

(No Model.)

J. MARTIN.
CAR VENTILATOR.

No. 471,649.

Patented Mar. 29, 1892.

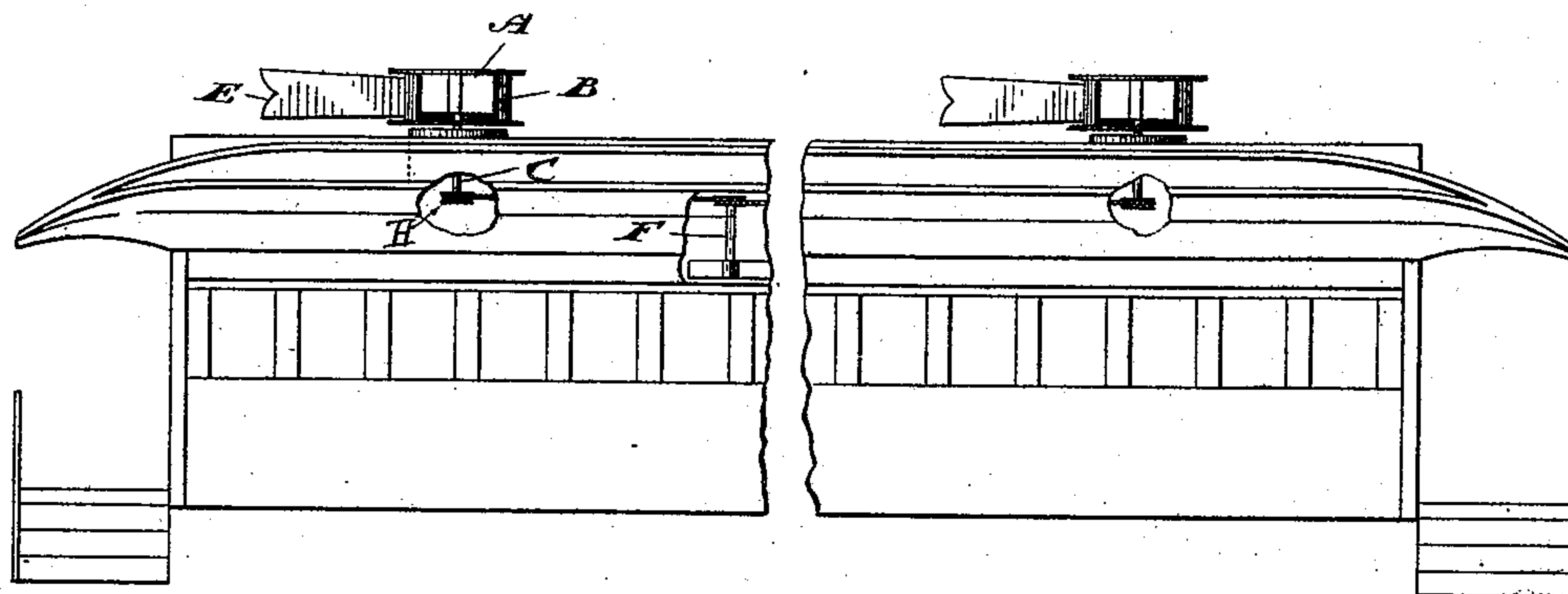


Fig. 1

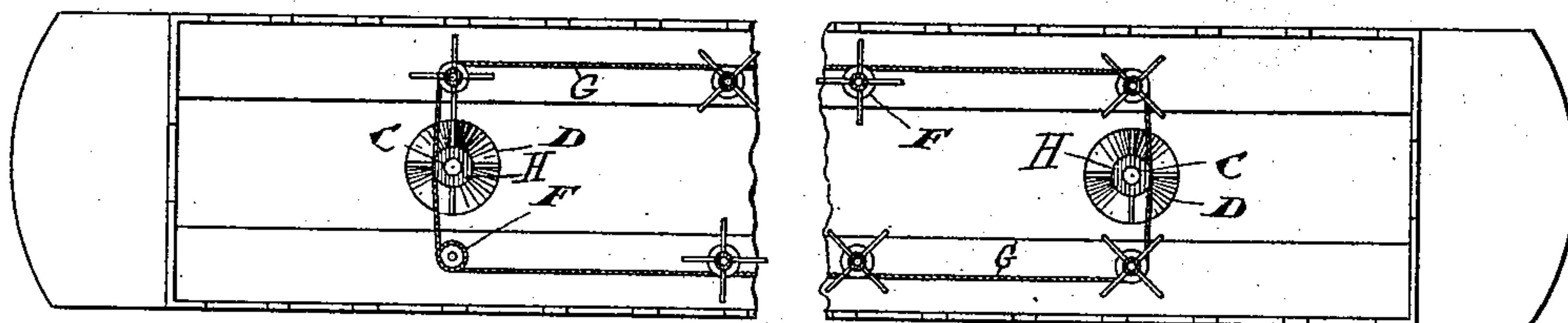
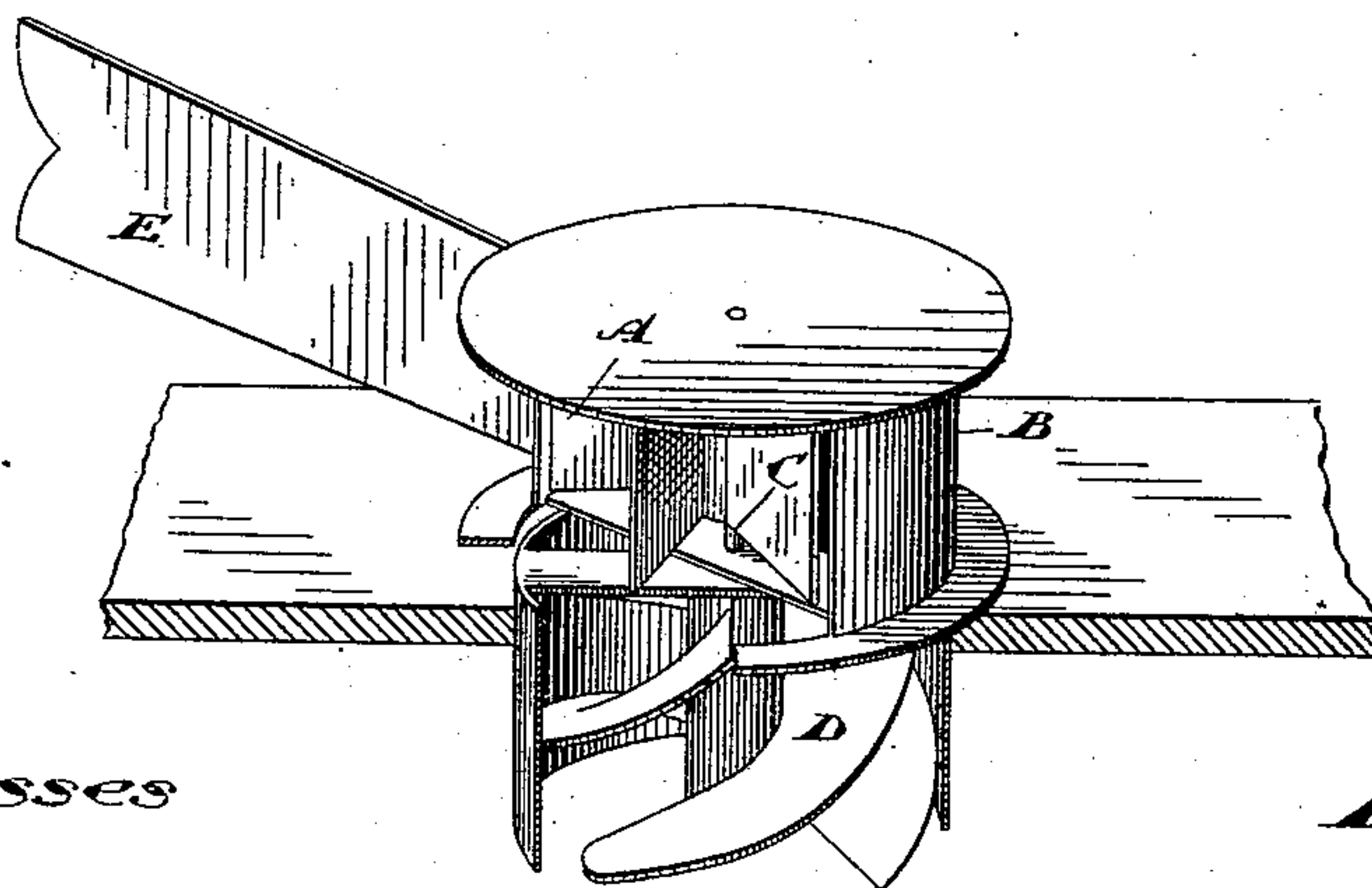


Fig. 2



Witnesses

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Fig. 3

Inventor

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UNITED STATES PATENT OFFICE.

