

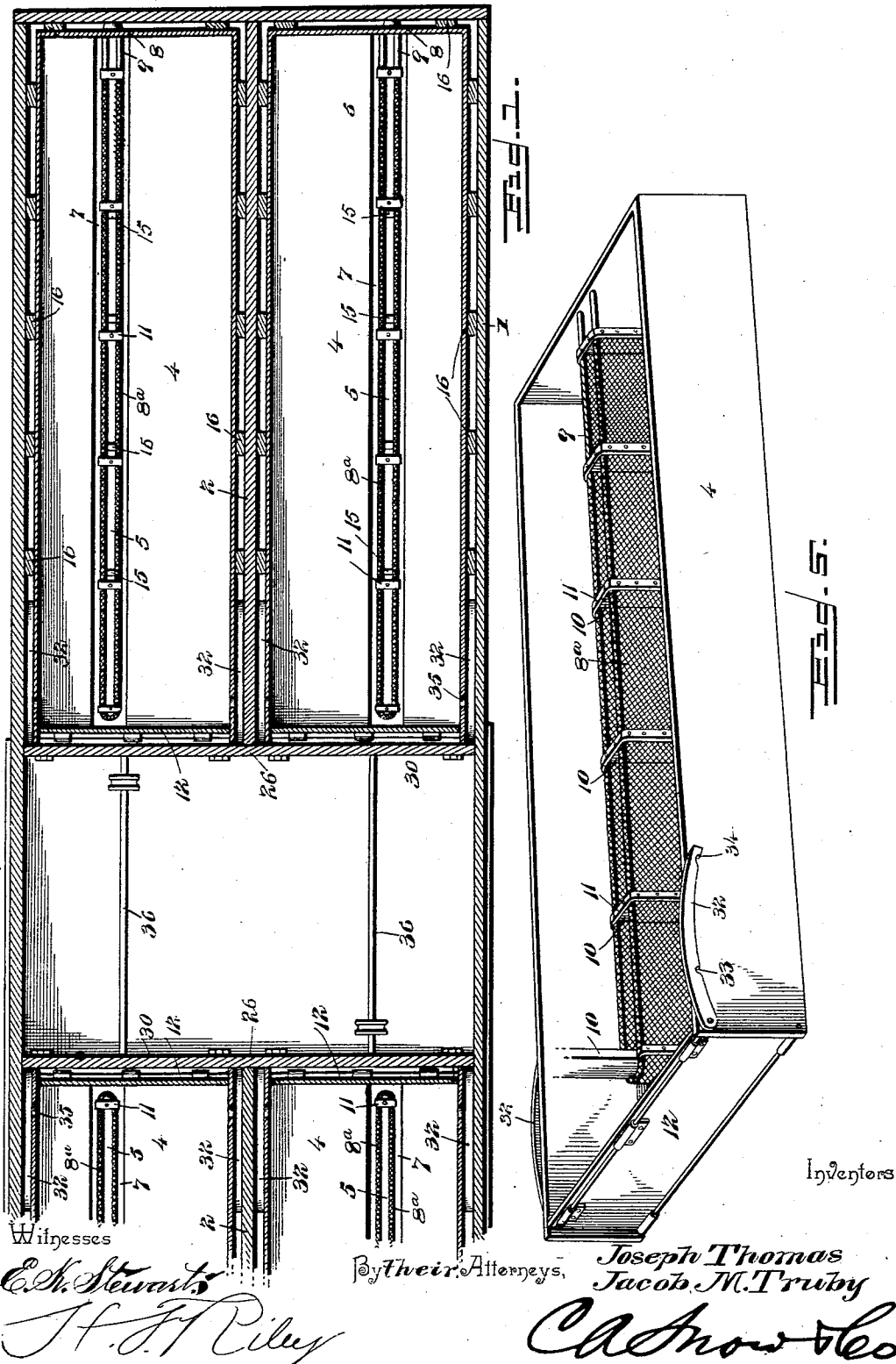
(No Model.)

2 Sheets—Sheet 1.

J. THOMAS & J. M. TRUBY.
REFRIGERATOR CAR.

No. 564,660.

Patented July 28, 1896.



Witnesses
E. H. Stewart
J. H. Riley

By Their Attorneys,

Joseph Thomas
Jacob M. Truby
C. A. Snow & Co.

