

W. N. ABBOTT.

Improvement in Chimney-Cowls.

No. 113,961.

Patented April 25, 1871.

Fig. 1.

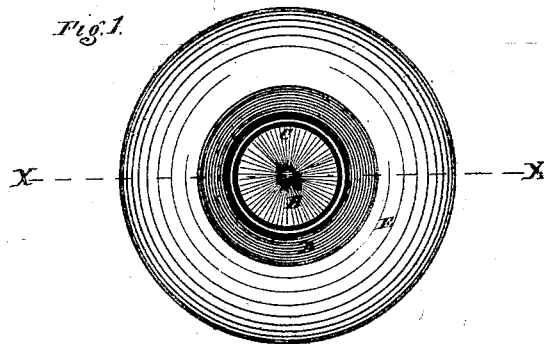
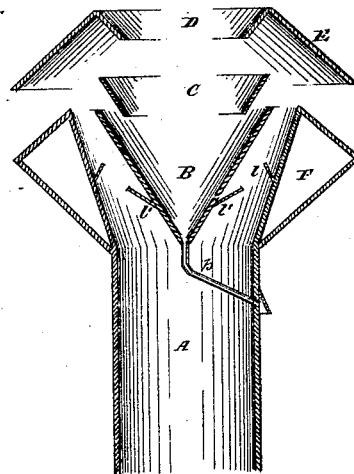


Fig. 2.



Witnesses.

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IMPROVEMENT IN CHIMNEY-COWLS.

Specification forming part of Letters Patent No. 113,961, dated April 25, 1871.

To all whom it may concern:

Be it known that I, WARREN N. ABBOTT, of the city of New York, in the county of New York and State of New York, have invented a new and Improved Ventilator and Chimney-Cap; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to provide a ventilator that may be used for ventilating buildings or ships, or as a chimney-cap, constructed in such a manner that it will effectually prevent down-drafts, and so that gusts of wind striking upon it, which in other ventilators would cause a down-draft, will have a tendency to increase the upward draft; also, to make provision for carrying off the rain that may fall thereon.

The nature of my invention consists in making a ventilator with an open top, by securing within the cylinder or body of the ventilator, which widens toward its upper end, a hollow cone of sheet metal, with its apex downward, so that the base of the cone is nearly on a line with the upper extremity of the cylinder, a space being left between the outer sides of the cone and the inner side of the cylinder. Immediately above the said cone is a short tube, in the form of a frustum of a cone, of equal dimensions with the cone already mentioned, which is also placed in an inverted position, its lower or smaller end being placed a little below the upper edge or base of the cone; and immediately above this tube is another tube of similar form, and of the same or nearly the same dimensions, which is likewise placed in an inverted position, and its wider end forms the extreme top of the ventilator.

Secured to the upper edge of the last-mentioned tube is a cap or cover, which extends over the parts already mentioned, and which is also in the form of the frustum of a cone, but which, unlike the others, is placed with its larger diameter downward. These are all secured to the cylinder or body of the ventilator and to each other by means of brackets, or in any other suitable manner.

At the bottom or apex of the cone is a small hole or perforation, into which is fitted a pipe,

for the purpose of carrying off the rain that may fall within the cone, which said pipe extends outside of the cylinder, and on the inclines in the interior are one or more ledges, for a similar purpose.

To enable others skilled in the art to make and use my invention, I will proceed more particularly to describe its construction.

Figure 1 represents a plan view of my improved ventilator. Fig. 2 is a longitudinal vertical section of the same.

Letters of like name and kind indicate like parts in each of the figures.

A is the body of the ventilator, which may be made of any of the sheet metals suitable for the purpose, and which is cylindrical in form, but made wider toward its upper end, for the purpose of increasing the draft.

B is a hollow cone, also made of any suitable sheet metal, located within the body of the ventilator, and placed in an inverted position, so that its apex passes within the cylinder A, and its base or upper edge is nearly on a level with the line of the top of the said cylinder. This cone is of such dimensions that when in position an open space is left between its outer surface and the inner surface of the cylinder A, and it is secured in its proper position by means of brackets or braces, or by any other suitable and well-known means. Directly over this cone B is a short tube, C, made in the form of a frustum of a cone, its larger diameter being of the same or nearly the same dimensions as the base of the cone B. This tube is also placed with its wider end uppermost, and so that its lower edge passes a short distance within the cone B, and it is secured to the latter in any suitable manner. Immediately above the said tube C is another tube, D, of similar form and dimensions, which is also placed with its wider end uppermost, and its upper edge forms the extreme top of the ventilator. This is also secured in position in the same manner as the former.

E is a cap or cover, which is also made in the form of a frustum of a cone. Its upper and smaller end fits upon the upper end of the tube D, to which it is secured, and its lower and wider end extends downward over the parts already mentioned.

By means of the above-described arrangement of the tubes and cone it will be seen that a number of air-passages is formed, all of which diverge from the center, so as to convey the gust of wind that may strike upon the ventilator upward and outward.

At the apex of the cone B is a small hole or perforation, into which is fitted a pipe, *p*, that extends to the outside of the cylinder A, and which is for the purpose of carrying off any rain that may fall within the cone. On the inner surface of the upper portion of the cylinder A is a ledge or spout, *l*, that extends around the said cylinder, for the purpose of catching and carrying off any rain that may run down the side of the cylinder, a discharge for the same being provided by means of a perforation in the side of the side cylinder into the chamber F, at the bottom of which is another perforation to allow the water to pass off. *l'* is a similar ledge or spout, provided on the outer side of the cone B for a similar purpose, a perforation being provided in the side of the cone, by means of which the water is conducted into the pipe *p*.

The advantages of my invention will be readily understood. By means of the inverted cone I am enabled to construct a ventilator with an opening at the top, and from whatever direction the wind may strike upon the ventilator it is prevented from entering the lower portion thereof, so as to cause a down-draft, by

means of the said cone, as it must strike upon the inclined sides of the latter, and is immediately forced through some one or more of the air-passages, all of which tend to carry it upward and outward, and as it leaves the ventilator in an upward direction it has a tendency to increase the upward draft in the lower portion of the ventilator. It is therefore well adapted for the chimneys of a building having a higher building next adjoining, as downward drafts in the chimney of the lower building are effectually prevented. It is also well adapted for ventilating buildings, and also the cabins of vessels, and cars, and at the same time is simple and cheap in its construction.

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

1. The inverted hollow cone B, in combination with the tubes C and D, cover E, and cylinder A, all being constructed and arranged substantially as herein shown and described, and for the purposes set forth.

2. The pipe *p* and ledges *l* and *l'*, in combination with the cone B, tubes C and D, and cylinder A, as herein shown and described, and for the purposes set forth.

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Witnesses:

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