

J. E. WARD.
VENTILATOR FOR RAILWAY CARS.
APPLICATION FILED MAY 20, 1909.

941,290.

Patented Nov. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

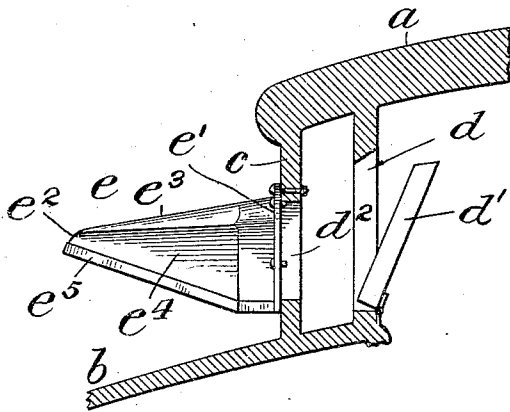


Fig. 2.

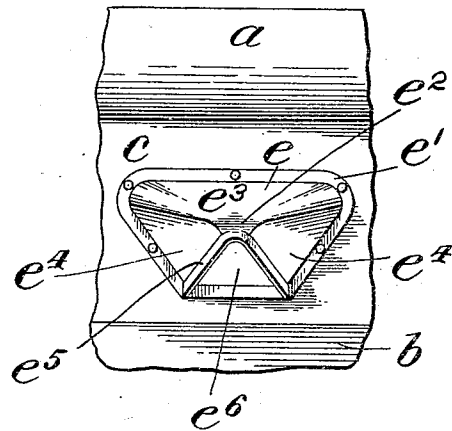
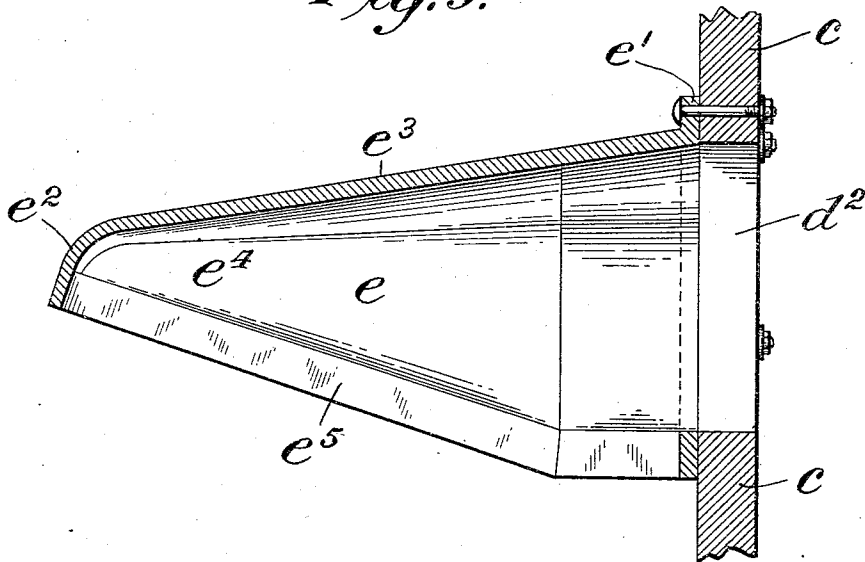


Fig. 3.



Attest:

Edgewood Burnine
Ellis J. Kruger

Inventor:

by *John E. Ward*
Redding, Greeley & Austin
Attys.

J. E. WARD.
VENTILATOR FOR RAILWAY CARS.
APPLICATION FILED MAY 20, 1909.

941,290.

Patented Nov. 23, 1909.
2 SHEETS—SHEET 2.

Fig. 4.

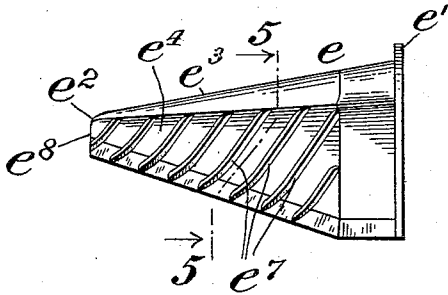


Fig. 5.

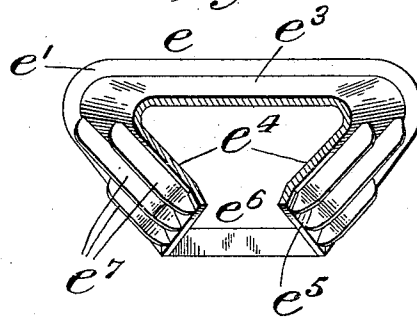


Fig. 6.

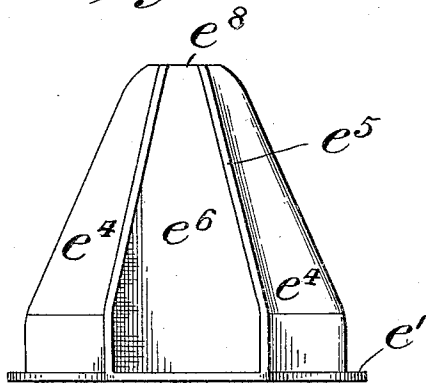
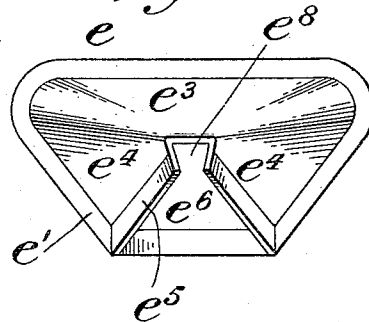


Fig. 7.



