

March 14, 1933.

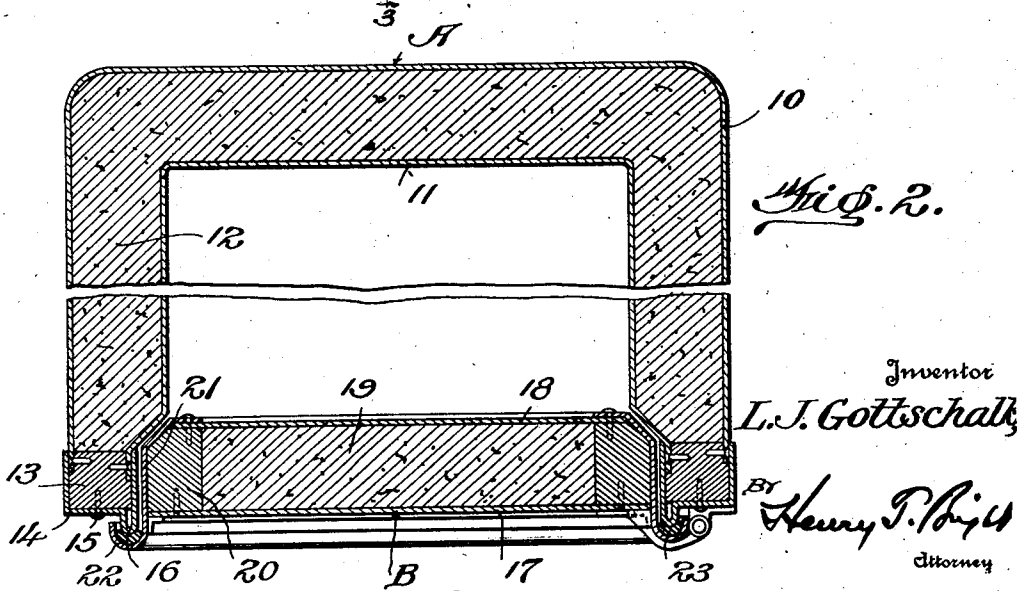
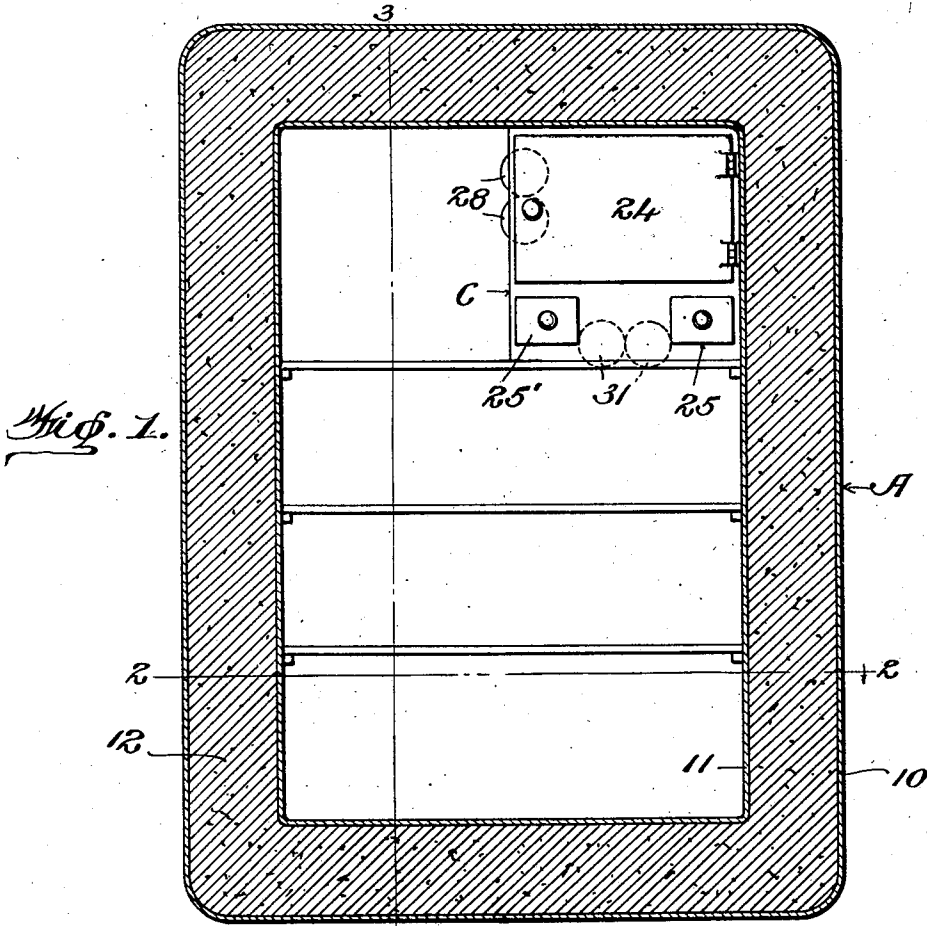
L. J. GOTTSCHALK

