No. 648,779. Patented May 1, 1900.

# S. NORTHEY.

## REFRIGERATOR OR COOLING ROOM.

(Application filed Nov. 19, 1898.)

(No Model.)

Fig. 1.

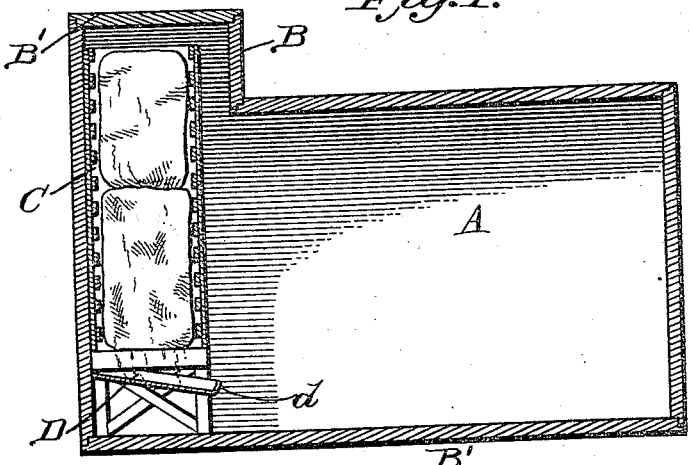



Fig. 3.

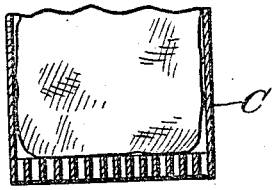



Fig. 2.

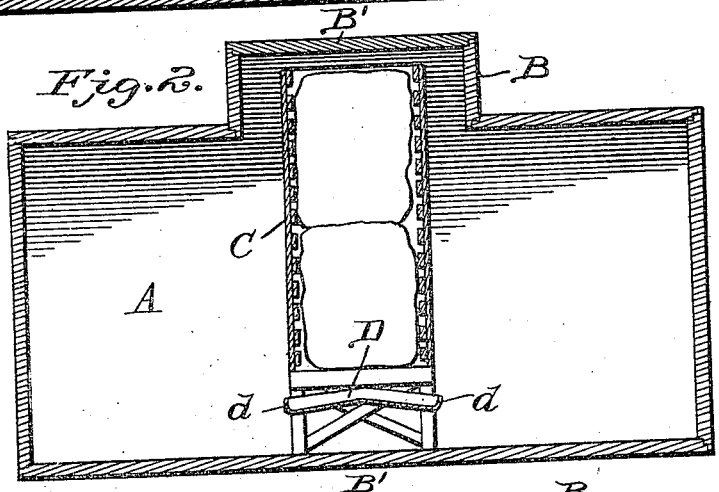



Fig. 4.

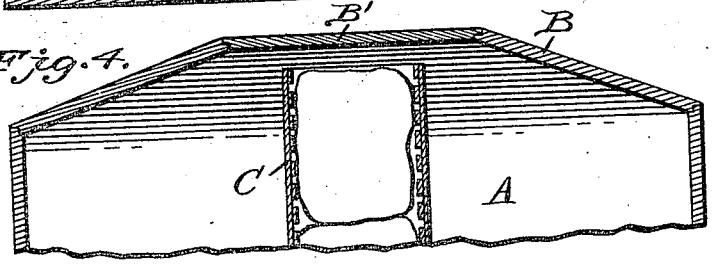
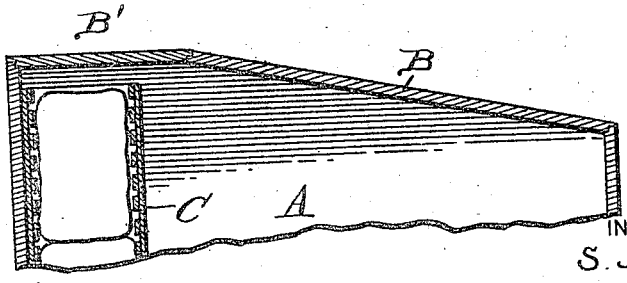



Fig. 5.

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# UNITED STATES PATENT OFFICE.

SILAS NORTHEY, OF WATERLOO, IOWA.

## REFRIGERATOR OR COOLING-ROOM.

SPECIFICATION forming part of Letters Patent No. 648,779, dated May 1, 1900.

Application filed November 19, 1898. Serial No. 696,900. (No model.)

*To all whom it may concern:*

Be it known that I, SILAS NORTHEY, a citizen of the United States, and a resident of Waterloo, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Refrigerators or Cooling Rooms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical longitudinal section of a refrigerator or cooling-room embodying the invention. Fig. 2 is a similar view showing a double form of the cooling-room or refrigerator. Fig. 3 is a detail view of a part of the ice-bunker, and Figs. 4 and 5 are detail sectional views showing modified forms of the refrigerator or cooling-room.

