No. 657,743. Patented Sept. 11, 1900.

A. MILLER.

CAR VENTILATOR.

(Application filed Jan. 13, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. I.

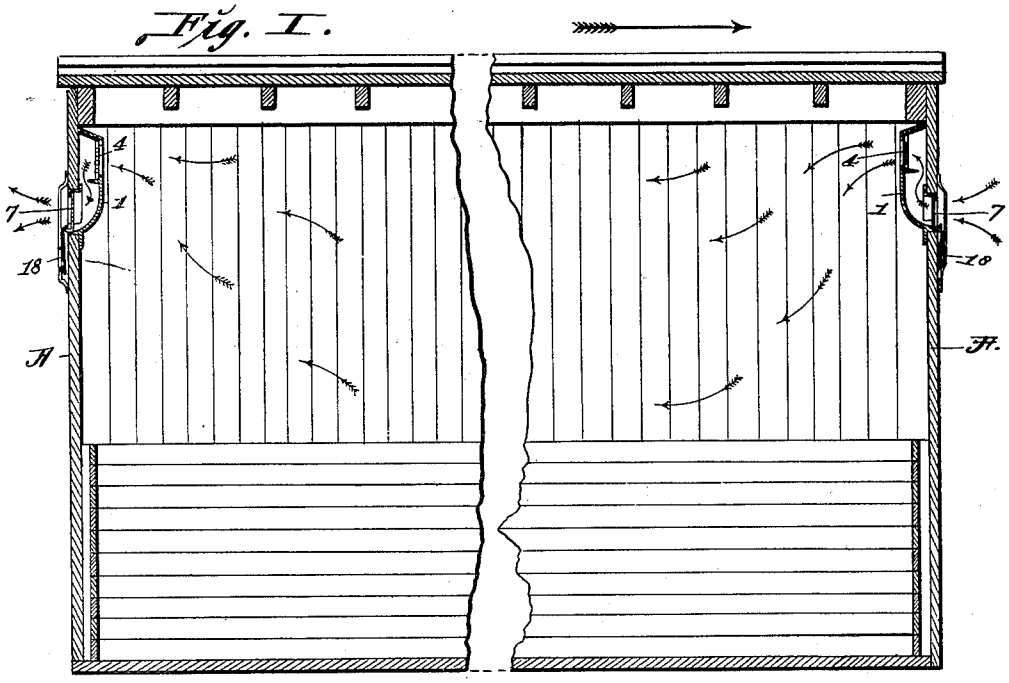
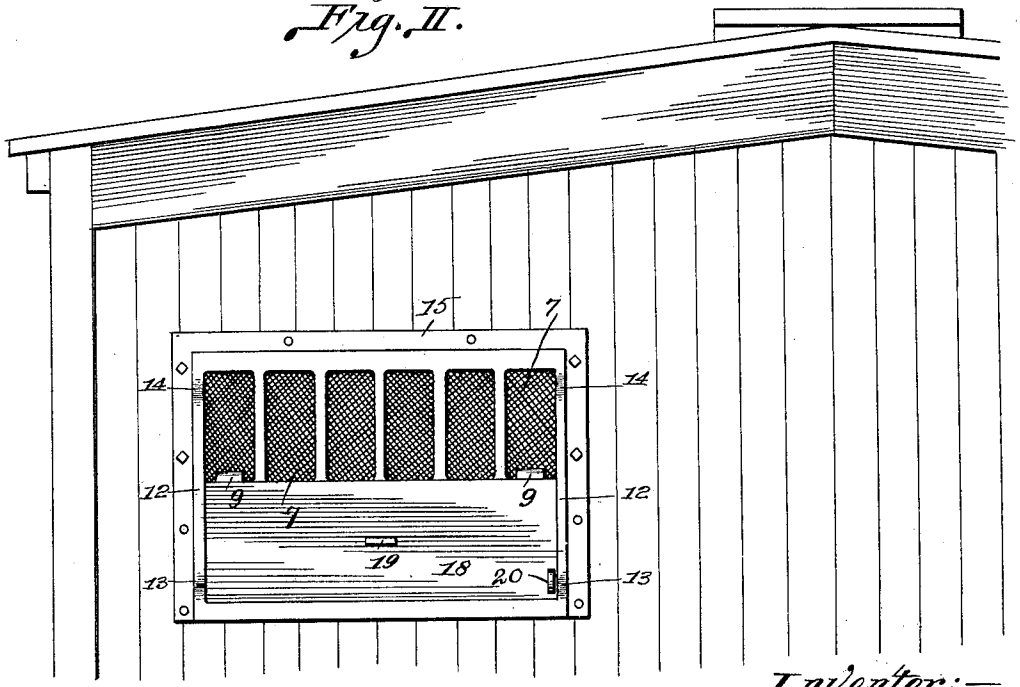


