

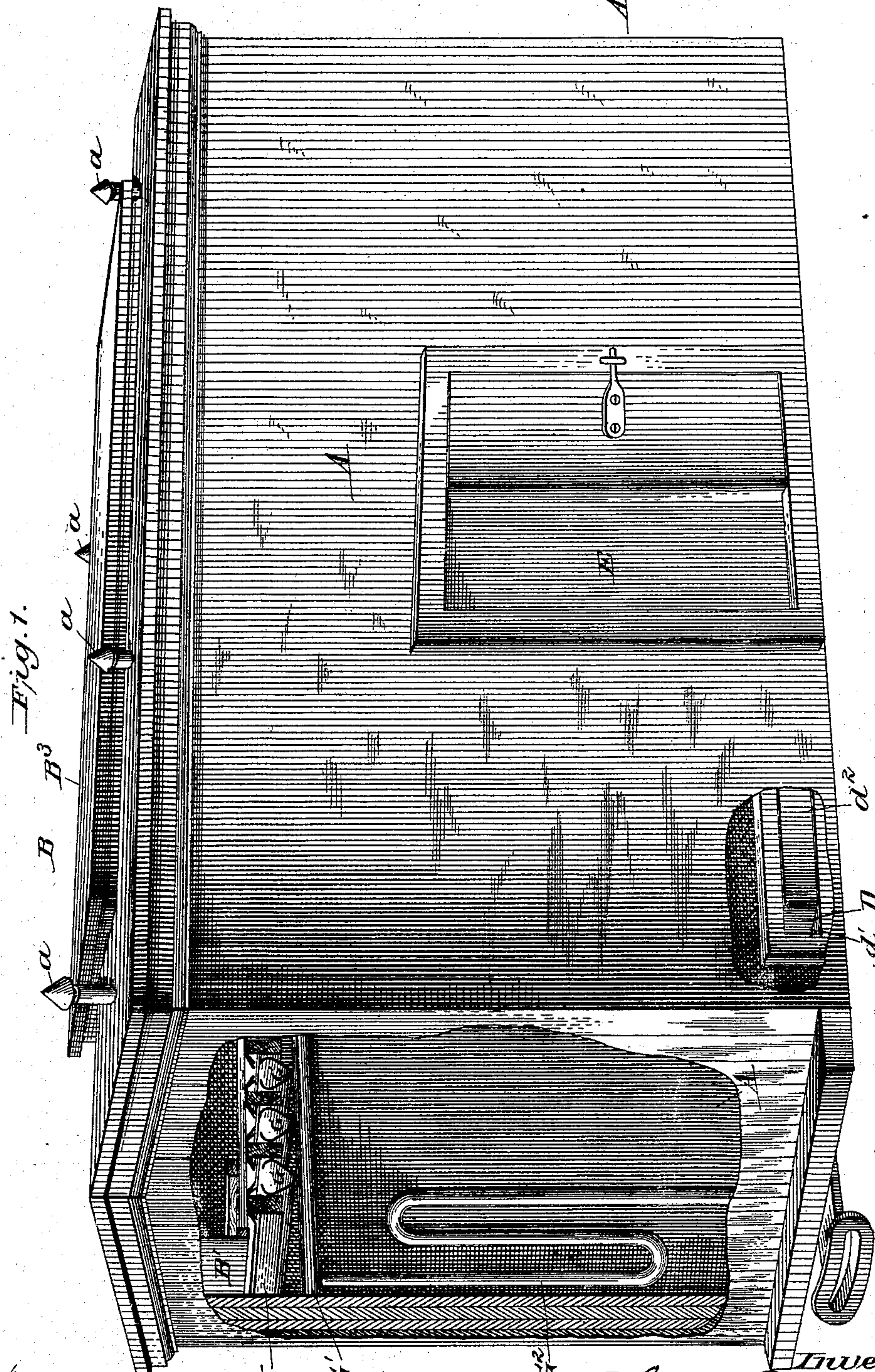
(No Model.)

2 Sheets—Sheet 1.

L. RUTTER.
REFRIGERATOR CAR.

No. 283,150.

Patented Aug. 14, 1883.



