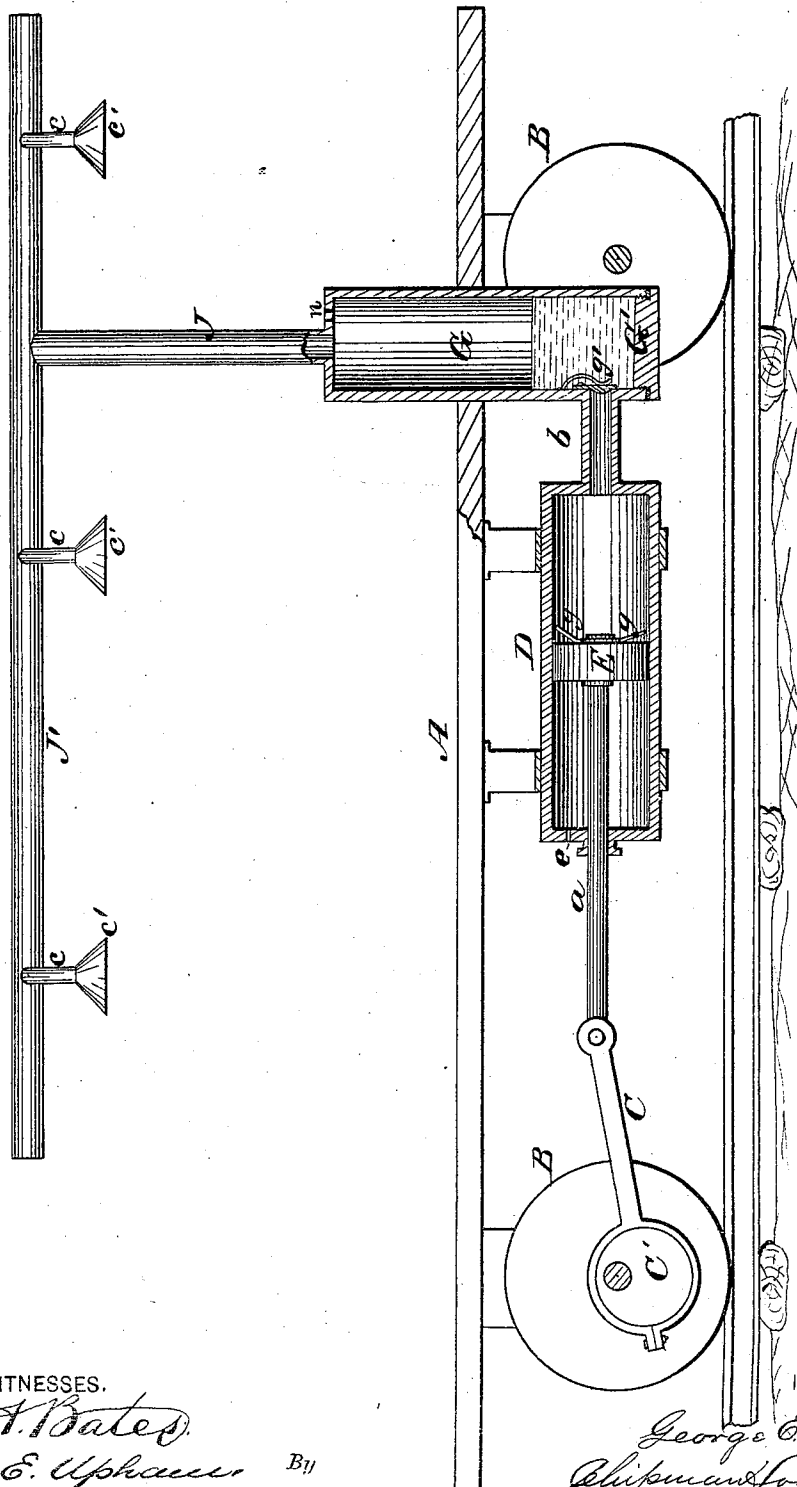


G. E. CRUTCHFIELD.
Railroad-Car Ventilators.

No. 148,183.

Patented March 3, 1874.



WITNESSES.
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GEORGE E. CRUTCHFIELD, OF WHITEVILLE, TENNESSEE.

IMPROVEMENT IN RAILROAD-CAR VENTILATORS.

Specification forming part of Letters Patent No. 148,183, dated March 3, 1874; application filed December 27, 1873.

To all whom it may concern:

Be it known that I, GEORGE E. CRUTCHFIELD, of Whiteville, in the county of Hardeman and State of Tennessee, have invented a new and valuable Improvement in Railroad-Car Ventilators; 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 making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of a sectional view of my railroad-car ventilator.

This invention has relation to ventilators for railroad-cars wherein air is forced into the cars through water. It consists in the novel combination and arrangement of the parts, as will be hereinafter more fully described and claimed.

The following is a description of my improvement.

In the annexed drawing, A represents the bed of a railroad-car; B B, the wheels thereof; and C, a pitman-rod, which receives motion from an eccentric, C', on one of the axles. D is a cylinder, which is arranged beneath the car-bed A, and properly secured in place. In this cylinder D works a piston, E, the rod *a* of which is connected to the pitman-rod C, and suitably guided. The piston E is provided with valves *g g*, opening inwardly, and the cylinder D is perforated at *e* for the admission of air into it. G represents a vessel, containing water, and communicating with the cylinder D by means of a pipe, *b*, provided with a valve, *g'*, which opens into the vessel G below the water-level therein. Vessel G communicates, by means of a vertical pipe, J, with a horizontal pipe, J', which will be arranged over head in-

side of a car. From this pipe J' depend a number of branch pipes, *c*, which may be flexible, and which are provided with finely-perforated rose-nozzles, *c'*.

In practice, the pipes *c* will be arranged at the ends of the several seats in the car, and these pipes may be provided with cocks for regulating the quantity of air admitted into the car at each seat.

It will be seen that when the car is in motion air will be forced into the vessel G through the water therein, which water will deprive the air of dust, cinders, &c. The air thus purified will be conducted through the pipes J, J', and *c*, and introduced into the car.

For the purpose of cleaning the vessel G of the matters which will accumulate therein, the lower end of this vessel is provided with a removable packed bottom, G'. Water may be supplied to the vessel G after the bottom G' is tightly fastened in its place through an opening, *n*.

It will be seen that the valve *g'* will allow air to be forced into the vessel G, but will prevent the escape of water into the pipe *b*.

What I claim as new, and desire to secure by Letters Patent, is—

In a railroad-car ventilator, the combination and arrangement of a horizontal air-forcing engine with its piston and connecting-rods, the communicating pipe *b*, water-vessel G, with its valve *g'*, and pipes J J', substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE ENOCH CRUTCHFIELD.

Witnesses:

THALES E. KOONE,
WM. J. REDD.