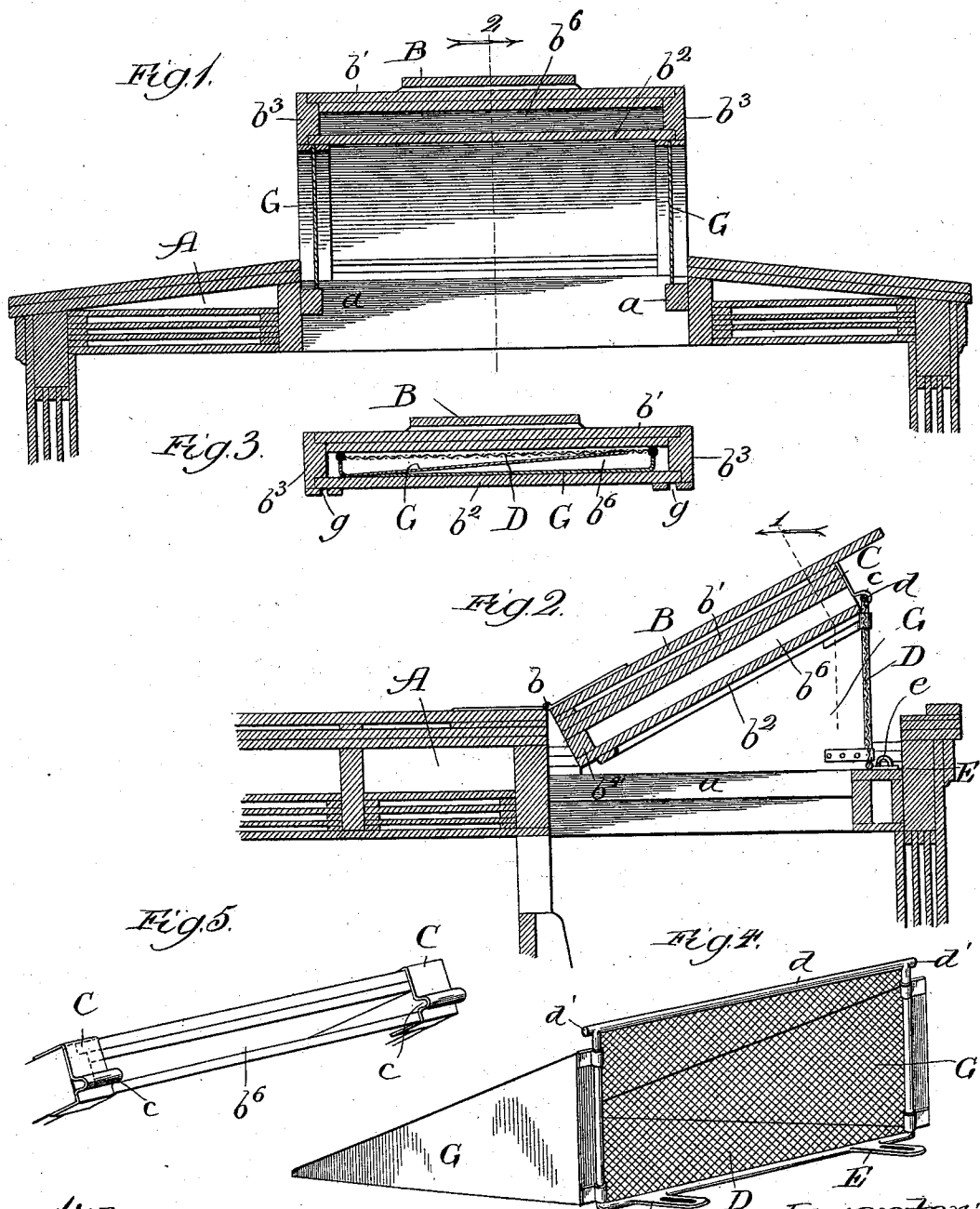


(No Model.)

T. B. KIRBY.
VENTILATOR FOR REFRIGERATOR CARS.

No. 537,293.

Patented Apr. 9, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS B. KIRBY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
GEORGE B. ROBBINS, OF SAME PLACE.

VENTILATOR FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 537,293, dated April 9, 1895.

Application filed November 6, 1894. Serial No. 528,018. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. KIRBY, of Chicago, Illinois, have invented certain new and useful Improvements in Ventilators for Refrigerator-Cars, of which the following is a specification.

The object of my invention is to provide a simple, economical and efficient ventilator, especially adapted for use in connection with refrigerator cars; and the invention consists in the features and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a transverse vertical section of a portion of a refrigerator car, taken on line 1 of Fig. 2 looking in the direction of the arrow; Fig. 2, a longitudinal vertical section of my improvement, taken on line 2 of Fig. 1; Fig. 3, a transverse section of the hatchway door showing the parts in their collapsed and folded position; Fig. 4, a perspective view of the ventilator and side wings attached; and Fig. 5, a perspective view of a portion of the frame work of the door, looking at it from the front.

