

(Model.)

H. DOERGE.
VENTILATOR.

No. 535,276.

Patented Mar. 5, 1895.

FIG. 1.

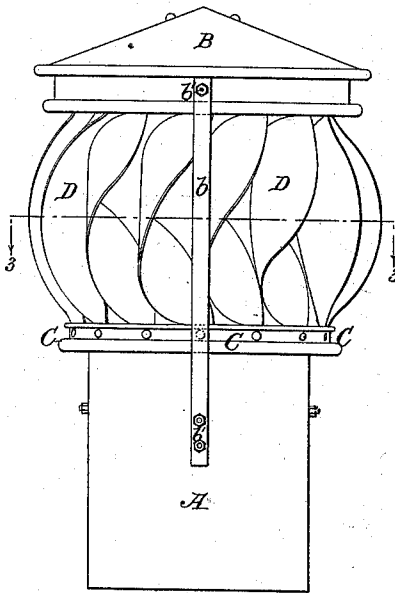


FIG. 2.

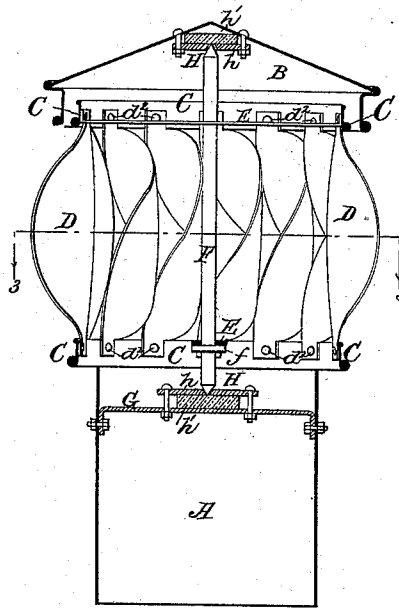


FIG. 4.

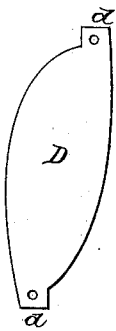


FIG. 5.

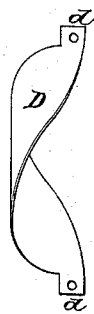
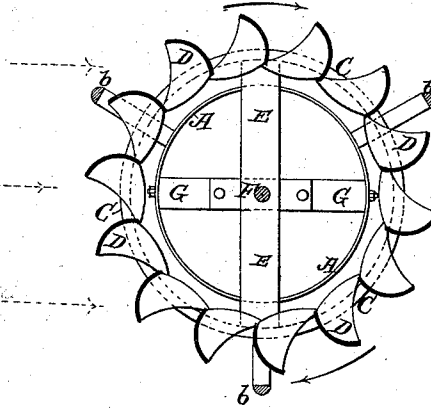


FIG. 3.



WITNESSES:

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INVENTOR

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BY

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UNITED STATES PATENT OFFICE.

HERMANN DOERGE, OF NEW YORK, N. Y.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 535,276, dated March 5, 1895.

Application filed July 9, 1894. Serial No. 516,949. (Model.)

To all whom it may concern:

Be it known that I, HERMANN DOERGE, a citizen of the United States, and a resident of New York city, New York county, State of New York, have invented a new and Improved Ventilator, of which the following is a specification.

My invention relates to ventilators to be placed at the tops of ventilating pipes or chimneys, and the object of my invention is to so construct such ventilators that they will run easily, act efficiently and be readily repaired.

In the accompanying drawings, Figure 1 is an outside view of a ventilator made according to my invention. Fig. 2 is a vertical section thereof, and Fig. 3 a sectional plan taken on the line 3—3, of Figs. 1 and 2. Fig. 4 represents a blank before it is bent to form one of the vanes of the ventilator, and Fig. 5 represents the said blank bent as when secured to the frame or rings for the vanes.

The ventilator consists of a pipe A to be secured to the ventilating shaft or chimney, a stationary cap B and an intermediate rotating fan D, the spindle F of which has one of its bearings in the cap B and the other in a cross-bar in the pipe A.

To construct the fan I take a number of metal blanks D as represented in Fig. 4 and rivet or otherwise secure the ends *d* thereof to two metal rings C C. These blanks D may be formed with both ends alike as shown, so that either end may be riveted to the top or to the bottom ring. The vanes D have a half twist given to them between the upper and the lower rings, that is, the side of the blank which faces outward where it is riveted to the top ring faces inward where it is riveted to bottom ring. The curve which is given them by this twist presents two great advantages over existing forms of fans;—first, the inner or concave part catches the slightest breeze which for illustration may be taken as indicated by the dotted arrows in Fig. 3, and second, the curved outer surfaces of the vanes on the other side of the fan offer little obstruction to the rotation of the fan, the direction being indicated by full line arrows in said figure. Moreover this form of vane permits of each end being laid flat against its ring and riveted thereto as shown at *d'*, Fig. 2.

A cross-bar E (Figs. 2 and 3) is riveted to each ring C and a spindle F passed through holes in the center of the cross-bars. The

spindle may be provided with a collar *f* bolted or otherwise secured to one of the cross-bars E, and the spindle may be of polygonal section where it passes through the cross-bars above the collar, the holes in the cross-bars corresponding to the section of the spindle whereby the spindle and cross-bars, and consequently the fan all rotate together. The lower bearing for this spindle F is carried by a cross-bar G bolted or riveted to the pipe A. The upper bearing is carried by the cap B. These bearings H consist each of a metal plate *h* provided with a conical hole in the center and a piece of glass *h'* against which bears the conical point of the spindle. The plate *h* is bolted to the cross-bar G with the glass piece *h'* beneath the hole and between the plate *h* and the cross-bar. The upper bearing is preferably bolted to the cap B. The bearings may be readily unbolted and replaced in case of need, but as the spindle bears directly on the glass, the bearings are most durable. The ends of the spindle are made conical and slightly smaller in diameter than the holes in the plate *h*.

The detachable cap B is secured to the pipe or chimney by means of curved braces *b* secured by bolts and nuts *b'* and at one end to the cap and at the other end to the pipe A. It will thus be seen that the fan can be easily and readily taken apart for repairs by simply unbolting the cap B.

I claim as my invention—

1. In a ventilator, the combination of a pipe, a stationary cap and an intermediate rotating fan consisting of two rings and a series of vanes each having a half twist between the rings and its ends flat with the sides of said rings, whereby the vanes may be conveniently fastened to the top and bottom rings.

2. In a ventilator, the combination of a pipe a stationary cap, and an intermediate rotating fan consisting of two rings and a series of vanes, each of said vanes having a half twist between the two rings with its ends laid flat against the rings and riveted thereto, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERMANN DOERGE.

Witnesses:

EDITH J. GRISWOLD,
GEORGE BAUMANN, Jr.