

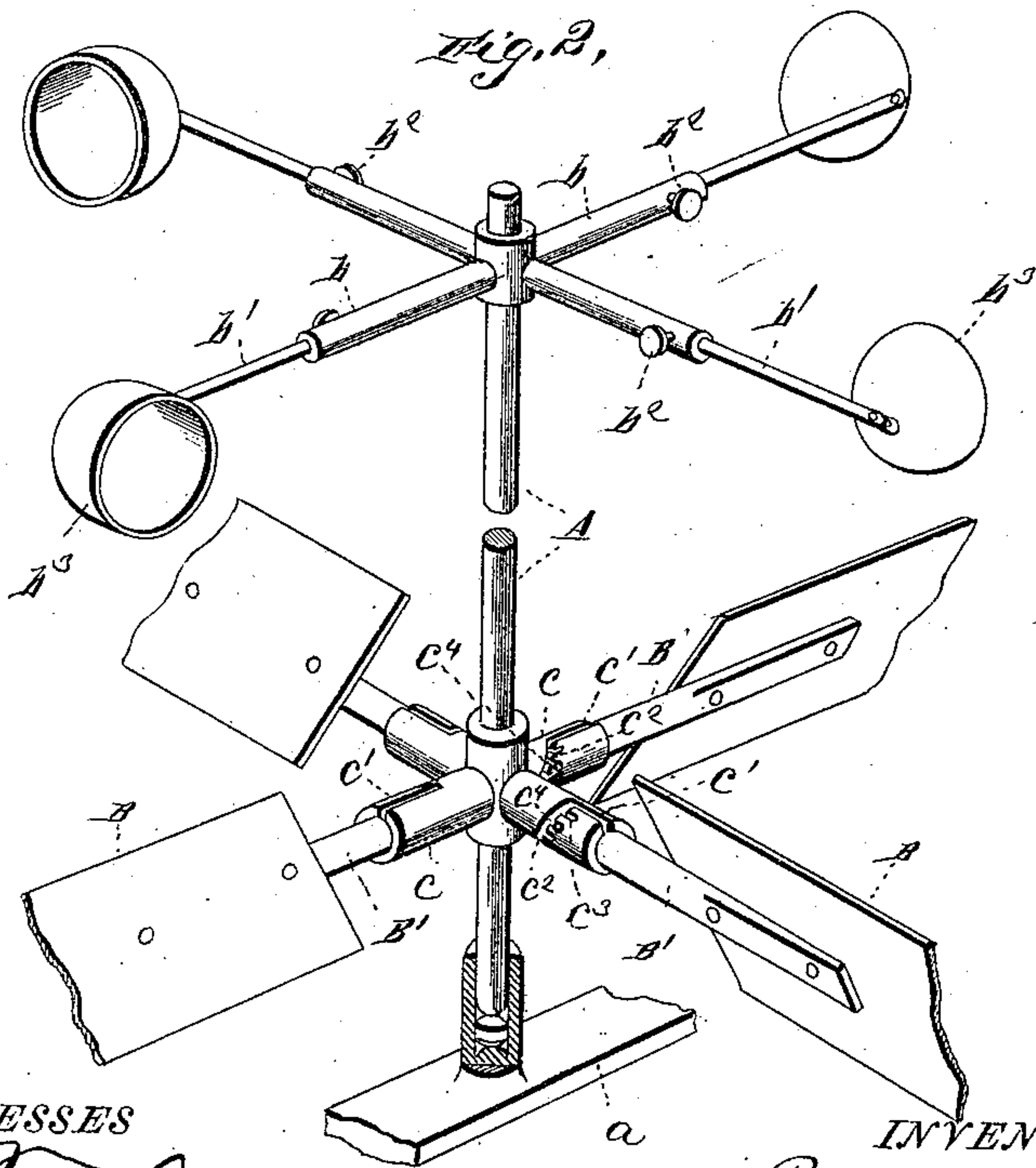
