

J. F. SCHNEIDER.

Refrigerators and Modes of Cooling.

No. 139,197.

Fig. 1.

Patented May 20, 1873.

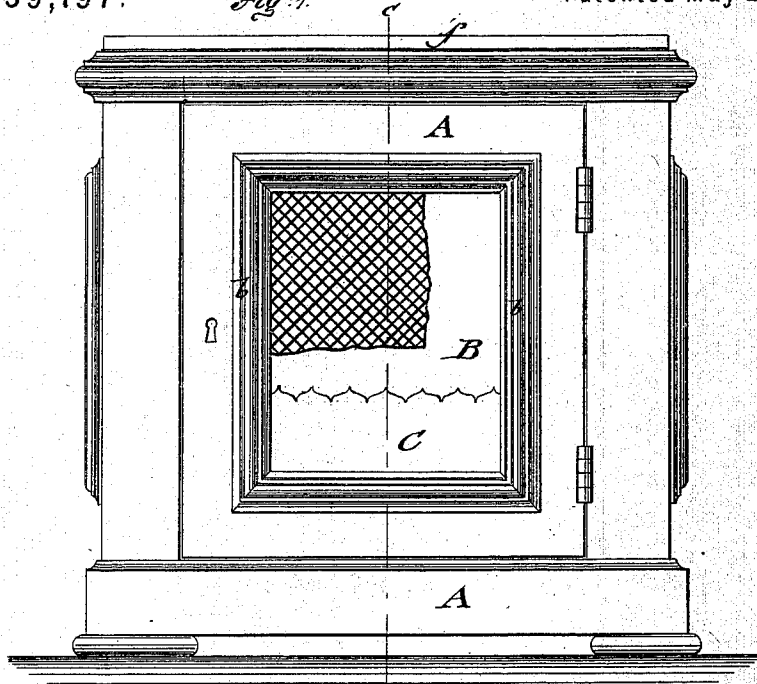
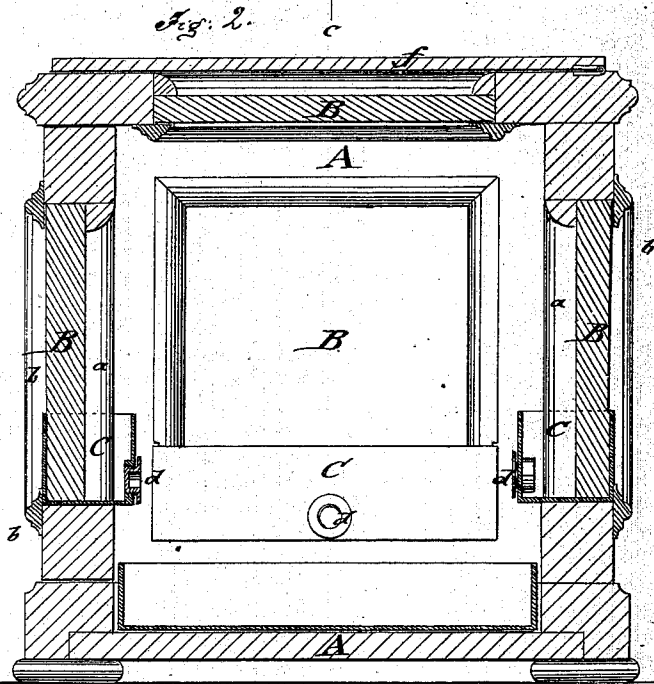


Fig. 2.



Witnesses:

Gas. Nida
Chelquies

Inventor:

J. F. Schneider
Per *Wm. H. L.*
Attorneys.

UNITED STATES PATENT OFFICE.

JACOB F. SCHNEIDER, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF
AND PHILIP LENHART, OF SAME PLACE.

IMPROVEMENT IN REFRIGERATORS AND MODES OF COOLING.

Specification forming part of Letters Patent No. **139,197**, dated May 20, 1873; application filed
May 5, 1873.

To all whom it may concern:

Be it known that I, JACOB F. SCHNEIDER, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Refrigerator, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation of my improved refrigerator; and Fig. 2 is a vertical transverse section of the same on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish to the public an improved refrigerator which cools and preserves the articles placed therein without the use of ice, being more economical in construction than the refrigerators in common use, and saving the expense of ice. It is of special advantage where ice cannot be obtained, as any desired degree of temperature may be produced in the interior of the same. My invention is based on the principle of reduction of temperature by evaporation of liquids; and consists mainly in the application of very porous plates placed in vessels filled with the liquid to be evaporated, and arranged at the sides and tops of the refrigerator. The liquid will gradually rise in the plates, and, being exposed by the porosity of the plates to rapid evaporation, will reduce the temperature in the inside of the box.

In the drawing, A represents the frame of the refrigerator, of suitable material, and of the size and shape of the refrigerator in common use. The porous plates B are connected, by strips *a b*, to the sides of the refrigerator, and may be of any size required. The lower parts of the plates B are placed in boxes C, of suitable metal, having the length of the lower side of plates B. They are held in position in the sides of frame A by recesses of strips *a* or the frame, the outside being suitably bronzed or ornamented, and the plates B placed to touch them. The inner sides of the boxes C project into the interior, which are large enough to contain as much of the liquid as is required for evaporation for a certain time. The liquid used is preferably water,

with a small addition of salt and saltpeter for decreasing the temperature and purifying the air. Suitable stop-cocks *d* near the lower edges of boxes C serve for the purpose of emptying the same and interrupting the process of evaporation.

The porous plates B are obtained by the mixture of about ninety parts of clay, six of sand, one part of sawdust, one part of charcoal, two parts of pulverized glass, and a slight addition of sulphur. On forming and burning this composition very porous plates are obtained, in which the liquid rises rapidly, which is necessary for this purpose.

The top plate B may be moistened from time to time by a syringe or a sponge placed on it. Its action will be similar to that of the side plate.

The interior arrangement of the refrigerator may be in similar manner as those in use, and the bottom be suitably covered with sheet-zinc.

To protect the plates against breakage wire-gauze or other protecting material may be placed over them on the outside. The top plate is covered by an outer lid, *f*, which allows the placing of dishes or other articles thereon. One of the sides or the top may be used as a door, provided it be made to fit well.

The double walls are entirely dispensed with, as well as the use of ice, and the same degree of temperature as well as an increased passage of air is obtained by the use of these porous plates.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In refrigerators, the combination of the porous plates B with the boxes C, set into the sides of frame A, for placing the evaporating liquid therein, substantially as described.

2. The composition described, for producing the porous plates B, substantially as and for the purpose described.

JACOB FRIEDERICH SCHNEIDER.

Witnesses:

T. B. MOSHER,
ALEX. F. ROBERTS.