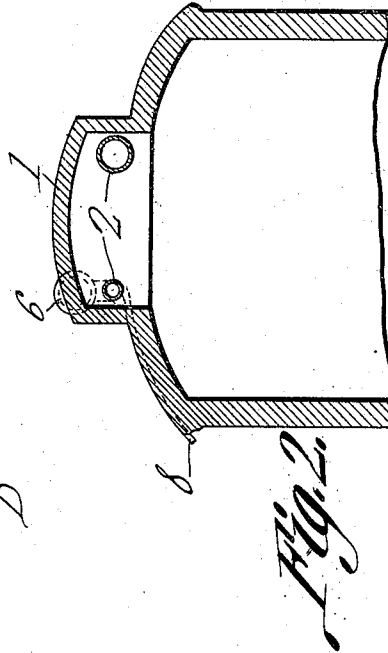
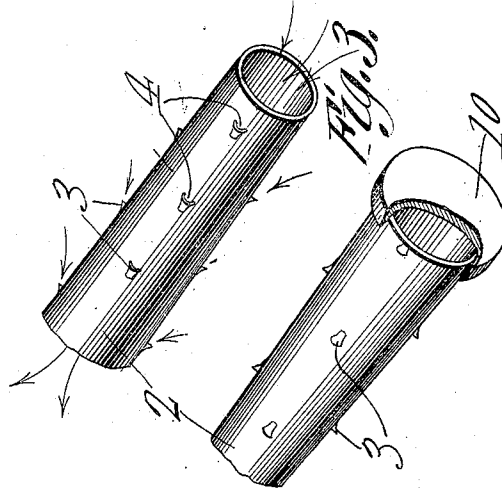
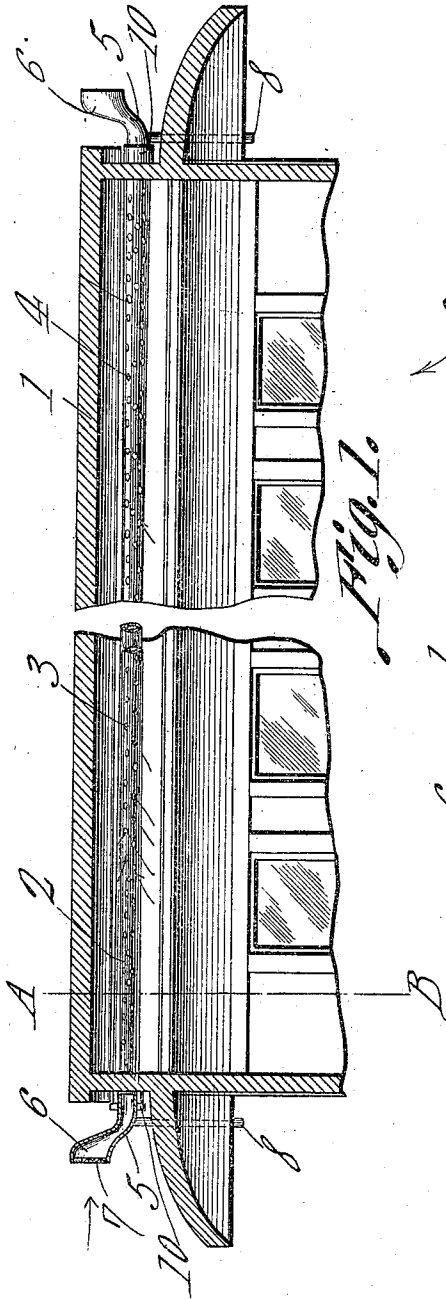


R. O. BONE.
VENTILATOR.

APPLICATION FILED NOV. 15, 1910.

982,235.

Patented Jan. 24, 1911.



Witnesses

J. P. Goulin
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UNITED STATES PATENT OFFICE.

RAYMOND OTIS BONE, OF LITTLE ROCK, ARKANSAS.

VENTILATOR.

982,235.

