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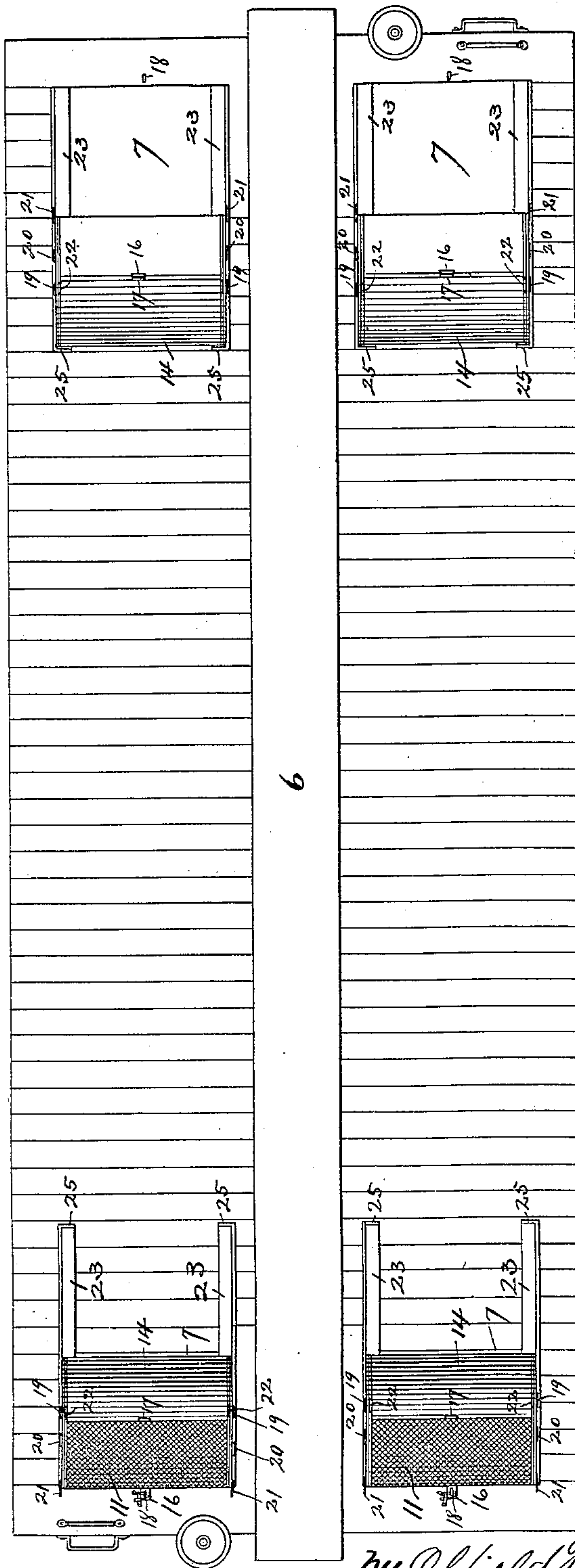
F. J. McASSEY & A. RICHMOND.  
VENTILATOR FOR REFRIGERATOR CARS.

