

(No Model.)

G. H. ENNIS.  
VENTILATOR.

No. 484,879.

Patented Oct. 25, 1892.

Fig. 2.

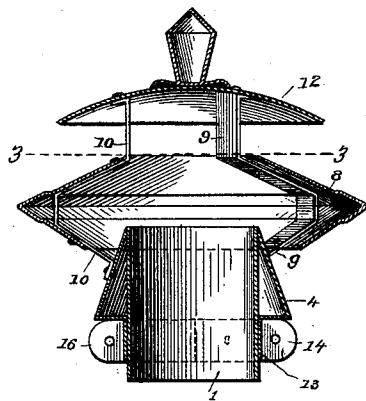


Fig. 1.

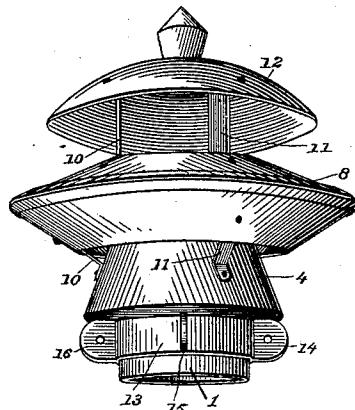


Fig. 4.

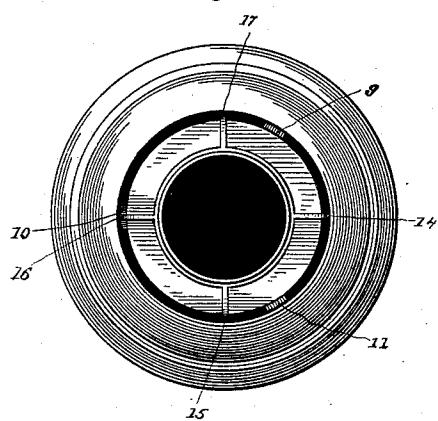


Fig. 3.

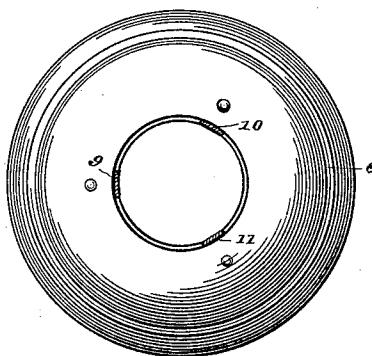
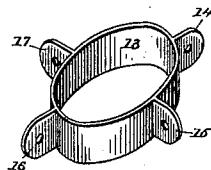


Fig. 5.



Witnesses

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Inventor  
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By his Attorney

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# UNITED STATES PATENT OFFICE.

GEORGE H. ENNIS, OF TROY, NEW YORK, ASSIGNOR TO JESSIE D. ENNIS,  
OF SAME PLACE.

## VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 484,879, dated October 25, 1892.

Application filed March 30, 1888. Serial No. 268,956. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. ENNIS, a citizen of the United States, residing at Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Ventilators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in stationary ventilators for chimney-shafts and the like; and it consists in a construction and arrangement of parts whereby in still weather a comparatively-free escape is permitted for the products of combustion, heated or foul air or steam issuing through said shaft, while at the same time their discharge is facilitated during windy weather from whatever direction the air may blow.

Further purposes of my invention are to prevent the ingress into the chimney-shaft or other discharge-conduit of rain and snow from without, and to prevent the backflow of condensation which may take place upon the interior surface of the ventilator, and, finally, to provide means for staying or retaining the ventilator in place during high winds.

In the accompanying drawings, illustrative of my invention, Figure 1 represents my improved ventilator slightly in perspective. Fig. 2 represents a central vertical section of the same. Fig. 3 represents a section taken on the line 3 3, Fig. 2. Fig. 4 represents a bottom plan view of the ventilator, and Fig. 5 represents in detail perspective the staying or guy ring.

Similar figures of reference indicate similar parts throughout the several views.

1 indicates a short pipe forming the end or continuation of the discharge-pipe proper to be ventilated. Encircling the said pipe is a conical frustum 4, whose exterior surface is adapted to deflect horizontal air-currents, while its pitch is sufficiently steep or abrupt that snow or ice will readily detach themselves from it. From the exterior surface of the frustum 4 extend supports or braces 9 10 11, which sustain a hollow double conical frustum 8, the lower inclined surface of which

extends below the mouth or discharge-opening of the pipe 1. Above the double frustum 8 is supported by the same braces 9 10 11 a deflecting-hood 12, having a rounded periphery, as shown. It will be noted that the braces are continuous from the deflecting-frustum 4 to the hood 12. They therefore form a strong connecting medium between the several parts, preventing, moreover, a collapse of the double frustum in high winds for the reason that they conform in part to its interior surface, extending along such surface above and below and being attached thereto by rivets or the like.

At or near the base of the discharge-pipe 1 and closely encircling the same is a staying or guy ring 13, provided with perforated lugs or projections 14 15 16 17 for the attachment of stay or guy rods, the function of which is to prevent the structure from being displaced or blown over during the prevalence of high winds. The band-ring also serves as an additional strengthening-piece to the discharge-pipe 1, doubling the thickness of said pipe at that point, and also acts as a support for the base of the frustum 4.

The operation of the ventilator is as follows: During still or calm weather the discharge from the ventilating-pipe 1 is practically unobstructed by the parts of said ventilator above said pipe. Any condensation of water which may take place in the hollow double conical frustum 8, instead of passing back into the pipe 1, falls upon the exterior surface of the frustum 4 and cannot accumulate in any part of the ventilating apparatus, which is therefore protected against rusting out, as would otherwise be the case. If now the wind should blow in a horizontal direction toward any side of the ventilator, it will be deflected by the sides of the double frustum 8 across the upper and lower openings of said frustum and will thereby create a vacuum within the space inclosed by the frustum, thereby facilitating the draft through the pipe 1. If the wind should blow from above, it would strike the upper deflecting surfaces of the cap 12 and frustum 8, thereby in like manner creating a vacuum within the frustum 8 and causing the discharge of the ventilating-pipe through the top opening of the frustum.

Again, when the wind blows from below it will be guided by the upwardly-inclined surface of the frustum 4 through the top opening of the frustum 8, assisting the discharge 5 through the ventilating-pipe, as before. The cap-piece 12 deflects rain and snow to the upper surface of the frustum 8, and the lower deflecting surface of said frustum 8, extending below the mouth of the ventilating-pipe 10 1, not only protects said opening against the admission of rain and snow, which would otherwise be blown into the ventilating-pipe, but also guides any water which may flow down either its exterior or interior surface upon the 15 frustum 4, thereby preventing it from obtaining access to said ventilating-pipe.

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

20 In a ventilator, the combination, with the

double frustum 8, consisting of two single frusta united at their bases or larger diameters and freely open at their smaller diameters, of the discharge-pipe 1, extending upwardly through and above the lower opening 25 of said frustum nearly to the plane of meeting of the single frusta, the deflecting-frustum 4, encircling said discharge-pipe and extending from its summit to a point below the double frustum, the hood 12, extending over 30 the upper opening of the double frustum, and braces for holding the parts rigidly together, substantially as described.

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

GEORGE H. ENNIS.

Witnesses:

JAMES H. PEIRCE,  
CHAS. D. FOWLER.