

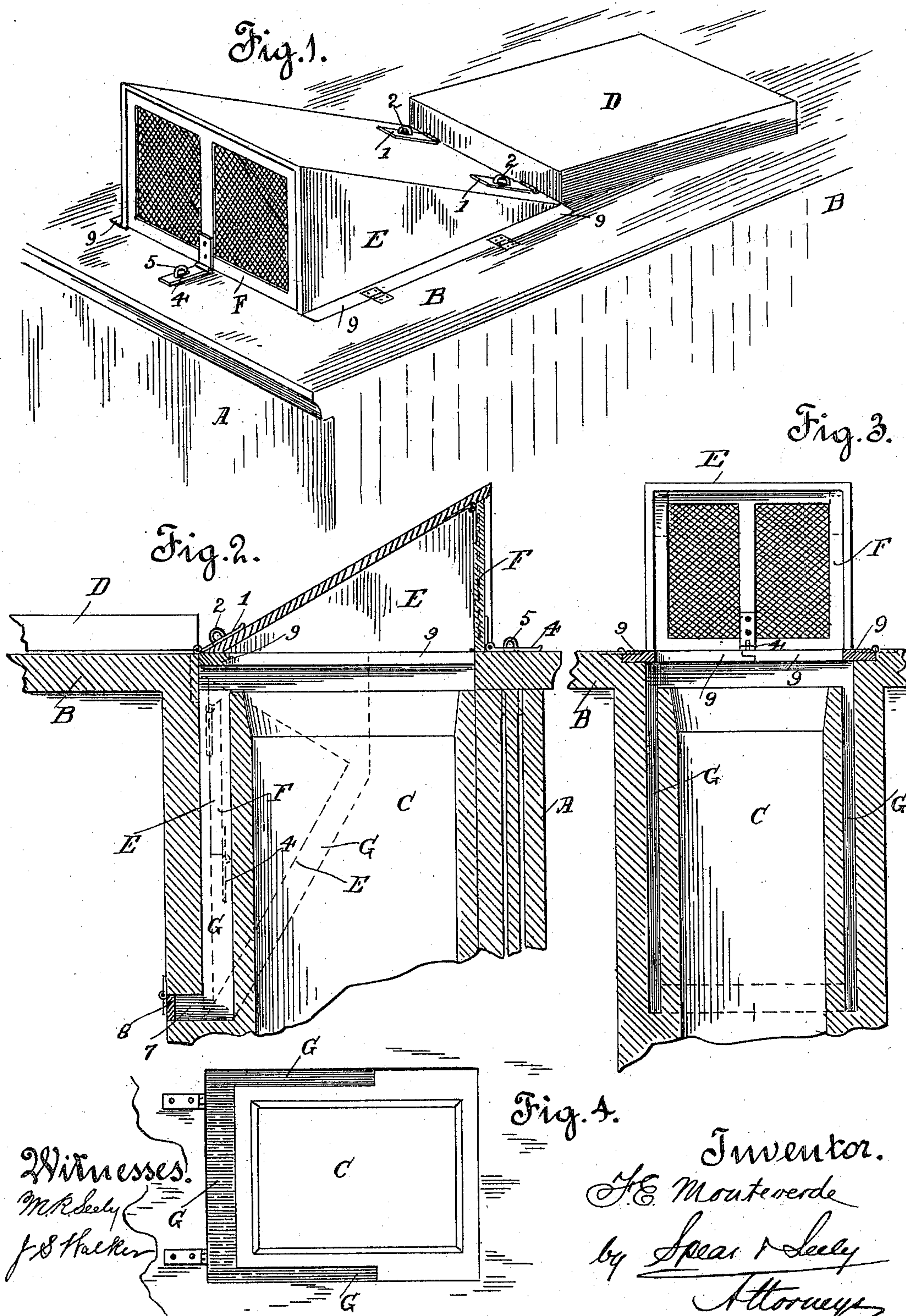
(No Model.)

2 Sheets—Sheet 1.

F. E. MONTEVERDE.
VENTILATOR FOR REFRIGERATOR CARS.

No. 584,729.

Patented June 15, 1897.



