

(No Model.)

J. ALEXANDER.
REFRIGERATOR.

No. 251,494.

Patented Dec. 27, 1881.

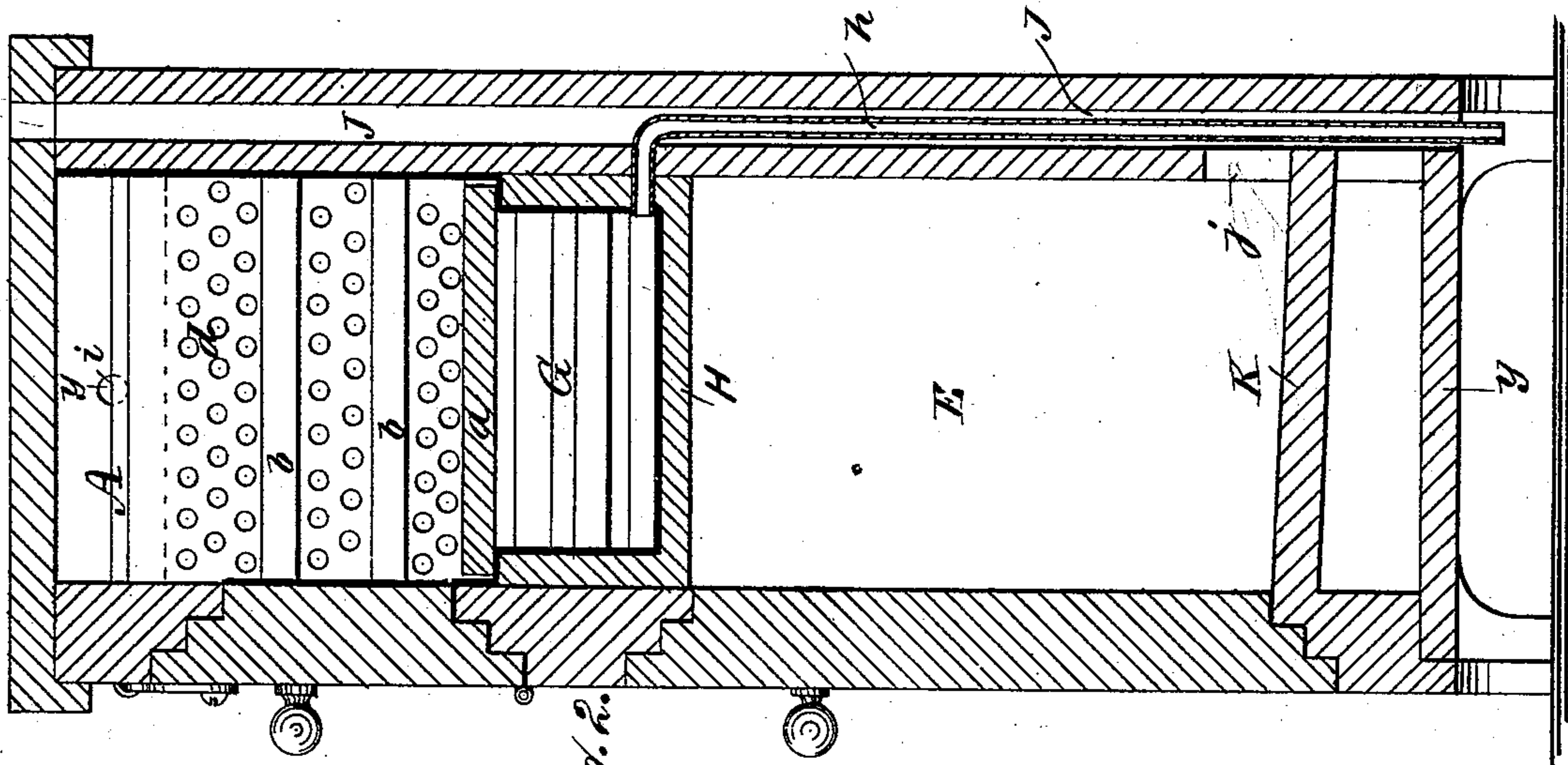


Fig. 2.

