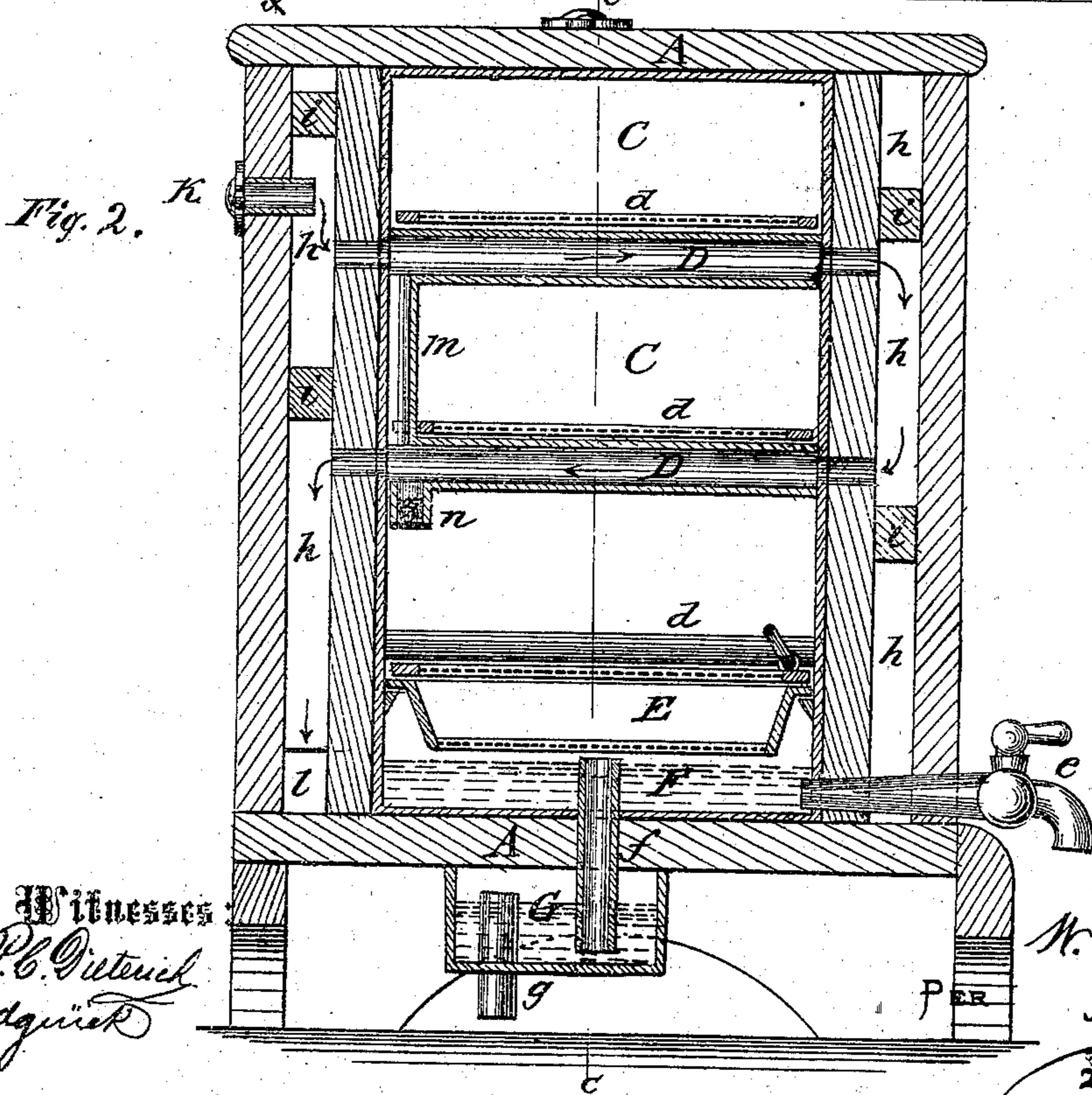