Specification of Letters Patent. Patented Jan. 24, 1911.

Application filed November 15, 1910. Serial No. 592,526.

To all whom it may concern:

Be it known that I, RAYMOND OTIS BONE, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented a new and useful Ventilator, of which the following is a specification.

This invention relates to ventilators for use upon railway coaches, street cars, and other similar vehicles, the object of the invention being to provide a simple form of ventilator which, when the car is in motion serves to suck vitiated air from the car and discharge it at the rear end thereof, this suction being set up by the circulation of air longitudinally within the ventilator from the front to the rear end of the car.

A further object is to provide a ventilating tube of novel form whereby the creation of a suction during the movement of the car in one direction is assured.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings, the preferred form of the invention has been shown.

In said drawing, Figure 1 is a longitudinal section through a portion of a car showing the ventilator connected thereto. Fig. 2 is a section on line A—B Fig. 1. Fig. 3 is a perspective view of those portions of the ventilator pipes or tubes located at one end of the car.

Referring to the figures by characters of reference 1 designates a car structure and arranged longitudinally within this structure close to the roof thereof are two tubes, designated by the numeral 2, the ends of which project through the front and rear ends of the car. Each of these tubes is tapered toward one end, one of the tubes being arranged with its small end at the front end of the car while the other tube has its small end at the other end of the car. Each tube has ears 3 struck outwardly therefrom to form inlet openings 4, the said ears being inclined outwardly toward the small end of the tube and being preferably arched transversely, as shown in Fig. 3, so as to form

air ducts. A curved neck 5 extends upwardly from the small end of each tube 2 and merges into a head 6 having a substantially vertical inlet end preferably screened as indicated at 7. A drain pipe 8 extends downwardly from the lower portion of the neck 5 and serves to convey water from the neck and thus prevent it from entering the car by way of the apertured tubes 2.

When the car is moved forward, air will enter the front head 6 and flow longitudinally within the tube 2 to the rear end of said tube. As the internal diameter of the tube gradually increases toward the rear ends thereof, it will be apparent that this movement of the air through the tube will result in the suction of additional air into the tubes through the opening 4 and as this air is drawn from the top of the car, it will be apparent that the vitiated air which will be found at this point, will be drawn off. The large end of the other tube may be closed in any preferred manner as by means of a cap 10. The screen 7 will of course prevent the admission of dust and other foreign particles to the head 6 as the car moves forward and should any water enter the head, it will be discharged through the drain pipe 8. Two tubes are utilized so that the ventilator will operate as efficiently when the car is moving in one direction as when it is moving in the opposite direction. When the ventilator is used in a car which is never reversed while in use but travels at all times with the same end in front, a single tube can be employed in lieu of pair of tubes such as shown.

Although the tubes have been shown formed without struck ears at the inlet openings 4 it is to be understood that ordinary apertures may be provided within the tube and the ears may be dispensed with.

What is claimed is:—

1. The combination with a vehicle, of a tube extending longitudinally within and opening through the ends of the vehicle, said tube gradually increasing in diameter toward its rear end and having apertures opening into the vehicle, and an inlet head in front of the vehicle and opening into the small end of the tube.

2. The combination with a vehicle, of a ventilating tube extending longitudinally therein and opening through the ends thereof, said tube gradually increasing in diameter toward its rear end and having air inlet

openings communicating with the interior of the vehicle, an air inlet head opening into the small end of the tube and arranged in front of the vehicle, and means for draining
5 the head.

3. The combination with a vehicle, of a ventilating tube arranged longitudinally therein and opening through the ends thereof, said tube gradually increasing in diameter toward its rear end and having air inlet
10 openings communicating with the interior of the vehicle, an upwardly extending neck

projecting from the small end of the tube and beyond the front of the car, a head opening into the neck and having a screened
15 inlet, and a drain tube extending from the neck.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

RAYMOND OTIS BONE.

Witnesses:

CHAS. JACOBSON,
ADOLPH JACOBSON.