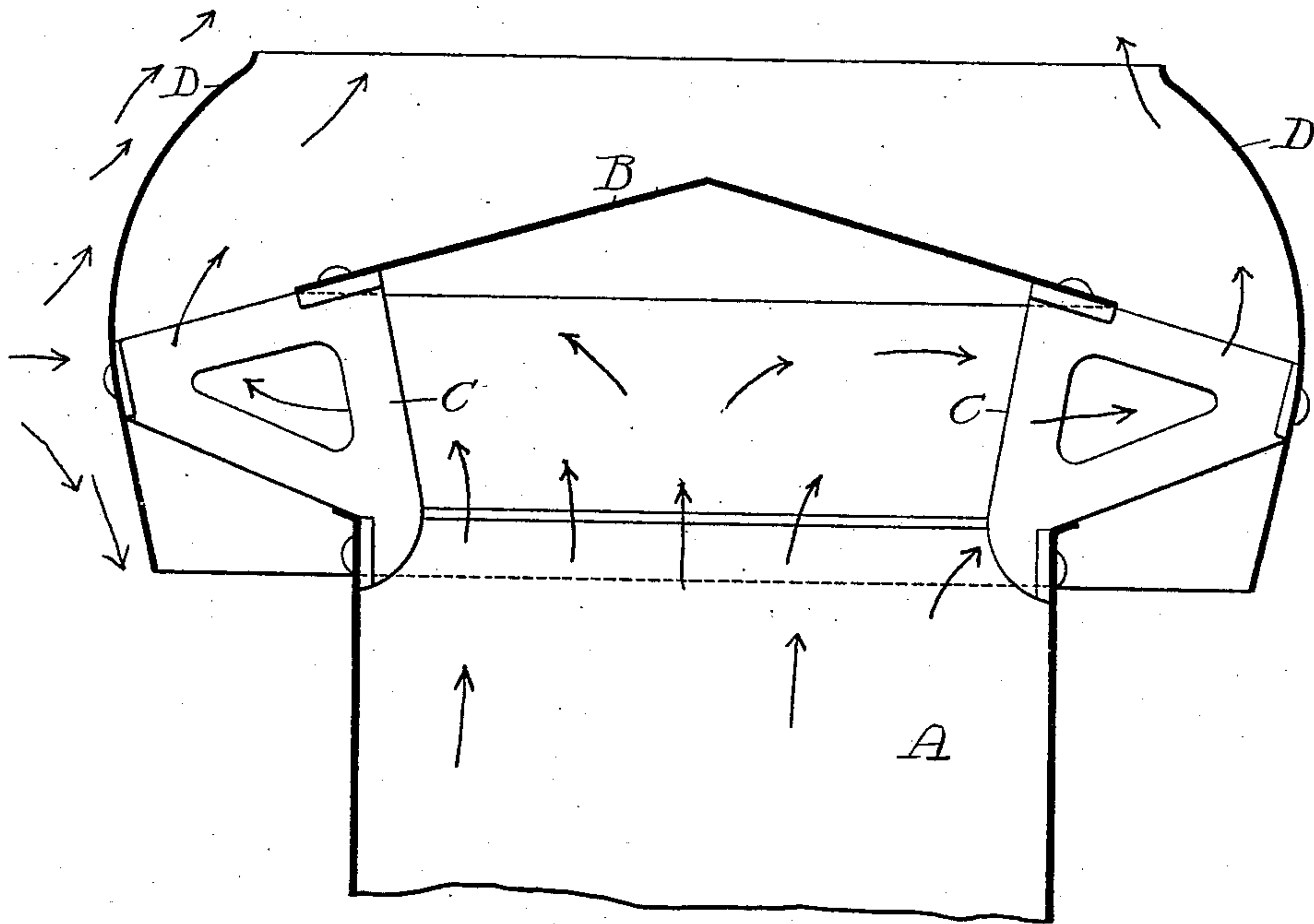


P. EVANS.
VENTILATOR.

APPLICATION FILED NOV. 23, 1904.

898,855.

Patented Sept. 15, 1908.



Witnesses:
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UNITED STATES PATENT OFFICE.