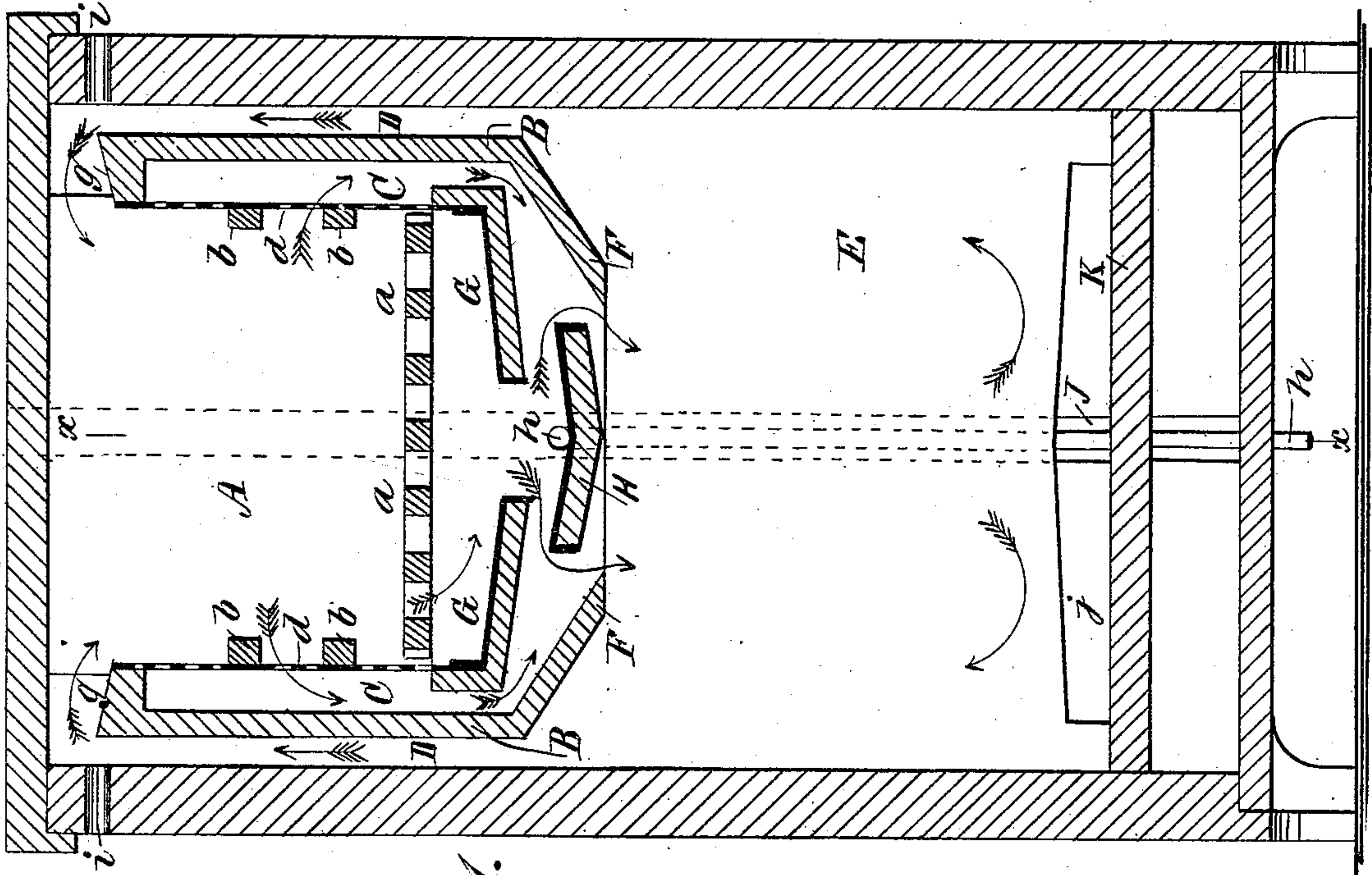


Fig. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN ALEXANDER, OF TORONTO, ONTARIO, CANADA.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 251,494, dated December 27, 1881.

Application filed November 18, 1881. (No model.) Patented in Canada August 14, 1880, and September 24, 1881.

To all whom it may concern:

Be it known that I, JOHN ALEXANDER, of Toronto, in the Province of Ontario and Dominion of Canada, have invented a new and useful Improvement in Refrigerators, of which the following is a full, clear, and exact description.

