April 12, 1966 S. SPIELMAN 3,245,740

REFRIGERATOR CABINETS HAVING DUAL SERVICE COMPARTMENTS

Filed Sept. 25, 1964 3 Sheets-Sheet 1

FIG. 1.

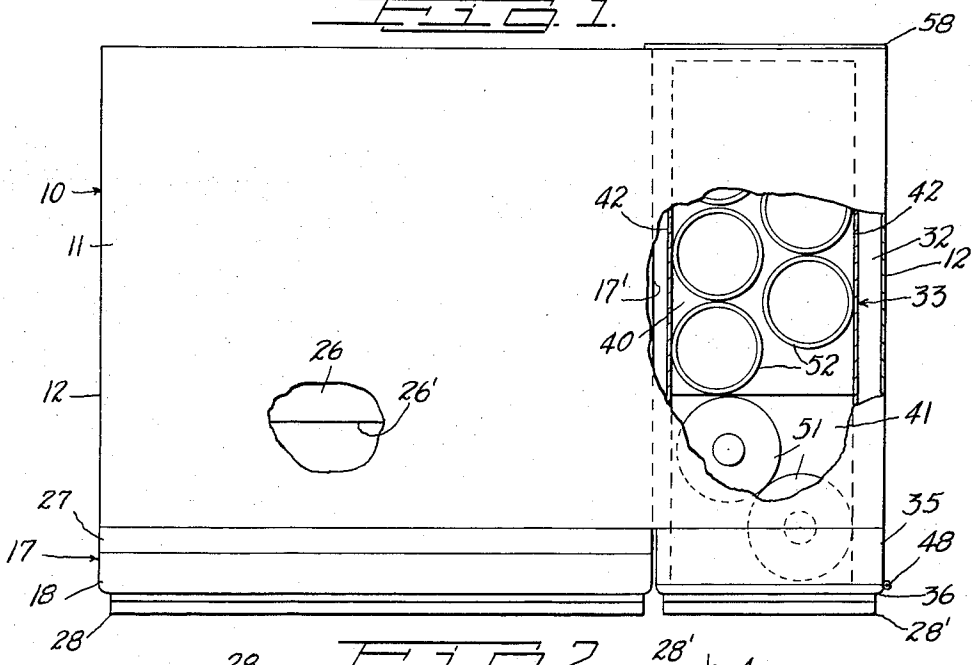


FIG. 2.

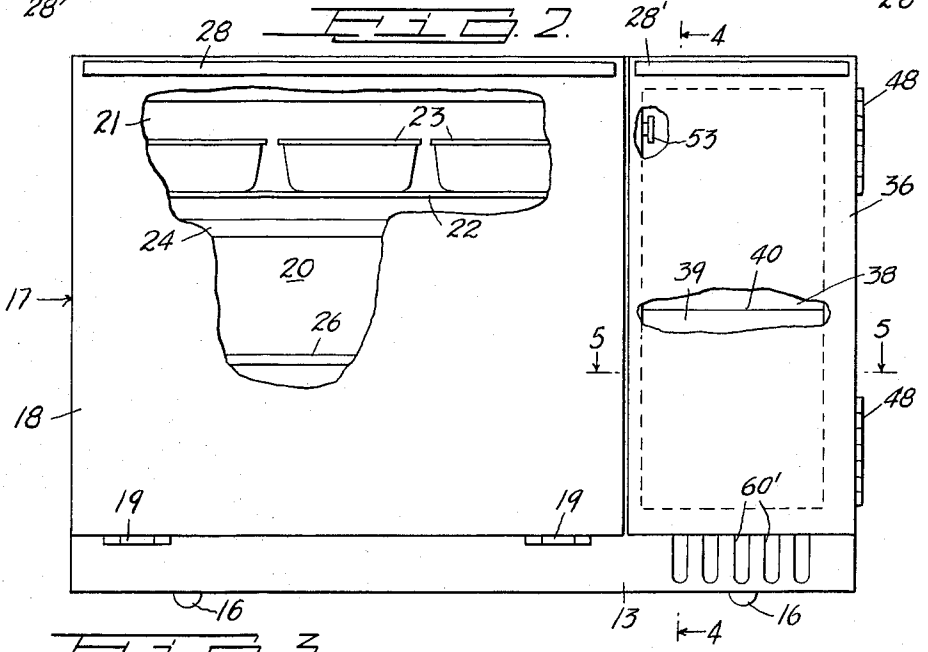
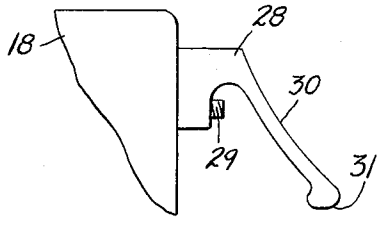


