

(No Model.)

W. McFARLANE.
VENTILATOR.

No. 493,873.

Patented Mar. 21, 1893.

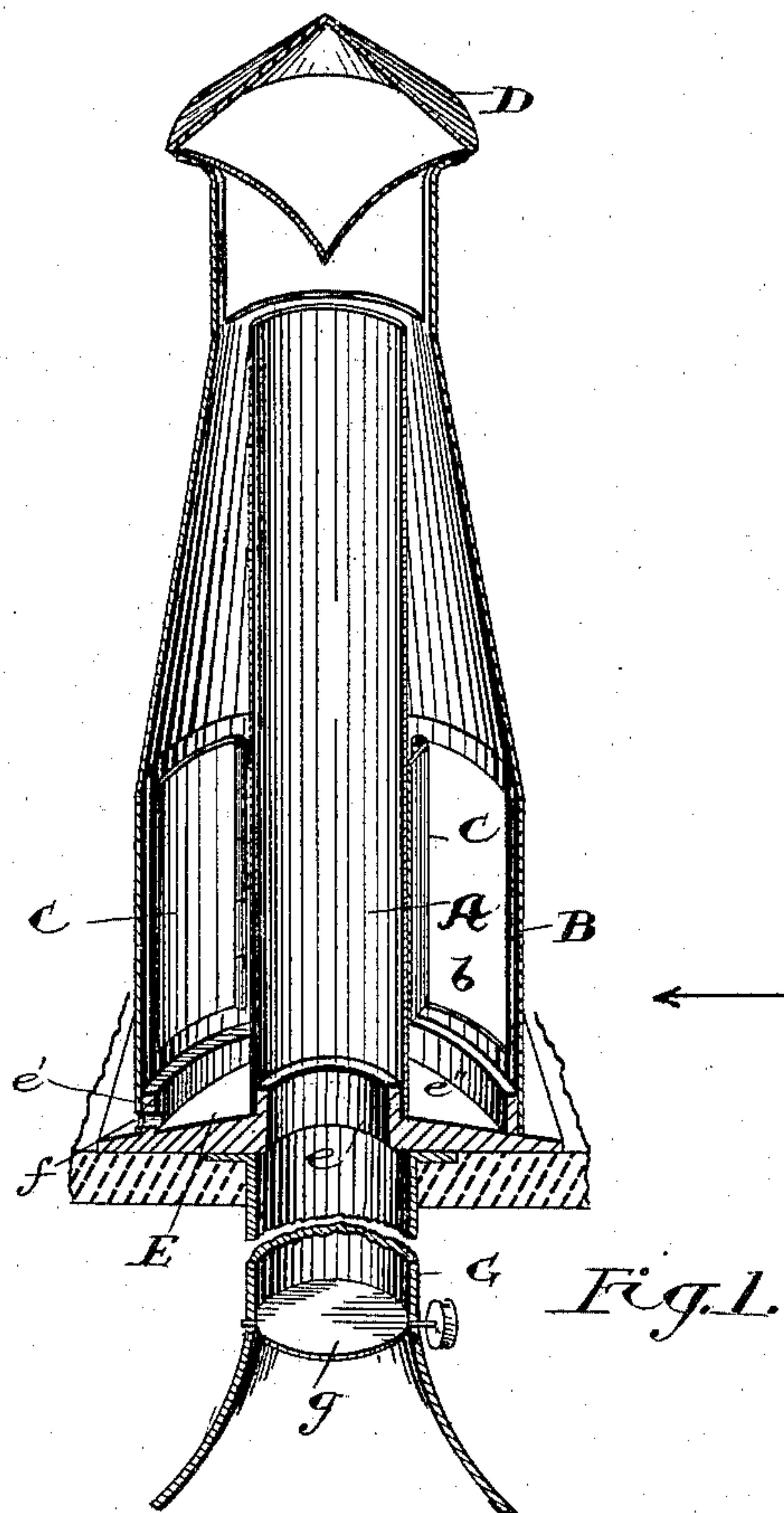


Fig. 1.

