

No. 646,628.

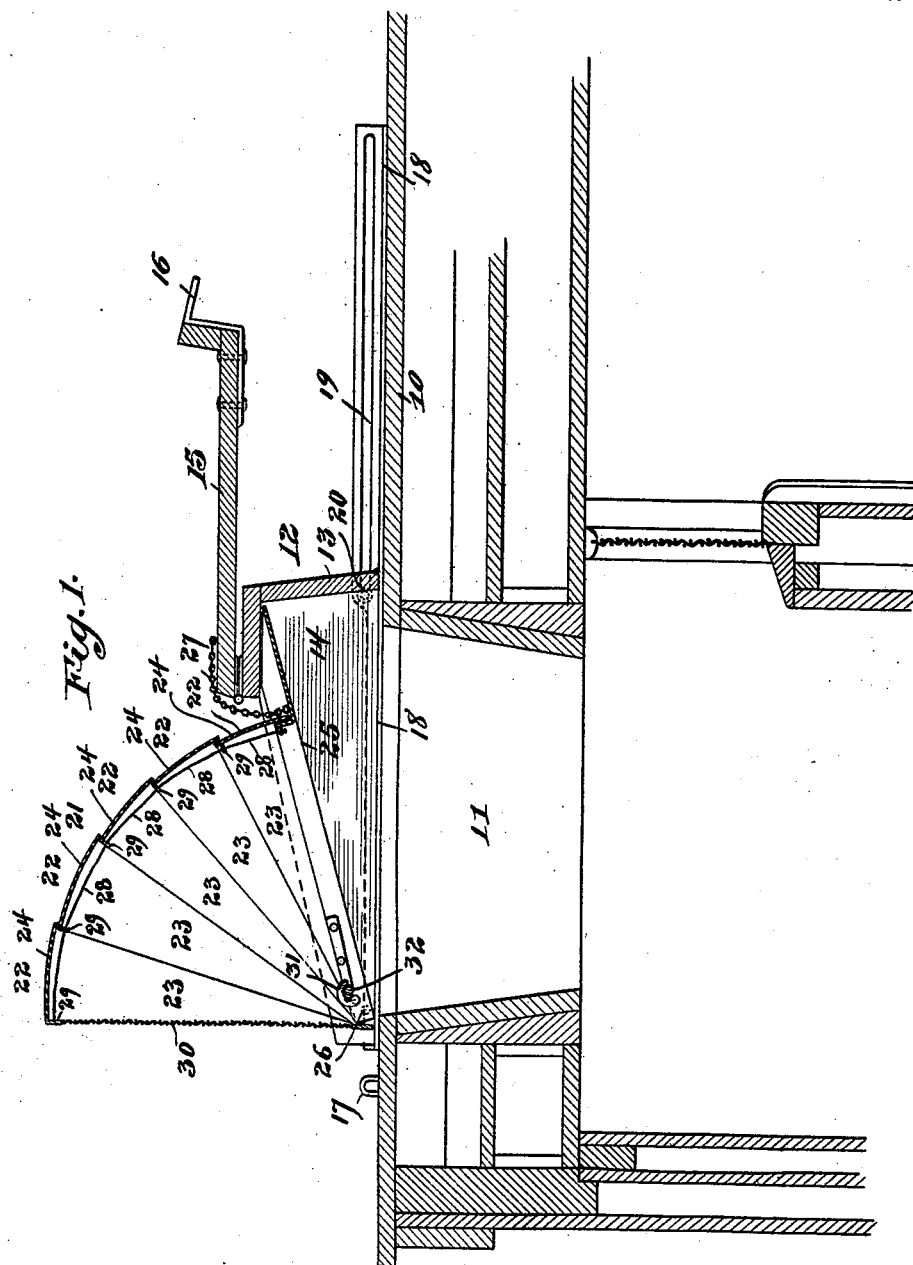
Patented Apr. 3, 1900.

