

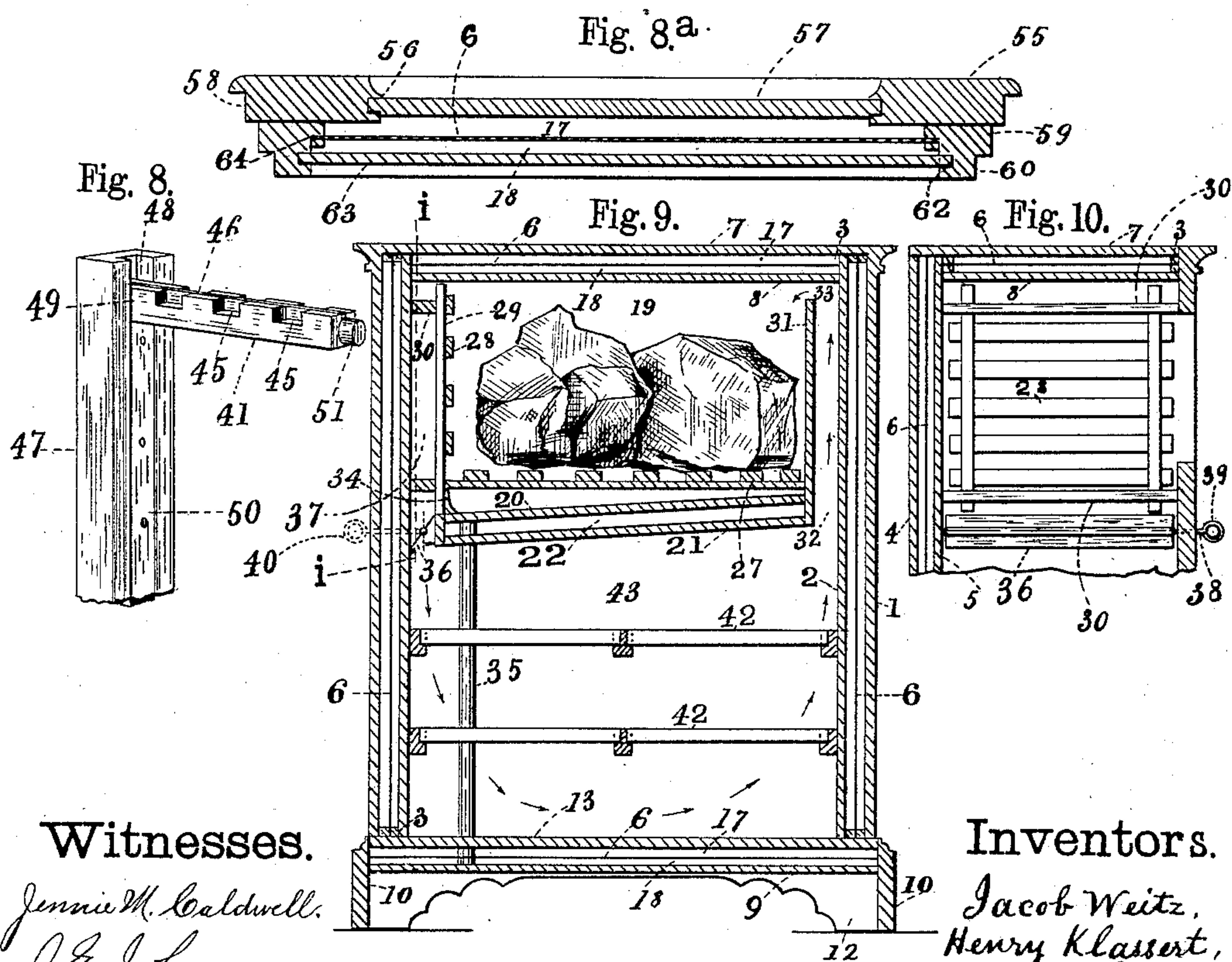
