

No. 638,503.

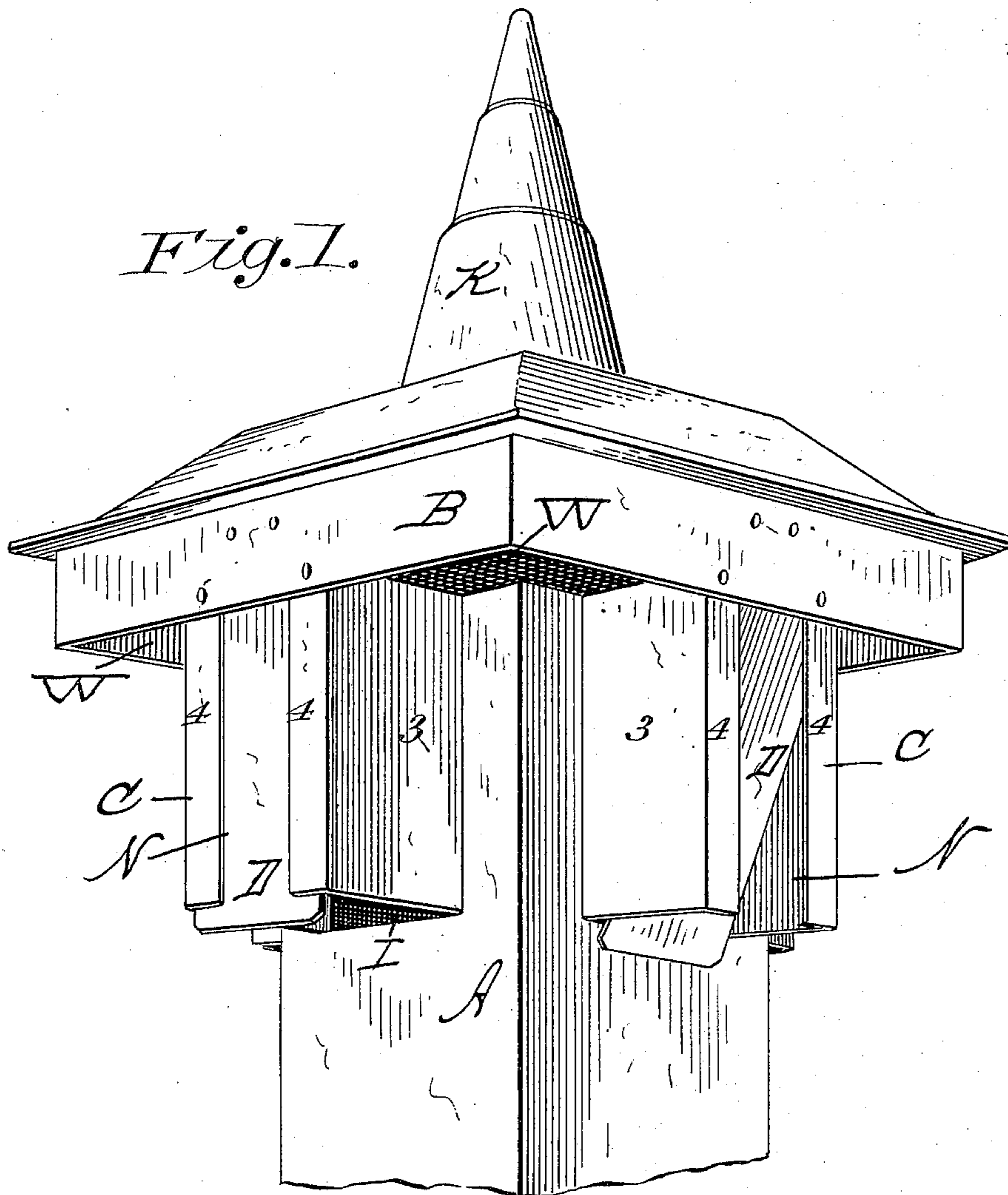
Patented Dec. 5, 1899.

T. EDWARDS.
VENTILATOR.

(Application filed Mar. 6, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 2.

