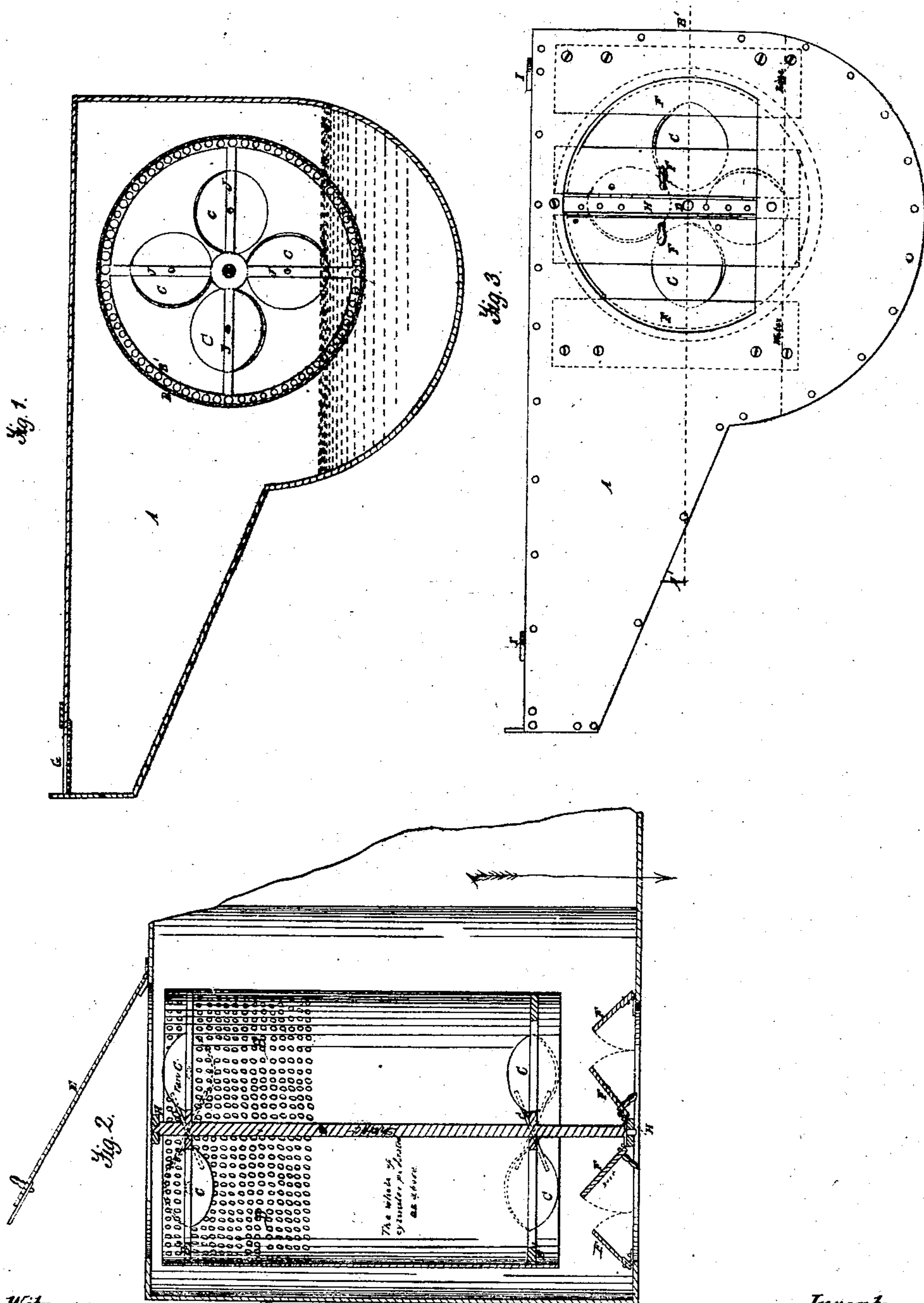


J. H. MOORE.
VENTILATING APPARATUS FOR RAILROAD CARS.

No. 61,555.

Patented Jan, 29, 1867.



Witnesses.

L. L. Bond.
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United States Patent Office.

JOSEPH H. MOORE, OF CHICAGO, ILLINOIS.

Letters Patent No. 61,555, dated January 29, 1867.

VENTILATING APPARATUS 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, in the 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, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section.

Figure 2, a transverse section on red line A' B'; and

Figure 3, a side view.

Like letters refer to the same parts in all of the figures.