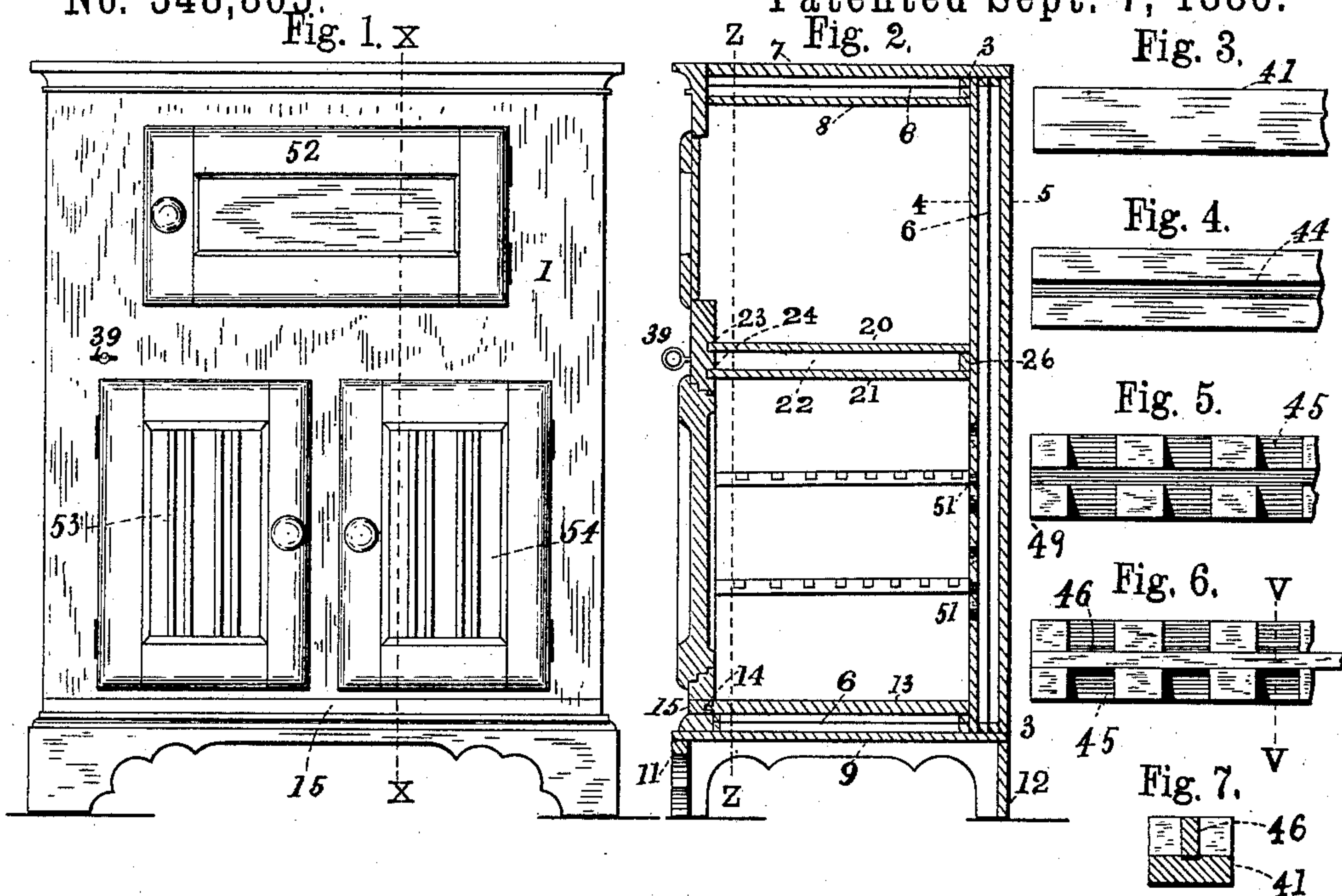
(No Model.)