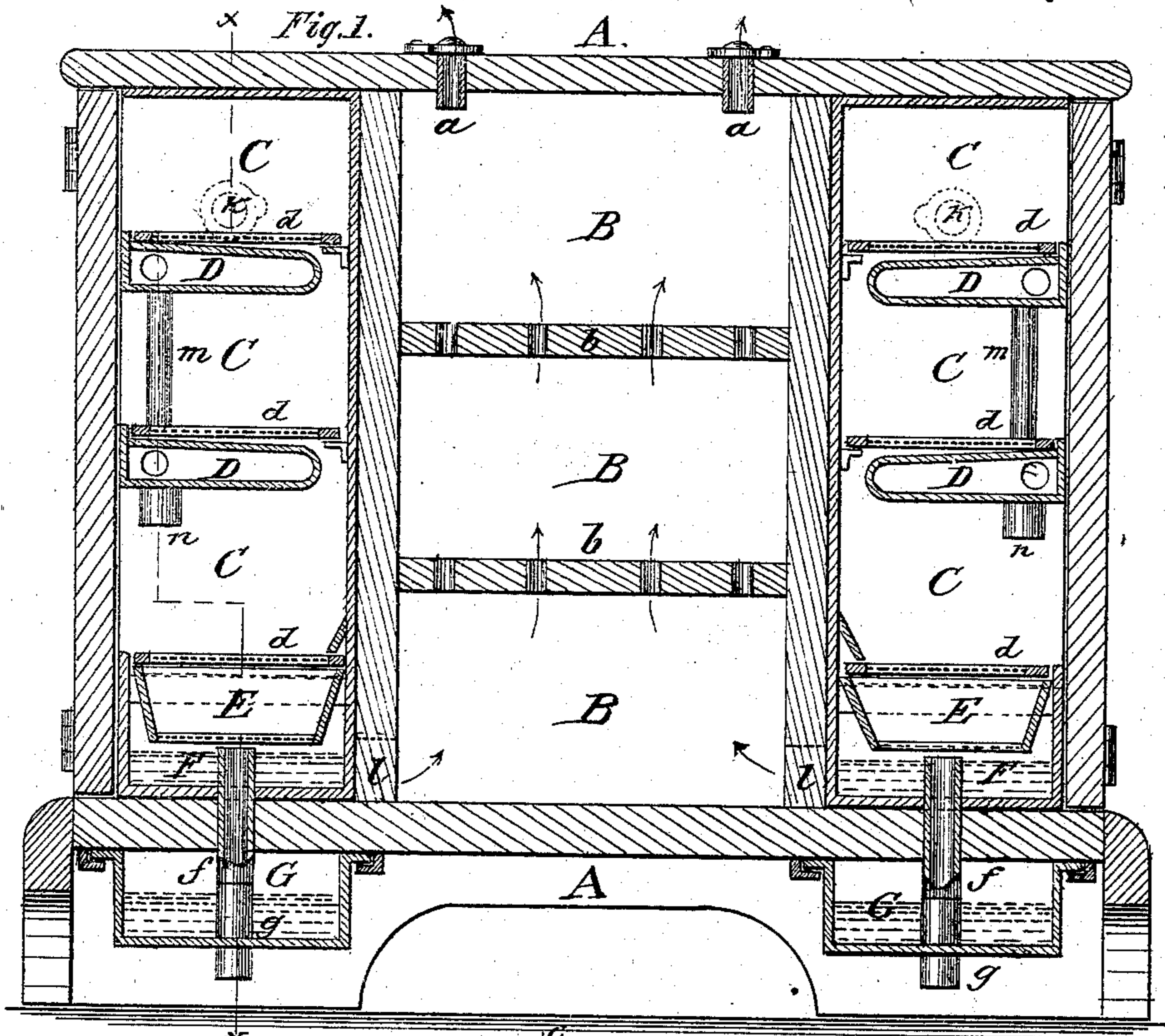