Witnesses:
A. M. Long,
Gomer Jones

Inventor.
Levi Rutter
per Hauck & Hauck
Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

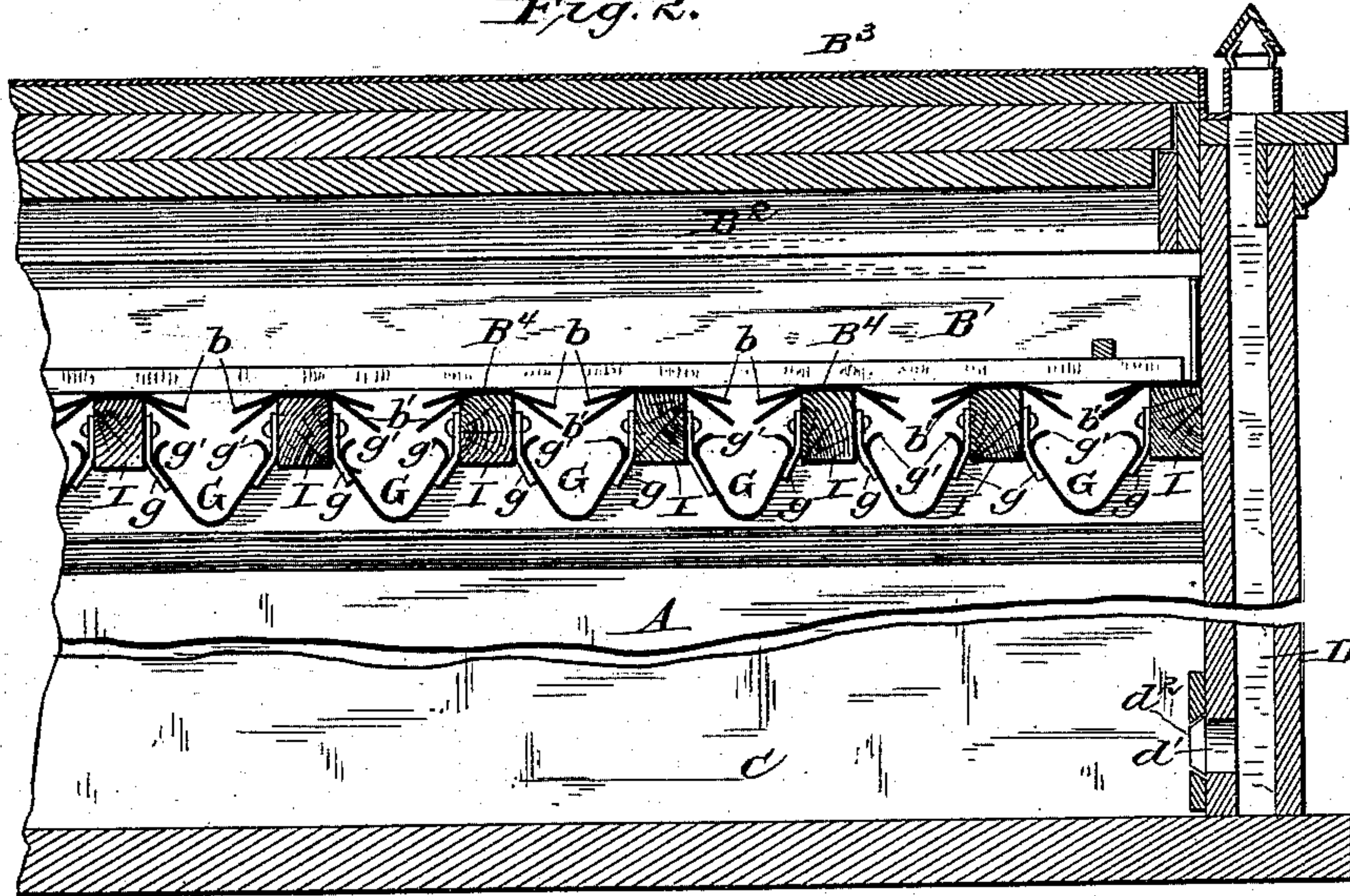
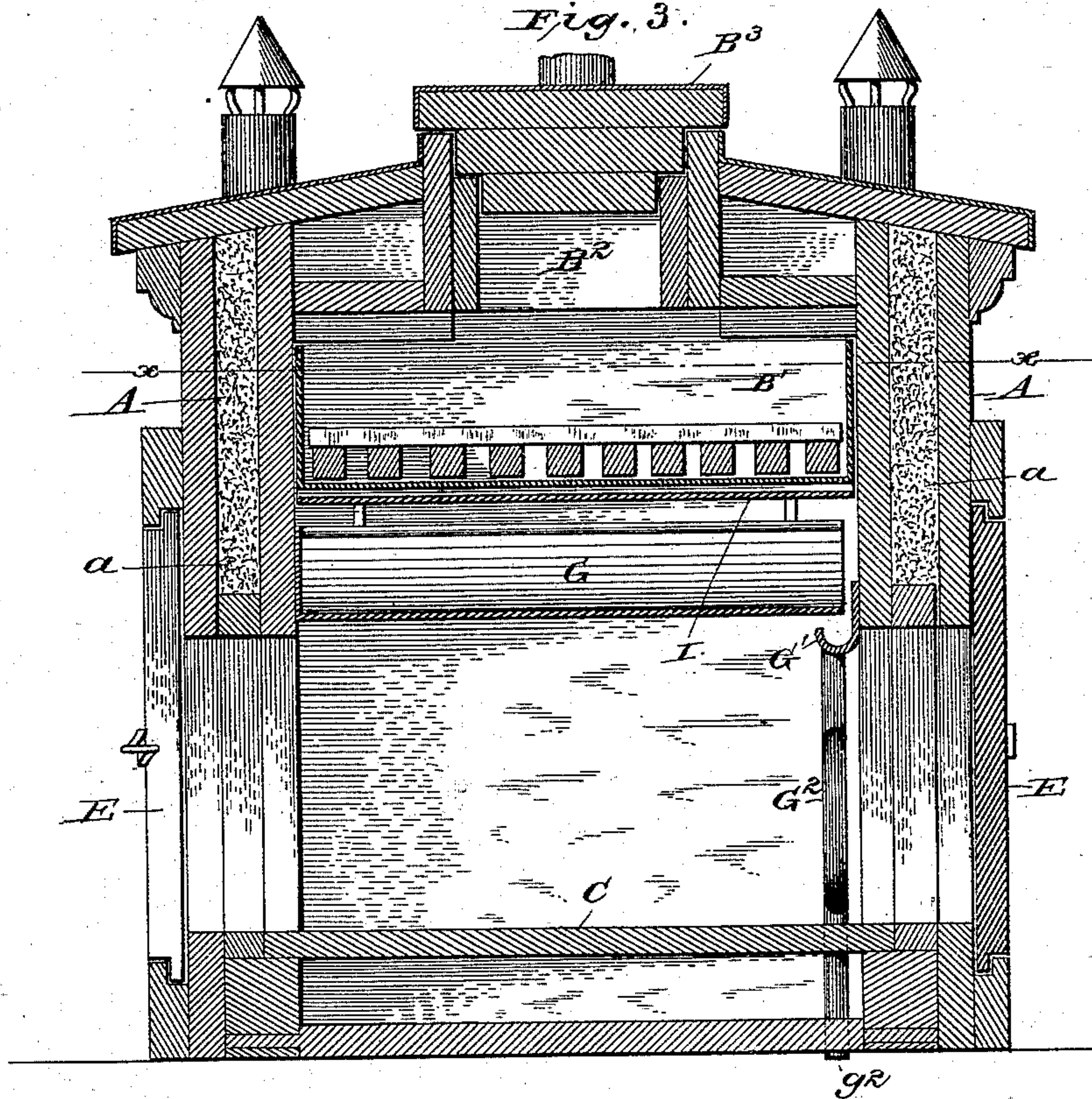


