

G. M. WALKER.  
REFRIGERATOR.

APPLICATION FILED OCT. 24, 1907.

915,515.

Patented Mar. 16, 1909.

Fig. 2.

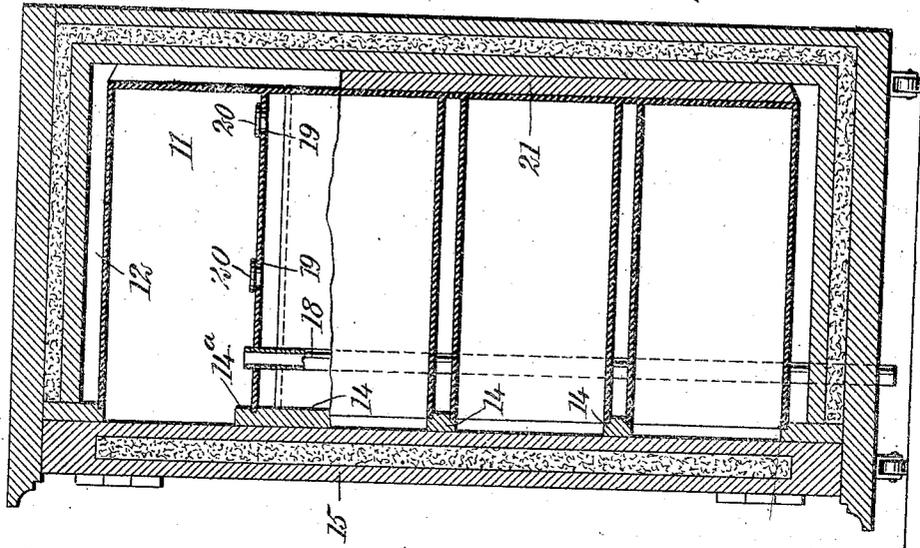
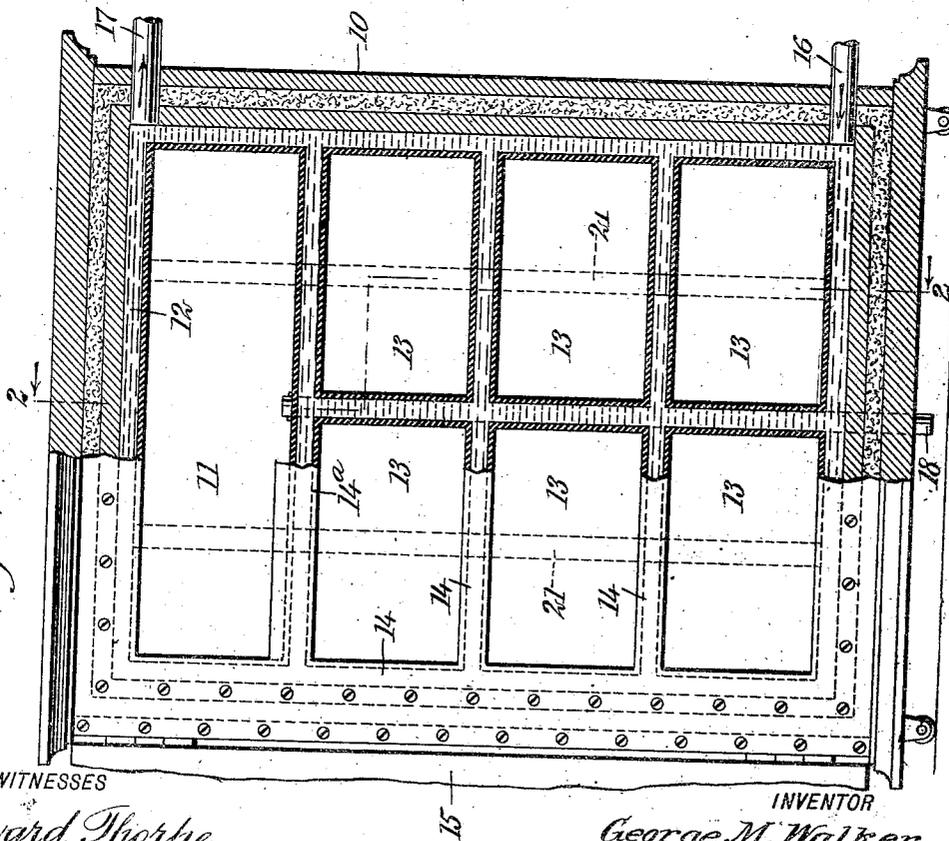


Fig. 1.



WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE M. WALKER, OF LINCOLN, NEBRASKA.

## REFRIGERATOR.

No. 915,515.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed October 24, 1907. Serial No. 398,908.

