

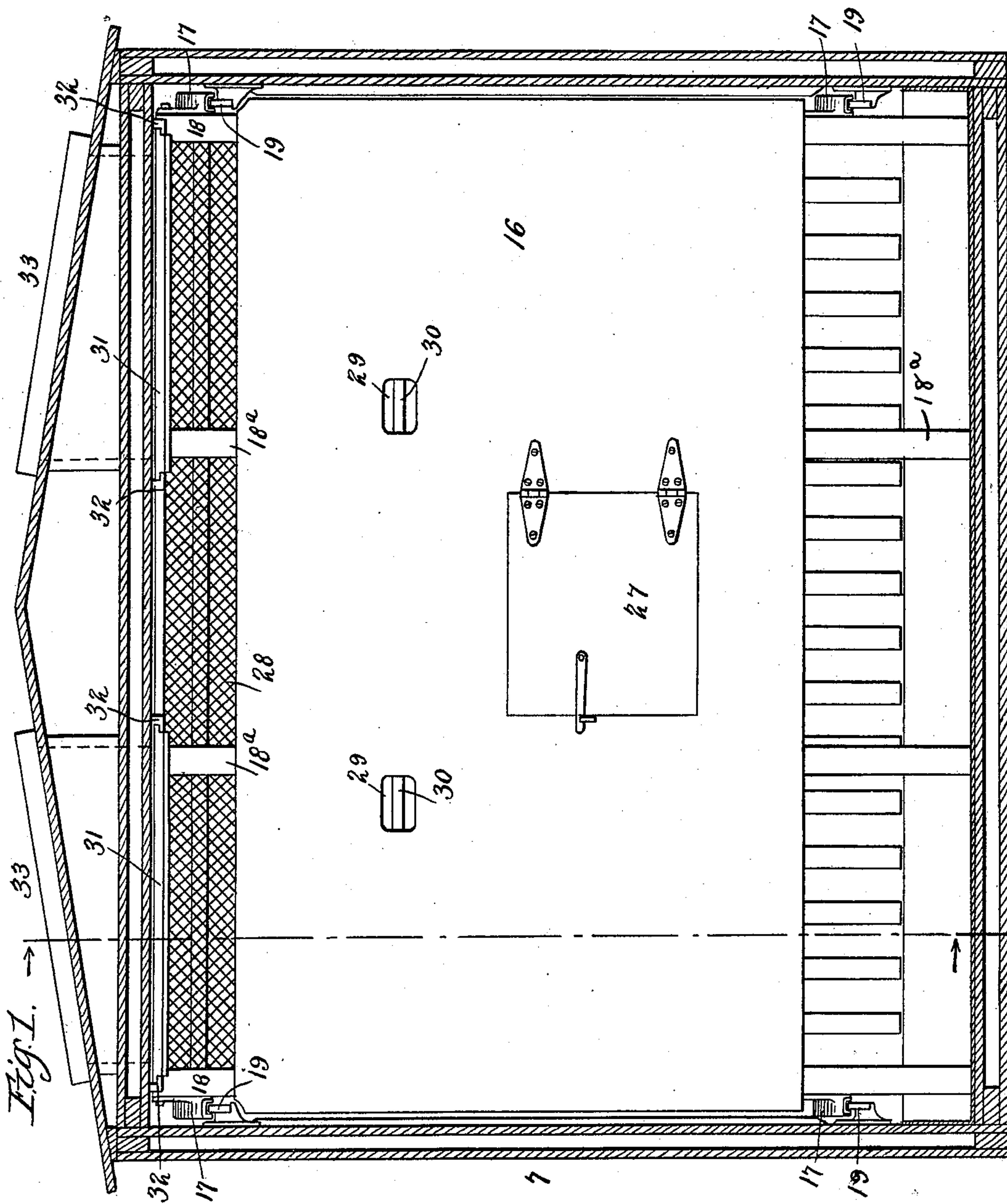
(No Model.)

3 Sheets—Sheet 1.

F. THOMPSON.  
REFRIGERATOR CAR.

No. 587,497.

