

Dec. 7, 1937.

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2,101,702

CABINET FOR MECHANICAL REFRIGERATORS AND APPURTENANCES THEREOF

Filed Nov. 14, 1934

2 Sheets-Sheet 1

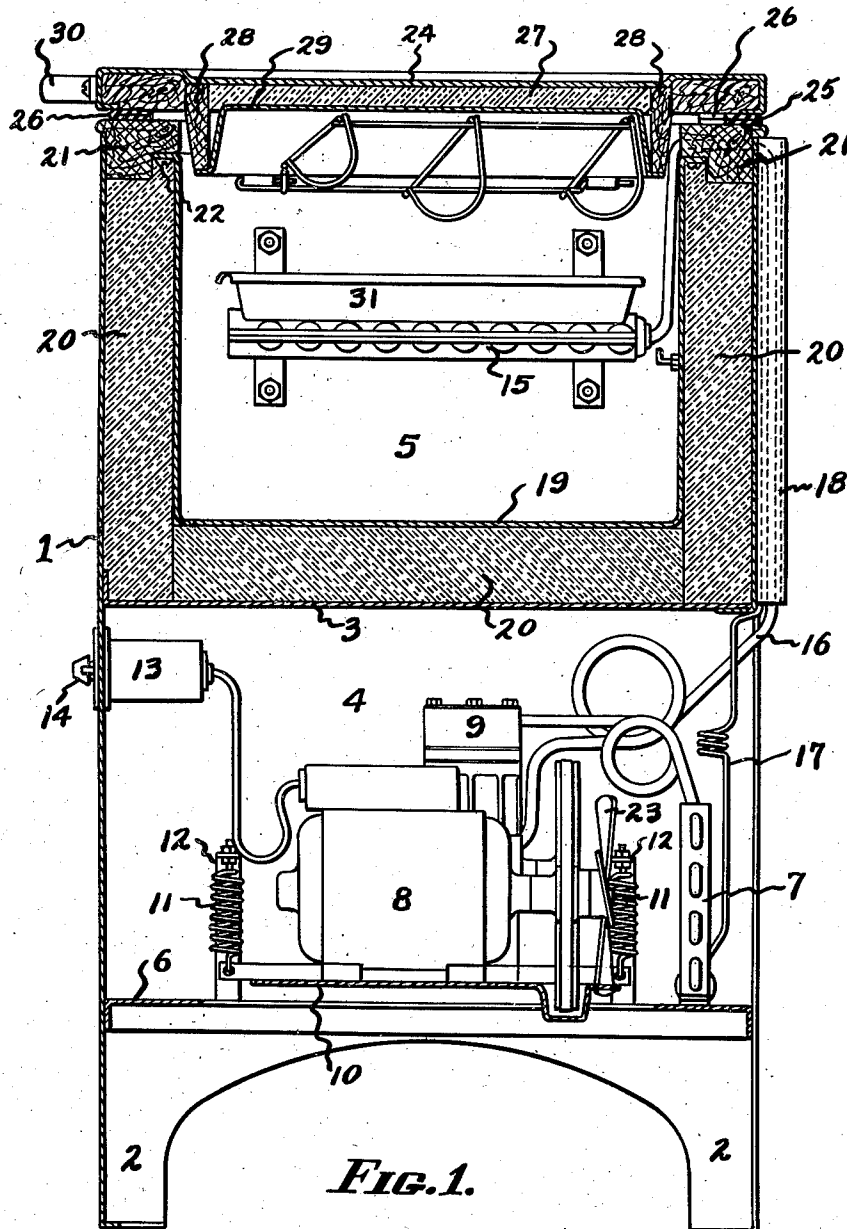


FIG. 1.

INVENTOR.

