

GEORGE B. HALL & JOSEPH SHAFFER.
 Improvement in Railroad Car Ventilators.

No. 119,349.

Patented Sep. 26, 1871.

Figure 1.

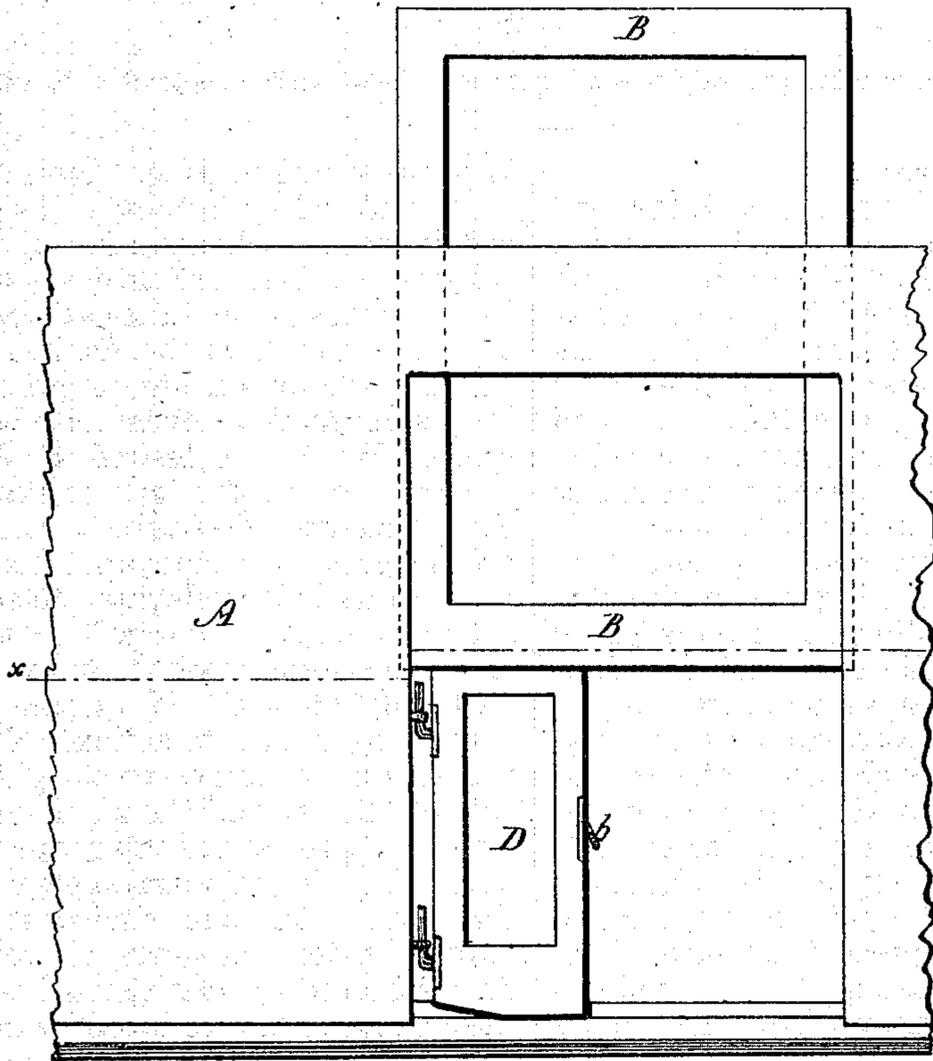


Figure 2.

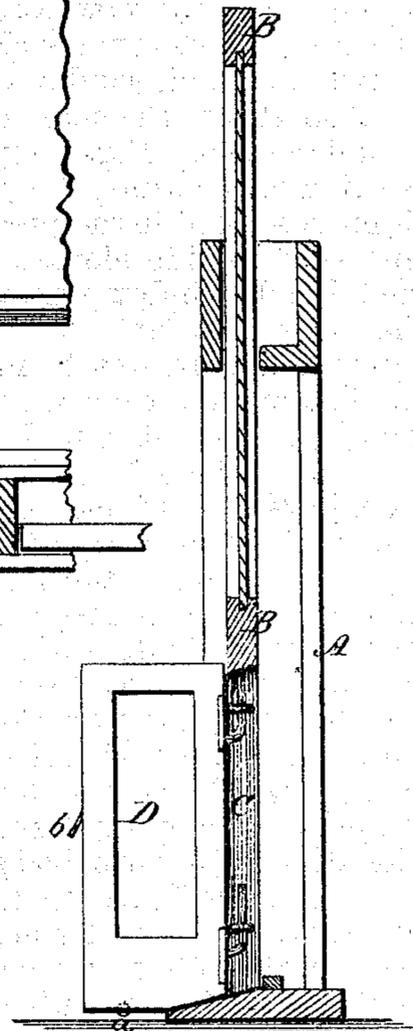


Figure 3.

