June 19, 1923.

1,459,280

C. G. CARD

REFRIGERATOR

Filed March 6, 1922

2 Sheets-Sheet 1

Fig. 1.

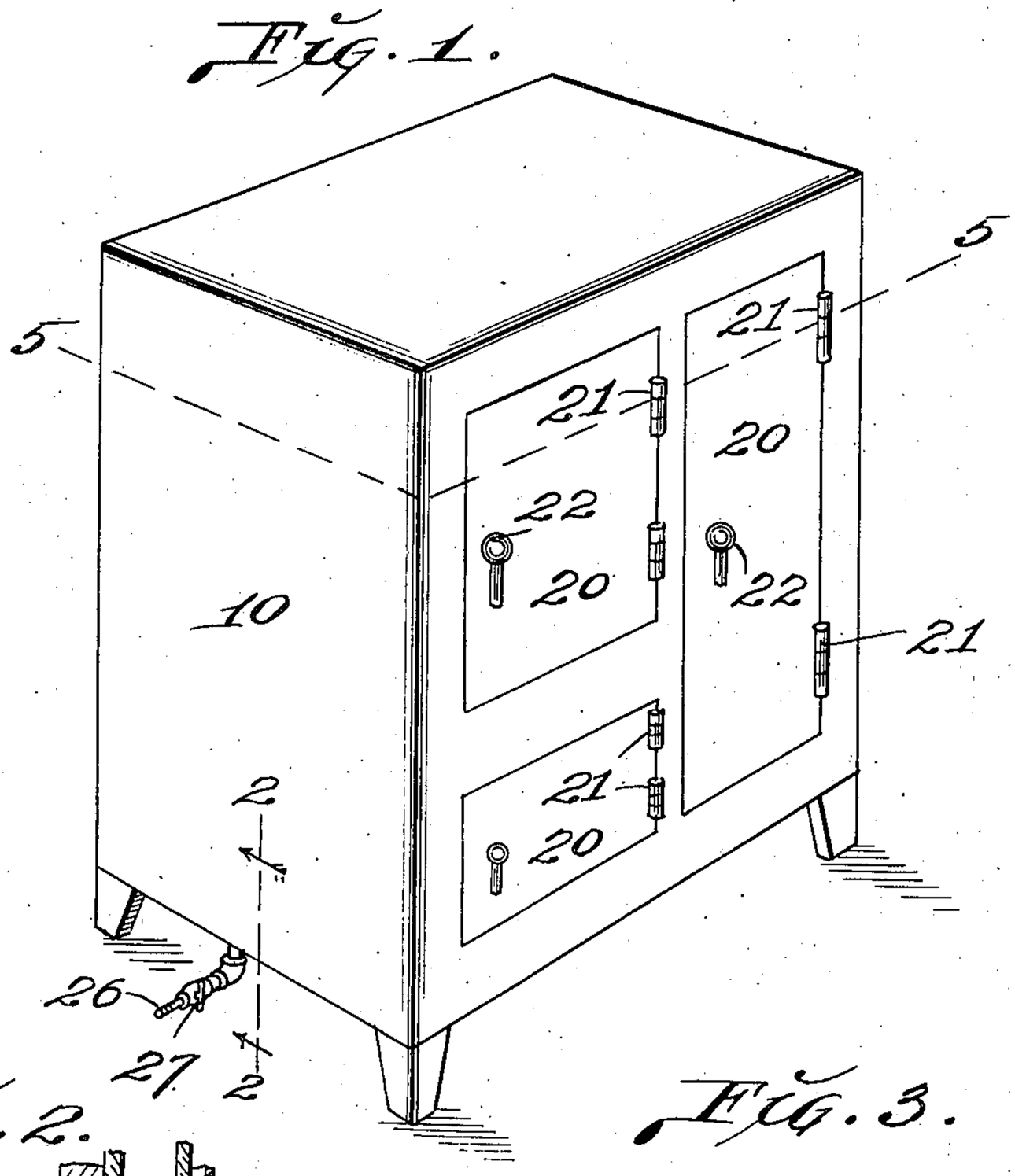


Fig. 2.

