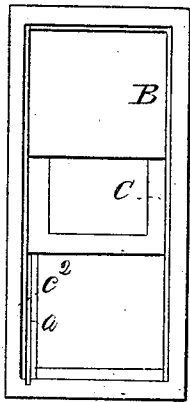
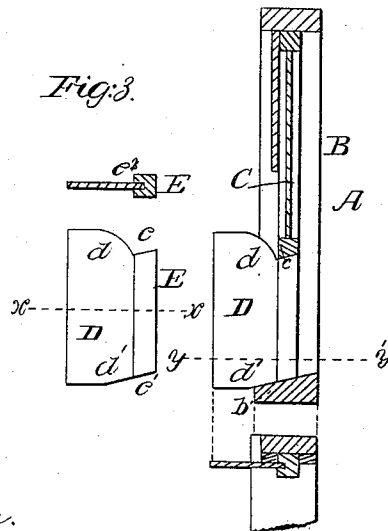


*Russell & Holmes,*  
*Car Ventilator,*  
*N<sup>o</sup> 81,297,      Patented Aug. 18, 1868.*

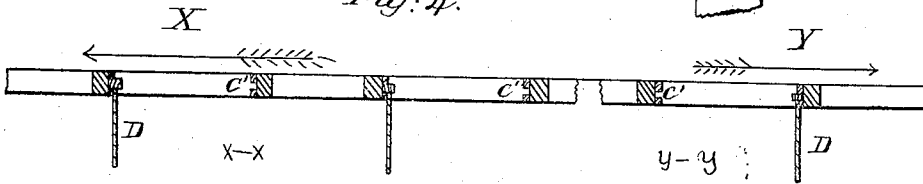
*Fig: 1*



*Fig: 2.*



*Fig: 4.*



*Witnesses:*  
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# United States Patent Office.

WILLIAM M. RUSSELL AND D. E. HOLMES, OF CINCINNATI, OHIO.

*Letters Patent No. 81,297, dated August 18, 1868.*

## RAILROAD-CAR VENTILATOR.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN—

Be it known that we, WILLIAM M. RUSSELL and D. E. HOLMES, both of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Railroad-Car Ventilators; 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, and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a plan view of a railroad-car window, sash, &c.

Figure 2 is a side sectional view of the same, and an additional view at the line *y y* being also given.

Figure 3 is a view of my deflector detached from the window, and an additional sectional view at the line *x x* being also given.

Figure 4 is a top side view of a car, with deflectors attached, the arrow at *x* indicating their position when the car is travelling in one direction, and *y* indicating their position when they travel in the opposite direction.

The object of our present invention is to furnish railroad-cars with a deflector, so arranged that it can readily be attached to or detached from the car, as occasion requires. It acts very much upon the same principle with our invention of even date herewith, but differs entirely in construction and arrangement. Instead of the double series of blinds, a single one only is required. It being portable, and secured in position by no permanent attachment, its relative position can be readily changed at pleasure; and thus we are enabled, by the employment of a single blind at each window, it matters not in what direction the car may be travelling, to effectually exclude all dust, rain, sparks, and cinders from the car, which effect is produced by causing the current of hot and impure air to pass from the interior of the car outward, through the window, by exhaustion.

The nature of our invention consists in securing a slot, provided in a suitable block of wood, a blind or deflector, constructed of a plain oblong board. The dimensions of the block are such that it fits snugly in the groove in which works the sash. The block is provided with projecting pins, which enter suitable openings provided in the base of the window and the lower surface of the sash-frame. When our deflector is in position, the block acts as a "proper-stick," to retain the sash in an elevated position.

The great advantages possessed by our arrangement of deflectors will readily suggest themselves to any one in the least degree familiar with the class of invention to which it pertains.

First, its great durability, cheapness, and extreme simplicity, it being entirely free of all operating-mechanism. There are no features to become deranged or thrown out of order. The materials used can be readily procured at any market or depot, while its simplicity of construction is such that the most unskilled mechanic can readily make and apply the same.

Another great advantage consists in the fact that a set of our deflectors can readily be applied to any car, and also changed from car to car, as occasion requires. And when not in use, simply by elevating the sash an inch or so, the deflector can be removed and placed under the seat, or left at some other convenient point.

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

A is a railroad-car, constructed in the usual manner, as are also the frame B and sash C, with the exception that the base of the former is inclined towards its outer edge, as shown at *b*, fig. 2, while the lower frame of the latter inclines at a like angle, as shown at *c*, same figure.

The advantages gained by this form of base are that the face of the deflector D being sloped to correspond, when in position, as shown in fig. 2, it is firmly held, the formation of the base being such as to allow but little play, no matter how great the current of air may be through which it is passing, while, if the base were level, almost the entire strain would have to be borne by the sash and its strip *c'*.

D is a deflector or blind, and is simply a plain board, oblong in form, the inner edge of its upper surface being slightly curved, as shown at *d*, while the inner edge of its lower surface is slightly sloped in an angular direction, as shown at *d'*.

One edge of the deflector D fits and is securely fastened in a slot,  $e^2$ , of the block E. This block E is rectangular in form, its length being a little less than the distance the sash C is allowed to run in the groove  $c^1$ . Its dimensions are such that it fits in the groove  $c^1$ . The upper and lower edges of the block E are cut slightly angular, their formation, in this regard, corresponding exactly with that of the base,  $b$ , and the lower frame  $c$  of the sash. On the ends of the block there are projecting pins  $e'e$ . These pins fit in suitable openings in the frame and sash, as clearly shown in fig. 2.

The operation is as follows:

The sash is elevated in the position shown in fig. 1. The deflector D is then applied to the window, the block E fitting in the groove  $c^1$ , the lower pins  $e^1$  entering suitable openings in the base,  $c$ . The sash is then permitted to fall, the upper pins  $e$  entering suitable openings in the lower frame  $c$  of the sash. The window and deflector will then occupy the relative positions shown in fig. 2, and the whole series of deflectors will occupy the position shown at  $x x$ , fig. 4, the direction in which the car is travelling being indicated by the arrow. Should the car be required to travel in the opposite direction, it is only necessary to lift the sash, and shift the deflector to the other side of the frame, to the position shown at  $y y$ .

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent of the United States, is—

The deflector D E, when the same is provided with projecting pins  $e e'$ , in combination with the angular base,  $b$ , and sash C, and the whole is so constructed and arranged as to operate substantially as described and for the purpose specified.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

WM. M. RUSSELL,  
D. E. HOLMES.

Witnesses:

N. MARCHANT,  
J. M. LONG.