Attest:
Edgarworth Smith
Ellis J. Kruger

Inventor:
by *John E. Ward*
Redding, Greely & Austin
Attys.

UNITED STATES PATENT OFFICE.

JOHN E. WARD, OF NEW YORK, N. Y., ASSIGNOR TO WARD EQUIPMENT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

VENTILATOR FOR RAILWAY-CARS.

941,290.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed May 20, 1909. Serial No. 497,193.

To all whom it may concern:

Be it known that I, JOHN E. WARD, a citizen of the United States, residing in the borough of Manhattan, of the city of New York, in the State of New York, have invented certain new and useful Improvements in Ventilators for Railway-Cars, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to the ventilation of railway cars and particularly to ventilating devices of the general type or character of the so-called "torpedo" ventilator, as applied to the vertical wall of the raised portion of the car roof.

The objects in view, in the construction of ventilators of this type, are the creation of a strong suction or out-draft as the car moves through the atmosphere, so as to rapidly draw out the foul air from the interior of the car and to prevent the entrance into the car, whether in motion or at rest, of rain, dust, cinders etc.

Continued use of various forms or modifications of ventilators of this type have brought about the development of the improved form of hood which is the subject of this invention and it has been found that with this improved form the suctional effect is considerably increased, as compared with the forms heretofore used, while the cost of manufacture is reduced.

The invention will be more fully explained hereinafter with reference to the accompanying drawings in which several embodiments of the invention are illustrated and in which—

Figure 1 is a view, partly in section and partly in elevation, illustrating the application of the improved ventilating hood to a railway car, a portion of the roof of the car being shown, together with the inside shutter. Fig. 2 is a view in elevation of the parts shown in Fig. 1 as seen from the left hand in Fig. 1. Fig. 3 is a detail view of the hood in longitudinal section, that is, in a plane transverse to the longitudinal axis of the car, a portion of the car roof being also shown in section. Fig. 4 is a view in side elevation of a modified form of the improved hood. Fig. 5 is a view in section on the irregular plane indicated by the line 5—5 of Fig. 4. Fig. 6 is an underside view of still another modified form, and Fig. 7

is a view in end elevation of the hood shown in Fig. 6.

The improved ventilating hood is intended for application to railway cars which have the center portion *a* of the roof raised above the main portion thereof, and an interposed vertical wall *c*, usually double, as shown. Ventilation of the car is effected through the double wall *c*, an opening *d* in the inner member of the wall having a movable shutter *d'*, and registering, either with or without an interposed sleeve, with an opening *d''* in the outer member of the wall.

To the outer member of the wall *c* is secured, in any suitable manner, and so that its interior shall register with the opening *d''*, the improved ventilating hood *e*, which is generally triangular in cross section, as indicated in Figs. 2, 5 and 7, and tapers from its base, which is flanged, as at *e'*, to its rather blunt outer end or nose *e''*. The base of the hood, meaning that end which is applied to the vertical wall *c*, is open and covers or conforms to the ventilating opening *d''* in the wall. The upper side *e'''* of the hood is flat and nearly horizontal, having such dip outwardly and also being so rounded off on its edges as to facilitate the removal of snow, cinders, etc. Its lateral walls *e''''* converge downwardly, as clearly shown in Fig. 5, and preferably terminate in a substantially vertical flange *e'''''* about an opening *e''''''* which extends from the base of the hood to its outer end or nose.

The features of construction thus far described are common to all the forms shown in the several figures of the drawings. For the purpose of increasing the suctional effect of the hood there may be added to the simpler form of the device, which is shown in Figs. 1, 2 and 3, ribs or flanges *e'''''''*, on each of the lower, converging sides *e''''''*, about the opening *e'''''''*, such ribs or flanges being inclined downwardly and outwardly from the upper portion of the side *e''''''*, as clearly shown in Fig. 4. Such ribs or flanges form chutes or ways in which the air adjacent to the wall of the hood is compelled to travel downward and past the forward flange *e'''''''* and across the opening *e'''''''* in such manner as to increase the out-draft. In some cases, also, it may be desirable to increase the area for the outflow of air from the hood, as by cutting away the nose *e''* of the hood for a short distance, to form additional opening, as at *e''''''''*, as indi-

cated in Fig. 4, and as shown more particularly in Figs. 6 and 7.

Various other additions or changes may be made to meet the requirements of different conditions of use.

I claim as my invention:

1. A ventilating hood for railway cars substantially triangular in cross section and tapering from its base to its outer end and having a substantially flat top and an opening in its underside between the converging side walls and having also a substantially vertical depending flange about said opening.

2. A ventilating hood for railway cars tapering from its base to its outer end and having a substantially flat top and an opening in its underside between the converging side walls.

3. A ventilating hood for railway cars tapering from its base to its outer end and having an opening in its underside between the converging side walls and having also ribs or flanges on its outer side walls to direct the air downward and across said opening.

4. A ventilating hood for railway cars substantially triangular in cross section and

tapering from its base to its outer end and having a substantially flat top and an opening in its underside between the converging side walls and having on its side walls downwardly and outwardly directed ribs or flanges.

5. A ventilating hood for railway cars tapering from its base to its outer end and having an opening in its underside between the converging side walls and having also an opening in its outer end.

6. A ventilating hood for railway cars substantially triangular in cross section and tapering from its base to its outer end and having a substantially flat top and an opening in its underside between the converging side walls and its outer end.

7. A ventilating hood for railway cars tapering from its base to its outer end and having an opening in its underside between the converging side walls.

This specification signed and witnessed this 19th day of May, A. D., 1909.

JOHN E. WARD.

Signed in the presence of—

ELLA J. KRUGER,
AMBROSE L. O'SHEA.