

No. 641,351.

Patented Jan. 16, 1900.

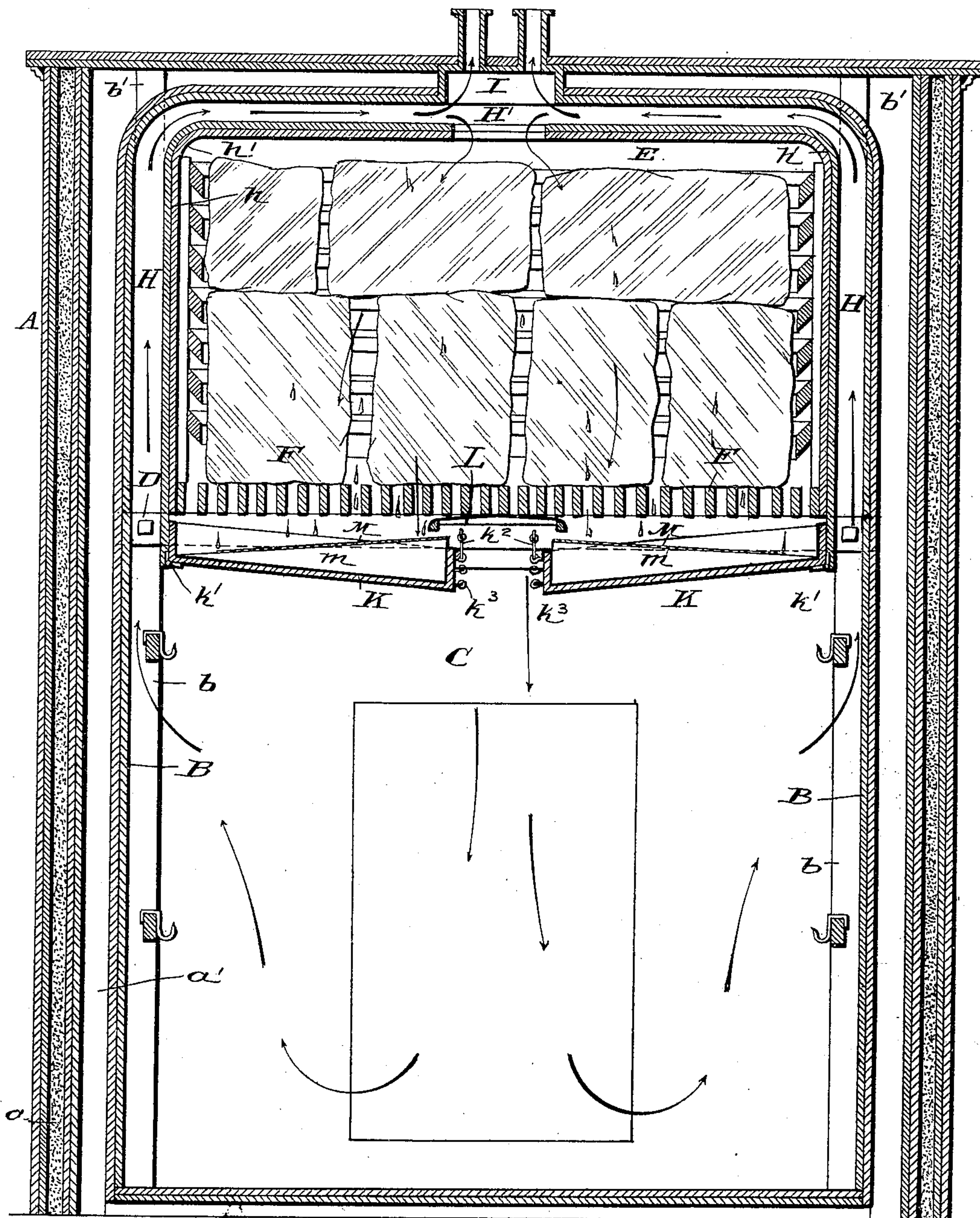
M. WILLETT.
REFRIGERATOR.

