(No Model.) 2 Sheets—Sheet 1.

F. LUSCHE.

REFRIGERATOR.

No. 526,812. Patented Oct. 2, 1894.

Fig. 1.

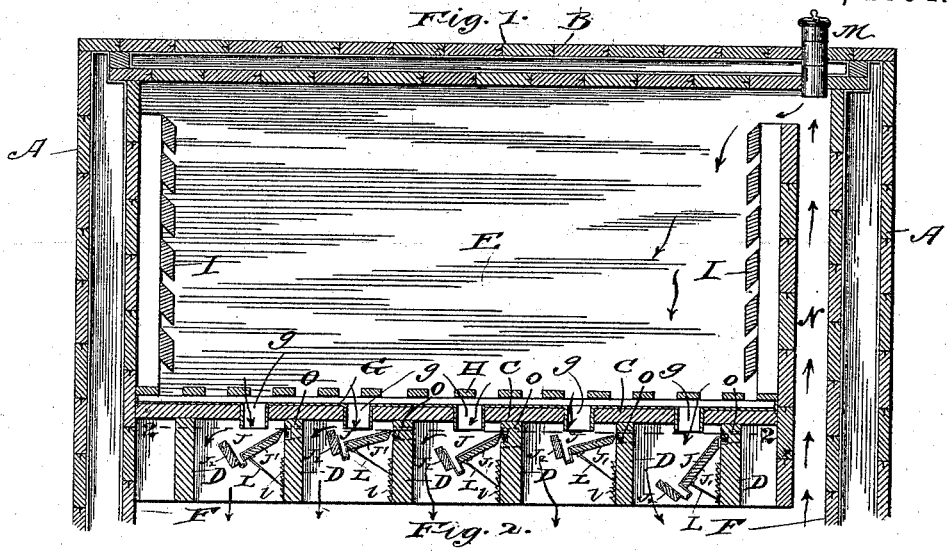
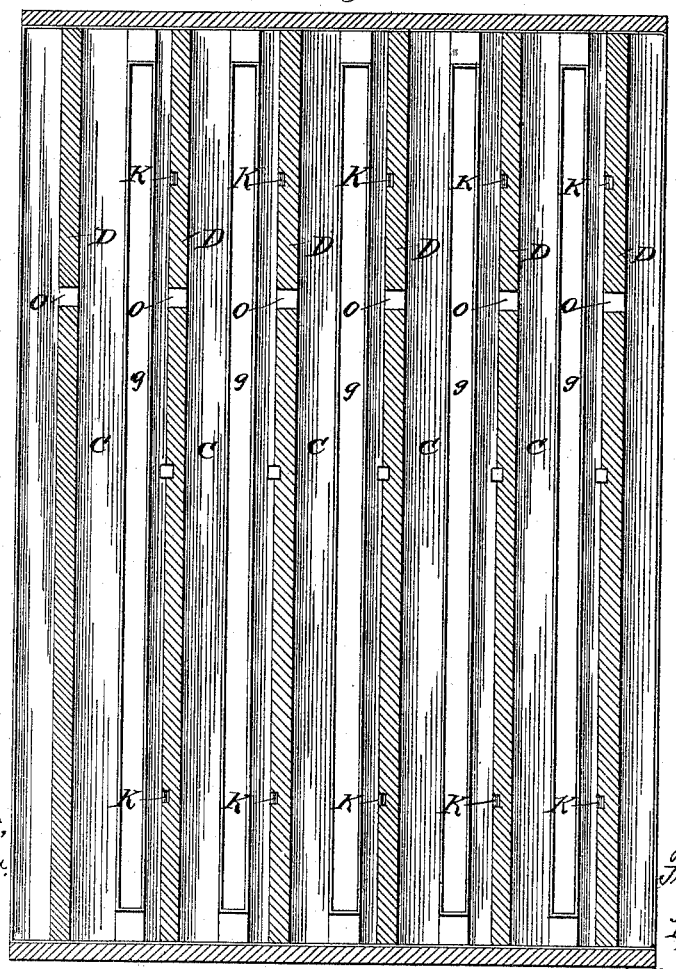


Fig. 2.



Witnesses,
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(No Model.) 2 Sheets—Sheet 2.

F. LUSCHE.

REFRIGERATOR.

No. 526,812. Patented Oct. 2, 1894.

Fig. 5.

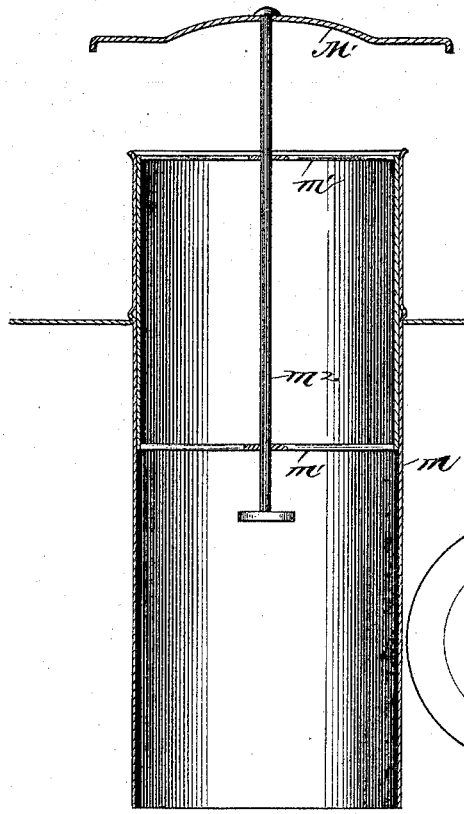


Fig. 7.

