R. COOK.

CAR VENTILATOR.

No. 8,298. Patented Aug. 19, 1851.

Fig: 1

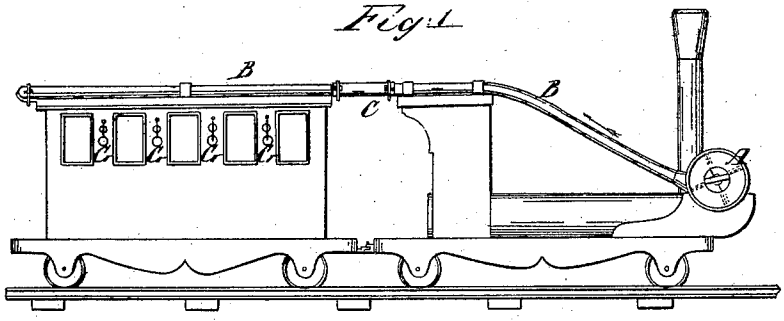


Fig: 2

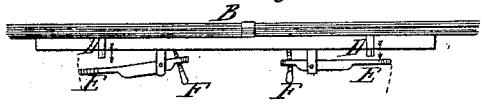
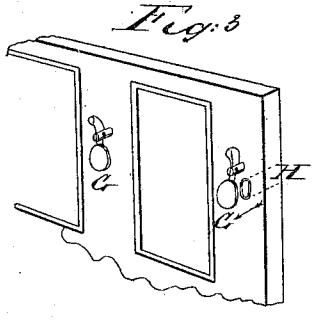


Fig: 3



UNITED STATES PATENT OFFICE.

RANSOM COOK, OF SARATOGA SPRINGS, NEW YORK.

VENTILATING AND EXCLUDING DUST FROM RAILROAD-CARS.

Specification of Letters Patent No. 8,298, dated August 19, 1851.

To all whom it may concern:

Be it known that I, RANSOM COOK, of Saratoga Springs, in the county of Saratoga and State of New York, have invented a new and useful Method of Excluding Dust, Smoke and Offensive Gases from Railroad-Cars and for Ventilating the Same; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings or prints, making a part of this specification, in which—

Figure 1, is an elevation giving an exterior view of my attachments to the locomotive and cars; Fig. 2, is a side view of the roof of a car, showing, in addition to the main conducting tube B, the short pipes or apertures, through which the air enters the car, together with the valves or inverted muffles regulating the supply thereof; Fig. 3, is a perspective view of a section of a car, with the valves which regulate the atmospheric pressure within the car and its discharge therefrom.

In constructing and attaching to a locomotive and railroad cars the parts comprising my invention, let a fan blower, A, Fig. 1, or any other machine for driving or forcing air, be attached to a locomotive in such a manner, or on such part of the locomotive, that it shall obtain a supply of air which is free from dust or smoke. This blower or forcer, may be moved or driven by connecting it with some of the moving parts of the locomotive, or it may be driven by a small steam engine attached to the locomotive and supplied with steam from its boiler. This blower discharges its wind into the pipe or tube B, B, Fig. 1. This tube may be made of metal, wood, or any other suitable material and placed on the roof of each car.

C, Fig. 1, is an elastic tube, made of leather or other suitable material and having at each end a movable clasp or other contrivance for attaching it to, or disengaging it from, the tubes B, B. This elastic tube C, is used to connect and continue the tubes B, B, from car to car, so that the air forced into the tube by the blower, may be distributed to all the cars in the train—the hindermost, or last end of the tube being closed by a cap, cover, plug, or in any other convenient manner.

From the tubes B, B, smaller pipes D, D, Fig. 2, admit the compressed air in the tube, into the cars. To regulate this supply of air, and also break and spread the current thereof so that it shall not be offensive to the passengers the valves or inverted muffles E, E, Fig. 2, are used. They may be made to close the mouths of the pipes D, D, or open them to any desirable extent by turning the screws F, F, at the small ends of said valves.

The valves G, G, Fig. 3, are attached to the outside of the cars, having a hinge movement and being so constructed and attached as to bear against the orifice H, through which orifice the compressed air escapes from the cars. The amount of bearing, or weight of pressure which these valves severally exert upon their respective apertures, determines the amount of atmospheric pressure which must be produced within the cars before these valves will open to allow its escape. No particular weight or amount of bearing is essential in these valves, beyond what is necessary to produce a pressure of the atmosphere within the cars, sufficient to overcome that which they encounter without by their velocity.

If desirable, more than one pipe or tube may be used for conveying the wind from the blower along the line of cars; and these pipes may be attached to the roof, ceiling or sides of the cars, the object being accomplished by any method which conveys pure air from the blower into the cars.

The parts described being all properly made and attached, their operation will be illustrated by putting the blower and train in motion with the doors and windows of the cars closed. The blower then forces its air along within the tube B, B, from which it enters the cars through the small pipes D, D, creating a pressure within which causes a current of air to pass outward through the small openings incidental to the structure of the cars, and in addition thereto, to open the valves on the outside of the cars and pass through the apertures which they had closed; thereby securing a thorough ventilation of the cars and effectually preventing a cap, cover, plug, or in any other convenient manner.

When the conductor opens a door in passing from car to car, the bearing valves on the outside immediately close and the principal escape of air is then through the door; its outward current in that case preventing

the entrance of dust or smoke at the door. The door being closed the valves on the outside are again forced open as before.

What I claim as my invention and which I desire to secure by Letters Patent, is—

The combination of the blower-bellows or forcer, with the pipes or tubes for conveying the pure air along the train of cars, the pipes or apertures for the admission of air into the cars, the valves or inverted muffles for controlling such admission of air, together with the valves and apertures for regulating the atmospheric pressure within the cars and its escape from them; all as hereinbefore set forth.

RANSOM COOK.

Witnesses:
D. SNYDER,
S. RICHARDS.