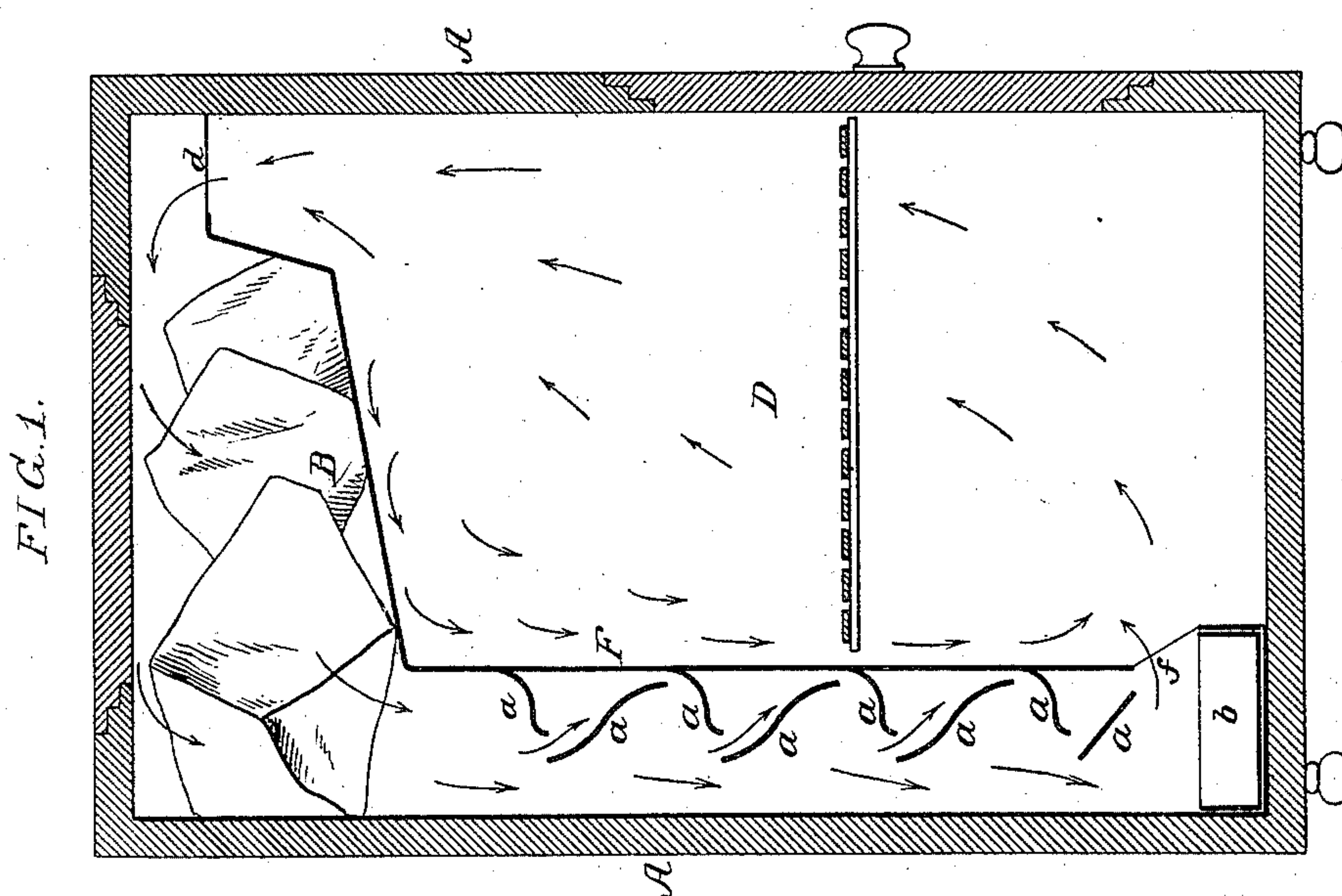
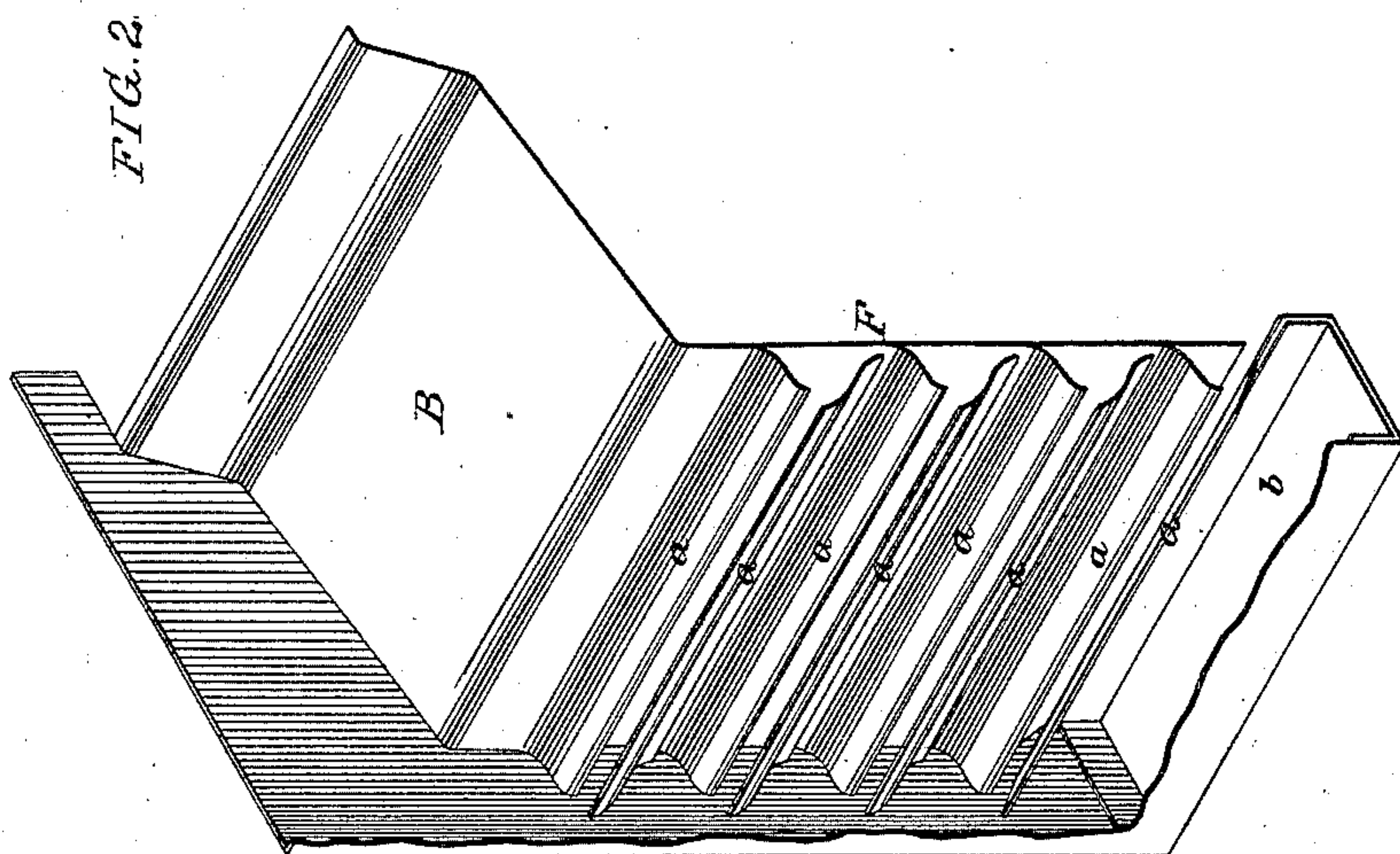


