(No Model.)

J. M. FENNERTY.

CAR VENTILATOR.

No. 303,631. Patented Aug. 19, 1884.

Fig. 1.

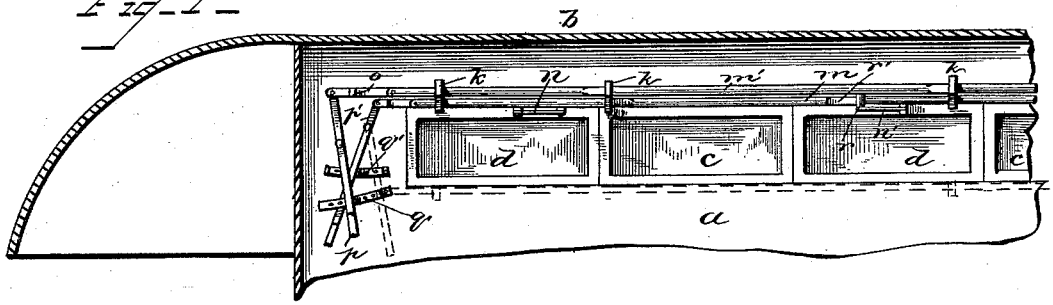


Fig. 2.

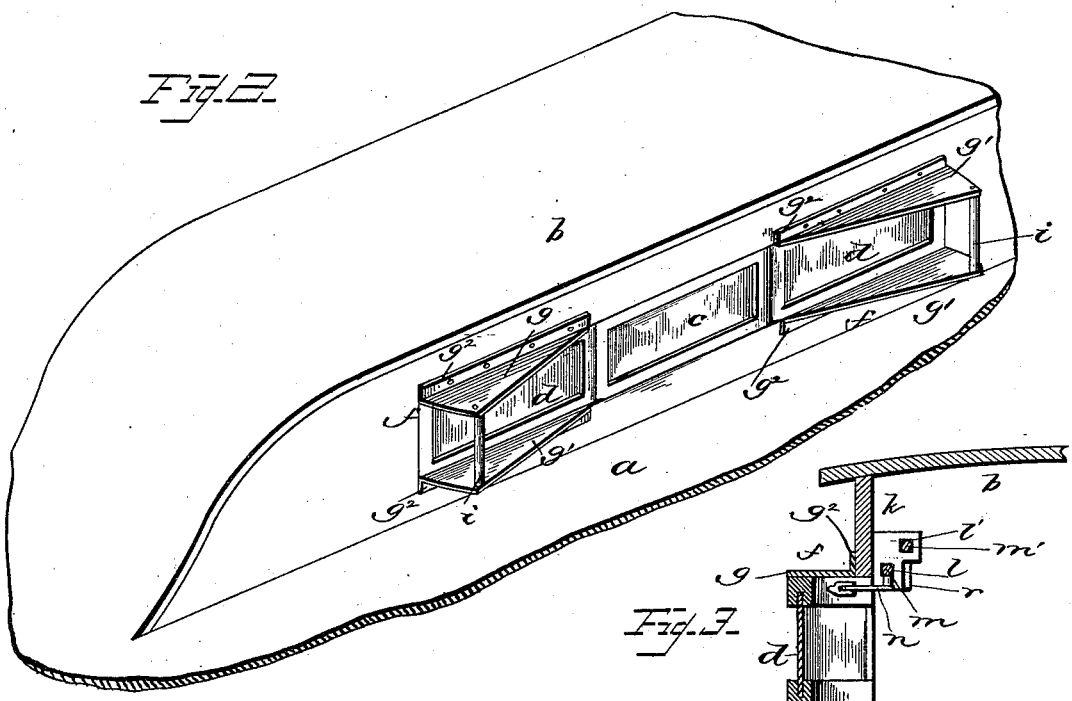
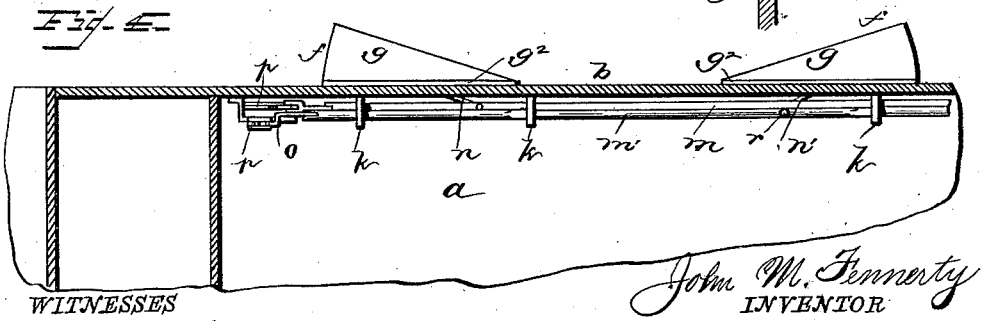


Fig. 7.

Fig. 6.



WITNESSES

F. L. Ourand

E. G. Siggers.

John M. Fennerty
INVENTOR

by C. A. Snow & Co

Attorneys

UNITED STATES PATENT OFFICE.

JOHN M. FENNERTY, OF MEMPHIS, TENNESSEE.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 303,631, dated August 19, 1884.

