J. H. MOORE.

VENTILATOR FOR RAILROAD CARS.

No. 69,357. Patented Oct. 1, 1867.

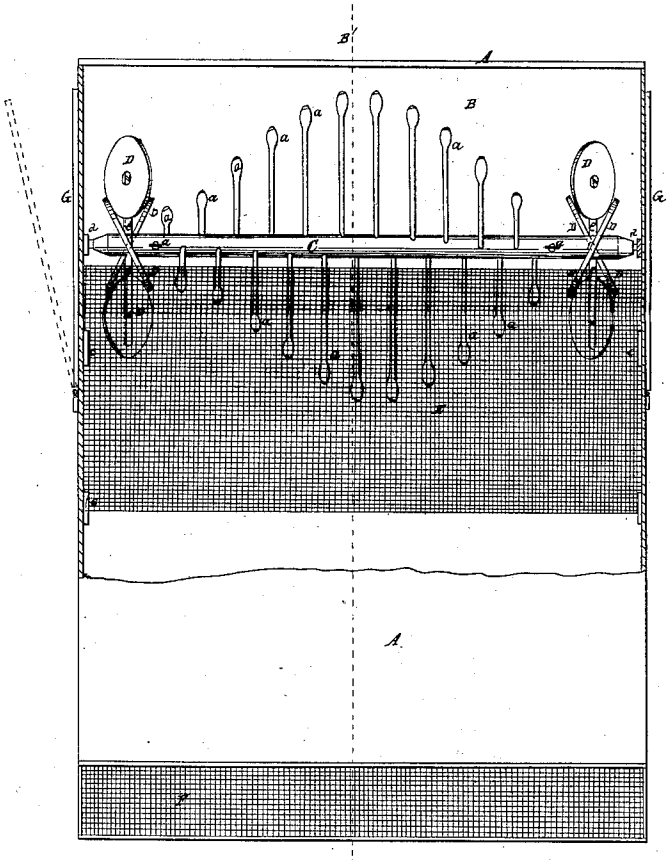


Fig. 1.

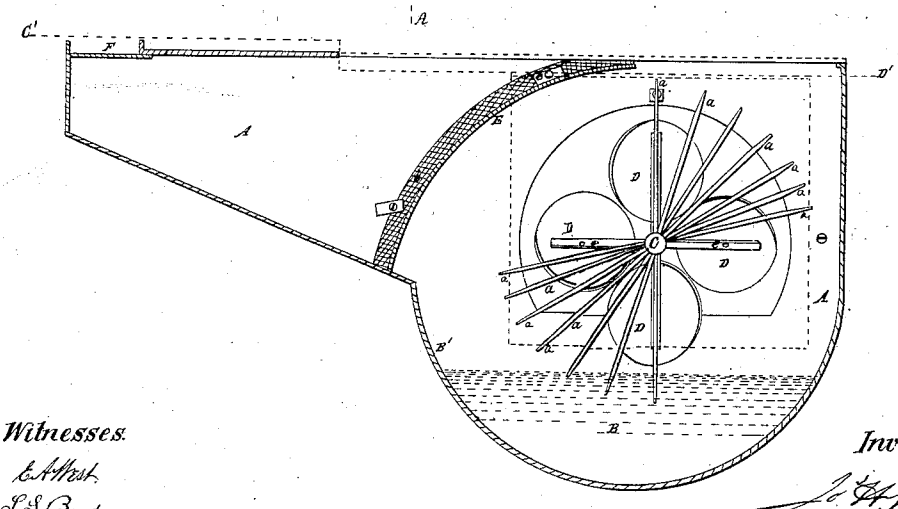


Fig. 2.

Witnesses.

E. A. Post

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United States Patent Office.

JOSEPH H. MOORE, OF CHICAGO, ILLINOIS.

Letters Patent No. 69,857, *dated October* 1, 1867.

VENTILATOR FOR RAILROAD CARS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSEPH H. MOORE, of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful improvements in Ventilators for Railway Cars; and I do hereby declare that the following is a full, true, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view with a portion of the case removed, and

Figure 2 a vertical section.

Like letters refer to the same parts in both figures.

