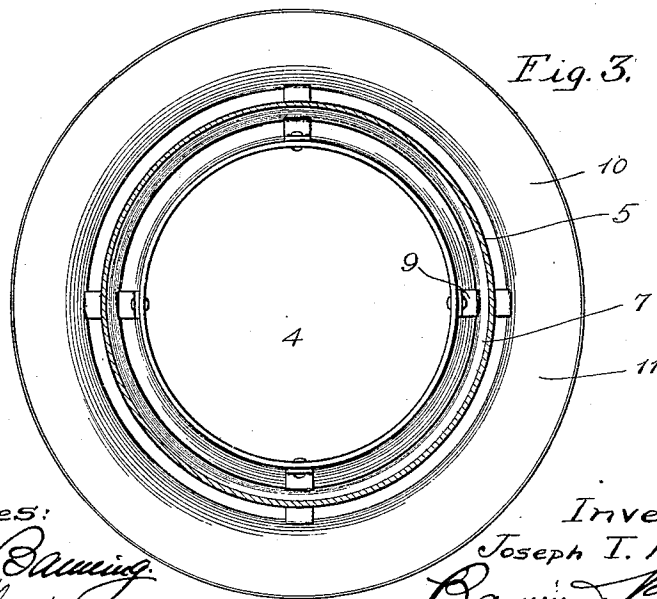
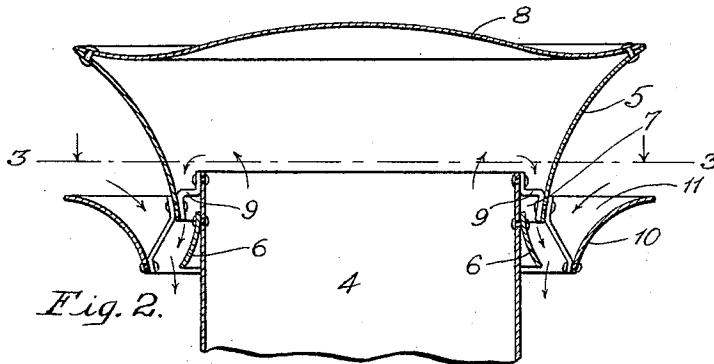
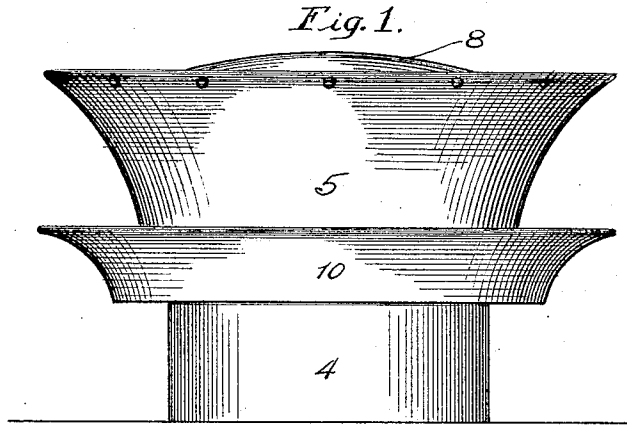


J. T. MERCIER.
VENTILATOR.
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1,050,067.

Patented Jan. 7, 1913.



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UNITED STATES PATENT OFFICE.

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VENTILATOR.

1,050,067.

Specification of Letters Patent.

Patented Jan. 7, 1913.

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To all whom it may concern:

Be it known that I, JOSEPH T. MERCIER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

The ventilator of the present invention is of the natural draft type, and is adapted and intended for general usage.

The principal objects of the present invention are, to create a point of suction, in proper relation to a passageway leading from the chamber to be ventilated, so as to draw or suck the air out from said chamber; and to produce a device, for accomplishing the result desired, which is cheap and simple of construction and of a durable character.

Further objects of the invention are, to so arrange the parts that no clogging of the passageways can result, so as to interfere with the suction action; to provide a deflector to prevent substances from gathering around the base of the duct leading from the chamber; and to so arrange the parts that dust or other foreign substances will not be blown back or otherwise enter into the chamber being ventilated, by the action of the draft.

The invention further consists in the features of construction and in the combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is an elevation of a ventilator embodying the principles of construction and operation of the present invention; Fig. 2, a vertical section; and Fig. 3, a section on line 3—3 of Fig. 2, looking in the direction of the arrows.

The device consists of a duct or conduit 4, communicating with the chamber being ventilated and extending outside thereof and open at its upper end. This is what will be termed the inner section of the parts comprising the ventilator. Extending above the upper end of this inner section is an intermediate section 5, which is open at its lower end 6. As will be clearly seen from Fig. 2, said lower end extends below the upper end of the section 4. In the form shown, the sections 4 and 5 are concentric to one another and are spaced away from one another to provide a clearance, as at 7. This clearance forms a passageway for the air drawn out from the chamber being ventilated.