Patented Aug. 3, 1897.



Witnesses.  
Wm. N. Rheems  
Wm. J. Huming

Inventor  
Frank Thompson  
By Edward Allen Richard Jackson  
His Atty's.

(No Model.)

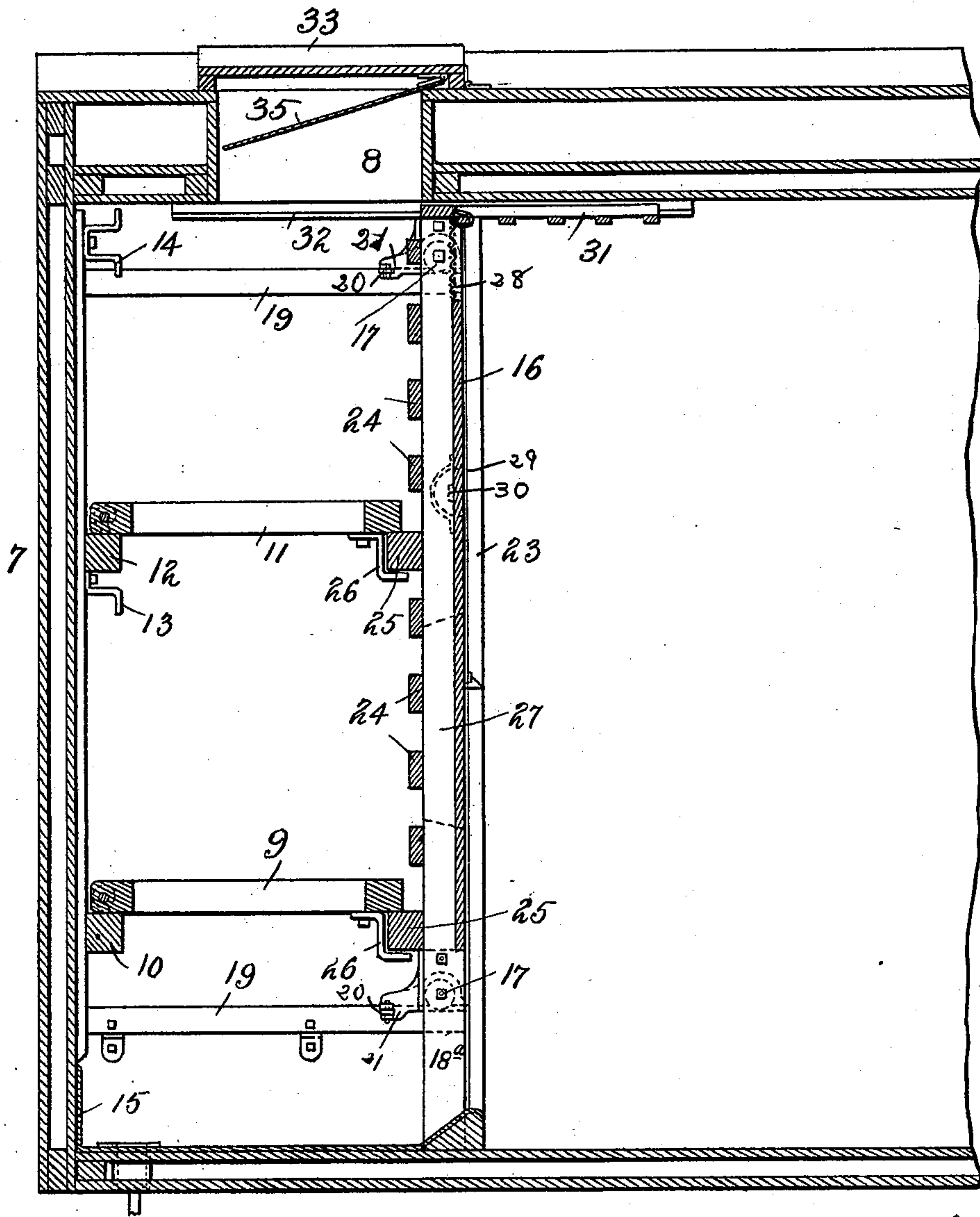
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*Fig. 2.*



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(No Model.)

