A. F. BRONNER.

Refrigerator.

No. 162,793. Patented May 4, 1875.

Fig: 1.

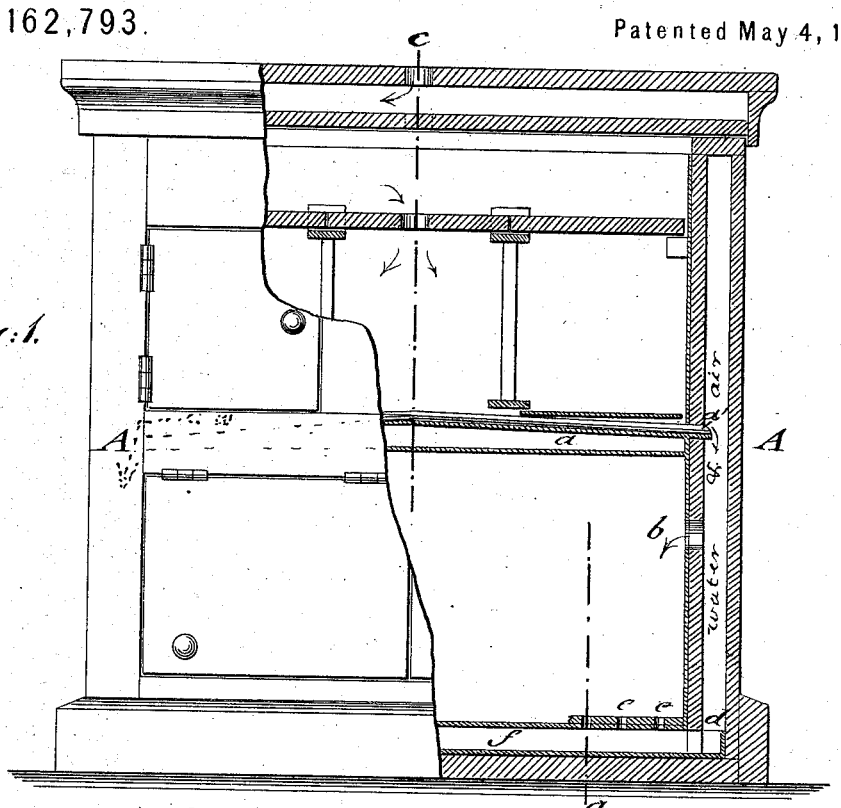
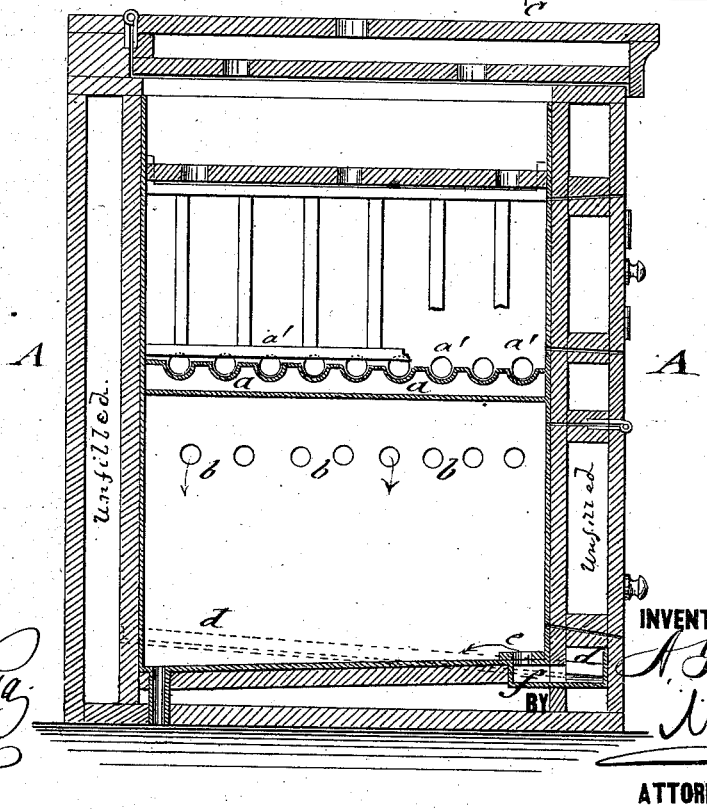


Fig: 2.



WITNESSES:

Chas. Lida.

A. F. Terry

INVENTOR:

A. F. Bronner

BY Munn & Co

ATTORNEYS.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

AUGUST F. BRONNER, OF NEW YORK, N. Y.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **162,793**, dated May 4, 1875; application filed April 3, 1875.

To all whom it may concern:

Be it known that I, AUGUST F. BRONNER, of the city, county, and State of New York, have invented a new and Improved Refrigerator, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional front elevation of my improved refrigerator; and Fig. 2, a vertical transverse section of the same on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved refrigerator for butchers, restaurants, grocers, hotels, &c., which has the advantages of rapid cooling, economy of ice, and entire absence of the sweating of the present ice-boxes. The invention consists of an ice-box with double unfilled walls, of which the side walls are employed for conveying the ice-water from the central and upper part to the bottom part, for utilizing the cooling effect on the air passing in the same direction. The drip-water is conveyed by inclined troughs or gutters of the side walls to a front channel, and then through perforations of the same over the inclined bottom to the rear exit-aperture.

In the drawing, A represents a refrigerator of any required size, provided with double but unfilled walls, the space between the walls being used for establishing the air-current and water-drip, keeping also the air therein cooled to such a temperature that the disagreeable sweating of the box is dispensed with. The refrigerator is divided into a lower main chamber, three intermediate chambers above the same, the middle one forming the ice-receptacle; and a smaller and less cool top chamber is provided for victuals and similar articles. The melted ice-water is conducted by inclined corrugated or trough-shaped bottoms *a* to perforations *a'* of the side walls, passing below the loose false bottoms of the side chambers, and keeping the same cool. The cold air passes from this receptacle, through the same perforations *a'*, to the hollow side walls, being cooled still more by the drip-water, and then conducted to the lower main chamber by a series of side perforations, *b*. The warm air enters by the top orifice, is distributed in the hollow lid, and passed through several inside orifices into the uppermost chamber, and thence, either directly or through the perforated cover of the ice-receptacle, to the ice, to be, by this circuitous route, gradually cooled off and conveyed in a cold state to the articles in the side and lower main chambers. The drip-water is collected on an inclined gutter or trough, *d*, at the bottom of the double side walls, and conducted forward to a connecting-channel, *f*, at the bottom of the front wall of the refrigerator. The water issues from the channel by perforations *e* to the inclined bottom of the main chamber, and passes by a rear channel and bottom aperture and pipe to the outside, to be conducted off in suitable manner. The doors are arranged in any convenient manner to suit the purposes for which the refrigerator is required, the double walls, with intermediate air-space and cold-air supply, keeping the refrigerator dry without sweating at the inside or outside, and at the required low degree of temperature, with a considerable economy of ice.

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

In refrigerators, the combination of a central ice-receptacle, by inclined troughs, with perforated double walls, bottom troughs, connecting and perforated front channel, and inclined bottom with exit-aperture, for conveying drip-water off after utilizing the same, substantially as and for the purpose set forth.

AUGUST F. BRONNER.

Witnesses:

PAUL GOEPEL,

JOSEPH KATZ.