(No Model.)

E. T. EARL.

VENTILATOR FOR REFRIGERATOR CARS.

No. 588,134. Patented Aug. 17, 1897.

Fig. 1.

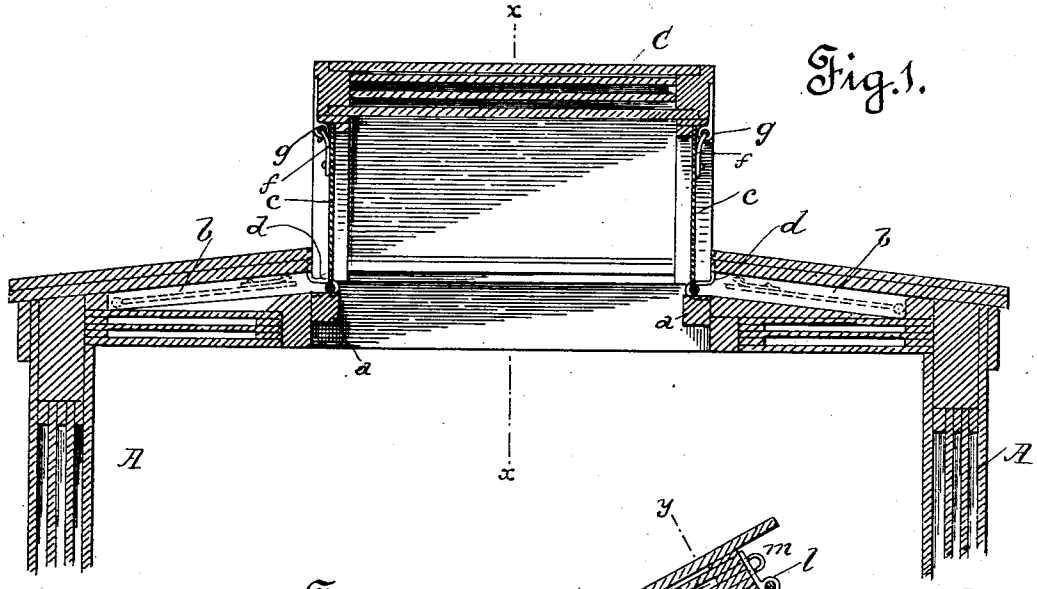


Fig. 2.

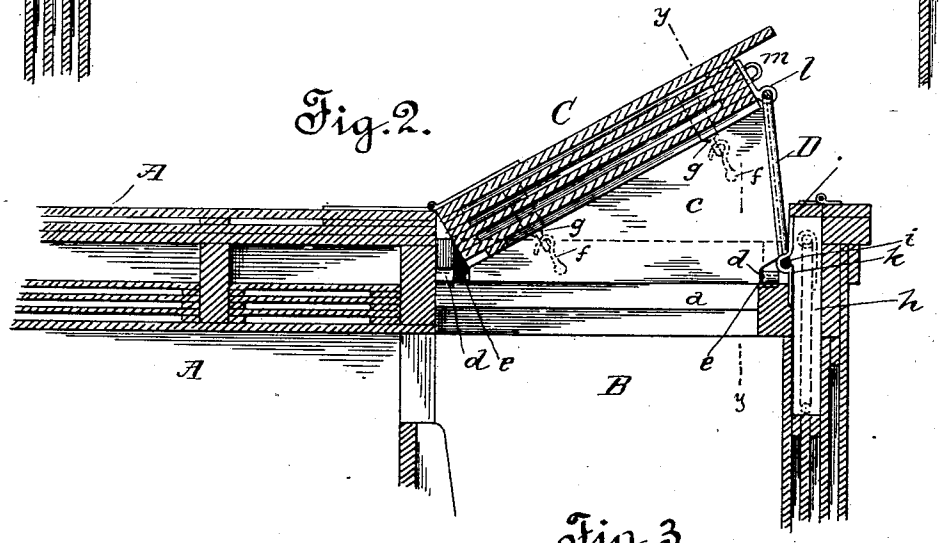


Fig. 3.

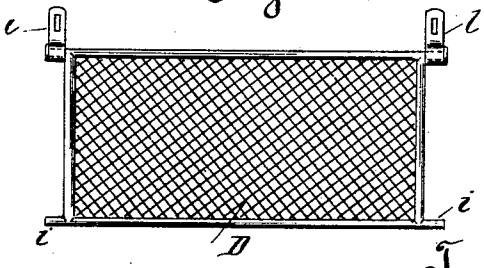
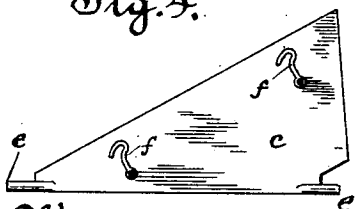


Fig. 4.



Witnesses.

F. E. Montevercle

W. R. Seely

Inventor.

Edwin T. Earl

by Spear & Seely

Attorneys

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

UNITED STATES PATENT OFFICE.

EDWIN T. EARL, OF OAKLAND, CALIFORNIA.

VENTILATOR FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 588,134, dated August 17, 1897.

Application filed April 22, 1896. Serial No. 588,631. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. EARL, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Ventilators for Refrigerator-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to cars for transporting perishable substances, such as fresh fruits and vegetables, and more particularly to the kind of cars known as "combined ventilating and refrigerating" cars. Such cars are provided with an ice-tank at each end, to which ice is supplied through holes in the roof of the car, and these holes have lids which can be closed down air-tight when the ice-tanks are filled, making the car a refrigerator, or can be raised when the ice-tanks are partly filled or empty to allow air to enter at one end, pass through the car and its contents, and escape through the similar hole in the roof at the other end, thus making the car a ventilated one.