Fig. 3.



Witnesses:
A. M. Long,
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UNITED STATES PATENT OFFICE.

LEVI RUTTER, OF NEWMANSTOWN, PENNSYLVANIA.

REFRIGERATOR-CAR.

SPECIFICATION forming part of Letters Patent No. 283,150, dated August 14, 1883.

Application filed March 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, LEVI RUTTER, a citizen of the United States, residing at Newmans-town, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in 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 relates to refrigerator-cars; and it consists of parts and combination of parts, all as will hereinafter be described.

Referring to the drawings, Figure 1 represents a perspective with parts broken away to show the interior; Fig. 2, a longitudinal section through part of the car, and Fig. 3 a cross-section of the car on a line through the doors.

A, A, A, and A are the walls of the cars, B the roof, and C the floor, all forming the ice-receptacle and storing-space for freight. The walls are of two thicknesses and provided with spaces *a*, which are filled with any suitable non-conducting substances—such as saw-dust. At suitable intervals in the spaces *a* are formed passages D, which extend from near the bottom of the freight-space upwardly through the roof B. The upper end is provided with a cowl, *d*, which may be of any of the well-known forms, and pivoted in such a manner as to be turned in any desired direction by the hands or the motion of the car. The lower end of these passages D open into the freight-space at *d'*, and are provided with slide-valves *d''*, for regulating the size of the openings *d'*. The motion of the car will create to a limited extent a draft through the passages D, and exhaust as far as possible all air within the freight-space. It will also prevent the collection of warmer strata of air in the upper part of the freight-space as the air is drawn from the bottom, and the warmer air will naturally seek the outlet before the cold air. Therefore the cold air, while descending from the ice-receptacle, will not be met by ascending currents of warmer air, as would be the case if the inner end of the passages terminated near the upper part of the freight-chamber.