FIG. 3.



INVENTOR.
SIDNEY SPIELMAN
BY
Howard E. Thompson
ATTORNEY

April 12, 1966 S. SPIELMAN 3,245,740

REFRIGERATOR CABINETS HAVING DUAL SERVICE COMPARTMENTS

Filed Sept. 25, 1964 3 Sheets-Sheet 2

FIG. 4.

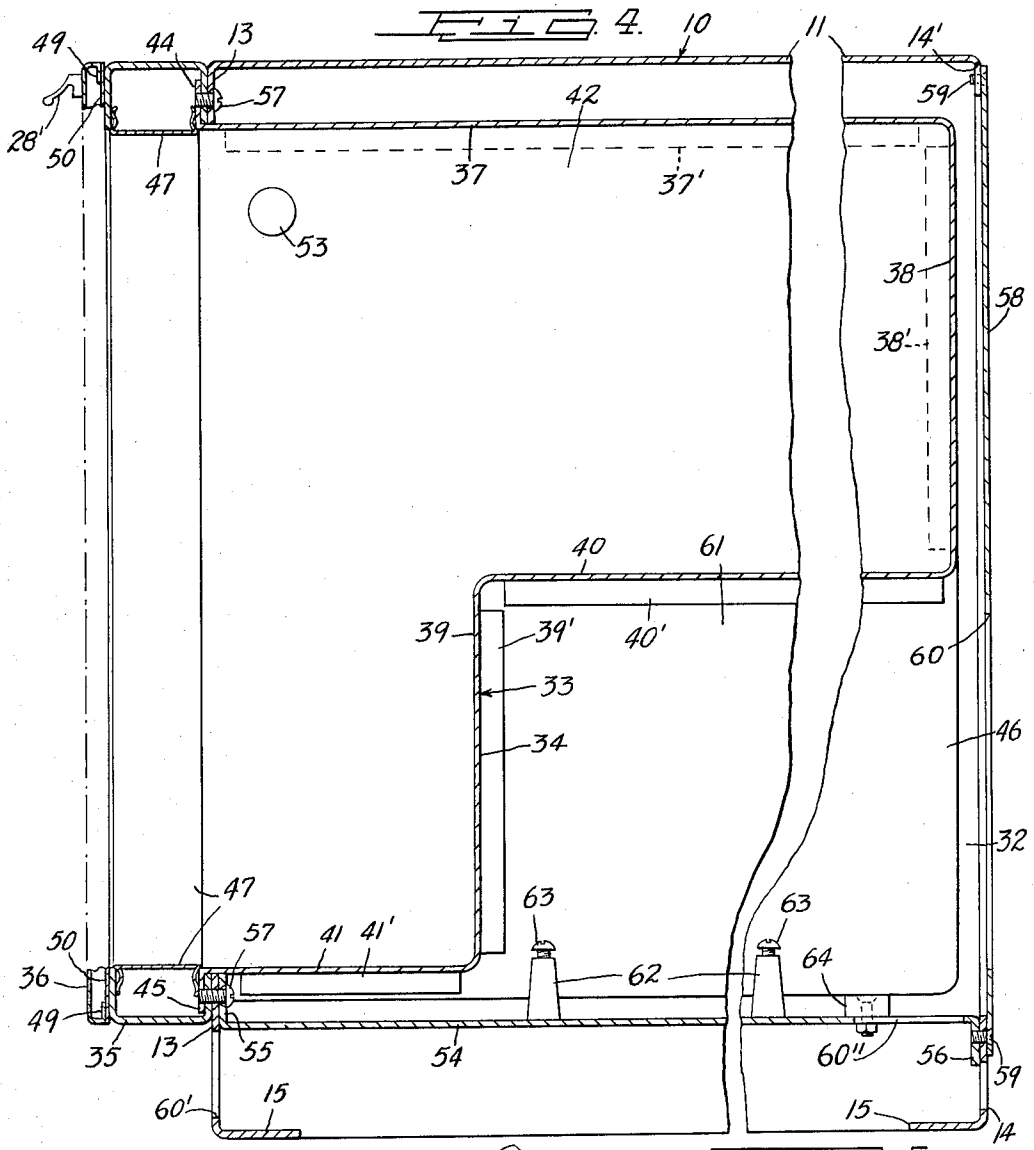


FIG. 6.