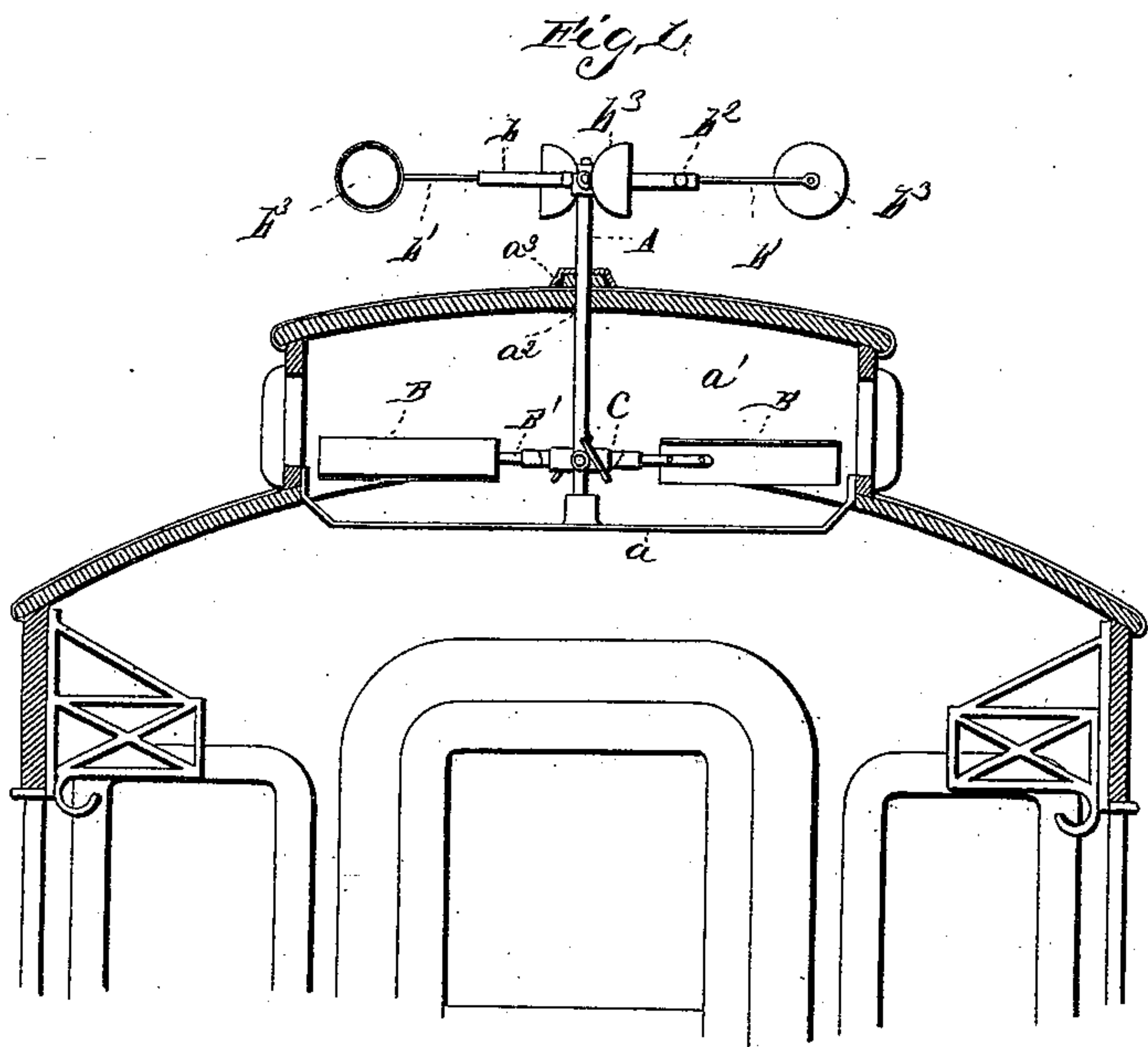
(No Model.)