3 Sheets—Sheet 3.

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Fig. 3.

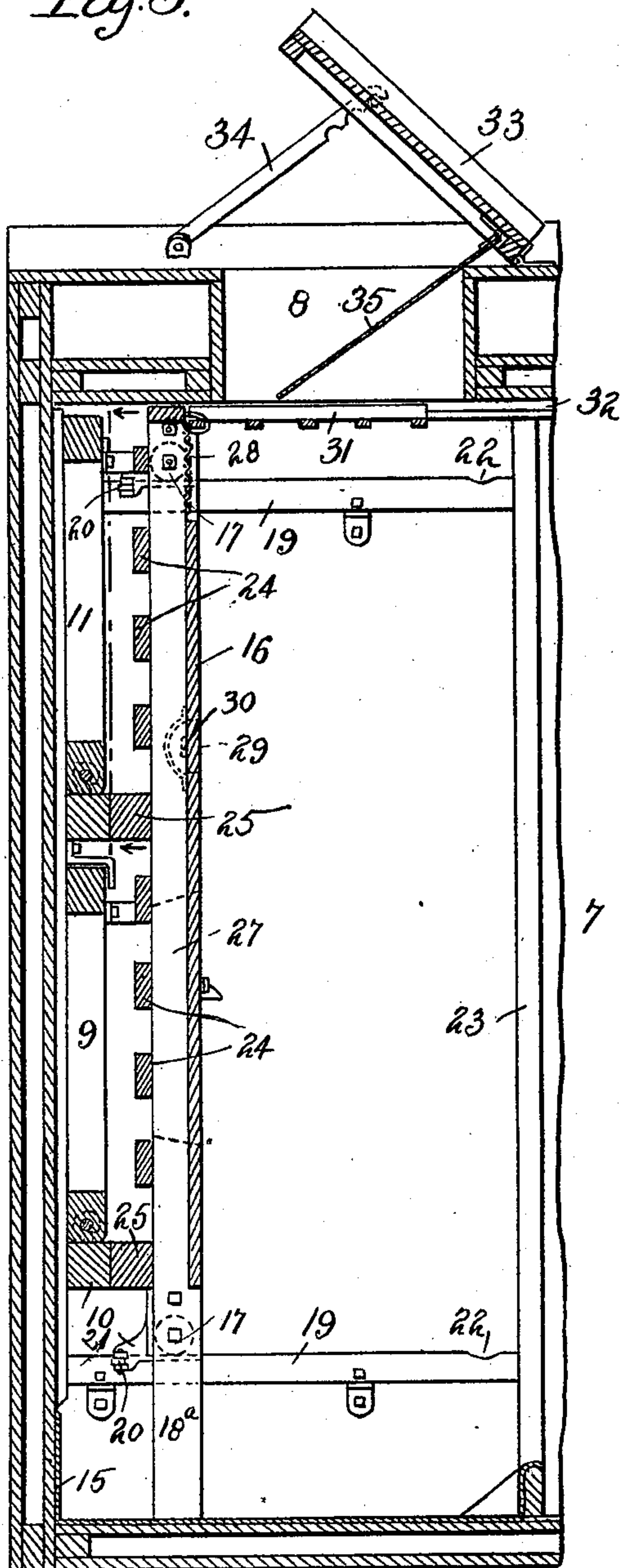


Fig. 4.