(Application filed July 6, 1897.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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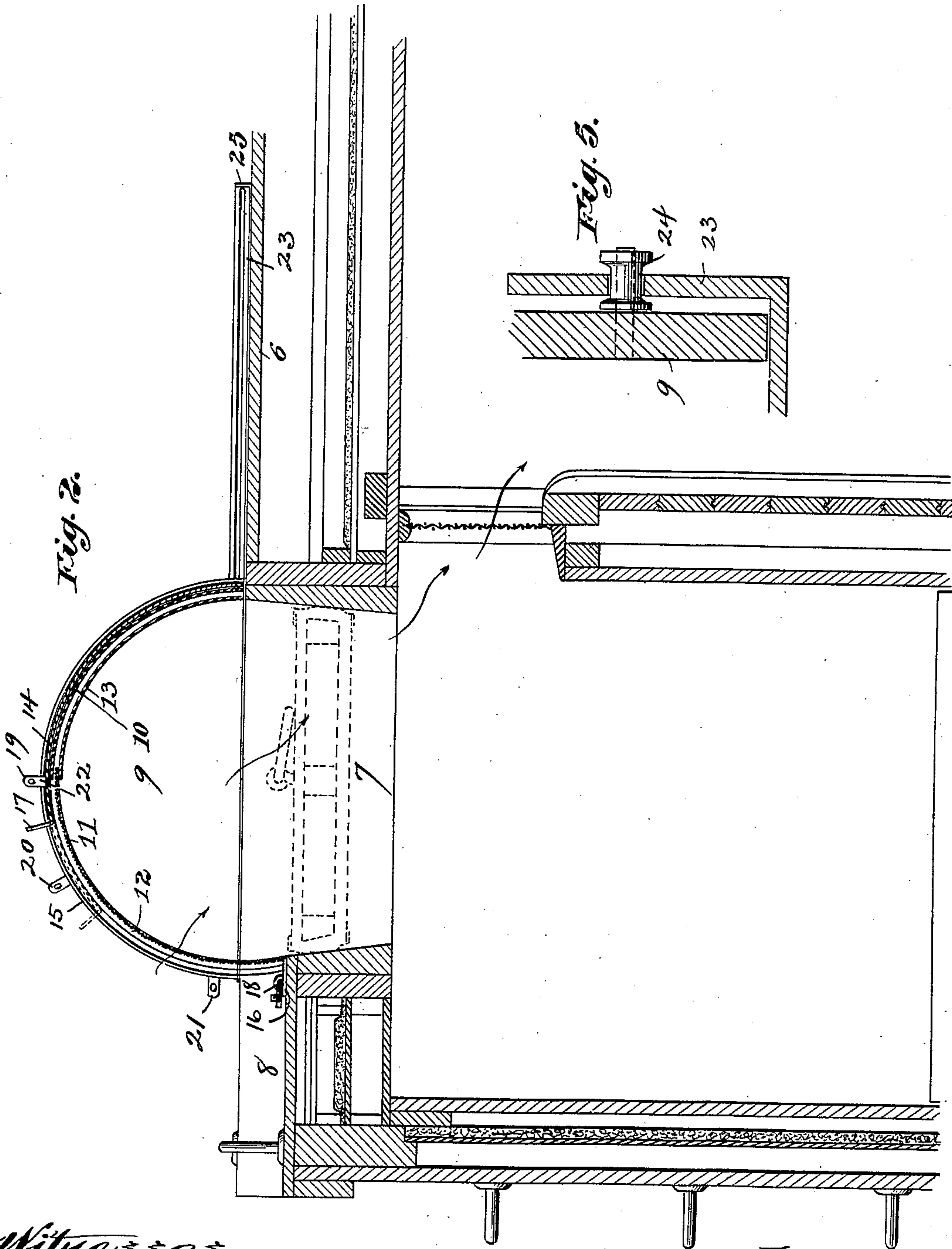
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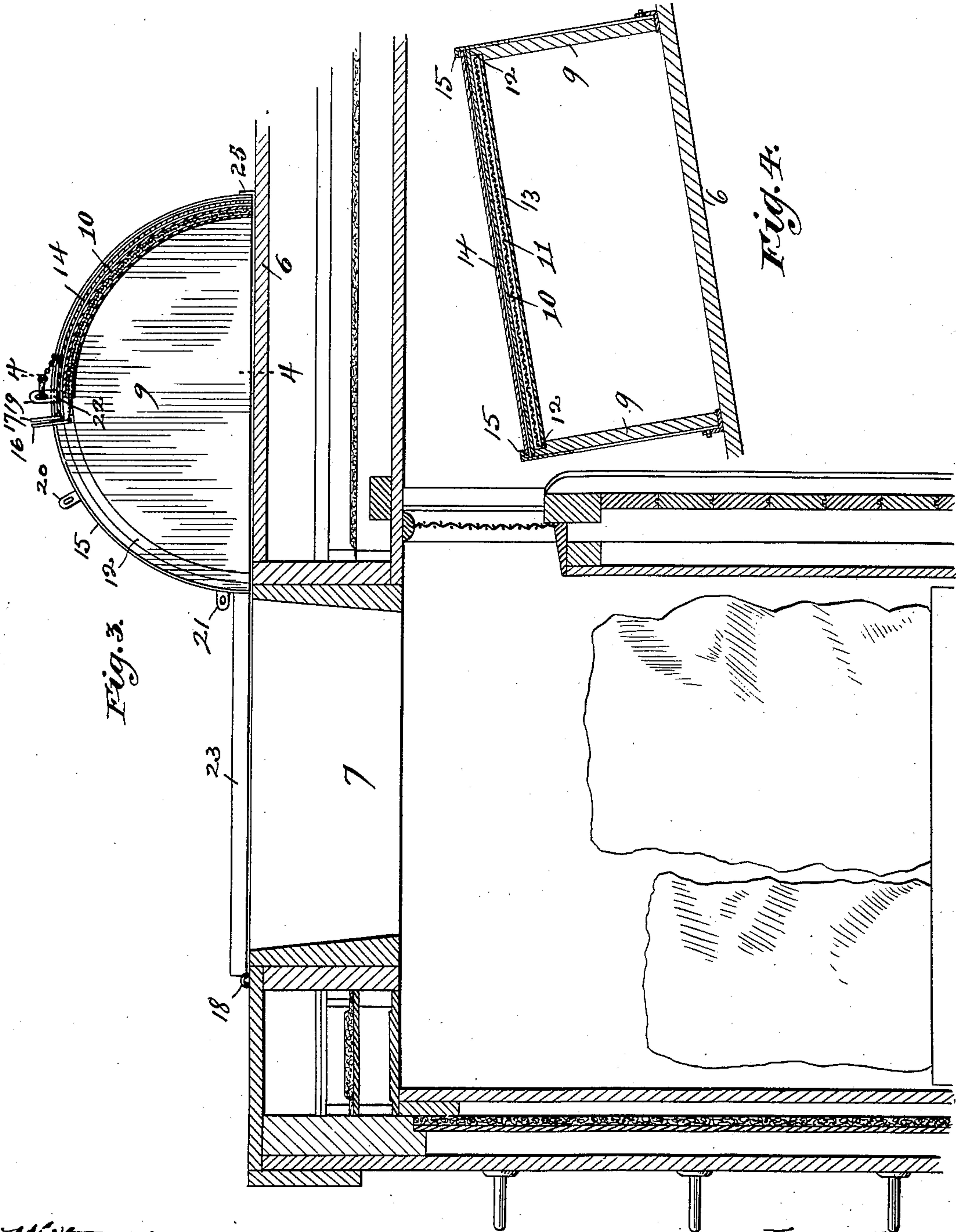
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(No Model.)