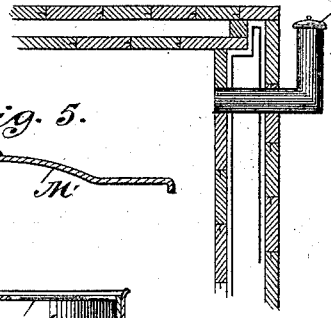


Fig. 4.

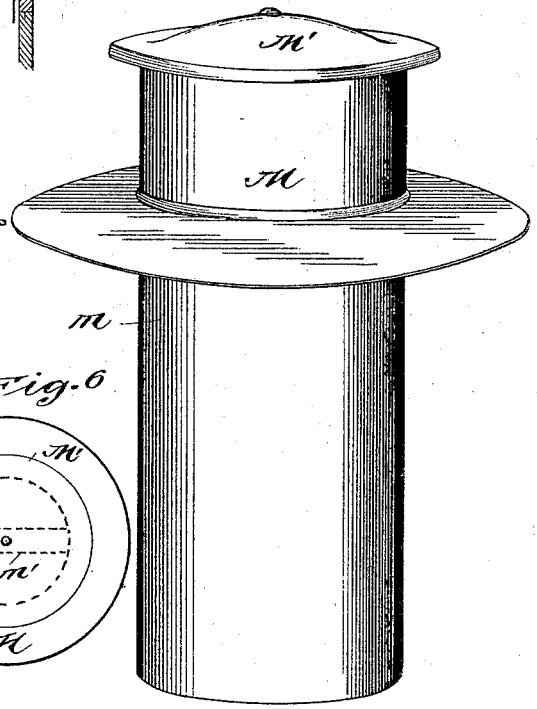


Fig. 6

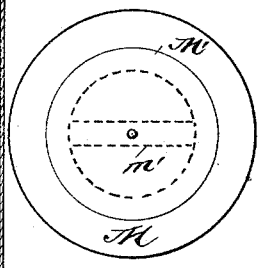
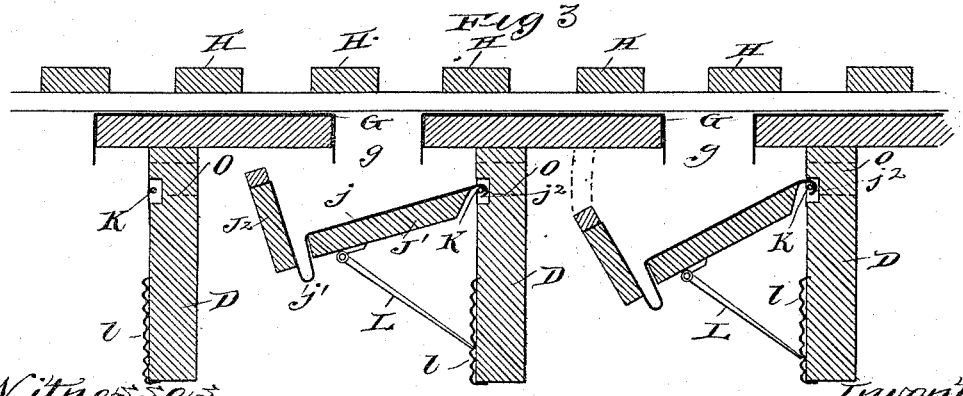


Fig 3



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F. B. Goodwin

Inventor,
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Att'ys.

UNITED STATES PATENT OFFICE.

FREDERICK LUSCHE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WOLF, SAYER & HELLER, OF SAME PLACE.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 526,812, dated October 2, 1894.

Application filed July 26, 1893. Serial No. 481,469. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK LUSCHE, of Chicago, Illinois, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

This invention relates to a refrigerator of the class that is in general use having walls provided with isolated air chambers and having an ice receptacle located in the upper part of the refrigerator provided with an ice rack and fenders of the usual construction.

The object of this invention is to improve the construction and arrangement of the pan beneath the ice rack, the water receptacles, and to provide means whereby a circulation of air through the interior of the refrigerator may be maintained, thereby securing an even temperature therein and preventing the accumulation and intermingling of odors arising from the contents of the refrigerator, and the stagnation of air at the upper part of the chamber which will cause waste of ice.

