W. J. ORR.

Dust-Excluding and Car-Ventilating Window.

No. 214,695. Patented April 22, 1879.

Fig. 1

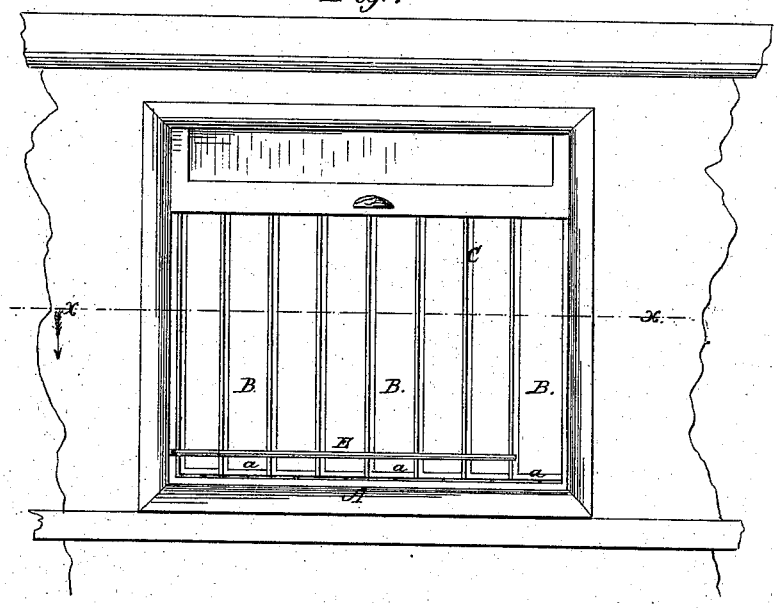


Fig. 2.

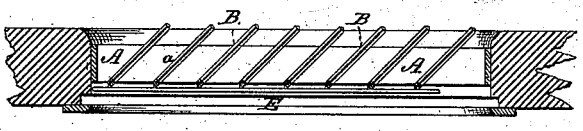


Fig. 4.

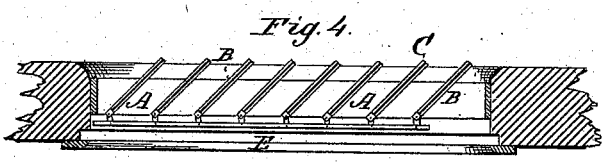


Fig. 3.

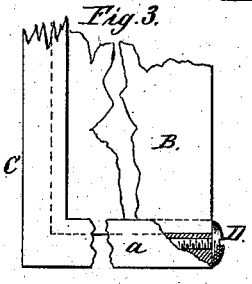


Fig. 5.

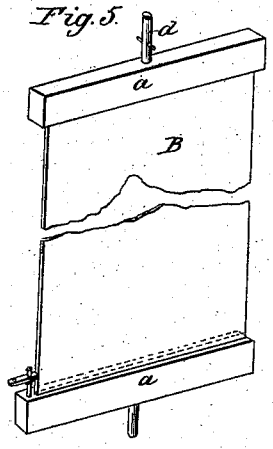
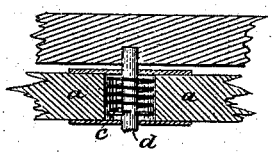


Fig. 6.



WITNESSES:

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WILLIAM J. ORR, OF ROCK HILL, SOUTH CAROLINA.

IMPROVEMENT IN DUST-EXCLUDING AND CAR-VENTILATING WINDOWS.

Specification forming part of Letters Patent No. **214,695**, dated April 22, 1879; application filed January 30, 1879.

To all whom it may concern:

Be it known that I, WILLIAM J. ORR, of Rock Hill, in the county of York and State of South Carolina, have invented a new and Improved Dust-Excluding and Car-Ventilating Window; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is intended for ventilating railway-cars and also excluding dust therefrom, without obstructing the vision.

It consists of a series of vertical parallel pivoted transparent slats, between which the air passes freely, and when the slats are adjusted at such angle that the exit-openings are toward the rear of the train the suction of the atmosphere (when the train is in motion) has the effect of drawing the air of the car through the spaces between the slats.

The operation of the ventilator, therefore, depends upon the vacuum principle. Where the slats are thus adjusted the particles of cinders, dust, &c., which strike against them will be thrown off laterally and prevented from entering the car, and at the same time the plates do not hinder the entrance of light, nor prevent the passengers viewing the landscape or objects along the road.

In the accompanying drawings, forming part of this specification, Figure 1 is an inner-side view of the ventilator in position in the window-opening of a car. Fig. 2 is a horizontal section on line *x x* of Fig. 1. Fig. 3 is a detail view, showing a detached fragment of a slat and its frame. Figs. 4, 5, 6 represent a modified construction. Fig. 4 is a cross-section of the ventilator when the slats are held in frames or bars constructed as shown in Fig. 5. Fig. 5 is a perspective view of one of the slats and frames detached. Fig. 6 is a detail sectional view of the spring-pivot.

A indicates a rectangular frame, and B transparent slats pivoted therein, which are the chief components of my invention. The said frame is designed to be attached to a car in any suitable manner, either outside of or within the usual window-openings, as may be preferred.

The slats B are oblong rectangular glass plates, which, as shown in Figs. 1, 2, 3, are held in grooved wooden frames C, whose end portions, *a*, are pivoted at the middle of their length in the top and bottom bars of frame A. One side bar of said frames C is absent, and the plates B are held in the frames C by means of large-headed screws D, which enter the ends of bars *a a*. The said frames C are connected by an adjusting-bar, E.

In Figs. 4, 5, 6 the construction is the same as shown in Figs. 1, 2, 3, and above described, except that the slats B are held by spring-pressure in end bars, *a a*, and no side bar is employed to connect the latter.

A spring, *c*, is applied to each of the upper pivots, *d*, of said slats, so as to press the pivot and its attached bar *a* downward. To insert or remove a slat, B, the upper bar, *a*, is pressed upward. This construction renders it easy to replace any slat which has been broken.

When the slats are set inclined to the rear and the train is moving, the passage of the outer air by the sides of the car will create a vacuum, which will be supplied by the air from within the car, thus effecting the ventilation of the latter. At the same time such position of the slats will enable them to ward off any cinders or particles of dust which may float in or be carried along with the air, since if they strike on a slat they will be diverted laterally, and thus be prevented entering the car. The slats do not materially hinder the vision, and hence they have a threefold function.

I am aware that a car-ventilator composed of pivoted wooden slats has been heretofore employed.

What I claim is—

1. The car-window ventilator and dust-excluder formed of the transparent plates B, the pivoted wooden frames, in the grooves of which said plates are held, and from which they are made detachable, as specified, and the bar E, attached to said wooden frames, all as shown and described.

2. The combination of the spring-pivot with the grooved bars and removable plates B, all as shown and described, for the purpose specified.

WILLIAM JOAB ORR.

Witnesses:
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