(Application filed Sept. 7, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



Witnesses:-

W. Krueger
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Inventor

Michel Willett
By his Atty. *A. R. Rindolf*

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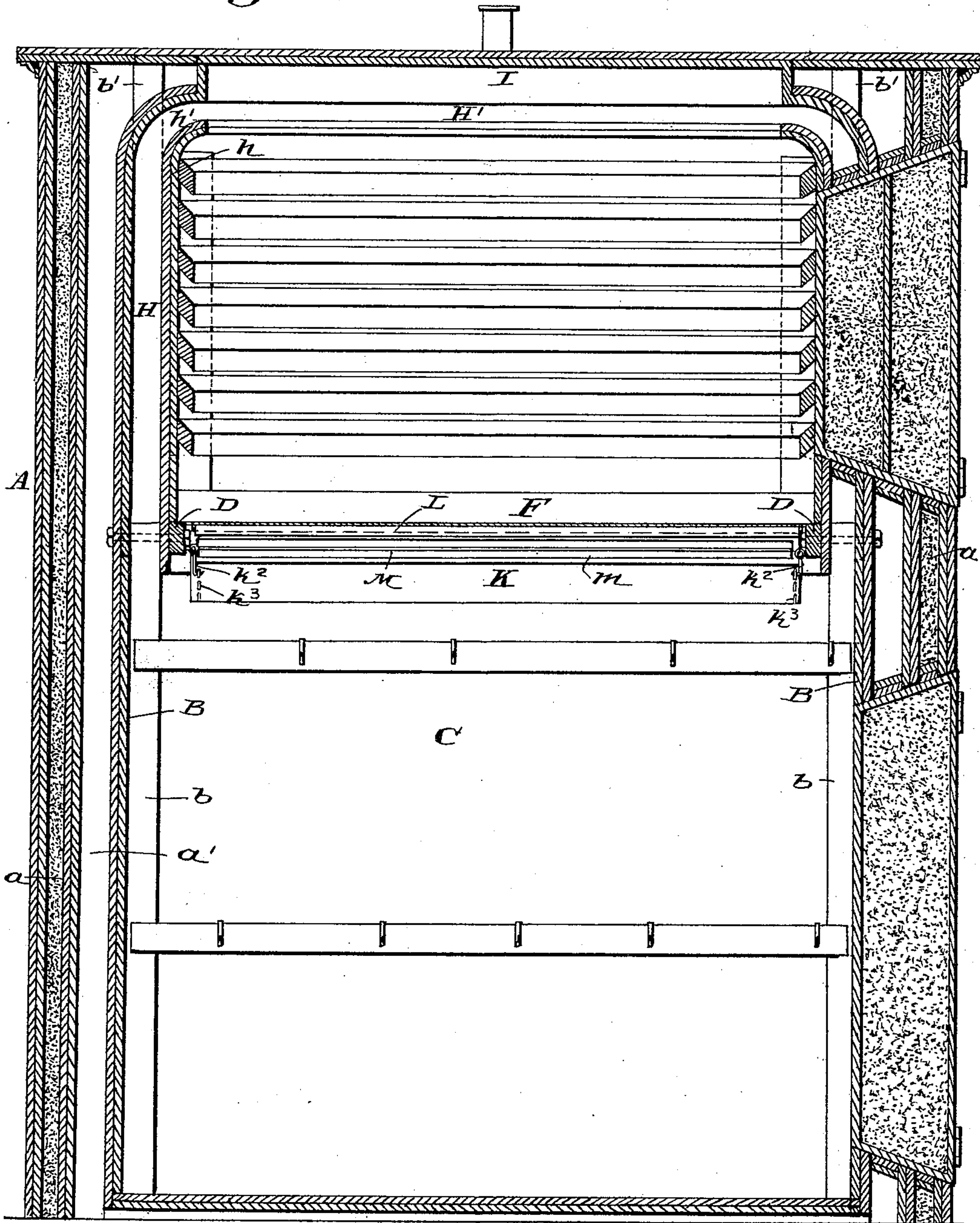
M. WILLETT.
REFRIGERATOR.

(Application filed Sept. 7, 1897.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2



Witnesses:-

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UNITED STATES PATENT OFFICE.

MICHEL WILLETT, OF BLUE ISLAND, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CHARLES WILKINSON, OF SAME PLACE.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 641,351, dated January 16, 1900.

Application filed September 7, 1897. Serial No. 650,756. (No model.)

To all whom it may concern:

Be it known that I, MICHEL WILLETT, a citizen of the United States, residing at Blue Island, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

My invention relates to refrigerators wherein the air within the same is caused to circulate directly from the storage-chamber up to and through the ice of the ice-chamber and back to the storage-chamber, thus cooling the air by direct contact with the ice instead of by radiation and causing a marked variation of temperature to provide an active circulation of cold air within the storage-chambers. In devices heretofore constructed of this type the air has not been properly conducted to the ice-chamber from the storage-chamber or to the storage-chamber from the ice-chamber, and the latter has not been properly protected against the suction and surging of the warm outer air through the ice-chamber when the door of the storage-chamber is opened to give access thereto, which action causes the rapid honeycombing and destruction of the ice without a compensating advantage therefrom. Furthermore, inadequate provision has been heretofore provided with this class of refrigerators for drawing off impure gases.

