

A. BETTRIDGE.
Refrigerator.

No. 208,148.

Patented Sept. 17, 1878.

Fig. 1.

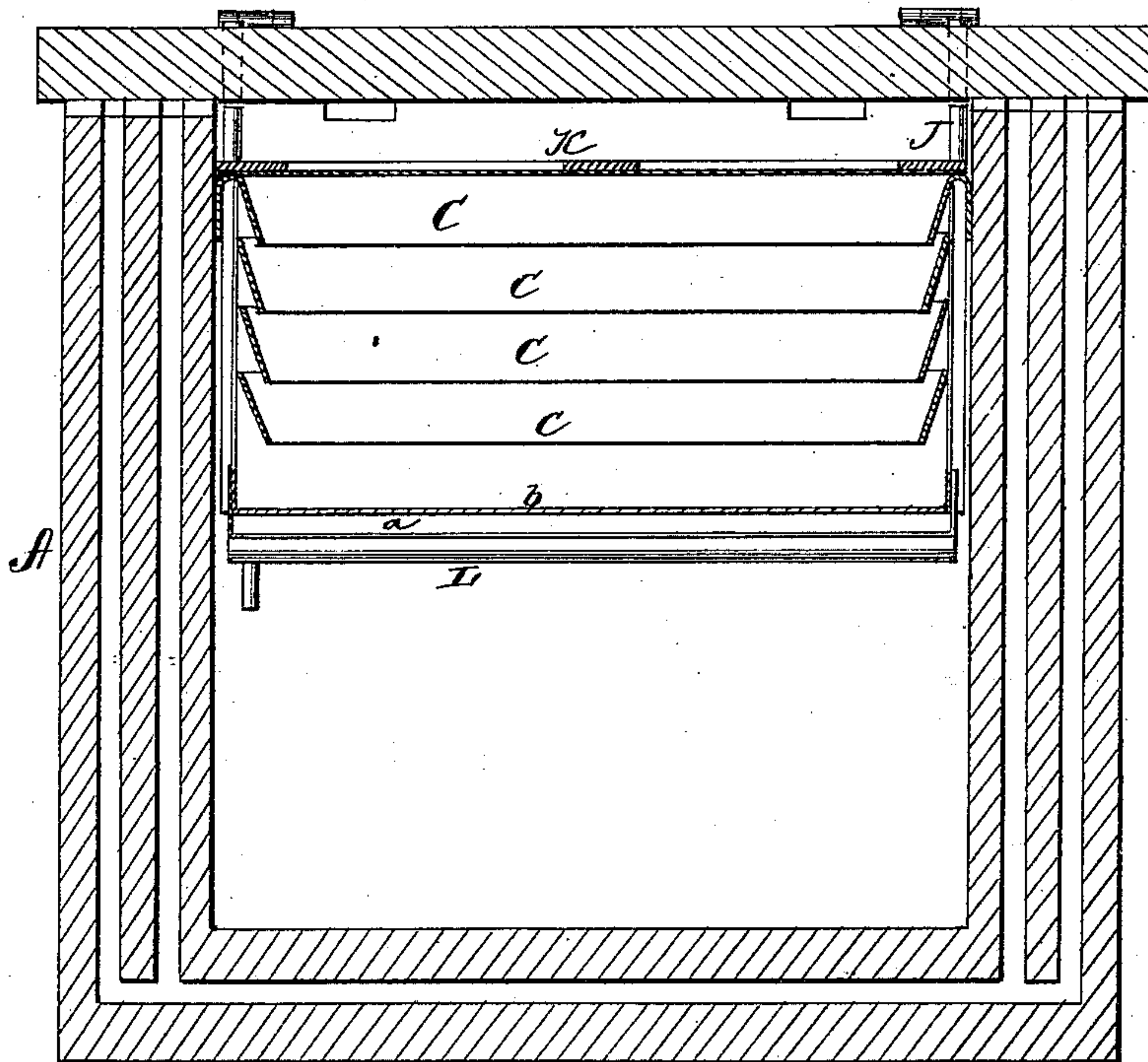
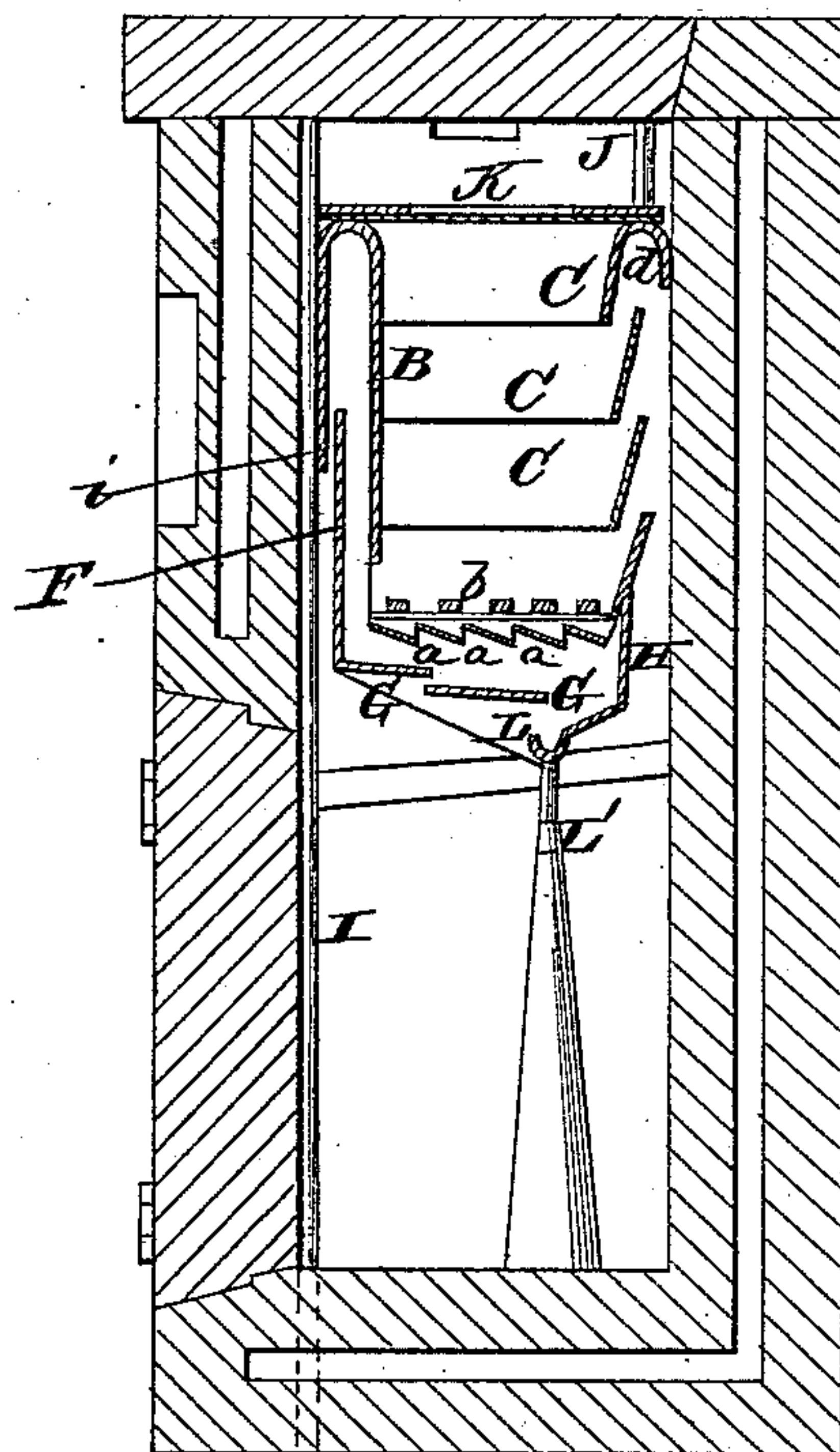


