

W. MITCHELL.
VENTILATOR.

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1,382,736.

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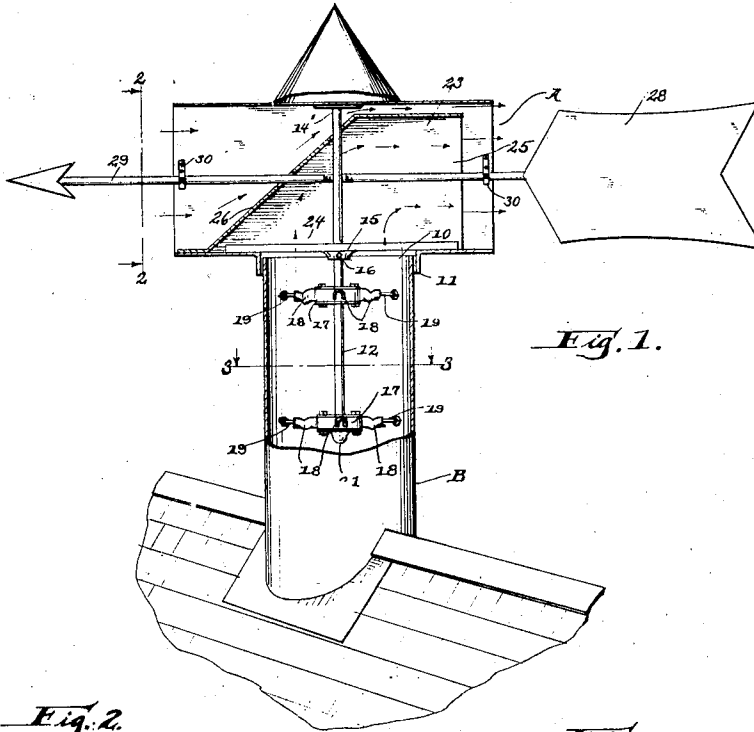


Fig. 1.

Fig. 2.

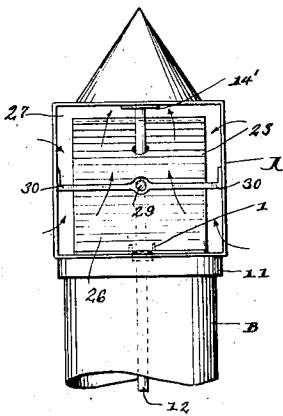


Fig. 3.

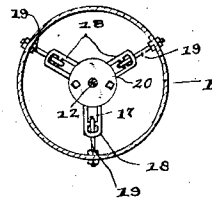


Fig. 4.

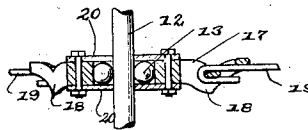
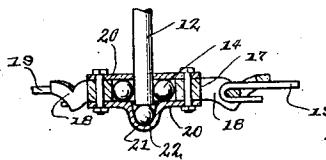


Fig. 5.



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UNITED STATES PATENT OFFICE.

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VENTILATOR.

1,382,736.

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To all whom it may concern:

Be it known that I, WILLIAM MITCHELL, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Ventilators, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

The present invention relates to certain new and useful improvements in ventilators or cowls which are more particularly designed for automatically ventilating the interior of a building or other space, and which are provided with means whereby the ventilator is automatically shifted into a position in which the wind will operate upon the same for effectively withdrawing the foul air from the building.

It is one object of this invention to provide a ventilator of this character so constructed that rain, snow, or any other foreign matter will be prevented from falling into the air shaft or vent.

This invention has for another object to provide a ventilator so constructed that a shaft of air will practically surround the discharge mouth of the air vent or shaft, whereby a strong suction effect is produced to efficiently withdraw the foul air from the building upon which the ventilator is employed.

My invention has for a further object to provide a novel form of brace and journaled support for the horizontal hood or cowl supporting shaft.

It is a still further object of this invention to provide a ventilator or cowl of the character described which will be of simple and efficient construction.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangements of parts, substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawing I have illustrated one complete example of the physical embodiment of my invention constructed ac-

cording to the best mode I have so far devised for the practical application of the principles thereof, and in which—

Figure 1 is a view of a ventilator embodying the features of my invention, parts being broken away and in section to more clearly illustrate the details of construction.

