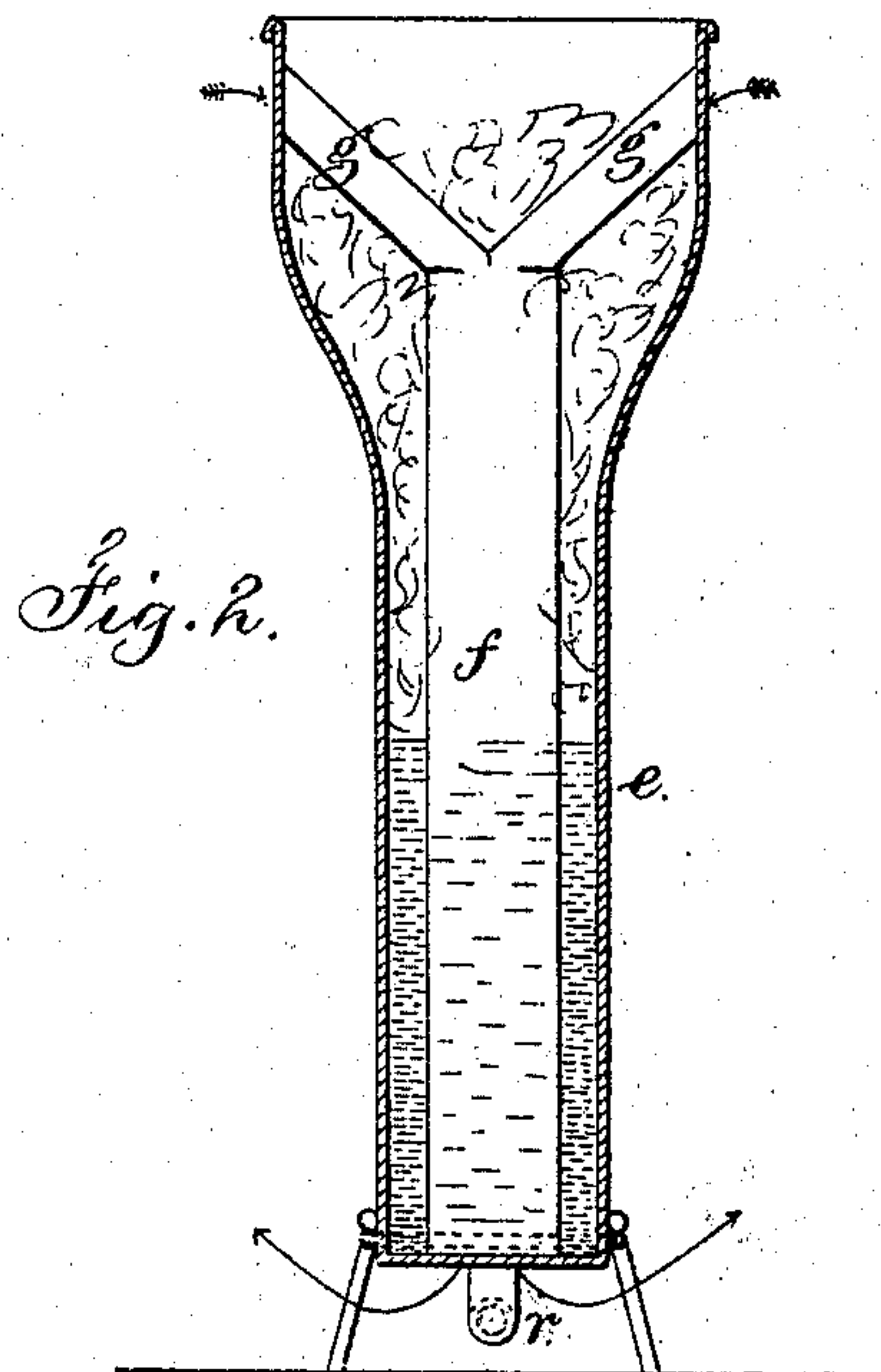
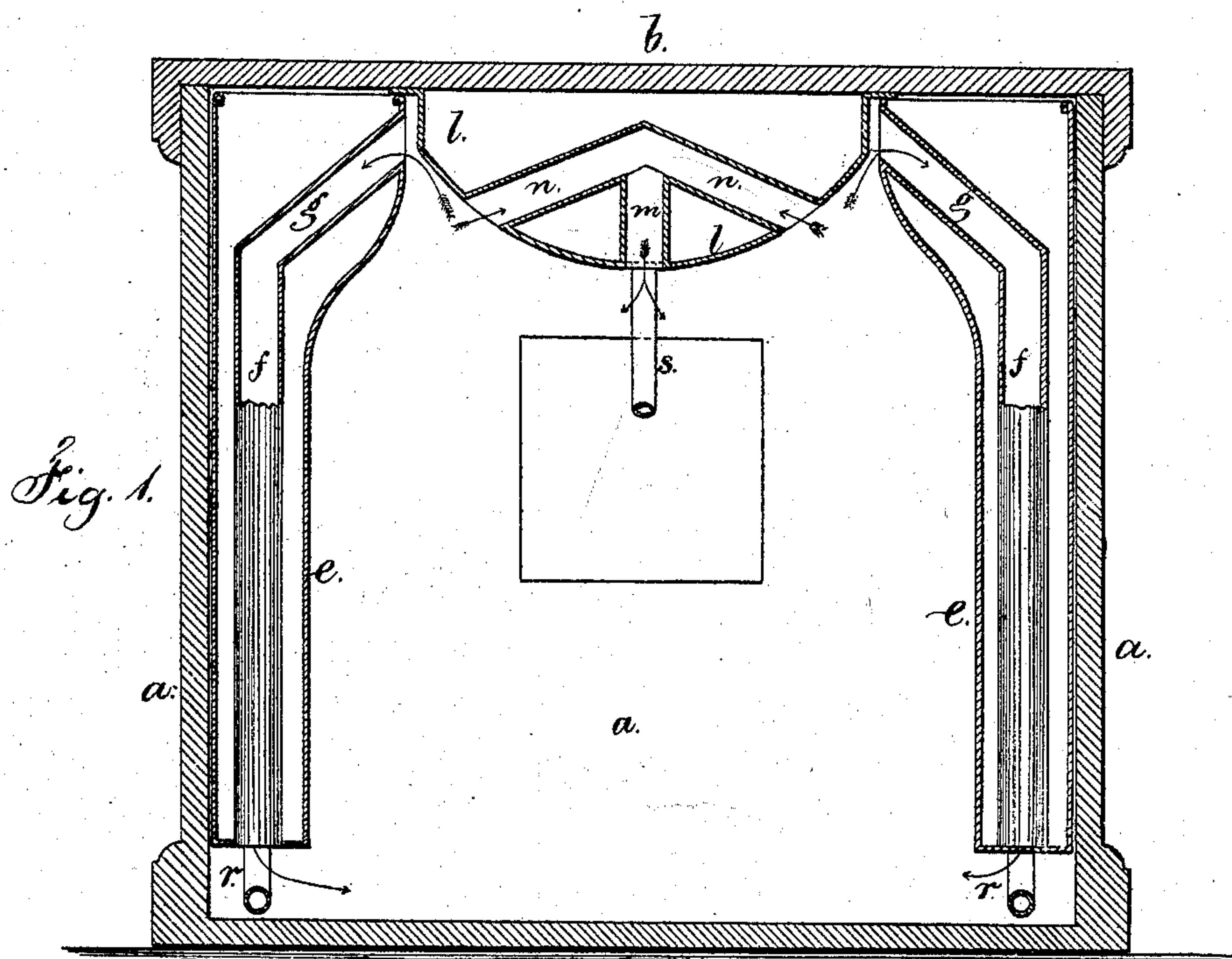