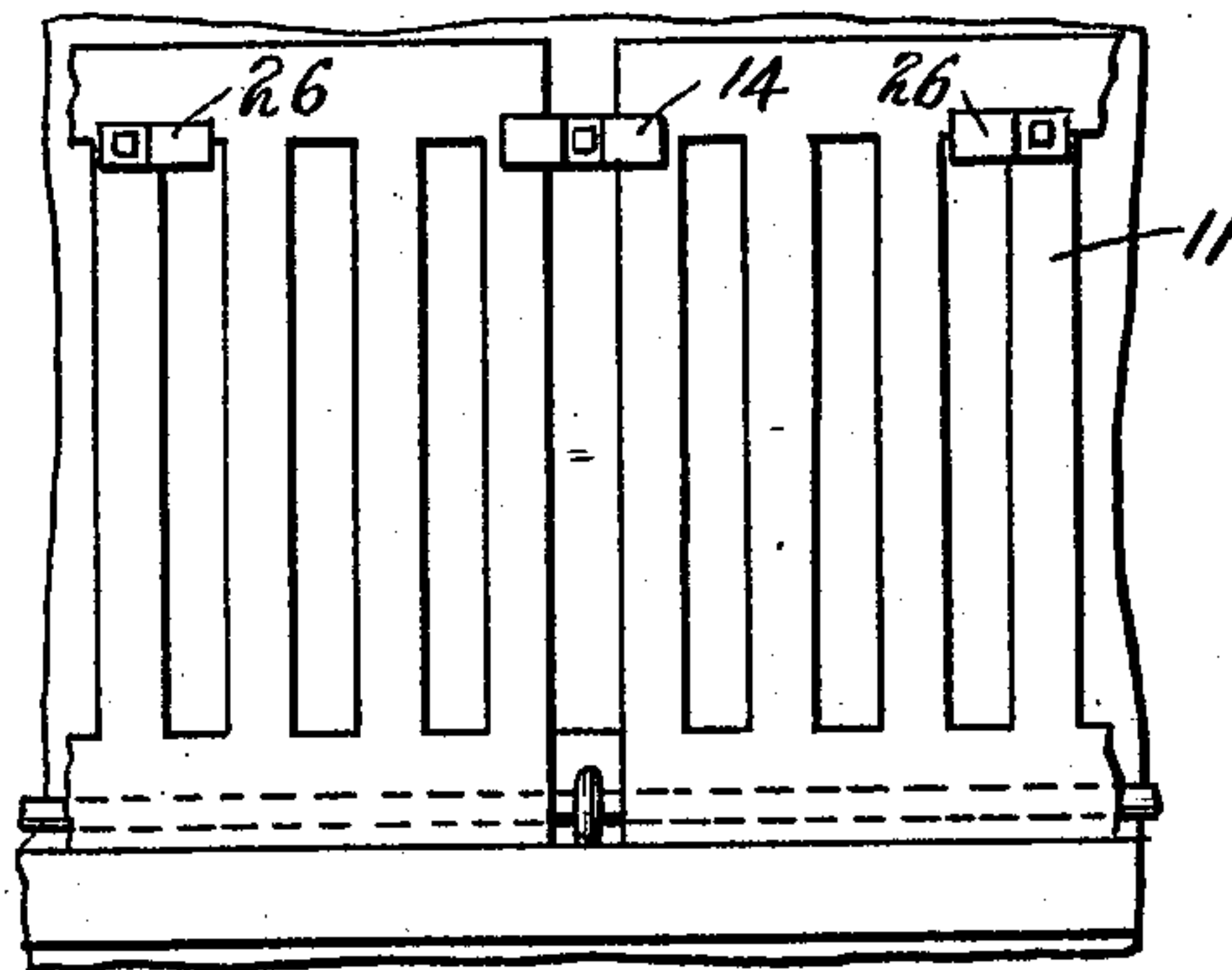


Fig. 5.

