

No. 725,994.

PATENTED APR. 21, 1903.

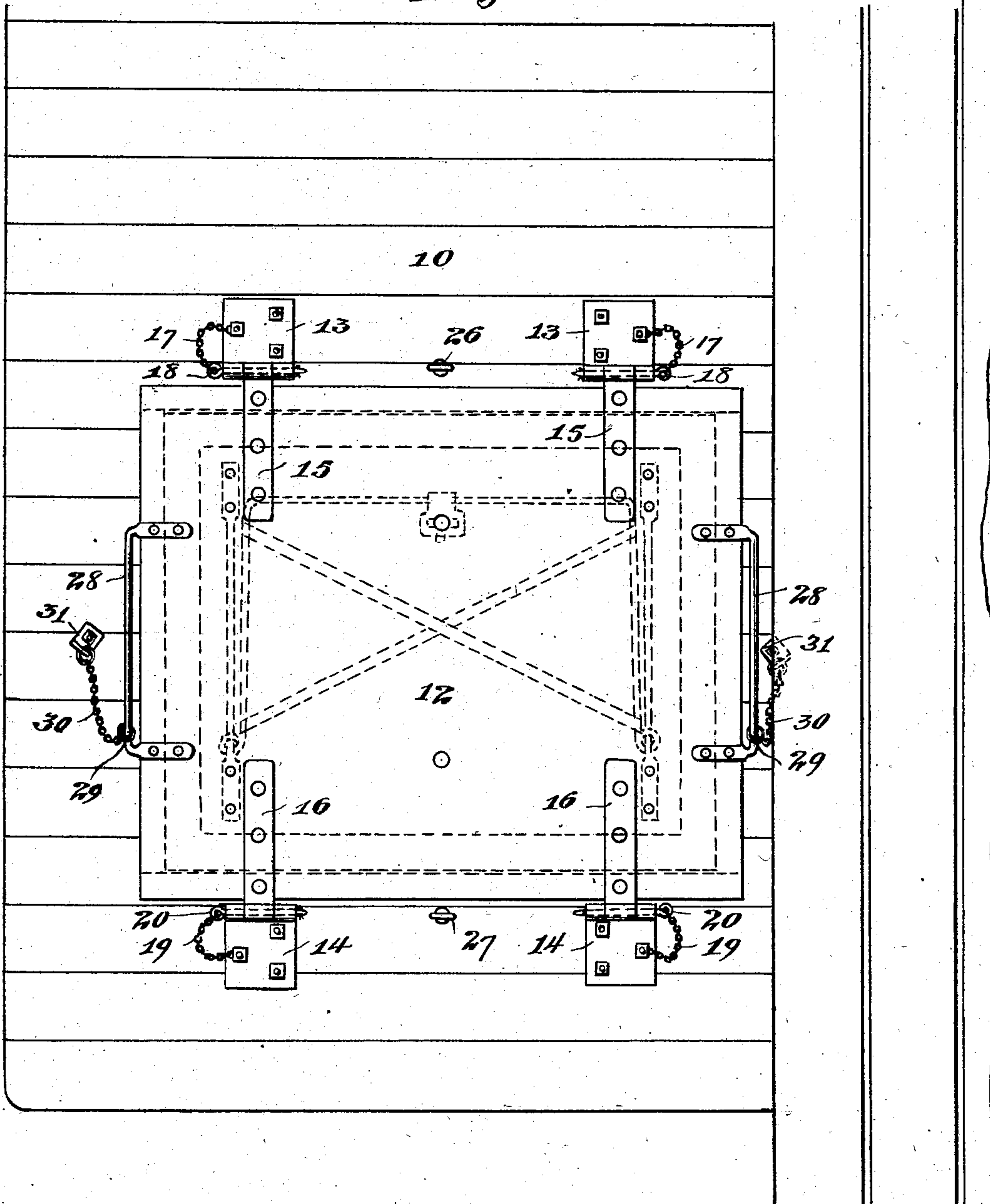
W. E. SHARP.
VENTILATOR FOR REFRIGERATOR CARS.

APPLICATION FILED NOV. 17, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses,
J. O. Mann,
S. N. Pond.