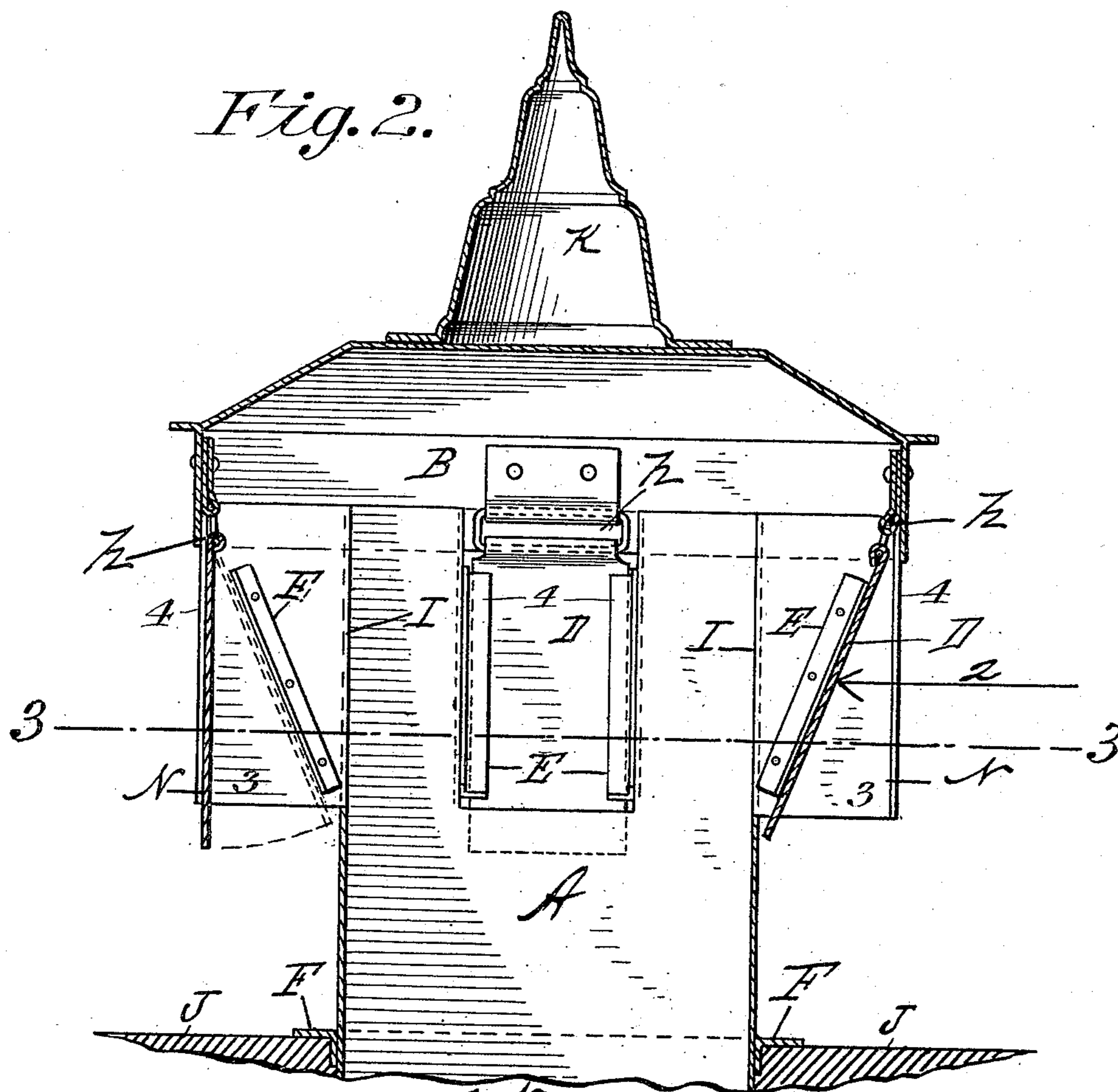
