

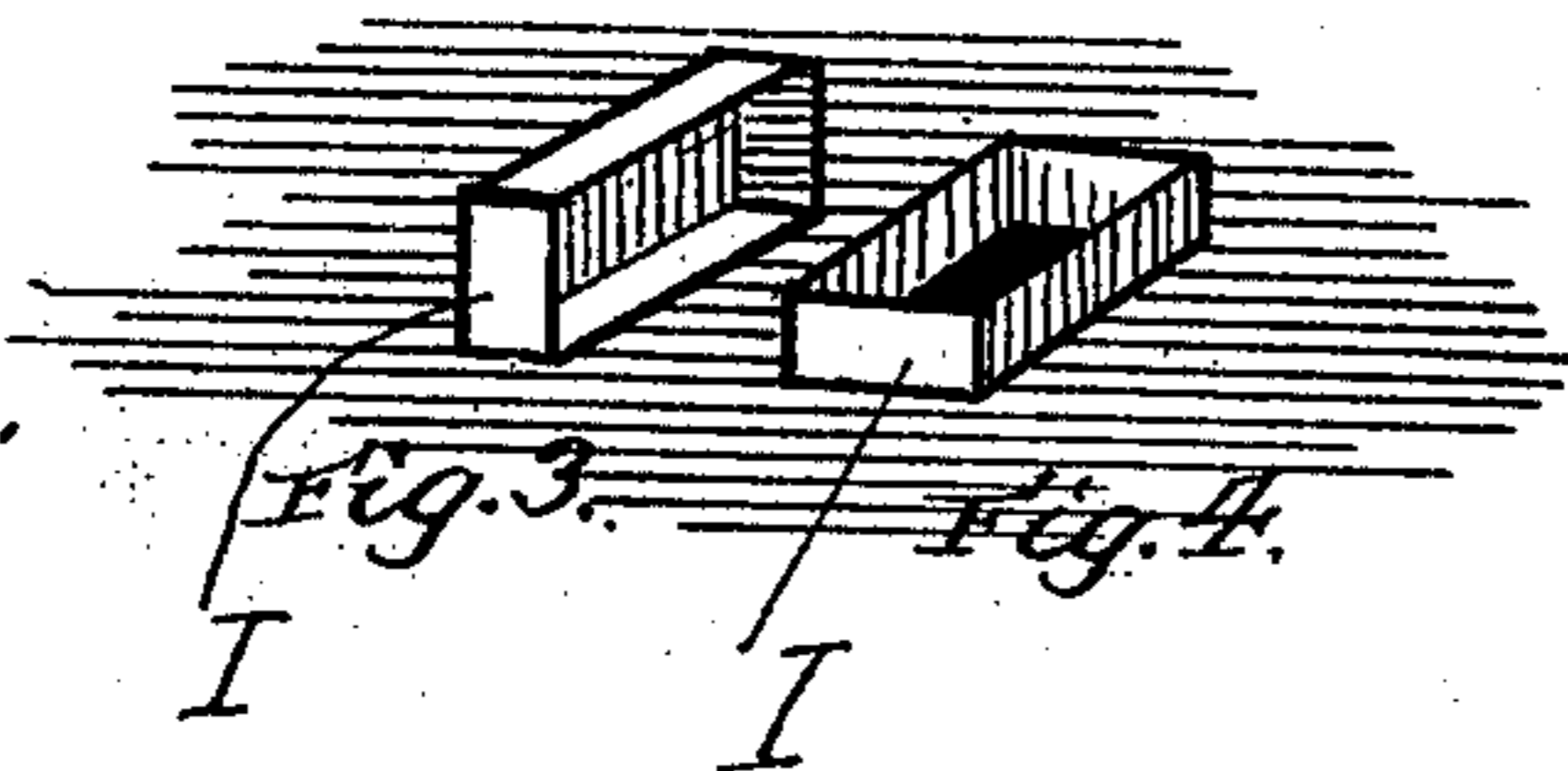
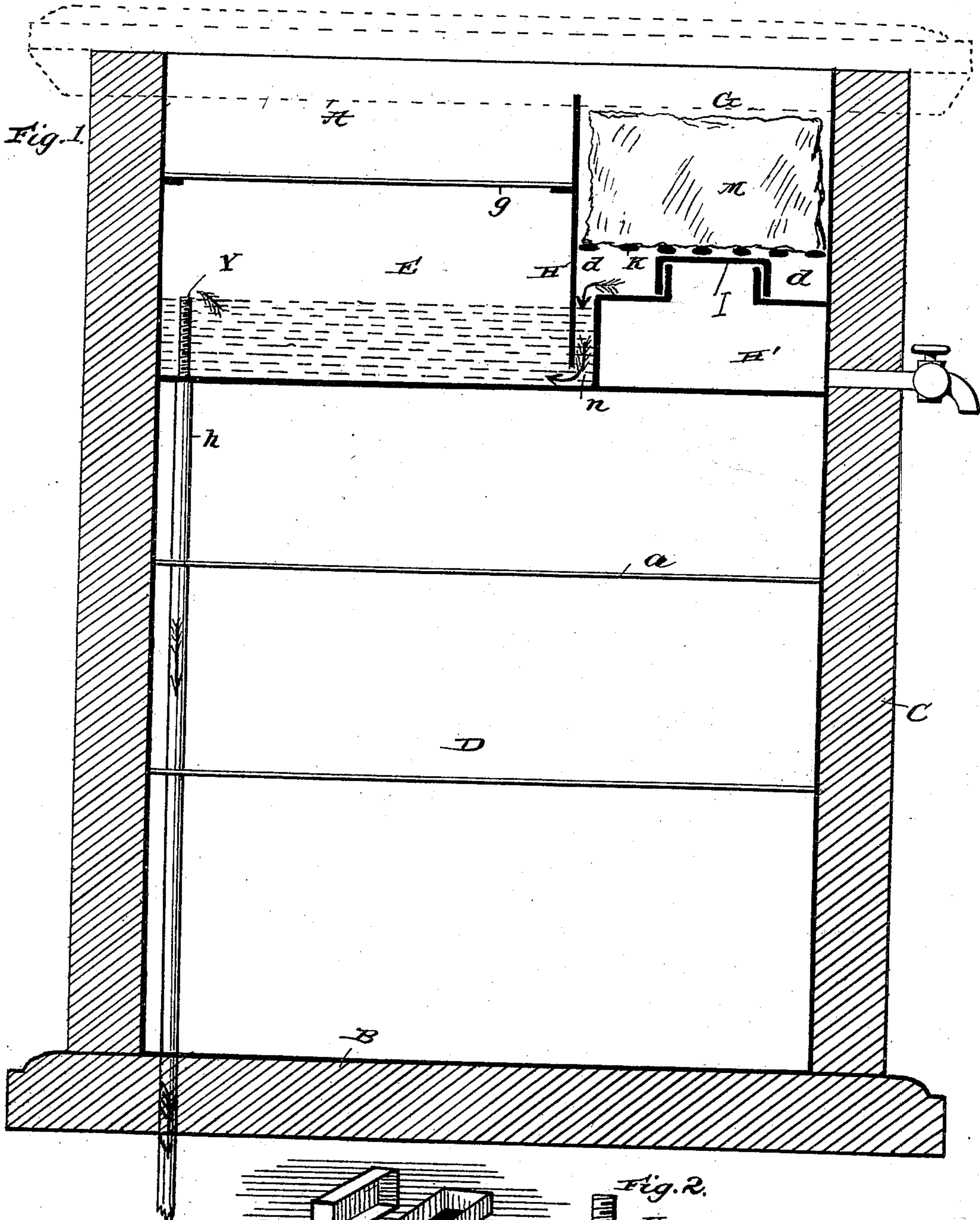
No. 638,255.