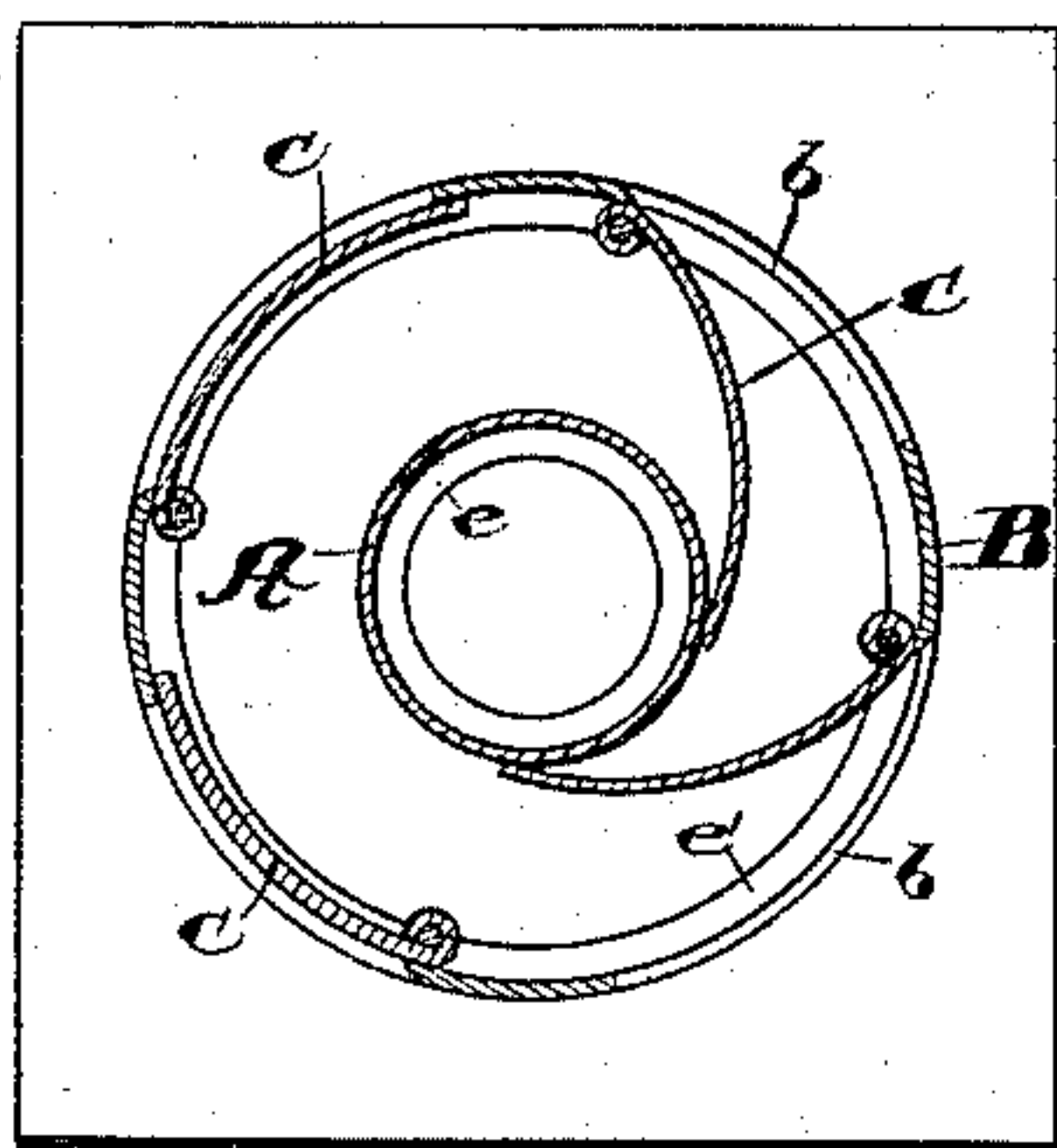


Fig. 2.

Witnesses.

H. Young.
L. Foulds.

Inventor
Wm. McFarlane.

by Fithurst & Co

Atty

UNITED STATES PATENT OFFICE.

WILLIAM MCFARLANE, OF TORONTO, ASSIGNOR OF ONE-HALF TO JAMES WRIGHT, OF STRATFORD, CANADA.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 493,873, dated March 21, 1893.

Application filed May 24, 1892. Serial No. 434,199. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MCFARLANE, carpenter, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Ventilators, of which the following is the specification.

My invention relates to improvements in ventilators and the object of the invention is to design a ventilator by which an upward current may be created no matter which way the wind may be blowing and it consists essentially of two casings the inner one of which is preferably cylindrical in form while the major portion of the outer casing is tapered toward the top, the lower portion being cylindrical and having openings at the side of which are pivoted wings which are arranged to guide the current so that it may ascend upwardly between the outer and inner casings and thereby produce a strong current of air or draft to ascend the inner casing or pipe as hereinafter more particularly explained.

