

(No Model.)

G. L. THOMAS.

WINDOW VENTILATOR FOR RAILWAY CARS.

No. 502,919.

Patented Aug. 8, 1893.

Fig. 1.

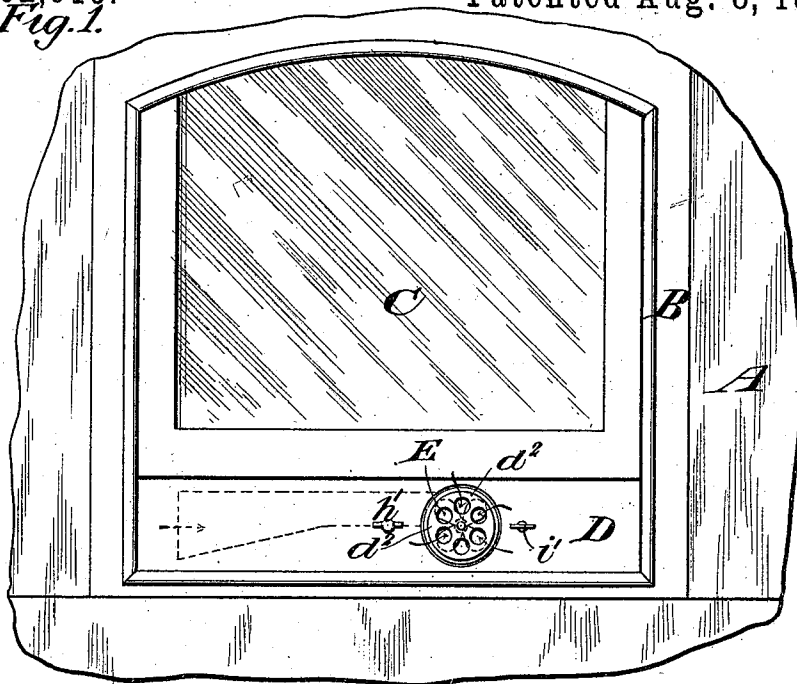
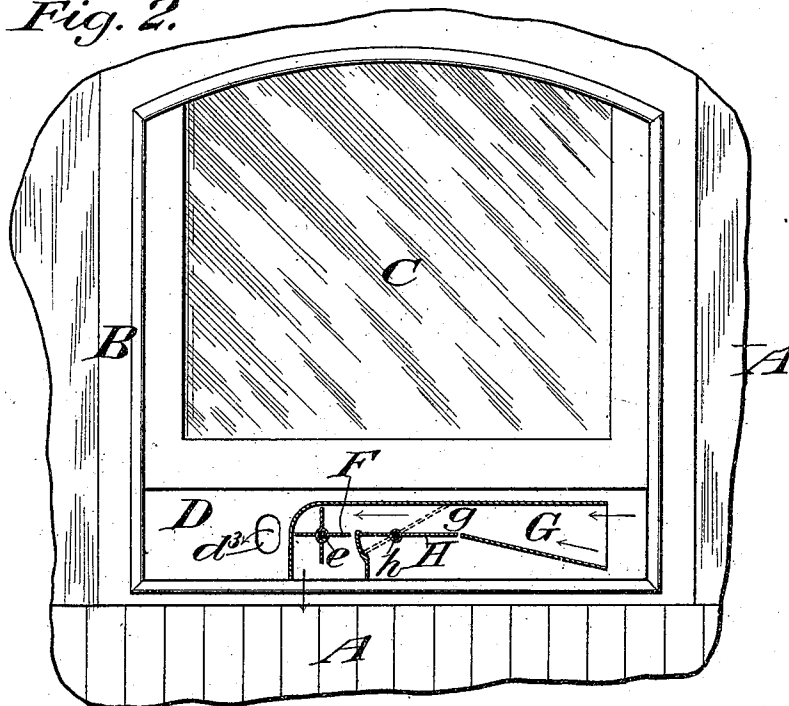


Fig. 2.

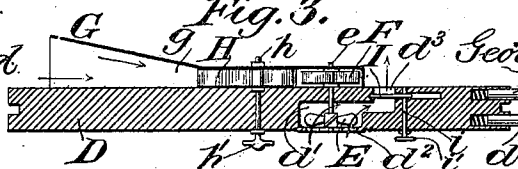


Witnesses:-

B. H. Haywood

C. Sundgren

Fig. 3.



Inventor:-

George L. Thomas

by attorneys

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UNITED STATES PATENT OFFICE.

GEORGE L. THOMAS, OF BROOKLYN, NEW YORK.

WINDOW-VENTILATOR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 502,919, dated August 8, 1893.

Application filed October 27, 1892. Serial No. 450,105. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. THOMAS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Window-Ventilators for Railway-Cars, of which the following is a specification.

My invention relates to an improvement in window ventilators for railway cars in which a removable section fitted to the casing in which the window slides is provided with an air-forcing device adapted to be operated by the force of the air when the car is in motion to draw the air from within the car and discharge it upon the outside.