3 Sheets—Sheet 3



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# UNITED STATES PATENT OFFICE.

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## VENTILATOR FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 640,583, dated January 2, 1900.

Application filed July 6, 1897. Serial No. 643,537. (No model.)

*To all whom it may concern:*

Be it known that we, FRANCIS J. MCASSEY and ALEXANDER RICHMOND, of Chicago, Illinois, have invented certain new and useful  
5 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 combined hatch-cover and ventilator for such cars which may be capable of being slid bodily over or away from the hatchway or ice-hole in the roof of the car and so constructed that when in position over the ice-hole it may be either so opened as to permit  
10 the entrance of air into the interior of the car or closed to prevent such admission.

To these ends our invention consists in certain novel features which we will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a car-body, showing the preferred form of our invention applied thereto.  
25 Fig. 2 is a sectional elevation through one of the ice-holes, showing the hatchway and ventilator in place and the door or cover open to expose the screen. Fig. 3 is a similar view showing the hatchway uncovered. Fig. 4 is  
30 a section on the line 4 4 of Fig. 3, and Fig. 5 is a sectional detail showing a means of guiding the sliding cover and ventilator.

In the accompanying drawings let 6 represent a car-roof, which is provided near its corners with ice-holes or hatchways 7. In the construction represented in Fig. 2 the car-roof has a depressed portion, as shown at 8,  
35 in front of the ice-hole, and this construction is preferred, as the area of the inlet for air may thus be considerably increased without unduly increasing the height of the cover and ventilator above the roof.

The combined hatch-cover and ventilator is preferably of semicylindric form, having  
45 end walls 9, either of wood or metal, and a curved solid rear wall 10, inclosing half of the circle, while the remaining portion thereof is covered by the screen-section 11, said screen-section being curved to conform to the curved  
50 outline of the end walls and preferably adjustable, to which end it may be made to

slide in suitable ways or grooves 12 in the end walls 9, and thus run back into a pocket provided by the back plate 10 and curved plate 13. A movable cover 14, also curved to conform to the screen-section and moving beneath guide-flanges 15, is adapted to be drawn forward over the screen, as indicated by the dotted lines in Fig. 2, or to be thrust back outside of the wall 10. In the construction  
55 in Fig. 2 the screen-section 11 and the movable cover 14 are both arranged to slide into side grooves or recesses in the walls of the depressed portion 8.