The nature and object of my invention consist in constructing a ventilator for railway cars with a revolving shaft provided with rods or points projecting out sufficiently far to dip into a water-bath located at the bottom of the ventilator, so that a shaft rotated by fans will operate easily in the bath, and throw sufficient water to keep a screen or perforated diaphragm moist and washed; in providing a ventilator constructed substantially as shown with a screen or perforated diaphragm near the shaft, or between it and the opening for the discharge of the purified air, so that it can be kept moist or damp by the operation of the rods of the shaft; and in the several new combinations hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The case A is made of wood or metal, or partly of both, as may be desired. It is about four and one-half feet long, and from two to three wide, and about four inches deep at the inner end, and about eighteen inches deep at the outer end, where the shaft and wind-wheel are located. The bottom of the outer end may be made cylindrical, as shown, or in any other suitable form. This case or box is made into two compartments by the perforated or gauze plate or diaphragm E, which may be made straight or curved, as shown. I prefer the curved form, and also to have it located so as to be near the sprinklers *a a*, attached to the shaft C. It can, however, be located further back than is shown. The best partition or diaphragm will be made of gauze made with small copper wire. It is attached to the case by means of a flanch, *b*, turned at the ends, and bolts *c*, provided with large nuts or washers, or by any other suitable means. At the inner end an opening, F, is made for the passage of the purified air into the car. This may also be covered by a perforated plate, wire gauze or netting, or by a simple register. The bottom of the outer end is made water-tight for the bath B, which, in winter, may be made sufficiently salt to prevent freezing. Over this bath I place the shaft C, which is supported by standards *d*, which standards are placed vertically across the opening for the doors at the sides. At each end of the shaft I attach the fans D, which are attached to the shaft by the arms *e*, and are set at such an angle as will cause the shaft to revolve by the action of the currents of air when introduced from either side of the ventilator. Between these fans I insert, or otherwise attach to the shaft, the sprinklers *a a*. These are arranged spirally, as shown, so that their weight will be evenly balanced upon the shaft. They are made of small copper wire, about seven inches in length, and flattened at the ends, or are made spoon-shaped, if desired. If a sufficient number are attached they will not even require flattening; but when flattened I place them about one inch apart. The doors G are single doors, and are hinged so as to open inwards or towards the centre of the car; and they rest against and are held by rests or catches placed on the bottom of the car for that purpose, and are so held that they will, from their position, which is a little back of the right angle, act in or to a certain extent as wind-gatherers or directors. Automatic doors, such as were described by me in a previous application, may be used. It is designed by me to place two of these ventilators upon each car, opposite, or nearly so, to each other, at the bottom, with the bath end outwards, so that the line of the shaft C will correspond with the line of the car, and bring the fans D in a position to be operated by the air-currents formed by the motion of the car or train.

In operation the door which, from the direction of the train, will be the forward door is opened and fastened in position, and the rear one closed, when the air will enter the ventilator, and, striking or impinging against the fans, will cause the shaft with the sprinklers to revolve rapidly, which will not only keep the diaphragm moist and washed, but will keep the drum of the ventilator filled with drops or particles of water, which, with the diaphragm, purifies the air from the dust and small particles of ashes and cinders. The air, after passing the diaphragm, passes through the ventilator, and into the car at F, or at any other convenient point, from

whence it is distributed through the car by any suitable means, or by a simple register. I usually provide the ventilators with cocks or plugs to draw off the bath when it becomes foul. This ventilator will be found simple and cheap in its construction, and effective in accomplishing the desired object of introducing clear and pure air into railway cars, and, whenever used in connection with the usual upper ventilators, windows, or registers, will cause currents of pure air to circulate through the cars.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The shaft C, when provided with rods or dashers *a a*, attached spirally, as described, in combination with the wind-fans D, located inside of the casing, substantially as and for the purposes described.

2. The shaft C, provided with the rods *a a* and fans D, located and operating as described, in combination with the doors G and bath B, substantially as specified.

3. The perforated diaphragm or partition E, in combination with the shaft C, provided with rods or dashers *a a*, and water-bath B, the whole constructed and operating substantially as specified.

JOS. H. MOORE.

Witnesses:

E. A. WEST,

L. L. BOND.