

No. 612,559.

Patented Oct. 18, 1898.

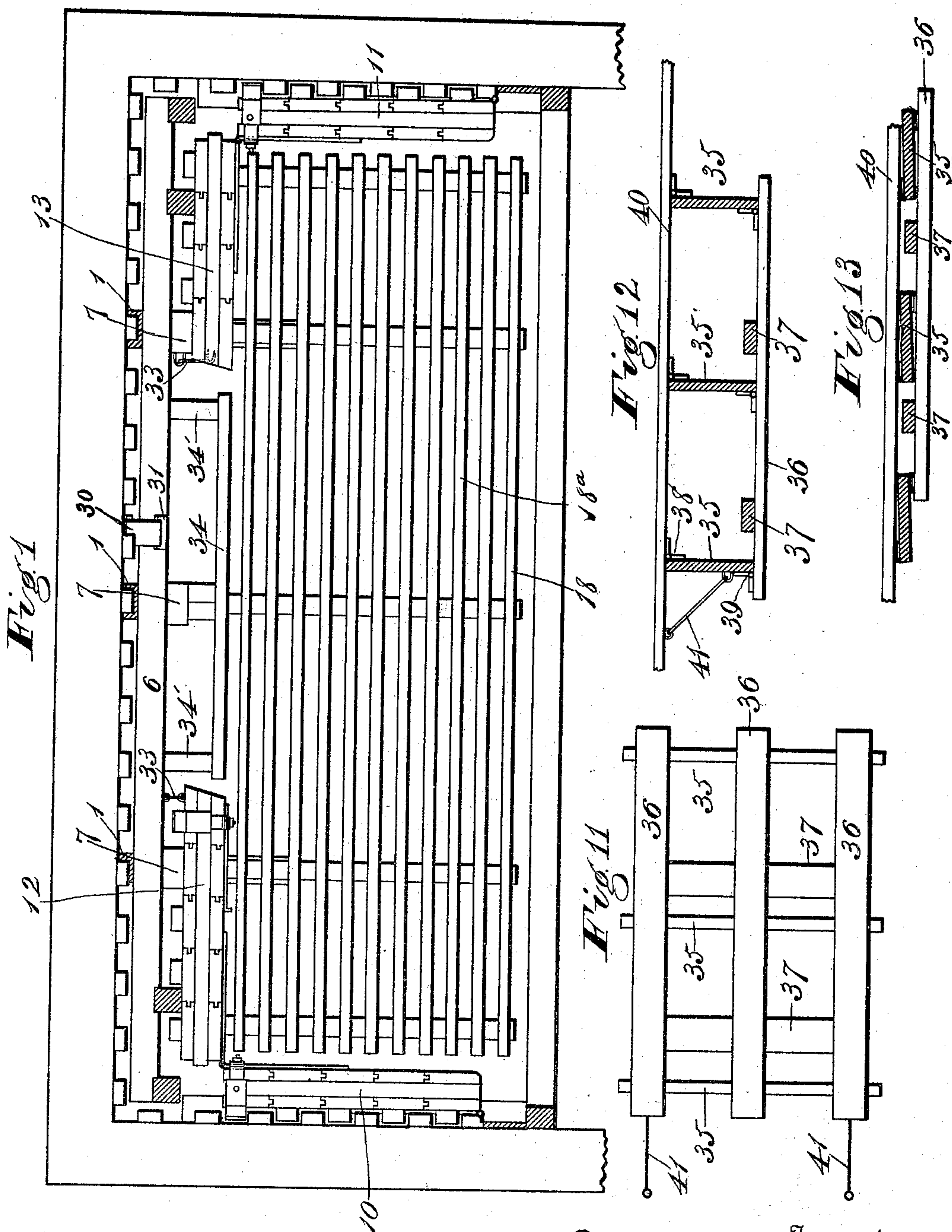
A. COPLEY.

ATTACHMENT FOR REFRIGERATOR CARS.

