rooms and stories of a building.

To enable those skilled in the art to understand the manner of constructing and employing my invention, I will proceed to describe it with reference to the drawings.

Extending upward from the ceiling of each story which it is designed to ventilate is a series of vertical air-shafts, the upper ends of which rise above the roof, each series being composed of four or more cylindrical shafts or pipes, B. These shafts B are all inclosed within an upright trunk, A, which extends from the ceiling of the lower story to the roof of the building. Immediately over the top of this trunk, and above the upper ends of the air-shafts, is a suitable cap, which deflects the cold external air downward through the windward air-shafts into the building, and permits the exit therefrom of the warm air through the leeward shafts, substantially on the same principle as set forth in my patent of January 10, 1865, hereinbefore mentioned.

Each series of air-shafts acts independently

to ventilate a separate story. Thus from the ceiling of the first story there rises four shafts, B, at the ceiling of the second story four more are added, and so on for each additional story, the entire number of pipes rising above the roof and acting, in concert with the deflecting-cap above them, in the manner just described.

The trunk A is crossed transversely by the several ceilings, which thus divide it into sections. Situated at the bottom of each of these sections is an upright chamber, C, which receives the cold air as it descends the windward pipes of its series of air-shafts B, and distributes the same to the rooms below through the pipes or passages *h*, which are placed in the ceilings E of the said rooms.

At the sides of the chamber C, between it and the sides of trunk A, is a space, *d*, which communicates with the rooms below by the pipes or passages *d'*, which are laid above or parallel with the ingress-pipes *h*. The space between the top of the chamber C and the partition formed by the ceiling above it forms another chamber, D. In the lower part of this chamber D are short pipes, *b*, one beneath each pipe of the set of air-shafts aforesaid. These short pipes open into the chamber C below, and have upon their upper ends three, more or less, conical deflectors, *a*, placed a short distance apart. The lower ends of the air-shafts B terminate in these conical deflectors in such a way that the cold air can pass directly downward through the windward pipes or shafts into the cold-air chamber C and its distributing-pipes *h*, and that the warm air rising through the passages *d'* and space *d* into the chamber D can pass through the spaces between the conical deflectors into the leeward shafts and make their escape into the outer atmosphere at the top thereof.

The cold outer air, being deflected into the windward air-shafts by the deflecting-cap placed at the upper end of the same, passes downward through the said shafts and through their conical deflectors *a* into the cold-air chamber C, from which it passes through the pipes *h* into the rooms designed to be ventilated. This cold air, by its superior gravity, falls toward the floor, thus displacing the warm air, which rises and enters the pipes *d'* and passes upward through the space *d* into

the chamber D, where, finding no other way of escape, it passes between the conical deflectors *a* of the leeward air-shafts, and rises through the said shafts until it escapes at the top, its ascent being assisted by a draft produced by a partial vacuum created at the top of the leeward air-shafts by the action of the wind.

It will thus be seen that by the use of this ventilator a continual circulation of air is produced within the building to which it is applied.

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

1. The conical deflectors *a*, situated at the

lower ends of the vertical air-shafts B, substantially as set forth, for the purpose specified.

2. The cold-air chamber C, with its air-passages *h*, in combination with the vertical air-shafts B, substantially as set forth, for the purpose specified.

3. The chamber D, inclosing the funnel-shaped deflectors *a*, and arranged with reference to the vertical air-shafts B, space *d*, and air-passages *d'*, substantially as set forth, for the purpose specified.

B. J. BURNETT.

Witnesses:

J. W. COOMBS,

G. W. REED.