

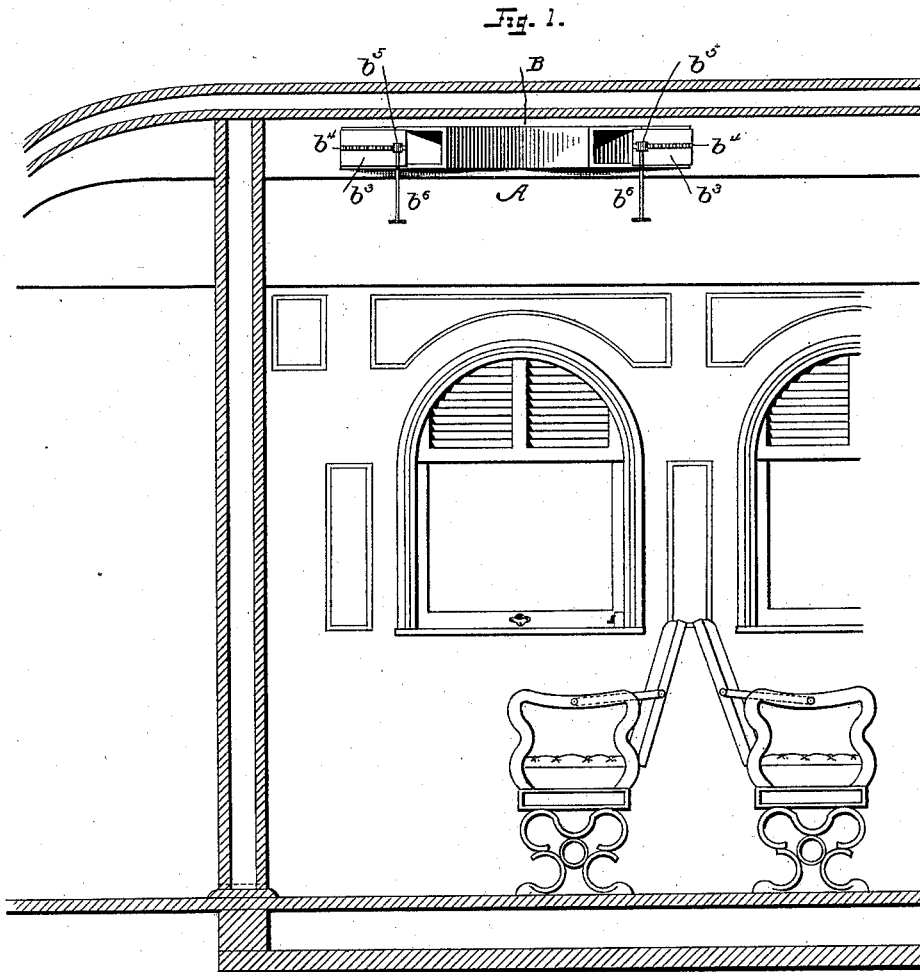
(No Model.)

2 Sheets—Sheet 1.

W. WRIGHT.
CAR VENTILATOR.

No. 384,184.

Patented June 5, 1888.



Witnesses:

W. W. Norton
Chas. H. Norton

by

Inventor:
Washington Wright
A. S. Dyckhoff
his Attorney.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