Application filed March 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. FENNERTY, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Car-Ventilator, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to ventilators for sleeping-cars, palace-cars, parlor-cars, or other cars which are provided with transoms or monitor portions in their roofs; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Figure 1 is a vertical longitudinal section, taken through the monitor portion of the car-body, showing an interior view of the ventilators and the mechanism for opening and closing them. Fig. 2 is an external perspective view of the same. Fig. 3 is a vertical sectional view showing one of the ventilators open; and Fig. 4 is a horizontal sectional view taken on a line above the ventilator-guards and the mechanism for operating the ventilators.

The objects of the invention are to make provision for the proper ventilation of the cars, while at the same time providing for the exclusion of all dust, cinders, sparks, and the like.

Referring by letter to the accompanying drawings, *a* designates a portion of the car-body, and *b* designates the monitor portion in the roof of the same, extending, as usual, nearly the entire length of the roof. The transom portions of the monitor-section *b* are composed of the fixed framed panes *c* and the pivoted or hinged framed panes *d*, which are pivoted or hinged at one end only, the hinged or pivoted end of each framed pane *d* being next to the ends of the fixed framed panes *c* throughout the series, which extends from one end of the monitor-section *b* throughout the transom portions on each side. The hinged framed panes *d* therefore incline outwardly in opposite directions when open, for a purpose hereinafter explained.

The ventilator-guards *f f* are composed of sector-shaped pieces *g g'*, provided with vertical flanges g^2 g^2, through which the securing-screws are passed to secure the sector-shaped pieces *g g'* to the outside of the monitor-frame to form the top and bottom walls of the ventilators when open. The pieces or plates *g g'* are connected near their outer corners by a vertical strengthening rod or brace, *i*, which also serves as a stop to limit the outward movement of the ventilator-panes. A series of guide-brackets, *k*, are provided, having each two rectangular guide-seats, *l l'*, for the rectangular portions of the operating-rods *m m'*, which are connected to the hinged framed panes or ventilator panes *d* by arms *n n'*, pivoted both to the rods and to their respective ventilator-panes *d*.

To the end of each of the rods *m m'* is pivoted, in a bifurcation in the end of the same, the inner end of an angularly-bent arm, *o*, the outer end of which is bifurcated and pivoted to the upper end of a hand-lever, *p*, fulcrumed to the inner face of the framing near the ends of the monitor-section *b*. A perforated horizontal rack, *q*, is provided on the framing near the lower end of the hand-lever *p*, and a stud on the inner face of the latter engages the rack to hold the lever to its adjustment, and consequently to hold the ventilators on the incline to which they may have been opened, or to hold them shut after having been closed. The rectangular guide-seats in the brackets are not in line, the upper seats being farther from the framing than the lower ones, so that the upper rod projects inward over the lower one. Where the hinged arms *n'* are connected to the upper rod, *m'*, pivot-pins *r* project downwardly therefrom and the lower rod, *m*, is provided with an elongated recess, *r'*, in which the pivot-pins *r* are seated when the rods *m m'* are at rest, and either one or both series of ventilators are closed. The hand-levers and connections of both rods *m m'* are alike, and are at the same end of the car, one being above the other slightly, as shown, where both rods are above the ventilators, as in full lines in Fig. 1.

The dotted lines below the ventilator are intended to represent the rod *m*, arranged below the ventilators, as it may be if desired, the hand-lever (also shown in dotted lines in said Fig. 1) being pivoted at its upper end and connected near its middle to the bifurcated end of said rod *m*. There would then be one rod

above and one below the ventilators. One half of the ventilators are connected to rod *m*, and open and close in one direction, and the other half of the framed ventilator-panes *d* are connected by hinged arms to the rod *m'*, and open and close in the opposite direction, to ventilate the car while moving in the other direction. The ventilators should always open to the rear of the car.

By the use of the hand-levers the series to be opened may be operated from one end of the monitor-section, and those to be closed from the other end of said section, with but little inconvenience to the operator, the entire series to be opened or closed being operated at once, so that there will be no danger of leaving some of the ventilators open in the wrong direction, as is the case where the ventilators are operated separately, wherein some of them are left open to admit the dust and cinders. Besides, in sleeping-cars, especially with this arrangement, the ventilators may be changed to suit the direction of the moving train without interfering with or annoying the passengers, as they may be manipulated from the ends of the monitor-section without entering the sleeping-compartment.

The ventilators may be thrown entirely open when desired, or may have several intermediate adjustments between the opened and closed positions, all of which are positive adjustments, and by which the ventilation may be regulated to suit the changes in the atmosphere.

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

1. In a car-ventilator, the combination, with a fixed framed pane in the framing of the monitor-section of the car-body, of two hinged framed panes having their hinged ends adjoining the ends of the fixed pane, the sector-shaped top and bottom plates on the outside of the framing forming the top and bottom walls of the ventilators, and operating-rods connecting the hinged panes in two opposed series, and levers and racks for shifting and holding the rods and hinged panes to their adjustments, substantially as specified.

2. In a car-ventilator, a monitor-section having its transom portions composed of fixed panes, and two series of oppositely-operating hinged panes, a hinged pane being arranged at each side of each fixed pane, and operating rods and levers connected separately to each series of hinged panes for opening and closing the same, substantially as specified.

3. In a car-ventilator, the combination, with the hinged ventilator-panes and the sector-shaped top and bottom walls, of the brackets having rectangular guide-seats, and the shifting-rods having their rectangular portions seated therein, the hinged arms connecting said rods to the hinged panes, and the pivoted hand-levers connected to the ends of said rods by pivoted arms, and the perforated racks for regulating their adjustments, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN M. FENNERTY.

Witnesses:
THEO. MUNGEN,
E. G. SIGGERS.