Fig. 2 is a view looking at the end of the ventilator cowl or horizontal hood which is normally positioned to the wind at all times, said view being taken on the plane indicated by the line 2—2 of Fig. 1.

Fig. 3 is a transverse sectional view taken through the air shaft or vent, taken on the line 3—3 of Fig. 1.

Fig. 4 is a detail sectional view of the novel form of combined brace and journal for cowl or hood supporting shaft, and

Fig. 5 is a view similar to Fig. 4 of the lowermost brace end journal illustrating the novel form of end thrust bearing I provide.

Referring now more particularly to the drawing, A designates the ventilator cowl proper which is rotatably supported above an air shaft or vent B.

The cowl A is in the form of a substantially horizontal hood open at both ends, and having an opening 10 in its underside adapted for communication with the air shaft B, and provided with depending annular flange 11, surrounding the opening 10 for extending part way over the upper end of the air vent or shaft B.

The hood is rotatably mounted upon a vertical supporting shaft 12 mounted in suitable bearings 13 and 14, to be later described, and has its upper end engaged with the top wall of the hood A, as at 14', and its intermediate portion passed through the bore of a channeled brace member 15 secured to the bottom wall of the hood A, the said shaft being secured therein by means of a set screw 16. The bearings 13 and 14 consist of ball bearings disposed within centrally bored bracket members 17 provided with radially extending arms 18 from which extend adjustable securing braces 19 having their outer ends secured to the air vent or shaft B, as best shown in Figs. 1 and 3. The ball bearings are secured within the bore by means of an upper and a lower plate 20 and the lowermost plate 20 is centrally depressed as at 21 to receive an end thrust ball bearing 22.

An inner elbow section 23 is secured within the hood A and has one end 24 in communication with the opening 10 in the hood and consequently the air shaft B and its other end 25 spaced a slight distance from one of the open ends of the hood. The rear wall 26 of the elbow section is inclined inwardly and upwardly from the other open end of the hood A, and as best shown in Fig. 2, and the top and side walls of the section 23 are spaced from the top and side walls of the hood to provide an air passageway 27.

By this construction it will be readily seen that the air current enters the hood A, through its end adjacent rear wall 20 of the elbow section, and passes through the air passageway 27 at a high speed, and, as the same completely surrounds the mouth of the inner elbow section 23, a very strong suction is formed to efficiently draw the foul air from the building upon which the ventilator is employed. In order that the end of the hood A adjacent the wall 26 of the elbow will always be positioned into the wind, a vane 28 is provided having its supporting rod 29 passed centrally through the hood A and secured therein by bracket arms 30 which also provide means for bracing the hood.

From the foregoing description taken in connection with the accompanying drawing it will be obvious that I have provided a ventilator which will prevent rain, snow or the like from beating in and entering the air shaft, which will provide increased suction at the mouth of the air shaft, and which will be efficient in operation.

What I claim for my invention is:

1. A ventilator comprising a substantially vertical air shaft, a substantially horizontal open ended hood rotatably mounted above the air shaft and having a bottom opening in register with said shaft, a substantially inverted U-shaped section positioned within the hood and having its ends secured therein

with its outer end terminating near one end of the hood, a wall closing the inner end of said section and inclined from the top of said section at a point near the axis of said vertical shaft to a point outwardly of the hood bottom opening, the side and top walls of said section being spaced from the side and top walls of said hood whereby air entering the end of the hood adjacent the closed end of said section will be formed into a tubular column to create a suction within the open end of said section, and means whereby the end of said hood adjacent the closed end of said section will be held into the wind.

2. A ventilator comprising a substantially vertical air shaft, a supporting rod centrally carried by said shaft with its end extended thereabove, a substantially horizontal hood member rotatably supported above the shaft by said rod and having a bottom opening in register with said shaft, a substantially inverted U-shaped section positioned within the hood and having its ends secured therein with its outer end terminating near one end of the hood, a wall closing the inner end of said section and inclined from a point at the top of said section adjacent the engagement of said rod with the hood to a point outwardly of the hood bottom opening, the side and top walls of said section being spaced from the side and top walls of said hood whereby air entering the end of the hood adjacent the closed end of said section will be formed into a tubular column to create a suction within the open end of said section, the extreme upper end of said rod passing through an opening in the top of said section whereby the major portion will be shielded from the elements, and means whereby the end of said hood adjacent the closed end of the section will be held into the wind.

In testimony whereof, I affix my signature.

WILLIAM MITCHELL.