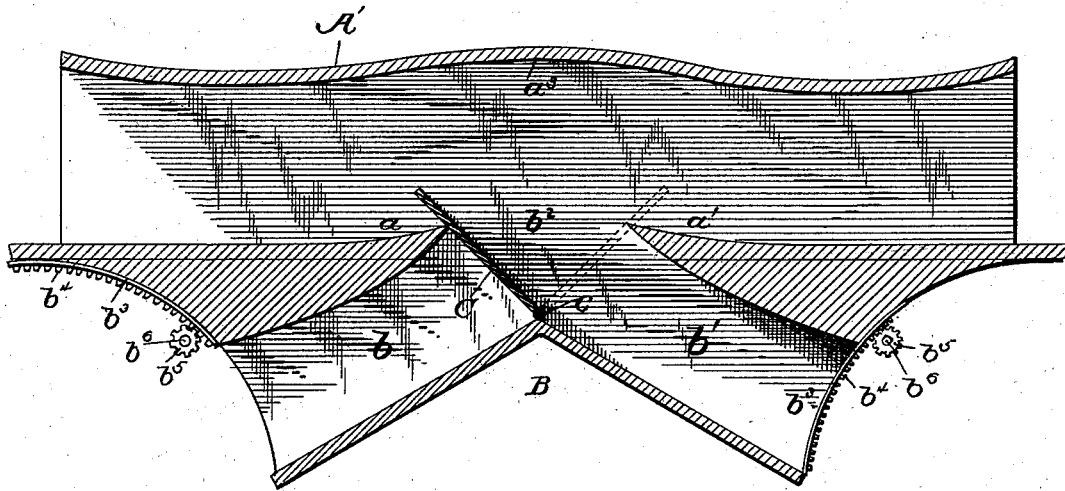
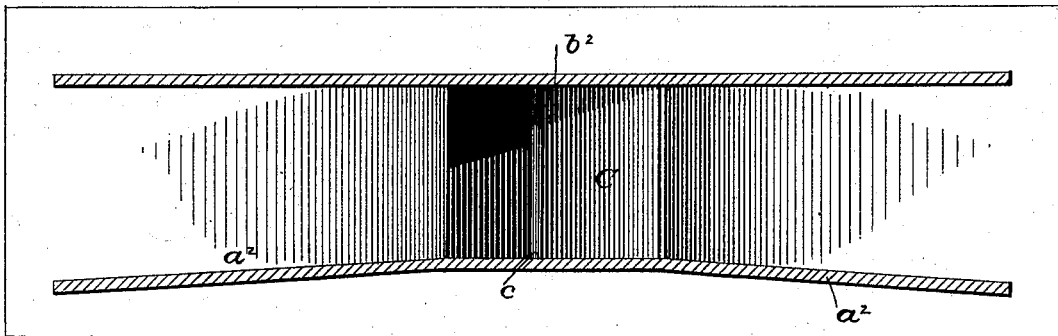


Fig. 3.



Witnesses:

W. W. Wright
John M. [unclear]

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Inventor :
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UNITED STATES PATENT OFFICE.

WASHINGTON WRIGHT, OF CLAYTON, NEW JERSEY.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 384,184, dated June 5, 1888.

Application filed December 12, 1887. Serial No. 257,655. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON WRIGHT, a citizen of the United States, residing at Clayton, in the county of Gloucester and State of New Jersey, have invented certain new and useful Improvements in Car-Ventilators; and I do hereby 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.

This invention relates to car-ventilators.

The object is to produce a car-ventilator which will be simple and ready in construction, absolutely excluding dust and cinders, and inexpensive of production.

I am aware that ventilators have heretofore been made having an outer air-passage located upon the outside of the car and other passage or passages communicating therewith, through which it is intended the air within the car shall be drawn by the draft through the outer passage. I am especially familiar with the construction of a car-ventilator in which is employed a series of vanes pivoted in an outer passage, connected together by means of a wire or rod and actuated by the draft, there being openings between said vanes communicating with the interior of the car for the exit of the impure air therefrom. In this device, however, the vanes are pivoted entirely within the outer passage, and there being a great number of these vanes the draft is retarded and caused to eddy between them and through the openings, carrying smoke, dust, and cinders within the car.

Another form of ventilator has an outer passage having converging walls which tend toward each other at the center, and between which is pivoted a vane, also actuated by the draft; but in this instance sufficient space is left upon either side of the vane to allow the draft to be carried directly within the car.

Still another form of ventilator, also having an outer passage with flaring ends and a passage leading therefrom to the interior of the car, contains a vane centrally located and almost wholly within the outer passage, also actuated by the draft to close one side of the opening and open the other; but here, also, the entire vane being exposed and the width of the passage being so reduced thereby the

draft eddies around the vane, and is carried backward through the inner opening to the interior of the car. This is evidenced by the presence of a screen covering the interior passage for the purpose of excluding dust and cinders.