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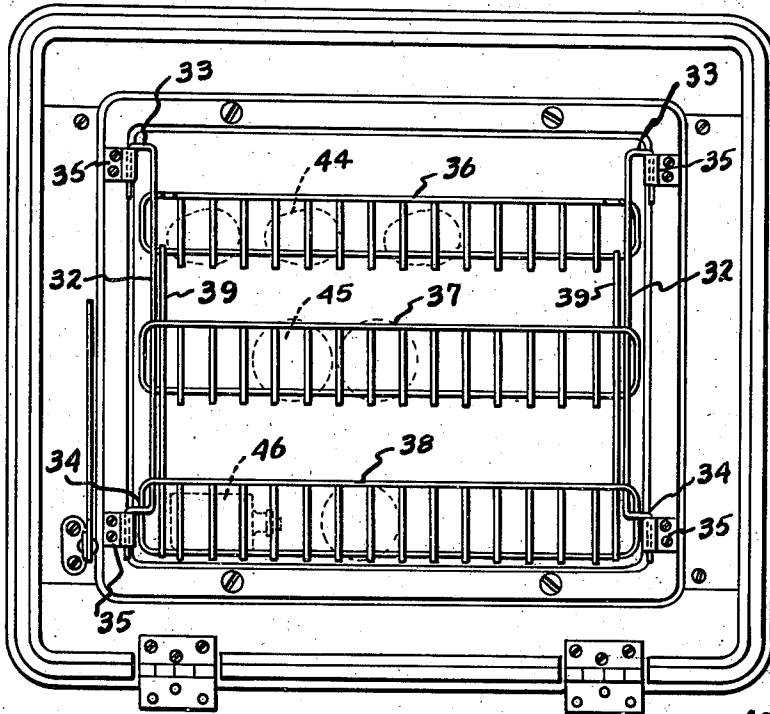


FIG. 3.

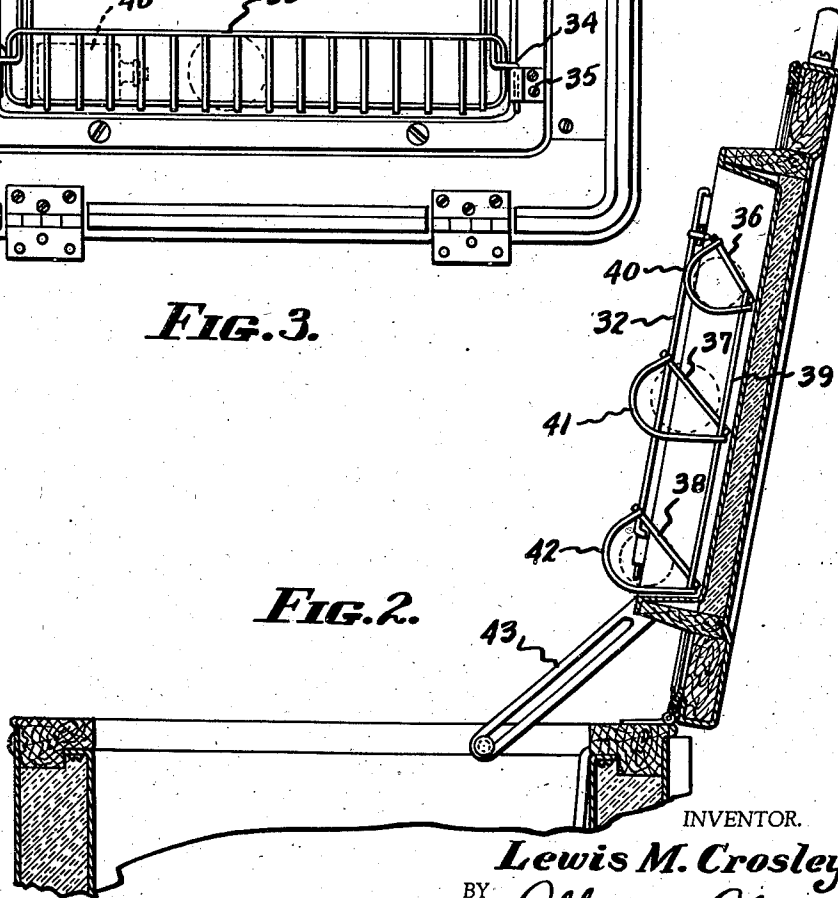


FIG. 2.

