C. A. DANIELS.
Car Ventilator.

No. 202,241. Patented April 9, 1878.

Fig. 1

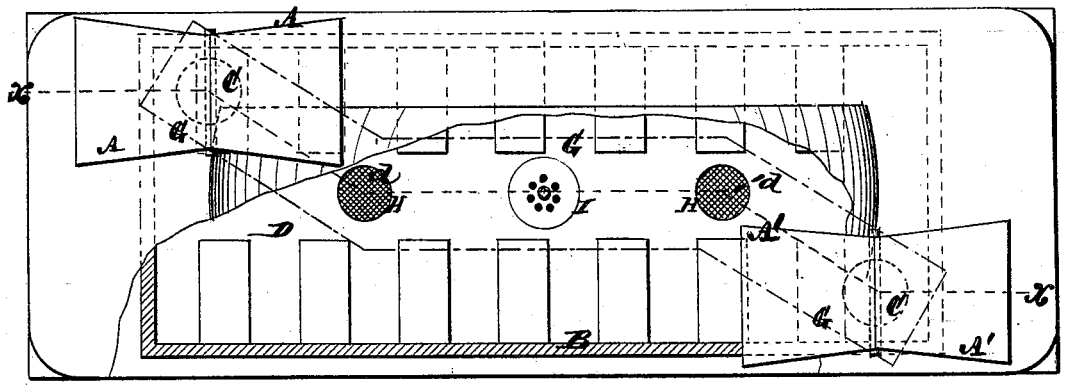
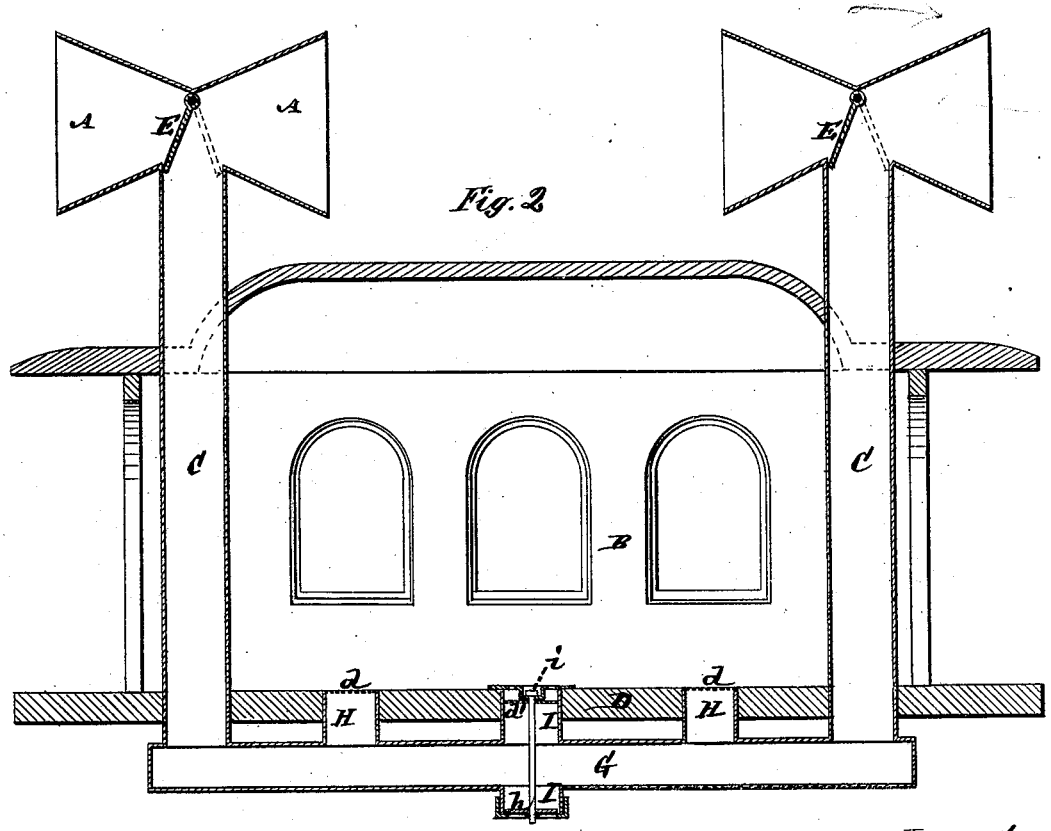


Fig. 2



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UNITED STATES PATENT OFFICE.