A. RICHMOND.  
VENTILATOR FOR REFRIGERATOR CARS.

(Application filed Sept. 13, 1897.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses,  
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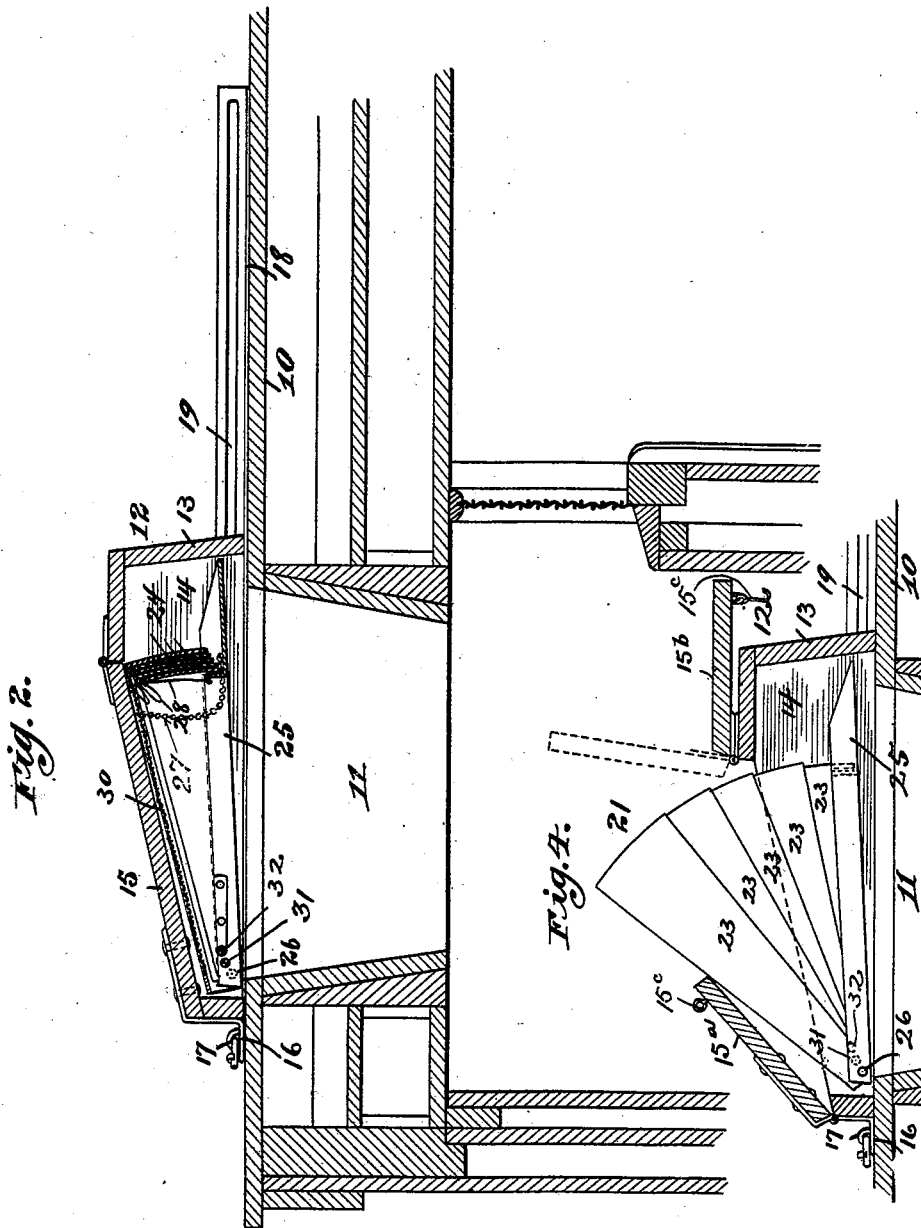
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3 Sheets—Sheet 2.