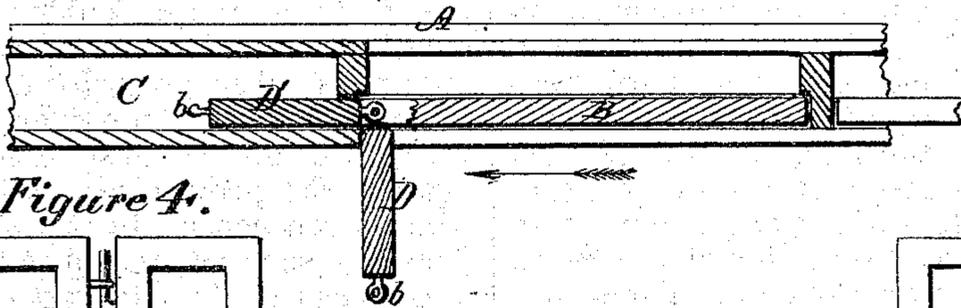
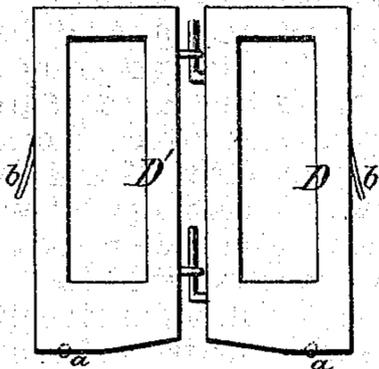


Figure 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE B. HALL AND JOSEPH SHAFFER, OF KANSAS CITY, MISSOURI.

IMPROVEMENT IN RAILROAD-CAR VENTILATORS.

Specification forming part of Letters Patent No. 119,349, dated September 26, 1871.

To all whom it may concern:

Be it known that we, GEORGE B. HALL and JOSEPH SHAFFER, of Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful improvements in means for preventing the entrance of dust, cinders, &c., into railway cars; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing which makes part of this specification, and in which—

Figure 1 represents a fragmentary portion of the side of a car-body, showing one of the windows with which it is ordinarily provided held up by the horizontally-sliding double window, used also to exclude dust, cinders, &c. Fig. 2 represents a transverse vertical section, also showing the main window elevated, and one of the auxiliary double windows turned on its hinges at right angles to the side of the car to exclude dust and cinders. Fig. 3 represents a horizontal section of the same, the parts occupying the position described in the preceding figure. Fig. 4 represents a side elevation of the auxiliary-hinged double window removed from its casing in the side of the car.

My invention relates to means for excluding dust, cinders, &c., from a railway car while in motion; and it consists in the arrangement within a recess in the side of the car-body, between the windows with which a car is ordinarily provided, of a double-sliding hinged window, of such height in relation to the main window as that when drawn from its casing it will support said main window and admit of one of its parts being turned at right angles to the side of the car to act as a bar to the entrance of dust, cinders, &c., without interfering with the free ventilation of the car, as will be hereinafter described.

In the accompanying drawing, A represents a portion of a railway-car body, showing also the ordinary window B arranged to move vertically up and down within its frame. Within a recess, C, made in the side of the car between the windows B, is arranged a double-hinged window, D D', which is provided on the under side of each of its parts with anti-friction rollers *a*, to enable it to be drawn easily from and returned within its casing, for a purpose to be hereafter described. Each portion D D' of said double window is provided on its side contiguous to the main windows

B with spring-pulls or knobs, *b*, which, when said window B is lowered in its frame, are folded within their sockets, and when the said main window is raised are thrust out by the action of their springs beyond the casing of the main window, in order that the double-ventilating window may be drawn out in either direction from its casing as the movement of the cars may require. When it is desired to admit into the car a current of air for its ventilation, and at the same time exclude the dust, cinders, &c., which are so great an annoyance to passengers, the main window B is elevated to a height that will allow the double window D D' to be drawn from its casing underneath it, and to such distance as that only one-half, D, of said double window may be brought into action. The latter is then turned on its hinges to a right angle with the side of the car and the main window B lowered on the hinges connecting this portion with its fellow D'. By this arrangement it will be seen that, while the main window is held in its elevated position, the portion D of the double window is braced against the action of the wind and the current of air produced by the forward movement of the car, by that portion of its frame nearest its hinges abutting against the frame of the main window B, the distance between the two portions of the double window being such as will just admit the main window to rest upon its hinges. The parts being in this position do not interfere with the thorough ventilation of the car, while the dust, cinders, &c., striking against the protruding portion of the double window are caused by the current of air produced by such protrusion to fall below the level of the open window B, thus insuring comfort to passengers by the entrance of fresh air, while those annoyances to which they are subjected are effectually excluded. The sides of a railway car being always constructed of an inner and an outer wall, leaving an unoccupied recess between the ordinary windows with which it is provided, render the adaptation of our invention to all railway cars a simple matter and one comparatively inexpensive, while its usefulness and efficiency is undoubted. When it is desired to close the main window B it is raised so as to clear the double windows D D', the protruding portion of the latter is brought in a straight line with its fellow and is pushed within its casing, when the

said main window is free to be lowered in its frame.

Having described our invention, we claim—

1. The double window D D', arranged to be moved within and from its casing C to form a support for the main window B of a railway car, and by turning one of the parts of said double window at right angles to the side of the car to prevent the entrance of dust, cinders, &c., while the ventilation of said car is uninterrupted, as herein shown and described.

2. The double window D D' provided with spring-knobs or pulls *b*, operating as and for the purpose herein described.

In testimony whereof we have hereunto signed our names.

GEORGE B. HALL.
JOSEPH SHAFFER.

Witnesses:

THOMAS R. SANDFORD,
W. H. SUTTON.