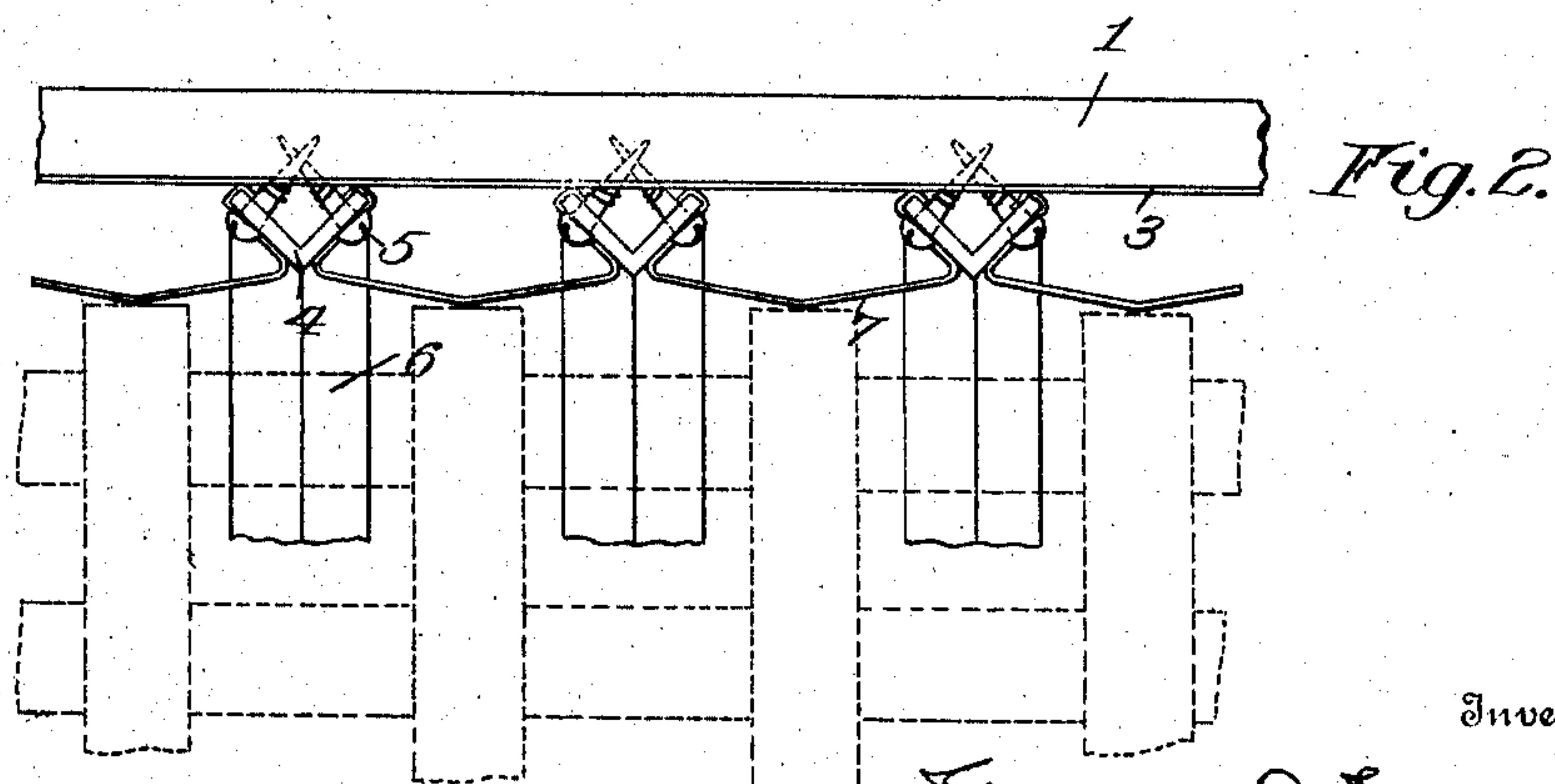
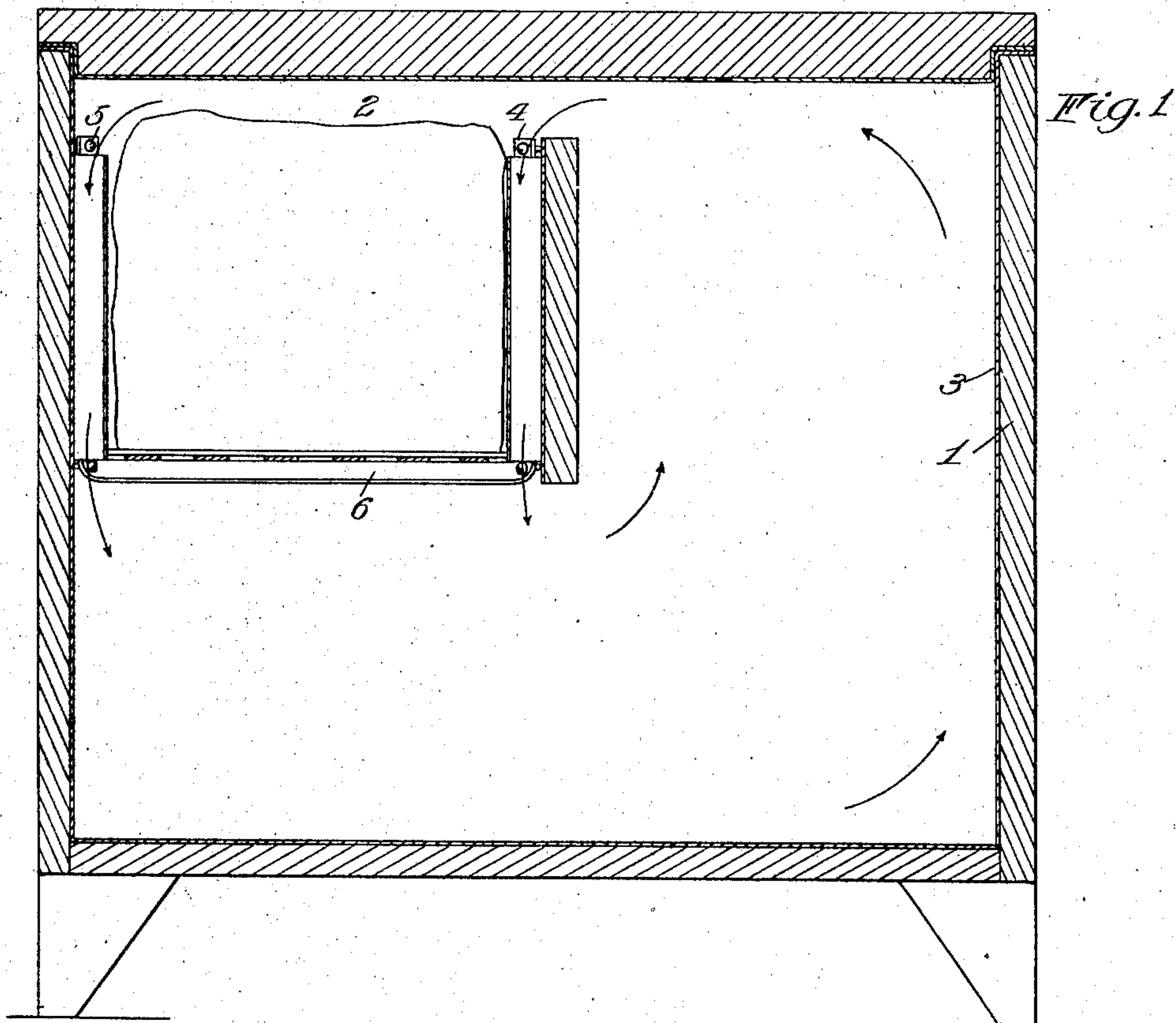


