(No Model.)

LA FAYETTE SCHANCK.

VENTILATOR.

No. 312,903. Patented Feb. 24, 1885.

Fig. 2.

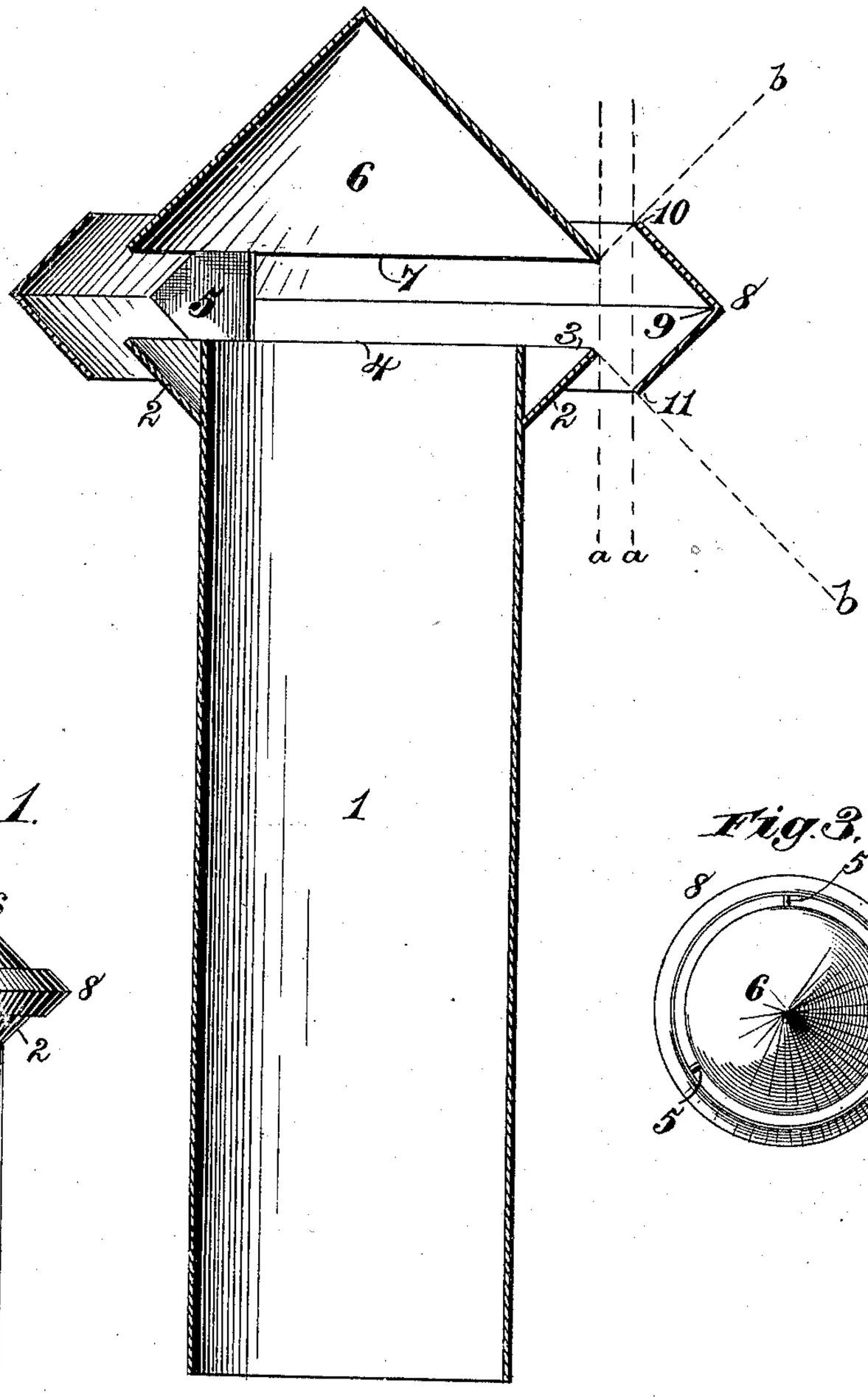

Fig. 1.

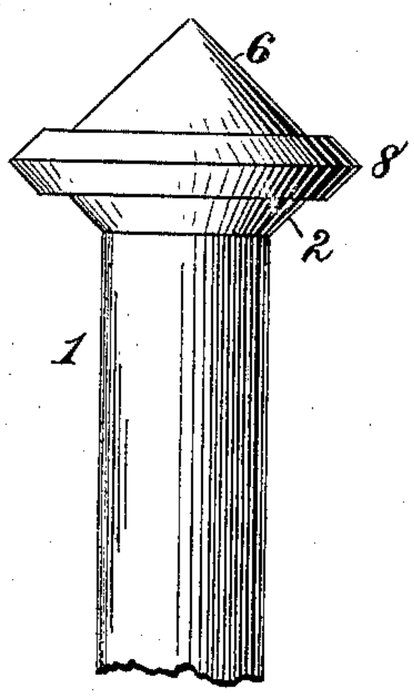

Fig. 3.

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UNITED STATES PATENT OFFICE.

LA FAYETTE SCHANCK, OF ROCHESTER, NEW YORK.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 312,903, dated February 24, 1885.

Application filed June 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, LA FAYETTE SCHANCK, a citizen of the United States, residing at Rochester, New York, have invented new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to improvements in that class of ventilators composed, essentially, of a flue having its upper end or discharge-mouth provided with two dome-shaped bodies having flangeless edges and separated to create an intervening annular exit-passage surrounded by a vertical band-ring, forming a shield to the said passage, whereby air or wind currents acting on the domes and shield create an upward draft in the flue.