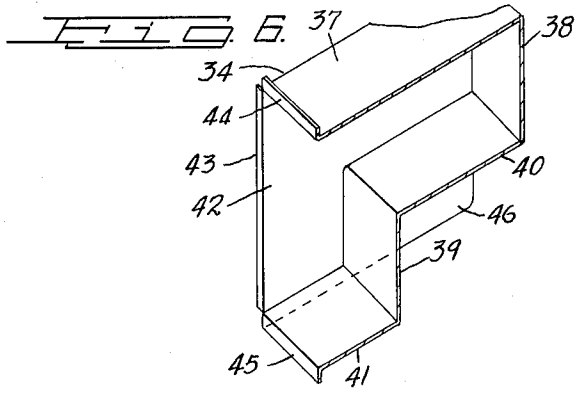
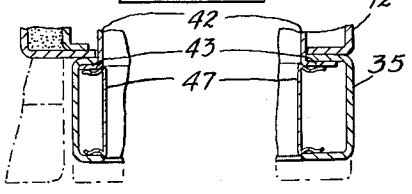


FIG. 5.



INVENTOR.
SIDNEY SPIELMAN
BY
Howard C. Thompson
ATTORNEY

April 12, 1966 S. SPIELMAN 3,245,740

REFRIGERATOR CABINETS HAVING DUAL SERVICE COMPARTMENTS

Filed Sept. 25, 1964 3 Sheets-Sheet 3

FIG. 7.