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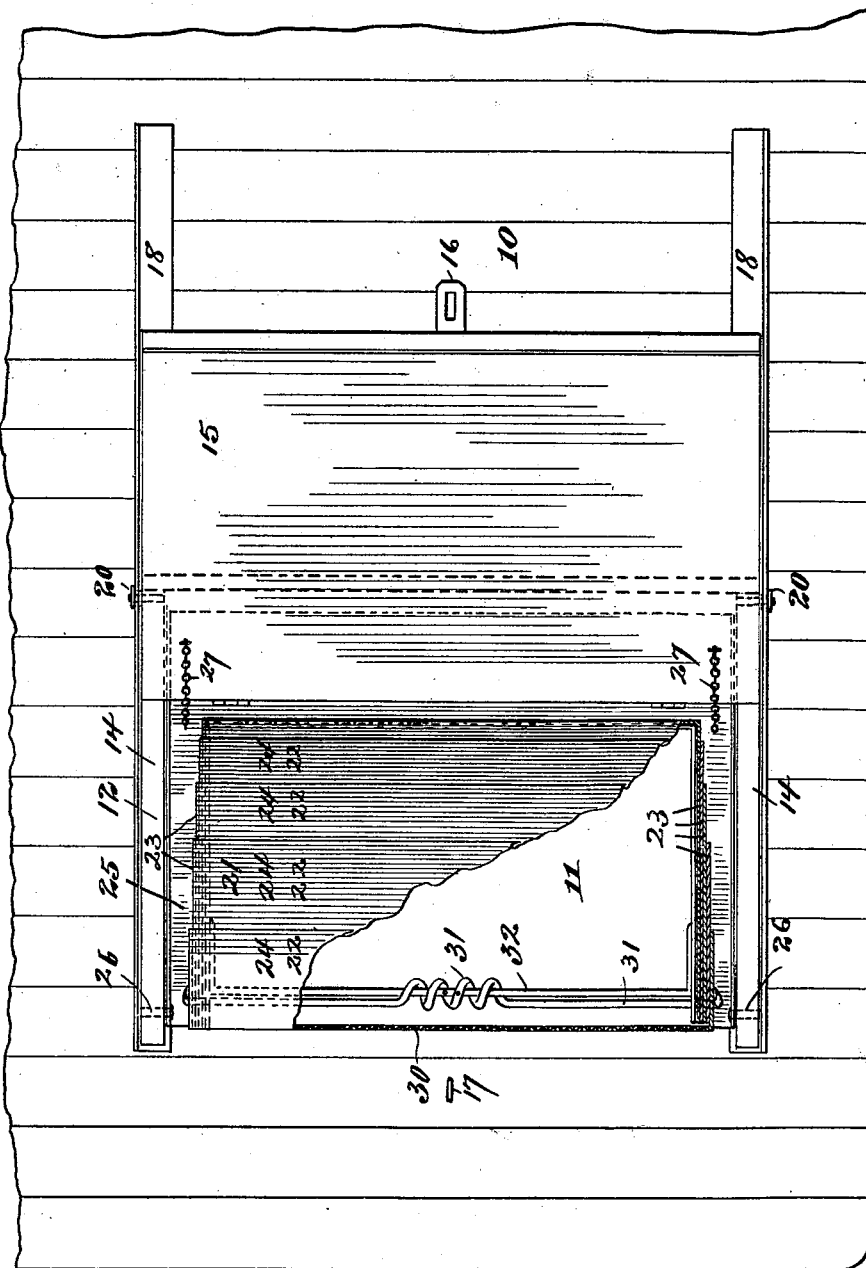
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Fig. 3.



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# UNITED STATES PATENT OFFICE.

ALEXANDER RICHMOND, OF CHICAGO, ILLINOIS, ASSIGNOR TO ARMOUR & CO., OF SAME PLACE.

## VENTILATOR FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 646,628, dated April 3, 1900.

Application filed September 13, 1897. Serial No. 651,497. (No model.)

*To all whom it may concern:*

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

This invention relates to ventilators for refrigerator-cars, and has for its object to provide a device of this character which will be efficient in use and which when not in use may be easily stored away in a compact manner for use.

To these ends my invention consists in certain novel features which will be hereinafter described and then specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view through the upper portion of a car having my improvement applied thereto, the ventilator being shown open. Fig. 2 is a similar view showing the ventilator closed. Fig. 3 is a plan view, partly in section, showing the ventilator open; and Fig. 4 is a detail sectional view of a modified form.

In the said drawings, 10 represents the car-roof, and 11 the ice-hole therein, these parts being of any preferred construction.

12 indicates a coaming which when the ventilator is in use surrounds the ice-hole 11, the same consisting, preferably, of a back piece 13 and side pieces 14, which are desirably inclined downward toward the end of the car. An imperforate cover 15, hinged to the coaming 12, serves to close the same when the ventilator is not in use, and suitable means for locking the cover in its closed position will be provided—such, for example, as the slotted hasp 16 on the cover and a staple 17 on the car-roof in conjunction with a padlock or sealed locking-pin or the like.

I prefer to connect the coaming 12 to the car-roof in the manner set forth in an application filed by me jointly with Francis J. McAssey July 6, 1897, Serial No. 543,637—i. e., by making said coaming slidable along the roof and providing ways or tracks 18, which are provided for a portion of the length of their vertical portions with slots 19, with which pins or rollers 20 on the coaming engage to prevent displacement or removal of said coaming; but

this sliding feature may be omitted and the coaming immovably hinged to the car-roof in any suitable manner, although I prefer the construction shown, in which the coaming is both hinged or sliding.

Attached to the coaming is a hood 21, composed of a plurality of sections 22, each comprising side portions 23 and a top or back portion 24, the several sections having a common pivotal axis and being so constructed as to be capable of sliding over each other when it is desired to fold the hood, as shown in Fig. 2.