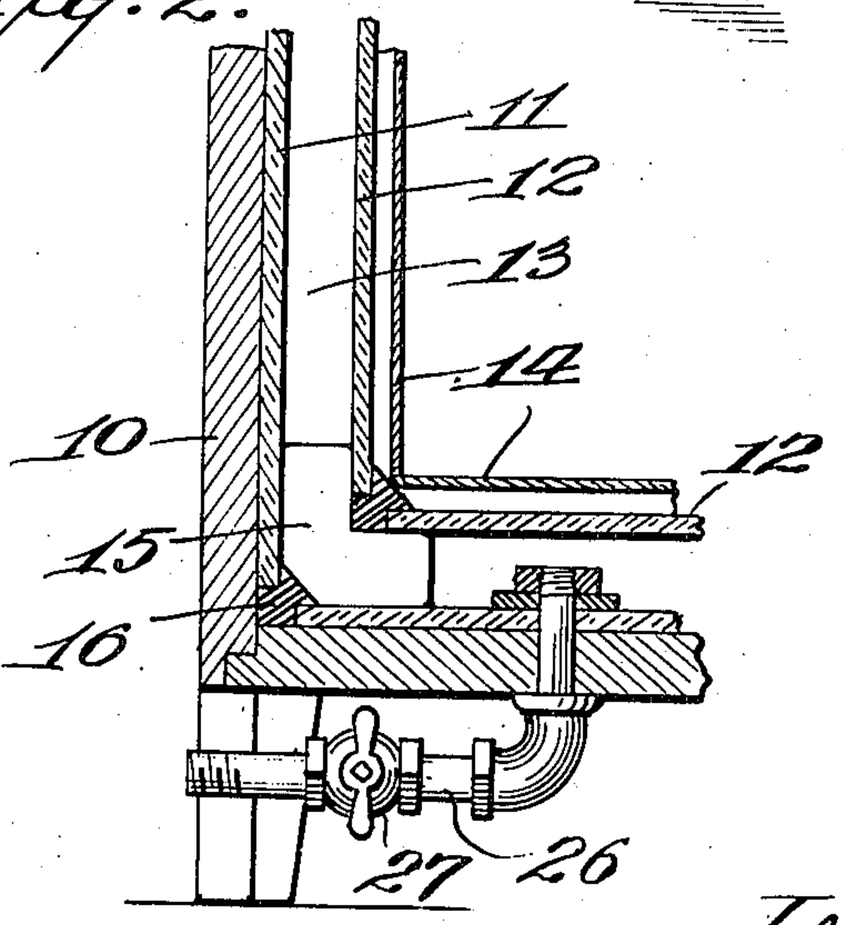


Fig. 3.

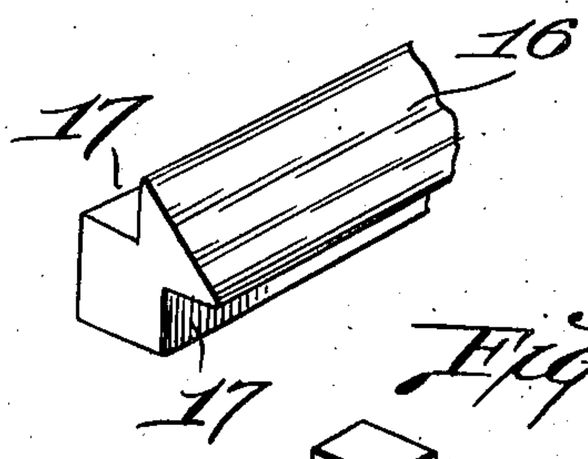
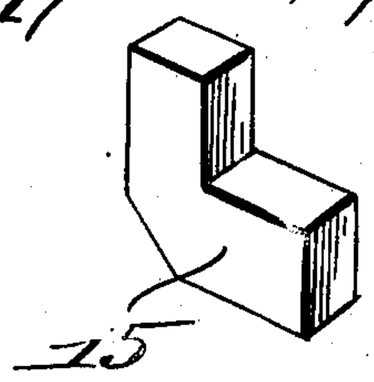


Fig. 4.



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By A. M. Murtell ATTY.

June 19, 1923.

1,459,280

C. G. CARD

REFRIGERATOR

Filed March 6, 1922

2 Sheets-Sheet 2

Fig. 5.