1,901,556

REFRIGERATOR

Filed Sept. 17, 1929

2 Sheets-Sheet 1



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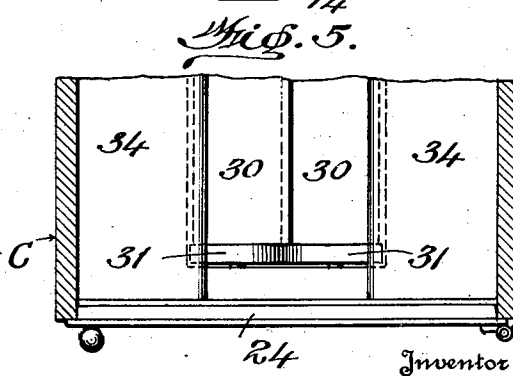
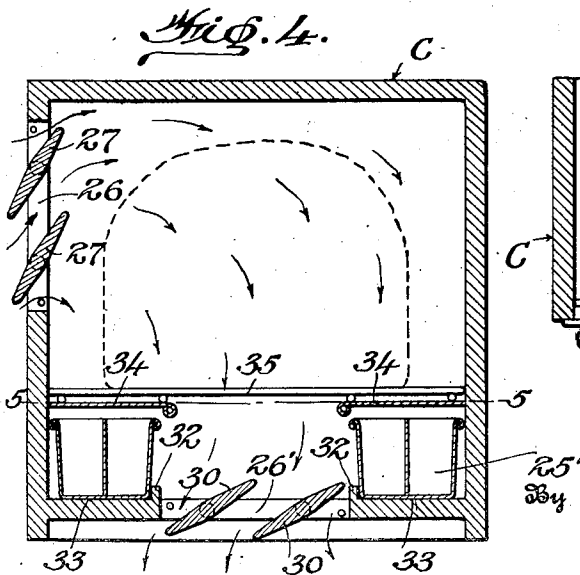
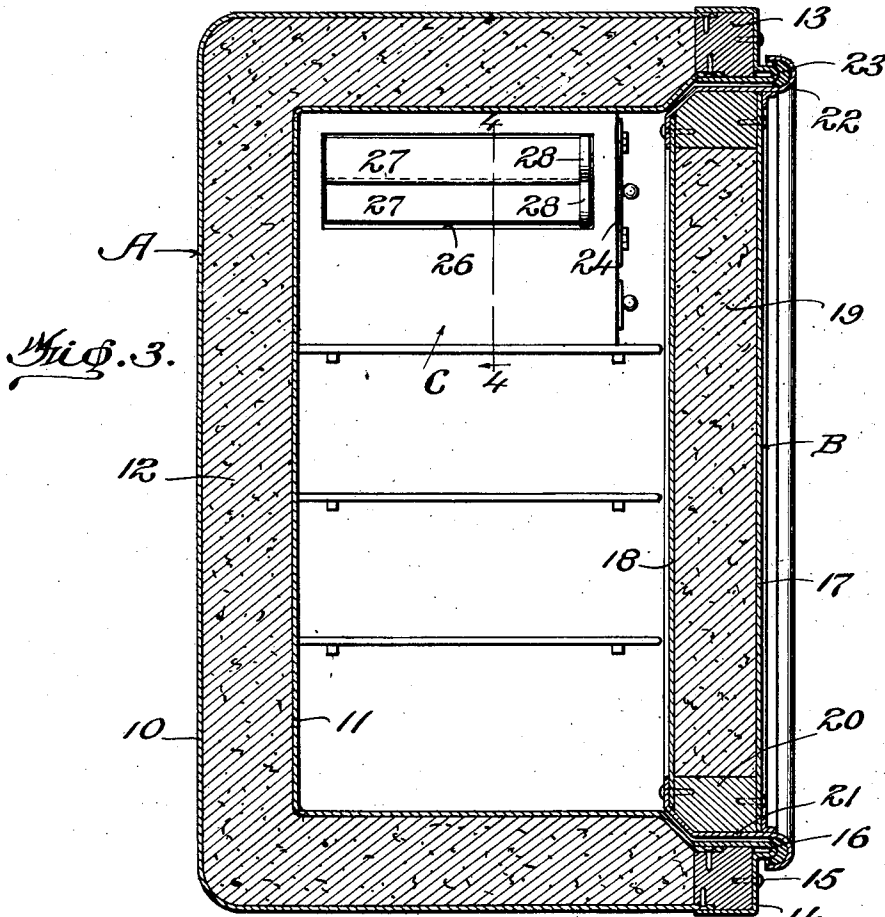
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REFRIGERATOR