(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

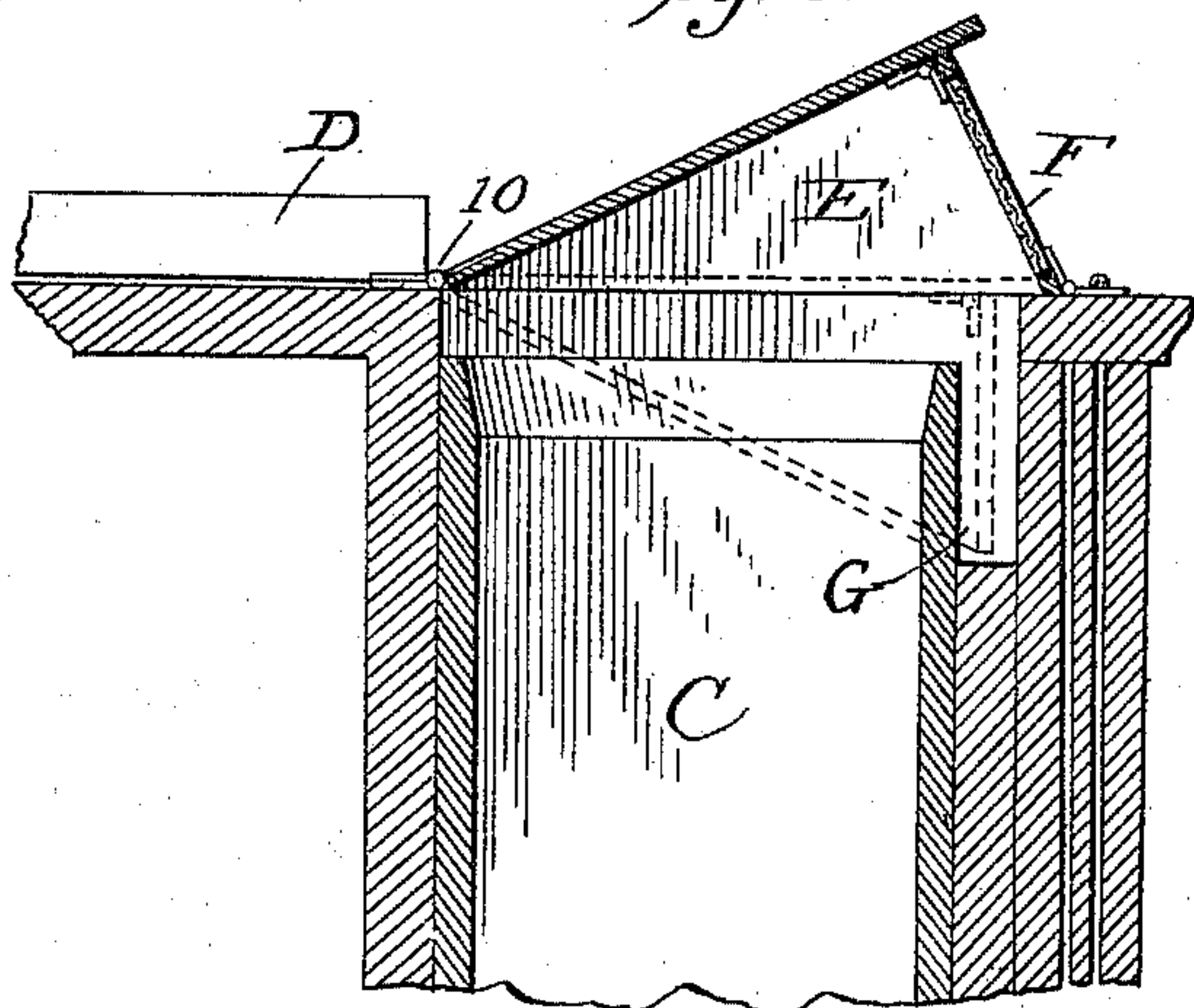
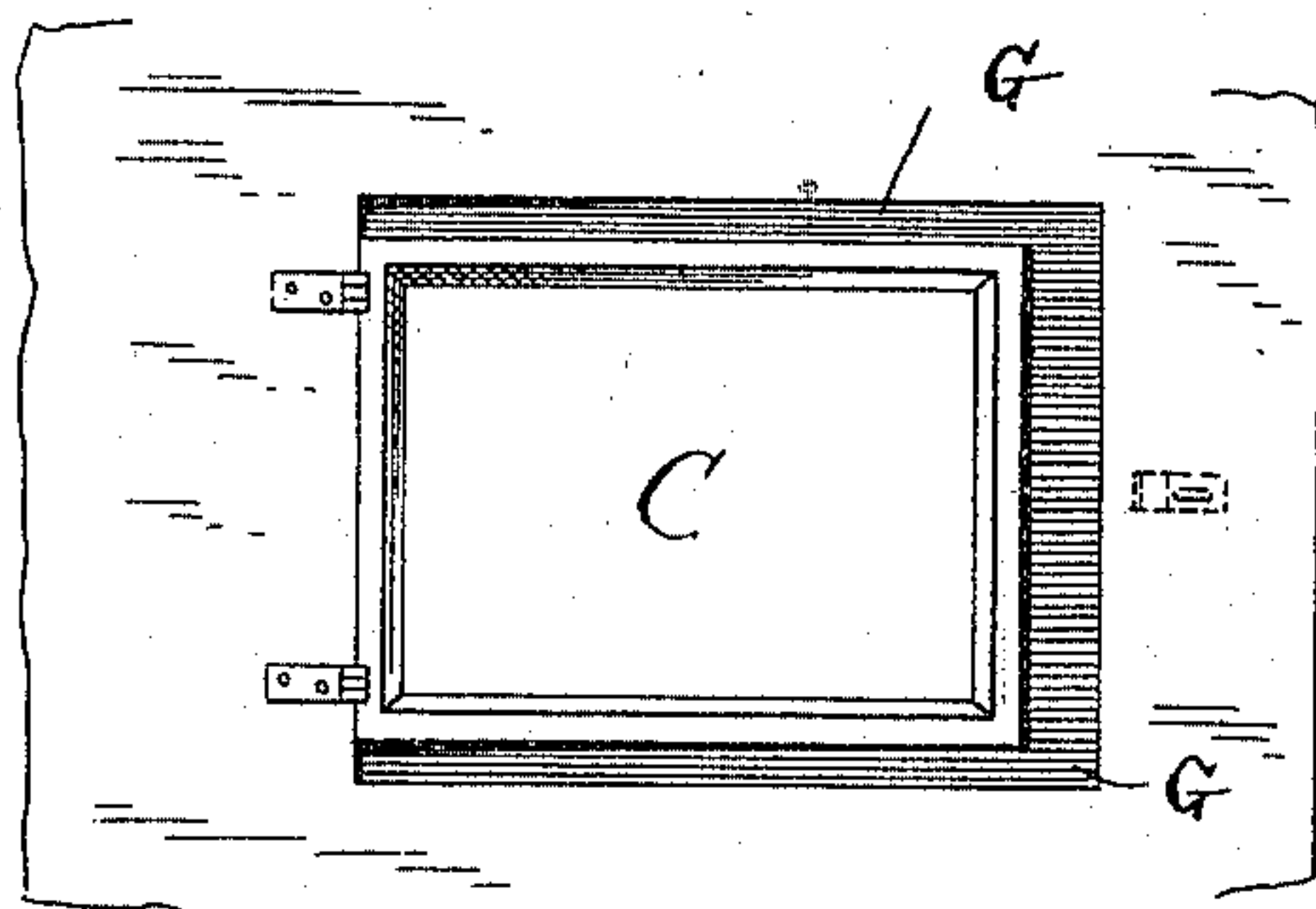