The screen is provided with a hasp 16 and the cover with a hasp 17, both of which may be locked to the staple 18, fixed in the car-roof at the front edge of the ice-hole. The end walls have perforated lugs 19, 20, and 21, and the cover has a perforated lug or lugs 22,  
65 adapted to be secured thereto by suitable lock-pins, to which seals may also be applied. This combined hatch-cover and ventilator is so mounted as to slide bodily in position to cover the ice-hole or back on the roof, so as  
70 to uncover the latter. To this end we provide tracks 23, which may be angle-bars, T-rails, or other commercial forms, secured on the car-roof alongside the walls of the ice-hole and extending rearwardly therefrom. On these  
75 tracks the combined cover and ventilator are adapted to run or slide, and to reduce the friction we prefer to provide studs or pins in the end walls 9 and mount thereon the grooved friction-rollers 24. In the particular construction shown these rollers travel in longitudinal slots in the vertical portions of the angle-bars of which the tracks are composed,  
80 as shown in Figs. 2 and 5, whereby the removal of the cover from the car is prevented, and stops 25 are provided at the ends of the tracks to limit the movement of the structure.

While we prefer the semicylindrical form of structure shown in the drawings for reasons which will be hereinafter stated, other  
85 forms may be substituted—as, for example, the structure may be triangular in form, the front wall of the structure constituting the base of the triangle, or a rectangular or box-like structure may be employed. The reason  
90 for preferring the semicylindrical structure is that in this form an air-inlet opening of



maximum size with minimum height of the structure may be obtained and the available opening may extend through an arc of ninety degrees or more, whereas to obtain an opening of equal area where said opening is in a vertical plane the height of the structure would have to be materially increased. Not only is this increased height undesirable, because the structure is thereby made unsightly and inconvenient in use, but, further, because a certain height cannot be exceeded by reason of the necessity of passing the car through tunnels, under bridges, viaducts, and the like.

The bodily-sliding structure is advantageous, because the structure may thereby be made practically integral and compact and the hinging of the door and screen-section entirely avoided. Furthermore, the structure is not so likely to become loosened or detached from the car if moved bodily as in cases where it is hinged to the car-body and is swung upon its hinges in opening and closing. We prefer to make the screen-section movable; but obviously it may be stationary and the imperforate door or cover adapted to slide. Of course both the cover and the screen instead of sliding may be hinged to the framework, although this construction is not so desirable.

We claim—

1. A combined hatch-cover and ventilator for refrigerator-cars comprising a bodily-slidable structure having a screen-section, and a solid cover therefor and adapted to be moved bodily into position to cover or uncover the ice-hole or hatchway in a car-roof, substantially as described.

2. The combination with a car-roof and the ice-hole or hatchway therein, of a slidable cover therefor having a movable screen-section therein, substantially as described.

3. The combination with a car-roof having an ice-hole therein, of a combined cover and ventilator slidably mounted upon the car-roof and adapted to be moved into position to cover and uncover the ice-hole as desired, said cover and ventilator comprising a hood and two members relatively adjustable there-

to and to each other, one of said members being perforated and the other imperforate, substantially as described.

4. The combination with a car-roof having an ice-hole therein, of tracks arranged upon the roof in line with the sides of the ice-hole, and a combined cover and ventilator movably mounted upon said tracks and having a screen-section and an imperforate cover therefor, substantially as described.

5. The combination with a car-roof having an ice-hole therein, tracks arranged in line with the sides of the opening, a bodily-movable cover and ventilator having closed end walls and a partially-closed rear wall, a screen-section forming a reticulated front, and a solid cover movable into position whereby to cover or uncover said screen portion, substantially as described.

6. The combination with a car-roof and the ice-hole thereof, of a combined ice-hole cover and ventilator comprising a hood having solid end walls and a closed back, a movable screen-section adapted to slide in suitable ways in said hood and a movable imperforate cover for said screen-section independently slidable in similar ways in said hood, substantially as described.

7. The combination with a car-roof having an ice-hole therein, track-rails extending upon the car-roof, a slidable cover and ventilator having guides or carriers adapted to the track-rails and a guard-rail overlying said guides or travelers and adapted to prevent the removal or displacement of the cover, substantially as described.

8. A combined ice-hole cover and ventilator of semicylindric form slidably mounted upon the car-roof having closed end walls, a closed back, a screen-section, and a sliding cover for the screen-section, substantially as described.

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