O. G. MATHEWSON.  
REFRIGERATOR.

Patented Dec. 5, 1899.

(Application filed Feb. 16, 1899.)

(No Model.)



witnesses:  
*E. Raeder*  
*J. L. Coney*

Inventor  
*Otis G. Mathewson*  
By *James J. Sherry*  
att. - Attorney

# UNITED STATES PATENT OFFICE.

OTIS G. MATHEWSON, OF TOPEKA, KANSAS.

## REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 638,255, dated December 5, 1899.

Application filed February 16, 1899. Serial No. 705,630. (No model.)

*To all whom it may concern:*

Be it known that I, OTIS G. MATHEWSON, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented new and useful Improvements in Refrigerators, of which the following is a specification.

My invention relates to refrigerators; and it consists mainly in certain improvements for saving and utilizing the drip-water from melting ice, as hereinafter specified and claimed.

In refrigerators heretofore constructed it has been usual to provide means by which the water formed by the melting ice shall be conveyed downward through the bottom or side of the main box or tank, and hence much of the cooling qualities of the ice has been lost. To remedy this defect and at the same time to provide a mass of ice-water in which pans of milk and other substance may sit and cool and be drawn off at will is the object of this invention. This object is attained by the means substantially as follows, reference being had to the drawings accompanying this specification and to the letters of reference marked thereon.

Figure 1 of the drawings represents a vertical sectional view of my refrigerator. Fig. 2 is a sectional view of a fixed waste-pipe and an adjustable and removable tube arranged therein by screw-threads or other suitable means, and Figs. 3 and 4 are details.

The letter A represents the cover of my refrigerator, B the bottom, and C the walls thereof.