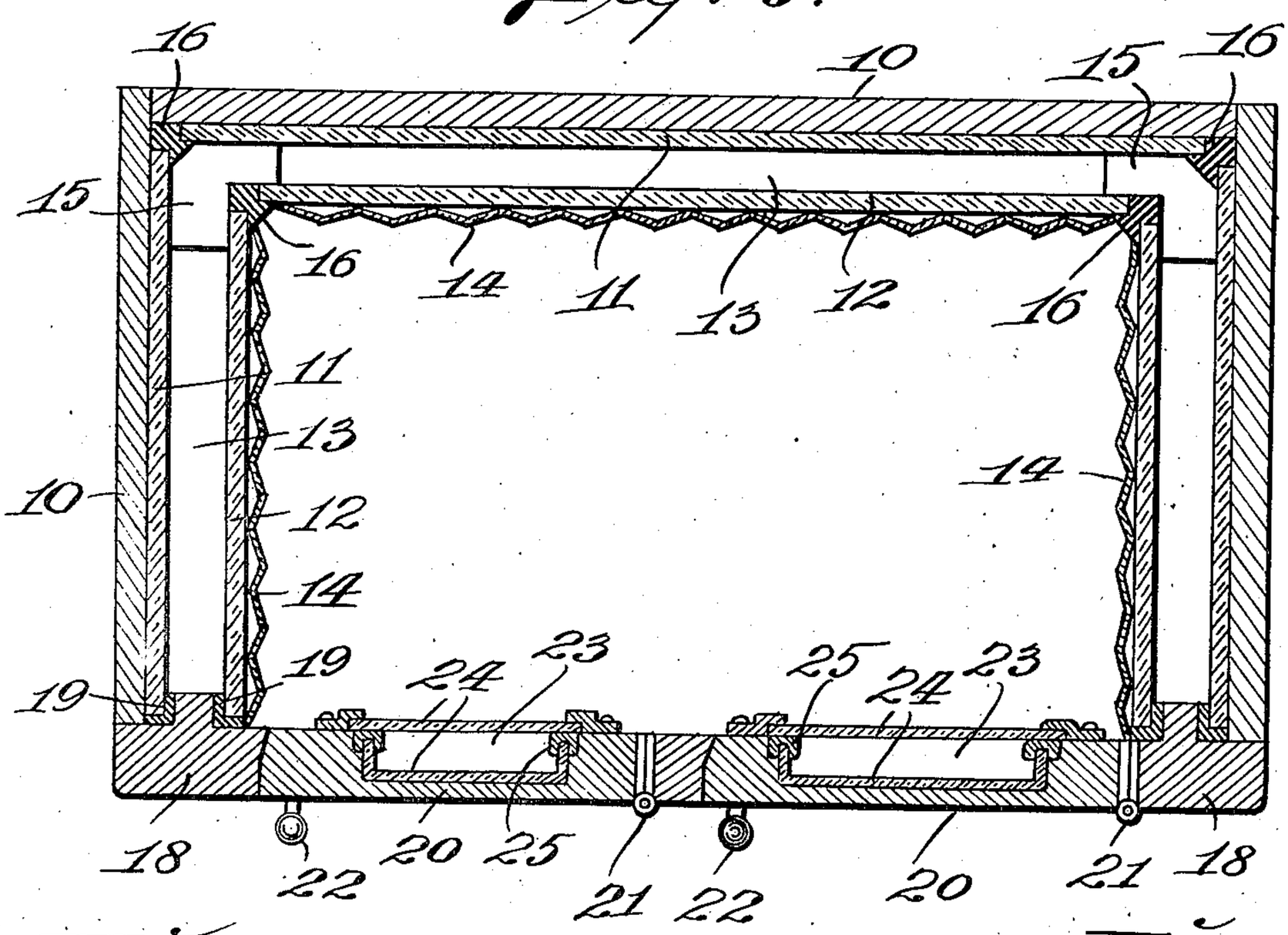


Fig. 7.