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2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

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## REFRIGERATOR

Application filed September 17, 1929. Serial No. 393,176.

My invention relates to refrigerators and has for its purpose the provision of a refrigerator which can be economically manufactured and to this end the refrigerator box and door each embodies an inner and outer sheathing and a heat insulating member between the sheathings, each of which elements is fabricated in one piece to provide for their easy assembly, said assembly being completed by connecting the inner and outer sheathings of the box and door by heat insulating mouldings specially shaped to provide an effective seal between the box and door when the latter is closed.

My invention further contemplates an improved refrigerant container which is so constructed as to provide a highly efficient and controllable circulation of cold air within the refrigerator;

I will describe my invention in the best form known to me at present, but it will be apparent that the same is susceptible to changes in form and proportions by the exercise of only ordinary mechanical skill and without departing from the scope thereof as set forth in the appended claims.

In the drawings chosen to illustrate my invention

Figure 1 is a vertical section of a refrigerator constructed in accordance with my invention, the refrigerant compartment or container being shown in elevation;

Figure 2, a section on the line 2—2 of Figure 1 with the door closed;

Figure 3, a section on the line 3—3 of Figure 1;

Figure 4, a sectional view of the refrigerant compartment or container, said view being on the line 4—4 of Figure 3; and

Figure 5, a section on the line 5—5 of Figure 4.

In the embodiment of my invention illustrated A indicates generally the refrigerator box which I form of an outer sheathing 10, an inner sheathing 11 and a heat insulating member 12, the latter being located between the sheathings. The sheathings 10 and 11 and the heat insulating element 12 are each fabricated as a one piece member of dish formation and when nested as shown the

edges of the sheathings extend slightly outward of the edge of the insulating element 12. Extending between the sheathings 10 and 11 and abutting the edge of the insulating element 12 is a frame 13 which serves as a connection between the sheathings and maintains the elements of the refrigerator box in assembly as will be apparent. The sheathings 10, 11 and heat insulating element 12 are embraced by a moulding 14, preferably of heat insulating material, said moulding being secured to the frame 13 by suitable fastening devices 15. Included in the moulding 14 is an outwardly extending formation 16 which is located contiguous to the door opening of the box A for a purpose that will presently appear.

