

T. FAIRBANKS.
Refrigerator.

No. 15,545.

Patented Aug. 12, 1856.

Fig. 1.

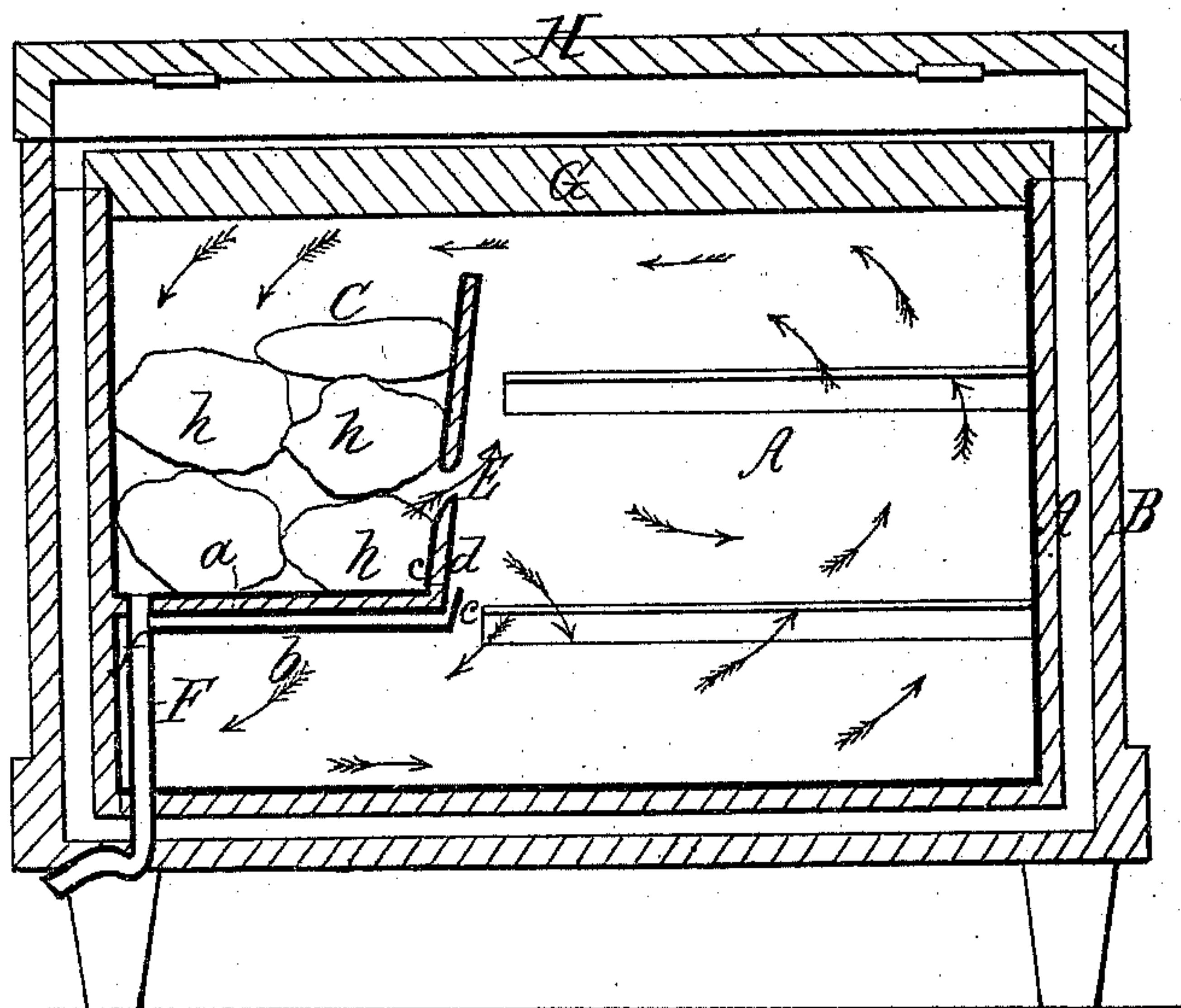
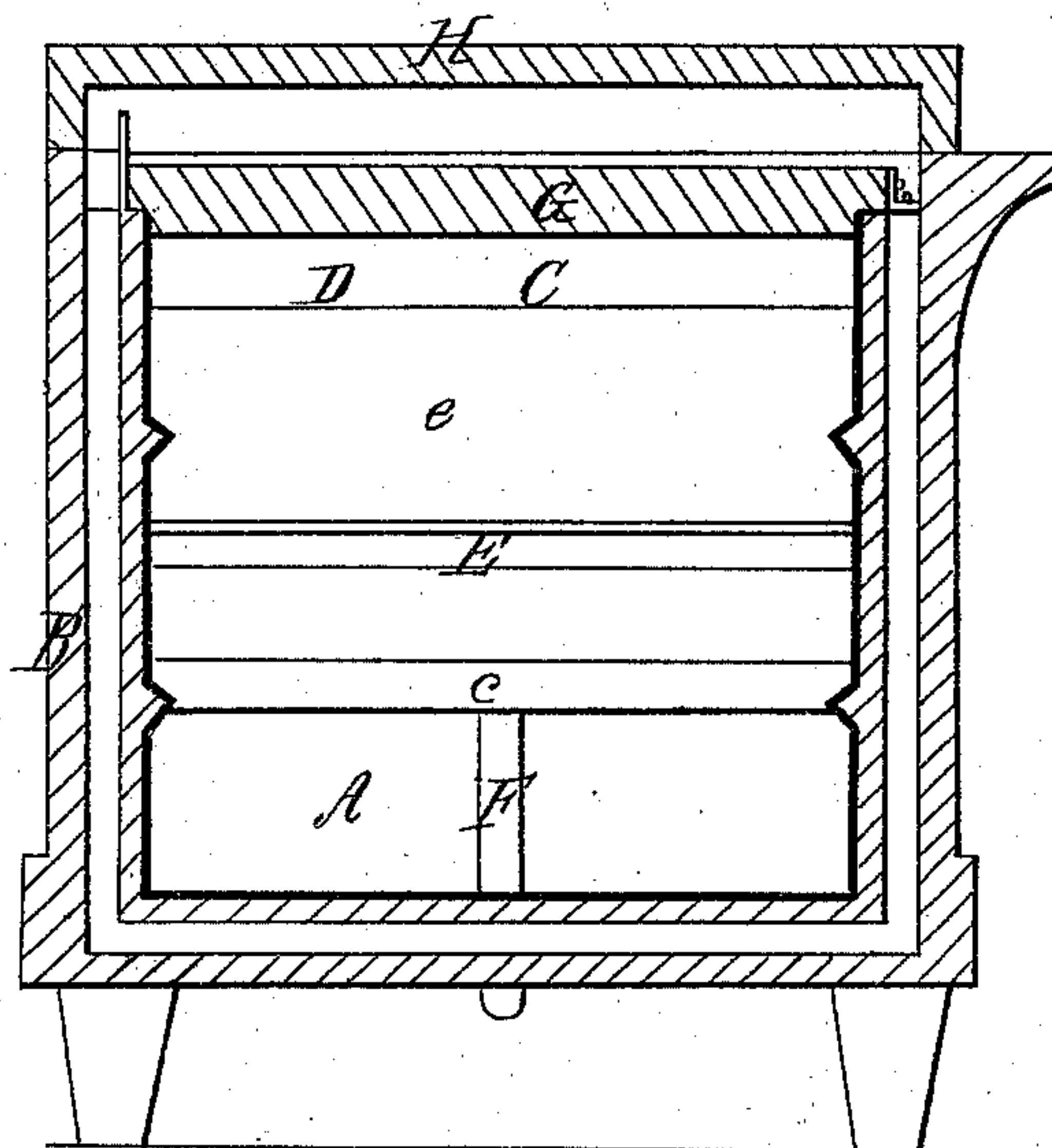


