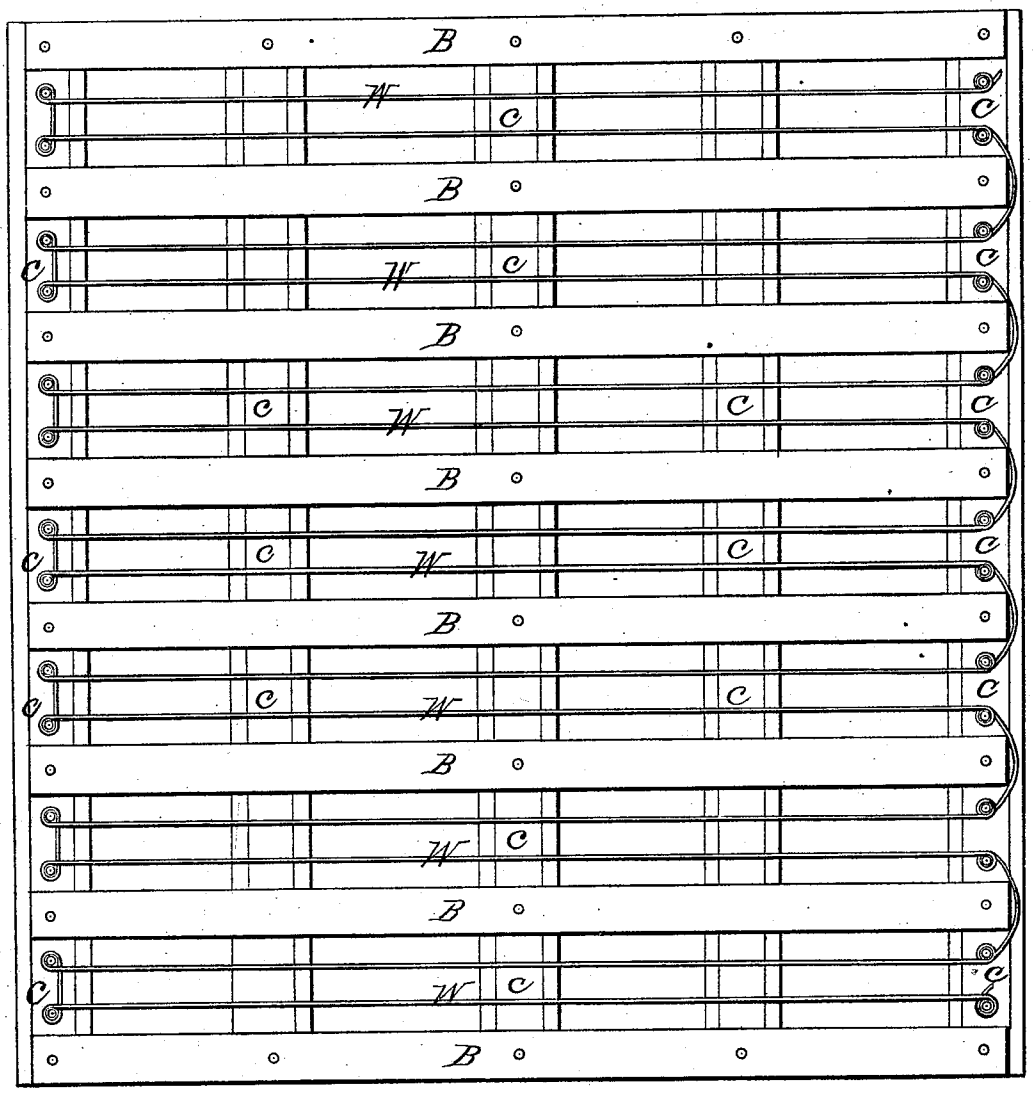
2 Sheets--Sheet 1.

J. TIFFANY.

Refrigerator-Floor.

No. 159,718. Patented Feb. 9, 1875.

Fig 1



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2 Sheets--Sheet 2.

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Refrigerator-Floor.

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Fig 2

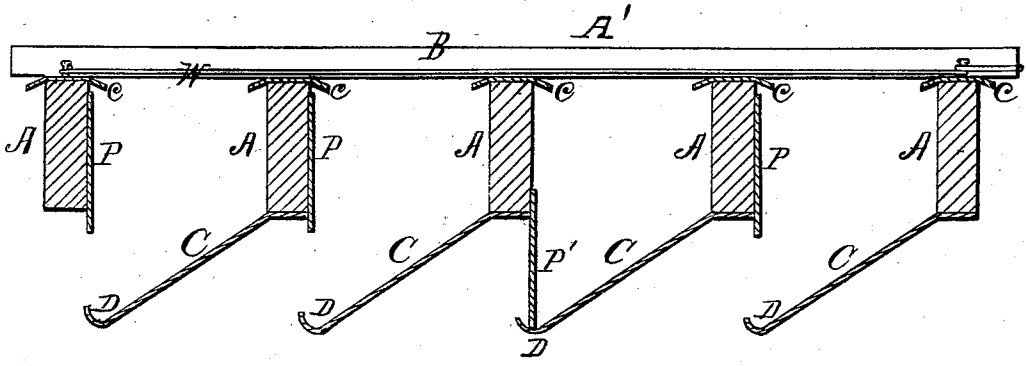
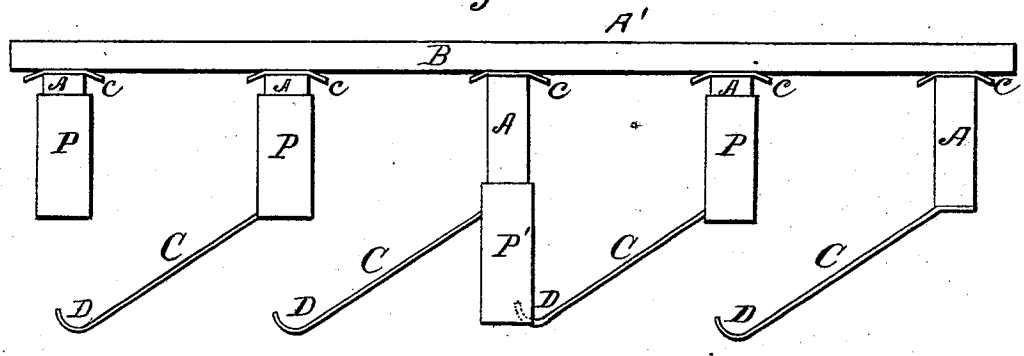