POWELL EVANS, OF PHILADELPHIA, PENNSYLVANIA.

VENTILATOR.

No. 898,855.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Original application filed June 9, 1904, Serial No. 211,829. Divided and this application filed November 23, 1904.
Serial No. 234,016.

To all whom it may concern:

Be it known that I, POWELL EVANS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Ventilators, of which the following is a specification.

My invention consists of a form of ventilator originally described and illustrated in an application for patent, Serial Number
10 211,829, on an improved ventilator, filed by me June 9, 1904, of which this application is a division.

My invention relates to certain improvements in that form of ventilator particularly
15 designed to induce a draft in a stack or other conduit for gases, having for one object the provision of a structure whose parts shall be so arranged as to not only effectually perform the work for which the ventilator is designed but shall also be of such a construction as to effectually prevent the entrance of
20 rain into the conduit upon which it is placed.

It is further desired that the various parts of the ventilator shall be of such form and so
25 arranged, that by facilitating the flow of air or gas through and around them they will result in a structure more efficient in its operation than has heretofore been the case with similar devices. These objects I attain as
30 hereinafter set forth, reference being had to the accompanying drawings, in which:—

The figure is a sectional elevation of the preferred form of my improved ventilator.

In the above drawings, A is the bottom
35 section, usually of cylindrical form, of a ventilator designed to connect with a chimney or other gas conduit. To the upper portion of this bottom section are riveted or bolted brackets C upon which a cover or top portion
40 B and a side section D are carried, both of these sections being riveted or bolted to said brackets C. The part B, which, it will be seen from the figure, is of a substantially conical form, is so made that its edges over-
45 hang the edges of the bottom section A of the ventilator, and it will be noted that its diameter increases upwardly from said bottom edge substantially to a plane passing through the points at which the brackets C engage it.

The lower portion of the side section D is preferably formed as part of a conical surface, while its upper portion, that is, the part
50 above the points at which it is engaged by the brackets C, is curved inwardly in the form of what is technically known as a double

curved surface. The upper edge of the side section is curved inwardly as far as a straight line drawn from the upper edge of the bottom portion A and tangent to the edge of the cover section B. By this means it will be seen
60 that it is a practical impossibility for rain, even when driven by a high wind, to gain access into the interior of the ventilator or into the conduit upon which it is placed.

The side section D is preferably, though
65 not necessarily, formed without horizontal joints and when so made is much less expensive to construct than when consisting of a number of parts. It will be seen that the extreme upper edge of this side section is
70 given a slight outward curve so as to prevent rain or moisture being driven up the outside surface of said section and into the interior of the ventilator. By giving the side section D the peculiar form shown, it offers a mini-
75 mum resistance to the flow of air or gases, since it effects a gradual change in the direction of flow of these fluids without presenting any angular portions which would tend to retard the flow of the air currents or which
80 would offer pockets or other spaces in which eddy currents would be formed. The outside of the section D will be seen to offer an uninterrupted curved surface to the flow of external air currents, with the result that the
85 maximum vacuum possible from such currents is secured within the ventilator, as such currents flow upwardly around the top of the structure.

I claim as my invention:

1. The combination in a ventilator of a
90 bottom section forming a conduit for gas, a cover section, and a side section extending around said first two sections, said side section increasing in diameter from its bottom
95 edge until it is opposite the opening between the top and bottom sections and then decreasing in diameter until its upper edge is adjacent to a straight line or lines drawn through the edges of the top and bottom sections, the upper and lower portions of the side section being formed respectively as
100 double and single curved surfaces and the said lower portion passing gradually and continuously into the upper portion, substantially as described.

2. The combination in a ventilator of a bottom section, brackets supported thereby, a conical top section carried by said brackets and extending over the edges of the bottom
110

section, with a side section also carried by
the brackets and extending inwardly both
above and below the point of its engagement
by said brackets, the upper portion of said
5 side section being formed as a double curved
surface and the lower portion as a single
curved surface passing continuously and
gradually into the said double curved upper
portion, said brackets supporting the top
10 section so that it is wholly below the plane of

the top of the side section, substantially as
described.

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

POWELL EVANS.

Witnesses:

G. H. SCHULER,

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