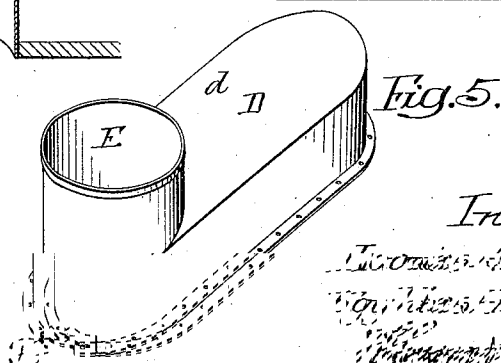
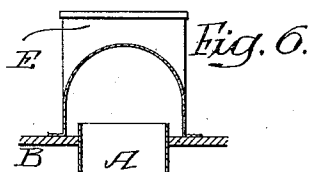
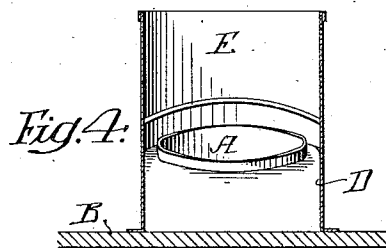
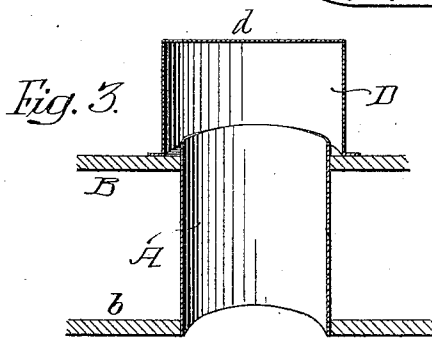
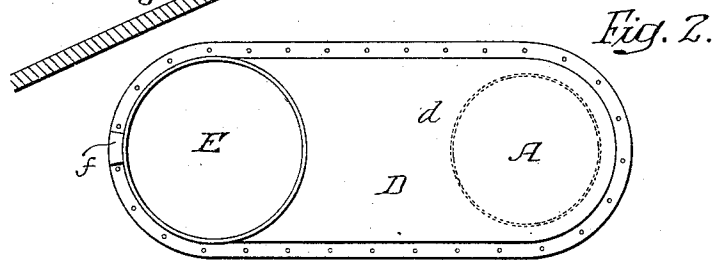
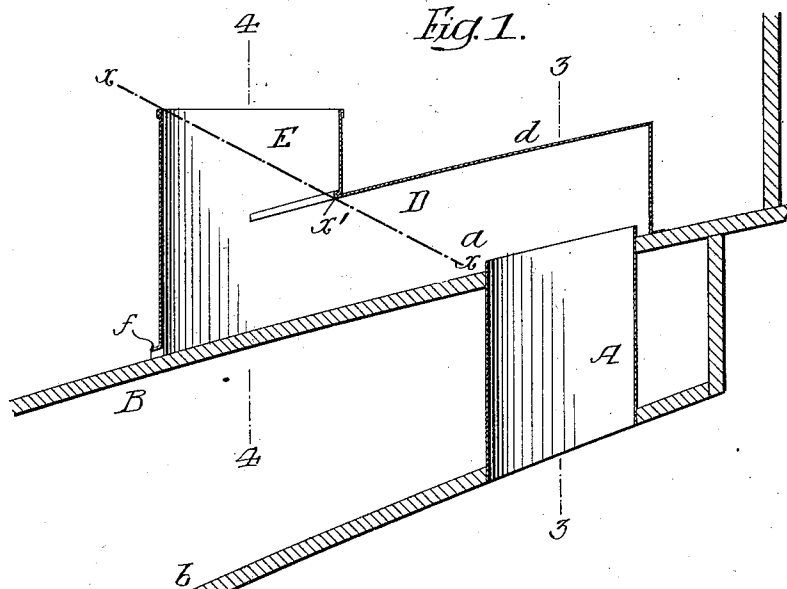


L. A. KLING.
CAR VENTILATOR.
APPLICATION FILED FEB. 6, 1912.

1,046,310.

Patented Dec. 3, 1912.