The object of my invention is to provide a novel construction and combination of devices, whereby the upper draft in the flue is not varied by variations in the direction of the air or wind currents, and a continuous upward draft is created in the flue notwithstanding the line of travel of the air or wind currents or the direction in which they strike or act upon the ventilating devices. This is accomplished in the manner and by the means hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a broken side elevation of a ventilator constructed in accordance with my invention. Fig. 2 is a vertical central sectional view of the same on an enlarged scale, and Fig. 3 a top plan view of Fig. 1.

In order to enable others skilled in the art to make and use my invention, I will now describe the same in detail, reference being had to the drawings, in which—

The number 1 indicates a tube or flue to connect at its lower end with an apartment (one or more) to be ventilated, and provided at its upper or outer end portion with an attached upwardly and outwardly projecting annular rim, 2, having a plain or flangeless upper edge, 3, arranged, preferably, on a plane to the edge of the discharge-mouth 4 of the flue, this flange projecting, as stated, in a right line from the exterior surface of the flue. To the mouth edge of the flue are secured a series of vertical strips, 5, supporting at their upper edge the base of a hollow cone, 6, the cone having a plane or flangeless base edge, 7, of a diameter equal to the diameter of the upper flangeless annular edge, 3, of the rim 2, and the strips serving to sustain the adjacent edges of the cone and rim at a suitable distance apart to create an intervening annular exit-opening. The outer projecting ends of the cone-supporting strips 5 are beveled to bring them to a point, or form an angular V-shaped end, which is adapted to bear against the inner surfaces of an annular shield or guard, 8, for sustaining it around and at a suitable distance from the edges of the cone and the rim. The shield is a true circle and angular in cross-section, to form an upward and inward projecting flange and a downward and inward projecting flange, which are joined at the angle 9, and the inner edges of these flanges are arranged at such distances from the edges of the cone and rim as to create an unobstructed vertical passage, as indicated by the space between the vertical dotted lines *a*, Fig. 2. The flanges of the shield extend in lines parallel to the plane of the outer surfaces of the cone and rim, respectively, while the upper and lower edges, 10 11, of the shield-flanges are at right angles, or approximately so, to the said surfaces of the cone and flange and in line with the adjacent edges 3 and 7 of the rim and cone. The arrangement of these parts is such that the exit-opening between the cone and rim is equal in area or width to the combined area or width of the exit-passages between the edges of the shield and the said cone and rim, the object of this construction being that an invariable upward draft is created in the flue without regard to variations in the line of travel or direction of the air or wind currents, and notwithstanding the direction in which the currents strike or act upon the parts; but, to effect this by the most efficient and practical means, it is essential that the adjacent edges of the cone and rim be flangeless, and that the flanges of the shield be parallel, or substantially so, to the outer surfaces of the same, as stated.

Another important feature of the structure, in order to obtain the very best results and uniform operation, is that the diametrical capacity of the flue be equal to the combined capacities of all the exit-passages. It is also important that the edges of the shield be in a

line on a plane which is at right angles to the surfaces of the cone and the rim, as indicated by the dotted lines *b*, for I have found that if the edges of the shield be extended much beyond these points the air or wind currents, if moving upward or downward in respect to the ventilator, will more or less pass down the shaft. The unobstructed vertical passage created between the edges of the shield, cone, and rim, as indicated by the space between the dotted lines *a*, is also important, for the reason that I have found if the edges of the shield are brought into close proximity to or directly over and under the edges of the cone or rim, respectively, the sidewise action of the air or wind currents will vary or affect the upward draft in the flue. In a ventilator possessing the peculiar characteristics set forth the upward draft is created and never varied or affected without regard to the line of travel or direction of the air or wind currents, and whether the currents strike or act upon the parts from above or below, or sidewise, or angularly, the tendency is to create a vacuum in the flue, and thereby force an upward draft therein, so that foul air in an apartment or apartments is drawn off.

I am aware of Patents No. 152,496 and No. 153,530, and do not wish to be understood as claiming what is therein disclosed. My invention differs from the construction shown in these patents, in that the adjacent edges of the upwardly and outwardly projecting rim on the flue and the base of the cone are in the same vertical line, and the flanges of the shield are parallel to the planes of the cone and rim respectively, while the adjacent edges of the cone and rim are at right angles to the edges of the shield, the edges of the rim and the cone being also so arranged in relation to the edges of the shield as to create an intervening unobstructed vertical passage-way, the whole contributing to render the ventilator perfect in operation without regard to the direction of the wind-currents.

The invention can be used in any place where a ventilator is required and for any purpose desired. I have not illustrated it connected with a building, as I do not consider such essential, as it will be understood that the flue is adapted to connect with a pipe, chimney, or other conduit.

Having thus described my invention, what I claim is—

The combination of the ventilating-flue having at its exit-mouth the upward and outward projecting straight and flangeless rim, the cone supported above the rim and having its base edge in the same vertical line as the upper edge of the rim, and the surrounding angular shield having its upper and lower flanges arranged parallel to the planes of the cone and the rim, respectively, the adjacent edges of the rim and the cone being at right angles to the edges of the shield, and the edges of the rim and cone separated from the lower and upper edges of the shield to create the unobstructed vertical passage-way between the said adjacent edges of the rim, the cone, and the shield, substantially as shown and described.

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

L. F. SCHANCK.

Witnesses:
WM. E. CRAIB,
WM. H. FARRAND.