In the accompanying drawings, Figure 1 is a sectional elevation of the upper part of the refrigerator, showing the application of my invention. Fig. 2 is an inverted sectional plan view taken on the line 2—2 of Fig. 1. Fig. 3 is an enlarged sectional detail view showing part of the ice rack, pan, two water troughs and their supports. Figs. 4 to 6 inclusive are detail views of a ventilator, in which Fig. 4 is a perspective view, Fig. 5 a vertical section, and Fig. 6 a plan view. Fig. 7 is a sectional detail showing the application to a refrigerator of a modified form of construction of the ventilator.

A represents the walls of the refrigerator and B the top or cover. The interior of the refrigerator is divided by the slats C secured to the cross timbers D into two compartments E and F, the former of which represents the ice receiving chamber and the latter the compartment wherein articles are placed for preservation. This latter compartment as shown in the drawings is broken away near its top as the particular arrangement of its interior is not essential to this invention. In the ice chamber is a metal pan G having apertures *g* formed therein by slitting the bottom thereof and turning down the edges of the metal so that the turned down flanges of the apertures will overlap the slats C, and upon the pan is a rack H of the usual type upon which rack the ice is placed. The side walls of the ice receptacle are protected by fenders I.

Troughs J are secured between the timbers D and beneath the apertures *g* in the pan G and receive the water produced from the melting ice. These troughs are formed preferably of wooden strips J′ and J², said strips having secured to their upper surfaces a metal sheathing *j*, said metal sheathing being bent between the strips J′ and J² to form gutters *j′* and having lips *j²* projected beyond the wooden strips J′, said projecting lips being curved to form bearings whereby the troughs are secured upon rods K, said rods being secured in recesses formed in the sides of timbers D. Hinged arms L are secured upon the under sides of strips J′ and, in combination with racks *l* on timbers D and the bearings upon rods K, afford means for adjustably securing the troughs at any desired angle as clearly shown in the drawings. To remove the troughs for the purpose of cleaning them or for any desired reason, the hinged arms are disengaged from the racks and the curved lips released from the rods when the troughs may be easily removed, cleansed, and replaced. A flue N communicates with the compartment F and is part of a ventilating system which I will now describe. Secured in the outer casing of the refrigerator and in communication with the flue N is a ventilator M of simple construction, consisting of a metal tube *m* having cross strips *m′*, said strips having apertures in which a rod *m²* is slidably secured, said rod having secured to its upper end a cap or cover M′, said cover being adapted to close the outer end of the tube. Apertures O in the timbers D afford means whereby a circulation of air through the refrigerator is maintained at all times.

In operation the ventilator being opened the warm air in the refrigerator will ascend through the flue N and escape into the outer atmosphere through the ventilator, thereby causing the air in the ice chamber to descend

through the apertures in the pan beneath the ice and create a constant circulation of fresh air through the refrigerator as indicated by the arrows in the drawings. A change of temperature of the refrigerator chamber may be secured by the adjustment of the troughs, a greater degree of cold being secured by increasing the opening between the troughs and the slats C, and the least degree of cold being maintained when the troughs are brought to the upward limit of their movement, thus causing the air from the ice chamber to seek an outlet through the apertures *o* in the timbers D. The action of the ventilator is sufficiently sensitive to automatically open under pressure of the warm air seeking an outlet, thereby effectually preventing an accumulation of warm air in the ice chamber and preventing waste of ice.

By reference to the drawing it will be seen that the troughs are comparatively narrow and are arranged in the spaces between the timbers D which support the troughs, the ice chamber and the ice, thus making more room in the provision chamber beneath. By making these troughs comparatively narrow and removable a further advantage is gained in cleaning them. Each trough, being separately adjustable and separately removable and of narrow width, may be disengaged from its support and cleaned without flooding the provision chamber with water as is the case where the troughs are of considerable width—as, for example, where only two troughs are employed. Their hinges are so arranged that the troughs may be entirely closed against the under side of the pan or opened to any desired extent and the hinged supporting leg forms a convenient stop for fixing them in the adjusted position.

Without limiting myself to precise details of construction, I claim—

1. A refrigerator, comprising in combination with the inclosing walls, a series of joists separated from each other and supporting a pan and an ice rack thereon and dividing the interior of the refrigerator into an ice chamber and a provision chamber and a series of troughs removably and adjustably mounted in the spaces between the joists and serving to control the opening from the ice chamber to the provision chamber and to carry off the drip water, substantially as described.

2. A refrigerator, comprising in combination an ice chamber and a provision chamber, a perforated pan forming the bottom wall of the ice chamber, a series of joists supporting said pan, hinged troughs removably secured in the spaces between said joists and hinged arms carried by the troughs with racks on the sides of the joists with which said hinged arms are adapted to engage whereby the troughs may be supported in any adjusted position and removed for cleaning, substantially as described.

3. In a refrigerator, the combination with an ice chamber and refrigerator chamber having apertures in its bottom, a provision chamber, a series of joists supporting the perforated bottom of the ice chamber, and a series of troughs arranged in the spaces between the joists and having curved hooks whereby they may be hinged to the face of the joists, hinged legs and racks secured on the face of the joists with which said legs are adapted to engage, substantially as described.

FREDERICK LUSCHE.

Witnesses:
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N. M. BOND.