

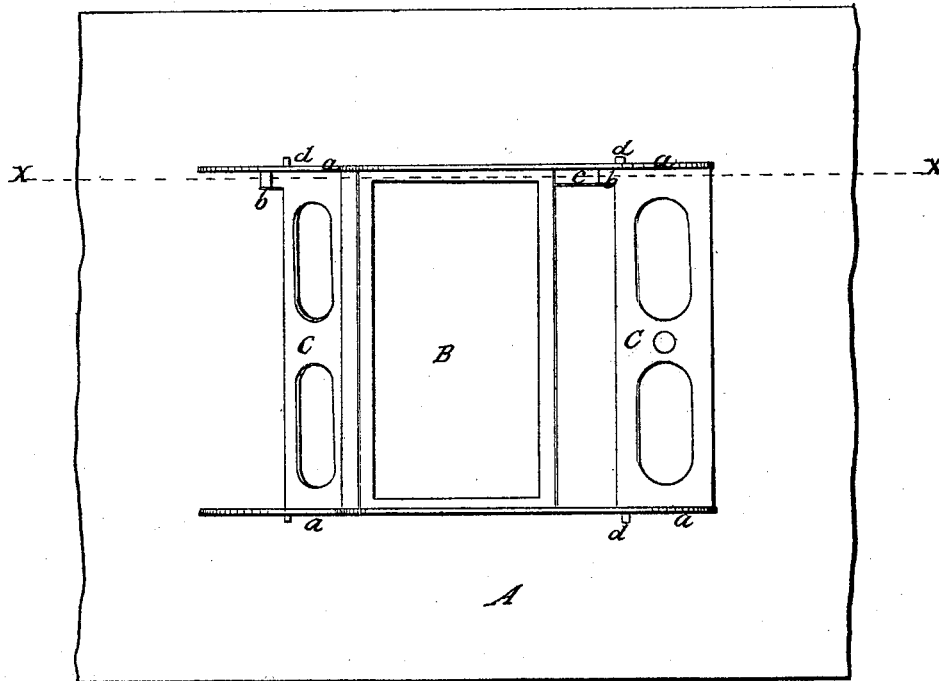
*G. Mann, Jr.,*

*Car Ventilator.*

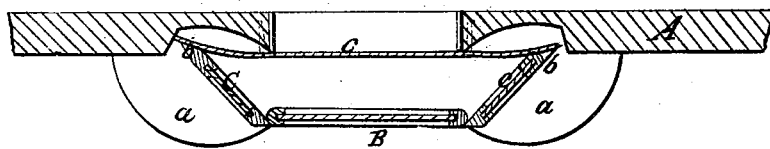
*N<sup>o</sup> 50,831.*

*Patented Nov. 7, 1865.*

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*E. L. Topliff*  
*J. M. Corington*

*Inventor.*

*G. Mann Jr.*  
*By Munn & Co*  
*Attys*

# UNITED STATES PATENT OFFICE.

GEO. MANN, JR., OF OTTAWA, ILLINOIS.

## VENTILATING CAR-WINDOW.

Specification forming part of Letters Patent No. 50,831, dated November 7, 1865.

*To all whom it may concern:*

Be it known that I, GEORGE MANN, JR., of Ottawa, in the county of La Salle and State of Illinois, have invented a new and Improved Ventilating Car-Window; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a transverse section taken in the line *xx*, Fig. 1.

Similar letters of reference indicate like parts.

My invention consists in constructing a window for a car in such manner that the front of the window shall be placed sufficiently far from the body of the car to admit of there being applied to it, on each side, a valve or side window, which can be opened or closed, as described, and remain in either position, for the purpose of ventilating the car, as will be hereinafter described.

To enable others to understand my invention, I will proceed to describe it.

A represents a portion of one side of a car-body with my ventilating-window applied to it.

B is the front of the window, which is arranged in a suitable frame, *a*, which permits it to stand out a few inches or the desired distance from the body of the car, as shown in Fig. 2.

The frame *a* is made to extend out at each side of the front of the window sufficiently far to prevent any dust or cinders falling from above from entering the car through the space between the front of the window and the body of the car.

On each side of the front of the window B two valve or side windows, C, are fitted in such manner as to cover the opening between the plate or plates forming the front of the window and car-body. These valves or side windows are arranged to swing on journals or pivots extending into or through the frame *a* sufficiently far from the window B to give them an oblique position relative with the front of the window when they are closed. On one end of these side windows a nose or pro-

jection, *b*, is formed, which works against a spring, *c*, in such manner as to cause them to remain securely in either an open or a closed position, as the case may be, as shown clearly in the drawings. Instead of arranging these side windows to work on journals extending in the frame *a*, as described, they may be hinged to the side of the car and another kind of spring employed for keeping them open or closed.

In the drawings I have shown plates of glass inserted in the side window; but I intend sometimes to use fine wire-gauze or some such material, painted and varnished, if desired, which would afford a freer ventilation, especially in the summer season, and prevent the sparks and cinders from entering the car.

In using a window constructed after the manner of my invention, as above described, it is designed, when the car is in motion, to open the valve or side window toward the rear of the car, and the effect produced upon the air inside the car is to cause it to rush out of the opening.

The usual ventilators in the top or sides of the car supply fresh air, while the impure air is caused by the motion of the car to rush out of the window, as before stated; and there is no liability of cinders or dust entering the car, for the reason that all the open space of the window is occupied by the air escaping from the car; but when there is no liability of cinders or dust entering the car—for instance, when the wind blows the same in a different direction—then it will be found advantageous to open both side windows, which will permit a fresh current of air to enter through the forward opening, while an impure current is passing out at the other opening.

The advantages of the low window at present usually used on express-trains, which enable the passengers to see forward or backward without putting the head out of the window, are also gained by this arrangement. Thus, in addition to all the advantages possessed by car-windows as now constructed, my invention possesses superior qualities for ventilation, and the side windows are so arranged that they will remain open or closed, as desired, which is not the case with the doors or openings in the windows as now constructed.

What I claim as new, and desire to secure by Letters Patent, is—

1. The side windows or valves, C, arranged so as to open and close, substantially as herein specified.

2. The spring c, or an equivalent thereof, in combination with the side windows or valves, for the purpose herein specified.

3. The noses or projections b, in combination with the spring c, for the purpose specified.

GEO. MANN, JR.

Witnesses:

A. A. FISHER,  
J. O. HARRIS.