Sept. 25, 1928. 1,685,170

A. McDONALD ET AL

VENTILATOR FOR CHIMNEYS

Filed May 1, 1926

Fig. 1.

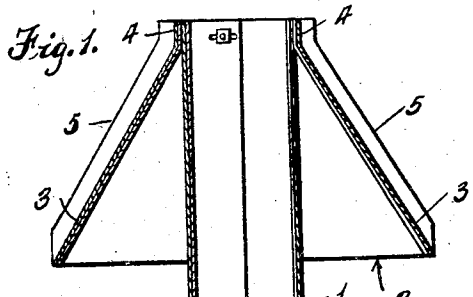


Fig. 2.

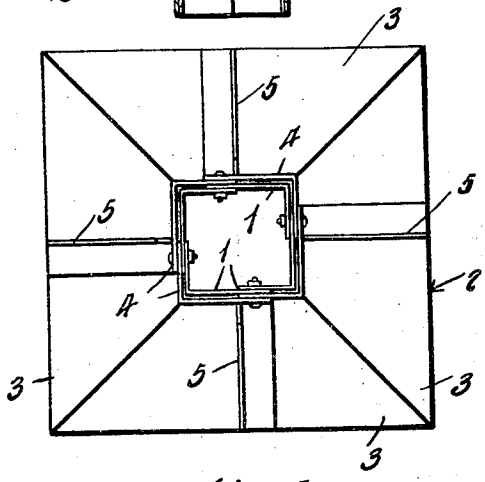


Fig. 3.

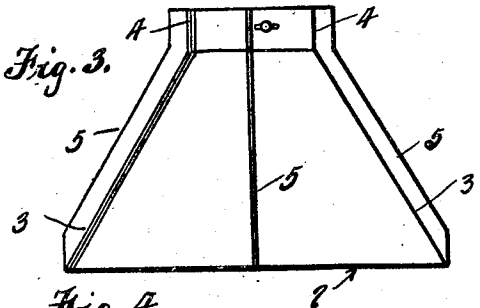


Fig. 4.

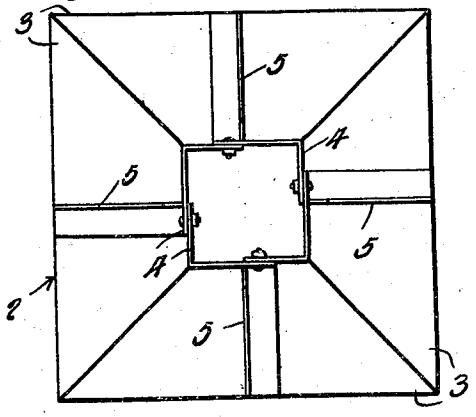


Fig. 6.

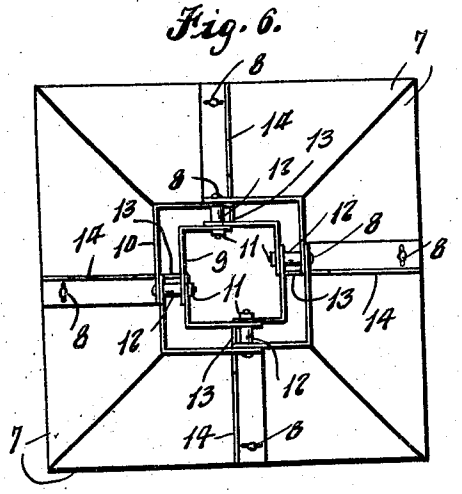
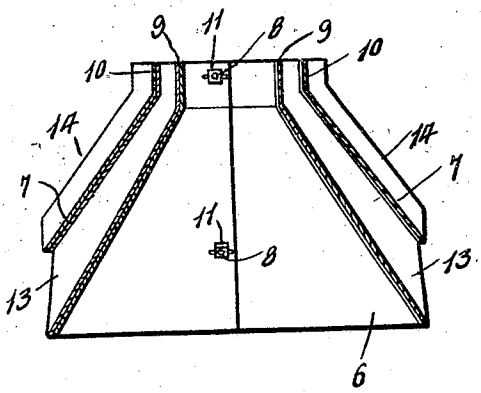


Fig. 5.



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By

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UNITED STATES PATENT OFFICE.

ALEXANDER McDONALD, OF PITTSBURGH, AND WILLIAM O. SMITH, OF WILKINSBURG, PENNSYLVANIA, ASSIGNORS OF SEVENTY ONE-HUNDREDTHS TO JOHN C. YOUNG, OF PITTSBURGH, PENNSYLVANIA, AND THIRTY ONE-HUNDREDTHS TO SAID SMITH.

VENTILATOR FOR CHIMNEYS.

Application filed May 1, 1926. Serial No. 106,162.

The invention relates to a chimney ventilator of the type disclosed in application for patent filed by the same applicants on February 27th, 1926, Serial No. 91,121, and has for its object the improvement of the structure shown in the application referred to whereby currents of air striking the corners of the ventilating member may be deflected and directed upwardly to create an upward draft within the chimney to which the ventilator is secured to add to the efficiency of the chimney.