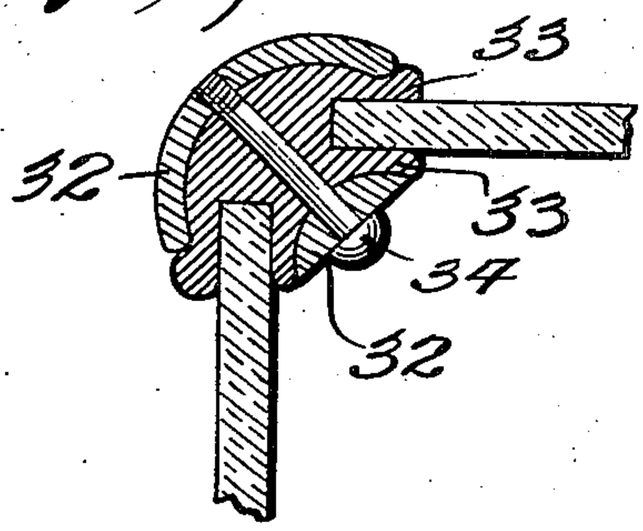
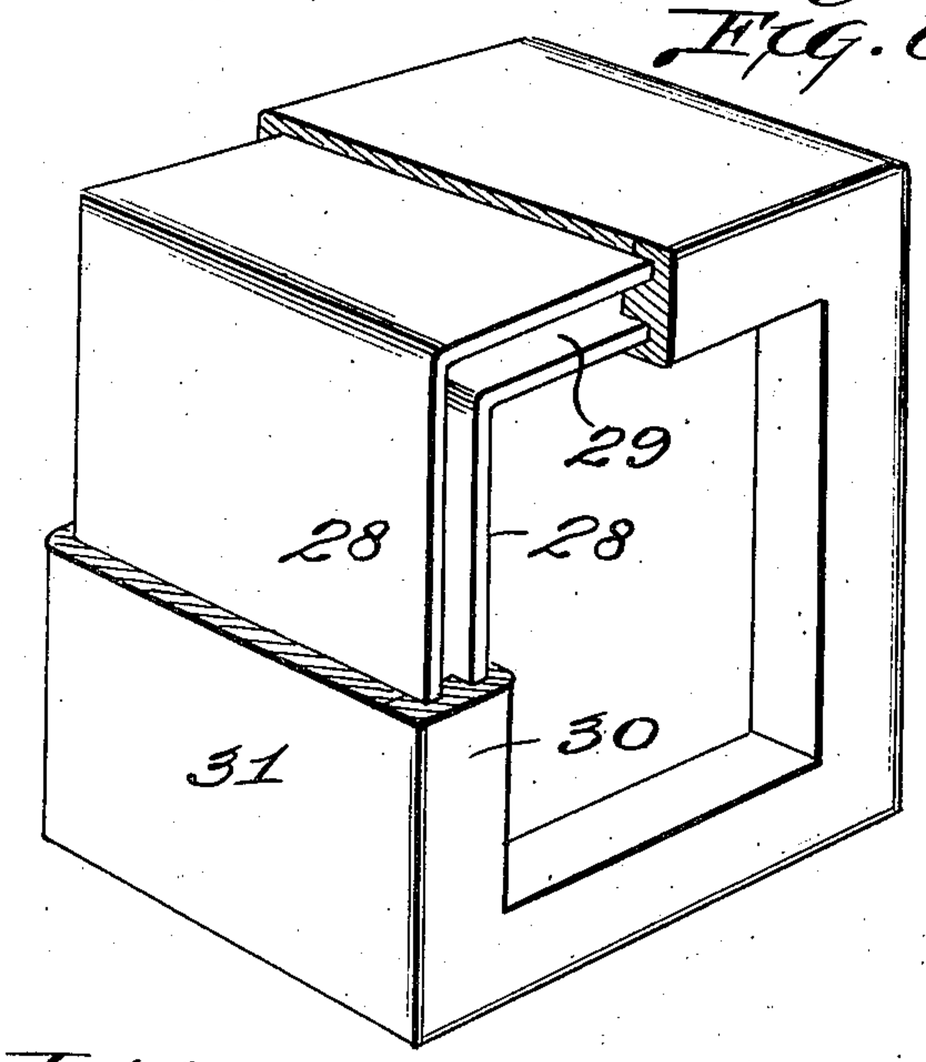


Fig. 6.



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Patented June 19, 1923. 1,459,280

UNITED STATES PATENT OFFICE.

CALVIN G. CARD, OF LOS ANGELES, CALIFORNIA.

REFRIGERATOR.

Application filed March 6, 1922. Serial No. 541,575.

