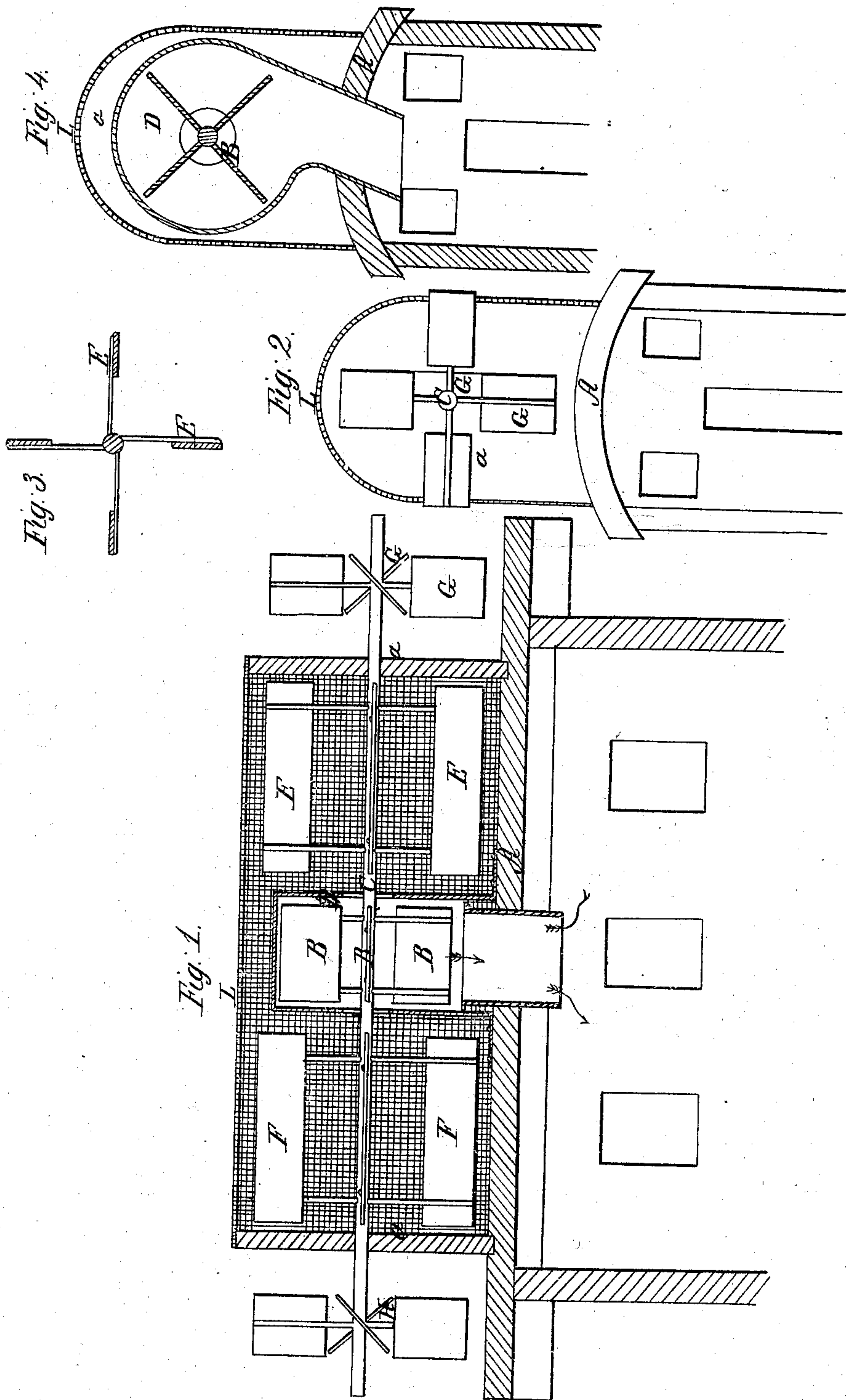


J. BEVAN.
CAR VENTILATOR.

No. 11,101.

Patented June 13, 1854.



UNITED STATES PATENT OFFICE.

JOHN BEVAN, OF JERSEY CITY, NEW JERSEY.

RAILROAD-CAR VENTILATOR.