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UNITED STATES PATENT OFFICE

2,101,702

CABINET FOR MECHANICAL REFRIGERATORS AND APPURTENANCES THEREOF

Lewis M. Crosley, Cincinnati, Ohio, assignor to
The Crosley Radio Corporation, Cincinnati,
Ohio, a corporation of Ohio

Application November 14, 1934, Serial No. 753,012

5 Claims. (Cl. 312-173)

My invention relates to refrigerator cabinets and parts, and is of especial utility in connection with refrigerators of a type having a lid opening upwardly on horizontal pivots and giving access to the refrigerated compartment, as distinguished from the ordinary door or doors, which open outwardly upon vertical pivots. Refrigerators of this type, and which are usually of relatively small size, are coming into considerable favor for use in apartments or under other conditions of restricted space, and for use by families of limited means. An exemplary refrigerator of this type, to which, however, my invention is not limited, is a refrigerator having a lower compartment containing the motor, compressor and condenser, and an upper refrigerated compartment of relatively small capacity, say, of two cubic feet, or thereabouts. It will be clear that with such relatively limited storage space, the problem of utilizing all of the available space to the utmost advantage is a problem of considerable importance.

My invention has for its primary object the provision of a cabinet with means, as will be hereinafter set forth, for utilizing substantially all of the available space, as aforesaid, and this and other objects of my invention which will be set forth hereinafter or which will be apparent to one skilled in the art upon reading these specifications, I accomplish by that certain construction and arrangement of parts of which I shall now describe an exemplary embodiment. This exemplary embodiment is a small sized cabinet of the type to which I have referred, it being understood, however, that my invention is not limited thereto.

In the drawings:

Figure 1 is a sectional view of a cabinet of this type.

Fig. 2 is a partial sectional view thereof with the lid raised.

Fig. 3 is a plan view of the under side of the lid.

I have shown in Figure 1 a cabinet having outer metallic walls indicated generally at 1, and having legs 2. A partition member 3 divides the cabinet into a lower machine compartment 4, and an upper refrigerated compartment 5. In the machine compartment I have shown a base member 6, upon which is mounted a condenser 7. A motor 8 and compressor 9 are mounted upon a sub-base 10, suspended by springs 11 from brackets 12 upon the base 6. A control or adjustment unit 13 is mounted upon the front wall and has an operating handle 14, together with

a face plate bearing suitable indicia, and a switch, if desired, lying outside of the front wall 1 in a position of convenient access. I have not particularly described the mechanical apparatus in the machine compartment, since this does not form a limitation upon my invention, and since the various mechanism, tubing connections and electrical connections may be those which are well known in the art.

I have shown in the refrigerated compartment an evaporator 15, which is preferably, though not necessarily, of a type shown in a copending application of Crosley and Money, Ser. No. 740,554 filed Aug. 20, 1934. A return tubing connection from the evaporator to the compressor is indicated at 16. The evaporator is fed with liquefied refrigerant from the condenser 7, through a restricted flow tube 17, in this particular embodiment of my invention. The tubing connections may run through a protecting sleeve 18 to the top of the refrigerated compartment, and may thence pass through the upper portion of the walls into the compartment as shown. The refrigerated compartment has preferably enameled interior metallic walls forming a box-like structure 19 open at the top. Between the compartment 19 and the outer walls 1 and the partition 3 there is positioned insulating material indicated at 20. The top edges of the refrigerated compartment may be finished by wooden or other rail members 21 contacting the outer walls, and to which the food compartment 19 is attached, as by screws 22. The machine compartment is open in the rear to provide for ventilation, and in particular for the cooling of the condenser 7 by a blast of air from the fan 23.

The food or refrigerated compartment 5 is closed and insulated upon the bottom and all four lateral sides. It is closed at the top by a lid indicated generally at 24, which is hinged to the back rail 21, as at 25. Parting strips or bearing members 26 form an air-tight joint between the lid and the refrigerated compartment, thereby reinforcing the effect of the insulation. The lid is, of course, insulated as at 27.

The lid may take a variety of forms. In my exemplary embodiment I have shown a form in which the lid has a peripheral projection formed by members 28 extending into the refrigerated compartment and finished within by a metal plate 29, which thereby forms a recess in which shelf members may be placed, as I have hereinafter described. It would equally be possible, however, to bulge the lid outwardly and to form 55

a recess by using similar members and differently shaped plates, which recess would lie to a considerable extent or perhaps wholly above the parting strips 26. This construction would increase the cost of the structure slightly, but would have the effect of enlarging the available food storage space, and would permit a higher placement of the evaporator 15 in the food storage compartment. A handle for the lid is shown at 30. An ice cube tray is shown at 31 resting on the top of the evaporator 15.