In conjunction with these hood-sections I employ a base-plate 25, to which said sections are pivotally connected and which is itself pivotally connected at 26 to the coaming. This base-plate is connected to the cover 15 by means of chains 27 or other suitable device, so that when the cover is raised or thrown back the base-plate will be raised into the position shown in Fig. 1, while when the cover is lowered or closed the base-plate will be lowered into the position shown in Fig. 2. Said plate serves as a shield and deflecting-plate to prevent cinders, &c., from entering the car and by its inclination to deflect them downward to the roofs of the cars.

The several sections of the hood are so connected that they cannot separate or pass the one beyond the other, and for this purpose I may employ a chain, cord, wire, or other flexible connection 28, suitably secured to each of the sections at 29, so that while the sections of the hood may be folded into the position shown in Fig. 2 they may also be drawn out to the limit permitted by their connections, as shown in Fig. 1, in which position the hood forms a curved conduit which guides the air to and through the ice-hole and into the interior of the car. I prefer to protect the mouth of the hood by a suitable screen 30, which is attached to the outermost or uppermost section 22 and which serves to prevent the entrance into the car of cinders or the like.

In order to render the hood automatic or self-opening, I apply thereto a spring 31, which tends to throw the hood-sections upward and outward. This spring is in the preferred construction shown coiled around and centrally secured to a transverse rod or shaft 32, which is itself secured to the base-plate 25.

The ends of the spring 31 pass loosely through all of the sections of which they form the pivot and are extended upward and secured to the outermost section 22. This spring serves to raise the hood into the position shown in Fig. 1 and to hold it in said position, the other sections following the section to which the spring is attached by reason of the intermediate connecting devices described. When the ventilator is not in use, it may be folded back in the manner shown in Fig. 2 and the cover 15 closed and locked to prevent access to the interior of the car. When the car is to be used as a refrigerator and it becomes necessary to place ice in the tanks, the entire coaming, hood, and cover may be either slid back out of the way along the tracks 18 or they may be swung back and out of the way by turning them on the pins 20 as pivots. It is obvious that various modifications in the details of construction may be made without departing from the principle of my invention. For instance, the hood - sections may be differently shaped in transverse sectional form. I prefer the construction shown, however, since it affords the greatest capacity of the ventilator. Moreover, the construction and location of the spring may obviously be varied as well as the particular construction of the devices connecting the sections. I have shown in Fig. 4 a modification in which the cover is made in two parts 15<sup>a</sup> and 15<sup>b</sup>, hinged, respectively, to the front and rear edges of the coaming and provided with a hook and eye for locking their meeting edges. With this construction when the front plate or section 15<sup>a</sup> of the cover is folded down in the operation of closing the cover it will carry with it the folding hood, which is thus closed by the act of closing the cover. I also prefer in this construction to omit the chain 27, as shown in the drawings.

I claim—

1. In a ventilator for refrigerator-cars, the combination, with a car-roof having an ice-hole, of a hood composed of overlapping piv-

oted sections and a spring for lifting and holding said sectional hood in operative position, substantially as set forth.

2. In a ventilator for refrigerator-cars, the combination, with a car-roof having an ice-hole, of a coaming movable relatively to said ice-hole, a hood composed of overlapping sections pivoted to the coaming, and a solid cover hinged to the coaming and adapted to cover the ice-hole and hood when the latter is folded, substantially as set forth.

3. In a ventilator for refrigerator-cars, the combination, with a car-roof having an ice-hole, of a coaming movable relatively to said ice-hole, a hood composed of overlapping sections pivoted to said coaming and provided with a spring for lifting and holding said sectional hood in operative position, and a solid cover hinged to the coaming and adapted to cover the ice-hole and hood when this latter is folded, substantially as set forth.

4. In a ventilator for refrigerator-cars, the combination, with a car-roof having an ice-hole, of a hood composed of overlapping sections having a common pivotal axis, the outermost of said sections being provided with a screen covering the mouth of the hood, substantially as set forth.

5. In a ventilator for refrigerator-cars, the combination, with a car-roof having an ice-hole, of a coaming having a hinged imperforate cover, and a hood composed of pivoted overlapping sections and a base-plate pivoted to the coaming and connected to the cover, substantially as set forth.

6. In a ventilator for refrigerator-cars, the combination, with a car-roof having an ice-hole, of a coaming for said hole, a hood composed of pivoted overlapping sections, and an imperforate cover composed of two sections hinged to opposite edges of the coaming, substantially as set forth.

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Witnesses:

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