Blake & Mosher,

Refrigerator,

No. 45,690, Patented Jan. 3, 1865.

Fig. 1

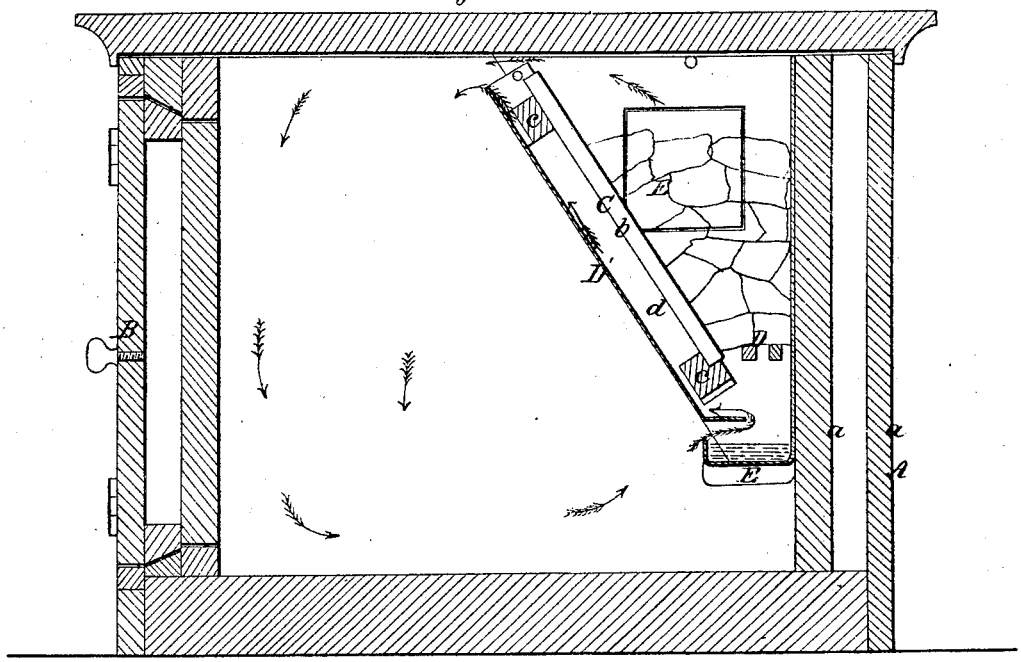
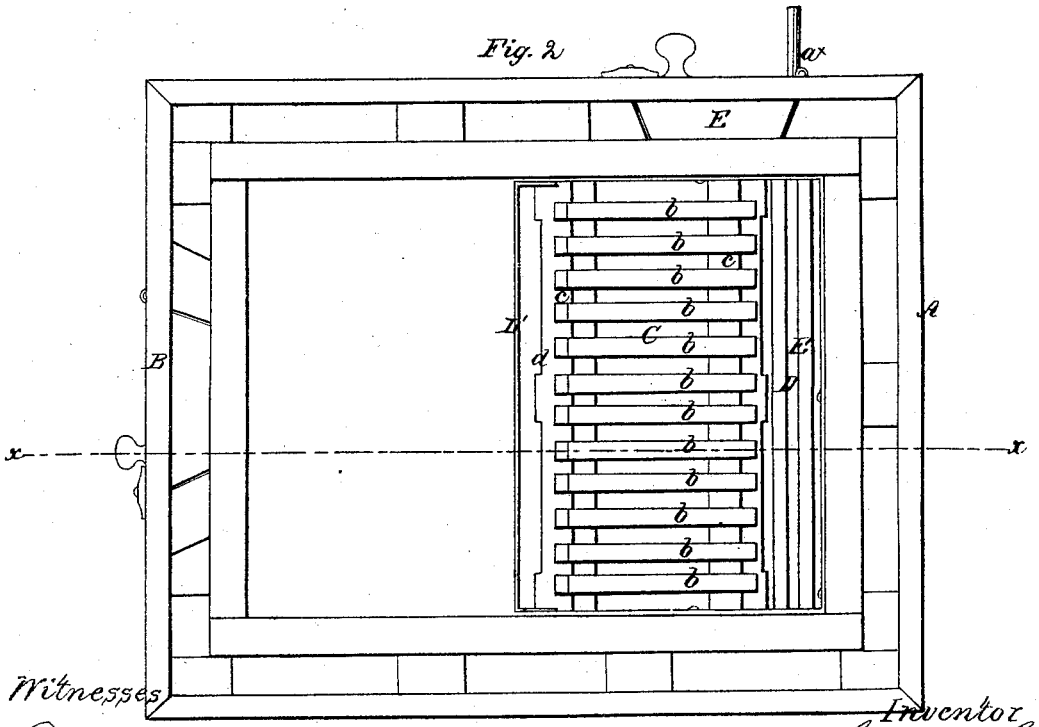