In the practice of my invention, I provide means for retaining materials or articles to be stored in the lid, and for this purpose shelves are provided in connection with the lid. Since the lid swings on horizontal pivots from a horizontal to a vertical position, or therebeyond, means must be provided to make the shelves operative in either position, and to cause the shelves to retain the articles or materials aforesaid in all positions and during the swinging operation. It will be understood that the articles or materials, which for the most part will be placed in the shelves on the lid, are such articles as eggs, fruit, small bottles or small packages, which articles if spread out upon the bottom of the food compartment, or upon a shelf therein, would occupy an effective space very much larger than their actual bulk, for the reason that it might be impracticable to place other articles upon them. Moreover, the arrangement which I shall hereinafter describe makes for convenience, inasmuch as it partially eliminates the necessity for stacking articles in the refrigerator, so that to all intents and purposes all articles therein are immediately and easily accessible.

Preferably I form my shelves of wire or bar material, although they may otherwise be formed if desired. Reference to Fig. 3 will show main side rail members 32 formed of wire or bar stock. These main rails have U-shaped bends 33 at their upper ends, and at their lower ends are bent as at 34 so as to provide at either end tongue members extending in the same direction. These tongue members are adapted to engage in bracket members 35 fastened upon the lid. These bracket members may conveniently be in the form of half hinges, or any other suitable form may be employed. It will be clear that, as looked at in Fig. 3, the whole shelf construction, which is mounted to the side rails 32, may be removed as a unit from the lid by an upward motion which disengages the tongues from the brackets. The shelf construction comprises, in my preferred form, frame members 36, 37, and 38, one side of each of these frame members being attached to the main rails 32. The other side is projected inwardly of the recess in the door, so that the frame members lie aslant of the rail members 32, as clearly shown in Figs. 1 and 2. The other sides of the frame members 36 to 38 are connected by means of supplementary rail members 39. The sides of the frame members are connected at intervals by bow-shaped rods or wires 40, 41 and 42, which may vary as to shape, but which provide, upon the lifting of the lid as in Fig. 2, a portion which underlies any articles upon the shelves, and a connecting portion which will likewise underlie and support such articles when the lid is lowered, as in Fig. 1. The shelf member may conveniently be formed by welding or braz-

ing the wires or bars forming the various parts at their meeting and crossing points. Afterward the wall shelf construction, which is thus unitary, may be tinned or otherwise treated for protection or appearance, as may be found desirable. While I prefer to make my shelf removable as a unit for cleaning or the like, still my invention is not so limited, and the several shelf members may be separate and separably movable or permanently fastened into place, as desired.

The lid may have a bracket member 43 to limit its upward motion. I have shown in the various views such articles as eggs 44, oranges 45, bottles 46, and have indicated how these will be retained in all positions of the lid.

Modifications may be made in my invention without departing from the spirit thereof.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A shelf construction for hinged upwardly opening refrigerator lids, said shelf construction comprising at least one frame member angularly disposed to the plane of said lid, and a plurality of arcuately shaped retaining members attached to said frame members, said retaining members providing a recess into which articles may be placed, which recess will retain said articles in all operative positions of said lid.

2. A shelf construction for refrigerators having hinged upwardly opening lids, said shelf construction comprising a plurality of frame members, and means for holding said frame members at an angle to the plane of said lid, each of said frame members having means extending thereacross and of a shape such as will provide a recess extending below said frame members in all operative positions of said lid.

3. A shelf construction for refrigerators having hinged upwardly opening lids, said shelf construction comprising side rail members, supplementary rail members, frame members each having one of its sides attached to said side rail members, and the other of its sides attached to said supplementary rail members so that said frame members lie at an angle to said rail members, and open work members connecting the respective sides of said frame members extending below said frame members so as to provide a basket-like recess, a substantial portion of which will lie below said frame members in all operative positions of said door.

4. In combination, a hinged upwardly opening refrigerator door, a shelf member in operative connection therewith, said shelf member having a part underlying and acting as a support for articles thereon when said door is open, and another part underlying and acting as a support for articles thereon when said door is closed, said last mentioned part having a reentrant portion preventing accidental dislodgment of said articles when said door is closed.

5. A shelf construction for refrigerators having hinged upwardly opening lids, said shelf construction comprising frame members disposed at an angle to said lid, and open-work members connecting the respective sides of said frame members and extending below said frame members so as to provide a basket-like recess, a substantial portion of which will lie below said frame members in all operative positions of said door.

LEWIS M. CROSLY.