The object of my invention is to provide a refrigerator of the class specified with suitably-arranged air-passages, air-ducts or apertures, gas-discharging devices, drip-pans, air-deflecting plates, and other suitable means for correcting said defective construction and improving such devices, as will hereinafter appear.

In the accompanying drawings, Figure 1 is a transverse vertical section, and Fig. 2 a central longitudinal vertical section, of a refrigerator embodying my invention.

The walls A of the refrigerator are made in a suitable manner with dead-air spaces a and a' therein, the former, a , extending up the sides only and the latter, a' , extending upon the inner sides thereof and also across the top of the refrigerator-casing.

Along the side walls B of the refrigerator are placed studding b and b' , the studding b at the four end corners of the storage-cham-

ber C extending from the floor up to the top of the storage-chamber to support the ends of cross-beams D, one at each end of the chamber, upon which the ends of the strips forming the ice-grating F of the ice-chamber E rest, and are secured at equal graduated distances from each other. The intermediate studding b' extends up to the full height upon the sides of the refrigerator, and a wall or casing h , secured to the inner edges of the studding b' , provide side passages H for the air to pass from the upper end of the storage-chamber to the top of the ice-chamber, and the said wall or casing is then continued over the ice-chamber at h' to provide horizontal air-passages H' over the ice-box. The air-passages H' extend from the side passages H to the middle part of the top cover to the ice-chamber and to a central longitudinal aperture I therein, extending from one end to the other of the refrigerator, which serves to admit the air which has passed through the said side and top air-passages into the ice-chamber at the central portion and throughout the entire length thereof, to be thus distributed evenly over the entire upper surface of the body of ice within said chamber, and then pass downwardly through the same and around all sides of each block of ice and thence out in an evenly-distributed manner through the grating in the floor of the ice-box. To check and better regulate the passage of air through the grating and to carry off the drip-water, I provide two pans K, which extend from one end of the storage-chamber to the other the full length of the grating and from the side walls to points at suitable distances from the central longitudinal line thereof, as clearly shown in Fig. 1.

The outer sides of the pans are hinged at k' to the side walls or studding at the upper end of the storage-chamber to hold the outer sides of said pans in close proximity to the bottom of the said grating, and the inner sides of the said pans K are adjustably connected by hooks k^2 , secured to the end walls of the storage-chamber, which engage with any one of a series of staples k^3 at the inner sides of the pans, by which means the inner sides of the pans may be raised and lowered or adjusted to provide more or less opening for the pas-

sage of air downwardly from the ice-chamber between the inner adjacent sides of said pans. The inner sides of the pans are preferably placed about eighteen to twenty inches from each other, and the space above the open ends of the said pans is covered by a plate L, which extends the full length of the refrigerator and overlaps the adjacent ends of the pans in such manner that the drip-water will be carried across the said opening and deposited within the pans. The pans are held to incline downwardly from the sides to the center of the refrigerator, and each pan has a shelf M, made of sheet metal and supported upon wedge-shaped blocks m, secured like vertical partitions transversely within the said pans, which support the said shelves in an inclined position thereon, sloping from the center within the edge of the cover-plate L downwardly a suitable distance from the sides of the said pans to admit of a suitable circulation and passage of air and drip-water around the ends and beneath the said cover-plate, the drip-water being thus conducted in a reverse direction over a greatly-extended surface distance to thus aid in-cooling the air passing over and around said drip-conveying surfaces, and the inner ends of the shelves M are held a sufficient distance above the edges of the inner side walls of the pans K to allow the air to pass freely upon the bottom of the pans below the said plates and at the inner adjacent sides thereof down into the central

portion and equally through entire length of the storage-chamber.

I claim as my invention and desire to secure by Letters Patent—

1. A refrigerator comprising a storage-chamber, an ice-chamber, air-passages extending from said storage-chamber around the said ice-chamber and pans affixed to the side walls of the storage-chamber to incline downwardly toward the central part of said chamber, each having a shelf inclined downwardly from near the inner to near the outer sides of said pans, substantially as described.

2. A refrigerator comprising a storage-chamber, an ice-chamber, air-passages extending from said storage-chamber around the ice-chamber, pans affixed to the side walls of the storage-chamber to incline downwardly toward the central part of said chamber within a suitable distance from each other, each having a shelf inclined from near the inner to near the outside of said pans and a cover-plate extending over the space at the adjacent ends of said pans to overlap the edges thereof, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

MICHEL WILLETT.

Witnesses:

MARY A. CARROLL,
KATE D. MERRILL.