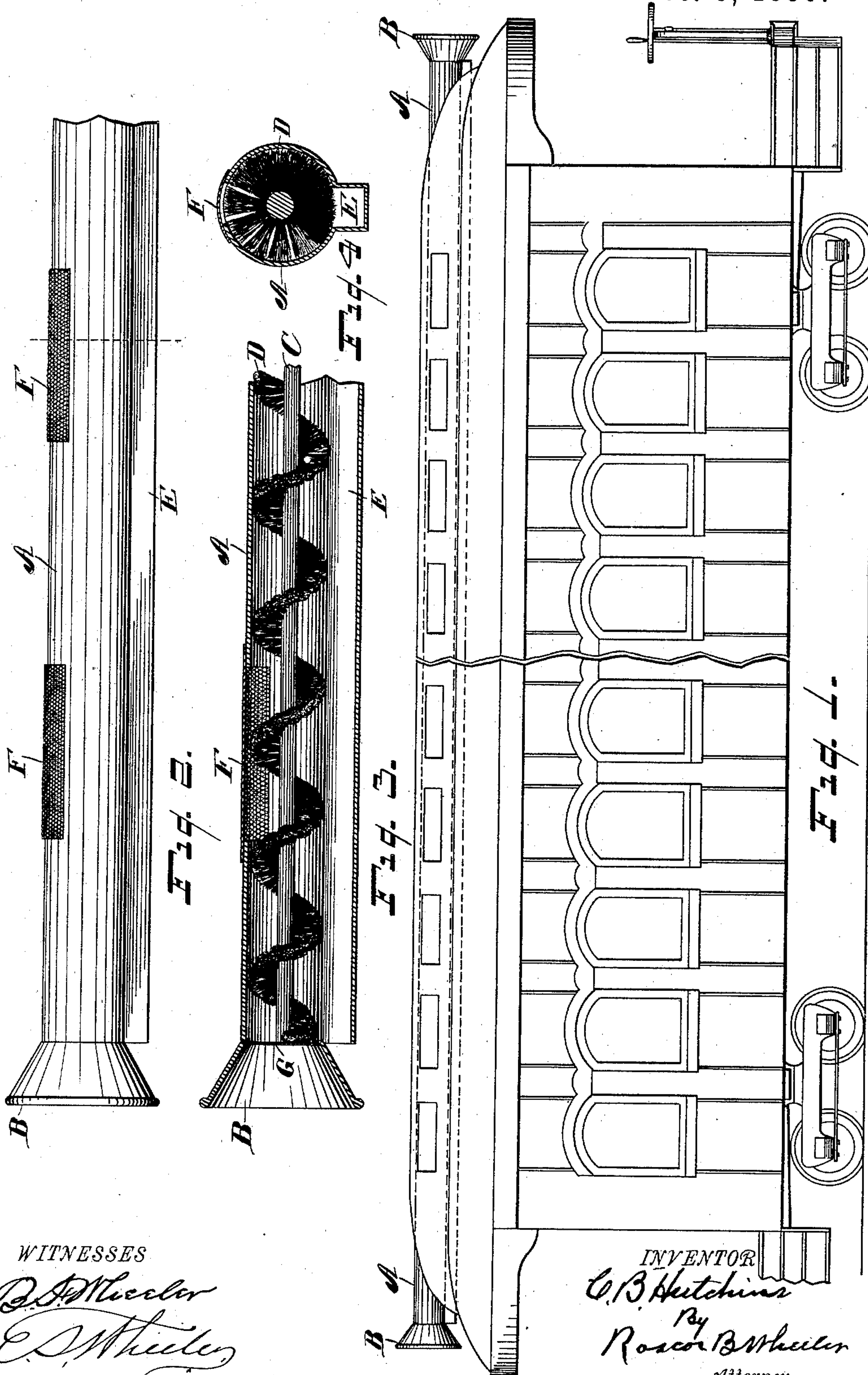


(No Model.)

C. B. HUTCHINS.  
PASSENGER CAR VENTILATOR.

No. 442,120.

Patented Dec. 9, 1890.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CARLETON B. HUTCHINS, OF DETROIT, MICHIGAN.

## PASSENGER-CAR VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 442,120, dated December 9, 1890.

Application filed May 24, 1890. Serial No. 353,004. (No model.)

