P. R. CLARK.

VENTILATING DEVICE.

APPLICATION FILED JAN. 15, 1918.

1,326,576. Patented Dec. 30, 1919.

FIG. 1.

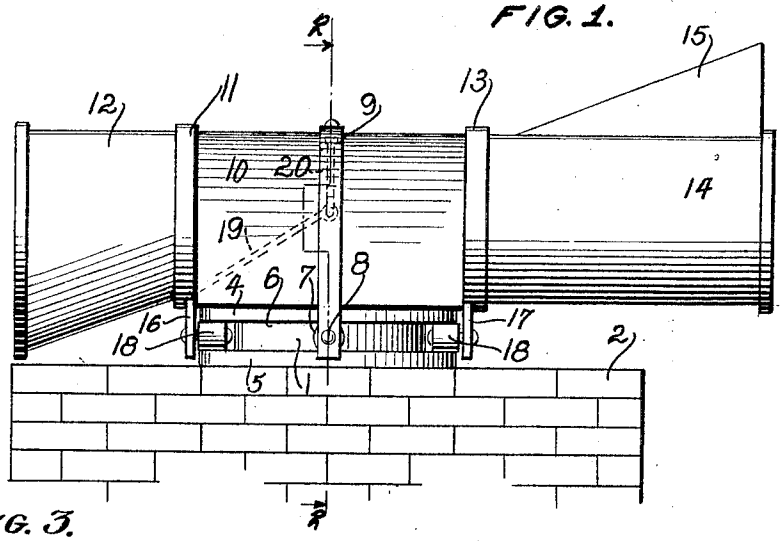


FIG. 3.

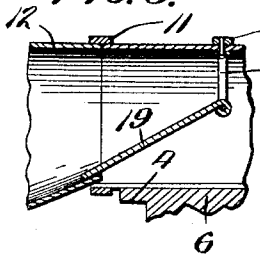


FIG. 2.

INVENTOR

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WITNESSES

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PAUL R. CLARK, OF CORYDON, IOWA.

VENTILATING DEVICE.

1,326,576. Specification of Letters Patent. Patented Dec. 30, 1919.

Application filed January 15, 1918. Serial No. 211,977.

To all whom it may concern:

Be it known that I, PAUL R. CLARK, a citizen of the United States, residing at Corydon, in the county of Wayne and State of Iowa, have invented certain new and useful Improvements in Ventilating Devices, of which the following is a specification.

This invention relates to ventilators, and more particularly to a ventilating device adapted to be used in connection with chimneys so as to cause air current to flow therefrom.

One of the main objects of the invention is to provide a device of the character stated of simple construction and operation which may be readily applied to a chimney of standard construction. A further object is to provide a device which may be produced at relatively small cost and is so constructed as to cause a current of air to flow across the top of the chimney substantially at right angles thereto thus inducing an air current to flow upward through the chimney. A further object is to provide a device having an inlet and an outlet which are positioned in axial alinement, a deflecting plate being interposed between these members and so arranged as to cause the gases flowing through the chimney to flow through the outlet thus assisting in causing an air current to flow through the inlet across the top of the chimney so as to increase the draft in the chimney. Further objects will appear from the detailed description.

In the drawings:

Figure 1 is a side view of a ventilator constructed in accordance with my invention as applied.

Fig. 2 is a section taken substantially on line 2—2 of Fig. 1, and

Fig. 3 is a fragmentary sectional view of the device showing to advantage the arrangement of the baffle.

A base ring 1 is anchored to the crown 2 of the chimney which is of any suitable well known construction, the central opening of this ring being coincident with the interior opening 3 of the chimney. Ring 1 is provided with upper and lower outwardly projecting annular flanges 4 and 5, respectively. These flanges provide an outer annular guide channel 6. This channel receives the inwardly directed bearing and supporting rollers 7 which are rotatably supported on bearing pins 8 secured in the lower ends of a supporting and base band 9 which is secured about the body portion of drum 10 of the ventilator, this ring being disposed diametrically of the drum. At one side drum 10 is provided with a reinforcing collar or ring 11 secured thereto. This collar supports a downwardly flaring inlet funnel or tube 12 which communicates at its inner end with the drum, the outer end of this funnel being open. The drum is further provided with a ring 13 secured thereto and disposed diametrically opposite to ring 11. This ring 13 supports an outlet casing or tube 14 which is secured therein and communicates at its inner end with the drum, this casing being disposed in alinement with funnel 12. An upwardly projecting plate or vane 15 is secured to the top of casing 14, the function of this vane being to at all times maintain the funnel 12 directed windward so that, when the wind is blowing, a current of air will enter the drum 10 through funnel 12 flowing across the same in a substantially horizontal plane and escape through the tube or casing 14. This current of air flowing through the drum 2 across the upper end of the chimney opening or bore will induce an air current through the chimney thus materially increasing the draft. To insure accuracy of operation of the ventilator and secure the same on the supporting or base ring, the collars 11 and 13 are provided with downwardly projecting brackets 16 and 17, respectively, which carry the inwardly directed rollers 18 operative in the guide or channel 6, these rollers being disposed in alinement diametrically of the ring. Rollers 7 and 18 coöperate to support the drum and the members carried thereby so as to permit easy rotation of the drum while securing the ring in proper relation to the drum.

To prevent interference of the air current flowing upwardly through the chimney with the air current flowing into the drum 10 through inlet funnel or casing 12, I provide an upwardly and inwardly inclined baffle plate 19 which is positioned adjacent the inner end of the funnel, the lower edge of this plate being loosely arranged adjacent the lowermost point of the inner end of the funnel, and the upper edge of this plate being pivotally secured, at its center, to a ring 20 which is secured to the center of

the top of the drum. This baffle plate is of such size and shape as to extend across and completely close the drum from the inner end of funnel 12 to the center of the drum, leaving an arcuate air passage or opening 21 adjacent the top of the drum. Gases which flow upwardly through the chimney will impinge upon the upwardly inclined underface of plate 19 so as to be deflected thereby and directed toward the inner end of the discharge or outlet casing 14. The air which flows into the channel will impinge upon the upper face of plate 19 so as to be directed toward the top drum, this air flowing through the passage 21 into the outlet casing 14. By this means, the air flowing into the drum through funnel 12 will unite with the gases flowing through the chimney, and these gases and the air flow through passage casing 14 at relatively high velocity thus inducing air through the funnel 12 so as to increase the total volume of air flowing from the drum and, consequently, the draft which is induced through the chimney.

What I claim is:

In combination with a chimney, a ventilating means comprising a rotatable drum having a passage therethrough, air inlet and outlet casings engaged with the opposite ends of the passage, said inlet casing being flared outwardly, a baffle plate having one end loosely arranged adjacent the inner edge of the inlet casing, and extending upwardly at an angle in the plane of the flared edge of the inlet casing, means depending from the center of the drum whereby the baffle plate is pivotally supported approximately midway the chimney, and means for maintaining the ventilator windward.

In testimony whereof I affix my signature in presence of two witnesses.

PAUL R. CLARK.

Witnesses:
H. W. CLARK,
J. N. MCCOY.