Fig. 6.



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Attys

UNITED STATES PATENT OFFICE.

FLORENCIO E. MONTEVERDE, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR
TO EDWIN T. EARL, OF OAKLAND, CALIFORNIA.

VENTILATOR FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 584,729, dated June 15, 1897.

Application filed October 8, 1896. Serial No. 608,208. (No model.)

To all whom it may concern:

Be it known that I, FLORENCIO E. MONTEVERDE, a citizen of the United States, residing at San Francisco, in the county of San Francisco 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 of the kind now known as "combined ventilator and refrigerator cars," and which are used for the transportation of fresh fruits, vegetables, and perishable substances generally.

The type of cars to which my invention is particularly applicable has one or more ice-tanks located at each end which are supplied with ice through holes in the car-roof. Means are also provided for opening and closing these holes, so as to admit air or to exclude it. Hence the car can be used in several different ways. First, it is a refrigerator-car in warm weather when the tanks are iced and the ice-holes are closed; second, it is an insulated car in cold weather when the tanks are empty and the ice-holes are closed; third, it is a ventilated car when the ice-holes are open so that air is permitted to enter.

In using the car as a ventilated one it has been found necessary to place over each ice-hole a ventilating structure which will be open at the bottom and toward the end of the car. Such a structure acts as a draft collector or funnel when the car is in motion, air being forced in at the front end, which passes through the ice-tank, thence through the car and its freight, and escapes at what is then the rear end through the open ice-holes at that end. In making these ventilating structures it has been found desirable to utilize the lids or covers of the ice-holes as parts of the ventilating structure, because when partly raised they are in a convenient position to act as the top and rear of such a draft-collector as has been referred to. In order, however, to close the sides of the draft-collector in a way which permits the lids to be closed when the ventilator is not in use, it has been necessary to provide the cover with supporting devices which could be folded into small space, so as to offer no obstruction to

the closing of the lid. It has also been proposed to make a ventilating structure independently of the main ice-hole lid, but composed of foldable members and either wholly or partly detachable, so that the whole device could be stowed away in or upon the car-roof, but out of the way of the main lid. All these devices are, from their foldable character, more complicated and more difficult of manipulation than a simple rigid ventilating structure would be; but such a structure, although feasible and practicable, is always open to the objection that it creates a permanent obstruction upon the roof of the car which is inconvenient and might be dangerous to the trainmen in their passage along the cars.

The object of my invention is to obtain the advantages and avoid the disadvantages of a light rigid independent ventilating structure by providing in connection with such a structure means for stowing it bodily away when the ice-hole lids are to be closed. By such a construction I do away with all foldable supporting devices and produce an exceedingly simple, cheap, and easily-operated ventilator.

I have illustrated one embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a perspective view of enough of a car to show one of my ventilators in position for use. Fig. 2 is a longitudinal section. Fig. 3 is a front elevation of a ventilator, but a sectional view of an ice-tank, to show a pocket for receiving the ventilator. Fig. 4 is a plan of part of the car-roof with the ventilator removed. Fig. 5 is a longitudinal section of the ventilator, showing a change in the location of the pocket with dotted lines showing the ventilator in such pocket. Fig. 6 is a plan view of the top of the car, showing the pocket illustrated in Fig. 5.

A represents the car-body; B, the car-roof; C, an ice-tank located near one end of the car, and D the customary hinged lid or cover for the ice-tank. It will be understood that one or more of these ice-tanks and lids is used at each end of the car, and that ice is supplied to the tanks through an opening in the roof.

E represents the ventilating structure, adapted to be set over the hole in the roof.

This ventilator is made of comparatively light material, such as wood or thin metal, and is preferably of triangular shape in side elevation, being elevated toward the end of the car and having closed sides, top, and rear and open front and bottom.

The rear end of the ventilator is detachably hinged to the car, preferably by simple leaf-hinges 1 and staples 2, which may be placed adjacent to the hinges 3 of the lid or cover D, as shown in Fig. 4. This ventilator, in the position shown in Figs. 1, 2, and 3, acts as a draft-collector, receiving air through its open front and deflecting it through its open bottom into the ice-tank, from which it passes to the interior of the car. The open front is provided with a hinged screen F, which can be secured to the car-roof in some simple manner, as by the hasp 4 and staple 5 shown, but can also be folded against the top of the ventilator. The hasp and staple for securing the screen to the roof is a convenient place for attaching the seal, which prevents tampering with the ventilator or, by being broken, locates the place where the tampering has occurred, the ventilators being frequently inspected *en route*.