R. W. WALDROP.

VENTILATING DEVICE FOR RAILWAY CARS.

No. 447,216.

Patented Feb. 24, 1891.



WITNESSES

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Phile. Massi.

INVENTOR

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UNITED STATES PATENT OFFICE.

RICHARD W. WALDROP, OF NORFOLK, VIRGINIA.

VENTILATING DEVICE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 447,216, dated February 24, 1891.

Application filed June 7, 1890. Serial No. 354,611. (No model.)

To all whom it may concern:

Be it known that I, RICHARD W. WALDROP, a citizen of the United States, and a resident of Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Ventilating Devices for Railway-Cars; 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 letters of reference marked thereon, which form a part of this specification:

Figure 1 of the drawings is a vertical transverse section of a car-roof, showing the fan in position. Fig. 2 is a perspective view of the fan, showing the interior and exterior mechanism.

This invention relates to certain improvements in fanning devices for railway-cars; and it consists in the novel construction and combination of parts, as hereinafter set forth.

In the drawings, A refers to the fan-shaft journaled at its lower end in a bearing or cross-piece a , arranged across the central ventilator trunk or offset portion a' of the car-top and secured to the latter, said shaft passing through an opening a^2 in the roof and having fitted to it around said opening a^2 a guard a^3 to shed the water. The shaft-opening a^2 in addition has around it a raised portion of the surface of the roof of said ventilator trunk or offset portion as a further precaution against the entrance to the car of rain, said raised portion projecting upward under the guard a^3 . The shaft A has fixed to its outer or upper end a series of hollow radial arms b , carrying rods b' , held therein and adjustable at their inner ends by set-screws b^2 , engaging the same, said rods carrying at their outer ends hemispherical air-cups b^3 , adapted by the action or resistance of the air when the car is in rapid transit to rotate said shaft. This adjustment of the cup-carrying rods provides for regulating the speed of the fan-shaft. The centrifugally-acting air-cups b^3 , unlike in operation the chute-wing form of wind-wheel heretofore employed for driving the fan-shaft, are devoid of any irregularity of action or oscillatory movement tending to produce friction on the bearings. The inner end of the shaft A also car-

ries a number of hollow arms or sockets c , each provided in its edge with a longitudinal slot c' , terminating in an oblique slot c^2 , facing a series of obliquely-arranged notches or recesses c^3 in said sockets.

B B are the fan-blades, whose inner ends are provided with arms B' , having lugs c^4 , adapted, as said arms are inserted into the sockets or arms c of the shaft A, to enter the slots c' and to engage the desired one of the notches or recesses c^3 , according as it is required to more or less project or retract said blades as the size or width of the ventilator-trunk may demand in order to fit the fan-blades therein. The adjustment also serves to change the obliquity of the blades of the fan to vary the nature of the air circulation. The fan, being operated above the roof of the car, provides for setting up a circulation of air within the latter, greatly promoting the comfort of the occupants.

This invention is exceedingly simple and is easily constructed and applied to a railway-car of ordinary character.

I am aware that ventilators acting upon the principle herein set forth have heretofore been constructed; but none of them, so far as I am aware, show the form and arrangement I have herein described.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

In a ventilating device for railway-cars, the fan-wheel comprising the hub mounted on a rotary shaft and carrying a series of radial hollow arms or sockets, each provided with a longitudinal slot c' terminating at its rear end in an oblique slot c^2 , one edge of which has a series of obliquely-arranged notches or recesses, in combination with the fan-blades having the arms inserted in said sockets and provided with lugs adapted to enter said grooves and engage any one of said recesses, whereby the obliquity of the fan-blades may be adjusted, substantially as specified.

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

RICHARD W. WALDROP.

Witnesses:

WM. C. WHITTLE,
W. RANDALL.