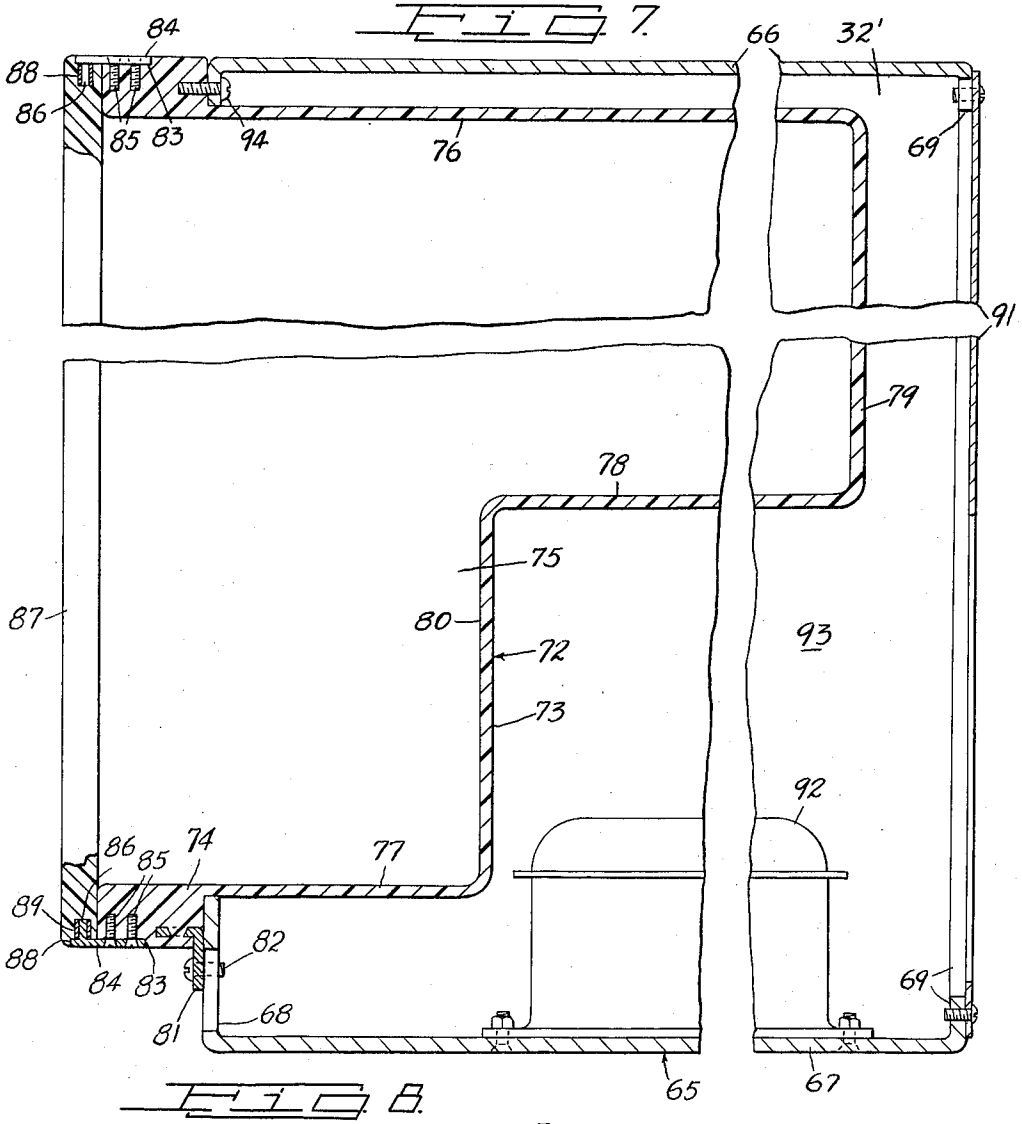
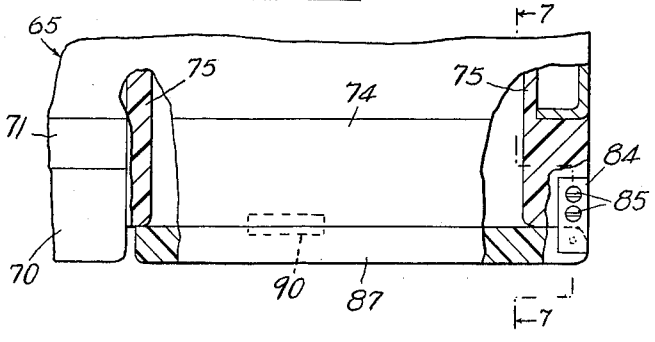


FIG. 8.



INVENTOR.
SIDNEY SPIELMAN
BY
Howard R. Thompson
ATTORNEY

United States Patent Office 3,245,740 Patented Apr. 12, 1966

3,245,740

REFRIGERATOR CABINETS HAVING DUAL SERVICE COMPARTMENTS

Sidney Spielman, 287 Linwood Ave., Cedarhurst, Long Island, N.Y.