The nature and object of my invention consist in constructing a car ventilator which has a cylinder rotating in water, so that the currents of air which are caused by the motion of the train or otherwise, by impinging upon fans located inside of the cylinder, will cause the same to rotate; in so locating or attaching the ventilator that the currents of air so formed will insure its operation; in so constructing the doors in one form that they will operate automatically, and in the other form so that they will, to a certain extent, operate as wind gatherers; in constructing a cylinder so that it will rotate in a water or saline-water bath; and in the several new combinations hereinafter set forth and claimed. Hollow and open-work cylinders, and also water baths, have been heretofore known and used in car ventilators, and are not claimed as my invention.

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 any suitable material, either wood or metal, and is about four or five feet in length, from two to three feet in width, and about two and one-half feet deep, with curves and angles, substantially as shown. Circular and other shaped openings are made at the sides for the admission of the air, and an opening, G, is made at or near the contracted end for its egress or admission into the car, which opening is, or may be, covered with a perforated plate to prevent the entrance into the car of any particles of dust or cinders which may have passed the cylinder, and also prevent the passage of water in case the cylinder should revolve with great rapidity. The cylinder B is of a length corresponding with the width of the case, and when the doors E are used, will be brought close to the case A. But when the doors F are used, a sufficient space must be left to allow them to open. It is made of any convenient diameter, usually about one and one-half foot, and is attached to the shaft or axle D by the arms or spokes J, and is made of perforated copper, brass, wire netting, or other suitable material, perforated or made with open spaces for the passage of the air from its interior out into the case A. I attach to the arms J, fans C, set at an angle so as to form a wind-wheel when complete, inside of the cylinder. The fans should be so made and attached to the cylinder that they will not dip into the bath below the cylinder, and in which the cylinder rotates, and impede the motion of the cylinder in operation. A water bath is placed below the cylinder, for the purpose of keeping it moist and preventing dust or cinders from passing through it into the cars. I make this bath strongly saline in the winter, to prevent its freezing, and the salt improves it in warm weather, but in this season is unnecessary. The door E is made to cover the opening in the case entirely, and is operated by hand, and when opened stands at an angle with the case, so as to operate as a wind gatherer. The ventilator is placed below the car, with the axis of the cylinder on a line with the car, or so that the openings will be towards the ends of the car. The currents of air caused by the motion of the train tend towards the middle of the cars below, so that when the door is hinged so as to swing towards the middle of the car, and is fastened to a catch attached for that purpose to the bottom of the car, it will operate as a wind gatherer in the other form; hoods or funnel-shaped wind gatherers may be attached, if desired. The doors F F are hinged on the inside of the case, the two outer ones to the case proper, and the inner ones to the post or bar H which supports the cylinder, and are made to open and close easily, so that when the cars run in one direction the door in front will open by the action of the wind, and those in the rear close, and alternate as the direction of the car changes. They are so arranged that in opening they will not open so as to stand at right angles with the case, as in that position, or turned back of that angle, the currents of air would pass through without closing them. As it requires more space between the case and the ends of the cylinder in this form, I prefer the doors E, they having also the additional quality or office of wind gatherers or directors.

Whichever form is adopted, the ends will be made alike; the drawings are made to show both forms in one figure. In use it will be found advisable to use two or more of these ventilators, one at least on each side of a car, attached by the legs or projections I, and bolts, the contracted or discharging ends being placed at or near the middle of the car.

In operation, when the doors E are used, the front door will be opened and fastened back in position, and the rear one closed. When the doors F are used they will operate automatically. When a current of air is produced, it enters the open door, and, striking against the fans, causes the cylinder to rotate in the bath, which keeps its surface moist. The air, after coming in contact with the fans, passes obliquely to the cylinder, through the perforations of which it passes, leaving whatever dust or other particles of matter it contains on the cylinder, which are washed off as it rotates in the bath; passing through the cylinder, the air enters the case A; when it passes through the perforated plate G, or a register, when it is distributed through the car in any convenient manner.

Having thus fully described my improved ventilator, I will now point out what is new, and what I claim as my invention and desire to secure by Letters Patent, which is—

1. The fans C, when located inside of the case A, and rotating the perforated cylinder B by the same current of air that passes into the car, in combination with such cylinder, constructed of netting or open work, substantially as specified.
2. The combination of the cylinder B, rotated by the fans C, located inside of the case, with a water bath, substantially as described.
3. The doors E, constructed and attached so as to operate as doors and wind gatherers, substantially as specified.
4. The combination and arrangement of the perforated or gauze cylinder B with the fans C, doors E or F, and both with the case A, substantially as and for the purposes specified.

JOS. H. MOORE.

Witnesses:

L. L. BOND,

HENRY O. BROWN.