Fig. II.



Witnesses:
W. Smith
W. S. Knight

Inventor:—
August Miller:
By Knight Bros
Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. III.

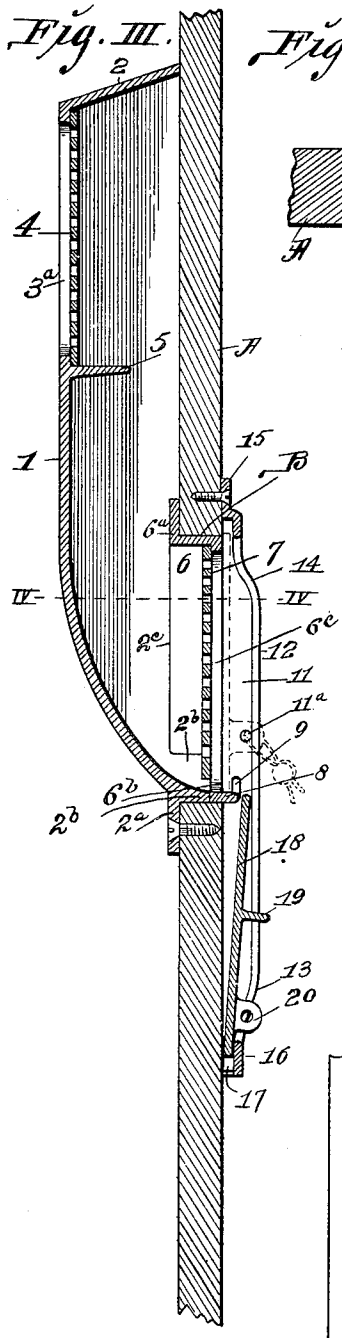


Fig. IV.

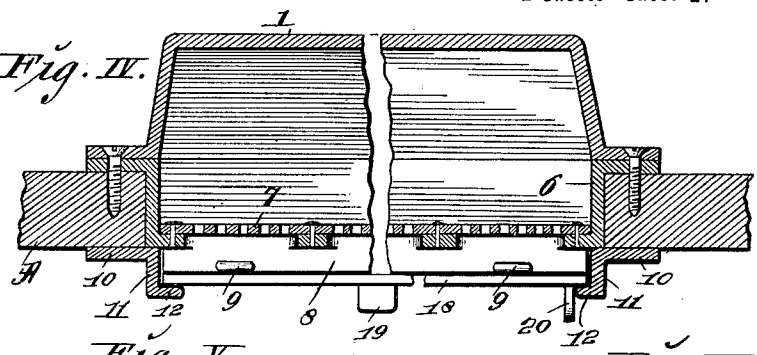


Fig. V.

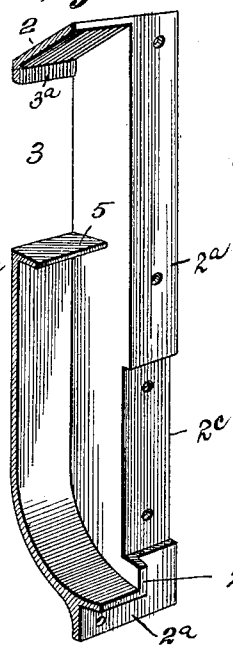


Fig. VI.

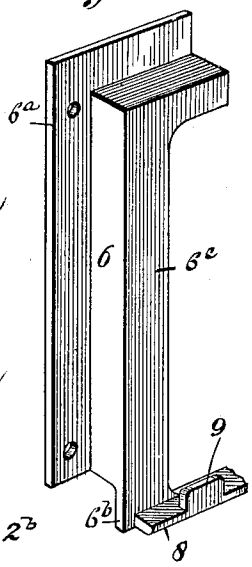


Fig. VII.

