T. D. KINGAN.

Refrigerators.

No. 142,796. Patented September 16, 1873.

Fig. 1.

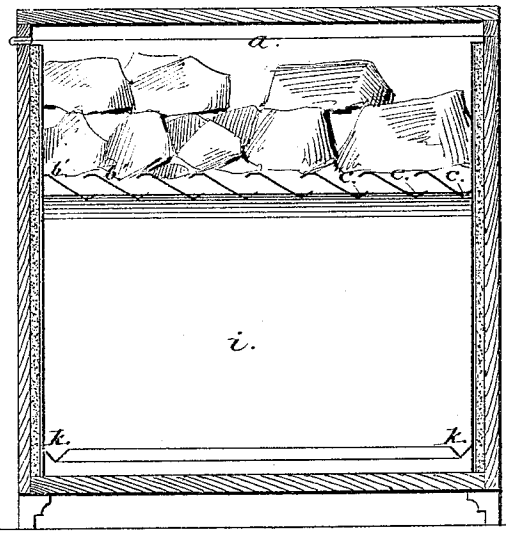


Fig. 3.

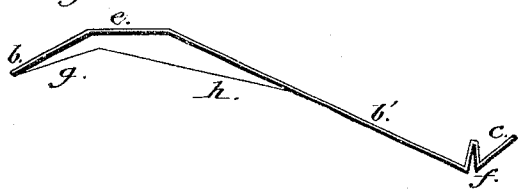
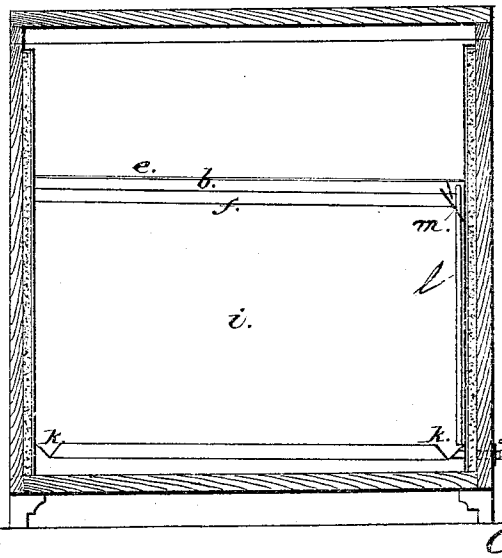


Fig. 2.



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UNITED STATES PATENT OFFICE.

THOMAS D. KINGAN, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **142,796**, dated September 16, 1873; application filed September 5, 1873.

To all whom it may concern:

Be it known that I, THOMAS D. KINGAN, of the city of Indianapolis, county of Marion, State of Indiana, have invented an Improvement in Refrigerators, of which the following is a specification:

The nature of the invention will be understood from the following general description and the accompanying drawings.

Figure 1 of the accompanying drawings is a transverse vertical section of the device. Fig. 2 is a vertical longitudinal section of the same; Fig. 3, a transverse section of one of the drip-troughs.

A suitable box or chamber, *a i*, having been provided, at a convenient distance from the top are placed the drip-troughs *b e b′ c*, each so arranged that the narrow edge *b* will overhang the trough *b′ c* of the next, as shown in said Fig. 1. These troughs *b′ c* communicate with the lead-trough *m* by means of holes just large enough, and no more, to keep said troughs *b′ c* from overflowing. The pipe *l* is provided to carry off the drip-water. It may either empty into the drip-pan *k*, or it may be conducted without the chamber *a i*. The upper end of this pipe *l* is raised so high above the holes, by which the troughs *b′ c* communicate with *m*, that some of the drip-water will always stand in these troughs. Upon the part *e*, which is a plane surface at the top of *b e b′*, the ice is to be placed. If it be desirable, this part *e* may be faced with wood to keep the ice from coming into contact with the metal. If it be found necessary to strengthen this part of the device, it may be effected by adding the plate *g h*, bent as shown in the drawing in Fig. 3. The whole trough *b e b′ c* is inclined a little lengthwise, as shown in Fig. 2. The metal plate of which *b e b′ c* is composed is so bent as to form a groove, *f*, in the under side of the part *b′ c*, standing as shown in the drawing. All the various parts of the device are to be as represented in the drawing.

To use this device, the ice is to be deposited upon *e*. As it melts the water flows down the sides *b* and *b′*, each way, and falls into the troughs *b′ c*. As this water runs out it is detained in considerable body in each of the troughs *b′ c* by the arrangement of the pipe *l*. As the atmosphere in the upper part of the refrigerator becomes condensed, and falls downward through the spaces between *b′ c* and the plates *b*, pressing the warmer air from the bottom upward, this warm air must first pass the troughs of cool drip-water before it reaches the ice. Its temperature is greatly reduced by this, so that it will melt the ice much more slowly when it impinges upon it. The moisture condensed from the air upon the under side of *b′ c* will ooze down to the groove *f*, where it will be caught by the groove *f*, and by it conveyed away against the bottom of the lead-trough *m*. From there it will trickle down into the drip-pan *k*, from whence it may be conducted without the chamber. To prevent this groove *f* from communicating with the trough *m*, its end next to that trough is stopped or soldered up, so that all its moisture must trickle down the bottom of the said trough *m*, and be conveyed away, as before described.

The part *i* of the chamber may be fitted with any convenient devices, in the way of shelves, rack, and the like, for holding articles to be preserved.

I claim—

1. The drip-troughs *b e b′ c*, when the same are so constructed as to combine the ice-rest *e*, the drip-plates *b* and *b′*, the troughs *b′ c*, and the grooves *f* all in one single piece, and when used as and for the purpose substantially as set forth.

2. The arrangement of the troughs *b′ c*, the holes by which they communicate with the trough *m*, the trough *m*, and the pipe *l*, whereby the drip-water is detained, for the purpose and in the way substantially as hereinbefore set forth.

In testimony that I claim the foregoing specification I have hereto set my hand this 1st day of September, 1873.

THOMAS D. KINGAN.

Witnesses:

FRED. WERHE,

F. M. MCDONALD.