Filed Sept. 25, 1964, Ser. No. 399,197
9 Claims. (Cl. 312—213)

This invention relates to a cabinet having a refrigerated compartment, as well as a non-refrigerated compartment, with independent doors controlling said compartments to thereby provide a dual service feature in the resulting cabinet. More particularly, the invention deals in a cabinet structure, wherein the non-refrigerated compartment comprises, in part, a unit detachable with respect to the cabinet. Further, the invention deals with a structure of the character defined, wherein said unit is so fashioned as to provide means for support of a compressor in said non-refrigerated compartment.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a diagrammatic plan view of one form of cabinet which I employ, with parts of the construction broken away and in section.

FIG. 2 is a front view of the structure shown in FIG. 1, with parts of the construction broken away.

FIG. 3 is an enlarged detail side view of a handgrip rail provided on doors controlling separate compartments of the cabinet.

FIG. 4 is an enlarged diagrammatic section substantially on the line 4—4 of FIG. 2, with part of the construction broken away and showing part of the door in dot-dash lines.

FIG. 5 is an enlarged broken section on the line 5—5 of FIG. 2, illustrating portions of the door structures in dot-dash lines.

FIG. 6 is a perspective sectional view of the casing portion of the unit illustrated in FIG. 4 detached and with part of the structure broken away.

FIG. 7 is an enlarged sectional view generally similar to FIG. 4, with parts of the construction broken away and parts shown in elevation and illustrating a modified adaptation of my invention, the section being generally on the broken line 7—7 of FIG. 8; and

FIG. 8 is a plan view of one corner portion of the structure shown in FIG. 7, with parts of the construction broken away and in section.

In FIGS. 1 to 6, inclusive, is diagrammatically illustrated one form of cabinet structure, comprising an outer casing 10, defined primarily by a top wall 11, side walls 12, one of which is shown partially in section in FIG. 1 of the drawing, front wall portions 13 and rear wall portions 14. The front and rear wall portions include, at their lower ends, inwardly extending flanges 15, with which cushioned feet 16, note FIG. 2, or leg members can be attached for support of the cabinet close to or high above a supporting surface.

Arranged within the left side of the casing 10 is a refrigerator assemblage 17, which fits in an opening formed in the front wall portions 13. This is a more or less conventional assemblage, comprising insulated top, bottom, side and back walls, with an open front controlled by a door 18, hinged, as seen at 19 in FIG. 2, and this assemblage forms within the casing 10 one compartment of the cabinet, namely the refrigerated compartment 20, note FIG. 2. This compartment has an upper freezing area 21 above a shelf 22, in which ice cube trays 23 are supported for the freezing of ice; whereas, below the shelf 22 and in

close proximity thereto is a defrost tray 24, below which is the normal refrigeration area 25. In the area 25 is a shelf 26, the forward edge 26' of which terminates short of the door opening to facilitate storage of tall bottle goods and the like at the forward portion of the refrigerator.

Considering FIG. 1 of the drawing, it will appear that a conventional door sealing rubber strip 27 is employed and the door 18 can be held in closed position by suitable magnetic means, as known in the art. Mounted on the upper edge portion of the door 18 and extending longitudinally of this edge is a fingergrip rail 28, shown in side elevation in FIG. 3 of the drawing. This rail is secured at intervals by screws or the like 29 and has an outwardly depending and slightly curved portion 30 terminating in a rounded lower end 31. This rail facilitates movement of the door into open and closed positions. The right side portion of the assemblage 17, or what would be the right wall of this assemblage, is indicated, in part, at 17' in the broken away portion of FIG. 1. This side of the assemblage 17, in combination with the right side wall 12, forms the second non-refrigerated compartment 32 of the cabinet, in which is detachably mounted a compartment or storage unit 33, which actually forms the service phase of the compartment 32. The unit 33 is formed of three primary parts, namely a container or storage part 34, shown in partial perspective in FIG. 6 of the drawing, a doorframe part 35 and a door part 36. The storage part 34 can be formed from a bent piece or strip of sheet metal defining a top wall 37, a deep back wall 38 joining a shallow back wall 39 in a horizontal shelf portion 40 and a bottom wall 41. To side edges of these walls can be welded or otherwise secured side wall portions, one of which is seen at 42 in FIG. 6, and both of these walls are indicated in partial section in FIG. 1 of the drawing. The walls 42 have, at their forward edges, outwardly extending flanges 43, one of these being shown in FIG. 6 and both of these flanges shown in section in FIG. 5. The wall 37 has an outwardly extending flange 44 at its forward edge and a corresponding flange 45 is on the forward edge of the bottom wall 41.