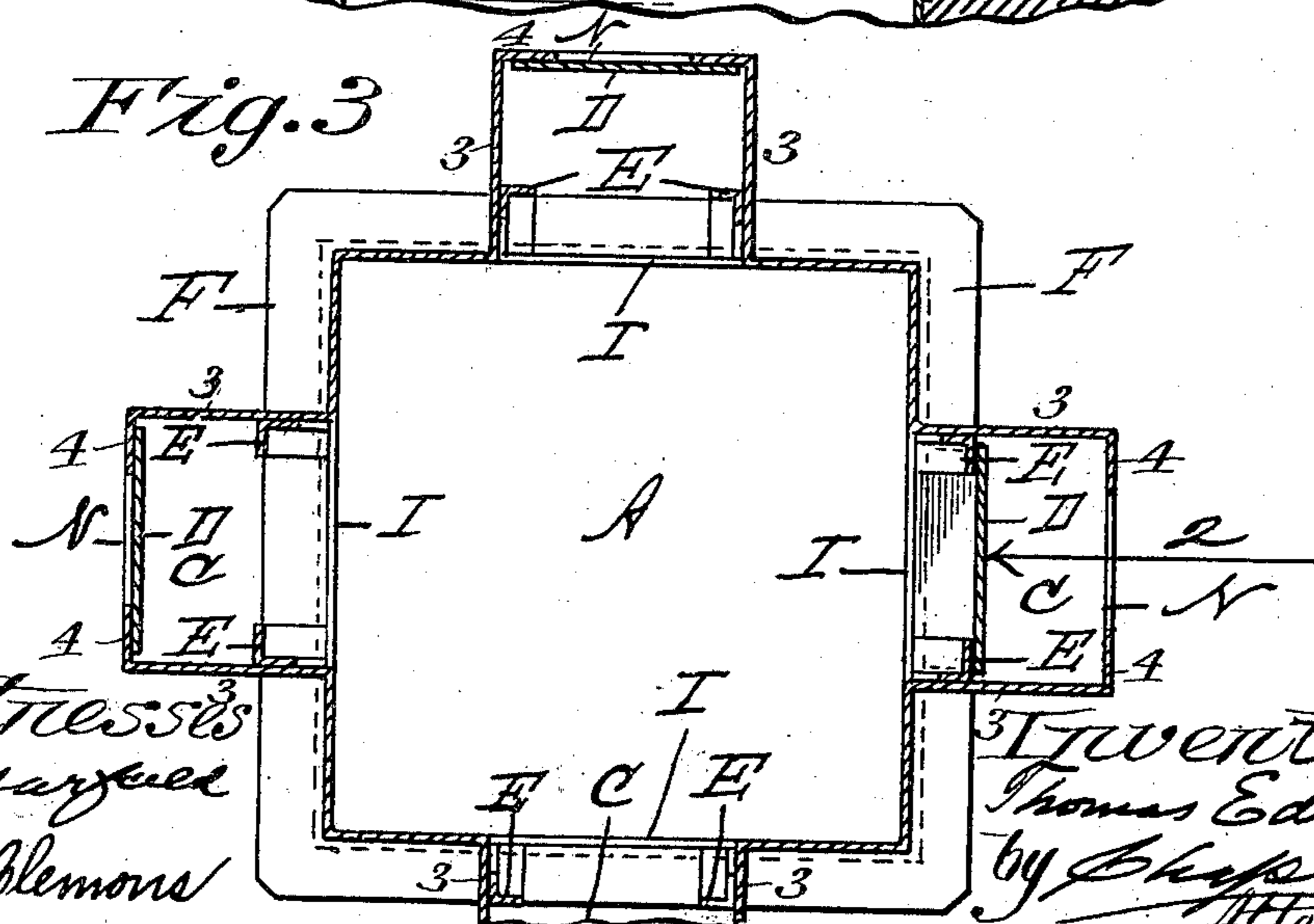