Fig. 2.



WITNESSES
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ABRAHAM BETTRIDGE, OF RACINE, WISCONSIN.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **208,148**, dated September 17, 1878; application filed July 10, 1878.

To all whom it may concern:

Be it known that I, ABRAHAM BETTRIDGE, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Refrigerators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to refrigerators; and it consists in an ice-chest composed of a series of bottomless tapering pans, arranged above each other, and one within the other, and connected by a single vertical front, combined with inclined bottom strips, to form flues; and also in a waste-pipe made tapering, so as to be wider at the bottom than at the top, all as hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a longitudinal vertical section of my improved refrigerator. Fig. 2 is a transverse vertical section of the same.

A represents the casing of the refrigerator, constructed in any desired manner, so as to be non-conducting and air-tight. The ice-pan is composed of a front plate, B, and a series of inclined plates, C C, for each end and rear, as shown; or, in other words, the ice-pan consists of a series of tapering bottomless pans, C, placed so that the lower end of each pan will be within the wider upper end of the pan below, the entire series of pans complete being connected by a vertical continuous front, B. The lower pan has a bottom composed of inclined strips *a a*, upon which is laid the grate *b*, for supporting the ice. The top pan is provided around its upper end with a flange, *d*, as shown, to form the connection with the outer casing. At the front this flange is extended downward, as shown, and between the same and the front B of the ice-pan is a diaphragm, F, of wood or other non-conducting material, said diaphragm being so ar-

ranged that between it and the front of the refrigerator there will be formed a flue, *i*, as shown.

The diaphragm F is connected with inclined strips G below the strips *a*, and a piece, H, extends up at the back above the lower edge of the bottom pan.

The flue *i* is the upward or warm-air flue, with the non-conducting diaphragm F dividing it from the ice-chest, and conveying the warm air to the top of the chest, where it strikes the metallic side B thereof, and condenses the moisture, thence flowing around and condensing further on the slanting metal casing C on the ends and back, thence downward and underneath the slatted bottom *b a* G of the ice-chest, and into the cooling-chamber below.

I represents ventilating-tubes, for changing the atmosphere in the box, which only act when the top ventilators, J, are open.

K is a cover for the ice-chest, consisting of a frame covered with cloth or felt, for the purpose of confining the air and preserving the ice.

L is a trough for receiving the water condensing upon all parts of the ice-chest and from the ice.

L' is the pipe for carrying off the waste-water from the ice, said pipe being made wider at the bottom than at the top, for the purpose of preventing any stoppage of the same with sawdust or anything that may flow from the ice, this pipe to terminate in a trap or cup, to prevent the admission of air.

The fresh-air tubes I pass from the bottom of the box to the top of the ice-chest, and, being under control, insure perfect ventilation and complete condensation of all superabundant moisture in the ice-chest itself, thus producing a dry and pure, as well as cool, atmosphere in the keeping-room.

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

1. In a refrigerator, an ice-chest composed of a series of bottomless tapering pans, C C, arranged above each other, and one within the other, as shown, and connected by the

single vertical front B and the inclined bottom strips *a G*, whereby descending flues are formed to facilitate the cooling of the warm air, condense and retain the moisture, and give free passage for the descending flow of cold air, substantially as herein set forth.

2. The waste-pipe, made tapering, so as to be wider at the bottom than at the top, for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of June, 1878.

ABRAHAM BETTRIDGE.

Witnesses:

W. T. VAN PECK,
JOHN BARY.