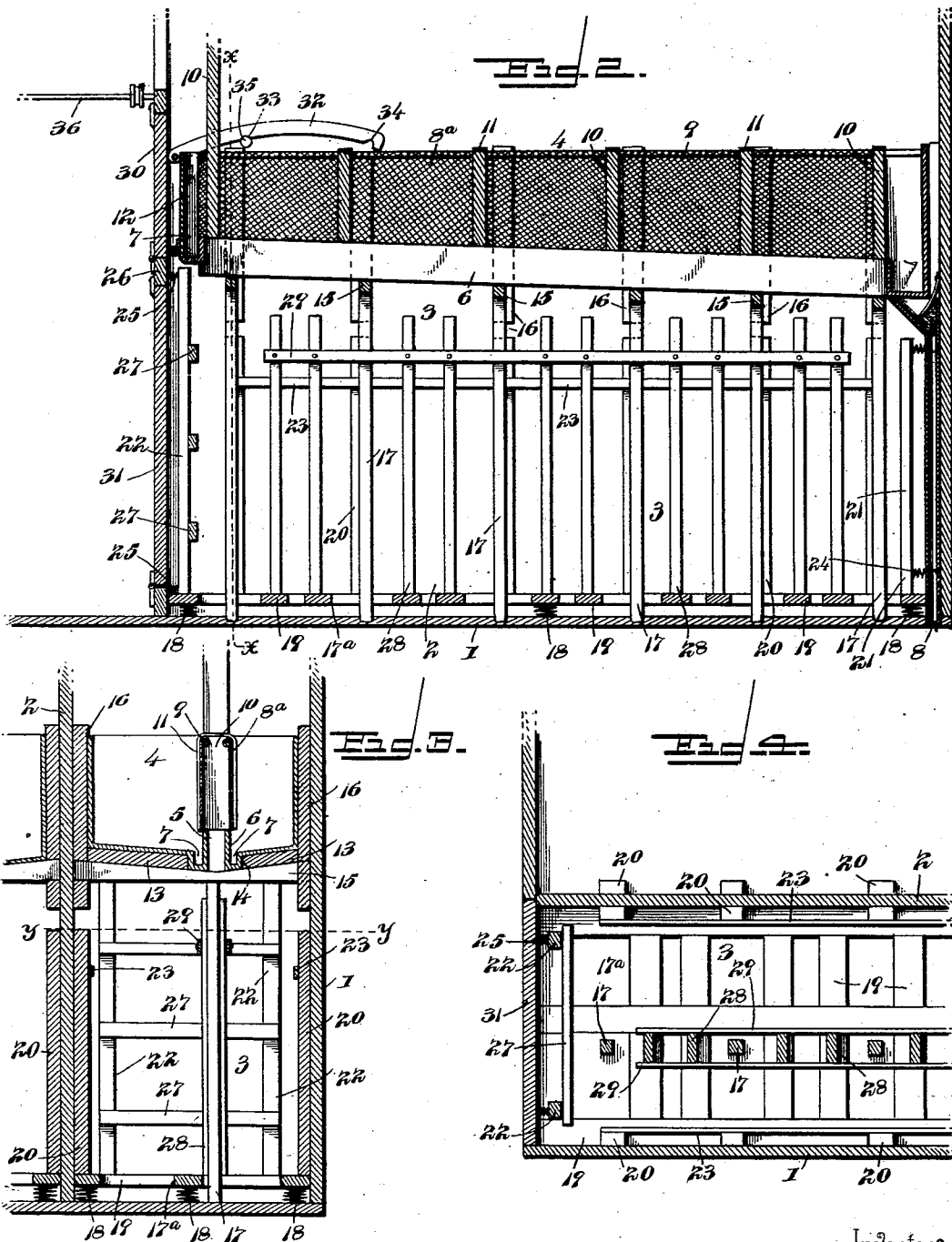
(No Model.)

2 Sheets—Sheet 2.

J. THOMAS & J. M. TRUBY.
REFRIGERATOR CAR.

No. 564,660.

Patented July 28, 1896.



Inventors

Joseph Thomas

Jacob M. Truby

By their Attorneys,

Witnesses

E. H. Stewart
J. F. Clay

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOSEPH THOMAS AND JACOB M. TRUBY, OF STARKE, FLORIDA.

REFRIGERATOR-CAR.

SPECIFICATION forming part of Letters Patent No. 564,660, dated July 28, 1896.

Application filed August 6, 1895. Serial No. 558,406. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH THOMAS and JACOB M. TRUBY, citizens of the United States, residing at Starke, in the county of Bradford and State of Florida, have invented a new and useful Refrigerator-Car, of which the following is a specification.

The invention relates to improvements in refrigerator-cars.

10 The object of the present invention is to improve the construction of refrigerator-cars, to facilitate the handling of fruit and similar articles of a perishable nature, and to enable the ice to be economically distributed, and
15 to produce a continuous circulation of cold air through all of the fruit or other contents of the car.

A further object of the invention is to enable a portion of a car to be loaded or unloaded or supplied with ice without admitting the warm exterior atmospheric air to the other portions of the car.