The object of my invention is to provide a refrigerator that will secure as much as possible the direct effect of the ice and prevent the currents of warm and cold air coming in contact and mingling with each other, and one which will be perfectly ventilated, and will thus maintain a pure atmosphere within the cooling or provision chamber.

My invention consists of an open ice-rack at the top of the refrigerator, separated from the provision-chamber by a watershed and trough, which permit the free downward passage of cold air into the provision-chamber, and at the same time catch and conduct off all drip from the ice, the sides of the ice-box being slotted adjacent to vertical partitions in such manner as to form side passages for the downward currents of cold air, the lower edges of the boards being provided with deflectors for turning the downward currents toward the center of the provision-chamber, and for guiding the upward currents to passages or flues formed by the said partitions and the walls of the refrigerator, from whence the air returns to the ice rack or box, to be again cooled and to descend again to the provision-chamber.

The invention also consists of a ventilating-flue located in the back of the refrigerator, and leading from the bottom of the provision-chamber to and out of the top of the refrigerator, the bottom of the refrigerator being made to slant from the front of the refrigerator to the rear, where the ventilating-flue opens, the top of the refrigerator being provided with suitable air-inlets to admit sufficient air from the outside to keep up the circulation.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional elevation taken on the line *y y* of Fig. 2, and Fig. 2 is a sectional elevation taken on the line *x x* of Fig. 1.

The ice-box A is formed above the provis-

ion-chamber E, of the bottom slats, *a a*, and the side slats, *b b*. The side slats are secured a suitable distance from the partitions B B to form the cold-air passages C C, and these partitions are secured a suitable distance from the side walls of the refrigerator to form the warm-air passages D D. Back of the slats *b b* are placed the foraminous plates *d d*, which prevent small pieces of ice and all other substances from the ice-box entering the passages C C and the provision-chamber through said passages.

To the lower edges of the partitions B B are secured the boards F F, which slant toward the center of the refrigerator and serve to deflect the downward currents of cold air from the ice-box into the center of the provision-chamber, as indicated by the arrows, and they also serve to direct the upward currents of warm air from the provision-chamber to the warm-air passages D D, and thus divide the currents and prevent them coming in contact and mingling with each other. The warm-air passages D D communicate with the ice-box by the passages *g g*, formed above the partitions B B, so that the warm air from the provision-chamber, after passing up through the passages D D, enters the ice-box and becomes cooled from contact with the ice and descends again into the provision-chamber.

Below the bottom slats, *a a*, are secured the water-sheds G G, the inner edges of which reach over the drip-trough H and serve to conduct the drip from the ice into the said trough, from which it is conducted away out of the refrigerator through the pipe *h*, which passes down the ventilator-flue J, as clearly shown in Fig. 2. This ventilator-flue J is a passage formed in the rear wall of the refrigerator, and extends from the bottom of the provision-chamber to and out of the top of the refrigerator, as shown. The rear wall of the provision-chamber is cut away at the bottom, as shown at *j*, to facilitate the outflow of the vitiated air, and the bottom K of this chamber is made slanting downward from the front of the refrigerator to said cut-away place; also, to facilitate the outflow of the vitiated air and to conduct off any condensation which may collect on the walls and bottom of the refrigerator.

At or near the top of the refrigerator are formed the passages *i i*, for admitting external

air to the refrigerator, which tends to drive out the vitiated air and supplies its place with pure air, and thus keeps up the proper circulation.

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

1. In combination with the partitions B B, arranged to form the passages D D, and the ice-box A, formed of the slats *a* and *b*, the sheds G G, the deflectors F F, and the drip-
10 trough H, the slats *b* being arranged to form the passages C C, substantially as and for the purposes set forth.

2. The rear wall formed with the flue J and cut-away place *j*, in combination with the inclined floor K, substantially as and for the pur-
15 poses set forth.

3. The deflectors F F, in combination with the ice-box, and partitions B B, arranged to form the cold-air passages C C and the warm-
20 air passages D D, substantially as and for the purposes set forth.

4. In combination with the water-sheds G G, the drip-trough H, having the discharge-pipe *h*, passing through the flue J, substantially as described.

5. The ice-box A and the partitions B B, ar-
25 ranged to form the passages C and D and *g g*, the partitions being provided with the deflectors F F, in combination with the passages *i i*, flue J, cut-away place *j*, and the inclined floor
30 K, substantially as and for the purposes set forth.

JOHN ALEXANDER.

Witnesses:

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