Inventor,
William E. Sharp
By *Offield, Dowle & Litchman*
Attys.

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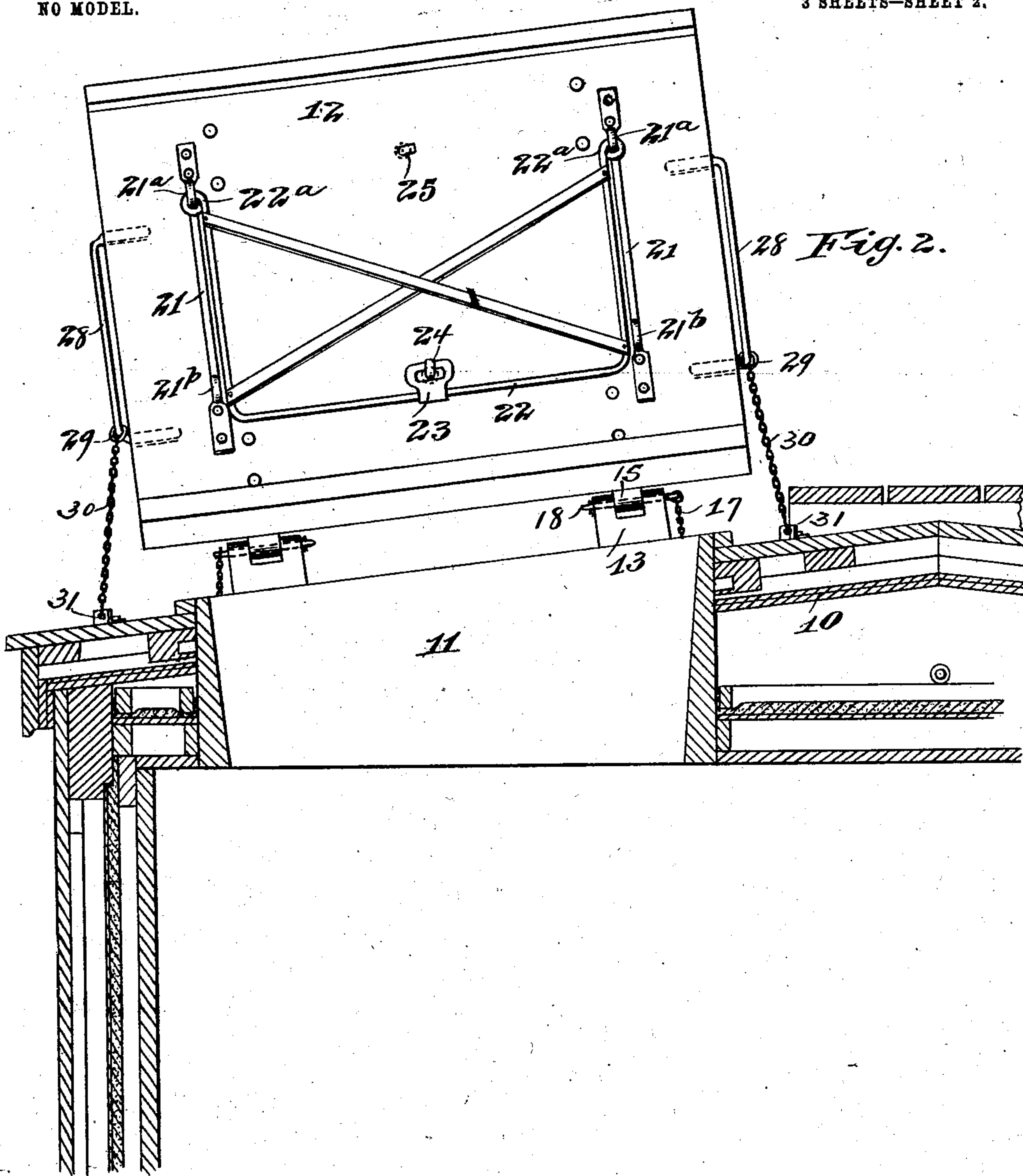
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3 SHEETS—SHEET 2.



Witnesses,
J. J. Mann,
S. N. Pond.