The present invention comprises an outer passage with flaring ends and sides inclined or curved at or near the center in a direction opposite the opening leading from inner passages, said inner passages leading from opposite directions to the outer passage through a common opening and a vane pivoted at the juncture of said inner passages, its opposite end extending slightly beyond into the outer passage, and so arranged that when operated by the draft one passage is closed and the opposite one open.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, I have illustrated my invention as applied to a railway-car, in which drawings—

Figure 1 represents a side elevation of the ventilator applied to a car, the view being taken from the interior, the car being shown in section. Fig. 2 represents a horizontal section of the ventilator detached, and Fig. 3 represents a vertical longitudinal sectional view of the device taken through the outer passage.

In the drawings, A represents the ventilator, which, as shown in Fig. 1, is applied near the top of a railway-car, extending partly within and partly without the same.

A' designates a casing which extends beyond the side of the car and which forms a passage or draft-opening when the car is in motion. Extending within the car is another casing, B, the interior of which forms a passage, or rather two passages, *b b'*, converging toward each other and terminating in a common opening, *b²*, communicating with the outer or draft passage at or near its center. At this point the inner sides of the draft-opening are curved or inclined outward or away from the opening, as shown at *a a'*, to cause the draft to be deflected at that point, and to cause an outward draft through the inner openings from the interior of the car. The opposite side of the outer passage has also an outward curve or swell, *a³*,

to compensate for the space taken up by the inner curves, $a a'$, and thus give the passage even width throughout its length, in order to prevent eddying or backward pressure of the draft at the point of the central inner opening. 5 The ends of the outer passage are preferably flared outward to form enlarged entrances. A vane, C , is located at the juncture of the inner passages, pivoted at a point, c , and extending outward, its extreme end protruding into the 10 outer passage to enable it to be operated or thrown in one direction or the other by the draft, the situation of the vane being such that when actuated by the draft, when the car is 15 moving in either direction, it will at once close one of the inner passages, $b b'$, while the other is immediately opened to its full extent. Thus it will be seen that the passage thrown open by the vane is always the one inclining toward 20 the direction of the draft, and since there is but small, if any, obstruction to the draft through the outer passage, there can be no eddying or rearward tendency of the draft, but on the contrary an outward draft is caused from the interior of the car, and thus the vitiated or im- 25 pure air is drawn therefrom. In order to prevent entrance of rain or snow within the car through the ventilator, the bottoms of the passages are inclined toward their outer ends, 30 forming a water-shed, as shown at a^2 , Fig. 3. The inner passages may also be effectually closed or the draft regulated by means of doors, $b^3 b^3$, located at their inner ends, each of said doors formed as an arc of a circle, conforming 35 to the sides of the frame of the ventilator and sliding in guides or ways thereon. Racks $b^4 b^4$ are also provided upon these doors and are each engaged by a pinion, b^5 , upon the upper end of a rod, b^6 , the lower end of which extends 40 downward a convenient distance, and is provided at its lower end with a handle, wheel, or similar device, by which it may be easily turned and the doors operated at will.

It will at once be seen that since the draft 45 from the interior of the car is always outward, and that at no time is the outer atmosphere

permitted to enter through the ventilator, the entrance of cinders, dust, and smoke is entirely prevented and rendered impossible.

Having thus fully described my invention, 50 what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-ventilator, the combination of a casing to be placed on the outside of a car and forming a continuously-extending passage, the 55 casing having an outward swell or expansion in its exterior face to be opposite an opening in the car when the casing is in position, a casing to be placed on the inside of a car and forming a continuously-extending passage, 60 this casing having an inward-projecting angle in its interior face to be opposite the opening in the car when this casing is in position, and opposite the expansion in the outer casing when both casings are in position, and a vane 65 pivoted at or near the angle and protruding through the opening in the car into the outer casing, substantially as described.

2. In a car-ventilator, the combination of a casing to be placed on the outside of a car and forming a continuously-extending passage, the 70 casing having an outward swell or expansion in its exterior face to be opposite an opening in the car when the casing is in position, a casing to be placed on the inside of a car and forming a continuously-extending passage, this 75 casing having an inward-projecting angle in its interior face to be opposite the opening in the car when this casing is in position, and opposite the expansion in the outer casing when 80 both casings are in position, and being provided with valves or dampers to regulate the draft, and a vane pivoted at or near the angle and protruding through the opening in the car into the outer casing, substantially as described. 85

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

WASHINGTON WRIGHT.

Witnesses:

D. S. MAYNARD,
C. T. WRIGHT,