This invention has relation to cold-storage and refrigerating rooms of all kinds, and particularly such as are used by butchers or for the storage of butter, eggs, fruit, &c., the object being to provide for a more equal temperature throughout the room, and especially at the upper portion thereof, and also to provide for a better air circulation therein.

With these objects in view the invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claim.

Referring to the accompanying drawings, the letter A designates the outer wall of the cold-storage or refrigerating apartment, which may be of the single form shown in Fig. 1 or of the double form shown in Fig. 2. In the single form it has a portion B at one end which projects considerably above its top and is provided with a removable cover B', while in the double form this extension is at the center. Extending from near the floor of the provision-chamber, from which it is supported by side legs thereof, up within and near the top of the portion or extension B is an ice-bunker C, open at the top, entirely closed on all four sides, and provided with a slotted bottom. Underneath this slotted bottom is an elevated drip-pan D, secured to said bunker-legs and removable therewith, having a downwardly-inclined portion or portions and formed with an upturned lateral edge or edges *d*. The space between these edges and the bottom of the ice-bunker form cold-air passages, through which the cold air escapes into the room or apartment.

The object of the extension B is to bring a considerable body of the ice above the contents of the room or apartment in order to provide for a low temperature at the upper portion thereof. When the ice-bunker terminates below or at the top of the room, as long as it remains filled it may be possible to maintain a sufficiently-low temperature in the upper portion of the room if proper provision is made for air circulation. As soon, however, as the ice has melted to any considerable extent the temperature rises at the upper portion of the chamber and the shank portions of beef or other contents thereof do not keep properly. By means of the said extension B, I provide for a considerable body of ice above the top of the room. Furthermore, the construction of the ice-bunker causes a lively circulation of air. Forming as it does a laterally-closed flue, the chilled air rapidly descends therethrough and escapes into the lower portion of the room, displacing the air previously there and causing a rapid circulation through the bunker, which results in maintaining a nearly-equal temperature throughout the room.

The contracted extension above the top of the provision-chamber concentrates the hot air closely around and over the top of the ice-bunker. This feature, in connection with the bunker constructed as described, facilitates rapid circulation of air, which can enter only at the top of the bunker, must pass through the entire depth thereof, and can escape only at the bottom of the refrigerator and at its lowest temperature.

It will be observed that my bunker, including the drip-pan, is structurally independent of the refrigerator-body and that it may be readily entirely removed therefrom, leaving the refrigerator-body entirely free of any ledges or obstructions, whereby cleaning is facilitated.

Figs. 4 and 5 of the drawings illustrate a form of my invention in which the contracted

extension B is provided with a downwardly-sloping side wall or walls, whereby any stagnation of the air circulation is prevented, the warmer air passing freely up said sloping walls to and over the ice-bunker.

I am aware that heretofore refrigerators have been patented disclosing the upwardly-sloping walls at the top thereof to facilitate the rise of the warmer air toward the ice-bunker and disclosing an extension of the top of the refrigerator above the body thereof, into which projects an ice-bunker to effect a downward draft of air through the ice-bunker from the top thereof and escaping at the bottom only thereof and of the refrigerator; but I am not aware that heretofore these two features have been combined, which combination results in a refrigerator in which the circulation of air will be much more rapid than in either of the above-cited precedents, such rapid circulation of air being the greatest desideratum in a refrigerator and more important than even a low temperature, as it effects an evaporation of all moisture and keeps the refrigerator dry, it being well known that dry air is a great preservative, and such combination avoiding any necessity for partitions in the refrigerator, thus leaving more room for the storing of provisions. It will be noted that the drip-pan D, being inclined downwardly toward the air-escape openings in the bottom of the refrigerator, will deflect the cold air falling in the ice-bunker outwardly through said escape-openings.

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

In a refrigerating or cold-storage room, for more rapid circulation of the air therein, &c., the provision-chamber having the contracted extension of its top portion, said extension having an upwardly-sloping side wall or walls; and the ice-bunker extending from the bottom of said chamber, and projecting up within and near the top of said extension, said bunker being entirely open at the top, being entirely closed upon all sides thereof, and having air-escape openings at the bottom, which bottom is formed by a drip-pan inclined downwardly toward said air-escape openings, whereby the air is caused to pass freely up said sloping side walls to and over the ice-bunker, down through the entire depth of said bunker in immediate contact with the ice therein, and deflected by said inclined drip-pan to escape at the bottom only of said bunker and refrigerator, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

SILAS NORTHEY.

Witnesses:
GEO. B. MILLER,
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