(No Model.)

J. T. BURCH.  
REFRIGERATOR.

No. 306,578.

Patented Oct. 14, 1884.



Witnesses:  
John M. Clayton  
Harry Drury

Inventor:  
John T. Burch  
by his Attorneys:  
Houson & Sons

# UNITED STATES PATENT OFFICE.

JOHN T. BURCH, OF CAMDEN, NEW JERSEY.

## REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 306,578, dated October 14, 1884.

Application filed June 2, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. BURCH, a citizen of the United States, and a resident of Camden, New Jersey, have invented certain  
5 Improvements in Refrigerators, of which the following is a specification.

The object of my invention is to so construct a refrigerator as to cause a continuous circulation of air through the provision-chamber,  
10 and a thorough cooling and purification of the air by contact with the ice and drip-water; and this object I attain in the manner herein-after set forth, reference being had to the accompanying drawings, in which—

15 Figure 1 is a transverse section of a refrigerator with my improvement, and Fig. 2 a sectional perspective view of part of the same.

A is the outer casing of the refrigerator, provided with the usual doors for access to  
20 the ice-receptacle B and provision-chamber D.

The ice-receptacle B is located in the top of the provision-chamber, and communicates with a vertical casing, F, at the rear of said chamber, and in this casing are a number of longitudinal trays, *a*, so arranged as to discharge  
25 one onto another, the last tray of the series discharging into a drip-pan, *b*, at the bottom of the chamber D.

At the front of the ice-receptacle B is a passage, *d*, whereby communication is afforded between the upper portion of the provision-chamber D and the space above the ice, and at the lower end of the casing F is an opening, *f*, providing a communication between  
30 the interior of said casing and the lower portion of the provision-chamber.

The drip-water from the ice flows down the inner side of the casing F onto the first tray *a*, and then in succession over the trays, dropping from the edge of each tray onto the tray  
40 beneath, and being thereby carried backward

and forward over the entire surface presented by the trays, until it finally reaches the drip-pan *b*.

The warm air in the provision-chamber rises  
45 therein and passes through the passage *d* into the ice-receptacle B, and, being cooled by contact with the ice, descends the casing F, and is brought into intimate contact with the cold trays *a* and the drip-water flowing over the  
50 same, escaping finally from the opening *f* into the lower portion of the provision-chamber at an extremely low temperature, owing to the extended surface presented by the trays, the impurities carried by the air being absorbed  
55 by the water with which the air is brought into contact.

There is an independent circulation of air in the chamber D, caused by contact of the air with the cold under side of the ice-receptacle B  
60 and the inner side of the casing F, the movement of the air being indicated by the arrows in Fig. 1.

The trays *a* are preferably curved, as shown; but this shape is not absolutely essential, so  
65 long as the trays have sufficient inclination to cause the water to flow from the same.

I claim as my invention—

The combination of the casing A, ice-receptacle B, the casing F, having trays *a*, and the air-passages *b* and *f*, located as described, whereby  
70 the air is caused to rise in the provision-chamber, pass over the ice, and descend the drip-chamber, as specified.

In testimony whereof I have signed my name  
75 to this specification in the presence of two subscribing witnesses.

JOHN T. BURCH.

Witnesses:

JOHN M. CLAYTON,  
HARRY SMITH.