

(Model.)

P. GOERLITZ.  
VENTILATOR.

No. 522,410.

Patented July 3, 1894.

Fig: 1.

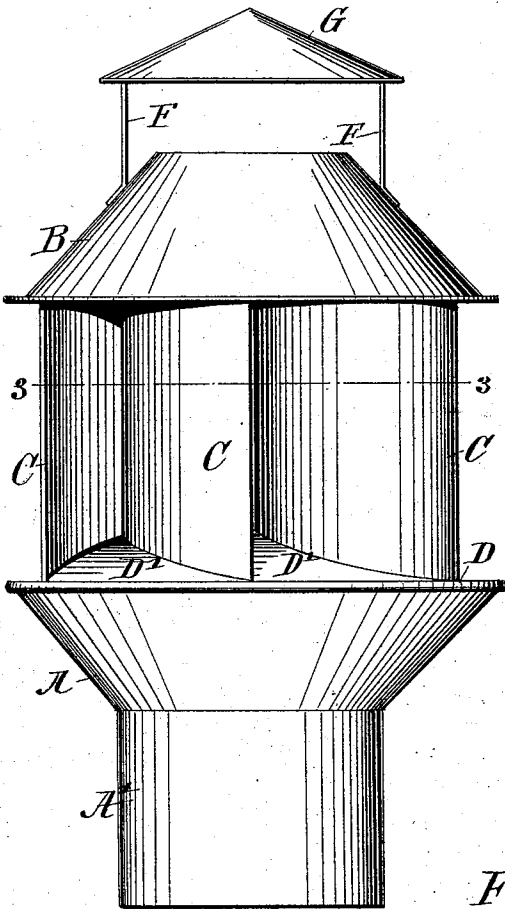


Fig: 2.

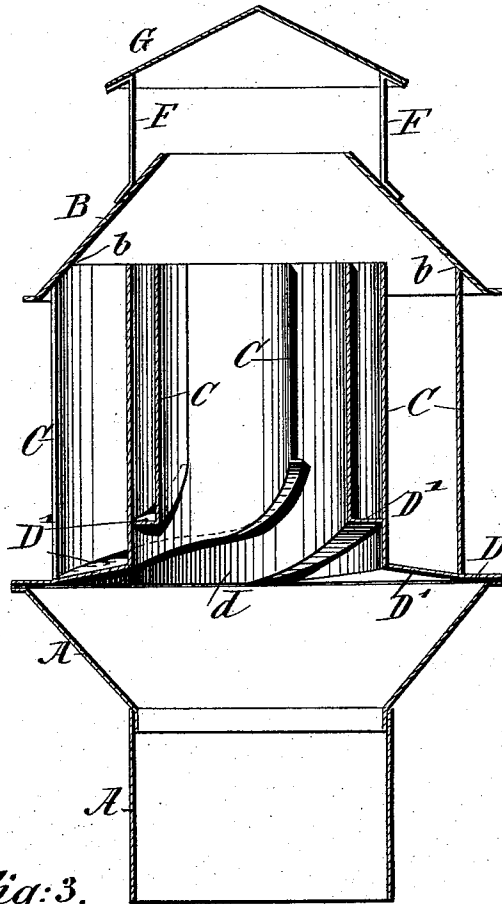
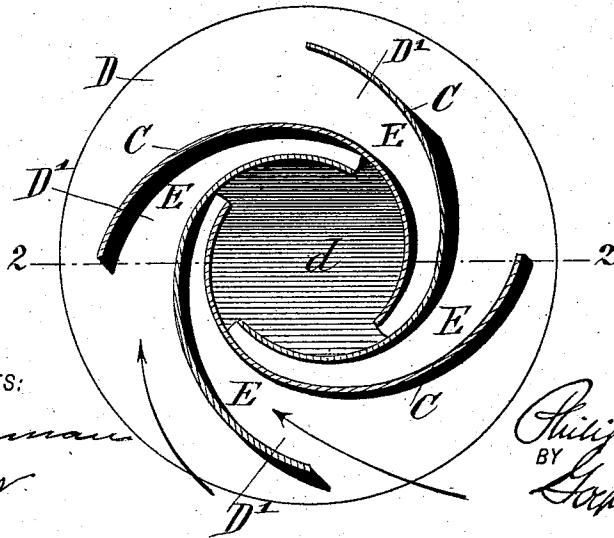


Fig: 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

PHILIP GOERLITZ, OF NEW YORK, N. Y.

## VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 522,410, dated July 3, 1894.

Application filed December 19, 1893. Serial No. 494,088. (Model.)

*To all whom it may concern:*

Be it known that I, PHILIP GOERLITZ, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

My invention relates to ventilators for houses, cars, boats and other places where pure fresh air is required; and its object is to provide a simple, cheap and comparatively indestructible device for that purpose.