Inventor,
William E. Sharp,
By Offield, Dowle & Smith,
Attys.

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NO MODEL.

3 SHEETS—SHEET 3.

Fig. 3.

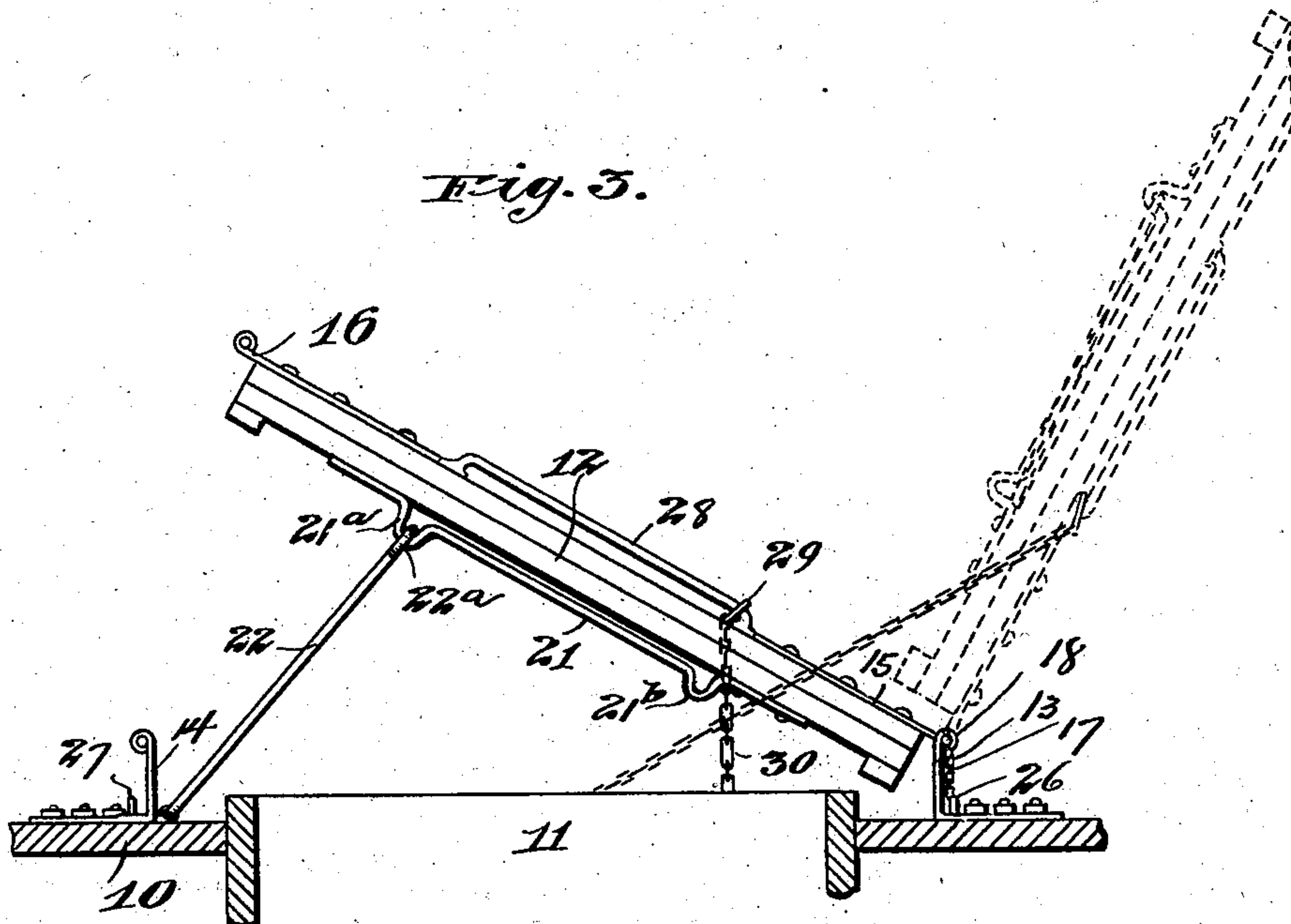
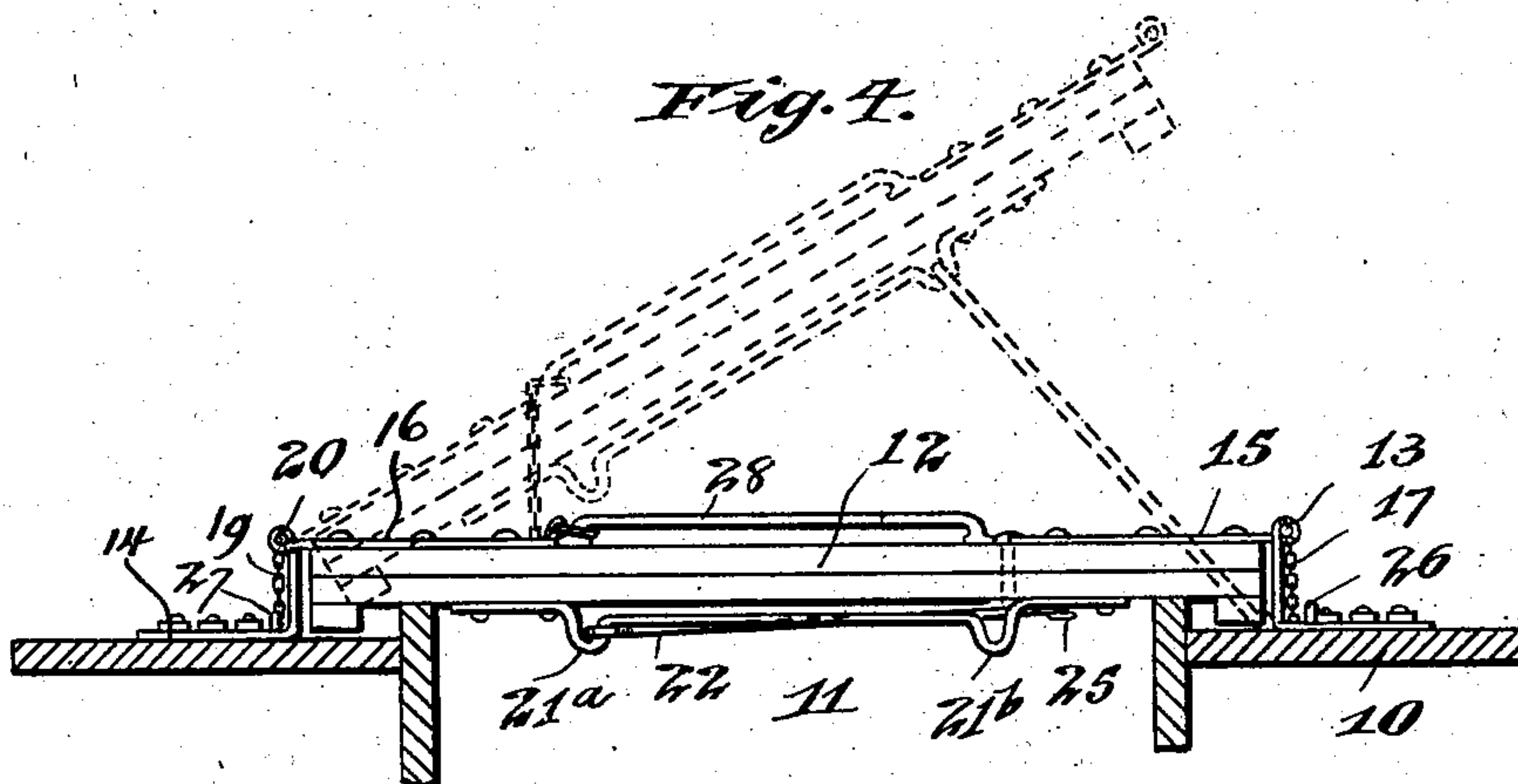