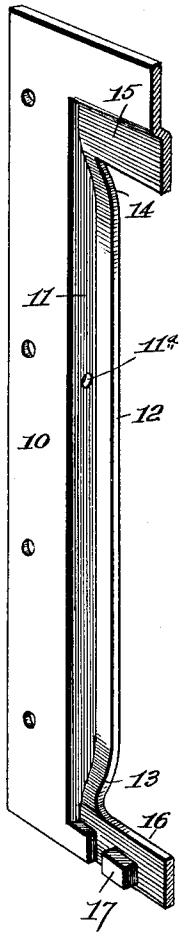
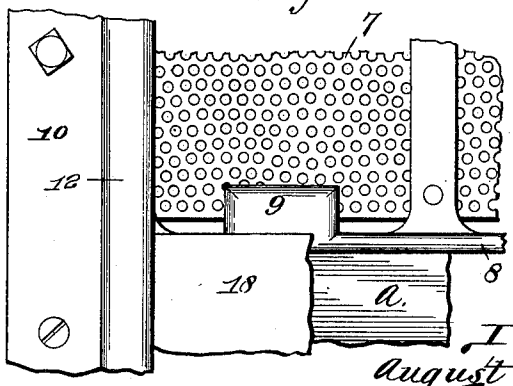


Fig. VIII.



Attest:—
W. Smith
E. Knight

Inventor:—
August Miller:—
By Wright Brothers
Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

AUGUST MILLER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE MILLER SUPPLY COMPANY.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 657,743, dated September 11, 1900.

Application filed January 13, 1900. Serial No. 1,277. (No model.)

To all whom it may concern:

Be it known that I, AUGUST MILLER, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Car-Ventilators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a ventilator for freight-cars, one object of the invention being to provide suitable ventilation in cars used for the transportation of grain, fruit, or other products liable to injury or deterioration when confined in a closed car during transit.

A further object of the invention is to provide a ventilator that will exclude rain, sparks, and cinders from the car, and also to provide a ventilator that may be effectually closed and sealed at any time desirable—such, for instance, as during a period that the car is in transit in a cold climate—under which condition the articles contained by the car—such, for instance, as fruit—might be liable to damage by becoming frozen.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a longitudinal section, partly broken out, of a car equipped with my improved ventilators. Fig. II is an end view of the car shown in Fig. I. Fig. III is an enlarged vertical sectional view of the ventilator. Fig. IV is an enlarged cross-sectional view taken on line IV IV, Fig. III. Fig. V is a detail perspective view, partly in section, of a part of the inside box of the ventilator. Fig. VI is a detail perspective view of a part of the outer screen-holding plate. Fig. VII is a detail perspective view of the inside face of a part of the screen-closing door-guide plate. Fig. VIII is an enlarged detail view of parts of the outer screen-holding plate, the closing door, and its guide.

A A designate the end walls of the car to which my ventilator is shown applied. In the end walls A are cut openings B for the entrance or exit of air to or from the interior of the car.

1 designates a box secured to the inner side of the car-wall by any suitable means, such as screws or bolts, the box being closed at the top 2, which is inclined and having its lower end fitted to the air inlet or outlet opening B by a securing-frame 2^a and angular lip 2^b beneath the recesses 2^c in the sides of the securing-frame. (See Fig. III.) The box extends a considerable distance above the opening B, lying snugly to the car-wall, and is provided at its upper part with an opening 3 and a grating 3^a, at which is located a screen 4. Immediately beneath the screen 4 and opening 3 is a deflector-ledge 5, that projects into the interior of the box 1 and supports the screen 4.

6 designates a holding-plate having an inner frame 6^a fitting in the recesses 2^c, pendent projections 6^b fitting against the angular lip 2^b and outer frame 6^e, seated in the opening B and suitably secured to the car-wall. Seated and secured in this holding-plate is a screen 7. The holding-plate 6 is provided with an outwardly-projecting flange 8, having upwardly-projecting retaining-lips 9.

