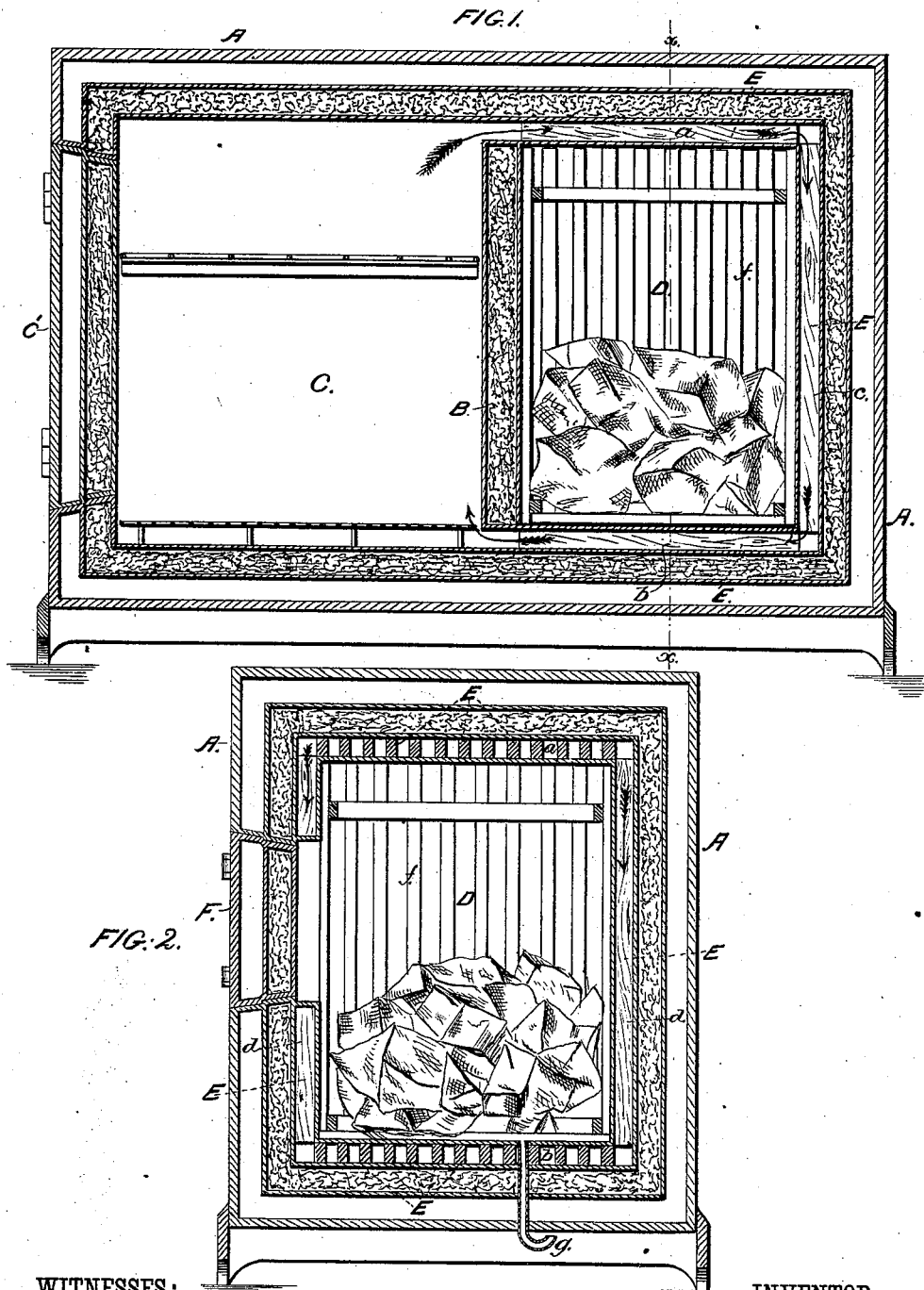


J. P. AST.
Refrigerator.

No. 215,859.

Patented May 27, 1879.



