

J. R. ARNOLDI.
EXHAUST VENTILATOR.

(Application filed June 13, 1900.)

(No Model.)

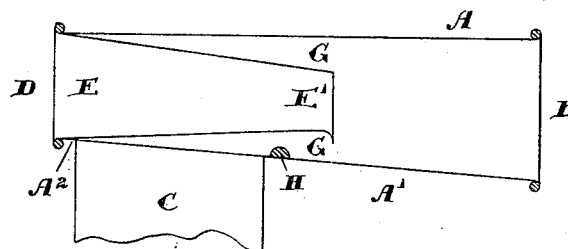


Fig. 1.

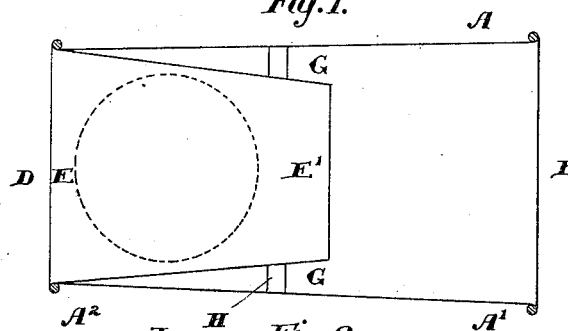


Fig. 2.

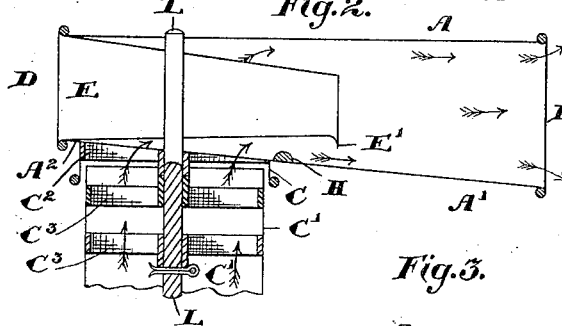


Fig. 3.

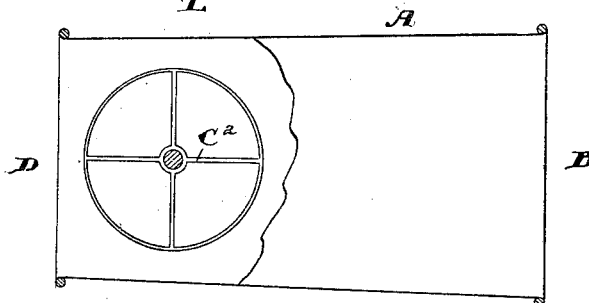


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN RODGER ARNOLDI, OF TORONTO, CANADA.

EXHAUST-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 676,971, dated June 25, 1901.

Application filed June 13, 1900. Serial No. 20,203. (No model.)

To all whom it may concern:

Be it known that I, JOHN RODGER ARNOLDI, mechanical engineer, a subject of the Queen of Great Britain and Ireland, residing in the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Exhaust-Ventilators, of which the following is a specification.

The object of my invention is to provide a simple and efficient device of this class to extract or exhaust the air or other gases from the interior of vessels, buildings, compartments, or vehicles; and it consists, essentially, of a cowl or body having an interior draft-tube at one end, which extends from the edge of the cowl preferably to beyond the opening of the uptake or tube leading from the compartment to be ventilated, the parts being arranged and constructed in detail as hereinafter more particularly explained.

Reference is made to the accompanying drawings, in which—

Figure 1 is a sectional elevation. Fig. 2 is a sectional plan. Fig. 3 is a part-sectional elevation. Fig. 4 is a part-sectional plan.

A is the body or cowl, with the discharge A' shown in this instance, but not necessarily so, enlarged or flared at the outer end B.

C is the uptake or portion to be connected to the interior of the compartment to be ventilated.

D is the mouth or point facing the wind. Interiorly and preferably secured at the mouth D is an inner draft-tube E, preferably contracting in its area toward its end E'. This contraction from E to E' is made to induce a greater current or more of a jet action at E' into the discharge or outlet of the exhauster and also to gain a greater area around it within the body A for the passage of air or gases from the uptake C on their way to the discharge end B, and although the inner draft-tube E is also shown in the drawings referred to as being of contracted form toward its outlet E' it may likewise be of one continuous diameter or area, consideration being given to its proportion and its attachment in the body A, so as to permit the free passage of air or gases from the uptake C through the body A and to the discharge B of the exhauster.

Figs. 1 and 2 are of a device for remaining in a fixed position, and the operation of the apparatus consists in that the propulsion of air through E E' into the larger area of the body A for emission at B produces a suction or partial vacuum at G, which lifts or exhausts the air or gases through the uptake C, which is connected to the compartment.

In construction the exhauster may be of any form—round, oval, flat, or square—in section, depending entirely on fancy or the exigencies of cases where there is a limit in height to be considered.

Although Figs. 1 and 2 for simplicity show an apparatus fixed or immovable, it is rarely such a form would be used, and the more practical application of the invention will doubtless take the form shown in Figs. 3 and 4—namely, one of a rotatable construction. The body A, the spindle L, and the spider C² in the uptake C being secured or fixed together are swiveled on the spindle L, passing through the spiders C³, attached to and in the separately-formed or stationary uptake C', which uptake C' is secured rigidly to the compartment to be ventilated. The end A' being constructed of greater length than the opposite end A², the action of the wind will swing it cowl fashion and keep the mouth D facing the wind, which is the object sought. To prevent rain or moisture entering the compartment by the uptake C, a raised groove, ridge, ring, or other device H is placed transversely on the inside of the body A, and the inner draft-tube E, projecting some distance beyond the ridge H, accomplishes that end. Additional protection for this purpose may be provided by a lipped or flared end, as indicated.

The above design for preventing rain, snow, or objectionable matter of any kind reaching the compartment through the uptake C is suggested as a preferable means of effecting that end.

What I claim as my invention is—

1. In an exhaust-ventilator, the combination with the uptake and the cowl-body open at both ends and arranged so that the entrance of the inlet end is in proximity to the uptake and the major portion of the exit end extends beyond the uptake, and having a rib extending across the interior of the cowl-

body in proximity to the uptake and toward the discharge end, of a draft-tube affixed interiorly to the intake end of the cowl and tapering inwardly to a point past the interior
5 rib and provided with a drop-lip at the lower side of the discharge end as specified.

2. In an exhaust-ventilator, the combination with the uptake and the cowl-body open at both ends and arranged so that the entrance
10 of the inlet end is in proximity to the uptake and the major portion of the exit end extends beyond the uptake, the bottom thereof inclin-

ing downwardly from the uptake, a rib extending across the interior of the cowl-body in proximity to the uptake and toward the discharge end, of a draft-tube affixed interiorly
15 to the intake end of the cowl and tapering inwardly to a point past the interior rib and provided with a drop-lip at the lower side of the discharge end as specified.

JOHN RODGER ARNOLDI.

Witnesses:

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H. L. TRIMBLE.