Inventor—

Thomas F. F. Thompson
John H. Thompson
Patented Dec. 3, 1912.

UNITED STATES PATENT OFFICE.

LOUIS A. KLING, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE J. G. BRILL COMPANY,
OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CAR-VENTILATOR.

1,046,310.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed February 6, 1912. Serial No. 675,770.

To all whom it may concern:

Be it known that I, LOUIS A. KLING, a citizen of the United States, residing in Elizabeth, county of Union, State of New Jersey, have invented certain Improvements in Car-Ventilators, of which the following is a specification.

My invention relates to certain improvements in ventilators especially adapted for use on railway cars, particularly of the passenger type.

The object of the invention is to make an inexpensive yet practical ventilator which will remove the foul air from the upper portion of a car when the car is running at a comparatively slow speed; the invention being particularly adapted for use on street railway cars, although it can be applied to the roof of other moving vehicles without departing from the essential features of the invention.

In the accompanying drawings:—Figure 1, is a transverse sectional view of a portion of a car roof, showing my improved ventilator in position; Fig. 2, is a plan view of the ventilator; Fig. 3, is a transverse sectional view on the line 3—3, Fig. 1; Fig. 4, is a transverse sectional view on the line 4—4, Fig. 1; Fig. 5, is a perspective view of the ventilator; and Fig. 6, is a sectional view of a modification.

B is the inclined roof of a passenger car. b is a ceiling panel located, in the present instance, some distance from the roof and extending through the ceiling panel and the roof is a flue A. This flue projects above the roof forming a flange a to prevent water from gaining access to the interior of the car through the flue.

D is the body of the ventilator made of sheet metal and oblong in shape, as clearly shown in Fig. 2, and rounded at each end, in the present instance. The top of the casing d extends over the upper end of the flue A and at the opposite end of the casing is an exhaust pipe E. The rounded end of the casing conforms to the shape of this pipe. The pipe extends a sufficient distance above the casing to prevent rain or snow being driven into the flue A and it will be noticed that the upper portion of the casing intersects at x' the line x extending from the upper edge of the pipe E to the upper end of the flue A. By this construction a partition is dispensed with and the suction

caused by the movement of the car, or other moving vehicle, to which the ventilator is attached, will draw the air away freely from the interior of the same through the flue casing D and the pipe E.

At the lower end of the ventilator casing is a drip opening f and it will be noticed that the roof of the car is inclined from the center toward the edge so that any water which may enter the casing through the pipe E will flow by gravity out the drip opening f .

The improved ventilator will act when the car is standing still as the draft openings are as near direct as it is possible to make them; at the same time preventing the ingress of snow and rain. The ventilator is made low, so as to come within the maximum limit as to height of the car and can be cheaply manufactured and readily applied.

In Fig. 5, I have shown the casing flat on top and having a seam at the upper edge, while in Fig. 6, I have shown the casing having a rounded upper surface and made in a single piece.

I claim:

1. The combination in a ventilator, of an inclined base; a low body portion inclosing the inclined base; the top of the body portion having an outlet opening directly above the lowest portion of the base; and an inlet opening in the base at the highest portion thereof.

2. The combination in a ventilator, of an inclined base; a casing mounted thereon; an inlet flue extending through the base and communicating with the highest point of the chamber inclosed by the casing; and an exhaust pipe projecting from the upper portion of the casing directly above the lowest point of the inclined base; the diameter of the pipe and the height of the casing being such that the upper portion of the casing will intersect a line extending from the upper edge of the pipe to the upper end of the flue, whereby rain water will be prevented from entering diagonally through the pipe into the flue.

3. The combination in a ventilator, of an inclined base; an inlet flue communicating with the upper portion of the base and projecting above the surface thereof; an oblong casing placed directly above the flue and having a pipe outlet extension at the oppo-

site end above the lowest portion of the inclined base; said casing having a drip opening at its lower end so that water gaining access to the interior of the casing
5 through the pipe will pass out of the drip opening.

In testimony whereof, I have signed my

name to this specification, in the presence of two subscribing witnesses.

LOUIS A. KLING.

Witnesses:

WM. E. SHUPE,

WM. A. BARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