In describing and illustrating my invention, I have not shown, and will not describe, the entire structure of a refrigerator car, as I do not deem it necessary, such structures being well known to those skilled in the art. I will, therefore, only show and describe so much of a refrigerator car as is necessary for a proper understanding of my improvement.

In constructing my improvement in connection with the roof, A, of a car which is provided with the ordinary hatchway or opening, *a*, in the roof, I provide a hatch door, B, hinged at one end, *b*, to the foot-board of a car, or to beams as may be desired. In illustrating it, I have shown it hinged to the car at a point in line with the foot-board; but it will be understood that the door may be placed at any desired location.

When the car is in motion the doors are held open—as shown in Fig. 2 of the drawings—so that the air will impinge against the under surface of the door and be deflected down into the car, coming out at the door at the opposite end of the car, thus thoroughly ventilating the car.

In order to hold the hatch door in its open

position, as shown in Fig. 2, to prevent ashes, dirt, coal siftings, &c., from entering the car, I provide the door with brackets or stops, C, at its front, free end; and engaging this bracket is a screen, D, which is provided with a frame, *d*, the upper portion of which has projecting ends, *d'*, adapted to enter recesses, *c*, of the stops. The screen is preferably formed of a frame portion, which may be of any desired material, and an interior wire mesh or reticulated material through which the air may easily pass. The lower portion of the frame may be formed in one continuous flange to form a supporting foot, though I prefer to secure such portion to projecting hasps, E, adapted to engage with staples, *e*, and lock the screen in place, which also locks the door in its open position.

To close the wedge-shaped side openings which would be left between the lower surface of the hatch door and the roof of the car, I hinge to the side frame of the screen triangular side bars, G, preferably formed of sheet metal, that entirely close such openings—see Figs. 2 and 4—and which fit in the grooves, *g*, that are formed on the under side of the hatch door near its hinge, so that when the door is in its open position—as in Fig. 2—the side boards are engaged in these grooves and prevented from being disturbed and assist in deflecting and guiding the air down into the body of the car. When the door is in its open position, and the screen with its side boards in the position shown in Fig. 2, and locked in such position, the projections on the screen frame engage the stops of the door and prevent it from being further opened or closed by unauthorized persons.

When it is necessary to replenish the refrigerator with ice or open the hatch door for any purpose, it is desirable that the screen and its side boards should be removed out of the way and protected from all danger of breakage or injury. To accomplish this result, I make the hatch door of a top board, *b'*, and a lower board, *b''*, joined together by side boards, *b'''*, and closed at the rear end by cross piece, *b''''*, the whole forming a pocket, *b'''''*, which will easily and readily receive the front screen and its hinged side-boards. In order to open

the door, the lock is removed and the door swung back upon the car roof. The free end of the screen is then raised, so as to be parallel with the pocket in the hatch door, and the side boards are folded in on the screen and the entire screen and side boards shoved back into the pocket as shown in Fig. 3. In this manner, the door can be entirely opened or closed as desired, and the screen with its side boards be prevented from all danger of injury or disturbance.

The advantages of my improvement are that I provide an easy means for holding the hatch door open for ventilation as is usual in refrigerator cars, an easy method of screening the air and preventing the entrance of large foreign substances, and a hatch door of such construction that the different parts can be folded and inserted therein, protecting them from injury or disturbance and permitting of their easy withdrawing and positioning for use when required.

I claim—

1. In ventilators for refrigerator cars, the combination of a hatch door hinged at one end to the car roof, and a screen provided with hinged side boards arranged to close the opening when the hatch door is partially opened, and means for locking the screen and thereby the side boards and the door in its partially open position, substantially as described.

2. In ventilators for refrigerating cars, the combination of a hatch-door hinged at one end to the car roof and provided with an interior inclosing pocket for the reception of a screen, &c., stops located at the open end of the pocket to position the screen, and a screen provided with angular side boards arranged to be inserted in the pocket and adapted to

support and lock the door in its partially opened position, substantially as described.

3. In ventilators for refrigerator cars, the combination of a hatch door hinged at one end to the car roof and provided with an interior inclosing pocket for the reception of a screen, supporting stops secured to the door at the open end of the pocket to engage with and position the screen, a screen arranged to be inserted within the pocket and provided with projections to engage the stops and support and lock the door in its partially opened position, two angular side boards hinged to the screen frame, and means for locking the parts in their partially opened position, substantially as described.

4. In ventilators for refrigerator cars, the combination of a hatch door hinged at one end to the car roof, provided with an interior inclosing pocket for the reception of a screen and grooves to secure and lock the side boards in their position, supporting stops secured to the door at the open end of the inclosing pocket to engage with and position the screen, a screen arranged to be inserted within the pocket and provided with projections to engage the stops and support and lock the door in its partially open position, a supporting foot portion on the lower frame of the screen by which it is supported on and locked to the car roof, two angular side boards hinged to the screen frame, and hasps secured to the car roof and arranged to engage with the supporting foot of the screen and lock the parts in their partially open position, substantially as described.

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Witnesses:

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