*To all whom it may concern:*

Be it known that I, GEORGE M. WALKER, a citizen of the United States, and a resident of Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and Improved Refrigerator, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in refrigerators, and more particularly to a special construction whereby the storage or provision compartments may be cooled either by the continuous circulation of a stream of water in the water jacket surrounding said compartments, or may be cooled by the use of ice, the drip water from said ice passing through said jacket.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures, and in which—

Figure 1 is a front elevation of a refrigerator constructed in accordance with my invention, and showing the door open and a portion of the body broken away; and Fig. 2 is a vertical section on the line 2—2 of Fig. 1.

In my refrigerator I provide all the compartments within a single outside casing and construct one of these compartments especially for the reception of ice. In addition to the ice compartment, there may be one or more storage compartments, dependent upon the size of the refrigerator and the use to which it is to be put. The ice compartment is disposed above the storage compartment, and all compartments are surrounded by a water jacket having pipe connections for the circulation of water therethrough.

In the specific form illustrated I provide an outside casing having walls of any suitable construction and preferably including insulating material. Within the casing are a plurality of separate compartments or cells, each of which is closed at the top, bottom, and at the back and opposite sides. The walls of these cells are formed of any suitable material but preferably of metal or other good heat conductor. One of these cells 11 is disposed at the upper end of the refrigerator and extends across approximately the full width thereof, being spaced from the sides, top and back of the casing to form a water-circulating space 12. The remainder of the cells 13 fill the parts of the casing below the cell 11, and are spaced from

each other and from the adjacent walls of casing to form a continuation of the water space 12. The walls of each of the cells are connected to the walls of the adjacent cells and to the front edge of the casing by strips 14 which lie in the plane of the inner surface of the door 15 when the latter is closed, and serve to retain the water within the jacket and space between the cells. One of the strips 14<sup>a</sup>, which closes the space between the compartment or cell 11 and the two adjacent cells or compartments 13, extends a short distance above the edge of the cell 11 to prevent water on the bottom of the cell 11 from escaping at the front edge thereof. The front edges of all of the cells lie in substantially the same plane, and the door 15 permits access to any and all of the cells for the insertion of ice or provisions. If desired, a plurality of doors may be provided, one for each of the cells.

For using the refrigerator when a supply of cold water is available, I provide a water inlet pipe 16 entering through the casing to the water jacket at the lower portion thereof, and a water outlet pipe 17 leading through the casing to the water jacket at the upper end thereof. The inlet pipe is preferably somewhat smaller than the outlet pipe, so that the creation of a pressure within the water jacket is avoided should the water be delivered through the pipe 16 with any desirable head. The water freely circulates around five sides of each of the cells, the one side which is protected from the effect of the water being the front, which is normally closed by the door 15. All of the compartments or cells 13 may be used for the storage of provisions, and the upper cell 11 may also be used for the same purpose. When a supply of cold water is not readily accessible, I employ the compartment 11 as an ice compartment, and the drip therefrom is permitted to escape through the drip pipe 1 which leads through the space between the cells and from the interior of the compartment 11 to the exterior of the refrigerator. The passage of the cold water through the pipe 18 may be relied upon to cool the water standing in the water jacket, or, if desired, open communication may be established through the ice compartment and the water jacket. For this purpose I provide the bottom of the ice compartment with openings 19, adapted to be closed in any suitable manner, as, for in-

stance, by plugs 20. The drip water in the lower portion of the ice compartment below the inlet end of the drip pipe, may communicate through the openings 19 with the warmer water in the jacket below and all of the water within the jacket below the level of the ice compartment will be maintained at substantially the temperature of the melting ice and all of the storage compartments will be kept cold. The water within the jacket is not only cooled by the drip water entering through one or more of the openings 19, but it also cooled by its engagement with the bottom wall of the ice compartment. If the ice is comparatively impure and it is not desired that the sediment therein gain access to the water jacket, the plugs 20 may be left in place, and the compartments cooled and the water within the jacket maintained in circulation by the cooling of that portion of the water in the jacket surrounding the ice compartment. An automatic circulation of this water will be kept up by the difference in temperature between the ice compartment and the warmer provision compartments below. With the plugs 20 removed, there will, of course, be no water within the jacket above the level of the outlet pipe 18.

For directing the circulation of the water within the jacket and for also aiding in the support of the several compartments, I preferably insert one or more spacing bars 21 extending in a vertical direction between the back wall of the casing and the backs of the

several cells, the strip being rigidly secured to both.

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

A refrigerator having a lower compartment adapted for the storage of provisions, an upper compartment adapted to hold either provisions or ice, a water jacket inclosing both of said compartments and extending between the same, a drip pipe leading from said second mentioned compartment above the bottom thereof and leading to the exterior of said refrigerator independently of the first mentioned compartment or said jacket, means for circulating a cooling fluid through said jacket to cool both of said compartments, and means below the inlet end of said drip pipe for establishing communication between said water jacket and said upper compartment whereby when said upper compartment is used for the storage of ice the water in the lower portion of said compartment and below the drip pipe, may communicate with the water within the portion of the jacket inclosing the lower compartment.

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

GEORGE M. WALKER.

Witnesses:

HARRY G. ABBOTT,  
THOMAS CARR.