WITNESSES:

John F. C. President
Edw. W. B. Jr.

INVENTOR:

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UNITED STATES PATENT OFFICE.

JOSEPH P. AST, OF STAUNTON, VIRGINIA.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **215,859**, dated May 27, 1879; application filed April 2, 1879.

To all whom it may concern:

Be it known that I, JOSEPH P. AST, of Staunton, in the county of Augusta and State of Virginia, have invented a new and Improved Refrigerator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section. Fig. 2 is a vertical transverse section through the line *x x* of Fig. 1.

My invention is an improvement upon that form of refrigerator in which a metal ice-box is located in one end of the case, with a free space for the circulation of air around the top, sides, and bottom of the same, whereby the air from the refrigerating-chamber, in which the articles are to be stored, is made to pass over, down, and around the ice-box without coming in contact with the ice.

My improvement consists in combining, with the outer case of the refrigerator and the ice-box, a series of separated parallel strips equaling in thickness the space between the ice-box and outer case, and interposed between the same, whereby direction is given to the circulating currents, and whereby also the ice-box is braced and held in proper position, and the ice prevented from bending or straining the sheet metal of which said ice-box is composed.

In the drawings, A represents the exterior case of the refrigerator, which is made of wood, and may be of a small portable size, paneled to correspond with the furniture, or may be made on a large scale adapted to the requirements of large ice-houses.

The casing of the refrigerator may be made a non-conductor by any suitable packing or construction of case, and its inner surface is preferably lined with zinc.

B is a vertical partition-wall which divides the refrigerator into two chambers, one of which, C, is the refrigerating-chamber proper, and is provided with perforated shelves or trays for holding the dishes, and a side door, C', opening through the outer case for the insertion of the said dishes or articles to be preserved.

The other chamber formed by the partition is made to receive the ice-box D, which is made with zinc walls to permit the temperature of the ice to be transmitted through the same. All around this ice-box are left air-circulating spaces alternating with wooden strips E, which air-spaces communicate with the refrigerating-chamber both above and below the partition-wall. The strips surrounding the ice-box are arranged to give direction to the circulating currents, and also serve to brace and support the sheet-metal lining of the ice-box. The top strips, *a*, and bottom strips, *b*, are arranged parallel with each other and lengthwise of the refrigerator. The end strips, *c*, are arranged vertically and parallel with each other, so as to continue the air-spaces at the top to those at the bottom, around the ice-box, while the strips *d* on the sides allow of the descent of the air from the side spaces at the top to the side spaces at the bottom.

The air in circulating passes from the upper and warmer strata of the refrigerating-chamber over the partition-wall into the spaces between strips *a*, thence down between the strips *c* at the end, thence underneath the ice-box and into the refrigerating-chamber at a greatly-reduced temperature. At the same time, also, currents from the side spaces at the top descend through the spaces between the side strips, *d*, and return to the refrigerating-chamber to assist in the cooling effect.

To prevent the indenting or breaking of the lining of the ice-box, wooden strips *f* are arranged upon the inside, and for the insertion of ice into the same a door, F, is provided. For small refrigerators this door should be in the top wall, but for large refrigerators or ice-rooms it should be on the side, as shown.

To carry off the drip a siphon-trap, *g*, is arranged to communicate with the interior of the ice-box.

I do not claim, broadly, an ice-box located at one end of a refrigerator, so as to leave air-circulating space around the same, but only the arrangement of the parallel strips which are interposed between said ice-box and outer case to give direction to the circulating currents and to hold the ice-box in proper posi-

tion and brace the thin metal composing the same against the strains of the ice.

Having thus described my invention, what I claim as new is—

In a refrigerator, the combination, with the outer case and a metallic ice-box located in one end of the same, of a series of separated parallel strips interposed between the walls of the ice-box and the walls of the case, and

filling laterally the space between said walls, whereby direction is given to the circulating currents, and the ice-box is braced and held in position, substantially as described.

JOSEPH PHILLIP AST.

Witnesses:

JOHN M. CARROLL,
E. M. CUSHING.