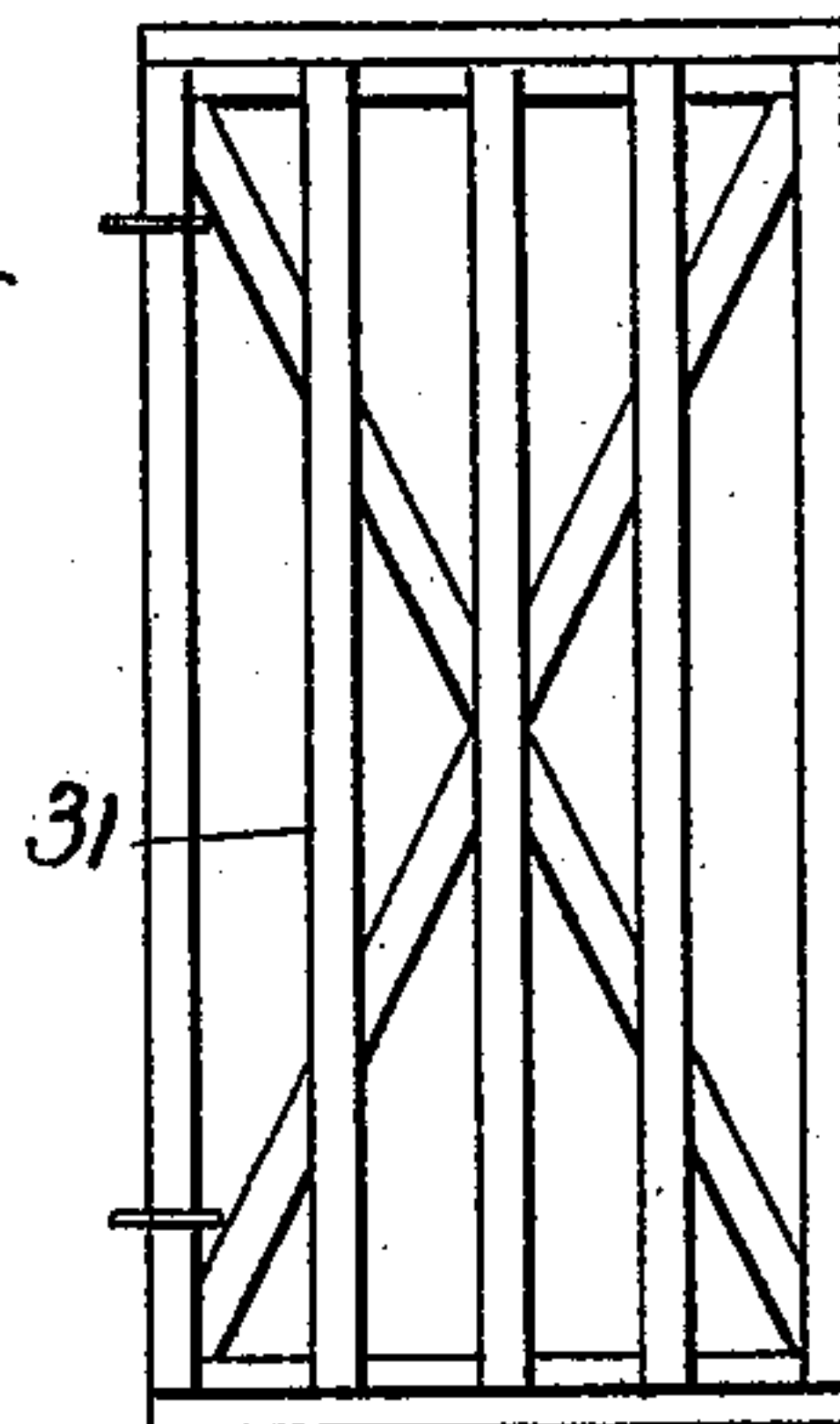
