

J. FINK.
REFRIGERATOR.

No. 172,986.

Patented Feb. 1, 1876.

Fig. 1.

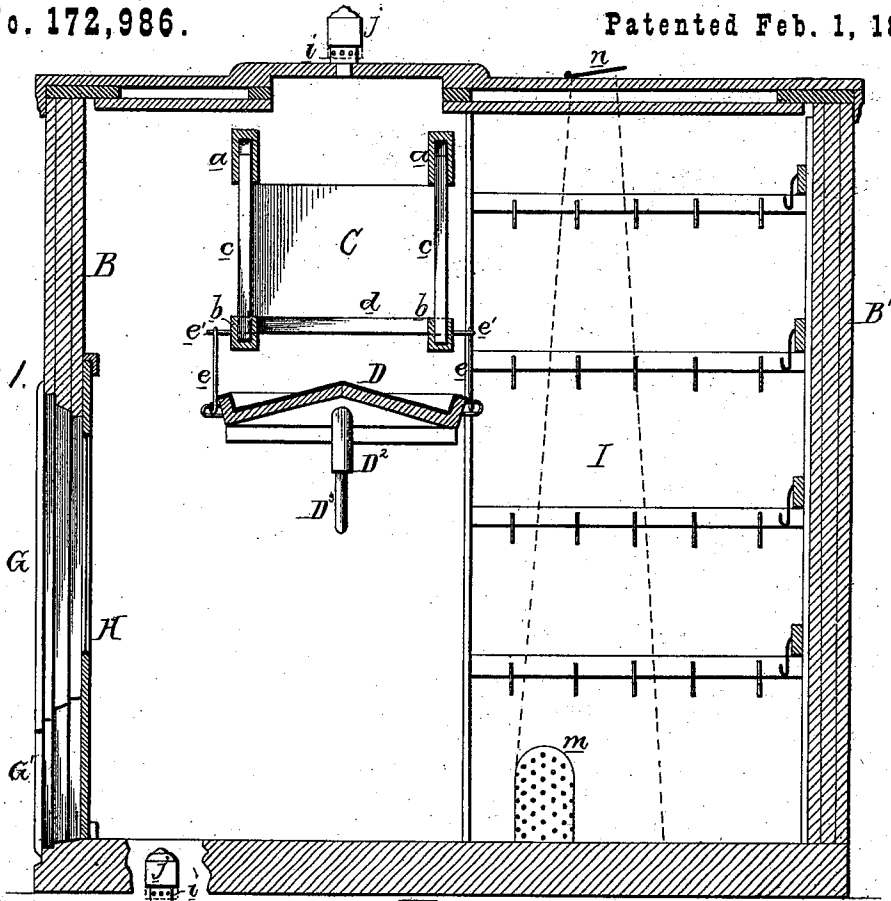


Fig. 3.

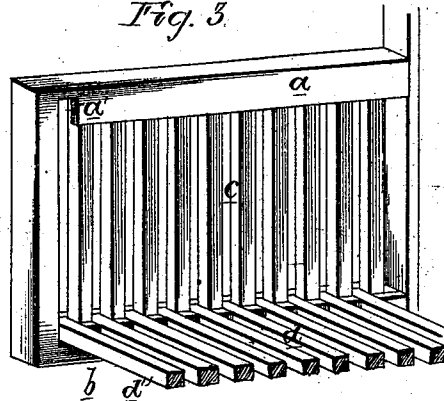


Fig. 2.

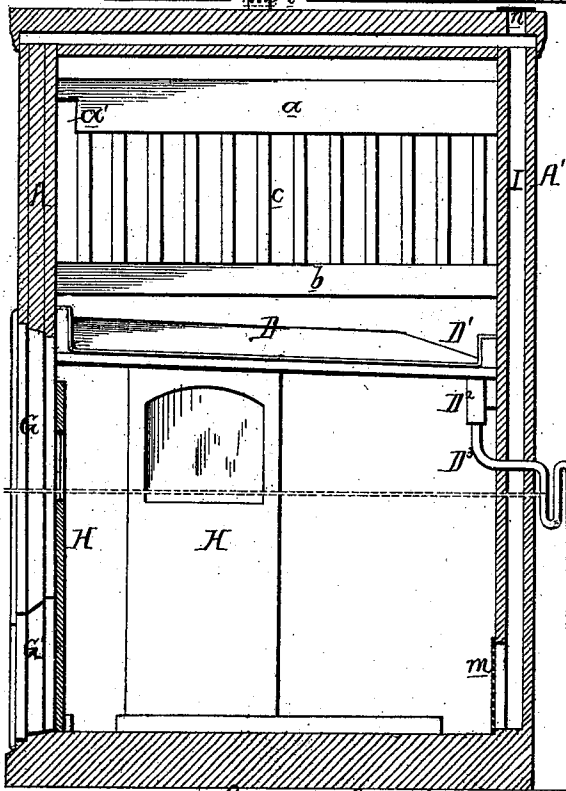
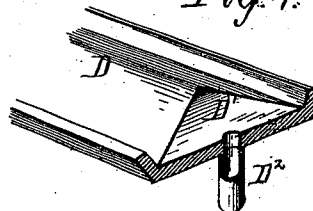


Fig. 4.



Witnesses Harry Smith
Thomas M. Drain

John Fink
by his Attorneys
Hudson and Son

UNITED STATES PATENT OFFICE.