JAMES MARTIN, OF TORONTO, CANADA.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 471,649, dated March 29, 1892.

Application filed September 17, 1890. Serial No. 365,305. (No model.)

To all whom it may concern:

Be it known that I, JAMES MARTIN, banker, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a certain new and Improved Car-Ventilator, of which the following is a specification.

The object of the invention is to design means by which the foul air from a car or apartment will be drawn therefrom either by the motion of the car or wind; and it consists, essentially, of one or more suction-fans placed in an aperture formed in the ceiling of the car or apartment and connected to the same shaft, as a wind-wheel or motor, located outside of the car or apartment, the whole being otherwise made substantially as hereinafter more particularly explained and then definitely claimed.

Figure 1 is a view showing my improved ventilator applied to a railway-car. Fig. 2 is a plan for operating a series of agitating-fans in connection with the exhaust-fan. Fig. 3 is an enlarged detail of my improved exhaust-fan.

In illustrating my invention I have shown it applied to a railway-car, although it will of course be understood that it may be used for ventilating an apartment when a sufficient force of wind can be depended upon to revolve the fan.

In the drawings I show a ventilator located at each end of the car; but of course I do not wish to confine myself to any particular number of elevators.

A represents a wind-wheel partially inclosed by a casing B and connected to a spindle C, which is suitably supported and journaled, as indicated.

D is an Archimedean screw forming an exhaust-fan, located in an aperture made in the ceiling of the car and connected to the spindle C.

E is a fan-tail connected to and projecting from the casing B, which fan-tail sets the casing in the proper direction, so that the wind shall act against the blades of the wind-wheel A.

When the car is in motion, the wind-wheel A will be caused to constantly revolve, and as it is connected to the same spindle C as the exhaust-fan D the said exhaust-fan will likewise revolve, thereby drawing the heated and foul air from the car and discharge it outside.

In very hot weather a gentle agitation of the air in the car will be found pleasant, and with that view I arrange a series of fans F, which I connect to the spindle C by a belt G and pulley H, as indicated in Fig. 2, so that the motion of the spindle C will be transmitted to the fans F.

I am aware that it has before been proposed to use an exhaust-fan and a wind-wheel connected with each other to ventilate railroad-cars and the like, as shown in the United States Patents Nos. 78,201 and 436,701 and others, and hence do not claim this, broadly. My invention differs from those referred to in having the wind-wheel and exhaust-fan not only on the same shaft, but in close proximity to each other, and also in having the wind-wheel and exhaust-fan, the pulley H, and casing B all on the same shaft.

What I claim as my invention is—

1. The combination, in a ventilator, of a wind-wheel A, partially exposed to the outer atmosphere, a semicircular casing B, partially covering the same and having a fan-tail E to control its position, an exhaust-fan D, working in a cylinder immediately beneath the casing B and opening therein, and a vertical spindle or shaft C, having both wind-wheel and exhaust-fan rigidly secured thereto, and the casing loosely mounted thereon, substantially as described.

2. The combination, in a ventilator, of a wind-wheel A, partially exposed to the outer atmosphere, a semicircular casing B, partially covering the same and having a fan-tail E to control its position, an exhaust-fan D, a series of fans F to keep the air in motion inside the car, a belt G for giving motion to the fans F, and a pulley H for imparting motion to the belt which operates the fans, said pulley H, exhaust-fan D, wind-wheel A, and casing

B all being mounted on shaft C, substantially as and for the purpose specified.

3. In a car-ventilator, a suction-fan for withdrawing the air from the car, a series of
5 fans arranged in different positions inside the body of the car and constructed and arranged to fan the occupants thereof, and a wind-wheel connected with and driving both

the exhaust and the fanning devices, substantially as described.

Toronto, August 12th, 1890.

JAMES MARTIN.

In presence of—

A. G. MURRAY,

CHARLES C. BALDWIN.