H. H. HILLMAN.

REFRIGERATOR.

APPLICATION FILED JUNE 6, 1919.

1,369,338. **Patented Feb. 22, 1921.**

2 SHEETS—SHEET 1.

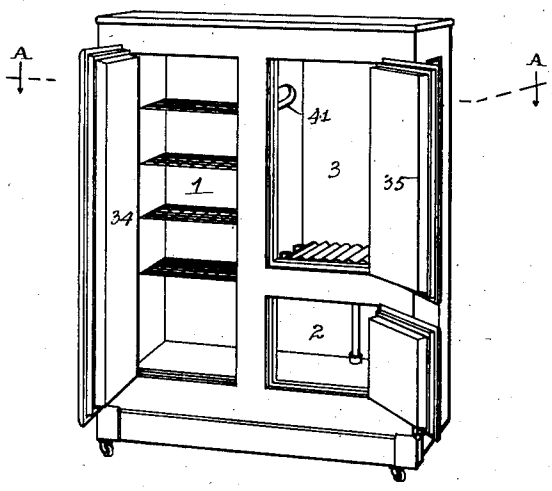


Fig. 1.

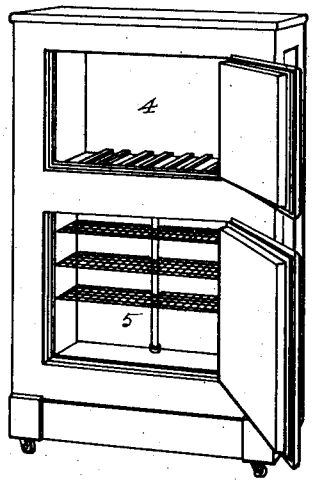


Fig. 2.

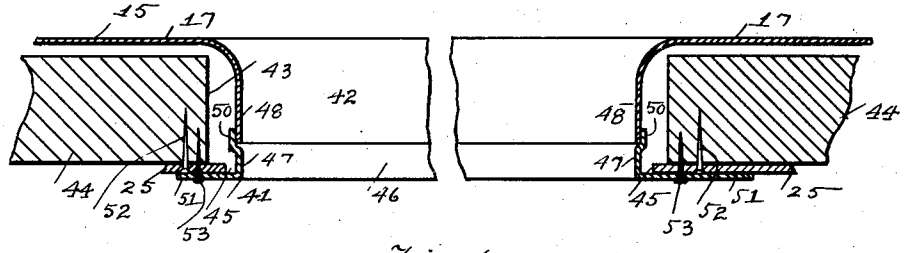


Fig. 6.

Inventor

Herbert H. Hillman

By Cyrus W. Rice

his Attorney

Witness:

Geo. L. Chapel

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2 SHEETS—SHEET 2.

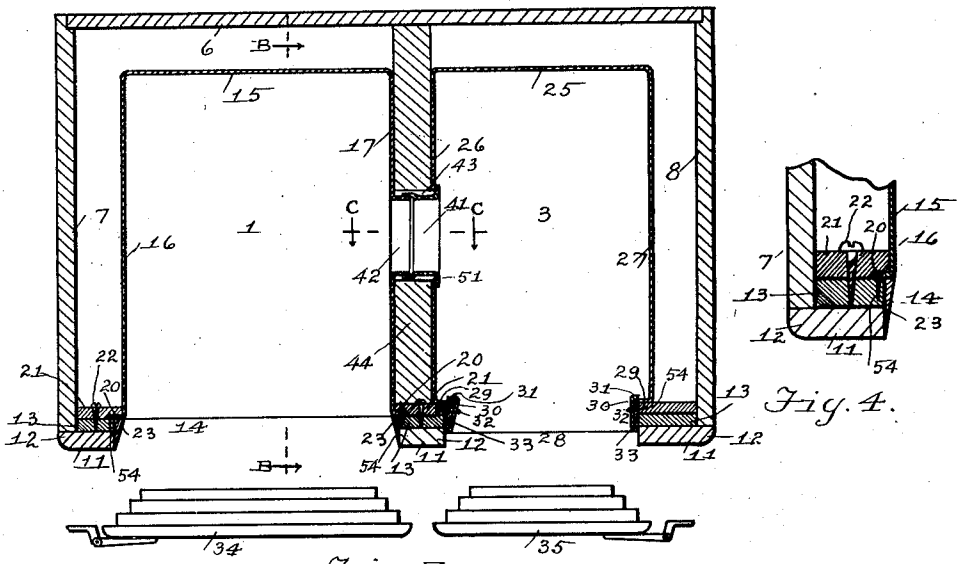


Fig. 3.

Fig. 4.