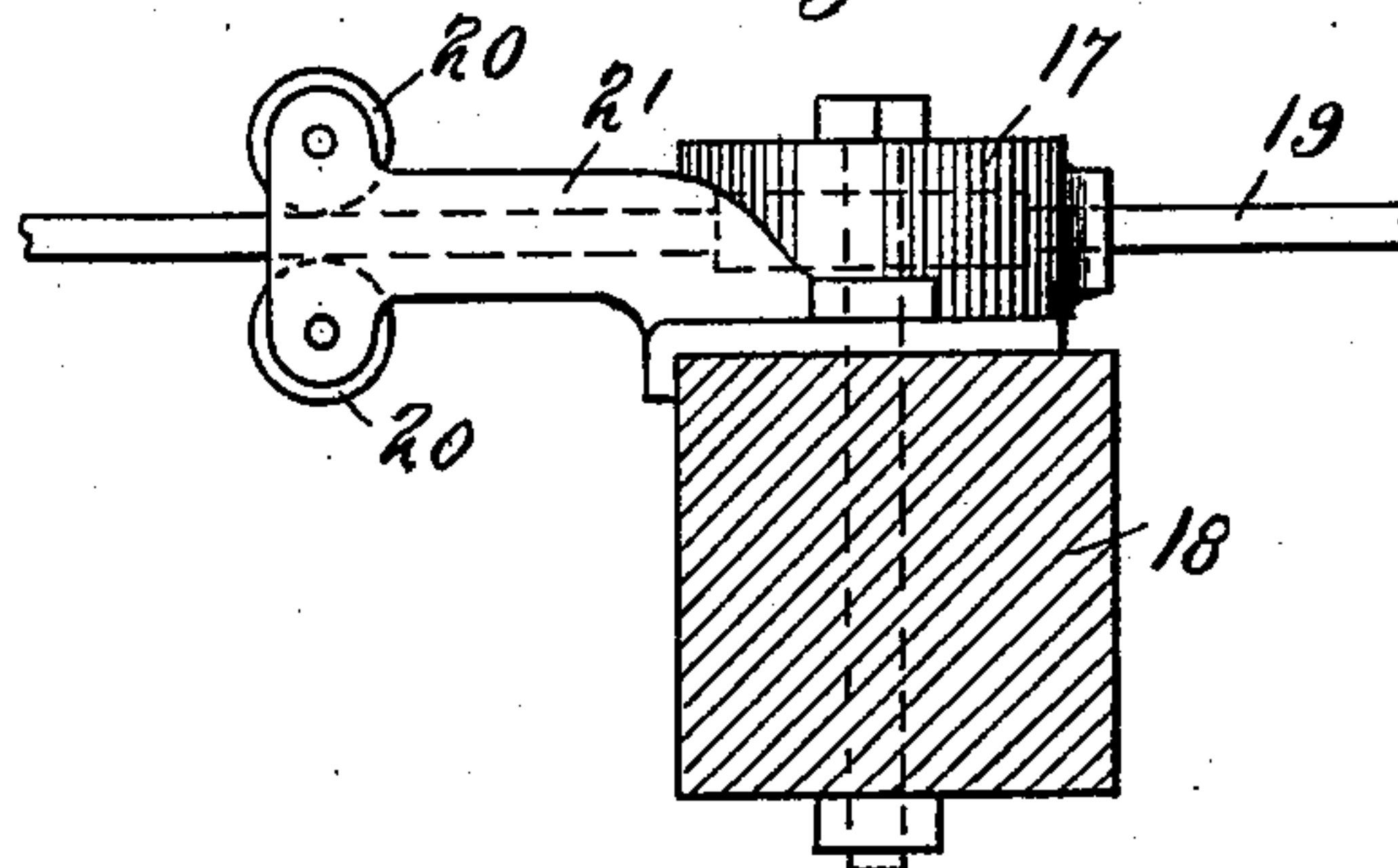