(Application filed June 25, 1897.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
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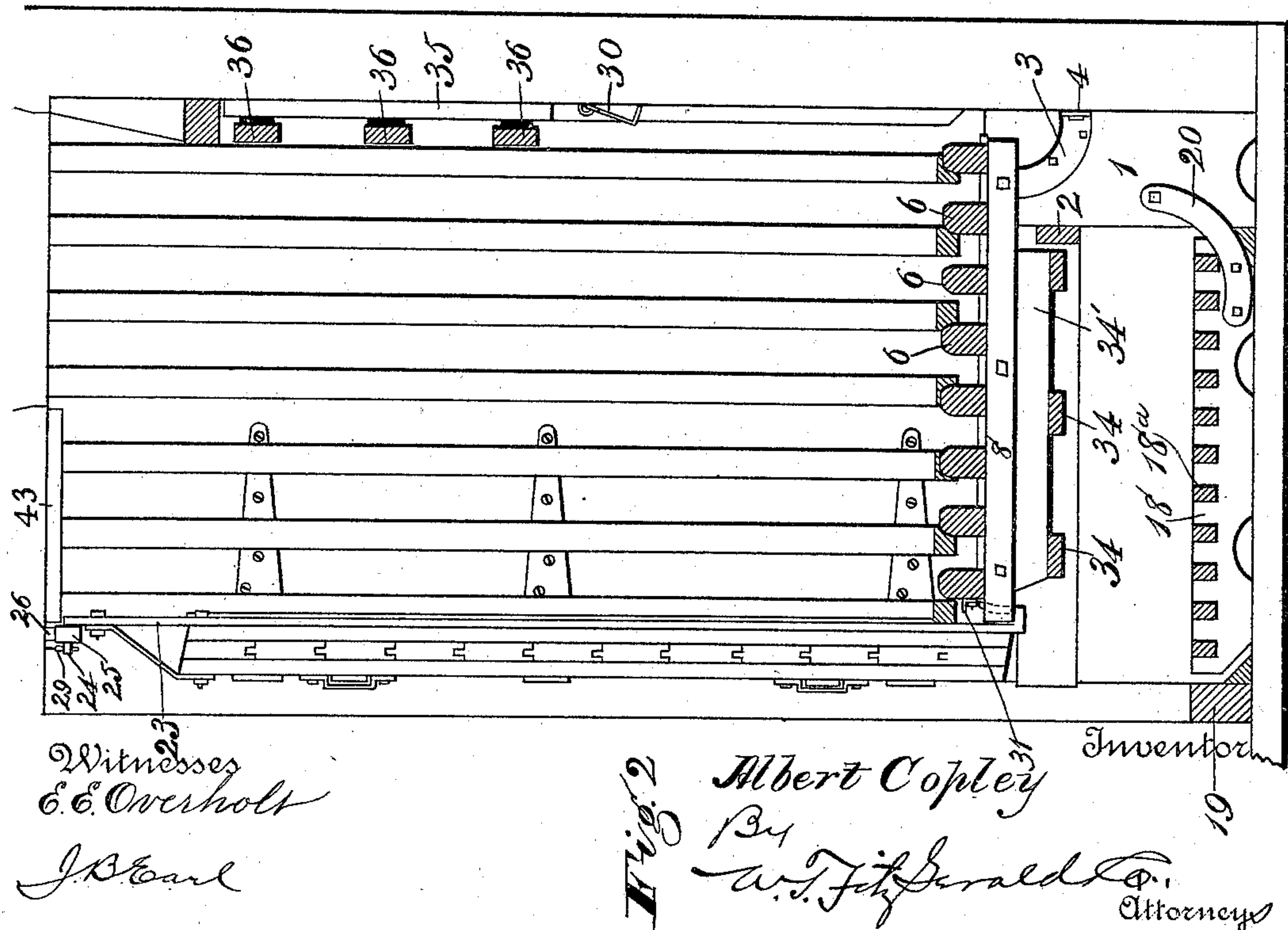
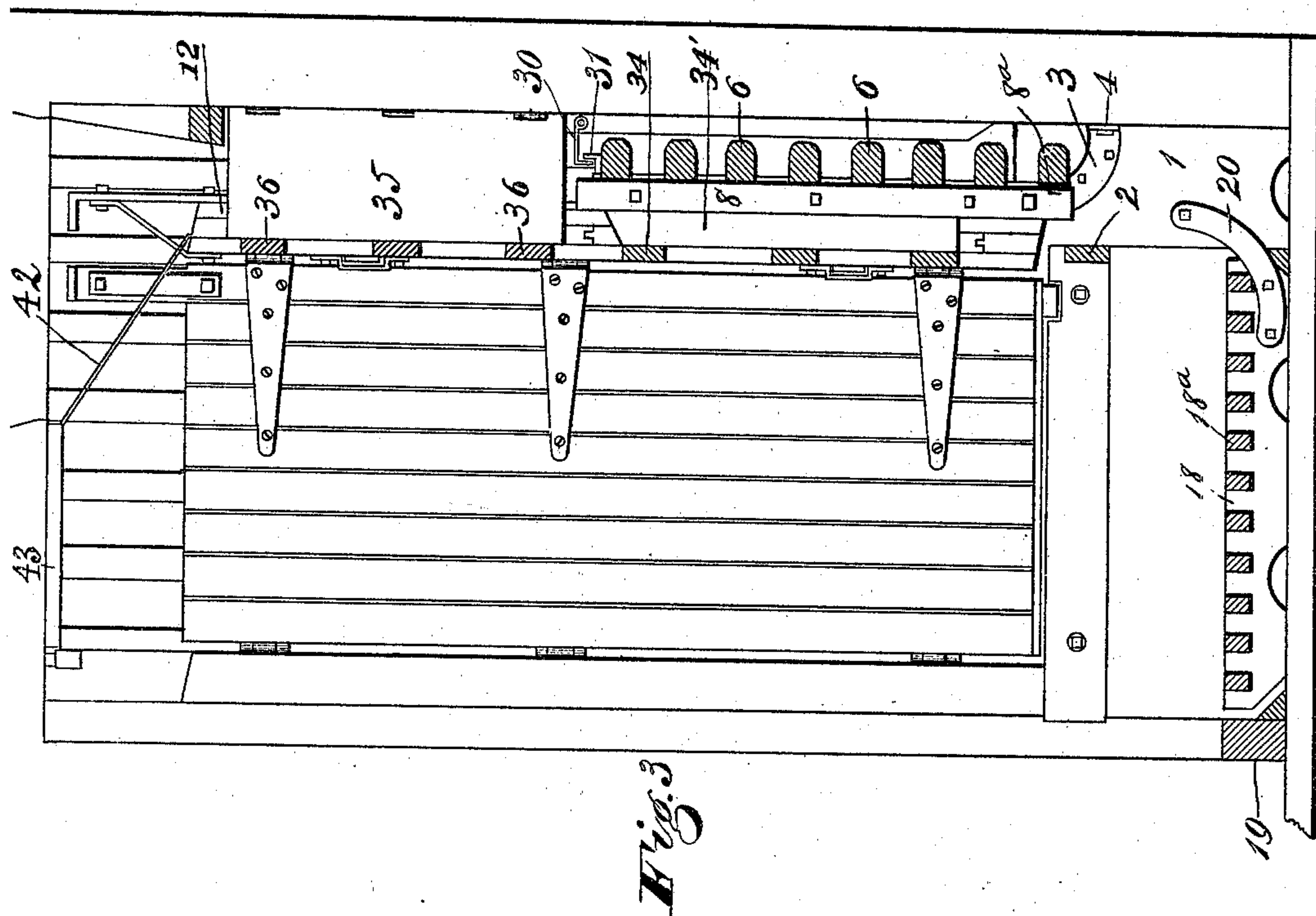
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3 Sheets—Sheet 2.