*To all whom it may concern:*

Be it known that I, CARLETON B. HUTCHINS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Passenger-Car Ventilators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in car-ventilators, especially adapted for use on the passenger-coaches of a railway; and it consists in a certain construction and arrangement of parts whereby the smoke and cinders are excluded from the interior of the car and the car freely and perfectly ventilated, all of which will be hereinafter more fully set forth, and the essential features of the device pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is a side elevation of a railway-coach, showing my improved ventilator in position therein. Fig. 2 is an enlarged side elevation of a portion of the ventilator-tube, like portions being broken away. Fig. 3 is a vertical longitudinal section through the cylinder of Fig. 2, the spiral brush within said cylinder being in elevation. Fig. 4 is a cross-section in dotted line of Fig. 2.

Referring to the letters of reference, A indicates an elongated cylinder or tube that extends longitudinally through the coach or car just below the ceiling, the ends of said cylinder extending through the roof of the car at each end thereof, as shown in Fig. 1.

The cylinder A is provided at each end with a funnel-shaped mouth B, and the opening in the ends of said cylinder at the terminal of the funnel is covered with a screen G. (Shown in Fig. 3.) Located centrally within the cylinder and running longitudinally of its interior is a shaft C, the ends of which are secured in the screens G. Secured to the shaft C and winding around it in a spiral manner is a continuous row of bristles or metal strands D, said bristles being of such length as to extend

entirely across the inner diameter of the cylinder, as shown in Fig. 4.

E indicates a depending trough that is secured to or formed integral with the under shell or face of the cylinder and opening into the interior thereof. The ends of said trough terminate with the ends of the cylinder and are open, thus forming an unobstructed passage immediately below the cylinder A and communicating therewith. In the upper shell of the cylinder is a series of openings that are covered with the screens F. (Clearly shown in Figs. 2, 3, and 4.)

From the foregoing description it will now be apparent that a car equipped with this improved ventilator, as shown in Fig. 1, and running at a high rate of speed will cause a strong current of air to enter the cylinder through the funnel B. The air-current, striking the spiral brush, will be deflected or caused to whirl within the cylinder, whereby the cinders that enter the cylinder are arrested by the bristles, and by the action of the wind are swept into the trough E, which, being open at each end and unobstructed, will have an increased draft of air therethrough that will carry the cinders away. From the force of the air-current entering the cylinder and the revolution of the air within the cylinder a portion of the air will be discharged upward through the screened openings F in the cylinder A into the interior of the car. These openings being in the upper plane of the cylinder, the air that is discharged into the car through said openings passes upward, and does not blow down onto the heads of the passengers, as is incident with the use of the ordinary ventilators located at the top of the car. Thus by the employment of this improved ventilator the car may be evenly and perfectly ventilated, the cinders excluded therefrom, and direct drafts of air within the car prevented. It will also be seen that the arrangement of parts is such that the action will be the same, though the car be running with either end forward.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the body of a car, a ventilating-tube extending the entire length of the car, said tube being located just below



- the roof of the car, its ends passing out through the ends of the car-roof, said tube having a ventilating-screen in its upper face within the car and an unobstructed passage along the bottom of said tube, said passage communicating with said tube, and a shaft within said tube, said shaft carrying a continuous row of spirally-arranged bristles, substantially as specified.
- 10 2. In combination with a passenger-car, the ventilating-tube located below the car-roof and passing through the ends of the car-roof and having a funnel-shaped mouth at each end, a series of openings in the upper face of
- 15 said tube, a trough extending the entire length of the tube, said trough being located in the bottom of the tube and communicating therewith, and a spiral brush located within the ventilating-tube, substantially as specified.
- 20 3. In combination with a car-body, a ventilating tube or cylinder located below the roof and passing through the car-roof at the ends

of the car and having a series of screened openings in the upper face of said tube, a funnel-shaped mouth at each end, a trough along the bottom of said tube communicating therewith, a shaft within said tube, and a brush formed spirally around said shaft, the free ends of said strands meeting the wall of the tube, substantially as set forth.

4. In combination with the body of a car, a cylinder located below the roof, its ends passing through the roof at the ends of the car, a screened opening in the upper wall of said cylinder, a trough along the bottom of said cylinder communicating therewith, and a spiral brush within said cylinder, for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

CARLETON B. HUTCHINS.

Witnesses:

E. S. WHEELER,  
R. B. WHEELER.