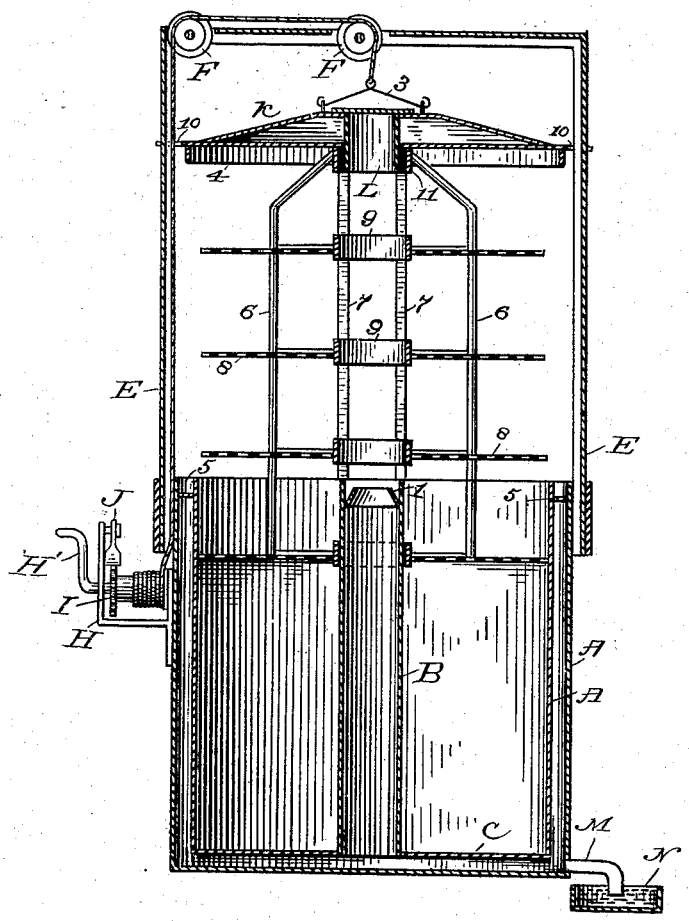
(No Model.)

L. F. DE VOE.

REFRIGERATOR.

No. 264,865. Patented Sept. 26, 1882.



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UNITED STATES PATENT OFFICE.

LOUIS F. DE VOE, OF KENTLAND, INDIANA.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 264,865, dated September 26, 1882.

Application filed March 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, LOUIS F. DE VOE, of Kentland, in the county of Newton and State of Indiana, have invented a new and useful Improvement in Refrigerators; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to an improvement in refrigerators; and its object is to prevent the circulation of warm air in connection with the articles contained in the refrigerator or with the ice contained in its receptacle or chamber.

The invention consists mainly in a double-walled chamber, a central ice tube or chamber, and a removable frame containing the provision-racks; further, in the peculiar hoisting mechanism; further, in devices for preventing the entrance of warm air to the interior; and, finally, in the construction and arrangement of the operative parts and the combinations of the same, all as fully hereinafter described.

The drawing is a vertical section of the refrigerator.

The refrigerator is composed of two cylinders, A A′, which may be either round or square, and composed of galvanized iron, zinc, or other suitable material. The space between these walls may form a dead-air chamber, or it may be filled with any suitable packing material that is non-conducting in nature.

The central ice tube or chamber is represented by B. It extends down through the false bottom C of the refrigerator, and opens into a space formed by false bottom C and the bottom D.

At the upper end of the ice-tube is an inner flange, 1, adapted to form a water-seal in connection with the movable cover hereinafter described.

Upon the outside of the casing or cylinder A are secured standards E E, forming a supporting-frame. Pulleys F F are journaled in this frame, and a third pulley may be provided, in order that a counterbalance-weight may be used, if desired. These standards are composed of wood or metal, as may be desired, and are of proper width to form guides for the movable frame and shelves.

The hoisting-drum is journaled in a bracket, H, on the cylinder, and is provided with a crank-handle, H′, and a ratchet-wheel, I, as shown.

J is a weighted pawl, pivoted to the bracket, and adapted to drop by gravity into engagement with the ratchet.

The cord, rope, or wire is wound on the drum, and, passing up one of the standards and over the pulleys, is secured to a removable bail, 3, attached to the main cover K of the refrigerator. This cover is of slightly greater width than the outer cylinder, and has a depending flange or rim, 4, which fits into the space between the cylinders just above a partition, 5. This space is filled with water, into which the flange 4 dips, whereby a water-seal is formed, preventing the admission of air from the exterior when the cover is closed down.

Depending from the cover are rods 6 6 and central standards, 7 7, and between these are supported the shelves or racks 8 8, placed one below the other, to closely fit within the inner cylinder.

Rings 9 9 serve to brace and strengthen the frame, and also to serve in connection with the central ice-tube as a guide in raising and lowering the frame and shelves.

In the cover K are recesses 10 10, which receive the standards E E and guide the movement of the suspended shelves.

The upper ring, 11, of the series 9 9 is attached to the cover, and fits snugly over the ice-tube when such cover is closed. In the ice-tube and above the flange 1, previously mentioned, is a space which is filled with water. Into this water dips the lower edge of a removable cover, L, fitting within an opening in the main cover K.

This device, besides forming a water-seal around the upper end of the ice-tube, also permits the ice to be placed in the tube without the necessity of removing the main cover, thus avoiding all danger of dropping water or sawdust upon the provision-shelves and their contents.

The waste-pipe M enters the space between the double bottom, which becomes filled with the water caused by the melting of the ice. Outside the cylinder A this pipe M is bent down and enters the water contained in a cup,

N, thus preventing the admission of air through the waste-pipe.

In the operation of this device the cylinders are placed in the cellar or elsewhere. The tube is filled with ice. The frame and shelves can then be raised by winding the rope upon the drum, and can be held in any desired position by the pawl and ratchet. The articles to be preserved may then be placed upon the shelves and the frame and cover lowered into the cylinder and the covers K and L closed down tightly.

Under some circumstances I prefer to dispense with the guide-recesses in the cover and permit the frame, shelves, and cover to revolve freely, which will add materially to the convenience of depositing articles on the shelves.

Having thus described my invention, what I claim is—

1. A refrigerator consisting of a stationary cylinder and central stationary ice-tube, a movable frame and shelves surrounding the said ice-tube, and a hoisting apparatus.

2. The double-walled cylinder A, in combination with a suspended removable cover having provision-shelves rigidly attached thereto, and with a central fixed ice tube or chamber, forming a guide for the cover and shelves, and with hoisting mechanism.

3. In combination with the double-walled cylinder having the annular chamber 5, the cover having flange 4, adapted, when the cover is closed, to dip into the water contained in said chamber 5, and to form a water-seal, as described.

4. The combination, with the double-walled cylinder, the ice-tube having flange 1, and the suspended cover for the cylinder, of the cover L for the ice-tube, carried by the main cover and independently removable, for the purpose set forth.

5. The combination, with the cylinder A and the central tubular ice-chamber, of the frame having guide-rings 9, braces 6, and shelves 8, and the hoisting mechanism, substantially as described.

6. The cylinder A, having double wall and double bottom, in combination with an open-bottomed ice-chamber, a waste-pipe, M, and a water-seal, N.

7. The combination of the cylinder A, the guide-standards E, the pulleys, the drum and ratchet, and a pivoted weighted pawl.

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

LOUIS F. DE VOE.

Witnesses:

ANDREW HALL,

PETER H. WARD.