Fig. 2



Witnesses

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THOMAS S. BLAKE AND OMEN E. MOSHER, OF NEW YORK, N. Y.

IMPROVED REFRIGERATOR.

Specification forming part of Letters Patent No. **45,690**, dated January 3, 1865; antedated February 12, 1864.

To all whom it may concern:

Be it known that we, THOMAS S. BLAKE and OMEN C. MOSHER, of the city, county, and State of New York, have invented a new and Improved Refrigerator or Ice-House for Preserving Meats and Vegetables; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of our invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same with the top removed.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a new and improved refrigerator, which is principally designed for operation on a large scale for the use of butchers, &c.

The invention consists in a novel and improved arrangement of an ice-chamber with the provision-chamber, as hereinafter fully shown and described, whereby great economy is obtained in the consumption of ice, and at the same time the construction of the refrigerator or ice-house rendered extremely simple and economical.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a rectangular case or box, provided with double walls *a a*, having any suitable non-conducting substance between them, such as charcoal, chaff, &c. At one end of the case or box there is a door, B, through which the articles to be preserved are placed in the box or case.

C represents an inclined rack, which is placed within the case or box at its upper part and near one end of it. This rack, in connection with a slat bottom, D, forms an ice-chamber, which is supplied with ice through a door, E, in one side of the case or box. The rack C is inclined from its lower end upward and outward toward the door B, as shown clearly in Fig. 1. The rack C is formed of a series of slats, *b*, attached to two horizontal bars, *c c*, and at the outer side of said rack there is secured a sheet-metal plate, D′, between which and the outer side of the rack there is a space, *d*, which forms an air-chamber. Just below the slat bottom D there is a trough, E, which is slightly inclined, to carry off the water discharged from the ice-chamber, a hole being made in one side of the case or box to admit of said water passing out.

The ice-chamber, it will be seen by referring to Fig. 1, gradually diminishes in width from its upper to its lower end, owing to the inclination of the rack C, and the ice-chamber extends the whole width of the interior of the case or box, but is not much more than one-half the depth of the latter, and is consequently of much less dimension than the other portion of the case or box, which comprises the provision-chamber.

When the ice-chamber is supplied with ice, a current of ascending warm air will pass through the air-space or chamber *d*, and will be cooled as it issues from the upper end of *d*, and will descend by its gravity to the lower part of the provision-chamber to take the place of the ascending warm air, which, as it enters into the lower end of *d*, is compelled to pass over the water through E, the water in which, in consequence of being cold or much lower in temperature than the warm air, absorbs some of its heat and cools said air before it enters *d*. Thus the waste ice-water is made available as a cooling medium. This water is drawn from the trough E from time to time as the latter becomes filled, a plug or faucet, $a^{\times}$, being fitted in one side of the case or box for that purpose. By having the rack C inclined, as shown, a large cooling surface is presented to the air in passing through *d*, and at the same time the ice-chamber is quite of limited dimensions. If the rack C were vertical, and a broad bottom consequently provided for the ice-chamber, it will be seen that a less cooling-surface would be presented to the air in *d*, and of course a less quantity of ice presented to the rack C. The arrows in Fig. 1 show the direction of the current of air.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The arrangement of the air-chamber *d*, rack C, and conducting-plate D′, with the bottom D, water-trough and plate E, and box A, all in the manner herein shown and described.

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