JOHN FINK, OF READING, PENNSYLVANIA, ASSIGNOR TO HIMSELF, NATHAN M. EISENHOWER, AND AMOS HUYETT, OF SAME PLACE.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **172,986**, dated February 1, 1876; application filed November 30, 1875.

To all whom it may concern:

Be it known that I, JOHN FINK, of Reading, Pennsylvania, have invented certain Improvements in Refrigerators, of which the following is a specification:

My invention relates especially to improvements in that class of refrigerators which are used by butchers and others for preserving fresh meat and provisions; and the objects of my invention are to so construct a refrigerator of this class as to insure the maintenance of a low temperature within the same, and to provide for the ready escape of foul or heated air. These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a longitudinal section of my improved refrigerator; Fig. 2, a transverse section of the same, and Figs. 3 and 4 detached perspective views illustrating features of my invention.

A and A' are the front and back, and B and B' the opposite sides, of the refrigerator, the interior of which is provided with the usual ice-box C, and drip-pan D, and with slats provided with hooks on which the meat or other provisions are hung. The ice-box C is of peculiar construction, as shown more fully in Fig. 3, being provided with two upper and two lower longitudinal slotted bars, *a a* and *b b*, the former of which receive the upper ends of the side slats *c* of the box, while the latter receive the lower ends of the said slats, and are also slotted on the inside, for the reception of the opposite ends of the bottom slats *d*. The upper bars *a a* are also slotted at one side at a point, *a'*, immediately above the end slat *d'* of the series which forms the bottom of the box, so that, by first removing this end slat *d'*, the first slat of the series which forms either side of the box can be moved along so that its lower end corresponds with the opening left by the removal of said slat *d*, and its upper end with the opening *a'*, when it can be withdrawn, the same plan being followed with each of the bottom and side strips alternately, until the box is entirely taken apart. The top bars *a* and bottom bars *b*, may also be so se-

cured to the refrigerator that they, too, may be removed.

The drip-pan D is secured to the bottom bars *b* of the ice-box by means of hooks *e* and staples *e'*, so that it can be readily unhooked and removed, the drip-catcher, consisting of the ordinary wooden-lined V-shaped tray, having ledges at its sides for directing the drip-water to one end. The tray, however, instead of having at the end two pipes converging from the opposite corners of the same to a central discharge-pipe, has at one end an inclined surface, *D¹*, for conducting the drip-water to a central opening and discharge-pipe, *D²*, which is connected to a conducting-tube, *D³*, provided on the outside of the refrigerator with a goose-neck, which prevents the access of air through the same into the interior.

The use of the inclined end on the tray D and the single discharge-pipe, lessens the area of pipe exposed to the air in the refrigerator—an important point, as this exposed pipe causes the condensation of the moisture within the refrigerator, and renders the same damp.

Both the front and side of the refrigerator are, in the present instance, provided with entrance-doors, which are constructed as shown in Figs. 1 and 2. The upper portion G of the door is hinged to the frame of the refrigerator in the usual manner, but the lower portion, G', merely fits into the opening, and is retained in place therein by suitable hooks or catches at the edges, so that, upon opening the door G, the lower portion remains in place, but can readily be removed by turning the catches. The object of this arrangement is to prevent the escape of cold air from the bottom of the provision-chamber while provisions are being passed into or removed from the same through the door G, but to allow the entire opening to be uncovered when the interior of the said chamber is being cleansed, or for other purposes. Within each of the main doors of the refrigerator is arranged, in the present instance, a sliding glazed door, H, which, when moved back, does not interfere with free egress or ingress through said door, but, when drawn forward,

closes the opening and prevents the escape of cold air or the egress of heated air, without interfering with the entrance of light.

In the top of the refrigerator immediately over the ice-box is an opening, above which is a perforated tube, *i*, having a cap, *j*, which acts as a valve, lifting to permit the escape of heated air from the top of the provision-chamber, and closing immediately after such escape, to prevent the escape of outside air.

Foul air, which, owing to its heaviness accumulates at the bottom of the chamber, enters, through a grated opening, *m*, a flue, *I*, formed in the back wall *A'*, and, becoming heated therein, ascends, and, raising the valve *n* at the top of said flue, escapes. The flue *I*, as will be seen in Fig. 1, decreases in width from the bottom toward the top, in order that the air, in passing upward, may accumulate force enough to lift the valve *n*.

It will be evident that, by the above-described construction, the escape of foul and heated air are provided for, and the escape of the cold air prevented, a low temperature within the provision-chamber being thus maintained with a small expenditure of ice.

I claim as my invention—

1. An ice-box for refrigerators, in which side slats *c* and bottom slats *d* are combined

with each other and with slotted top and bottom bars *a a* and *b b*, substantially as and for the purpose herein set forth.

2. The drip-pan *D*, consisting of a V-shaped tray having at one end an inclined surface, *D*¹, and central opening and discharge-pipe *D*², as set forth.

3. A door for refrigerators, consisting of an upper hinged portion, *G*, and a lower portion, *G'*, fitted to the opening and secured by suitable catches at the edges, so as to be readily removable, as and for the purpose set forth.

4. The perforated tube *i*, located in the top of the refrigerator, immediately over the ice-box, and provided with a loose sliding cap, *j*, so arranged as to be operated by the pressure of the air within the refrigerator, as set forth.

5. The combination of the provision-chamber of a refrigerator with the tapering flue *I*, its opening *m* at the bottom, and automatic valve *n* at the top, as set forth.

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

JOHN FINK.

Witnesses:

HARRY HOWSON, Jr.,
HARRY SMITH.