The ventilator E is adapted to be detached from the car and stowed away bodily in a receptacle or pocket of proper shape and size to receive it. The best location for the pocket is partly surrounding the ice-tank, extending along one end of the tank and along both sides. Such a pocket is shown at G in the drawings, where it is of U shape, and extends along the rear upper part of the ice-tank and along both sides. It is evident that by detaching the hinge connections 1 and 2 and folding the screen against the top the whole ventilator may be raised and dropped backward bodily into the pocket, as represented in Fig. 2, where the dotted lines show it safely stowed away. I prefer to make the side portions of the pockets of a shape (in this case triangular) to fit the ventilator, partly because the ventilator is held more firmly and receives no injury by shaking and partly because any cinders which may enter fall to the apex of the triangular pocket and are easily removed, as through the small opening 7, covered with a flap 8, as shown in Fig. 2. To exclude cinders, however, I prefer to provide doors 9, hinged near the sides of the ice-hole and upon which the ventilator may rest when in use, as shown in Fig. 3. These doors may be of right-angular shape, each extending along one side and one-half of the end of the slot, as indicated in the same figure, so that two of them can cover the three connected slots which form the pocket, Fig. 3. When the ventilator is stowed away and these doors are open, the pocket is tightly closed by the edges of the main ice-hole lid.

I do not limit myself to any special construction or location of the pocket for the ventilator so long as it is so constructed as to receive and retain the ventilator where it will be out of the way. It is evident, for in-

stance, that a U-shaped pocket might extend along the front and sides of the ice-tank instead of along the rear and sides, as shown in Figs. 5 and 6. In such a case it would not be necessary to detachably hinge the ventilator at the rear, since a permanent hinge might be used which would permit the front and sides of the ventilator to be dropped down into the pocket, while the top would lie flush with or below the upper edge of the ice-hole. In such a case the main lid D might or might not be used. The top of the ventilator would serve as a lid, particularly if used with an independent ice-hole plug which would insure the insulation of the ice-tank.

Other modifications in structure may be devised which will fall within the scope of my invention. The construction shown in the drawings I believe to be the best embodiment of my invention, but it is not the only embodiment, and hence must be regarded as illustrative of different ways of carrying out my ideas as covered by the claims hereinafter presented.

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

1. In combination with a car having an ice-tank with an opening in its roof communicating therewith, a pocket in the car independent of the ice-tank opening, and a ventilator and draft-collector projecting outwardly above the roof of the car over the ice-hole, said collector being rigid (as distinguished from a folding structure) and adapted to be inserted bodily in the pocket, substantially as described.

2. In combination with the car having an ice-tank with an ice-hole, a pocket independent thereof, a ventilator and draft-collector projecting above the roof of the car, the detachable connection between the same and the said roof, said collector being rigid (as distinguished from a folding structure) and adapted to be inserted bodily in the pocket when detached.

3. In combination with the car having an ice-tank with an ice-hole, a pocket independent of the ice-tank, and a ventilating and draft-collecting structure arranged to project above the car-roof, said structure comprising a top and non-folding sides constituting a rigid structure, and adapted as one body to be depressed from its upper position to occupy the pocket in the car, substantially as described.

4. In combination with a car having an opening in its roof communicating with an ice-tank, a rigid ventilating structure, detachably secured to the car and below its roof, and a pocket in the car, extending around the said ice-tank, adapted to receive said rigid ventilating structure bodily.

5. In combination with a car, having an opening in its roof communicating with an ice-tank, a rigid ventilating structure having an open front and bottom, a foldable screen

for the open front, and a pocket in the car adapted to receive said rigid structure, and its folded screen.

5 6. In a car, having an opening in its roof communicating with an ice-tank, a pocket or receptacle formed in the car, and extending along the end and sides of the ice-tank in combination with a movable ventilating structure, attached to the car-roof.

10 7. In a car, having an opening in its roof communicating with an ice-tank, a pocket or receptacle formed in the car, and extending along the end and sides of the ice-tank, in combination with doors for closing said pocket, 15 and a movable ventilating structure attached to the car-roof.

8. In a car having a roof-ventilator and a pocket to contain said ventilator when not in use, an opening or passage into said pocket

adjacent to its bottom, substantially as and 20 for the purpose set forth.

9. In a car and in combination, a movable roof-ventilator of triangular shape in side view and comprising an inclined top and vertical sides rigidly formed or secured together, 25 and a U-shaped pocket to receive said ventilator, comprising a rectangular vertical end space, and two triangular side spaces communicating therewith, substantially as, and for the purposes set forth. 30

In testimony whereof I have affixed my signature, in presence of two witnesses, this 29th day of September, 1896.

FLORENCIO E. MONTEVERDE.

Witnesses:

L. W. SEELY,
J. S. WALKER.