To all whom it may concern:

Be it known that I, CALVIN G. CARD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Refrigerators, of which the following is a specification.

My invention relates to refrigerators of the household type, the principal objects of my invention being to generally improve upon and simplify the construction of the existing types of refrigerators, to provide a refrigerator having vacuum chambers, in its walls, thereby enabling the contents of the refrigerator to be maintained at relatively low temperatures for considerable periods of time, and further to provide a refrigerator that may be easily and cheaply produced and which will be very effective in performing its intended functions.

Other objects and advantages will hereinafter appear and while I have shown and will describe one preferred form of construction, I wish it to be understood that I do not limit myself to such preferred form and that various changes and adaptations may be made therein without departing from the spirit of my invention as hereinafter claimed.

In the accompanying drawings, Fig. 1 is a perspective view of a refrigerator of my improved construction.

Fig. 2 is an enlarged detail view taken on the line 2—2 of Fig. 1.

Fig. 3 is a perspective view of a portion of a joint member that is made use of in carrying out my invention.

Fig. 4 is a perspective view of a spacing member that is used in the vacuum chambers of the refrigerator.

Fig. 5 is an enlarged horizontal section taken on the line 5—5 of Fig. 1.

Fig. 6 is a perspective view of a modified form of the refrigerator.

Fig. 7 is a detail view of a modified form of the joint between the sections of glass that are utilized in my improved refrigerator.

As illustrated in the accompanying drawings the refrigerator is substantially square or rectangular, and comprises an outer wall or sheathing 10, preferably of wood, a lining 11 of glass or analogous material that is arranged on the inner face of the sheathing 10; a second lining 12 of glass or analogous material, spaced apart from the lining 11 to form a vacuum chamber 13 and an inner wall or sheathing 14, preferably of corrugated metal 14 that lies immediately against the lining 13. The sections of glass forming the linings 11 and 12 are maintained in spaced relation by L-shaped spacing members 15 that are arranged in the corners of the chamber 13. Packing strips 16 preferably of rubber are arranged between the adjacent edges of the sections of glass forming the linings 11 and 12; said strips being provided with substantially V-shaped channels 17 that receive the edges of the glass sections.

The front of the body of the refrigerator includes a frame 18, against which the front edges of the sections of glass in the side walls and top and bottom of the refrigerator engage. Arranged between the front edges of these sections of glass and the frame 18 are packing strips 19 preferably of rubber. Arranged in the frame 18 is a series of doors 20 that are hung on suitable hinges 21 and provided with suitable locks 22. Formed in each door is a vacuum chamber 23 that is lined with sections of glass 24 and the joints between the latter are packed with strips 25 preferably of rubber.

A pipe 26 leads from the vacuum chamber 13 outwardly through the outer wall of the refrigerator body, said pipe being provided with a valve 27. A suitable vacuum pump may be attached to this pipe for the purpose of exhausting the air from chamber 13.

In Fig. 6 I have illustrated a refrigerator body having two box like seamless members 28 of glass, one of smaller dimensions and arranged within the other to form a vacuum chamber 29, and the front edges of the glass members being fitted against a front frame 30. This form of refrigerator includes an outer sheathing 31 of wood and a suitable inner lining.

In Fig. 7 I have illustrated a joint structure between the edges of the two sections of glass and which includes a pair of metal strips 32, an interposed packing strip 33 of rubber and a screw 34 that may be tightened to draw strips 32 together. A refrigerator of my improved construction is relatively simple, may be easily and cheaply produced, and by providing vacuum chambers in the walls and doors of the structure, the convection of heat or higher temperatures from the exterior to the interior of the refrigerator is reduced to a minimum so that

foodstuffs and the like placed in the refrigerator may be maintained in cool condition for indefinite periods.

I claim as my invention:

1. A refrigerator having vacuum chambers formed in its walls, sections of glass lining said vacuum chambers and L-shaped spacing members arranged between said sections of glass in the corners of said vacuum chambers.

2. A refrigerator having vacuum chambers formed in its walls, sections of glass lining said vacuum chambers and packing strips arranged between the edges of said sections of glass.

3. In a refrigerator a wall comprising an outer sheathing of wood, an inner sheathing of metal and sections of glass spaced apart and arranged against the inner faces of said inner and outer sheathings.

CALVIN G. CARD.