Figure 1, is a sectional perspective view showing the peculiar construction of my ventilator. Fig. 2, is a cross section through $x-y$, Fig. 1.

In the drawings like letters of reference indicate corresponding parts in each figure.

A, is the inner casing and, B, the outer casing. The major upper portion of the outer casing is tapered as shown. The lower portion of the outer casing has openings, b , at one and the same side of which are hinged the doors or wings, C. These doors or wings, C, are slightly larger than the openings, b .

D, is a conical cap secured at the top of the casings, A, and, B, preferably on standards which extend upwardly from the outer casing as shown. It will be noticed that the lower part of the conical cap is also preferably concavo cone shaped as shown. The cap D, forms a cover so as to prevent the rain from going down through the center pipe or cylindrical casing into the chimney or room.

E, is the base plate which is provided with upwardly extending annular wings or flanges, e , and, e' , to which the bottom of the casings, A, and, B, respectively are secured. It will

be noticed that the top of the base slants outwardly from the center casing as shown.

f , are holes made through the bottom of the ring, e' , and the bottom of the casing, B. These holes, f , are designed to allow of the escape of any water which may accumulate on the base plate, E, from the rain or snow which may get through the openings.

G, is the pipe or flue of which the casing, A, forms a continuation. This pipe, G, is broken away and has a damper, g , pivoted in its lower end. When my ventilator is used on a chimney top it will of course be understood that the damper, g , or any other damper of suitable construction may be adjusted at the fire-place so as to regulate the draft which passes up through the flue, G, and ventilator. In a railway carriage it will of course be understood that the damper, g , may be always regulated by any suitable connection. When my ventilator is used for a railway carriage it will be understood that there is always a strong current of air, when the train is going at full speed, passing through the openings, b , up through the cylindrical casing, B, and consequently the draft passing up through the cylindrical casing, A, will be very strong. By having the damper, g , as described the amount of draft may be easily regulated.

When the wind is blowing in the direction indicated by arrow it will be seen that the wings or doors, C, on the side against which the wind is blowing are forced open by the wind while the wings or doors on the opposite side of the casing, B, are thrown against their respective openings so as to close them. It will thus be seen that there is no possible danger of the escape of the wind through the openings on the lee side of the cylindrical casing, B, and consequently the wind that comes up through the openings on the windward side will have to force its way through the open top of the cylindrical casing, B. In so doing it circles around the inner casing or pipe, A, and as it passes over the top it causes a draft to come up through the center casing, A.

In Fig. 1, I have shown a cap or hood on the top of the ventilator but it will of course be understood that this is not essential to the

proper working of the parts. As before stated the bottom of the cap is formed concavo-cone shaped with the apex above the center of the center pipe so that the draft coming up the center tube will not be materially interfered with when making its escape through the top of the center casing or pipe, A.

Although I have shown in the drawings my ventilator applied to a chimney it will of course be understood that it might with equal facility be used for ventilating a room, public hall or railway carriage. I find in practice that when it is applied to the top of a chimney it acts perfectly no matter which way the wind may be blowing. I also find it preferable to use four wings or doors, one or two of them being always open, this of course depending upon the direction in which the wind is blowing.

What I claim as my invention is—

1. In combination, the base plate having a central opening, an imperforate cylinder having its lower edge secured to the base plate, an outer annular casing also secured to the base plate, having a series of inwardly opening doors in the lower part, substantially as described.

2. In combination, the base plate having a central opening with inner and outer annular flanges, an imperforate cylindrical casing having its lower edge secured to the inner flange

and an outer casing having its lower edge secured to the outer flange and provided with a series of inwardly opening doors in the lower part thereof, substantially as described.

3. In combination, the base plate having a central opening and inner and outer annular flanges and imperforate cylindrical casing secured to the inner flange, and an outer casing secured to the outer flange, said outer casing having a cylindrical lower portion provided with a series of inwardly opening doors and a gradually tapered upper portion, said tapered portion terminating in proximity to the mouth of the inner casing, substantially as described.

4. In combination, the circular base plate having its upper surface inclined from the center toward the circular edge, and provided with a central opening with a surrounding flange, an outer annular flange having a series of perforations, an inner cylindrical casing secured to the inner flange, an outer casing secured to the outer flange and having perforations aligning with those of the flange, and a series of inwardly opening doors in said outer casing, substantially as described.

WILLIAM MCFARLANE.

Witnesses:

BLANCHE BOYD,
LEONARD FOULDS.