Fig. 4.



Witnesses,
J. J. Mann,
S. N. Ford.

Inventor,
William E. Sharp.
By Offield, Dowle & Smithman
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM E. SHARP, OF CHICAGO, ILLINOIS, ASSIGNOR TO ARMOUR CAR LINES, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

VENTILATOR FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 725,994, dated April 21, 1903.

Application filed November 17, 1902. Serial No. 131,677. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SHARP, a citizen of the United States, residing at Chicago, in the county of Cook and State of 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 belongs to that general class of ventilators which are characterized by the provision of a door or cover over a ventilating-opening in the roof of the car, which door or cover is rendered reversible or double-acting through the provision of means for elevating either of two opposite margins of the door or cover, according to the direction in which the car may be traveling; and the object of my invention is to provide a novel and improved construction of such a ventilator-cover, which may be operated and reversed as to position with a maximum of convenience and which shall be strong and reliable in operation.

To this and other minor ends my invention consists in a reversible ventilator for refrigerator-cars embodying novel constructional features, substantially as hereinafter described, and definitely pointed out in the claims.

My invention in the best mechanical embodiment thereof which I have as yet devised is illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of a portion of the roof of a refrigerator-car occupied by my improved ventilator and showing the door or cover thereof in closed position thereon. Fig. 2 is a vertical transverse section through the roof of the car and the ice-hole therein, showing the door or cover in its fully-opened position, with the under side of the door or cover nearest the observer. Fig. 3 is a longitudinal vertical sectional detail through the ice-hole, showing the door or cover in side elevation, the full lines illustrating the ventilating position of the door or cover and the dotted lines the completely-opened position thereof; and Fig. 4 is a similar view showing the door or cover hinged on the opposite end or edge, the full lines illustrating the closed

and the dotted lines the ventilating position of the door or cover.

In the drawings, 10 indicates the roof of a refrigerator-car, and 11 an ice-hole formed therein directly over an ice tank or holder. (Not shown.)

12 designates a door or cover designed to constitute a closure for the opening 11, as well as to constitute in association with the opening 11 a ventilator to direct a current of air into the interior of the car at such times as may be desirable or necessary. Heretofore in ventilators of this class such a cover has been permanently hinged along one edge thereof to the roof adjacent to the proximate edge of the opening, and the cover has been supported in ventilating position with its opposite free end elevated by wedge-blocks or props inserted between the under side of the cover and the upper edge of the opening or the roof of the car on the opposite side of the opening. The salient feature of my present invention consists in the provision of means whereby either end or edge of the cover lying nearest to and parallel with the ends of the car may be raised, the opposite edge being hinged, and a simple, convenient, and easily-manipulated means for this purpose may consist of the following: To the roof of the car adjacent the opposite edges of the opening 11, which lie transversely of the car, are permanently secured hinge members 13 and 14, respectively. To the corresponding margins of the cover 12 are permanently secured companion hinge members 15 and 16, designed to coöperate with the hinge members 13 and 14, respectively. To the shanks of the hinge members 13 are secured by chains 17 hinge-pins 18, by the insertion or withdrawal of which the hinge members 13 and 15 may be united or separated, as desired. To the shanks of the hinge members 14 are similarly secured, by chains 19, hinge-pins 20, having a similar co-operation with the hinge members 14 and 16. By this means the door or cover may be hinged to the car-roof along either of the opposite margins of the opening, the opposite margin of the door or cover being left free, or when the door is closed and the opening sealed thereby all four of the hinges may be united, thus effectively holding the door in

position irrespective of the usual padlock-and-haspllocking devices. (Notherein shown.)

Referring now to the means for supporting the door or cover when opened to ventilating position, 21 designates each of a pair of elongated staples secured in parallel relation to the under side of the door, each of said staples having depending loops 21^a and 21^b, said loops constituting hinge members for coöperation with companion hinge members 22^a of a supporting-frame 22. This supporting-frame is preferably constructed in the manner and for the purpose shown and described in Patent No. 620,174, and in itself constitutes no part of my present invention. The free marginal member of the frame 22 is provided with a hasp 23, adapted to coöperate with either of a pair of rotary buttons or hooks 24 and 25 on the under side of the door, so that by turning whichever one of said hooks is in engagement with the hasp in a direction across the slot of the latter the frame may be fastened securely against the under side of the door and out of the way when not in use. The hasp 23 when the frame is in supporting position is adapted to coöperate with a pair of buttons 26 and 27, located on the roof of the car centrally between the pairs of hinges 13 and 14, respectively.

