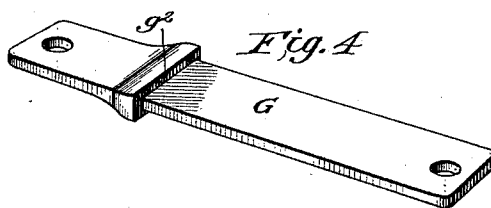
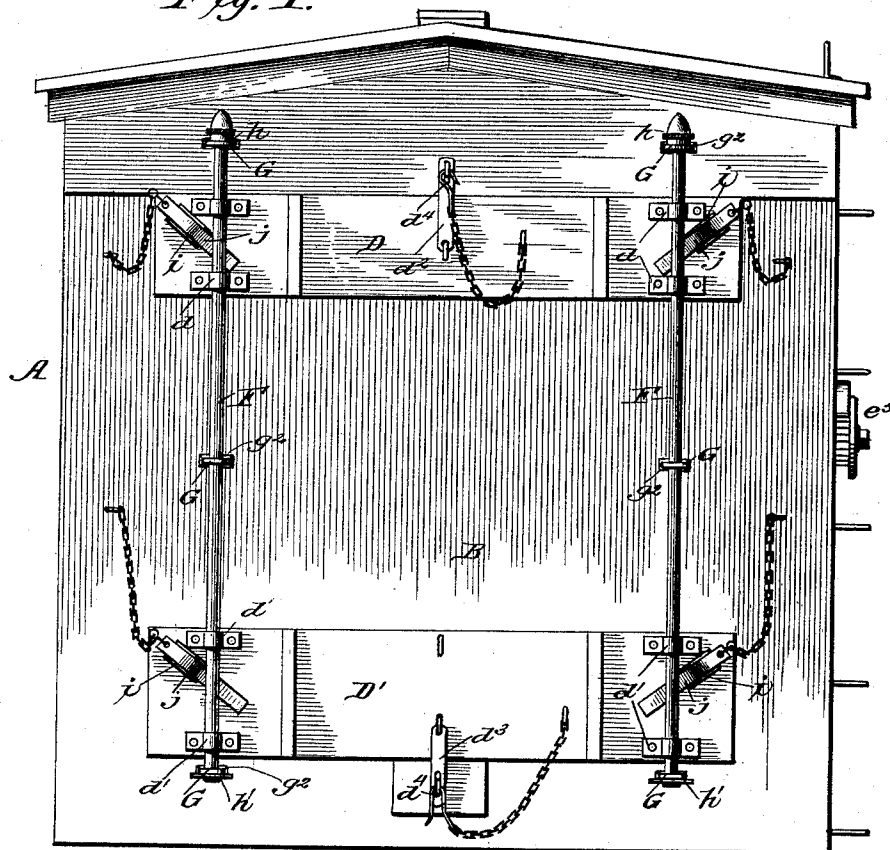


(No Model.)

2 Sheets—Sheet 1.

A. MINNICK.
VENTILATING DEVICE FOR RAILROAD CARS.
No. 483,851. Patented Oct. 4, 1892.

Fig. 1.



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INVENTOR:
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(No Model.)