10 designates a guide-plate formed with outwardly-extending walls 11 and flanges 12, projecting from said walls. The lower ends of the flanges 12 curve inwardly toward the rear face of the guide-plate at 13 (see particularly Figs. III and VII) and the upper ends of the flanges curve inwardly toward the rear face of the plate at 14, where they merge into an overhanging flange 15, occupying a position approximately parallel with the rim or rear face of the guide-plate. At the lower end of the guide-plate is an integral cross-bar 16, into which the lower ends of the flanges 12 merge, this cross-bar being provided on its rear side with lugs 17 and being slightly removed from the plane of the rear face or rim of the guide-plate to provide the passage through which water, cinders, and dirt may fall instead of lodging back of the cross-bar.

18 designates a sliding door seated within the guide-plate and held from dislodgment therein by the guide-flanges 12. The door 18 is provided with a handle 19. When the ventilator is open, the door occupies the position seen in full lines in Figs. I, II, and III, where its lower portion is snugly seated in the rear of the inwardly-curved lower ends of the guide-flanges 12, in which position the door does not in any way obstruct the passage of

air through the ventilator. When, however, it is desired to close the ventilator, the handle 19 is grasped and the door 18 is lifted into the position seen in dotted lines, Fig. III, where its upper part becomes snugly fitted in the rear of the upper ends of the guide-flanges 12, while the lower edge of the door is upon the flange 8, back of the lips 9, which hold it from dislodgment. The door 18 is provided with an eye 20, that is adapted to receive a seal-wire passed through the aperture 11ª in the guide-plate wall 11, (see Fig. VII,) whereby the door may be sealed in closed position.

In the practical use of this ventilator to ventilate the interior of a car the door 18 is lowered into the position seen in Figs. I, II, and III. At such time air is free to enter through the screen 7 and pass upwardly through the box 1 and through the screen 4 into the interior of the car, or such air may pass through the ventilator in the reverse direction, from the interior of the car to the exterior, where the flow of air is outwardly from the interior of the car. Any water from rain beating against the wall of the car-wall or ventilator or cinders, sparks, &c., that enter through the screen 7, immediately find escape from the ventilator-box 1 by passing outwardly therefrom to the exterior of the car under the lower edge of the screen 7, said screen being elevated from the lower part of the box 1 and box-plate 6, as is clearly seen in Fig. III. The deflector-ledge 5 on the interior of the box 1 serves to deflect or arrest any water, cinders, &c., that may enter through the screen 7.

I claim as my invention—

1. A car-ventilator comprising a ventilator-box formed with a securing-frame, an angular seating-lip, recesses in the securing-frame above the seating-lip and an upper opening for an upper screen, and the holding-plate formed with an inner frame fitting in the recesses of the securing-frame of the box, pendent projections fitting against the angular lip of the box, and an outer frame adapted to receive a lower screen.

2. A car-ventilator comprising a ventilator-box formed with a securing-frame, an angular seating-lip, recesses in the securing-frame, above the seating-lip, an upper opening for an upper screen and a horizontal ledge beneath the opening projecting into the box and adapted to support the upper screen and the holding-plate formed with an inner frame fitting in the recesses of the securing-frame of the box, pendent projections fitting against the angular lip of the box, and an outer frame adapted to receive a lower screen.

3. A car-ventilator comprising a ventilator-box formed with a securing-frame, an angular seating-lip, recesses in the securing-frame above the seating-lip, and an upper opening for an upper screen and the holding-plate formed with an inner frame fitting in the recesses of the securing-frame of the box, pendent projections fitting against the angular lip of the box, an outer frame adapted to receive a lower screen, an outwardly-projecting flange for supporting a door, and door-retaining lips.

4. A car-ventilator comprising a ventilator-box, a holding-plate fitted to the box and formed with an outwardly-projecting flange for supporting a door and door-retaining lips, a door guide-plate formed with outwardly-extending walls, flanges projecting from the walls, having inwardly-curved ends, an overhanging flange, a lower cross-bar having inwardly-projecting lugs, and a sliding door adapted to seat on the lugs or on the projecting flange.

AUGUST MILLER.

In presence of—
E. S. KNIGHT,
M. P. SMITH.