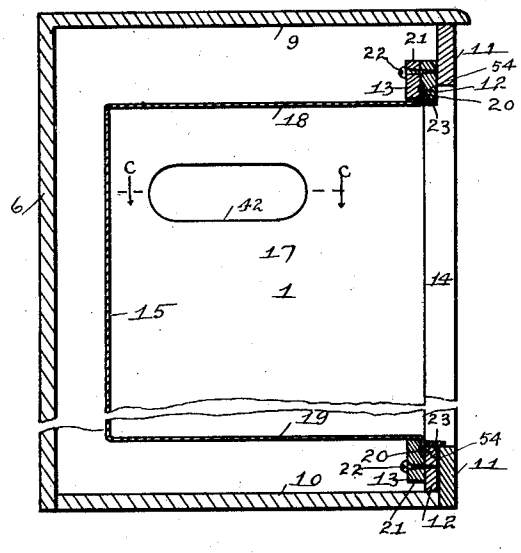


Fig. 5.

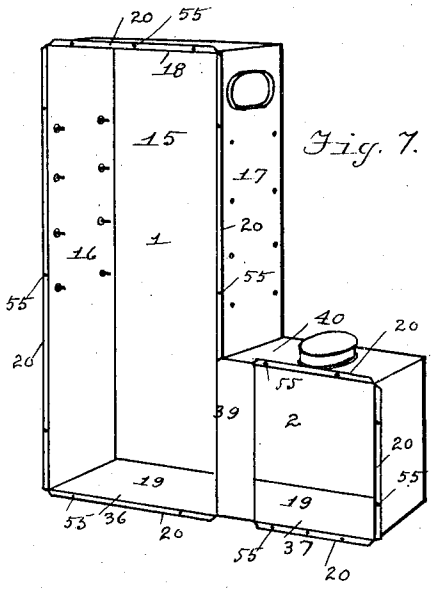


Fig. 7.

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UNITED STATES PATENT OFFICE.

HERBERT H. HILLMAN, OF GRAND HAVEN, MICHIGAN, ASSIGNOR TO CHALLENGE REFRIGERATOR COMPANY, OF GRAND HAVEN, MICHIGAN, A CORPORATION OF MICHIGAN.

REFRIGERATOR.

1,369,338. Specification of Letters Patent. Patented Feb. 22, 1921.

Application filed June 6, 1919. Serial No. 302,233.

To all whom it may concern:

Be it known that I, HERBERT H. HILLMAN, a citizen of the United States, residing at Grand Haven, in the county of Ottawa and State of Michigan, have invented new and useful Improvements in Refrigerators, of which the following is a specification.

The present invention relates to refrigerators; and one of its objects is, generally, to provide an improved refrigerator which may be easily kept clean and in good sanitary condition; and more particularly, to provide a refrigerator whose lining extends to the door in plane form, *i. e.*, without internal corners, angles or turns adjacent the door; a further object is to provide a refrigerator wherein the front wall and the lining adjacent the door are joined in an improved manner; a further object is to provide a refrigerator having two lined chambers with improved means for intercommunication; a further object is to provide a refrigerator lining comprising two portions of unequal height with improved supporting means for the top wall of one or both portions.

These and any other objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the structures hereinafter particularly described and illustrated by the accompanying drawings, in which:

Figure 1 is a view in perspective of a refrigerator having a provision chamber with a higher portion and a lower portion, and an ice chamber above the latter;

Fig. 2 is a like view of a refrigerator having an ice chamber above the provision chamber;

Fig. 3 is a transverse sectional view (enlarged) of the refrigerator shown in Fig. 1, taken on a horizontal plane corresponding to line A—A of Fig. 1, the refrigerator doors being detached and shown below Fig. 3;

Fig. 4 is a like view of a portion of the same (much enlarged) taken on the same plane;

Fig. 5 is a vertical sectional view of the same taken on a plane corresponding to line B—B of Fig. 3;

Fig. 6 is a sectional view of a portion of the same (much enlarged) taken on a horizontal plane corresponding to line C—C of Figs. 3 and 5; and

Fig. 7 is a view in perspective of a refrigerator lining having a higher portion and a lower portion.

In the embodiment of the invention chosen for illustration by the drawings and for detailed description in the body of this specification, the refrigerator shown in Fig. 1 has a provision chamber comprising two portions of unequal height—the higher portion 1 and the lower portion 2—and an ice chamber 3 above the lower portion; while the refrigerator shown in Fig. 2 has an ice chamber 4 and a provision chamber 5 below it.