J. WEITZ & H. KLASSERT.

REFRIGERATOR.

No. 348,803.

Patented Sept. 7, 1886.



Witnesses.

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UNITED STATES PATENT OFFICE.

JACOB WEITZ AND HENRY KLASSERT, OF BUFFALO, NEW YORK.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 348,803, dated September 7, 1886.

Application filed March 22, 1886. Serial No. 196,059. (No model.)

To all whom it may concern:

Be it known that we, JACOB WEITZ and HENRY KLASSERT, citizens of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification.

Our invention relates to certain improvements in the construction of the refrigerator, whereby the cold air is prevented from coming down from the ice-chamber when the doors of the refrigerator are open, and also to the construction and putting together of the several parts, all of which will be fully and clearly hereinafter shown, described, and claimed, by reference to the accompanying drawings, in which—

Figure 1 is a front elevation of one of our refrigerators complete. Fig. 2 is a transverse section through line X X, Fig. 1. Fig. 3 is a side elevation of a portion of one of the cross-bars for receiving the rack-bars or bars forming the shelves for the provision-chamber. Fig. 4 is a top view of the same, partly finished, showing a deep groove cut lengthwise. Fig. 5 is a similar view of the same, showing a series of recesses cut crosswise of the bar. Fig. 6 is a top view of the bar completed, and Fig. 7 is a transverse section through line V V, Fig. 6. Fig. 8 is a perspective view of the same, showing the manner of rigidly securing it in place within the refrigerator. Fig. 8^a is an enlarged cross-section through one of the provision-chamber doors. Fig. 9 is a longitudinal section, through the refrigerator in or about line Z Z, Fig. 2; and Fig. 10 represents a section through line *i i*, Fig. 9, showing the construction of the valve for regulating or stopping the downward flow of cold air.

In said drawings, 1 represents the outside wall or case of the refrigerator. 2 is the inside walls, having between them the usual oiled or water-proof paper or pasteboard, 6, which is secured in place in the well-known way, by strips of wood 3, secured by nails. The back of the refrigerator consists of an inner and outer wall, 4 and 5, having a sheet of oiled or water-proof paper, 6, secured between them. The top and bottom also consist of double walls, 7 being the top or outside portion of the case, and 8 the ceiling. Between

these is a sheet of water-proof paper, 6, or pasteboard, secured in place by the strips of wood 3. The outside bottom floor, 9, is secured in any well-known way to the side portions, 10, and rests on the front and back pieces, 11 and 12. Above it is the provision-chamber floor 13. At the front this floor is provided with a tongue, 14, adapted to fit in the groove in the front strip, 15. (See Fig. 2.) Between these floors is secured a sheet or partition of water-proof paper, 6. It will be seen from this construction that there are two dead-air spaces, 17 and 18, in the sides, back, bottom, and top of the refrigerator; but as these air-spaces are well known a further description of them here is not required.

19 represents the ice-chamber. 20 is the inside floor of the same, and 21 is the lower floor, forming the ceiling of the provision-chamber, and leaving a dead-air space, 22, between them. At the back these floors are secured to the back inner wall by the strip 26, and at the front their ends are let into the grooves 23 and 24 in the front wall. This construction secures these two floors strongly in place, and is simple and easily put together.

The ice-receptacle consists of the lower rack-bars, 27. Placed just above the ice-chamber floor at one side of the ice-chamber is a rack, 28, secured to the vertical strips 29. These strips are secured to cross-strips 30, projecting out from the wall far enough to leave room for the cold air to pass out and down.

At the opposite end of the ice-chamber is a vertical wall or partition, 31, leaving between it and the inside wall of the refrigerator the warm-air flue 32. This wall reaches to within a short distance of the top, so as to leave sufficient space, 33, for the warm air to pass over into the ice-chamber. It will be noticed that the ice-chamber floor inclines downward, and is provided at its lower end with a raised edge or portion, 34, so as to prevent the condensed water from running over it; and 35 is the usual outlet-pipe for carrying off the condensed water.