Specification of Letters Patent No. 11,101, dated June 13, 1854.

To all whom it may concern:

Be it known that I, JOHN BEVAN, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Ventilating Railroad-Cars and Excluding Dust Therefrom; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a vertical section of the ventilating apparatus arranged on top of the car, and communicating with the interior of the same. Fig. 2, is an end elevation of the same, showing the windmills or blades, which are arranged on their shaft after the manner of arranging the blades of a screw propeller, for giving motion to the dust separators and the suction fan blower. Fig. 3, is a vertical transverse section of the same, through one of the dust separators, and Fig. 4, is a vertical central section through the suction blower, showing the manner in which the air is admitted into the car.

Similar letters of reference in each of the several figures indicate corresponding parts.

This invention relates to a very simple and effectual method of ventilating cars and excluding dust and cinders therefrom, whereby a considerable saving in expense in constructing and applying ventilators to cars is effected, and the ventilation of the same rendered very perfect while they are, to a very great extent, kept free from dust and other annoyances to which rail road travelers are subjected.

The nature of my invention consists in arranging on either side of a suction fan blower and on the same shaft, a series of revolving blades or separators, for the purpose of creating a strong artificial current of air above the top of the car, which will act centrifugally upon the cinders, dust, and other heavy particles accompanying the current created by the rapid motion of the cars, and cause them to be deflected or thrown out from the center and to fall to the ground while the fan blower acts centripetally upon the purified air, and causes it to enter the fan case and to pass into the car and ventilate the same very perfectly, and thereby render traveling on rail roads far more pleasant and agreeable than heretofore. The said separators and blower being set in rapid motion by means of a windmill ar-

ranged on either end of the shaft of the blower and separators, and which is actuated by the resistance of the current through which it passes.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the top of a rail road car with a hole through its center. Through this hole, the mouth of the blower passes and conducts the air into the car, as shown in the drawing. B, is the fan of the suction blower. It is arranged on the horizontal revolving shaft, C, which extends the whole length of the car, and rests in bearings, *a, a*.

D, is the case containing the fan. It is open at its sides, so as to admit the pure air into the car. These openings are made quite small, and admit but a very small quantity of air compared with that displaced by the deflectors or blades, E, F, and consequently, the suction of the blower will not be sufficient to overcome the resistance of the separating blades, and therefore the cinders and dust will be caused to move from toward the center of the shaft, C, and owing to their gravity, to fall to the ground, while the stripped or purified air will, owing to its being very light, be drawn in by the blower, and then forced into the car, and made to serve for ventilating the same. The blades, E, F, are arranged on the shaft, C, after the same manner as the fan of the blower, and revolve simultaneously with it. The blower and separators are wholly incased in wire gauze, L, as shown in the drawing—said wire gauze serving to prevent all possibility of the coarser particles accompanying the current created by the motion of the cars entering the blower and passing into the car.

G, H, are the screw propellers or windmills for giving the blower and deflectors a rapid revolving motion. They are arranged fast on the end of the shaft, C, and are left exposed, so as to be operated upon by the current through which they pass—said current causing them to have a rapid revolving motion; that G, revolving as the car travels in one direction, and H, revolving as the car changes its course.

This method of ventilating cars, it may be evident, is superior to all others from the fact that, it effectually prevents the dust and cinders finding an entrance into the car, and yet allows and causes the pure air to enter and ventilate the same, and, as it can be

very easily applied and operated by the current through which it passes, its utility, it is presumed, will be readily seen and appreciated.

5 What I claim as my invention, and desire to secure by Letters Patent, is:—

Arranging on either side of a suction fan blower and on the same shaft with the same, a series of revolving separating blades, E,
10 F, or their equivalents, for the purpose of creating a strong revolving current of air above the top of the car, which acts centrifugally upon the cinders, dust, and other
15 current created by the rapid motion of the

cars, and causes them to be deflected, and to fall to the ground, instead of entering the car while the fan blower acts centripetally upon the air thus separated or stripped of its impurities, until it enters the blower, and 20 then causes it to pass into the car and ventilate the same agreeably, and in a very perfect manner—the whole being constructed, arranged, and operated in the manner substantially as herein described.

JOHN BEVAN.

Witnesses:

S. H. WALES,
O. D. MUNN.