No. 843,978.

PATENTED FEB. 12, 1907.

F. C. TROTTER.
REFRIGERATOR.

APPLICATION FILED FEB. 3, 1905.



Witnesses

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FRANK C. TROTTER, OF ROCHESTER, NEW YORK.

REFRIGERATOR.

No. 843,978.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed February 3, 1905, Serial No. 243,922.

To all whom it may concern:

Be it known that I, FRANK C. TROTTER, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Refrigerators; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to improvements in refrigerators; and the purpose of my invention is to provide a lining for the walls of the ice-chamber which will serve to protect the latter from damage due to blows received from the ice while it is being handled and at the same time to provide an arrangement of flues between the ice and the walls of the ice-chamber to insure a better circulation of air through the interior of the refrigerator.

To these and other ends my invention consists in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings, Figure 1 is a vertical sectional view of a refrigerator, showing my improvements applied thereto; and Fig. 2 is a plan view of a portion of the casing and the flues, the parts being shown on an enlarged scale.

The same numerals of reference in the several figures indicate similar parts.

Heretofore in the manufacture of refrigerators it has been customary to provide the walls of the ice-chamber with wooden strips, which were designed as fenders to protect the walls from damage due to blows from the ice while the latter is being handled; but these strips have been found to be ineffective, as they soon split and are easily crushed, and the present invention is designed as an improvement on the device covered by United States Letters Patent No. 457,962, granted on August 18, 1891, to H. L. Trotter.

In the present embodiment of my invention, 1 designates the wall of the refrigerator, within which is formed the usual ice box or chamber 2, the latter being usually separated from the refrigerating-chamber for the reception of the articles to be cooled and is in this case spaced from the top and bottom thereof to permit air to circulate freely be-