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Fig. 2

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UNITED STATES PATENT OFFICE.

ALBERT COPLEY, OF TOPEKA, KANSAS.

ATTACHMENT FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 612,559, dated October 18, 1898.

Application filed June 25, 1897. Serial No. 642,267. (No model.)

To all whom it may concern:

Be it known that I, ALBERT COPLEY, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Attachments for Refrigerator-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention, as will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, has relation to refrigerator-cars; and it consists more particularly in a folding ice-receptacle designed to utilize a portion of the car to form the side and end walls of the ice-receptacle.

The object of my invention is to provide a receptacle which may be easily and expeditiously folded out of the way when empty in order that the space occupied thereby may be utilized for shipping various kinds of goods on the return trip of the car.

The details of construction involved will be hereinafter referred to by figures, the same figure being employed to designate the same part throughout the several views.

In the accompanying drawings, Figure 1 is a horizontal section of my folding ice-receptacle, taken on a line near the upper part or ceiling thereof, showing the several parts in a folded condition. Fig. 2 is a transverse section of Fig. 1 on line *a a*, Fig. 4, showing the doors in a closed condition. Fig. 3 is a similar view showing the doors folded. Fig. 4 is a top plan view of Fig. 1, showing all the doors in a closed condition. Fig. 5 is a perspective view of the ice-rack or floor support. Fig. 6 is the ceiling-stirrup by means of which the support shown in Fig. 5 is held in position. Fig. 7 is a hook and staple employed to secure the end of the support 5 after it passes through the staple shown in Fig. 6. Figs. 8 and 9 are respectively an edge and side view of one of the wall-brackets designed to provide a hinged support for the ice-rack. Fig. 10 is a preferred brace or reinforcement for the support of the ice-rack. Fig. 11 is a plan view of the folding wall-bracket. Fig. 12 is a top view of the folding wall-bracket in an extended

position. Fig. 13 is a top view of the folding wall-bracket in a folded condition.