W. M. BAKER.
Refrigerators.

No. 138,553.

Patented May 6, 1873.



Witnesses:
P. B. Dietrich
C. Sedgwick

Inventor:
W. M. Baker
Munn & Co
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM M. BAKER, OF FORTVILLE, INDIANA.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **138,553**, dated May 6, 1873; application filed March 1, 1873.

To all whom it may concern:

Be it known that I, WILLIAM M. BAKER, of Fortville, in the county of Hancock and State of Indiana, have invented a new and Improved Refrigerator, of which the following is a specification:

Figure 1 is a vertical section of my improved refrigerator on the line *c c*, Fig. 2, and Fig. 2 is a vertical transverse section of the same through the ice-chambers on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish to the public a refrigerator which cools the air in such a manner that the same is carried dry, fresh, and cold over the provisions stored therein, for the better preservation of the same; also the ice-water to be collected, filtered, and used to advantage.

The principal objection to the filters in use are, that the air being in contact with the ice and ice-water takes up a great deal of the moisture and hastens thereby the spoiling of the provisions by producing circumstances favorable to fermentation; the foul air is not sufficiently replaced by pure air, which imparts disagreeable noxious tastes to the provisions; also the ice-water is allowed to run off without being made use of at all.

This I aim to avoid by my refrigerator, which consists of three distinct parts, the provision-chamber, the air-chamber, and the ice-chamber. The air is cooled by the ice around the ice-chamber without coming in contact with it and passes through apertures into the provision-chamber and out again. The ice-water is collected, filtered, and drawn off for use in such a manner that the water may escape but no air enter to the air-chamber.

In the drawing, A represents the body of the refrigerator, which may be divided into two or three parts, the provision-chamber B, and one or two ice-chambers, C, at the sides of the same. Plain shelves *b* divide again the provision-chamber, which are perforated suitably to allow the passage of the cold air

and its escape through holes *a*, with sliding covers in the top of the refrigerator. The outer surrounding sides and doors are constructed in the customary manner as non-conductors. The ice-chambers C contain perforated shelves *d*, on which the ice is placed. Air-chambers D with inclined sides are arranged below the upper shelves *d*, so that the ice-water dripping on them cools the air circulating in them and runs off to collect in the lower part of the ice-chambers C. Suitable doors lead to the ice and provision-chambers. A filter, E, under the lower shelf *d*, cleanses the ice-water and passes it into reservoir F, from which it may be drawn off by stop-cocks *c*. Pipes *f* lead the surplus ice-water through the bottom of the refrigerator into trap-chambers G, attached, movably, to the bottom thereof, from which the surplus water again escapes by pipes *g*. No air can by this arrangement enter into the ice-chambers C, which causes a slower melting of the ice and a considerable saving in the consumption of the same. Between the outer non-conducting sides of the refrigerator and the interior sides of the ice-chambers C are air-spaces, *h*, which are separated by cross-pieces *i*, so that the air which is admitted through apertures K is compelled to circulate through the cold-air chambers D. The cold air sinks to the bottom of the air-spaces, and is admitted through openings *l* into the provision-chamber B, passing up through the shelves *b*, as before mentioned. Arrows indicate in Figs. 1 and 2 the current of air. The air-chambers D are further connected by small tubes *m*, which are closed at their lower ends by receptacles *n*, containing a sponge or other absorbent material for the purpose of collecting the moisture condensed on account of the reduction of temperature in the air-chambers.

The wedge-like shape and inclined sides of the air-chambers serve not only to convey the moisture collected at the inner surface to the receptacles *n*, but allow also the free running off of the ice-water dripping on the outer sides.

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

1. The air-spaces *h* between the outer sides of the refrigerator and interior sides of ice-chambers *C* divided by cross-pieces *i*, in connection with the air-chambers *D*, apertures *k* and *l* for the free circulation of the cooled air, substantially as described.

2. The arrangement of one or more air-chambers, *D*, having inclined sides, for the purposes described.

WM. M. BAKER.

Witnesses:

D. T. WYNN,
A. C. DAVIS.