Referring now particularly to the construction shown in Fig. 1, the refrigerator has a rear wall 6, opposite side walls, 7, 8 (being the lateral walls) and 9, 10 (being the top and bottom walls respectively) and a front wall 11 comprising the joined outer member 12 and inner member 13, there being a door-opening 14 through said front wall. A lining 15, preferably of porcelained metal, spaced from the rear wall 6 and from the side walls 7, 8, 9 and 10, has sides 16, 17, 18, 19 parallel with said side walls 7, 8, 9 and 10 respectively, extending in plane form (*i. e.*, without angles or turns) to the front wall 11 adjacent the opposite sides respectively of the door-opening 14. At said opening these sides 16, 17, 18, 19 have outwardly turned flanges 20, tightly held between the inner surface of the inner member 13 of the front wall and retaining members 21 secured to said inner surface as by the screws 22. The front wall 11 desirably comprises also finishing strip portions 23 in addition to the front wall's body portion composed of the inner member 13 and outer member 12: These finishing strip portions are secured to the body portion and are positioned between the edges of the same and the sides of the door-opening 14 and abut against the outer surfaces of the flanges 20, all as shown in Figs. 3, 4 and 5.

It will be seen that inasmuch as the sides 16, 17, 18 and 19 extend in plane form to the door-opening 14 through the front wall, the provision chamber can be easily cleaned and kept in good sanitary condition, there being no internal angles, corners or turns in the lining's said sides adjacent the door-opening as in prior constructions.

The ice chamber 3 of the refrigerator has a lining 25, preferably of galvanized metal,

having sides 26, 27 spaced from the lateral side walls 7, 8 of the refrigerator and extending to the front wall 11 adjacent opposite sides respectively of the ice chamber's door-opening 28 and having thereat inwardly turned flanges 29: Metallic retaining strips 30 have flanges 31, engaging the inner surfaces of the flanges 29 respectively, and are secured to the body portion of the front wall at opposite sides of the door-opening 28, as by nails 32. Filling members 33 are positioned between said body portion 11 of the front wall and the retaining strips respectively. It will be seen that the lining of the ice chamber is thus securely and supportingly fastened in proper position to the front wall of the refrigerator. Doors 34 and 35, shown detached and below the body of the refrigerator in Fig. 3 close the door-openings 14 and 28 respectively.

It will be understood that the aforesaid parts of the provision chamber and of the ice chamber and their relative disposition and connections, are to be found also in the like parts of the construction shown in Fig. 2.

In Fig. 7 the lining 15 of the provision chamber of the construction shown in Fig. 1, is illustrated, the same having door-openings 36 and 37. This lining has two communicating portions side by side with a floor 19 common to both, the portions being of unequal height, the portion 1 being higher or extending above the portion 2. A metallic strip 39 integral with said common floor extends vertically therefrom to the top 40 of the lower or shorter portion 2 in order to securely support the same and rigidly connect the parts together.

In Fig. 6 is particularly shown a hollow connecting member 41 for the provision chamber's lining 15 and the ice chamber's lining 25, and affording free air communication between said chambers. The lining 15 of the provision chamber has an outwardly extending hollow neck 42 in the opening 43 through the partition 44 between said chambers. The ice chamber's lining 25 has an opening 45 therethrough registering with the partition's opening 43. The hollow connecting member 41 extends through the opening through the ice chamber's lining and into the opening through the partition and has a body portion 46 whose inner surface 47 alines with the inner surface 48 of said neck and has also adjacent one end an enlarged portion 50 receiving said neck and has also adjacent its opposite end an outwardly extending flange 51 abutting flatwise on the ice chamber's lining, which has, adjacent the opening 45 therethrough, means (as the nails 52) for securing it to the partition, the flange 51, desirably covering said nails' heads and having means (as the nails 53) extending therethrough and through the lining of the ice chamber to secure the same to the partition 44.

The lining 15 of the provision chamber may be secured to the front wall 11 by nails or screws 54 passing through the holes 55 in the outwardly turned flanges 20; thus either or both methods hereinbefore described for securing the lining 15 to the front wall 11 may be employed.

The invention being intended to be pointed out in the claims as provided by the statute, is not to be limited to or by details of construction of the particular embodiment thereof hereinbefore shown or described.

I claim:

1. In a structure of the character described having a rear wall, side walls and a front wall with a door-opening therethrough and having a body portion; a lining having sides spaced from the side walls and extending to the front wall adjacent opposite sides respectively of the door-opening and having thereat inwardly turned flanges; retaining strips having flanges engaging the inner surface of the flanges of the lining's sides respectively and being secured to said body portion at opposite sides of the door-opening; filling members between the retaining strips and the body portion of the front wall.

2. In a structure of the character described having two chambers with a partition between them having an opening therethrough; a lining for one chamber having an outwardly extending hollow neck in the opening through the partition; a second lining for the other chamber having an opening therethrough registering with the partition's opening and having means adjacent its opening for securing it to the partition; a hollow connecting member for the linings extending through the second lining's opening and into the partition's opening and having a body portion whose inner surface alines with the inner surface of said neck and having adjacent one end an enlarged portion adapted to receive said neck and having adjacent its opposite end an outwardly extending flange covering the second lining's said securing means, said flange having means extending therethrough and through the second lining for securing the same to the partition.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 28th day of May, 1919.

HERBERT H. HILLMAN.