Considering now the means for sustaining the door in fully-opened position, as indicated in Fig. 2 and by dotted lines in Fig. 3, 28 designates each of a pair of elongated staples secured to the opposite margins of the door which are parallel with the longitudinal sides of the car. On each of these staples 28 is a sliding ring 29, to which is connected a chain 30, the opposite end of which is suitably secured to anchor-plates 31 on the roof of the car, said anchor-plates being positioned substantially centrally of the longitudinal extent of the elongated staples 28.

The manner of use of my invention is probably apparent from the foregoing description of its construction in connection with the drawings, but may be briefly set forth as follows: Assuming that the door or cover is closed, as shown in Fig. 1, and that it is desired to raise the same to the ventilating position shown in full lines in Fig. 3, the hinge-pins 20 are withdrawn, the cover raised on the hinge-pins 18, and the free margin of the supporting-frame swung downwardly and outwardly and its hasp 23 locked over the button 27. In this position of the door the upper hinged ends of the supporting-frame engage the hinge-loops 21^a of the elongated staples 21. When the car is traveling in the opposite direction and it is desired to open the door in the manner shown in dotted lines in Fig. 4, the hinge-pins 20 are allowed to remain in operative position, the hinge-pins 18 are withdrawn, the door swung open, the supporting-frame drawn along on the elongated staples 21 until its hinge members 22^a engage the hinge-loops 21^b, and the hasp 23^a is engaged with the button 27. When it is de-

sired to uncover the opening 11 sufficiently to permit the recharging of the ice-tank or for any other purpose, the cover is thrown back on whichever pair of hinges it happens to be connected with in the manner shown in Fig. 2 and by dotted lines in Fig. 3, in which position the chains 30, engaging the lowermost end of the elongated staples 28, constitute a tensional support to prevent the door from falling back upon the roof of the car.

It is obvious that for the principal purpose of my invention the tensional chain supports 30 are not essential; but they are a desirable adjunct of the device, serving, as they do, to obviate the labor of lowering and raising the door to an unnecessary extent, as well as preventing the falling back and slamming of the door on the car-roof.

I have described a construction embodying my invention in one form; but it is obvious that modifications thereof may be made without departing from the principle of my invention, and I therefore do not limit myself to the precise details hereinbefore described, and shown in the drawings.

I claim—

1. In a reversible ventilator for refrigerator-cars, the combination with a car-roof having an opening therein, of a door or cover therefor, hinge members secured to the car-roof on opposite sides of said opening, respectively, coöperating hinge members secured to the corresponding opposite margins of the door or cover, and removable hinge-pintles coöperating with the companion hinge members on said opposite sides of the opening, substantially as described.

2. In a reversible ventilator for refrigerator-cars, the combination with a car-roof having an opening therein, of a door or cover therefor, means whereby said door or cover may be separably hinged to either of two opposite margins of said opening, an elongated staple secured to the under side of said door or cover, and a supporting member hinged on said staple and slidable from end to end thereof and constituting a supporting-strut between the roof of the car and the open margin of the door or cover in either open position of the latter, substantially as described.

3. In a reversible ventilator for refrigerator-cars, the combination with a car-roof having an opening therein provided with a stationary hinge member on each of two opposite margins thereof, of a door or cover therefor provided on corresponding opposite margins with fixed hinge members adapted to removably coöperate with said hinge members on the roof, an elongated staple secured to the under side of said door or cover, and a supporting strut or brace hinged to said staple and slidable therealong to support the open margin of the door or cover in either hinged position of the latter, substantially as described.

4. In a reversible ventilator for refrigerator-cars, the combination with a car-roof having

an opening therein, of a door or cover there-
for, means whereby said door or cover may
be separably hinged to either of two opposite
margins of said opening, a single supporting
5 member hinged to the under side of said door
or cover and adapted to support the latter in
ventilating position when either margin is
raised, and a single means for supporting

said door or cover fully opened in either di-
rection and out of contact with the roof, sub- 10
stantially as described.

WILLIAM E. SHARP.

Witnesses:

R. S. VANCELEAVE,
C. H. MARSHALL.