J. J. BAILEY.
Refrigerators.

No. 138,364.

Patented April 29, 1873.



Witnesses,

Chas. H. Smith
Geo. D. Walker.

Inventor

John J. Bailey
Lemuel W. Perrell atty.

UNITED STATES PATENT OFFICE.

JOHN J. BAILEY, OF NEW YORK, N. Y.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **138,364**, dated April 29, 1873; application filed March 21, 1873.

To all whom it may concern:

Be it known that I, JOHN J. BAILEY, of the city and State of New York, have invented an Improvement in Refrigerators, of which the following is a specification:

This improvement is adapted to preserving game, meat, and other articles by a low temperature, or by freezing such articles.

I make use of a chamber, in which are hollow sides of metal to contain ice, or ice and salt, and through the ice-space are air-tubes with lateral openings at the upper ends, so that the atmosphere may enter the upper ends of these tubes and descend and pass out at the lower ends into the refrigerating-chamber, thereby producing a circulation of the atmosphere without the same coming into contact with the ice. These hollow sides may be made double, to form partitions in the refrigerating-chamber. The top of the chamber is a metal vessel, made semi-cylindrical or trough-shaped, into which the ice is placed, and in which vessel there are tubes entering laterally, and connected with vertical central tubes, so as to form circulating-pipes.

In the drawing, Figure 1 is a vertical section of the refrigerating-chamber and ice-holding vessels, and Fig. 2 is a transverse section of one of the partitions with double air-tubes.

The chamber or ice-house is of suitable size, and made with proper walls, *a*, and ceiling *b*, to exclude atmospheric influences. A door is to be provided for the same. The metallic ice-holding vessels *e e* are made of a size to set against the sides or walls *a* of the refrigerating-chamber, and they are supported at a suitable distance from the floor upon blocks or feet, and the ice is supplied from the top, preferably in a cracked condition, and mixed with salt. The air-pipes *f* pass vertically up through the ice-space, and are made with lateral branches *g* that open out through the sides of the chamber. The air circulates through these tubes in the direction shown by the arrows, and said atmosphere becomes intensely cold, so that the temperature of the refrigerat-

ing-chamber can be regulated as required, either by using the ice-holders at both ends, or at one end, and inserting more or less ice; and in cases where a very low temperature is required the ice-chamber shown in Fig. 2 is introduced and forms a partition in such chamber, and the operation of this is the same as that before described, only the lateral branches *g* pass out at both sides of the chamber. The pipes *f g* are placed at suitable distances apart, longitudinally of the respective chambers.

The semi-cylindrical or trough-shaped vessel *l* is placed in the top of the refrigerating-chamber, and receives the ice as aforesaid, and in this are circulating air-tubes formed of the vertical pipe *m* and horizontal or lateral tubes *n* that pass in from the sides of the vessel *l*; hence the atmosphere in such tubes is cooled and circulates in the direction of the arrows.

This construction of refrigerator insures a great extent of surface for cooling the air, and but little space is occupied in the refrigerator.

The pipes *r* and *s* serve to convey away the water when the same is removed from the ice-spaces.

I do not herein claim air-circulating tubes passing through an ice-space, as the same may be seen in the patent granted me August 6, 1872, No. 130,271.

I claim as my invention—

1. The hollow walls of the refrigerator provided with vertical air-tubes and one or more lateral pipes, *g*, passing through the sides of said walls, as and for the purposes set forth.

2. The vessel *l* of a semi-cylindrical shape, and applied in the top of the refrigerating-chamber, and provided with vertical air-tubes *m* and lateral tubes *n n*, as and for the purposes set forth.

Signed by me this 17th day of March, A. D. 1873.

JOHN J. BAILEY.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.