CHARLES A. DANIELS, OF WATERVILLE, NEW YORK.

IMPROVEMENT IN CAR-VENTILATORS.

Specification forming part of Letters Patent No. **202,241**, dated April 9, 1878; application filed October 10, 1877.

To all whom it may concern:

Be it known that I, CHARLES A. DANIELS, of Waterville, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Car-Ventilators, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

This invention more particularly relates to ventilators for railroad-cars, in which the car is provided with receiving-funnels for the air at opposite ends of it, to produce a forced circulation of air through the car in both or opposite directions of the travel of the latter by the resistance to the air encountered in the running of the car.

The invention consists in a combination of double-headed receiving funnels or hoods provided with a valve operating in reverse directions, and arranged on opposite sides of the longitudinal center line of the car at reverse ends of the latter, whereby said opposite end funnels or hoods are prevented from interfering with each other, and, by means of suitable ducts and distributors, are caused to convey the incoming air in reverse directions to the car, regardless of the direction in travel of the latter.

The invention also consists in a duct beneath the car of peculiar construction, in combination with the double-headed receiving funnels or hoods and distributing screens or devices in the floor of the car; likewise, in a combination with the duct beneath the car, which conveys the air in reverse directions to the latter, of a register or valve for removing cinders and dirt forced along with the incoming air.

Figure 1 represents a partially sectional plan of a railroad-car body having my invention applied, and Fig. 2 a longitudinal vertical section of the same, mainly on the irregular line *x x*.

A A and A′ A′, are receiving funnels or hoods at reverse ends of the car and on opposite sides of the longitudinal center line of the latter. Each of these receiving funnels or hoods has duplicate heads or mouths facing in opposite directions relatively to the travel of the car, so that each receives air no matter in which direction the car is running. B is the body of the car, above which the funnels A A and A′ A′ are arranged, and C C are the ducts leading from said funnels down to and below the floor D of the car. Self opening and closing valves E E are fitted within the double-headed funnels, to cause the air, as received by the advance head of either funnel, to pass the current of air down the ducts C C and to close the rear heads of the funnels.

The opposite lateral arrangement of the receiving funnels or hoods at reverse ends of the car prevents either one receiving funnel or hood from blocking or interfering with the supply of air to the other receiving funnel or hood.

The ducts C C, after passing through the floor D of the car, are connected with a duct, G, beneath said floor. This duct is composed of a longitudinal center portion and opposite end portions leading to reverse sides of the car to connect with the ducts C C. The center portion of the duct G has on or leading up from it any number of branches, H H, which project through the floor D, and open into the aisle of the car, and are covered by screens *d d*, to exclude cinders and dust also, which may have registers to open and close them, as required.

A chamber or duct, I, is formed in or on or connected with the duct G at the center of the car, which may also be fitted with a screen, *d′*, and perforated top to assist in ventilating the car, but which has mainly for its object the removal of cinders and dust entering the duct G by the receiving funnels or hoods, and for this purpose is provided with a register or valve, *h*, operated through a bolt, *i*, by wrench or otherwise from the interior of the car.

The air being received from both or opposite ends of the car, no matter in which direction the car travels, a most perfect supply of fresh air is kept up to the interior of the car while in motion.

I claim—

1. The combination of the double-headed receiving funnels or hoods A A and A′ A′, arranged on opposite sides of the longitudinal center line of the car at reverse ends of the latter, the valves E E, automatically controlling the heads of either funnel, and ducts for

conveying the air in reverse directions from the funnels to the car, substantially as specified.

2. The duct G, beneath or in the floor of the car, constructed to branch at its reverse ends to opposite sides of the car, in combination with the distributing branches H H and the ducts C C of the double-headed receiving funnels or hoods, essentially as described.

3. The combination, with the duct G, through which the air is admitted in reverse directions, of the chamber or duct I, having a register or valve *h*, and means for operating said valve from the interior of the car, substantially as and for the purpose herein set forth.

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