The opening of the box A is controlled by a hinged door B which also embodies an outer sheathing 17 and an inner sheathing 18, between which is located a heat insulating element 19, said sheathings and said element each being fabricated in one piece. A frame 20, similar to the frame 13, extends between the sheathings 17, 18 and abuts the edge of the heat insulating element 19, thus serving as a connection between the sheathings and maintaining the assembly of said sheathings and insulating element. A moulding 21 of heat insulating material covers the frame 20 and the edges of the sheathings 17 and 18. This moulding is provided with a U-shaped formation 22 positioned to receive the formation 16 when the door is closed. The formation 22 carries a gasket 23 which is adapted to be compressed by the formation 16 as will be obvious, to thereby provide an effective seal for the refrigerator. From the foregoing it will be apparent that by fabricating each of the sheathings and heat insulating elements of both the box and door in one piece my refrigerator lends itself to quantity production of an extremely economical type, which economy is further enhanced by the common type of labor which can be utilized in effecting the assembly of both the box and door.

My invention further contemplates an improved refrigerant container C which is

mounted within the box A preferably at one of the upper corners as shown in Figure 1. This container comprises a casing of suitable material, the front wall of which includes a hinged door 24, said wall being provided with openings 25 beneath the door through which ice trays 25' are adapted to be inserted and removed. One side wall of the container is provided with an opening 26, while its bottom wall is provided with an opening 26'. Pivotaly mounted in and controlling the opening 26 are slats or shutters 27, 27 on the trunnions of which are fixed peripherally engaging friction disks 28, 28 whereby the manual rotation of either disk simultaneously adjust the shutters or slats 27, 27. Likewise slats 30, 30 are pivotaly mounted in and control the opening 26', said slats 30, 30 being also simultaneously adjustable through the instrumentality of peripherally engaging disks 31, 31 fixed on their respective trunnions. The structure of the refrigerant container just described provides an effective means for maintaining a desired circulation of air through the container as indicated by the arrows in Figure 4. At each side of the opening 26' and extending fore and aft of the casing are inwardly directed flanges 32, 32 forming runways 33, 33 in line with the openings 25 and upon which the ice trays 25' are adapted to slide and rest. Extending inwardly from the side walls of the refrigerant container and over the runways 33, 33 are baffle plates 34, 34 which cover respectively the ice trays 25' when the latter are upon the runways 33, 33 thereby to prevent any accumulation of dust by the contents of the trays. The plates 34, 34 also perform the additional function of supporting an open grille 35 which latter is adapted to in turn support a suitable dry refrigerant such as solid carbon dioxide.

I claim:

1. In a refrigerator construction, a box having a door opening, said box comprising an inner sheathing, an outer sheathing, a heat insulating member between the sheathings, a frame secured to and extending between the sheathings and abutting the edge of the insulating member, a heat insulating moulding secured to and embracing the frame and sheathings and having an outwardly extending portion, a door controlling the opening of the box, said door comprising outer and inner sheathings, a heat insulating member between said sheathings, a frame secured to and extending between the door sheathings, a heat insulating moulding secured to and embracing said frame and door sheathings, and having a U-shaped formation adapted to receive said outwardly extending portion, and a gasket carried by the U-shaped formation for engagement with

the outwardly extending portion to thereby provide a seal.

2. A refrigerator box comprising inner and outer sheathings and insulation between the sheathings, each of the sheathings and the insulation being in the form of one piece dished member, a frame extending between the sheathings in abutting relation to the insulation member, and means securing the sheathings to the frame.

3. A refrigerator box comprising inner and outer sheathings and insulation between the sheathings, each of the sheathings and the insulation being in the form of a one piece dished member, a frame extending between the sheathings in abutting relation to the insulation member, means securing the sheathings to the frame, and a heat insulating moulding secured to and embracing the frame.

In testimony whereof I hereunto affix my signature.

L. J. GOTTSCHALK.