J. H. RIDGWAY.

Refrigerator.

No. 159,843. Patented Feb. 16, 1875.

FIG. 1.

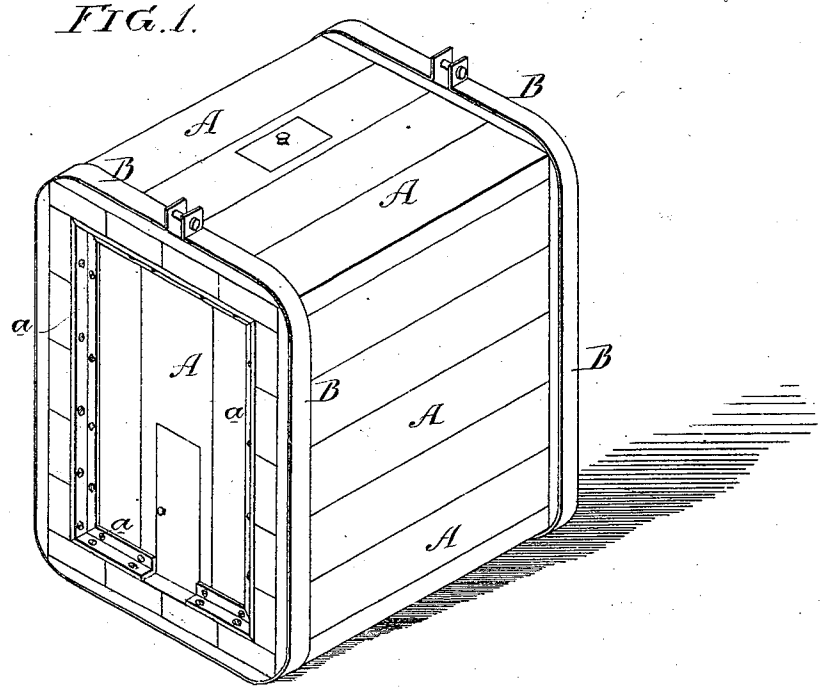


FIG. 2.

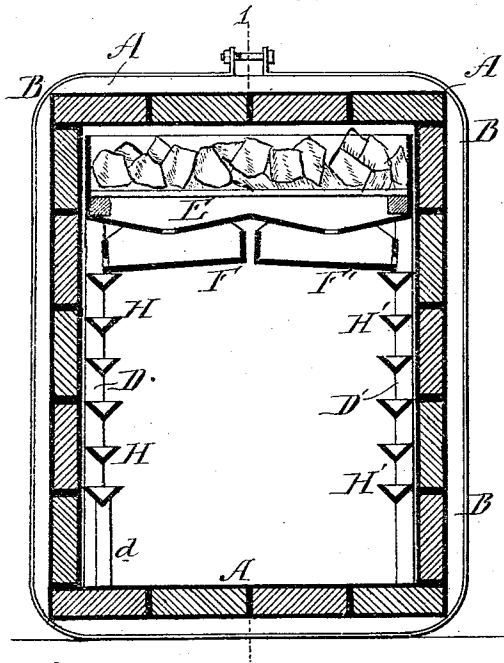
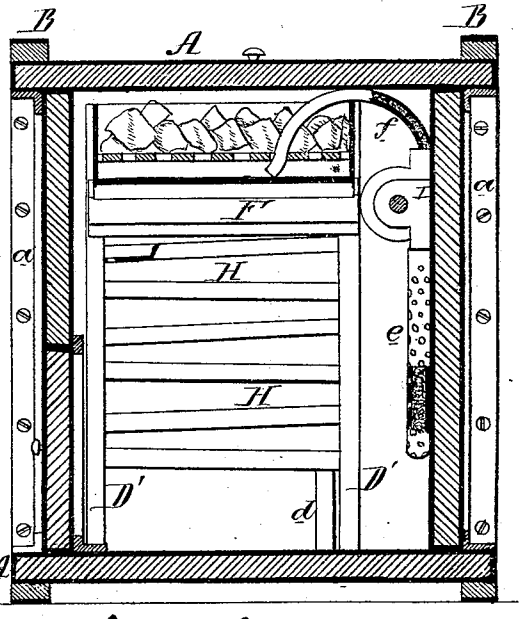


FIG. 3.



Witnesses,
Harry Smith
Thomas M. Swann

Jobn. H. Ridgway
by his Attys.
Stinson and Son.

UNITED STATES PATENT OFFICE.

JOB H. RIDGWAY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **159,843**, dated February 16, 1875; application filed September 11, 1874.

To all whom it may concern:

Be it known that I, JOB H. RIDGWAY, of Philadelphia, Pennsylvania, have invented an Improved Refrigerating Apparatus, of which the following is a specification:

The objects of my invention are to so construct a refrigerator as to economize the consumption of ice, and to prevent the accumulation of condensed moisture in the cooling-chamber; and 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 perspective view of the refrigerator; Fig. 2, a transverse section; and Fig. 3, a section on the line 1 2, Fig. 2.

The refrigerator is composed of a number of sections, A, each of which is complete within itself, and consists of a box packed with non-conducting material, the sections being built up as shown in the perspective view, Fig. 1, or in any other suitable manner, and being then bound together by straps or bands B, which are tightened by bolts and nuts, or otherwise, the structure being stiffened and strengthened by corner-pieces *a*, which are secured to the sections by screws or other fastenings. In the interior of the refrigerator are fitted two frames, D D, which support the ice-box E and drip-catchers F F′; and to these frames are also fitted two sets of metal troughs, H H′, which are inclined in the manner shown in Fig. 3, the uppermost of each set of troughs receiving the cold water from the drip-catchers, and this water flowing along the troughs and passing from one trough to the other until it reaches the outlet *d*. The zigzag course taken by the drip-water confines it within the refrigerator for such a length of time that all its refrigerating properties are made available. Any moisture which condenses upon the outside of the V-shaped troughs H and H′ will, owing to this V shape, drop into the next lower trough of the series, the accumulation of condensed moisture in the cooling-chamber being thus prevented. At a convenient point in the interior of the refrigerator I arrange a fan-blower, I, which may be driven by hand or from any neighboring shaft. A perforated pipe, *e*, communicates with the inlet, and a pipe, *f*, with the outlet-opening of the fan-blower, these pipes containing charcoal or other material which will absorb impurities. When the air within the refrigerator becomes foul the fan is set in motion, and the air caused to pass through the pipes *e* and *f*, the absorbent material which these pipes contain retaining the impurities, so that the air expelled from the pipe *f* will be in a pure condition, the air in the refrigerator being thus used over and over again. It will be observed on reference to Fig. 3 that the outlet-pipe *f* discharges the air into the drip-catcher beneath the ice-box instead of against the ice itself, the cold metal surface of the drip-catcher and the water which it contains cooling the air as effectually as though it were forced through the mass of ice, the consumption of which is materially lessened.

I claim as my invention—

1. The combination of the ice-box of a refrigerator with a series of V-shaped troughs, arranged one above the other, inclined alternately in contrary directions, and serving to conduct the drip-water from the ice-box, as set forth.

2. The combination, in a refrigerator, of a fan-blower, I, with the perforated suction-pipe *e*, containing absorbent material, and the outlet-pipe *f*, also containing absorbent material, and discharging the air into the drip-catcher below the ice-box, all substantially as and for the purpose set forth.

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

JOB H. RIDGWAY.

Witnesses:

HARRY SMITH,

HUBERT HOWSON.