The section 5 has secured thereto a cap or cover 8. Although the section 5 and the cap or cover are shown as independent from one another, it is obvious that they may be formed of a single piece, if desired. There must, of course, be some form of cap or protector to prevent rain, etc., as well as air, from passing downward in the duct or conduit 4. The means shown for providing such a cover is a simple and efficient one, although the cover may be arranged in any manner desired, provided it does not interfere with the passage of air from the section 4 out through the section 5 in the manner indicated by the arrows.

The sections 4 and 5 are joined together in the construction shown by a series of strap-like members 9. Surrounding the intermediate section 5, and, in the construction shown, arranged concentric thereto, is an outer section 10 in the form of a ring; and this ring, as shown, has a larger diameter at its upper end, thus making it of a funnel-shaped formation. As will be seen from Fig. 2, the upper end of the ring is above the lower end of the section 5, and the lower end of the ring is below the lower end of the section 5. And the ring is spaced away from the intermediate section to provide a passageway for air therebetween, as indicated at 11. The upper end of this ring is what may be termed the air inlet, and the lower end, the air outlet.

The air in passing through the ring in the manner indicated by the arrows will create a suction which will produce a current of air through the passageway 7 between the sections 4 and 5, which current of air will have a suctional force sufficient to draw the air out from the conduit 4 and through the passageway 7 between said conduit and the section 5, from whence it will discharge with the open air through the passage 11. Thus, a continuous sucking or drawing of the air from the chamber being ventilated will be produced, effecting a constant changing of the air within said chamber.

It will be noted that the currents of air which produce the ventilation are always moving away from the chamber being ventilated. Hence, the danger of dust, dirt, or other foreign matter being blown into the chamber being ventilated, by the action of the ventilator, is eliminated. It will further be noted that the openings through

which the air passes are all of substantial dimensions, so that the danger of these openings becoming clogged by an accumulation of dirt or other foreign matter is eliminated.

5 Such a clogging would, of course, render inoperative the entire ventilating operation, and would be a vital defect against the proper operation of the device.

Secured to the inner section 4 is a deflector 6 which is provided for the purpose of deflecting snow or other matter which passes through the outer section 10 to throw it away from the inner section 4, so that it will not compact around the lower end of said inner section. Such packing would be undesirable, especially in case of snow, by reason of the fact that in melting, the water might leak through the opening through which the conductor extends.

20 The walls of the outer section 10 must, of course, be so configured as to cause the air to travel in a path so that it will sweep across the open lower end of the section 5. If the current of air travels in such a manner, a suctioning action sufficiently strong to draw the air out from the chamber being ventilated will be created.

I claim:

1. A ventilator comprising inner, outer, 30 and intermediate sections, said inner section being in the form of a conduit, said intermediate section having imperforate top and side walls and an open lower end, the side walls converging toward the conduit at their lower ends, the outer section being in the form of a collar having imperforate side walls converging toward the conduit at their lower ends, said converging walls serving to deflect the air striking there- 40 against downwardly in a vertical direction, the upper edge of the inner section lying above the lower edge of the intermediate section, the lower edge of the intermediate section lying below the upper edge 45 of the outer section, means for joining said sections together, and said sections being spaced apart, one from the other, to provide air passages therebetween, substantially as described.

50 2. A ventilator comprising inner, outer, and intermediate sections, said inner section being in the form of a conduit, said intermediate section having imperforate top and side walls and an open lower end, the side walls converging toward the conduit at their lower ends, the outer section being in the form of a collar having imperforate side walls converging toward the conduit at their lower ends, said converging walls serving to deflect the air striking thereagainst 60 downwardly in a vertical direction, the

upper edge of the inner section lying above the lower edge of the intermediate section, the lower edge of the intermediate section lying below the upper edge of the outer section, means for joining said sections together, said sections being spaced apart, one from the other, to provide air passages therebetween, and a collar secured to the conduit and outwardly flaring at its lower end, and arranged in the path of travel of the air currents through said passages to deflect debris away from the conduit, substantially as described.

3. A ventilator comprising inner, outer, 75 and intermediate sections, said inner section being in the form of a conduit, said intermediate section being in the form of a cap-piece having an open lower end, said outer section being in the form of a ring, the side walls of the outer and intermediate sections curving inwardly toward the inner section with their convex sides toward the inner section, whereby air currents striking the surfaces of the intermediate and outer sections are deflected downwardly in a vertical line, the upper end of the inner section being above the lower end of the intermediate section, the lower end of the intermediate section being between the upper and lower ends of the outer section, said sections being spaced apart to provide air passages, and means for joining the sections together, substantially as described.

4. A ventilator comprising inner, outer, 95 and intermediate sections, said inner section being in the form of a conduit, said intermediate section being in the form of a cap-piece having an open lower end, said outer section being in the form of a ring, the side walls of the outer and intermediate sections curving inwardly toward the inner section with their convex sides toward the inner section, the curve of the walls of the intermediate section being of a greater radius 105 than the curve of the walls of the outer section, the center of curvature of said walls being located approximately in alinement with their lower ends, the upper end of the inner section being above the lower end of the intermediate section, the lower end of the intermediate section being between the upper and lower edges of the outer sections, said sections being spaced apart to provide air passages therebetween, and means for 115 joining the sections together, substantially as described.

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Witnesses:

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