Briefly described, my invention consists in utilizing the end of a car and hinging thereto suitable doors and other accessories necessary to provide an ice-receptacle which may when not required for use be folded into a compact condition, and thus occupy a minimum amount of space, but which may readily be placed in an unfolded condition ready for the reception of any desired quantity of ice deemed necessary for the preservation of the contents of the car during its proposed journey, and, while I have described the preferred construction for the various details, it will of course be apparent that their equivalent is comprehended by me.

In carrying out my invention I secure to the end of the car in any preferred way, as by bolting or the like, a series of brackets 1, which may consist of any number deemed necessary, which are additionally reinforced and held in position by the brace 2, extending from one side of the car to the other and securely held in position by being bolted thereto and also to said brackets. Upon either side of the brackets I provide the angle-irons or braces 3, the lower end of which is provided with the ear 4, while the upper end is formed with the aperture 5, the purpose of which will be hereinafter set forth. Said angle-irons are secured to said brackets and to the end of the car, as will be readily apparent, thus providing a reliable means for supporting in a hinged manner the floor-sections 6 of the ice-rack. Said floor-sections 6 are supported by a series of transversely-disposed beams 7, which are reinforced upon either side by the loop-sections or keepers 8, preferably formed of iron and securely bolted to said beams. The free ends of the metallic keepers 8 are joined together, forming the keeper proper, 9, while the opposite ends are pivotally connected by means of the apertures 5 with the bracket 1, and when thus constructed the entire ice-rack, extending from one side of the car to the other, may be brought into a vertical position and thus disposed snugly against the end of the car when not in use, where it may be secured by any suitable means, as by hooks or turn-keepers.

In order to enable the ice-rack to be folded against the end of the car, the inner rib 2^a thereof is cut away at points above the bracket 1, and in order that the ends of said rib may be supported in a reliable manner I provide the laterally-extending ears 8^a, integrally formed with the keepers 8, the ends of the rib 2^a being secured thereto by suitable bolts. After thus forming the ice-rack and determining the degree of its extension or reach when lowered in a horizontal position I hinge to the sides of the car, at a point clear of the edge of the rack, the doors 10 and 11, disposed on a line with each other. To the door 10 I hinge in such a manner that it will swing outward from the ice-rack the door 12, while to the edge of the door 11 I hinge in a similar manner the door 13, their line of union being indicated at 14 in Fig. 4. All of these doors are preferably formed of a series of layers of material, as boards of suitable thickness, three layers being found amply sufficient to close the meeting edges of the boards forming the wall, it being understood that the inner layer may be disposed vertically or horizontally, while the middle layer is to be disposed exactly opposite to the disposition made of the inner layer, while the outer layer is disposed oppositely to the middle layer, and so on if the wall is further thickened. Hinges 15 and 16 respectively support the doors 10 and 11, being connected in a reliable manner to the walls of the car, while the doors 12 and 13 are hinged to the doors 10 and 11, respectively, by the hinges 17.

I prefer to locate the ice-rack sufficiently above the floor of the car upon the brackets 1 that a space beneath the same is provided in which is mounted the subrack 18, formed of a series of ribs 18^a, the object being to provide a suitable support or floor for the reception of any kind of goods when the ice-rack is folded up against the end of the car. It will of course be understood that suitable drainage may be provided to draw off the water due to melting ice as it accumulates between the end of the car and the division-wall 19, securely bolted in position.

I prefer to hinge the subrack 18 to the brackets 1 by the crescent hinges 20, so disposed that said rack will be clearly lifted at all points above the floor of the car, enabling the latter to be thoroughly cleaned, as by sweeping.

The doors 12 and 13 are preferably secured at their meeting edges in any suitable way, as by the sliding keeper 21, designed to longitudinally move within the staple or keeper 22, properly secured to the doors.

In order to provide a reliable means for supporting the ice-rack in a horizontal position, I provide the series of supports 23, the upper end 24 of which is designed to take through the aperture 25, provided in the stirrup 26, the latter being secured to the roof of the car by means of the nut 27 or otherwise. The lower end of the support 23 is provided with

the hook or bracket 28, designed to engage the keeper proper, 9, and thus prevent further downward movement of the ends of the transverse supports of the ice-rack. The upper end of the support 23 may be provided with a suitable aperture designed to receive the hook 29, conveniently secured to an adjacent part of the wall, or said end may be secured within the stirrup by a simple pin or other preferred means. By this arrangement it will be seen that the weight of the load upon the ice-rack is supported by the roof of the car, thus taking all the strain off of the doors and leaving the hinges thereof to merely sustain the weight of the doors.