Another object of the invention is to provide an ice pan or receptacle in which ice
25 may be arranged so as not to interfere with the free circulation of air through it, and to cushion fruit or the like to prevent the same from being bruised or otherwise injured during its transit from one place to another.

30 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

35 In the drawings, Figure 1 is a horizontal sectional view of a portion of a refrigerator-car constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view taken centrally through one of
40 the refrigerator-compartments. Fig. 3 is a transverse sectional view of a portion of the car on line *xx* of Fig. 2. Fig. 4 is a horizontal sectional view of a portion of the car on line *yy* of Fig. 3. Fig. 5 is a perspective view of
45 one of the ice-receptacles.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a car provided with a pair of
50 longitudinal partitions 2, disposed centrally of the car at the end portions thereof at opposite sides of the car-door openings, and

forming four refrigerator-compartments 3. Each compartment has arranged in it at the top thereof an ice pan or receptacle 4, which
55 is provided with a central longitudinal opening 5 and having a flange 6 surrounding the same, and the bottom of the pan is further provided with a depression or gutter 7, adapted to collect the water resulting from the melt-
60 ing of ice, and the bottom of the pan has a slight lateral inclination from its sides to the groove or gutter, and inclines from its inner end to the end of the car. This arrangement causes the water to flow down the gutter to a
65 discharge pipe or tube 8 located at the end of the car.

In order to prevent the ice from closing or partially closing the longitudinal opening 5 and interfering with the circulation of air,
70 the pan is provided with screens 8^a, arranged parallel and extending vertically upward from the flanges 6 at the sides of the opening 5. The screens 8^a may be wire-netting or any other foraminous material, and they are sup-
75 ported at their upper edges by longitudinal rods 9. Within the space between the screens 8^a are located vertically-disposed posts 10, arranged at intervals and supporting the screens and connected with the same by metal
80 straps 11, secured to the tops of the posts and to the outer faces of the screens. The rods 9 may be formed integral with each other, and they are secured to the outer end of the pan, and as the inner end of the pan or re-
85 ceptacle 4 is provided with a hinged door 12, the innermost post extends vertically, and is suitably secured to the top of the car in order to afford the proper support for the screens.

The screens prevent the ice contained with-
90 in the pan from getting over or directly above the longitudinal opening 5 and prevent any interference with the circulation of the air, and at the same time fully expose the ice to the action of the air circulating through the
95 refrigerator-compartment.

The ice pan or receptacle 4 is supported upon the platform 13, having oppositely-inclined sides to conform to the configuration of the bottom of the pan or receptacle 4, and it is
100 provided with a longitudinal opening 14 registering with the opening of the pan or receptacle 4. The platform is provided with transverse bars 15, which have their terminals se-

cured in recesses of spacing-cleats 16, and which are centrally supported by vertically-disposed uprights 17, stepped in suitable sockets of the bottom of the car. The recesses of the spacing-cleats 16 are located at opposite edges thereof, as shown in the accompanying drawings, and the ends of the transverse bars are retained in the recesses by the sides of the platform, to which they are secured. The spacing-cleats, which are interposed between the sides of the compartment and the sides of the pan form spaces to permit a circulation of air around the pan.

The refrigerator-car is especially designed for shipping fruit, but of course may be employed for transferring any other perishable products, and when shipping fruit the latter is packed in baskets, boxes, or other receptacles, which are placed on a yieldingy-supported rack or platform 17^a, composed, preferably, of central and side longitudinally-disposed bars, supported at intervals by springs 18 and connected by transverse bars 19. The springs 18 are coiled or spiral, and are suitably supported upon the bottom or floor of the car, and they permit an upward movement of the rack or platform 17^a and cushion the fruit and prevent the same from being bruised or otherwise injured.

The platform or rack 17^a is provided at its sides with vertical spacing-bars 20 and at its ends with spacing-bars 21 and 22. The side spacing-bars 20 are arranged adjacent to the side walls of the compartment and are preferably located below the upper spacing-cleats, the bars 20 terminating a sufficient distance directly below the same to provide an intervening space to allow for the vertical play of the yieldingy-supported platform in cushioning the contents of the refrigerator-compartment; and the said spacing-bars 20 are supported by a horizontal rod 23 extending longitudinally of the compartment at opposite sides thereof and arranged adjacent to the inner faces of the bars 20.

The outer end bars 21, which are located adjacent to the end of the car, are provided with cushions 24, located at the ends of the bars and interposed between the same and the end of the car, and consisting, preferably, of spiral springs. The inner end bars 22 are removable, and are provided with cushions 25, consisting, preferably, of spiral or coiled springs, and arranged to engage the top and bottom of the door-frame 26, and as the fruit is stored in the compartment, removable transverse bars 27 are interposed between the fruit-receptacles and the bars 22. These end bars 21 and 22 form end cushions for the rack or platform 17^a and prevent the fruit or other contents of a car from being bruised or injured when cars come in contact.

