(No Model.)

G. W. HOWE.

VENTILATOR.

No. 453,638. Patented June 9, 1891.

FIG. 2.

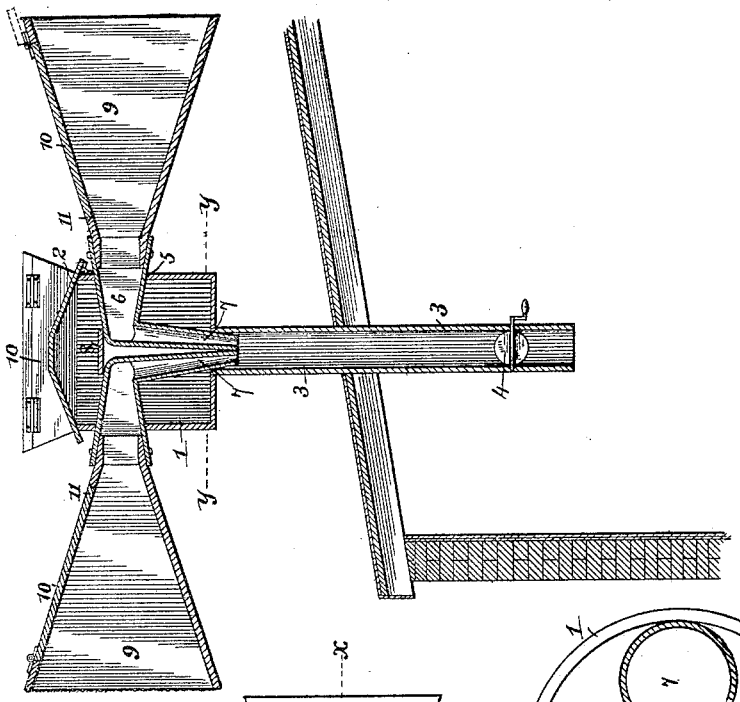


FIG. 3.

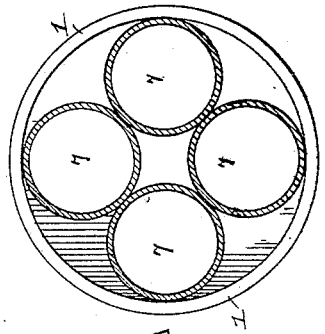
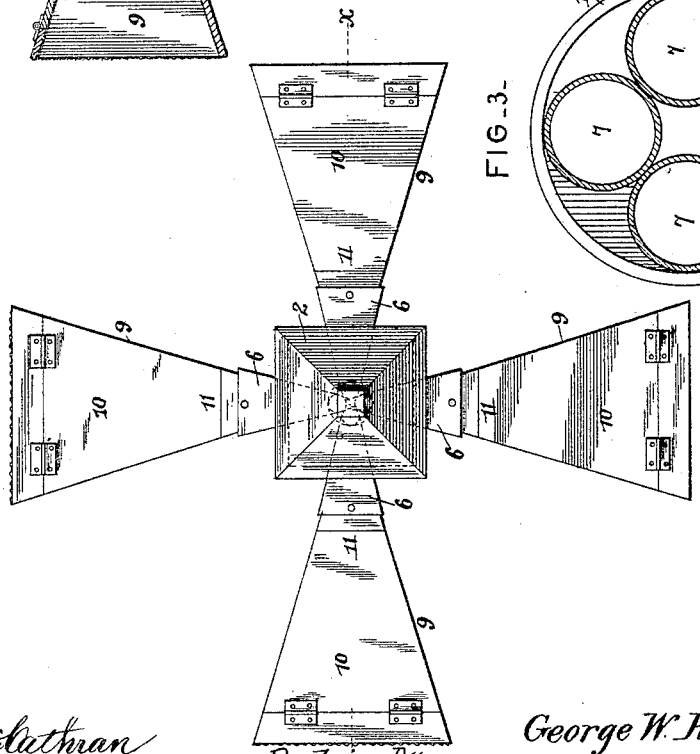


FIG. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE W. HOWE, OF WASHINGTON, IOWA.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 453,638, dated June 9, 1891.