36 in Figs. 9 and 10 represents a damper or valve to close or open the cold-air flue 37. It is preferably secured on a rod, 38, placed in the center of the valve and set in bearings in the walls of the refrigerator, the front portion

of which projects through the front walls, and is provided with a handle or thumb-piece, 39, for opening or closing it. If desired, this rod or shaft 38 may be placed to one side, and it will operate just the same; or the rod may be made to run across the valve and pass through the side walls of the refrigerator, as shown by the dotted lines 40 in Fig. 9, and still the principle and result would be same. It will be seen from this construction that the flow of cold air down through the cold-air flue into the provision-chamber may at any time be stopped. This is an important feature, especially in large refrigerators, as well as smaller ones, as every time the doors are opened the downward flow of cold air can be stopped, when required, by which a saving of ice is effected, as the circulation of both the warm and cold air currents are stopped by the closing of this valve—besides it avoids the disagreeable effects, in large refrigerators, of the downward current of cold air when opening the doors and entering them. After the doors are closed this valve or damper can be opened and the circulation of the air again started; and, furthermore, the exact amount of circulation can be regulated by adjusting the opening or closing of this damper, as will be readily understood.

41 represents the cross-bars which receive and support the rack-bars 42, composing the shelves in the provision-chamber 43. These cross-bars 41 are constructed by first placing a deep longitudinal groove, 44, in them, after which a series of transverse recesses or grooves, 45, are cut in them down to or about the depth of the groove 44, and then a strip of wood, 46, is fitted and secured in the longitudinal groove 44, so as to fill it. It will be seen from this construction that the transverse recesses 45 now form a series of short recesses adapted to receive the ends of the rack-bars 42, so that they can be easily put in or taken out. It is much easier and cheaper to construct these bars 41 in this way than to make them from one piece, besides it makes a much smoother and better bar. These bars are secured within the refrigerator as follows: On the inside, between the doors, is a vertical bar, 47, a detached perspective view of which is shown in Fig. 8. This bar is provided with a groove, 48. The bars 41 are provided with a square end, 49, which fits in said groove, and below it a thin strip, 50, of wood, upon which the end of the bar rests, and is secured in any well-known way. The opposite end of the bar 41 is provided with a round projecting piece, 51, which is slipped into a hole in the back of the refrigerator, as shown in Fig. 2, in which enough of the section is

shown as broken away to show the ends 51 projecting into the wall.

52 represents the door leading to the ice-chamber, and 53 54 are the provision-chamber doors. The doors 53 and 54 consist of an outside frame, 55, (see Fig. 8^a,) having grooves 56, into which the panel 57 is set, and a rabbet, 58, adapted to fit the rabbet in the door-opening. On the inside of this frame is another frame, 59, having a rabbet, 60, around the outside, and on the inside a rabbet, 61, and a groove, 62, into which is fitted a panel, 63. There is also on this same frame 59 another rabbet, 64, on which the sheet of oiled paper or water-proof material 6 is placed, and secured in place by straps of wood or other suitable material fastened in place by nails. By this construction a large proportion of the several parts are put together without the use of nails or screws, and are stronger, more durable, and more easily made.

We claim as our invention—

1. In a refrigerator, a rack-holding bar adapted to be secured in the provision-chamber, substantially as specified, and provided with a longitudinal groove, 44, transverse grooves 45, and a strip of wood, 46, for filling the longitudinal grooves, as and for the purposes described.

2. A refrigerator-box provided with an ice-floor, 20 21, having its front side projecting into horizontal grooves 23 24, and its rear side secured to the back wall and to the strip 26, substantially as and for the purposes described.

3. In a refrigerator, a refrigerator-door consisting of the outside frame, 55, having the surrounding rabbet 58, adapted to fit the rabbet in the door-opening, and having the inside surrounding groove, 56, adapted to receive the panel 57, in combination with the inside frame, 59, having the surrounding outside rabbet, 60, adapted to fit a corresponding rabbet in the door-opening, and an inside rabbet, 61, having secured thereto a sheet of water-proof material, and the inside surrounding groove, 62, adapted to receive the panel 63, substantially as and for the purposes described.

4. The combination of the inside floor, 13, tongued and grooved to a front cross-strip, 15, a sheet of water-proof material, and a lower floor, 9, secured below the water-proof material and resting on the parts 11 and 12, as described.

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