In practice it may be desirable to regulate

the draft which exhausts the air from the freight chamber or space, and to accomplish this I provide the slides *d''* above referred to. These slides move in ways attached to the side of the car, around the openings *d'*, which may be closed to any desired extent, or entirely closed.

Suitable doors, EE, are provided at each side of the freight-space; but it is obvious that doors may be placed in the ends, if desired. Above the doors are beams I, which extend from side to side of the cars, and are attached in any suitable way. Between the beams and the roof is the ice-receptacle B', which may be lined with any suitable metal, and is provided with an opening, B², which may be of any suitable size, and closed by a cover, B³.

Upon the bottom of the ice-box is a wooden frame, which protects the bottom from the ice dropped through the opening in the top of the ice-receptacle. The bottom B⁴ of the ice-receptacle rests upon the beams I, and is provided with slits *b*, which allow the waste water and the cool air from the ice to pass from the ice-receptacle to the freight-space. Upon the under side of the parts of the bottom which project beyond the beams and form the edges of the slits *b* are attached thin sheets of metal *b'*, which project downwardly and inwardly toward the troughs, for a purpose that will hereinafter be explained.

Suspended between the beams by means of ears *g* are inclined troughs G, which are closed at their upper and open at their lower ends. The edges of the trough are curled inwardly upon themselves, as at *g'*, to form an angle which will catch the water that would otherwise splash out of the trough into the freight-space and damage the goods contained therein if the edges were not so curled. When the cars are started, moving, or have come to halt, the sheets *b'*, above referred to, also serve to keep the water which might splash against the bottom *b* from running into the freight-space, as they are inclined toward the center of the troughs, and any water that may be splashed upon them by the motion of the car or the stopping and starting of the same will run down the inclined sides to the troughs, over which they hang. The water, running from the troughs, passes into a long inclined

trough, G' , placed parallel to the side next to the lower and open end of the inclined troughs.

At the lower end of the inclined trough G' is a pipe, G^2 , which opens into the trough and conveys the water therefrom. This pipe is arranged in folds, the upper ends of which reach to near the under side of the troughs, to retain the cold water therein as long as possible, and at the same time form a water-seal, which prevents air from entering the car by way of the lower end, g^2 , of pipe G^2 , which terminates outside of the car, so that the water will have no access to the car by this means.

I am aware that the metal surrounding the slit in the floors of ice-boxes in refrigerator-buildings have been inclined like that part surrounding the slit b of my floor, and for the same purposes, but am not aware that sheets of metal, b' , have been placed below the slits, to catch the water thrown from the trough by the motion of the car and return it to the troughs.

I am also aware that air has been drawn from near the bottom of a refrigerator-building, and to that I make no claim; but

What I claim is—

1. In a refrigerator-car, the combination of an ice-receptacle having a bottom provided with slits, and inclined plates $b b'$ below said slits, the walls of which, g' , form with the inclined plates a double check for the water, and inclined troughs placed below said slits and inclined plates, substantially as described.

2. In a refrigerator-car, the combination of

an ice-receptacle having a bottom provided with slits, and inclined plates $b b'$ below said slits, the walls of which form with the inclined plates a double check for the water, and inclined troughs having curled edges and placed below said slits and inclined plates, substantially as described.

3. In a refrigerator-car having its outlet closed, as described, the combination of an ice-receptacle placed in the top of the car, and having slits for the water to pass through, troughs placed below the slits, and having a waste-pipe coiled in the car, and exhaust-pipes operated by the movement of the car, and withdrawing air at or near the bottom of the car, substantially as described.

4. A refrigerator-car having an ice-chamber provided with a slotted floor, and inclined plates $b b'$ on each side of the slot, inclined troughs beneath the slots in the floor, a freight-space having a longitudinal trough placed at the lower end of the inclined troughs, and a coil of pipe for drawing the longitudinal trough, and exhaust-passages operated by the movement of the car, and withdrawing the air at or near the bottom of the car, which is closed, substantially as described.

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

LEVI RUTTER.

Witnesses:

WM. L. IBACH,
Z. M. KAUFMANN.