It will of course be understood that the partition formed by the doors 10, 11, 12, and 13 may be continued above said doors to the roof of the car by any suitable construction, thus separating the entire end of the car from the interior thereof, it being understood that the space below the doors and above the division-wall 19 may be left open or closed, as preferred.

In Fig. 3 I have shown the ice-rack as folded up against the end of the car and held in this position by the latch 30 engaging the lip 31.

In Fig. 4 I have shown the lip 31 as providing a support for the door 13 through the mediation of the stop 32, arranged to rest upon said lip when the door is closed, and thus place the weight thereof upon the ice-rack and incidentally upon the series of supports 23.

In Fig. 1 I have shown the doors in a folded condition, the doors 10 and 11 being swung around against the respective sides of the car, while the doors 12 and 13 are resting against and parallel with the end of the car, where they are secured in position by the hooks and staples 33 or otherwise. This disposition of the doors leaves the ice-rack clearly out of the way, as before said doors are folded in the position just referred to said rack is raised into a vertical position and properly secured. After the doors are folded it will be seen that an open space is left between the edges of the doors 12 and 13, and preferring to close this recess I rigidly attach to the under side of the ice-rack by means of the beams 34 the buffer-wall 34, the outer surface of which is preferably flush or on a line with the outer surface of the doors, thus preventing goods from falling behind the doors. The buffer-wall 34 coincides in height with the width of the ice-rack, and in order to fill the opening between the edges of the door above the ice-rack and said wall I provide the collapsible bracket indicated in Fig. 12 and consisting of the series of hinged sections 35, the free ends of which have hinged thereto the ribs or facing 36, properly reinforced at intervals by the cleats 37. By this arrangement it will be seen that as the hinges 38 and 39 are disposed oppositely with respect to each other the sections 35 may be brought against the end of the car 40 or in a position at right angles thereto,

where they may be secured by pivoted braces 41 or otherwise, thus filling up the entire space between the edges of the doors.

The operation or use of my invention may be stated to be as follows: After the several parts are constructed and assembled in their respective operative positions the rack may be placed in a folded condition by first opening outward the door 13, when the ice-rack may by means of its hinged connection with the series of brackets 1 be brought into a vertical position parallel with the end of the car, where it may be secured in any preferred way. After this disposition has been made of the ice-rack the doors 10 and 11 are moved around against the sides of the car, which position brings the doors 12 and 13 against the end of the car or against the ice-rack just folded in a vertical position, where they are secured by the means above specified or otherwise. By disposing of the ice-rack and the doors in the manner set forth the end of the car in which the ice-receptacle is located is very little obstructed for the reception of various kinds of goods, as the receptacles containing the same may be placed upon the subrack 18, which will insure that the contents will not be injured by dampness.

The operation of unfolding the several parts and restoring them in position ready to receive the ice will, it is thought, be clearly obvious, and direct reference thereto is deemed unnecessary. It will be seen, therefore, that I have provided a reliably efficient means for producing a refrigerator-car at a comparatively small cost, as my folding ice-receptacle may be readily applied to a common freight-car, if desired, thus rendering such car thoroughly reliable for transporting perishable food products.

In order to protect the interior from dust, cinders, &c., I provide the hood or shield 42 and the housing 43 therefor, into which said

shield may slide when not in the inclined position shown in Fig. 3, and thus be protected when not in use.

Believing that the advantages and construction have been made fully apparent, I will dispense with further reference to the details involved.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a car or chamber of folding doors hinged to the sides thereof at opposite points; an ice-rack hinged to the end of said car or chamber, and a subrack hinged to the wall beneath said ice-rack, substantially as specified and for the purpose set forth.

2. In refrigerator-cars, an ice-rack hinged horizontally at its rear edge and adapted to fold against the end of the car, means for supporting said rack in its unfolded position, means for inclosing said rack, consisting of doors hinged vertically at their outer edges to the sides of the car, said doors being composed of sections vertically hinged together and adapted to fold into the corner of the car, the outer sections against the sides and the inner sections against the end of the car, as set forth.

3. The combination with a car of brackets having perforated angle-irons securing the brackets to the car, an ice-rack and a subrack hinged respectively to said brackets, and means for retaining the same in either an operative or folded condition, all arranged as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT COPLEY.

Witnesses:

ELMER BARNES,
F. P. CLOSE.