Experience shows that the air within a railway car, no matter how well built and furnished—and particularly the air in the berths of a sleeping car, becomes foul with smoke, gas and fine dust rushing in through the screen when the window is open and from the exhalations of the occupants when the window is closed and that the stifling air is removed only at the expense of considerable time and dangerous drafts of air, the same nuisance again to be repeated whenever a tunnel or walls or banks at the side of the track drive the smoke along the side of the car.

It is the object of my present invention to overcome these annoyances and to provide comparatively pure air for the occupant of a berth without endangering the person's health by a draft of cold air.

A practical embodiment of my invention is represented in the accompanying drawings in which,—

Figure 1 is a view of the ventilator as it appears from the inside of the car when adjusted for use. Fig. 2 is a similar view looking from the outside of the car, the air conduit cut off and the wheel being shown in section, and Fig. 3 is a transverse longitudinal section through the ventilator.

The side of the car is represented by A, the window casing by B and the window by C.

The ventilator frame may conveniently consist of a flat board section D of such shape as to fit between the side casings of the window and occupying the space between the lower portion of the window sash and the sill when the window is partially opened.

In practice, when used in connection with a window of a sleeping car such as is in ordinary use, I find it convenient to make the ventilator frame D about six or eight inches deep and thick enough, either at its edges or throughout its entire extent to occupy grooves in which the window, or windows when a double window is used, slide. The frame D may be made adjustable at pleasure by inserting yielding lips *d* in one of its edges so that they may be pressed back far enough to permit the end of the frame D to swing into position and then spring back to make a tight closure at the end.

The frame D is provided with a recess *d'* for the reception of an air discharge fan or wheel E fixed on a rotary shaft *e* extending transversely through the frame D to the exterior and there provided with a paddle wheel F. The front of the recess *d'* which opens into the interior of the car is preferably covered with a perforated cap *d''* through which the air is drawn from the interior of the car into the recess *d'*, and a discharge conduit *d'''* leads from the recess *d'* through the frame D to the outside air. A funnel G having a gradually contracted throat *g* is fixed to the interior of the frame D and so located as to open in the direction in which the car is traveling to direct a current of air upon the paddle wheel F to one side of its center, in the present instance to the upperside. A cut-off damper H is mounted at one side of the throat *g* and is secured to the operating spindle *h* which extends through the frame D and is provided with an operating handle *h'* on its interior end so that a person within the car may cut off the admission of air at pleasure by turning the damper into the position shown in dotted lines in Fig. 2. In practice I find it convenient to allow the damper H to form a part of the bottom of the throat *g* and when it is rocked in position to cut off the admission of air to the paddle wheel, it will at the same time permit the air to rush through the bottom of the throat and escape so as to prevent any clogging of the mouth of the funnel with cinders or dust. A second cut-off damper I is secured to the spindle *i* which extends through to the interior of the frame D and is there provided with an operating handle *i'* by means of which the damper may be swung

into position to cut off the passage way leading from the recess *d'* to the exterior air and thereby shut off any possible entrance of dust through said passage way when the paddle wheel and exhaust fan are not in operation.

5 In operation, when the car is in motion, the air rushing into the funnel G will cause the paddle wheel F to rapidly rotate and thereby operate the exhaust fan or wheel E which
10 will draw the air from the interior of the car into the recess *d'* and force it out through the conduit *d''* to the outside air. This will cause the air within a berth in a sleeper to be very rapidly renewed, even though the curtains be
15 tightly closed, as the pure air will find its way into the car through the carefully guarded ventilators at the top of the car and through the crevices between the curtains and the front of the berth without producing any dangerous draft.

20 It will be observed that the ventilators employed upon one side of the car when the car is going in one direction may be utilized for the opposite side of the car when the car is
25 going in the opposite direction and hence there is commonly no need of reversing them in the same window, as it requires a simple exchange when the several windows of the car are once supplied.

30 What I claim is—

1. A car window ventilator comprising a removable frame adapted to close the space

between a partially opened window and its casing, said frame being provided with an air passage therethrough, an air exhausting device for forcing the air through said passage-way, a wind motor for operating said air exhausting device and a conduit independent of the exhaust passageway for directing a current of air to one side of the motor as the car
40 moves, substantially as set forth.

2. The ventilator comprising the frame with an air passage therethrough, an air exhausting device located in said passage-way, a cut off device for said passage-way, a wind motor
45 for operating the air exhausting device, the conduit for directing a current of air upon one side of the motor and bent to shield the motor from the current of air in the opposite direction and a cut-off device for closing the
50 conduit against the advance of the current of air to the wind motor, substantially as set forth.

3. The ventilator comprising an air exhausting device, a wind motor for operating it, a
55 conduit for directing a current of air to the wind motor and a cut-off device arranged to simultaneously close the conduit to the motor and open it to the outside air, substantially as set forth.

GEORGE L. THOMAS.

Witnesses:

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GEORGE BARRY.