In Letters Patent No. 11,324, reissued to me April 18, 1893, I described and showed means for utilizing the lid of the ice-hole as a draft-collector and provided foldable devices, which in that patent were shown as connected to the lid for supporting such lid at an angle above the roof and for forming in connection therewith a draft-inlet passage or funnel open toward the end of the car. I also showed a folding screen hinged to the lid and adapted to cover the inlet-opening in order to exclude cinders from the ice-tank. These supporting and screening devices could be folded inward under the lid, so as to be out of the way when the ice-hole was closed. The same construction was duplicated at the other ice-hole, so that in whatever direction the car might be moving I could provide a draft inlet or collector open toward the front at one end and a draft-exit open toward the rear at the other end.

The object of my present invention is to avoid the necessity of hinging any of these folding devices to the lid of the ice-hole by making them entirely independent of such lid excepting when they are used to support it in order to form the draft-funnel.

I have illustrated a practical method of carrying out my present invention in the accompanying drawings, in which—

Figure 1 is a cross-section of a car, taken at a point near one end thereof, as shown by the line *y y* in Fig. 2. Fig. 2 is a longitudinal section of part of the roof and the end wall of the car, taken on the line *x x* of Fig. 1, both figures showing the lid of the ice-hole raised to form a ventilator. Fig. 3 is a separate view of the screen for protecting the draft-inlet opening. Fig. 4 is a separate view of one of the wings or supports for the lid of the ice-hole.

I have shown enough of the walls and roof of the car A to indicate its construction as an insulated car adapted to exclude either heat or cold, as circumstances may require. Near the end of the car is the ice-tank B, which is supplied with ice through the ice-hole *a* in the roof and is provided with the lid C, hinged to the edge of the ice-hole and adapted when closed to lie flush and form with the roof a continuous surface. I have shown only one ice-tank, ice-hole, and lid in the drawings, but it will be understood that more than one can be used, if desired, at each end of the car.

Within the roof structure are formed or left spaces *b b*, which are open, so as to communicate with the ice-hole *a*. These spaces, one on each side, form receptacles in which are placed movable wings *c c* of triangular shape. These wings can slide in the spaces which hold them, but are prevented from being entirely withdrawn by stops *d*, secured to the roof structure at the edge of the ice-hole, and which, in connection with pintles *e* on the wings, form hinges by which the wings are foldably connected to the roof. From the position shown in dotted lines in Fig. 1 the wings can be drawn out until their pintles have a bearing in these stops and can there be turned up and under the side edges of the raised lid C, so as to support the latter in an inclined position. The wings and lid thus form a hood funnel or draft-collector open toward the end of the car and which admits air to the interior or allows air to escape from the interior, according to the direction in which the car is moving.

I prefer to lock the wings to the lid by some

simple and easily-detachable device, such as the hooks *f*, which engage with eyes or staples *g*, secured to the sides of the lid.

The arrangement of recesses or spaces to contain the wings (shown in the drawings) is the one I prefer to employ when a single ice-tank is used, giving me sufficient room in my car-roof to stow the wings away horizontally; but if two ice-holes and lids are used on the car, or if for any other reason the horizontal arrangement should not be preferred, I stow the wings in vertical recesses or spaces formed or left in the walls of the ice-tank. I illustrate such an arrangement in Fig. 2 of the drawings in connection with the screen D. I have in this figure placed the ice-hole so near the end of the car as to make it impracticable to stow the screen horizontally; but I desire to have it understood that this screen, like the wings *c*, can be stowed in a horizontal space where there is sufficient room, just as the wings *c* can be placed within vertical spaces like that shown in Fig. 2 at *h*. The screen-frame is provided with pintles *i*, which when such screen is withdrawn from its receptacle rest in bearings *k*, secured to the edge of the ice-hole, the pintles and bearings forming a hinge connection between the screen and the car-roof. The screen in the position shown in Fig. 2 covers the draft-opening and excludes sparks and cinders from the ice-tank without interfering with the draft. It is preferably secured to the edge of the lid by some simple detachable connection, such as the hasp *l* and staple *m*, or by a hook like those on the side wings.

To prevent dust and cinders from collecting in vertical receptacles, I provide a flap or cover *n*, hinged to the roof and which when raised also facilitates the placing of a screen or a wing in such receptacle.

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

1. In combination with a car-body having an opening with a lid hinged adjacent thereto, and having lateral recesses or pockets on the sides of the opening, open toward each other laterally, wings slidable in said lateral recesses, and adapted to be raised, when drawn to the mouths of the pockets, so as to engage the lid, and hold the same in inclined position.

2. In combination with the car, having the opening with the lid hinged adjacent thereto, so as to be raised to inclined position, a vertical pocket formed in the end wall of the car, and a screen slidable in said vertical pocket, and adapted, when raised, to hold the lid in inclined position, said pocket being adjacent to the free end of the lid whereby the screen can be moved to and from operative position by moving the same vertically.

3. In combination, the car having the opening in its top, the lid hinged adjacent thereto, the two wings and the screen carried by the car-body independently of the lid and the series of pockets about the opening in the car adapted to receive the wings and the screen when not in use said wings and screens being slidable in said pockets and adapted to be set up at the several openings leading to the pockets, each pocket being thus located in relation to the lid where the wing or screen is to be used, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 13th day of April, 1896.

EDWIN T. EARL.

Witnesses:
JOHN W. HALL,
M. R. SEELY.