No. 832,329. PATENTED OCT. 2, 1906.

C. E. MANDEVILLE & E. COLLINS.

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CAR VENTILATOR.

APPLICATION FILED JAN. 3, 1905.

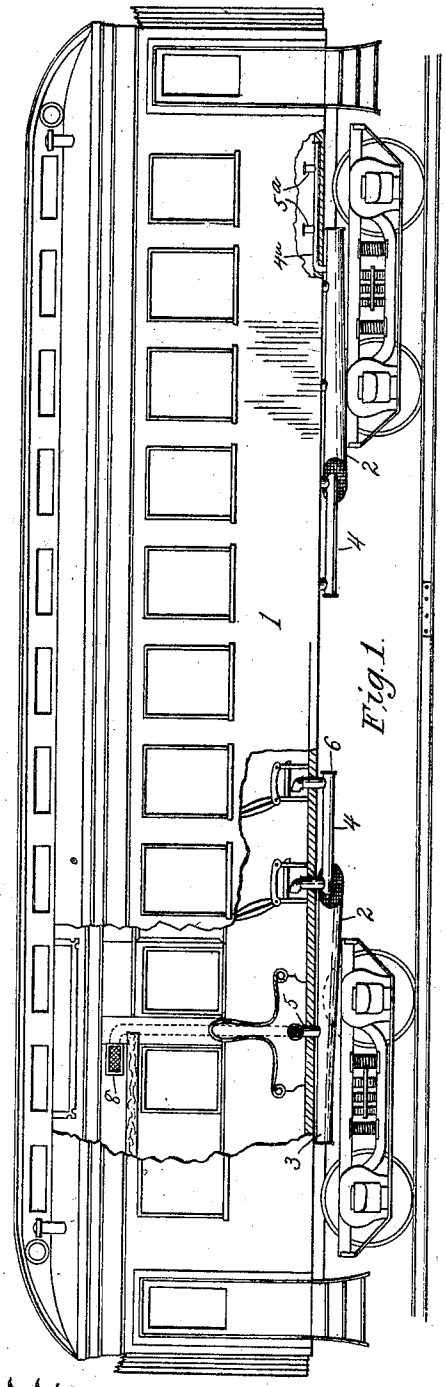

Fig. 1.

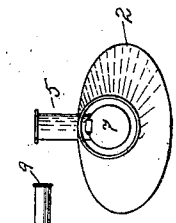

Fig. 4.

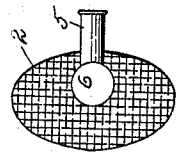

Fig. 5.

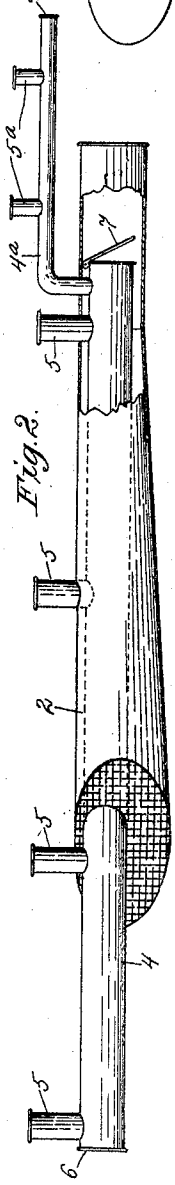

Fig. 2.

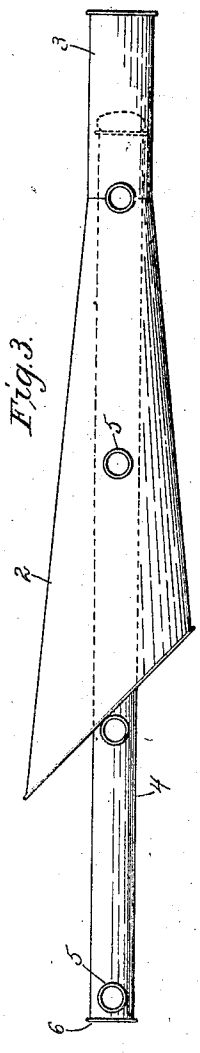

Fig. 3.

Witnesses:
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THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES E. MANDEVILLE, OF KANSAS CITY, MISSOURI, AND MARY A. COLLINS, OF LITTLE ROCK, ARKANSAS, ADMINISTRATRIX OF ELI COLLINS, DECEASED.

CAR-VENTILATOR.

No. 832,329. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed January 3, 1905. Serial No. 239,350.

