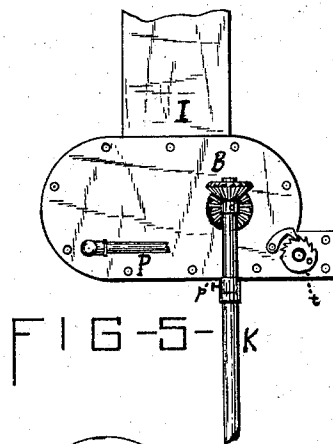
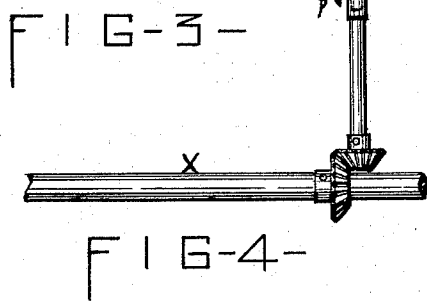
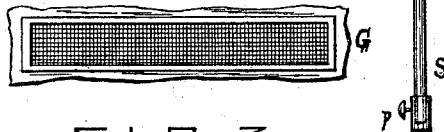
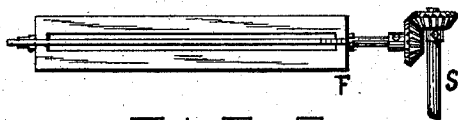
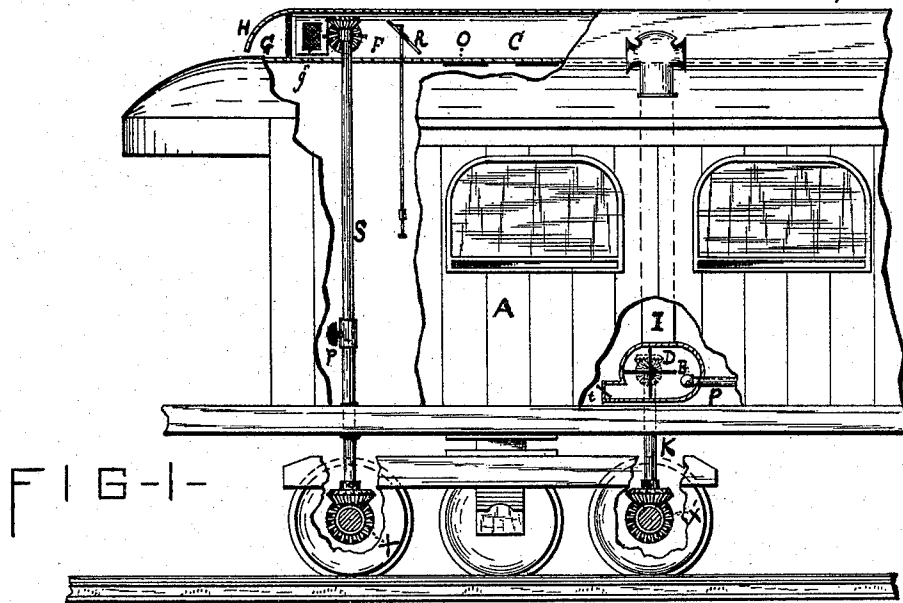


(No Model.)

B. M. ROSS.
VENTILATING CARS.

No. 470,602.

Patented Mar. 8, 1892.



WITNESSES:

John E. Egan
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UNITED STATES PATENT OFFICE.

BENJAMIN M. ROSS, OF SYRACUSE, NEW YORK.

VENTILATING CARS.

SPECIFICATION forming part of Letters Patent No. 470,602, dated March 8, 1892.

Application filed September 11, 1891. Serial No. 405,379. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN M. ROSS, a citizen of the United States, residing at the city of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement for Ventilating Cars, of which the following is a specification.

My invention relates to improvements in ventilating cars in which fans through openings force the fresh air into the top of the cars and fans or hot-air pipes exhaust the foul air from the bottom of the cars.

The objects of my improvements are, first, to provide a continuous supply of fresh air for the cars, and, second, to remove the foul air completely from the cars. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the improvement applied to one end of the car. Fig. 2 is a side view of the fan used in the top of the car. Fig. 3 is the gauze-wire opening, through which the fresh air is drawn from the outside. Fig. 4 is a portion of the car-axle, with gear connecting with the jointed shaft, also geared and connecting with the fresh-air fan. Fig. 5 is the interior exhaust foul-air fan or hot-air box, showing the regulator arrangement. Fig. 6 is the gauze-wire opening with regulator admitting fresh air into the car from the fan.

Similar letters refer to similar parts throughout the several views.

The car A has the axle X provided with cogs, with which the jointed shaft S connects, which shaft connects with the fresh-air fan F, placed in the false top or chamber C of the car, and this chamber extends over the entire center of the car and has the hood H at each end, and the fresh-air gauze screens G at each end of the car, and at each side of the car and just back of the said screens G are gauze-wire screens g g, also for the admission of fresh air. Back of said screens G, and also in said chamber C, is the regulator R, provided with an operating-rod extending into the car. At intervals in the floor of the chamber are openings O of wire-gauze in frame-work and provided with revolving covers o, by which the quantity of fresh air admitted into the car can be regulated, and the car-axle X' provided

with cogs, with which the foul-air-fan shaft K connects, and which shaft operates said foul-air fan B in the box D, and said box D is provided with the regulator t, by which the quantity of air taken from the car can be gaged, and said box D is also provided with hot-air or steam pipe P, and from the box D is a conductor-pipe I, extending up through the roof of the car, providing an escape for the foul air.

The manner of operating my device is as follows: Loosen the stop-screws p p' at the rear end of the car and fasten said screws in shafts S K at the forward end of the car. Then when the car is set in motion and the regulator R is opened the air, passing through the screens G g, is forced into the chamber C and thence through the openings O into the car, and the fresh air coming in from the top of the car helps to force the impure air toward the exhaust-box B, where the fan, also in operation, forces the air through the conductor out of the car. By the method shown I am able to fill the car with fresh air without regard to the wind and to remove the foul air therefrom, and the latter process is aided by the steam or hot-air pipe.

It is obvious that each end of the car must be provided with the same mechanism, so that the air may be taken from the front end of the car, and also that the quantity of air can be completely regulated.

Having fully described my invention, what I claim is—

1. In a car-ventilator, the combination of a fan operated by a jointed shaft connecting with the axle of the car provided with gearing for that purpose in a false top or chamber of the car having a hood and an opening for admitting the air under the same, and openings at the sides and in front of the fan for the same purpose and having a regulator operated by an arm extending into the body of the car and having openings in the floor for the passage of the fresh air forced by the fan into the chamber and through said openings into the body of the car, with a fan, also operated by a jointed shaft connecting with the axle of the car provided with gearing for that purpose in a box on the floor of the car, said box having an opening provided with a regulator and a hot-air or steam pipe, and also

having a conductor-pipe extending through the roof of the car, into which box and through which conductor the foul air is drawn from the body of the car and forced outside, substantially as specified.

2. In a car-ventilator, the axle of the car provided with gearing and connecting with a jointed shaft having gearing connections with a fan in a false top or chamber of the car, said chamber having openings at front and at sides of the car in front of the fan, and a regulator with handle extending into the body of the car and having openings in the

floor of the chamber, in combination with the axle of the car, also provided with gearing and connecting with a jointed shaft having gearing connections with a fan operated in a box on the floor of the car having an opening and a regulator therein, and a hot-air or steam pipe and a conductor-pipe extending through the roof of the car, substantially as specified.

BENJAMIN M. ROSS.

Witnesses:

J. E. GUMAER,
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