F. E. RANNEY.

REFRIGERATOR.

APPLICATION FILED NOV. 24, 1908.

956,415. Patented Apr. 26, 1910.

Fig. 1.

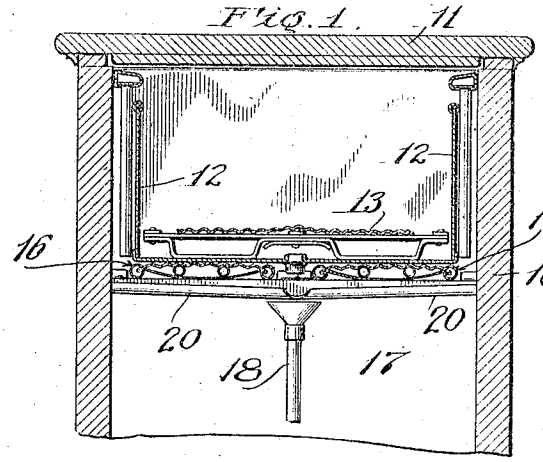


Fig. 2.

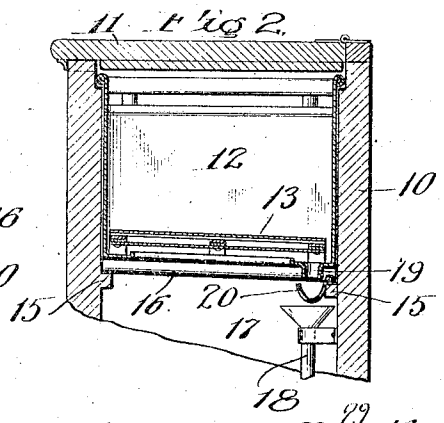


Fig. 6.

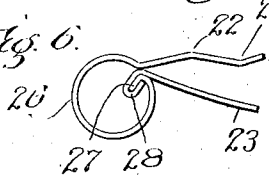


Fig. 3.

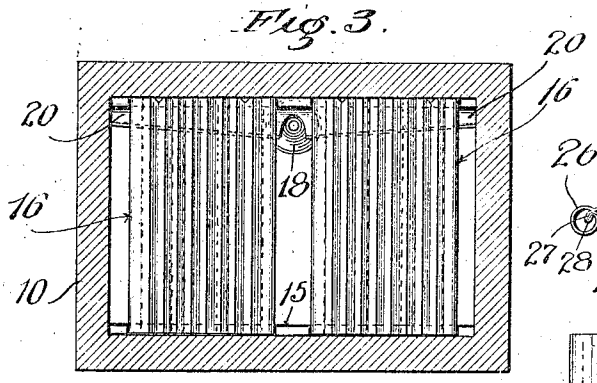


Fig. 4.

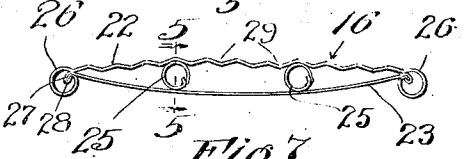


Fig. 7.

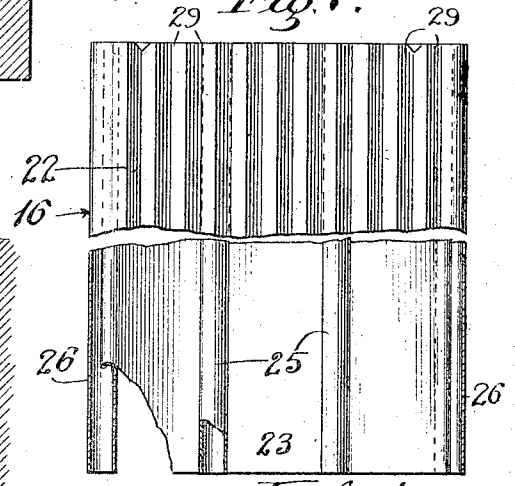
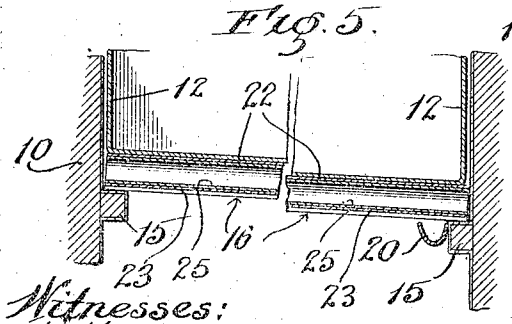


Fig. 5.



Witnesses:

F. H. Hilfiede

W. Hall

Inventor:

Frederick E. Ranney,

by Poole Brown

his Attys.

UNITED STATES PATENT OFFICE.

FREDERICK E. RANNEY, OF GREENVILLE, MICHIGAN.

REFRIGERATOR.

956,415. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed November 24, 1908. Serial No. 464,211.

To all whom it may concern:

Be it known that I, FREDERICK E. RANNEY, a citizen of the United States, and a resident of Greenville, in the county of Montcalm and State of Michigan, have invented certain new and useful Improvements in Refrigerators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to improvements in refrigerators and refers more specifically to a cushioning device upon which to support the ice chamber of a refrigerator.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

Among the objects of the invention is to provide a suitable cushioning device upon which the ice chamber of the refrigerator rests, so arranged as to absorb the jars or shocks brought upon the parts of the ice chamber and other parts of the refrigerator incident upon placing ice within the ice chamber, thereby avoiding liability of breaking or racking the parts.