To all whom it may concern:

Be it known that I, CHARLES E. MANDEVILLE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, and ELI COLLINS, deceased, late a citizen of the United States, have invented certain new and useful Improvements in Car-Ventilators, and that we, CHARLES E. MANDEVILLE, and MARY A. COLLINS, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, administratrix of the estate of the said ELI COLLINS, do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to car-ventilators, and has for its object to provide a device for ventilating cars which is simple and economical in construction and comprises features of novelty and utility and certain improved details of structure, which will presently be fully described, and pointed out in the claim, reference being had to the accompanying drawings, forming part of this specification, in which like reference-numerals refer to like parts throughout the several views, and in which—

Figure 1 is a side elevation of a car equipped with our improved ventilator. Fig. 2 is a detail view of the ventilator in side elevation, a portion of the drum being broken away to better show the end of the cylinder. Fig. 3 is a top plan view of same. Fig. 4 is a sectional end view of Fig. 2. Fig. 5 is an end view of Fig. 3.

Our device has no relation to the supply of fresh air to the car, but is intended for the removal of the air which though it may be pure upon entering the car through the door or windows soon becomes impure if allowed to remain in the car for any length of time. Our device, however, in removing the foul air from the car causes a suction which assists in drawing in the fresh air through the doors and windows.

Our device does not require an especially-constructed car for its use, but may be easily and quickly applied to cars of any pattern or construction.

By referring more in detail to the drawings, from the bottom of a car 1 is rigidly suspended by any suitable means a funnel-shaped drum 2, having a cylindrical end portion 3. Mounted in drum 2 is a cylinder 4, one end of which projects through a wire mesh covering the mouth of tube 2 and extends some little distance beyond said mouth, while its other end projects a short distance into the cylindrical portion 3. Opening from tube 4 and extending through perforations in drum 2 and through perforations in the bottom of car 1 are a number of tubes 5. Tubes 5 may be arranged, if desired, so as to protrude through the floor of the car at points beneath the seats, or they may open into register-boxes in the sides of the car. Cylinder 4 has a cap 6 closing its forward end, and its rear end is provided with a swinging door 7, preferably hinged at the top, but swinging loosely on its hinge, so that a slight pressure on its inner face or a suction on its outer face will cause it to swing open. As the car moves forward the air entering the mouth of the funnel-shaped drum 2 and passing therethrough and into and through the cylindrical portion 3 draws door 7 open and tends to create a vacuum in cylinder 4. The air from the car rushing through the tubes 5 to fill this vacuum is drawn into drum 2 by the suction of the air passing through said drum and from thence escapes into the open. As door 7 is swung on a hinge when the car is run in the opposite direction the pressure of the air retains it in a closed position and renders the ventilator inoperative.

If so desired, the mouth of drum 2 may be free; but we prefer to have it covered with a wire mesh, which will not interfere with the entrance of the air into the drum, but will prevent the entrance of sticks or stones.

In equipping a sleeping-car with our ventilator the tubes 5 may be extended upwardly above the lower register-boxes and open into register-boxes 8, opening into the upper berths, or a separate tube may be provided for each upper and lower berth.

4ª is a supplementary cylinder, which, if so desired, may be provided for the portion of a car not reached by cylinder 4.

One end of the supplementary cylinder 4ª opens into cylinder 4 or drum 2, while its other end extends beneath the car beyond cylindrical portion 3 and is closed by a cap 9 or other suitable means.

5ª represents tubes extending into the interior of the car in the same manner and for the purpose mentioned in reference to tubes 5.

While but one ventilator is mentioned, it is the intention to supply each car with a pair of ventilators opening in opposite directions, so that no matter which end of the car is forward one of the ventilators will be in operation.

We do not wish to be understood as limiting ourselves to the exact details of structure herein shown and described, inasmuch as the same may be varied without departing from the spirit of our invention.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

In a car-ventilator, the combination of a pair of conical drums carried beneath a car, with their enlarged ends facing each other and cut in oblique section to form elliptical mouths, each drum being so arranged that the major axis of its elliptical mouth will extend horizontally, a mesh covering over each drum-mouth, a cylinder on the end of each drum opposite its mouth, a main exhaust-tube extending from a point in each cylinder forwardly through the mesh mouth covering, and auxiliary tubes extending from each main tube into the interior of said car, said main tubes being closed at their forward exposed ends and provided with rearwardly-swinging doors on their ends within the cylinders, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES E. MANDEVILLE.
MARY A. COLLINS,
Administratrix of the estate of Eli Collins.

Witnesses to signature of Charles E. Mandeville:
JOSEPH S. HALL,
J. A. MCLANE.
Witnesses to signature of Mary A. Collins:
CHAS. MCKEE,
EBEN W. KIMBALL.