tween the refrigerating and ice chambers. The exterior walls of the refrigerator may be insulated in any preferred way and are preferably provided with an interior lining 3, of galvanized iron or other sheet material, and secured against this lining are a series of suitably-spaced members 4, preferably composed of angle-iron, the ends of which are secured by the screws 5 or other securing means to the opposite walls of the ice-chamber, the intermediate portion 6 of these members being bridged across the space between the opposite walls of the chamber to form a support for the ice within the ice-chamber. The ordinary L-shaped angle-iron is preferably employed for this purpose, for it may be readily fitted flatwise against the lining 3, so that the point thereof, which is of comparatively small area, will be the only portion in contact with the ice. Extending vertically between each of the angle-iron members 4 are the casings 7, which begin at a point somewhat below the upper ends of these members 4 and terminate at points just above the support 6. These casings are preferably made of sheet metal, the central portion of each casing being arched, and the opposite sides are formed to bear firmly against the oppositely-inclined walls of the angle-iron members 4, which are arranged upon either side thereof, the lateral edges of the casing being extended beneath adjacent edges of the members 4, such as by sliding them down from the upper ends of the members, and secured in position by the securing devices 5 of these members, which operate to produce a clamping action upon the edges of the casing. The arched portion of the casings preferably extend inwardly beyond the angle-iron members 4 to relieve the force of blows which would otherwise be produced upon the relatively rigid members 4.

While it is preferable to form an arch or truss in the inwardly-extending wall of the casing 7 to resist such forces as the blows from the ice, which would tend to flatten it, it will be understood, of course, that this portion of the casing, if desired, could be made flat or parallel to the wall of the ice-chamber, and in practice it is preferable to form the members 4 of angle-iron, so that the casings 7 will inclose the entire space between these members to obtain the maximum area, and as these casings constitute vertical flues or cold-air shafts for conducting the air within the refrigerator in a film around the ice the aggre-

gate space inclosed by the casings 7 and by the hollow interiors of the angle-iron members 4 will insure ample passage to obtain the best circulation within the refrigerator.

5 Moreover, by using the L-shaped angle-iron to form the members 4 the spaces between these members will be bounded by the divergent walls, and as the lateral walls of the casings 7 are formed to bear directly upon
10 these inclined walls of the angle-irons forces striking upon the arch or trussed portion of the casing will be resisted by the angle-irons 4, which serve as abutments to prevent spreading of the side walls of the casing.

15 An ice-chamber constructed in accordance with my invention insures ample circulation of air through the cooling-chambers of the refrigerator by the provision of the flues, which are of sufficient capacity to permit a
20 complete circulation, and as these flues either partially or completely isolate the ice from direct contact with the walls of the refrigerator and serve as insulating air-spaces economy is effected in the amount of ice con-
25 sumed and a comparatively low temperature may be maintained, as the walls of the flues made up by the members 4 and the casing 7 will be maintained at a very low temperature and the air descending through
30 these flues will be considerably cooled while passing through them, and this will establish a continuous circulation through the interior of the refrigerator. The particular manner which these flues and protective devices are
35 formed is also an advantageous feature, for it will be understood that absolute cleanliness may be maintained at all times, for the reason that the edges and surfaces of the flues and other parts extend vertically and would al-
40 low liquids which might be spilled thereon to be readily drained off and do not form crevices in which impurities might lodge.

I claim as my invention—

45 1. In a refrigerator, the combination with the ice-chamber having the inclosing walls, of a series of grooved members secured rigidly to the walls of the ice-chamber and forming vertical flues, and casings clamped against the chamber-walls by the spaced
50 members and inclosing the spaces between said members.

2. In a refrigerator, the combination with the ice-chamber having the substantially vertical walls, of a series of grooved spaced
55 members arranged and secured upon the

walls of the ice-chamber and forming flues, and separate casings having their vertical edges secured by the spaced members and inclosing the spaces between the said mem-
60 bers, the said members and casings forming a substantially continuous air-space around the walls of the ice-chamber.

3. In a refrigerator, the combination with an ice-chamber having substantially vertical
65 walls, of a series of spaced angle-iron members secured in vertical arrangement on said walls in positions to sustain the blows of the ice in said chamber, the apexes of said members projecting inwardly and a series of flue-
70 casings arranged alternately between said members having their vertical edges securely clamped against the said walls by the adjacent members, and having portions in-
75 closing the spaces between the said members to form vertical flues.

4. In a refrigerator, the combination with an ice-chamber provided with suitable in-
closing walls, of a series of spaced rigid mem-
80 bers secured in vertical arrangement on the walls of the ice-chamber, and vertically-ex-
85 tending flue-casings inclosing the spaces between said members, each casing having its sides clamped between the adjacent mem-
90 bers and the chamber-walls to secure the casings in position.

5. In a refrigerator, the combination with an ice-chamber having vertically-extending
95 walls inclosing it, of a series of longitudinally-grooved members having vertically-extending portions secured to opposite walls of the ice-chamber, and having intermediate por-
100 tions extending across the chamber to form an ice-support, and a series of casings extending from a point adjacent to the tops of said members to a point near the ice-support and
105 forming a set of separate air-flues inclosing the spaces between said members.

6. In a refrigerator, the combination with the ice-chamber, of a series of spaced mem-
110 bers secured to the walls thereof, and a casing forming a flue between the said members comprising an inner wall extending between the members, the outwardly-extending sides and the attaching ends forming continuations
115 of the sides and extending beneath the said members for securing the casing in position.

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Witnesses:

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