In the former application, hereinbefore referred to, a current of air striking directly against the sides of the pyramidal member would be directed upwardly and the ventilator would operate efficiently. When, however, the current of air strikes the ventilator in the direction of the corner thereof, the tendency would be to blow straight across or slightly upwardly of a horizontal line, but the efficiency of the ventilator would not be as marked as where the current of air strikes directly against the sides. This difficulty is overcome in the invention to be hereinafter described by providing ribs on the sides of the ventilator and arranged perpendicularly thereof and extending on planes substantially perpendicular to the base of the ventilator so that currents of air striking any one of the corners will by engaging the ribs be deflected upwardly as will currents of air striking against the sides.

The invention will be described in detail hereinafter and will be found illustrated in the accompanying drawings, in which

Figure 1 is a horizontal sectional view of the preferred form of ventilator showing it attached to the upper section of a chimney,

Figure 2 a top plan view of the form shown in Figure 1,

Figure 3 a side view,

Figure 4 a top plan view showing the chimney removed,

Figure 5 a horizontal sectional view of a modified form, and

Figure 6 a top plan view of the form shown in Figure 5.

In the drawings similar reference characters will be used to designate corresponding parts throughout the several views.

In Figures 1 and 2 one form of the ventilator is shown applied to the upper section of the chimney designated 1 and comprises a pyramidal member 2, having the four inclined sides designated 3, and a vertical extension 4 that encloses the chimney 1 and is adapted to be secured thereto by any suitable means adjacent to its top edge. As illustrated in the drawings the pyramidal member 2 is formed of sections of sheet metal that are adapted to be secured together by any suitable means, and said sections may be shipped unconnected and the sections connected in place to conform to the sides of the chimney to which it is to be applied, or the sections may be arranged to be adjustably secured together as is hereinafter indicated, and will be described in connection with a modified form in Figures 5 and 6. Secured to each of the sides of the pyramidal member 2 is an upstanding rib 5 that is arranged substantially perpendicular to the surface of the side of the member, in each instance, and extends on a plane substantially perpendicular to the base of the side 3.

In the modified form shown in Figures 5 and 6 two correspondingly shaped truncated pyramidal members are arranged, the inner member being designated 6 and the outer member being designated 7, and each of the members are formed of separable sections that are adapted to be adjustably connected by means of screw bolts 8 or any other suitable connecting means may be substituted therefor. The member 6 has a vertical extension 9 and the member 7 the vertical extension 10, said vertical extensions being secured together by means of screw bolts 11 having spacing sleeves 12 thereon to properly space the members from one another, and the vertical extension 9 is adapted to be secured to the upper section of the chimney in the same manner as that shown in Figures 1 and 2, or by any other suitable means. The sides of members 6 and 7 are spaced from one another at a greater distance at their bases than at their tops, as shown in Figure 5, that is, the two members converge toward one another toward the top. By such a structure it will be apparent that a current of air entering between the two members will emerge from the top of the ventilator at a greater speed than

it enters between the members, thus adding to the efficiency of the operation of the ventilator.

To insure that the currents of air travel in an upward direction at whatever angle the current of air may strike the ventilator, spacing ribs 13 are provided between the inner and outer members 6 and 7, said spacing ribs being arranged perpendicularly to the contiguous surfaces of said members and also extending perpendicularly to the bases of said members. 14 indicate other ribs secured to the upper sides of the outer member 7 and serve the same purpose as the ribs 5 in the form illustrated in Figures 1 to 4.

What is claimed is:—

1. A chimney ventilator comprising correspondingly shaped inner and outer truncated pyramidal members or frustums spaced from each other, the sides of the members being arranged in upwardly converging planes to taper the space between them and increase the velocity of the air currents passing upwardly through the said space, said members having spaced vertical sections formed as extensions of the sides of the said members and arranged opposite each other to form a vertical passage to change the direction of the air currents from inclined to vertical to stimulate the draft of the chimney and to prevent the said air currents from sweeping across the top of the chimney and choking the same, said inner and outer frustums being composed of angular sections having overlapped portions located at the centers of the sides of the frustums, and vanes arranged exteriorly of the outer frustum and extending along the overlapped portions of the sections and provided at the top with vertical portions located at the vertical section of the outer frustum, said vanes being adapted to cause currents of air to move upwardly over the outer frustum and to have their direction changed from inclined to vertical at the top of the chimney ventilator.

2. A chimney ventilator having an upwardly and inwardly inclined member consisting of a truncated frustum provided at the top with a vertical section formed as extensions of the sides of the frustum, and exterior vanes extending from the top to the bottom of the said frustums for causing currents of air to pass upwardly over the frustum and having vertical upper portions located at the vertical sections, the vertical portions of the vanes and the vertical sections changing the direction of the air currents from inclined to vertical to prevent the air currents from sweeping across the top of the chimney and choking the same and for causing the said air currents to stimulate the draft from the chimney.

In testimony whereof we affix our signatures.

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