A further object of the invention is to provide a cushioning device for this purpose which is so arranged as to interpose an additional air space between the provision chamber and the ice chamber, thus reducing condensation at the top wall or roof of the provision chamber.

A further object of the invention is to arrange a cushioning device of this character in such manner as to direct water which may collect thereon to the usual drain devices of the refrigerator.

As shown in the drawings:—Figure 1 is a partial vertical section of a refrigerator equipped with a cushioning device embodying my invention. Fig. 2 is a vertical section thereof taken in a plane at right angles to the plane of the section of Fig. 1. Fig. 3 is a horizontal section of the refrigerator showing the cushioning devices in plan view. Fig. 4 is an enlarged transverse section of one of the cushioning devices. Fig. 5 is an enlarged vertical sectional view, broken away, of the cushioning devices and ice chamber and the parts which sustain the same, the section through one of the cushioning devices being taken on the line 5—5 of Fig. 4. Fig. 6 is an enlarged fragmentary view illustrating the manner of connecting the two members of the cushioning device. Fig. 7 is an enlarged plan view of one of the cushioning devices, partially broken away, to show both the upper and lower members thereof.

As shown in the drawings, 10 designates, as a whole, the refrigerator box, and 11 the swinging lid thereof.

12 designates an ice chamber which, as herein shown, is a removable chamber, and 13 designates an ice rack of common form therein. Said ice chamber is sustained on ledges 15, 15 fixed to the inner sides of the front and rear walls of the refrigerator, said chamber being directly supported on cushioning devices 16, 16 which extend between and are supported at their ends on said ledges 15. In the present arrangement the cushioning devices constitute the top wall of the provision chamber 17.

The refrigerator may be equipped with the usual drain devices comprising a drain pipe 18 at the rear wall of the provision chamber 17 arranged to receive the water of condensation from the ice chamber through a drain opening 19.

20, 20 designate troughs which may be arranged at the rear side of the upper part of the provision chamber and may be inclined downwardly and inwardly from the ends of the chamber to the flaring top of the pipe 18.

Referring now to the construction and arrangement of the cushioning devices 16 it will be observed that in the construction shown two of such devices are employed, one at each side of the vertical plane of the central air flue of the ice chamber. They are supported at their front and rear ends on the ledges 15 and the bottom of the ice chamber 12 rests thereon. Said cushioning devices each consists of an upper member 22 and a lower member 23 and may be made of galvanized sheet metal. Said upper and lower members are separated at their central parts by spacing devices 25 whereby an air space is provided between said members. Said spacing devices 25, 25 are arranged longitudinally of the cushioning devices and may have the form of sheet metal tubes. They may be soldered to said members whereby to hold them in place. The upper and lower members of each cushioning device are connected at their side margins. As a means for connecting the marginal parts

of the upper and lower members, one of said members, the upper member as herein shown, may be formed at its side margins to provide rolled or tubular portions 26, the terminal margins 27 of which rolls extend into the interior of the rolls and engage elongated hooks 28 on the margins of the lower member, which latter margins extend into said rolls. The parts may be crimped together or united by solder suitably applied. The arrangement described produces a hollow cushioning device which is made thickest at its transverse center and tapers toward its margins where they are joined by the rolls 26. Said rolls constitute the supports for the device at the sides thereof, and the central or deepest part of the device is supported on the central part of the lower member. This arrangement gives a spring or resilient character to the cushioning devices upon which the ice chamber is supported, and serves to relieve or absorb sudden shocks or jars brought thereon, (as when ice is being placed in the chamber) and thus prevent the full force of such blows or shocks being brought upon the supporting ledges 15. The cushioning of the ice chamber support also decreases liability of such blows or shocks breaking the bottom wall of the ice chamber. By reason of a hollow construction of the cushioning devices, additional air spaces are provided between the provision chamber and the ice in the ice chamber, thereby affording increased insulation between the top wall of the provision chamber and the ice within the ice chamber. The liability of condensation upon the said upper wall of the provision chamber is thereby decreased. As a further improvement the upper members of the cushioning devices are corrugated or otherwise formed to provide on their upper surfaces grooves 29 which extend from front to rear of the refrigerator. By reason of the presence of such grooves in the upper walls of the cushioning devices and of the inclination thereof toward the rear wall of the refrigerator, as shown in Figs. 2 and 5, water which may find its way to or collect upon the upper members of the cushioning devices will be directed to the drain troughs 20 or to other suitable place for disposal of such water.

It will be understood that the essential features of my invention may be embodied in structures differing in structural details from those herein shown, and I do not limit myself to the particular construction illustrated except as hereinafter made the subject of specific claims.

I claim as my invention:—

1. In a refrigerator, the combination with the ice chamber and supports on the walls of the refrigerator box for sustaining the ice chamber, of a cushioning device arranged between said supports and the ice chamber, and comprising upper and lower sheet metal members and interposed spacing members, one of said members being provided at its side margins with rolls, and the side margins of the other member being interlocked with the terminal margins of said rolls.

2. In a refrigerator, the combination with the ice chamber and supports on the walls of the refrigerator for sustaining the ice chamber, of cushioning devices interposed between said supports and ice chamber, said cushioning devices comprising upper and lower sheet metal members, and spacing members interposed between the same, the upper members of said cushioning devices being formed with grooves or corrugations to afford means for draining water therefrom.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 16th day of November A. D. 1908.

FREDERICK E. RANNEY.

Witnesses:
EDWIN R. CHRISTENSEN,
WALTER K. WARD.