Application filed December 20, 1890. Serial No. 375,350. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HOWE, a citizen of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented a new and useful Ventilator, of which the following is a specification.

The invention relates to improvements in ventilators.

The object of the present invention is to provide a simple, inexpensive, and efficient ventilating device designed to be located upon the top of a building or upon a tower or in a similar elevated position, and capable of receiving air from any point of the compass, whatever the direction of the wind and delivering the same to the interior of the building or structure.

The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a plan view of a ventilator constructed in accordance with this invention. Fig. 2 is a vertical sectional view on line *x x* of Fig. 1, the ventilator being shown in operative position. Fig. 3 is a horizontal sectional view on line *y y* of Fig. 2.

Referring to the accompanying drawings, 1 designates a frame or chamber constructed of suitable material and being preferably rectangular and designed to be located upon the top of a house or tower or other elevated points, and provided with a cover 2, hinged to it and adapted to afford convenient access to the interior of the frame or chamber. The frame or chamber is supported on the upper end of a vertical tube or pipe 3, and is provided with openings in its bottom registering with the upper end of the tube or pipe 3, and the latter is adapted to convey air downward and terminates in the interior of the building, and is provided near its lower end with a valve or damper 4 to open and close the tube or pipe to regulate the ventilation. The frame or chamber has preferably four sides, and when so constructed each side is provided with a circular opening 5, adapted for the reception of a horizontal funnel 6, having its mouth arranged outside the frame or chamber and its contracted ends within and near the middle of the same.

It will readily be understood that the frame or chamber may be constructed with a different number of sides, and I desire it to be understood that I do not limit myself to the precise details of construction, as I may, without departing from the spirit of my invention, make minor changes therein. When four funnels are employed, they are arranged north, south, east, and west, and will be adapted to receive the air when the wind is blowing in any of these directions.

To the inner end of each of the funnels 6 is connected a downward-extending pipe 7, which is tapered and has its lower and smaller end entering the upper end of the pipe or tube 3. The inner adjacent ends of the funnels 6 are braced by a plate 8, which connects the said funnels. The air enters the funnels and passes down the tapering pipes 7 into the pipe or tube 3 and has no access to the interior of the frame or chamber 1, the latter merely serving to support and hold in proper positions the funnels and pipes.

In order to increase the capacity of the funnel and adapt the same for the reception of a large amount of air whenever it is desired to ventilate large structures or buildings, the funnels are provided with supplemental funnels 9, which are preferably rectangular in cross-section and have their inner contracted ends secured within the mouths of the funnels 6, and the mouths of the funnels 9 may be provided with a gauze screen, if desired, to exclude insects and the like. The upper side of each funnel 9 is provided with a hinged lid 10, which has its inner end 11 free and adapted to be raised by an increase in the force of wind, and the said lid 10 serves as an automatically-operating regulating-valve, and when the force of the air becomes too great the lid 10 will be lifted to permit the exit of a portion of the air, thereby preventing any liability of the parts of the ventilator being injured in heavy storms and blows of wind.

From the foregoing description and the accompanying drawings the construction, op-

eration, and advantages of the invention will readily be understood by those skilled in the art to which it appertains.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a ventilator, the combination of the frame, the pipe or tube 3, supporting the frame, and the funnels 6, mounted in the frame, the pipes 7, extending from the funnels to the pipe or tube 3 and having their lower ends arranged therein and the supplemental funnels provided in their tops with the hinged lids 10 and having their inner contracted ends secured to the funnels 6, substantially as described.

2. In a ventilator, the combination of a frame and a receiving-funnel mounted on the frame and provided with a hinged lid or section forming an automatically-operating regulating-valve, substantially as described.

3. In a ventilator, the combination of a frame, a receiving-funnel mounted on the frame and provided in its top with a hinged lid 10 and having its free end arranged inward and being adapted to be lifted by the force of wind, and the tube or pipe 3, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE W. HOWE.

Witnesses:
A. R. MILLER,
W. S. DAVIS.