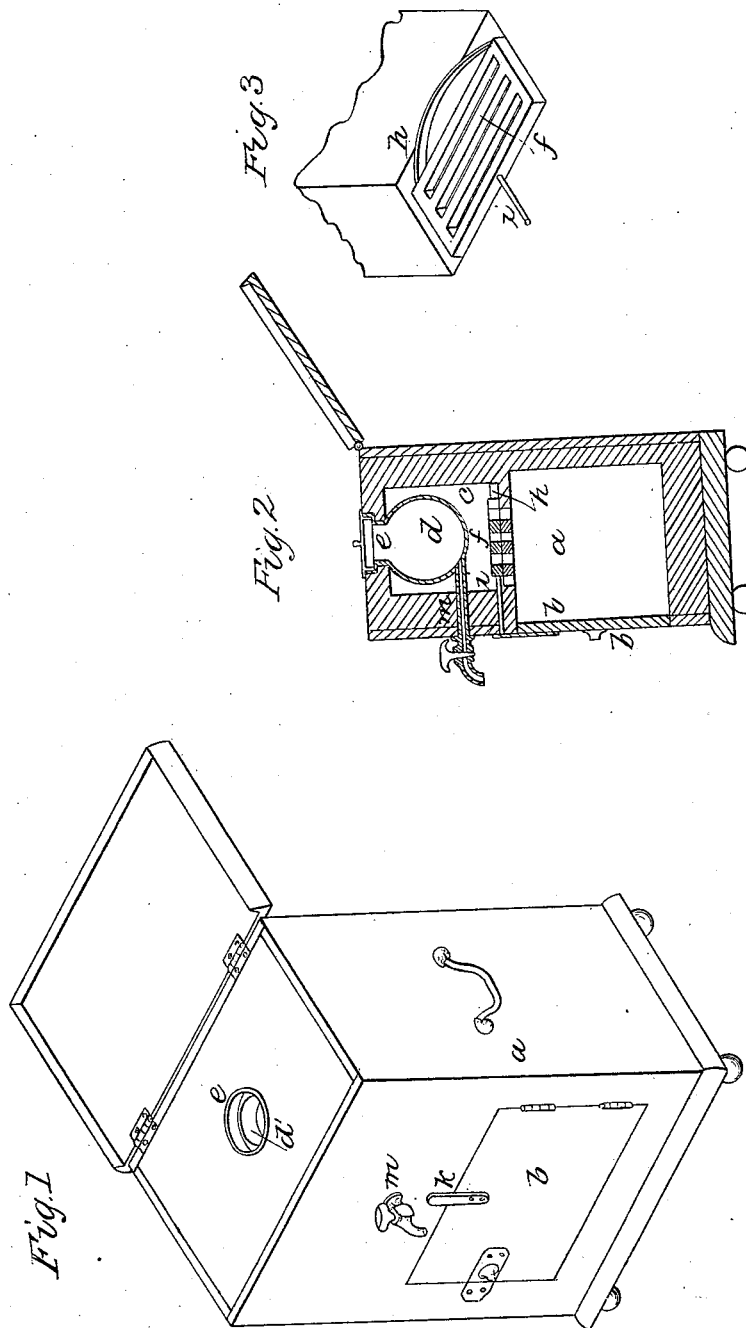


TOUGH & CRADDOCK.

Refrigerator.

No. 5,471.

Patented March 14, 1848.



UNITED STATES PATENT OFFICE.

JOHN S. TOUGH AND JOSEPH T. CRADDOCK, OF BALTIMORE, MARYLAND.

REFRIGERATOR.

Specification of Letters Patent No. 5,471, dated March 14, 1848.

To all whom it may concern:

Be it known that we, JOHN S. TOUGH and JOSEPH T. CRADDOCK, of the city of Baltimore and State of Maryland, have invented
5 new and useful Improvements in Refrigerators, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all
10 other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an isometrical view of the apparatus; Fig. 2, a vertical section; Fig. 3,
15 a section showing the valve covering the openings between the refrigerator and cold air chamber.

The same letters indicate like parts in all
20 the figures.

The nature of our invention consists in forming a chamber in connection with the refrigerator in which the air surrounds a
25 vessel filled with ice water for the purpose of reducing the temperature of the air within both the chamber and refrigerator, the communication between the two being cut off when the door of the refrigerator is opened.

Various modifications and forms of apparatus can be made to suit the taste or
30 convenience of the purchaser. The one which we have adopted in the drawings is perhaps as convenient as any for illustration.

It consists of an oblong box supported
35 on proper feet, the lower part of it is lined with any non-conductor of heat say soap stone which we prefer. This lower part (*a*) forms a refrigerator having a door (*b*) in front opening into it; above this compartment there is another (*c*) which we denomi-
40 nate the cold air chamber which is also lined with a non-conductor; within this chamber there is a vessel (*d*) of ice water entirely surrounded by air except the opening (*e*)

by which it is filled and which is closed 45 tight by a cover of non conducting material. A communication is formed between the refrigerator and the cold air chamber which we cover with a valve (*f*) of any convenient construction. That which we have 50 adopted is a common lattice valve as shown at Fig. 3; a spring (*h*) behind it closes it and it is opened by means of a rod (*i*) that projects out through the front of the box over the door of the refrigerator; this door 55 has a small piece (*k*) attached to it standing up from its upper edge so that when the door is closed it pushes in the rod (*i*) and thus opens the communication between the refrigerator and air chamber, but when the 60 door is opened the rod is relieved and the spring (*h*) closes the valve. Thus it will be perceived when closed up the cold air from the air chamber descends and cools the refrigerator, and when the door is open the 65 air chamber is closed thus preventing the waste of ice. The water vessel has a pipe (*m*) leading from its bottom out through the side with a stop thereon for drawing off the ice water. 70

What we claim as our invention and desire to secure by Letters Patent is—

1. An air chamber surrounding the reservoir containing the ice and water and connected with the refrigerator by a lattice 75 or other opening, substantially in the manner and for the purpose described.

2. We also claim connecting the valve which closes the communication between the air chamber and the refrigerator with the door 80 of the refrigerator as described so that the valve may be closed while the door is open, and vice versa, as herein set forth.

JOHN S. TOUGH.

JOSEPH T. CRADDOCK.

Witnesses:

BENJ. T. DALEY,
GEO. DOBLER.