Fig. 6.



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# UNITED STATES PATENT OFFICE.

FRANK THOMPSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, THOMAS A. FRASER, AND OTTO W. MEYSENBURG, OF SAME PLACE.

## REFRIGERATOR-CAR.

SPECIFICATION forming part of Letters Patent No. 587,497, dated August 3, 1897.

Application filed April 14, 1897. Serial No. 632,136. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK THOMPSON, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Refrigerator-Cars, of which the following is a specification.

This invention pertains to refrigerator-cars of the class employing an ice-tank at each end which is capable of being folded up or moved into a small space in order to adapt practically the entire interior of the car for the reception of freight that does not require the use of such tanks.

My improvements relate primarily to the construction of such ice-tanks; but certain other improvements are also made, all of which will appear from the description hereinafter given and the accompanying drawings.

In such drawings, Figure 1 is a cross-section through a car equipped with my improved devices. Fig. 2 is a vertical longitudinal section taken at the line *x x* of Fig. 1 and showing only one end of the car. Fig. 3 is a view similar to that of Fig. 2, but showing the ice-tank folded up or closed against the end of the car. Fig. 4 is a detail, being a view of a portion of the upper gratings of the ice-tank in the position that they appear in in Fig. 3, the view being taken as indicated by the broken lines appearing in said Fig. 3. Fig. 5 is a detail of one of the guards that are attached to the movable wall of the ice-tank and which are adapted to be drawn under the ice-holes in the roof as such wall is pushed forward to the position shown in Fig. 3. Fig. 6 is a detail of the means for supporting said movable wall.

In the drawings the same reference-numerals are used throughout the several figures to denote corresponding parts.

7 indicates the body of a refrigerator-car of the ordinary construction, within which at each end is an ice-tank, into each of which the ice is deposited through two openings 8, located on each side of the running-board that extends from end to end of the car-roof. The bottom of the ice-tank is formed by a grating 9, so hinged at its inner end to a cross-timber 10, secured to the end of the car, as to lie against the end of the car and practically

flush with said timber 10 when turned up, as shown in Fig. 3. The ice-tank is adapted to be divided by another grating 11, hinged to a timber 12, in the same manner as is the lower grating 9, hinged to the timber 10. The object of providing the upper grating 11 is to economize in the use of ice at such times and places as it may be desirable or necessary and at the same time have the ice properly located in the upper portion of the tank. The gratings 9 and 11 are preferably made in sections, as indicated in Fig. 4, for convenience in handling.

13 14 indicate pivoted hooks adapted to hold the gratings 9 and 11, respectively, in position against the end wall of the car.

15 indicates the drip-pan, located below each ice-tank, and may be of any ordinary construction.

16 indicates the wall of the ice-tank opposite the end wall of the car, and is movable toward and away from the end of the car by reason of being supported by suitable rollers that rest upon tracks at each side of the car. As shown, there are two pairs of rollers employed, a lower and an upper pair, a roller being located near each corner of the wall 16. These several rollers are each indicated by 17 and are each attached in a suitable manner to the side of a post 18, secured to the wall 16.

19 indicates the tracks—two at each side of the car—for the rollers 17 to travel upon.

20 indicates small guide-rollers, one for each roller 17, and adapted to engage opposite sides of the rails 19. These small guide-rollers are secured in place by a bracket 21 for each pair, the brackets being secured to the posts 18 and projecting forward beyond the rollers 17 and over the track. The rear end of each track 19 is indented slightly, as shown at 22, into which the several rollers 17 settle when the movable wall is drawn back to its outermost position.

23 indicates vertical pieces attached to the sides of the car to act as limit-stops to the outward movement of the wall 16.

24 indicates cross-cleats on the inner face of the movable wall 16 to protect it from damage when ice is thrown into the tank, and 25 are cross-timbers on said wall corresponding to the timbers 10 and 12 that are secured



to the end of the car. On these timbers 25 the free ends of the gratings 9 and 11 rest, and are adapted to be locked thereto by pivoted latches 26, attached to the under side of the gratings, which can be turned to engage the undersurfaces of the said timbers 25, as shown in Fig. 2. This provision for locking the said gratings, especially the grating 9, is a matter of some importance, inasmuch as it effectually prevents entrance being had to the interior of the car when the ice-tank is empty, or nearly so, through the ice-hole openings and ice-tanks and beneath the lower edge of the movable wall 16, there being, as shown, quite a space between the said wall and the floor of the car, such space being left for the passage of cold air from the ice-tanks. The latches of the under gratings are readily reached and turned from the interior of the car by reason of the space between said wall and the car-floor, and the latches for the upper gratings are reached through a doorway in the wall 16, that is normally kept closed by a door 27, that can be latched or locked from the interior of the car.