Fig 3



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UNITED STATES PATENT OFFICE.

JOEL TIFFANY, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN REFRIGERATOR-FLOORS.

Specification forming part of Letters Patent No. **159,718**, dated February 9, 1875; application filed December 5, 1874.

To all whom it may concern:

Be it known that I, JOEL TIFFANY, of Chicago, in the county of Cook and State of Illinois, have invented a new and valuable Improvement in Refrigerator-Floors; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my refrigerator-floor, and Fig. 2 is a transverse vertical sectional view of the same. Fig. 3 is an end view.

The object of this improvement is to so combine a floor or rack for supporting ice in an ice chamber or room with a ceiling to a cooling chamber or room underneath the same as to give the air of the cooling-room free access to the ice above, or to a metallic or other floor, on which the ice may be placed, above, so as to secure the benefits of the temperature imparted by the ice to the air without subjecting the cooling or other room underneath the ice-room to moisture occasioned by the melting ice, or by condensation on the surfaces within the same.

I have learned by divers experiments that when free access of air in a lower room is maintained to the ice in a room above or overhead, all deposits of moisture or effluvia are made upon the ice, and are carried away in the drip therefrom; that even the cooling-surfaces of iron are kept dry when the air charged with moisture has free access to the ice over the iron; that ice exposed in the top of a room becomes a powerful disinfectant of the atmosphere within the same.

To avail myself of this principle in the construction of ice and refrigerating rooms, I have arranged to place the ice in the top of the same, or in a room over the cooling-room, upon a metallic floor, or upon a rack full of openings, so that the air may have free access to the ice above and make its deposits upon the same, or, where a floor is used, upon the under side thereof. I then apply inclines under the rack or floor to catch the water of condensation and the drip, and convey it by means of gutters from the room. In this way I can secure a temperature as low as can be obtained from ice, and at the same time a dry atmosphere.

To enable those skilled in this particular art to make, construct, and apply my invention as above set forth, I will proceed particularly to describe the same.

In the annexed drawings, A A designate joists, upon which are transversely applied a suitable number of rack-sticks, B, forming a species of grating. These joists may be of iron or of wood, and may be provided with metal caps *c*, which are designed to turn away the water produced in the melting of ice from the same, and to prevent them, when made of iron, from becoming oxidized, or, when made of wood, from becoming water-sobbed. Between these rack-sticks B are arranged wire, wire meshes, or other similar fabrics, W, which are designed to prevent small pieces of ice from falling into a room below, and not being subjected to any other strain than that of those small parts of the ice which become casually detached from the large masses of the same upon the rack or grating, it is not required that they should be of great strength. The joists A, rack-sticks B, and wires W constitute the floor A′ of an ice-chamber. I next proceed to combine with this grating or ice-chamber floor a ceiling for the room underneath, which is composed of a number of inclined plates C, which may be of metal or wood, though I prefer wood as being cheaper and more durable, each incline being provided with a gutter, D, as shown in Figs. 2 and 3.

An examination of this figure will show the openings from the room below directly to the ice resting upon the racks B in the room above, or, if a floor is used, directly against the same, and the inclined plates C are shown extending obliquely across and covering the openings between the joists A A; hence all the drippings from the ice, or from the caps *c* of the said joists, will be received by the inclined plates C, and conveyed from the room by the gutters D. In this manner a perfect and uninterrupted circulation of air over the ice is obtained, and yet no water is allowed to penetrate into the chamber below, it being received by the inclined plates and carried away by the gutters, as above described.

In order to control the temperature of the room below I employ stops or cut-offs P, which may be attached to the joists A, so as to slide up or down, may be hinged to the same, or to the inclined plates C, as may be found most convenient.

When the stops are put down, as shown at P′, communication with the ice through the opening above it will be cut off, and any degree of temperature may be obtained by closing in the same manner a greater or less number of these openings.

These stops will be found to be a valuable part of the improvement.

What I claim as new, and desire to secure by Letters Patent, is—

1. The ice-floor A′, in combination with the inclined plates C and stops or cut-offs P, operating substantially as and for the purpose set forth.

2. The stops or cut-offs P P′, in combination with the inclined plates C and the joists A, as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOEL TIFFANY.

Witnesses:
F. J. MASI,
GEORGE E. UPHAM.