J. HOWES.

Chimney-Ventilator.

No. 160,523. Patented March 9, 1875.

Fig. 1.

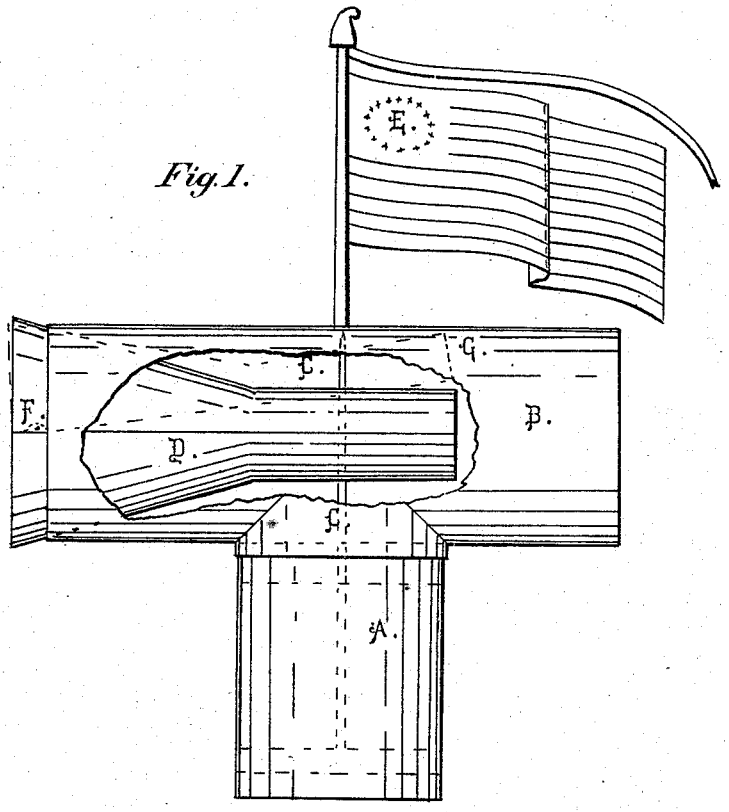
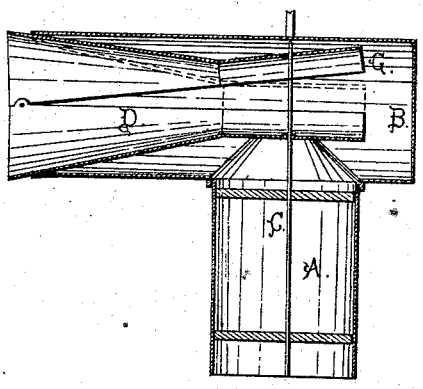


Fig. 2.



WITNESSES.
B. Hibbs.
Dan'l Goss.

John Howes
INVENTOR,
BY J. J. Arnold
ATTY.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JOHN HOWES, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN CHIMNEY-VENTILATORS.

Specification forming part of Letters Patent No. **160,523**, dated March 9, 1875; application filed April 14, 1874.

To all whom it may concern:

Be it known that I, JOHN HOWES, of the city and county of Worcester, State of Massachusetts, have invented certain Improvements in Ventilators, called a Pneumatic Ventilator, of which the following is a specification:

My invention is intended to be applied for ventilation to air-flues, chimneys, and similar places, where it is desired to establish or assist the draft, and is designed to use the natural current of air or wind by compression, and its action on a partially-confined body of air, to create an exhaustive tendency or draft, with such an arrangement and construction of the compressor as to give the necessary relief whenever the wind becomes too great or violent. It consists of a horizontal tube or passage of peculiar construction, placed over the top of the flue or pipe in which it is desired to make the draft, and into which aforesaid tube the pipe or flue opens and discharges.

This tube or passage is made with a conical inside tube or compressor, whose large end or mouth fills and closes one end of the outside tube, and the small end extends part-way through, so that its end is slightly beyond the further side of the flue or pipe. Then the air or wind entering the mouth is compressed and passes out of the small end with increased velocity and pressure, and carries with it the surrounding body of air in that end of the large tube, creating a draft in the middle or tendency to a vacuum at the top or opening of the pipe or flue, the tube being supported on a spindle to rotate, and having a vane to keep the mouth of the compressor facing the wind.

The accompanying drawing represents a ventilator embodying my invention, a part of the outside tube being shown as if broken away to see the shape and position of the compressor in Figure 1; and Fig. 2 shows a central perpendicular section, on a smaller scale, with the upper part of the compressor raised, the same letters indicating the same parts in each.

In said drawing, A is the flue or pipe. B is the main tube, supported or turning on the spindle C, and into which the flue A opens and discharges. D is the compressor, and E the vane to keep the large end or mouth of C toward the wind.

In operation, the air entering the mouth of C is compressed and passes out its small end with increased velocity, carrying with it the air in that end of B, creating the draft in A on the well-known principle of the so called Giffard injector.

In some situations it might not be best to expose the compressor to the whole force of the wind without relief. In such cases I make the compressor in two nearly equal parts, the lower one being stationary in the tube B, and the upper pivoted at F in such a manner that a very strong wind shall lift its inner small end, and thus allow more free egress or escape for the air both at the end and openings thus made on both sides, the broken lines indicating at G the position when it is lifted.

I claim—

The divided compressor C, in combination with the tube B and flue A, substantially in the manner and for the purposes above described.

JOHN HOWES.

Witnesses:
E. W. HOXIE,
J. G. ARNOLD.