In order to prevent the contents of the compartment from coming in contact with the uprights 17, vertical bars 28 are located in front and in rear of the said uprights, and are connected near their upper ends by lon-

gitudinal bars 29, and have their lower ends suitably secured to the adjacent transverse bars of the yieldingy-mounted rack or platform. These bars 28 form a guard and prevent the contents of the compartment from coming in contact with and binding against the central supports of the ice pan or receptacle.

The compartment is provided at its inner end with upper and lower doors 30 and 31, which are preferably hinged and arranged to swing downward, but which may be constructed to open in any suitable manner. These doors are hinged at their lower edges, and when closed have their upper edges engaged by a pivoted button or any other suitable fastening device.

The door 12 at the inner end of the ice pan or receptacle 4 is hinged at its lower edge to the bottom of the pan, and is supported in a horizontal position by pivoted braces 32, located at opposite sides of the pan at the outer faces of the sides thereof, and provided with notches or shoulders 33 and 34, arranged to engage projections 35 of the side walls of the compartment. The recess or shoulder 33 is located adjacent to the hinged end of the bar 32, and is adapted to hold the door of the pan in its closed position, and the shoulder 34 is located adjacent to the other end of the bar 32, and is adapted to support the door in a horizontal position. When the door is in a horizontal position, it forms a shelf or support to facilitate the introduction of ice into the pan or receptacle, and any suitable hoisting apparatus may be employed for raising the ice from the bottom or floor of the car to the ice-pan.

In the accompanying drawings horizontal rods 36 are shown at opposite sides of the car, and each is provided with a pulley adapted to be shifted from one compartment to the opposite one, and over which may be thrown a rope for hoisting the ice.

It will be seen that the refrigerator-compartments are adapted to be loaded or unloaded or supplied with ice separately without exposing the entire contents of a car to the action of the warm atmospheric air when access is desired to only a portion of it. It will also be apparent that the entire contents of the car may be thoroughly subjected to the action of the cool currents of air caused by ice in the ice pans or receptacles, and that the openings of the latter cannot become accidentally closed or partially closed. The gutter surrounding the opening of each ice pan or receptacle receives the water resulting from the melting of the ice and conveys the same away from the ice to the discharge pipe or tube, and as the latter is provided at its upper end with a sponge or other absorbent material it prevents the outside atmospheric air from entering the car and raising the temperature of the same.

The yieldingy-supported platform or rack is capable of vertical and longitudinal

movement, and is cushioned therein, and is adapted to prevent fruit and the like from being bruised or otherwise injured.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What we claim is—

1. A refrigerator provided at its top with an ice pan or receptacle, comprising vertical sides and ends and a bottom having a longitudinal opening and provided with an upwardly-extending flange surrounding the opening, combined with screens disposed vertically above the flange and extending the entire length of the pan or receptacle and forming an intervening air-space open at the top to permit an unobstructed circulation of air through the pan, said screens having their upper edges arranged in the same plane as the upper edges of the sides of the pan, vertically-disposed posts arranged within the space between the screens and extending from the upper edges of the latter to the lower edges of the flanges of the bottom of the pan, and means for securing the screens to the posts, substantially as described.

2. In a refrigerator, the combination of a platform provided with a longitudinal opening and inclined at opposite sides of the opening, transverse bars 15 supporting the platform and extending across the opening thereof, an ice pan or receptacle comprising vertical sides and ends, and a bottom having a longitudinal opening registering with the opening of the platform and sloping at opposite sides of the opening to fit the platform,

said bottom being provided at opposite sides of the opening with depressions or gutters 7 arranged in the opening of the platform and supported upon the transverse bars 15, screens extending upward from the bottom of the pan at opposite sides of the opening from one end of the pan to the other, and vertical posts arranged at intervals between the screens, substantially as described.

3. The combination of a car, provided with a refrigerator-compartment, a rigid platform arranged at the upper portion thereof, an ice-receptacle mounted on the platform, uprights supporting the center of the platform, a yielding-mounted platform arranged at the bottom of the compartment and supported by springs, the vertically-disposed bars 28, mounted on and movable with the yielding platform and located at intervals adjacent to the uprights and suitably connected and forming a shield to prevent the contents of the compartment from coming in contact with the uprights, and the end bars 21 and 22 carried by the platform and provided with springs interposed between them and the walls of the compartment, substantially as and for the purpose described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOSEPH THOMAS.

JACOB M. TRUBY.

Witnesses for Joseph Thomas:

JOHN H. SIGGERS,

W. B. HUDSON.

Witnesses for Jacob M. Truby:

W. ELLERY DAVIS,

ANDREW FLORENS.