As shown, a space is left for the passage of warm and foul air between the upper edge of the movable wall 16 and the roof of the car, which space is covered with a strong wire screen 28, suitably attached to the side posts 18 of the wall 16 and also to intermediate posts 18<sup>a</sup> on said wall. (See Fig. 1.)

29 indicates holes in the movable wall 16, each being crossed by a short bar 30, by means of which the wall can be readily pushed or pulled into the desired position by the operator in the car.

31 indicates gratings slidably supported in guides 32, so secured to the interior of the roof of the car that the said gratings 31 can be moved under or away from the ice-holes 8. These sliding gratings are connected to the movable wall 16 by being attached to the upper ends of the posts 18 and 18<sup>a</sup>, and, of course, are moved when the said wall is moved, and are for the purpose of preventing entrance to the interior of the car when the ice-tanks are out of use and in the position shown in Fig. 3.

33 indicates the covers for the ice-holes 8, each adapted to be held open for the purpose of ventilating the car by a suitable arm 34, hinged to the top of the car, or by other suitable means. Each cover is provided with a shield 35, hinged to it slightly forward of the cover-hinges, so that when the cover is raised, as shown in Fig. 3, cinders and dirt entering through the ice-hole will be deflected toward the forward end of the car and deposited in the drip-pan, from which they can be readily removed. By reason of the raised portion of the top of the cover, to which raised portion the shield is attached, such shield will not interfere with the closing of the cover, but will, when the cover is closed, assume the position shown in Fig. 2.

I have shown and described my improve-

ments in connection with one end only of a car, but it is to be understood that both ends are to be equipped the same.

By reason of my improvements I am enabled to easily and quickly transform a refrigerator-car that is perfectly adapted for the transportation of fruits, meats, and other perishable products into a car as well adapted to receive and transport freight of all kinds, without subjecting the refrigerating mechanism of the car to liability of damage in any way and without having such refrigerating mechanism interfere to any considerable degree with the use of the entire interior of the car for freight.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with a car, an ice-tank, one wall of which is adapted to be moved against the wall of the car without turning said movable wall, substantially as specified.

2. In a car, the combination of an ice-tank, one wall of which is adapted to be moved against the wall of the car without being turned, and an ice-grating supported between the wall of the car and said movable wall and adapted to be moved to allow said movable wall to be pushed against the wall of the car, substantially as specified.

3. In a car, the combination of an ice-tank, one wall of which is less in height than the interior of the car, and arranged to leave a space between it and the car-roof and a space between it and the car-floor, a movable ice-grating supported by said wall and the wall of the car, and means for moving said first-named wall, without turning, against the wall of the car, substantially as specified.

4. In a car, the combination of an ice-tank, one wall of which is adapted to be moved against the wall of the car without turning, an ice-grating supported between the wall of the car and said movable wall, and means for locking said grating in position from the interior of the car so that entrance to the interior of the car from the ice-tank will be prevented, substantially as specified.

5. In a car, the combination of an ice-tank, one wall of which is movable, tracks at opposite sides of the car, and rollers connected to said wall and resting on said tracks, substantially as specified.

6. In a car, the combination of an ice-tank, one wall of which is movable, tracks at opposite sides of the car, rollers connected to said wall and resting on said tracks, and guide-rollers also connected to said wall and bearing against said tracks, substantially as specified.

7. In a car, having an ice-hole in its roof, the combination with an ice-tank located beneath said ice-hole and having one of its walls movable, of a grating connected to said movable wall and adapted to be moved under the ice-hole as the door is moved toward the wall of the car, substantially as and for the purpose specified.



5 8. In a car having an ice-hole in its roof, the combination with an ice-tank located beneath said ice-hole and having one of its walls movable, of a grating connected to said movable wall and adapted to be moved under the ice-hole as the door is moved toward the wall of the car, and guides in which said grating moves, substantially as described.

9. In a car having an ice-hole in its roof,

the combination with a cover for said ice-hole, 10 of a shield secured to the under part of said cover to deflect cinders, &c., into the car toward the nearest end thereof, substantially as specified.

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Witnesses:

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