The letter D represents the lower compartment of my refrigerator, provided with shelves for holding matter designed for cooling and is constructed in the usual form. The shelves are marked *a* on the drawings.

The upper portion of my refrigerator is divided into two compartments or chambers, one of which is the cooling-chamber and marked E, and the other is the ice and drinking-water chamber, (marked G.) The wall between these two chambers is marked H on the drawings. This division-wall is united at its sides with the front and rear walls of the main tank and extends downward to within about an inch, more or less, of the bottom of the upper chambers to provide a passage for

the drip-water from the ice into the cooling-chamber, as hereinafter mentioned. This passage is marked *n* on the drawings. 55

The chamber G is mainly designed for holding the ice, but is also utilized for holding a tank of water designed for drinking purposes. Said tank is marked H' on the drawings. A suitable inlet-pipe is provided for filling this tank with water, which preferably is made in funnel shape, and also an exit-opening provided with a faucet for drawing off the water when required. 60

Figs. 3 and 4 represent the cap I, that covers the drinking-tank, which is removable at will. The cap secures the drinking-water from the drip of the ice and is suitably supported above a collar-flange on the upper wall of the tank H', so as to afford a passage for cold air between it and said collar-flange. 70

The letter K represents an ice-holding grate, which rests upon or immediately over the cap of tank H', as shown, and the letter M represents a body of ice resting thereon. I furthermore leave a space between the side of the drinking-water tank and the partition-wall H. This space is usually about one inch in width, more or less, and is marked *d* on the drawings. This space is designed for the passage of drip-water from the ice into the cooling-chamber. The arrows shown in chamber G indicate the passage-way of drip-water from the ice to chamber E under the partition-wall. 80

I prefer to arrange one or more shelves in chamber E and have indicated one by the letter *g*. I also arrange an escape-pipe, (marked *h*,) which extends from the bottom of the cooling-chamber downward through the compartment D to any desired location. The top of this pipe *h* is made secure in the bottom of chamber E and is preferably provided with screw-threads on its inner side, extending downward three or four inches to provide for the adjustment up or down of a removable and adjustable threaded pipe, (marked Y.) This pipe Y is designed to act as a regulator to secure the height of water in the cooling-chamber that may be desired. It is obvious that this object is accomplished by raising the pipe by unscrewing and lowering it by screwing downward within the threads of the escape-pipe. In very many cases screw- 100

threads may be dispensed with in these pipes, and a close-fitting adjustable pipe Y may be substituted that will be held in the position required by friction only. This may be done  
 5 in cases when a slight leakage between the pipes would not be harmful.

My device operates as follows, namely: When the adjustable pipe is arranged in the position desired and the ice begins to melt,  
 10 the drippings will pass from the chamber G through the passages *d* and *n* into the chamber E and will rise therein until it reaches the top of pipe Y, when its surface will pass off through the waste-pipe. A constant cur-  
 15 rent of ice-water is thereby secured within the cooling-chamber and only that portion of the water which is least cool will be wasted, because the surface of such a body of water is always less cool than any other portion  
 20 thereof. I find by experiment that a body of water so secured in the chamber E when about five feet square and six inches in depth is warmer by about two degrees at its surface than at its bottom. Whenever it is desired  
 25 for cleaning or other purposes to free the chamber E from water, I withdraw the pipe Y from the waste-pipe and the object is speedily accomplished.

I claim as my invention—

30 1. A refrigerator comprising an ice-compartment and a cold-water compartment separated by a division-wall H and connected by a passage *n*, an ice-supporting grate arranged in the ice-compartment, a drinking-water  
 35 tank located in the ice-compartment below the grate and having an opening in its upper wall surrounded by a collar-flange, and a cap

of larger size than said collar-flange suitably supported over the same, substantially as specified. 40

2. A refrigerator comprising an ice-compartment and a cold-water compartment separated by a division-wall H and connected by a passage *n*, an ice-supporting grate arranged in the ice-compartment, a drinking-water  
 45 tank located in the ice-compartment below the grate and having an opening in its upper wall surrounded by a collar-flange, a cap of larger size than said collar-flange suitably supported over the same, an escape-pipe *h*  
 50 connected to the bottom of the cold-water compartment, and a regulating-tube Y adjustably connected to and communicating with pipe *h* and extending upwardly in the cold-water compartment, substantially as  
 55 specified.

3. A refrigerator comprising an ice-compartment and a cold-water compartment separated by a division-wall H and connected by a passage *n*, an ice-supporting grate arranged  
 60 in the ice-compartment, an escape-pipe *h* connected to the bottom of the cold-water compartment, and a regulating-tube Y adjustably connected to and communicating with pipe *h* and extending upwardly in the cold-  
 65 water compartment, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OTIS G. MATHEWSON.

Witnesses:

E. E. CHESNEY,  
 LAURA B. PAYNE.