Fig. 3



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UNITED STATES PATENT OFFICE.

THOMAS EDWARDS, OF HOLYOKE, MASSACHUSETTS.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 638,503, dated December 5, 1899.

Application filed March 6, 1899. Serial No. 707,835. (No model.)

To all whom it may concern:

Be it known that I, THOMAS EDWARDS, a citizen of the United States of America, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to ventilators adapted to be applied to the roof or other exterior portion of a building, the object being to provide a ventilator of this class containing improved means for conducting air-currents upwardly into and thence outwardly from the hood and body thereof and for protection against the entrance of rain thereinto with the wind; and the invention consists in the peculiar construction and arrangement of the several parts of the device, whereby said objects are attained, all as hereinafter fully described, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view of a ventilator embodying my improvements, said figure illustrating the same in such position that the under side of the hood of the ventilator can be seen. Fig. 2 is a vertical section of the ventilator; and Fig. 3 is a transverse section on line 3 3, Fig. 2.

A indicates the body or trunk of the ventilator, which is of suitable metallic construction and is preferably of rectangular form in cross-section, and hence has four vertical side walls, as shown in Figs. 1 to 3, inclusive. Through each vertical side wall of said body A is provided an opening I, which constitutes an air-passage extending from the upper end of each of said walls downwardly and having sufficient width to permit air to flow with a considerable volume therethrough into and out from said body or trunk A. On the outer side of each of said side walls and at the opposite borders of said opening I are fixed two vertical metallic side sections 3 3, the outer vertical borders 4 of which are turned in toward each other and constitute vertical segments of a front wall in the plane of the adjoining outer side of the said side wall, thus leaving a considerable opening therebetween. The said turned-in borders together constitute stop-strips for arresting the outwardly-

swinging movement of a vertically-hanging gate D, more fully described below.

B indicates the combined hood and roof of the ventilator, having a depending border which incloses the upper ends of said inturned vertical borders 4 on said side sections 3 and is rigidly bolted or riveted to said last-named borders, as shown, and thereby said hood and body A, through the said intermediate side sections 3, are firmly secured one to the other.

The aforesaid construction, comprising the body A and the border portions of the hood B, projecting considerably beyond the sides of said body, provides an air-passage W of considerable area under each corner of said hood, so that a wind-current driven against the corner of the body A under said hood-corner and between the adjoining side sections 3 at N flows with considerable force into said hood and outwardly through the similar openings in the opposite side of the ventilator. The gate D is hung by a suitable hinge h to the inner wall of the part of the said depending border of the hood B and hangs normally in the vertical position behind the said inturned borders 4 4 of said side sections 3 3 and serves to close the opening between said borders, and when actuated by the movement of wind against its outer surface the said gate swings inwardly and closes said opening I in the wall behind it. The described two positions of said gate D are fully illustrated in Figs. 1 and 2, and each of said gates acts wholly independent of the others to take the aforesaid positions to open or close one of said air-passages I and to stop the passing of air through the said passage into the ventilator. The above-described construction, including the said sections 3 3 and vibratory gate D, all located on said body A and opposite said opening I therethrough, provides a vertical air-conduit C on each of the four walls of the ventilator-body, which is normally open for the movement of air-currents under substantially normal conditions into the body of the ventilator on the windward side or sides thereof, said wind passing thence outwardly on the lee side thereof, and thus creating the requisite upward draft in the ventilator. When, however, the force of the wind in the direction of the arrows 2 becomes

so great against and within the ventilator as to cause the "backing up" of the air in the latter and occasion a so-called "downdraft," the said gates D on the windward side will
 5 swing back against the said body A, as shown at the right in Figs. 1 and 2, and close the opening I thereunder, thus limiting the inlet-openings of the ventilator to those indicated by W under the corner of the hood B
 10 until the force of the wind decreases, when the said gate or gates which may have been closed will by their own weight automatically resume the described open or vertical positions, thus bringing said gates again to their
 15 normal positions. To prevent any unpleasant noise that might arise from the free swinging of the lower ends of said gates D against the side of said body when acted upon by wind, as aforesaid, the gate-arresting strips
 20 E E, of any suitable material, are secured on the inner opposite sides of said conduit side sections 3 3.

J, Fig. 2, indicates part of a roof of a building, and F a flange on said ventilator-body
 25 supporting the ventilator on said roof parts.

K indicates a cone-shaped ornament on the hood of the ventilator.

I claim—

1. A ventilator having a body comprising

four vertical walls, each having an air-pas- 30
 sage therethrough, a hood secured over the top of said body having its borders extending beyond the outer sides of said walls, and having an air-passage under each projecting
 35 corner thereof, combined with a vertical air-conduit C on each of said walls, a freely-swinging gate in said conduit, the latter being open at its lower end and having an air-passage
 40 through its front wall, said gate acting automatically to establish and to cut off the air movement through said conduit into said
 45 body and to permit the movement of air outwardly from said body through said conduit, substantially as set forth.

2. In a ventilator having an opening in the 45
 side thereof through which air may flow, means for controlling the said air-flow consisting of an air-conduit comprising the side
 sections 3, 3, secured to said side, and having the intumed borders 4, 4, and the freely- 50
 swinging gate D, automatically taking positions against and removed from said borders 4, 4, substantially as set forth.

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