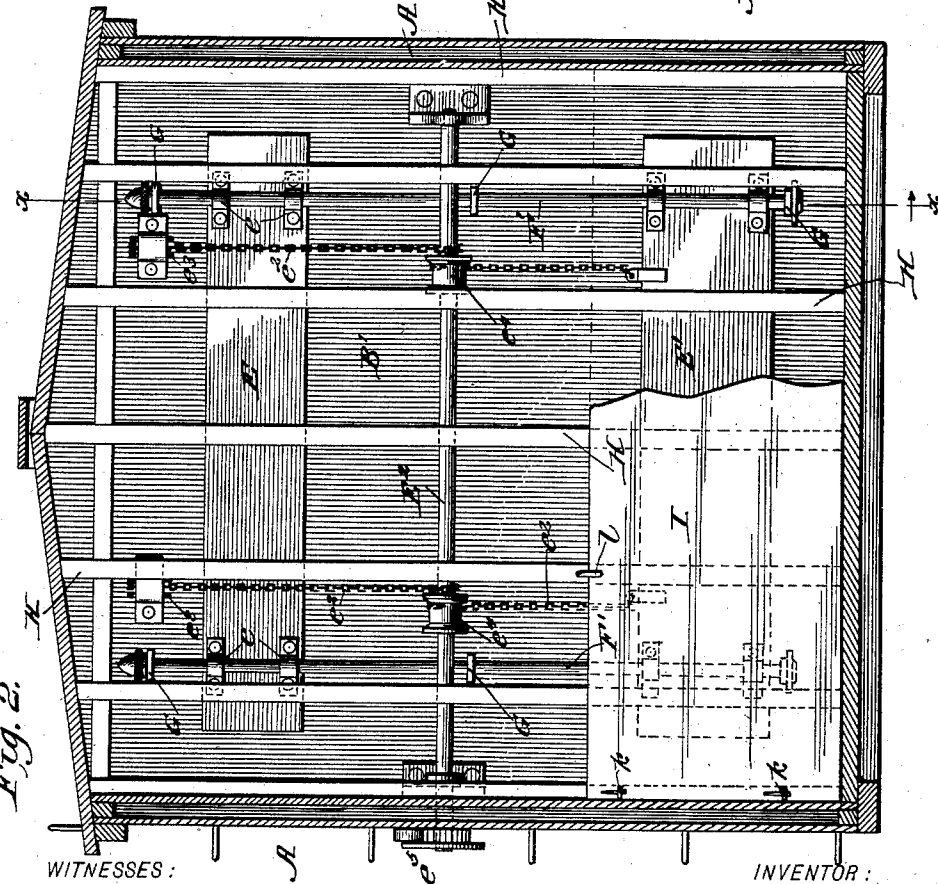
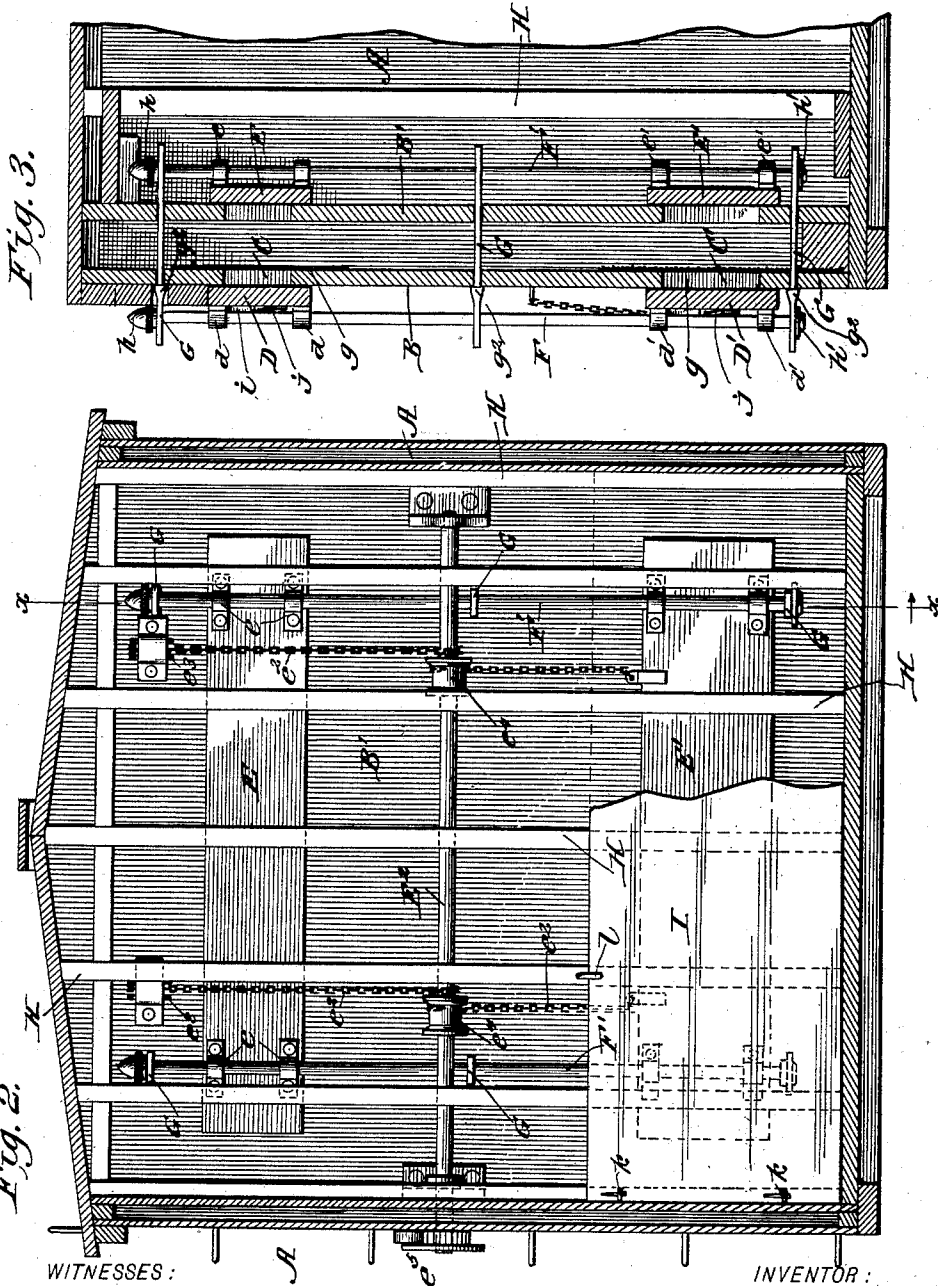
2 Sheets—Sheet 2.

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WITNESSES :

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UNITED STATES PATENT OFFICE.

ALBERT MINNICK, OF COLTON, ASSIGNOR OF ONE-HALF TO MYRA BLANCHARD, OF SAN BERNARDINO, CALIFORNIA.

VENTILATING DEVICE FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 483,851, dated October 4, 1892.

Application filed May 3, 1892. Serial No. 431,737. (No model.)

