J. Leeds,

Ventilator.

No. 10,232. Patented Nov. 15. 1853.

Fig. 2.

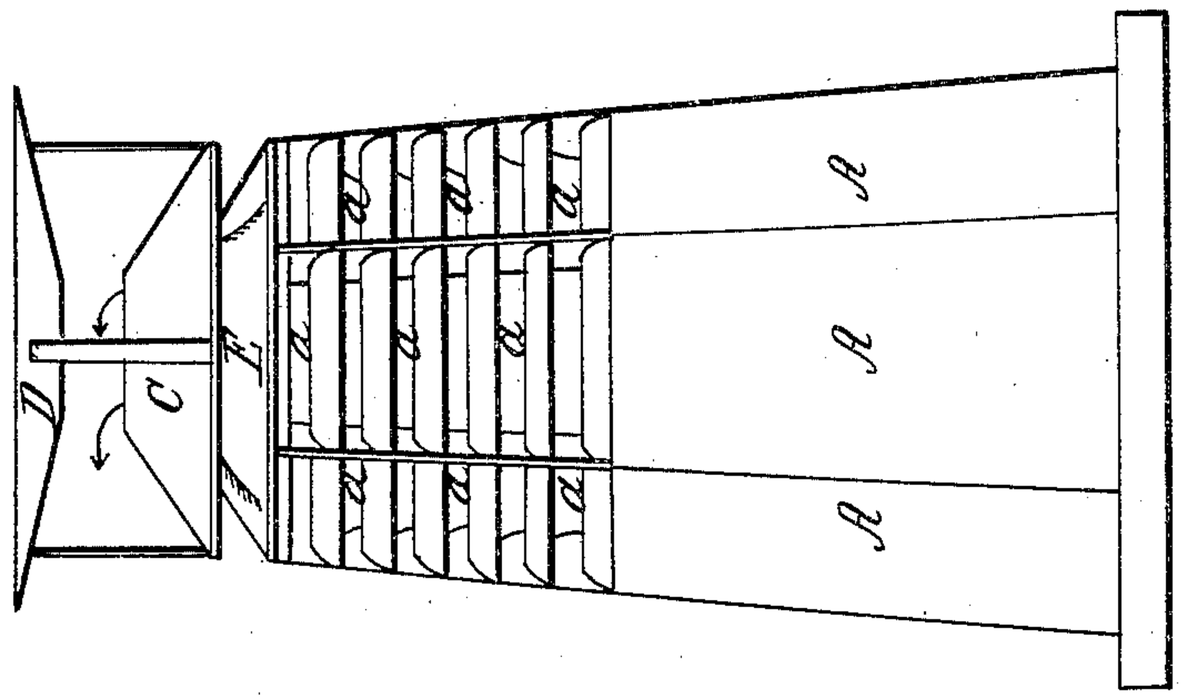
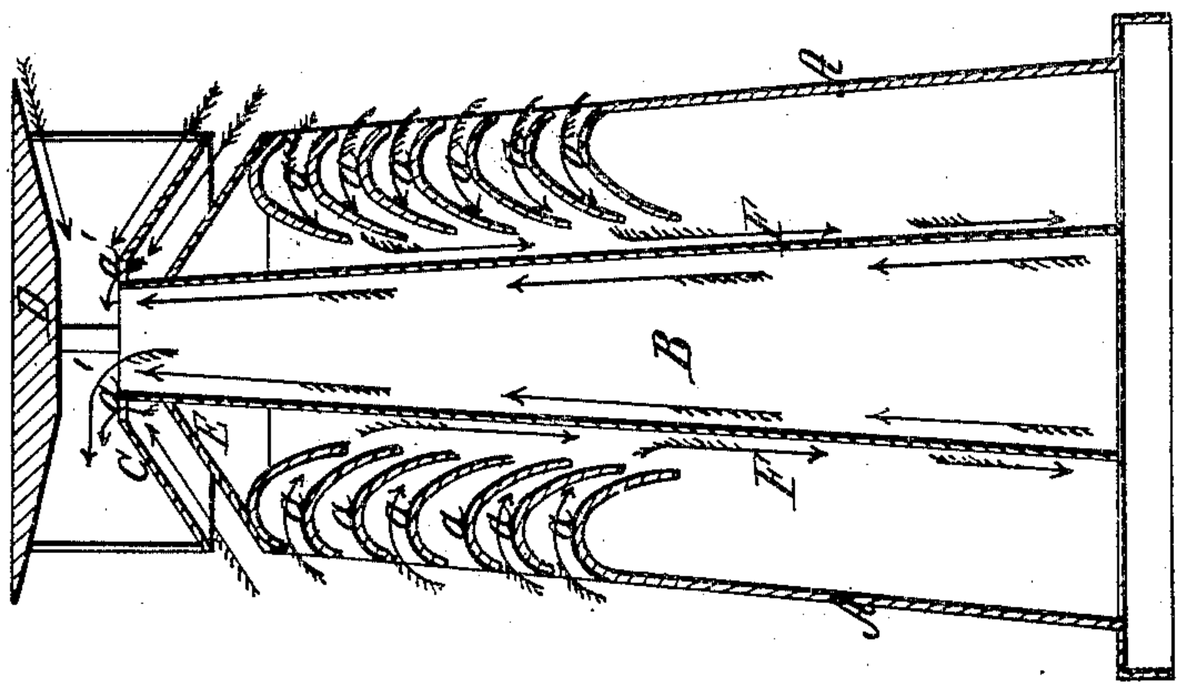