Fig. 2.



UNITED STATES PATENT OFFICE.

THADDEUS FAIRBANKS, OF ST. JOHNSBURY, VERMONT, ASSIGNOR TO JOHN C. SCHOOLEY, OF CINCINNATI, OHIO.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. 15,545, dated August 12, 1856.

To all whom it may concern:

Be it known that I, THADDEUS FAIRBANKS, of St. Johnsbury, in the county of Caledonia and State of Vermont, have invented a new and useful Improvement in Refrigerators or Ice-Chambers for preserving meats, vegetables, &c., from decomposition or the usual effects of warm weather; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 represents a longitudinal vertical and central section of my improved refrigerator. Fig. 2 is a transverse vertical and central section of the same.

Refrigerators have been more or less subjected to great inconvenience arising from the condensation of vapor upon articles placed therein, often to their detriment, as well as injurious to their appearance, the said condensation of vapor arising from the unequal distribution of the cold within the interior of the refrigerator, the coldest air being always found to be at or near the bottom of the same, while the warmest air existed at or near the top. The inequality of temperature in the air caused the deposit of dew or moisture.

My object has been to so construct a refrigerator that the air may be made to be in continual circulation within it, and while in such movement to be carried into contact with the mass of ice. The temperature of the air will thus be equalized to such an extent as to prevent the deposition of moisture on the articles to be kept cool.

A and B, Figs. 1 and 2, represent the two boxes composing the refrigerator, the same being arranged the one within the other and with a space between them filled with some non-conducting material in the usual manner. The said boxes are respectively provided with covers G H. Across the interior of the inner box, and at or near the upper part of one end thereof, I make a separate box or reservoir C, to contain the ice. In the above respects my improvement does not differ essentially from others as heretofore constructed. Through the side of the ice-receptacle C, and at or near the top thereof, I make a long and narrow inductive passage D, and I also make through the said side and below

the said inductive passage, and just or somewhat above the bottom *a* of the ice-receptacle, another or eduction passage E, the positions of said passages being represented in the drawings. A pipe F for the discharge of waste water is to be inserted in the bottom *a* and to extend downward through the bottom of the refrigerator and have its lower end bent in the shape as directed in Fig. 1. Directly under the bottom *a*, and so as to be nearly in contact therewith, I arrange a small pin *b*, which I extend entirely under the bottom *a* and a short distance beyond it and above it, as seen at C, there being a small space *d* between the side *e* of the ice-receiver and the part or lip *c* of the pan *b*, as seen in Fig. 1. A small hole *f* should be made through the pipe F and on a level with the bottom of the pan *b*, as seen in Fig. 1.

Having explained the construction of my improved refrigerator, I shall now describe the manner in which it operates to produce a constant revolving current of air within it, and thereby renders the temperature of the air so nearly equal as to cause the moisture to be condensed upon the ice and none upon the articles to be cooled.

The receptacle C is to be filled or charged with lumps of ice, as seen at *h h*, &c. This being done and the covers G H closed, the air which is in immediate contact with the ice will settle or descend toward the bottom of the ice-holder C and will pass through the passage E and fall toward the bottom of the inner box A. In its fall it will displace the warm air, which will rise upward toward the top of the chamber A and will move in a current toward and through the passage D, and coming in contact with the ice will deposit its moisture thereon and be cooled by the ice, and in its turn will descend through the ice and pass in a current out of the passage E. The arrows in Fig. 1 exhibit the general manner in which the air is made to circulate within the box or refrigerator A. Owing to the ice being in contact or resting upon the bottom *a* and side *e* of the receptacle C there will at times be some condensation of moisture on the under side of said bottom as well as on the front side of the side *e*. Should it be so great as to drop therefrom it will be caught by the pan *b*, and will be conveyed

through the hole *f* into the discharge-pipe *F*. The articles to be preserved are to be placed and sustained within the chamber *A* and also underneath the pan *b* in any convenient manner.

Experience has proved that in a refrigerator so constructed no injurious deposit or condensation of moisture can take place upon the bottom or interior surface thereof or on any of the meats or articles placed thereon or within the refrigerator for preservation or to be kept cool.

Although apparently simple, yet my improvement is one of great importance and of great practical utility in its results.

The whole of the interior of the refrigerator should be lined with sheet-zinc or other proper material in the usual manner.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

So combining an ice-receptacle with the interior of a refrigerator as that a continuous circulation of air shall be kept up through the ice in said receptacle and through the interior of the refrigerator, and so that the circulating air shall deposit its moisture on the ice every time it passes through it and be dried and cooled and pass down and through the interior of the refrigerator, substantially as set forth.

THADDEUS FAIRBANKS.

Witnesses:

PLINY H. WHITE,
E. D. BLODGETT.