To all whom it may concern:

Be it known that I, ALBERT MINNICK, residing at Colton, San Bernardino county, in the State of California, have invented a new and useful Improvement in Ventilating Devices for Railroad-Cars, of which the following is a specification.

My invention is an improvement upon the construction patented by me October 13, 1891, No. 461,361, in which vertically-sliding doors were adjusted over openings in the ends of the car to permit access of air to the interior of cars used for the shipment of fruits, &c., or to close up the same quickly when necessary from sudden cold to prevent freezing.

The object of my present invention is to provide means for more securely fastening the doors and clamping them tightly over the openings, so that there will be no leakage of air through the cracks; and to this end it consists in the peculiar construction and arrangement of parts, as will be hereinafter fully described.

Figure 1 is an end elevation of the car. Fig. 2 is a vertical transverse section of the inside end portion. Fig. 3 is a section taken through line $x x$, and Fig. 4 is a detail.

In the drawings, A represents the outside casing of the car, and B B' represent the double walls of the end portion, which have openings or windows C and C' near the top and the bottom. Over these openings there slide on the outside of the car the two doors D D' and upon the inside the two doors E E'. The outside doors slide by means of guides or keepers $d d'$ upon vertical offsetting rods F F and lie between the rods and the end of the car, and the inside doors E E' have guides or keepers $e e'$ and sustain the same relation to the inside vertical rods F' F'. The outside doors are separately adjusted by hand and are secured in place by hasps and staples and hooks $d^2 d^3 d^4$, and the inside doors are sustained and adjusted by chains e^2 , pulleys e^3 , and horizontal shaft E², with drums e^4 and operating-wheel and ratchet e^5 at the end outside of the car. Over the openings is fixed a screen of wire-gauze g .

As so far described the invention does not materially differ from the construction al-

ready patented, and I will now proceed to describe the features of improvement.

The vertical rods F and F' are coupled together in pairs—that is to say, one outside rod F is coupled to its adjacent inside rod F' by means of three tie-plates G, which have holes in their opposite ends to receive said rods, while their middle portions pass through slots in the car-body. These tie-plates are made to tightly close these slots by means of an overlapping shoulder g^2 . (See Fig. 4.) These rods are held in the holes on the ends of these plates, and to prevent them from coming out said rods have at their ends at top and bottom enlarged caps $h h'$, which are screwed or otherwise securely fastened to the rods.

On the outside doors D D' are arranged diagonal wedge-seats i , which are adapted to receive wedges j , which when forced in seats pass between the rods and the doors, which are loosely held on said rods, and which wedges in such relation force the doors tightly up against the openings in the car-body, so that there are no joints or cracks left to permit air to drive in from the wind or motion of the car. These same wedges, it will be seen, also serve to tightly close the inside doors upon their openings, for when the wedges are forced into their seats an outward stress is put upon the rods, and this is transmitted through the tie-plates G to the inner rods and these, with their doors, are drawn against the inside wall of the car. These wedges, it will be seen, not only hold the doors tightly over the openings, but the same devices also serve to hold the doors when they are open, so that they cannot rattle or shake about from the motion of the car, and the special merit of the diagonal position of the seats for the wedges is that the wedges cannot jolt out, but tend from gravity to drop to a tight position. I do not confine myself to these special forms of wedge-seats, however, as staples or other forms of guides or holders might be used. I may also in the place of the wedges use set-screws for forcing the doors inwardly from the rod.

For transporting fruit and like perishable stuff the boxes are kept away from the de-

vices in the end of the car by a skeleton frame of timbers H, which allows a free circulation of air therethrough, and to adapt the same car to carry grain or other small and loose stock imperforate doors I are provided, which have detachable hinges *k* and fastenings *l* for holding the door to the skeleton frame H.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a car having an opening in the same, of offsetting vertical rods secured to the car in parallel position, a sliding door arranged between the rods and car and having keepers or guides embracing said rods, and means for forcing the door away from the rods and against the car to close tightly, as described.

2. The combination, with a car having an opening in the same, of offsetting vertical rods secured to the car in parallel position, a sliding door arranged between the rods and the car and having keepers or guides embracing said rods, wedge-seats fixed to the door, and wedges adapted to be forced in the seats between the door and rods, substantially as shown and described.

3. The combination, with a car having an opening in the same, of offsetting vertical rods

secured to the car in parallel position, a sliding door arranged between the rods and the car, diagonally-arranged wedge-seats *i*, and wedges adapted to fit therein between the door and the rods, substantially as shown and described.

4. The combination of a car having openings through the same with vertical rods upon opposite sides, tie-plates extending from one rod through the car to the other rod, doors sliding on said rods between the rods and the car, and means for tightening the doors against the car, substantially as shown and described.

5. The tie-plates G, having shoulders *g*², with openings in their ends, combined with the car-body, the door, and rods extending through said plates, substantially as shown and described.

6. The combination, with the car having openings and doors regulating said openings in its end, of a skeleton frame H, shutting off the space about the doors from the rest of the car, and the detachable imperforate grain-door I, substantially as shown and described.

ALBERT MINNICK.

Witnesses:

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OSCAR M. SOUDEN.