My invention, to these ends, consists of a ventilator comprising upper and lower flue-members of frusto-conical form, flaring toward each other and separated for a suitable distance, so as to permit the influx of the air between them, by means of spaced overlapping vertical partitions or wings, each formed on an eccentric or falcate curve and extending tangentially from the central-draft opening partly formed by the greater curved portions at their inner over-lapping ends. An annular crowning-plate having a central opening for forming in connection with the overlapping inner ends of the partitions, the central-draft opening, is fixed to the top of the lower flue-member and is constructed with inwardly-projecting curved tongues of the same shape as the air-inlet channels between the adjacent partitions, that is to say they gradually enlarge from the central-draft opening toward the outside of the ventilator, and they also gradually rise or ascend toward their inner ends. The air-spaces or channels between the partitions or wings open into the interior of the upper flue-member of the ventilator, said partitions being affixed to the inner side of said member at their upper outer corners.

In order that my invention may be more fully understood, I will now proceed to describe it in connection with the accompanying drawings, in which—

Figure 1 is an elevation of my improved ventilator. Fig. 2 is a vertical section on line 2—2, Fig. 3. Fig. 3 is a transverse section on line 3—3, Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the lower frusto-conical flue-member of the ventilator and B the upper frusto-conical flue-

member thereof, said members flaring toward each other and being separated by vertical partitions or wings C. The flue-member A, has a depending sleeve A', whereby the attachment of the ventilator to the ventilating shaft of a house is facilitated. Both flue-members A and B being formed of sheet-metal of the same size and shape their construction is thereby cheapened and rendered more simple than if they were of different sizes and shapes.

To the top of the lower flue-member A is applied an annular crowning-plate D having a central-draft opening  $d$ , and said plate is constructed with an inwardly-extending series of curved tongues D', all of the same shape, extending tangentially with respect to the central-draft opening  $d$ , and gradually tapering from near the circumference of the crown plate toward the central opening of the ventilator, or in other words they taper toward the central-draft opening as shown in Fig. 3. These tongues also gradually rise or ascend toward their inner ends, as shown in Figs. 1 and 2.

The partitions or wings C are formed on an eccentric or falcate curve, the arcs of the curves being greater at their outer than at their inner ends. They are also arranged in a concentric series around the central opening  $d$  of the annular crowning-plate D and their inner ends overlap and project in advance of each other, so as to form in connection with the inner projecting ends of the tongues D', the central flue above and in line with said central draft opening  $d$ , thus avoiding the necessity of a separate central draft-tube. The bottom edges of the partition or wings are soldered to the side edges of the tongues D', and the partitions being coextensive with the tongues, they form in connection with each other the intervening and gradually contracting air-inlet channels E between the partitions in which the outer air is caused to rise by reason of the upward inclination of the tongues and to curl into the interior of the ventilator as shown by the arrows in Fig. 3, by reason of the curvature of said parts. The upper outer corners of the partition or wings C are secured to the inner wall of the upper flue-member B at  $b$ , and the air-inlet spaces or channels E are freely open to the interior of said member at the top of

the partitions. Superposed above the contracted mouth of the upper flue-member B, by means of rods F, is a conical hood G which prevents the entrance of rain and snow into the ventilator from above.

By making the partitions or wings of the same size and shape, as shown, the construction of the ventilator is simplified and cheapened, said partitions also producing a thorough and effective bracing of all the parts of the ventilator, without requiring any additional braces.

The intruding outer air which enters the ventilator through the air-inlet channels is caused by reason of the conformation and arrangement of the parts to form a vortex or whirling current of air within the central-draft-opening, so that the foul air is exhausted from an apartment through the latter, and caused to wind along the under sides of the tongues of the crowning-plate and join the vortex at the inner ends of the partitions. In this way a ventilator is produced which is very simple in construction, and which serves its purpose in a practicable and efficient manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A ventilator comprising a lower flaring flue-member, a crowning plate supported thereon and provided with a central draft

opening, inwardly extending curved, rising and tapering tongues, vertical partitions connected with the adjacent edges of said tongues and forming therewith a central flue above said central draft opening and constituting a series of involute nozzles which discharge directly into said central flue, and an upper flue-member attached to the upper ends of said partitions, substantially as set forth.

2. A ventilator comprising a lower flaring flue-member a crowning plate supported thereon and having a horizontal circumferential portion attached to said flue-member, said crowning plate being provided with a central draft opening, curved, rising and tapering tongues extending inwardly from said horizontal circumferential portion toward the central draft opening, vertical partitions connected with the adjacent edges of said tongues and forming therewith a central flue above said central draft opening and constituting a series of involute nozzles which discharge directly into said central flue, and a tapering upper flue-member attached to the upper ends of said partitions, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

PHILIP GOERLITZ.

Witnesses:

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