Fig. 1.



UNITED STATES PATENT OFFICE.

JOSEPH LEEDS, OF PHILADELPHIA, PENNSYLVANIA.

VENTILATOR.

Specification of Letters Patent No. 10,232, dated November 15, 1853.

To all whom it may concern:

Be it known that I, JOSEPH LEEDS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, 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 accompanying drawings, making a part thereof, in which—

Figure 1, represents a vertical section taken through the center of that portion of the ventilator which stands above the roof of the building. Fig. 2, represents a view from one of the sides of the ventilator.

The nature of my invention consists in arranging a series of downwardly inclined curved openings in the outer case or shell of the ventilator, for taking in, and directing downward into the building to be ventilated a current or currents of pure air, and in connecting therewith a passage in the center of the ventilator, through which the impure air may be drawn upward by an accumulated or increased draft over the top of said passage, also in the manner of increasing the draft across the top of the ventilator to aid the upward current of air through the center passage.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The outer shell A, may be made round, square, or many-sided, and in the center of the shell thus made is formed the passage B, which may communicate by pipes or otherwise with the building or rooms to be ventilated. Near the top of the ventilator, and between the outer shell A, and the inner passage B, I arrange a series of curved plates *a*, *a*, *a*, &c., one above the other, sufficiently far, to form air passages, for taking in the air, as shown by the arrows. These passages may communicate with one main passage F, or by means of pipes, tubes, or otherwise, with a series of passages leading to the several apartments to be ventilated, and thus pure air is introduced, while the impure air is drawn up through the passage B, partially by the descent of the pure air, aided by its own rarity, and the accumulated draft across the top of the passage—thus causing one current to aid the other.

Two frustums of cones C, D, are arranged with their apices toward each other, the lower one C, sitting over the top of the conical cap E, (which covers the top of the fresh or pure air passages), and sufficiently far above it, to allow of the taking in and passing upward (as shown by the arrows) of the current of air accumulated between them—there being passages *a'*, *a'* left for that purpose. This current of air together with that taken in and contracted where it passes over the top of the passage B, creates an upward draft through said passage B, which in turn aids in drawing in the pure air as before described. The connections between the apartments and the passage B, should be made at the higher parts of the rooms or building, while those passages for introducing the pure air, should be near the lower parts of the same. By this arrangement an accumulated draft, over the top of the impure air passage B, draws up and out of the building the foul air, while the fresh air rushes in to supply its place, and thus a continual supply of pure air takes the place of the impure. The curved openings, where the air enters, prevents the snow from drifting in, as it does with those where the openings are simply inclined, and it is found advisable to make the outer shell many sided, as it makes a better exposure to the wind coming from any quarter.

Having thus fully described the nature of my invention what I claim therein as new and desire to secure by Letters Patent is,

The combination in one case or shell of the series of downwardly inclined curved openings in the outer shell, for taking in and directing downward a column of pure air, with the center pipe or opening crowned with the two frustums of cones with their apices toward each other, for producing a counter current, and carrying, from the apartments to be ventilated, the impure air, and increasing said ejecting current, substantially as described, the whole requiring but a single opening in the roof.

JOSEPH LEEDS.

Witnesses:

A. B. STOUGHTON,

T. C. DONN.