J. A. KUNKEL.
Refrigerator.

No. 196,675. Patented Oct. 30, 1877.

Fig. 1.

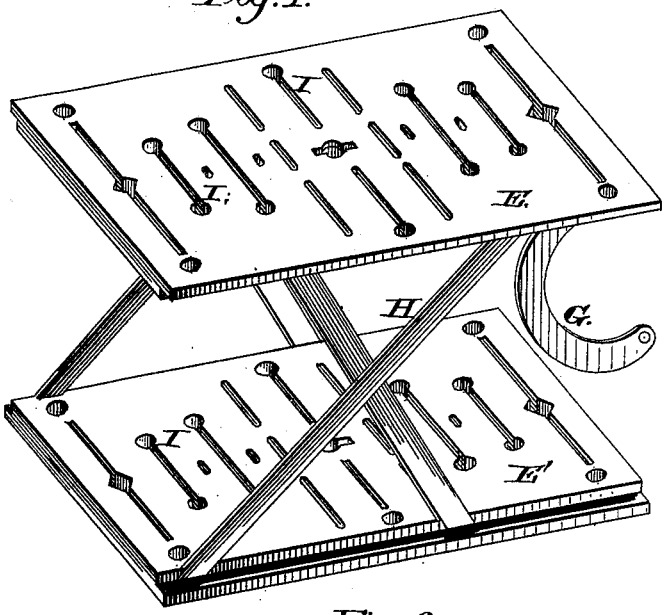


Fig. 2.

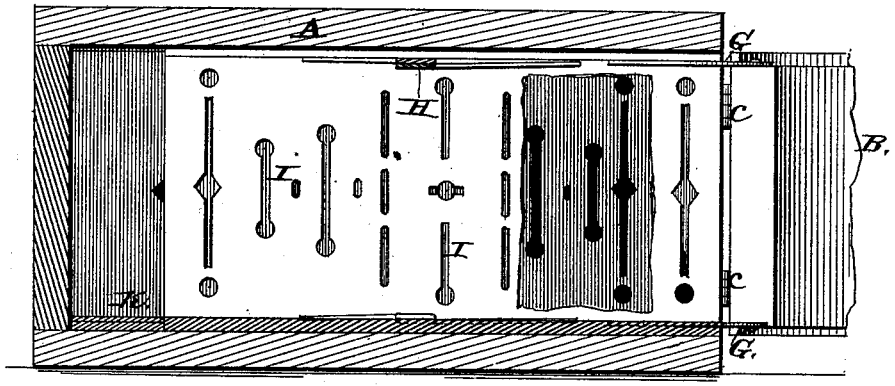
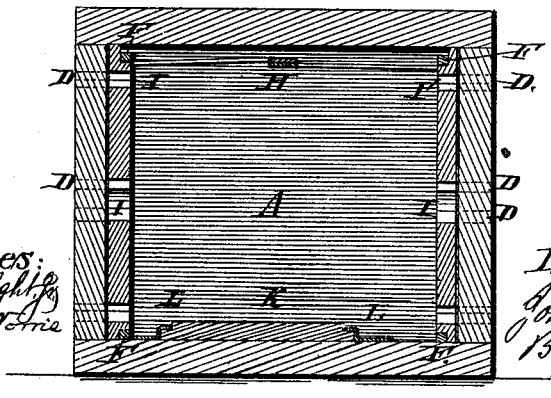


Fig. 4.

Fig. 3.



Witnesses:
J. H. Wright Jr.
A. D. Norris

Inventor:
John A. Kunkel.
By James L. Norris
Atty.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D C.

UNITED STATES PATENT OFFICE.

JOHN A. KUNKEL, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **196,675**, dated October 30, 1877; application filed September 14, 1877.

To all whom it may concern:

Be it known that I, JOHN A. KUNKEL, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification:

This invention relates to certain improvements in refrigerators, its object being to prevent the escape of cold air from other portions of a refrigerator when the provision-chamber, or one of a series of provision-chambers, is opened for the insertion or removal of articles of food.

To this end my invention consists in providing the provision chamber or chambers with one or more perforated slides, constructed to be automatically shifted by the act of opening or closing the door, so as to establish communication with a series of similar perforations in the wall or walls of the provision-chamber when the door is closed, and shut off communication with said perforations when the door is opened, and thus prevent the escape of cold air, except from the chamber which is opened, as more fully hereinafter specified.

My invention further consists in providing the provision chamber or chambers with a sliding shelf, which can be drawn out and inserted for the removal or insertion of articles of food, as more fully hereinafter set forth.

In the drawings, Figure 1 represents a perspective view of the sliding partitions; Fig. 2, a longitudinal section of the provision-chamber, and shows the sliding partitions; Fig. 3, a transverse sectional view, and Fig. 4 a detached view of a modified form of one of the devices for connecting the perforated slide to the door.

The letter A represents the provision-chamber, and B the door thereof, hinged at the opening of the same, as shown at C. The side walls of said chamber are provided with a series of apertures or perforations, D, leading to the ice-chamber or other portions of the said refrigerator.

The letters E E′ represent two sliding partitions, secured in ways F F, and adjoining each of the side walls of the provision-chamber. One of said partitions is secured to the door by means of the curved links G, which are pivoted at one end to the door, and at the other to the said partitions. The said links are adapted to automatically move the sliding partitions back and forth as the door is opened and closed. The partitions are connected at their tops by means of cross-bars H, so as to be moved together when the door is operated, and both of said partitions are provided with apertures I, so located that they will fall in line with and communicate with the apertures in the walls of the provision-chamber when the door is closed, and will be thrown out of line and communication with said apertures when the door is opened.

The letter K represents a slide confined in ways L on the bottom of the refrigerator, and capable of being withdrawn or pushed forward into said provision-chamber. Said slide is intended for the reception of articles of food, for the purpose of conveniently inserting and removing the same from the refrigerator.

The apertures in the side walls communicate with the remaining portion of the refrigerator, which may consist simply of an ice-chamber, or of an ice-chamber and other provision-chambers. When the door of the provision-chamber is closed, the apertures in the slides and walls are in communication, throwing said provision-chamber in communication with the ice-chest, or with other portions of the refrigerator communicating with the ice-chest, thus providing for a thorough circulation of cold air through said provision-chamber. Upon opening the door, however, the communication with the ice-chest or other parts of the refrigerator is cut off, and the escape of cold air from the ice-chest and said other parts is effectually prevented.

The refrigerator may be of any approved pattern, and may be constructed with an ice-chest and single provision-chamber, or with a number of provision-chambers, as may be desired. For the use of grocers, provision-dealers, and the like, the refrigerator may be conveniently constructed in the form of a counter, or the compartments may be conveniently set in an ordinary counter, and adapted to open to the rear thereof, if desired.

In the modification represented in Fig. 4, the curved links which connect the slide to the door are pivoted to brackets M M, to be attached to the door and to the slides, instead of being pivoted directly to the door and slide.

What I claim, and desire to secure by Letters Patent, is—

1. The combination of the two opposite perforated walls of a refrigerator-chamber, the two interior perforated slides E E′, rigidly connected by brace-rods H, links G, and hinged door B, as described.

2. The combination of the two perforated slides E, rigidly connected so as to move together, with the opposite perforated walls of a refrigerator-chamber, for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

JOHN A. KUNKEL.

Witnesses:
ROBT. N. AVERY,
C. H. VANNEMAN.