J. WILLIAMS.
Car-Ventilators.

No. 198,441. Patented Dec. 18, 1877.

Fig. 1

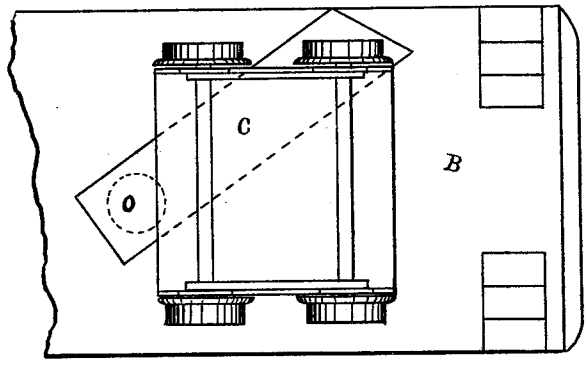


Fig 3

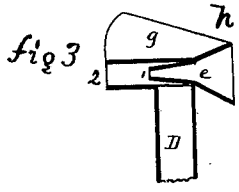
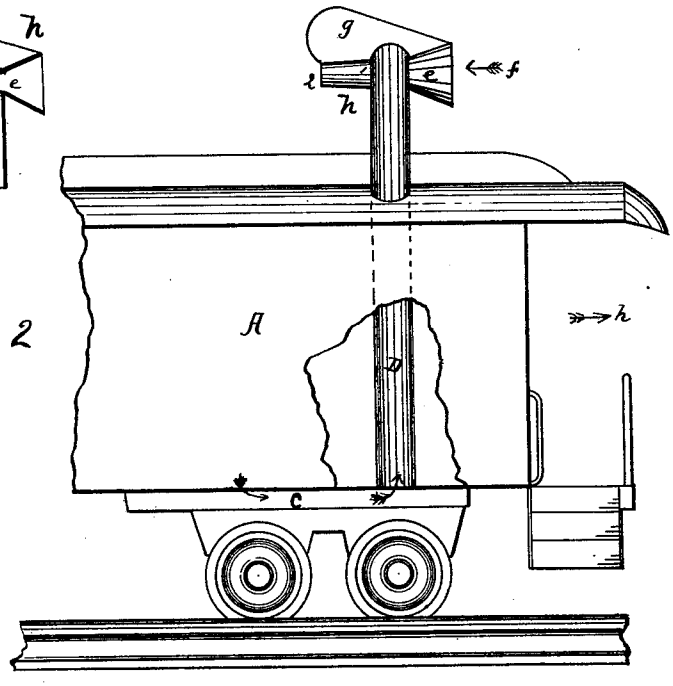


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH WILLIAMS, OF SHARPSBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-VENTILATORS.

Specification forming part of Letters Patent No. **198,441**, dated December 18, 1877; application filed May 25, 1876.

To all whom it may concern:

Be it known that I, JOSEPH WILLIAMS, of Sharpsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Ventilators for Railroad-Cars; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to that class of ventilators for railroad-cars in which the foul air within the car is gradually carried off through the medium of a flue passing from the interior of the car through the roof, and terminating in a cowl, so constructed that a current of air passing through the same while the car is in motion will induce an upward current of air from the car through the flue.

My improvement consists in an air-chamber located beneath the bottom or floor of the car, and arranged to communicate with the flue, and also with the interior of the car, through an opening or register in the floor, whereby the flue may be conveniently disposed in one corner of the car, out of the way, and the register or opening have a central location, so that the air will be proportionately drawn from all parts of the car into the chamber, and a more perfect ventilation secured than when the flue opens directly in the car, as heretofore.

In the drawings, Figure 1 is a plan view of the bottom of a car with my improvement applied thereto. Fig. 2 is a side elevation of the same, showing also the cowl, and indicating by arrows the direction of the several currents of air. Fig. 3 is a sectional view of the cowl.

Referring by letter to the same, A represents the body of a car; D, the flue which extends from the floor up through the roof, and *h* the swinging cowl arranged at the upper terminus of said flue. This cowl is constructed with an inlet, *e*, and with an outlet, 2, and is adapted to induce an upward current of air through the flue when its flaring inlet-passage is turned to the wind, on the principle of the well-known steam-injector. In order to keep this inlet to the wind when the car is in motion, the cowl is provided with a vane, *g*. Beneath the floor of the car I construct and arrange a chamber, *c*, which communicates with the flue D, conveniently located in one corner of the car and out of the way, and also with the interior of the car, through an opening, *o*, located at about the center of the car-floor. As illustrated in Fig. 1, this chamber extends from the flue to the central register, diagonally across the bottom of the car. It may, however, be larger or differently proportioned, so that it be constructed and arranged to communicate with the flue, and with the interior of the car, through an opening or register, whereby the flue may be located in a position which shall be convenient and out of the way, and the register be located so that it will insure an even draft from all portions of the interior of the car.

What I claim is—

The air-passage *c*, arranged below the bottom of the car, and communicating with the interior thereof through the central register *o*, in combination with the flue D, located substantially as described.

JOSEPH WILLIAMS.

Witnesses:

A. C. JOHNSTON,

B. L. JOHNSTON.