Considering FIGS. 4 and 6 of the drawing, it will appear that the side walls 42 extend from the top wall 34 to a position below the bottom wall 41 and below the shelf 40, as seen at 46. It will also appear, from a consideration of FIG. 4, that the wall portions 39, 40, 41 have side flanges 39', 40' and 41' and, in like manner, the back wall 38 and the top wall 37 have projecting flanges, as indicated at 37', 38' in dotted lines in FIG. 4, and all of these flanges 37'–41' can be utilized in securing the side walls in position and in forming a sturdy container or storage member of the unit 33.

Considering FIGS. 4 and 5 of the drawing, it will appear that the doorframe part of the unit 33 is generally U-shaped in cross-sectional form, with the channel of the U directed inwardly on all walls. The opening of the channel is closed on all walls by snap-in facing strips 47. It will be noted from a consideration of FIG. 5 that the channel on the inner side wall of the doorframe or that shown to the left of said figure is shallower than the remaining channels of the frame 35.

In assemblage of the unit, the flanges 43, as well as the flanges 44 and 45, extend into and are welded or otherwise fixed to the inner side walls of the channel of the doorframe 35.

Considering FIG. 2 of the drawing, the door 36 and doorframe 35 are hinged together by hinges 48, which can be the spring-type or the door 36, in combination with the frame 35, can employ magnetic closures, as with other cabinets of this type and kind, the same as with the closure of the door 18. The door 18 is of sheet metal

structure and includes flange portions 49, note FIG. 4, to which an inner facing sheet 50 can be welded or otherwise secured. Mounted on the upper edge of the door 36 and extending longitudinally thereof is a fingergrip rail 28', similar to the rail 28 employed on the door 18. It will be noted, from a consideration of FIG. 4 of the drawing, that the doorframe forms a continuation of the bottom wall 41 to facilitate storage of two or more bottles in the forward portion of the unit 33, as diagrammatically seen by the bottles 51 in FIG. 1 of the drawing; whereas, the shelf 40 can support six or more glasses or tumblers 52, depending entirely upon the size thereof, or a combination of tumblers and smaller glassware can be so mounted. The innermost side wall 42 of the unit 33 or, in other words, the wall adjacent the wall 17' will be fashioned to provide mounting of a suitable manually actuated temperature control knob 53 for the assemblage 17, which would be accessible within the upper corner portion of the unit 33, or the storage area formed by such unit.

Mounted in the lower portion of the casing 10 between the front and rear walls 13 and 14 is a bottom wall portion 54 having an upwardly extending forward flange 55 welded or otherwise secured to the wall 13 and a downwardly extending rear flange 56 similarly secured to the rear wall 14. In detachably mounting the unit 33 with the cabinet, screws or other fasteners, such as 57, can be employed which pass through the front wall, as well as the flange 55. Attachment of the upper screw or screws 57 will be accessible by a cutaway portion 14' in the back wall 14, as noted in the upper righthand portion of FIG. 4. The back wall, in registration with the compartment 32, is open and this opening is closed by an elongated cover 58 secured in position by screws shown, in part, at 59 in FIG. 4. The cover forms a support for the condenser of the cabinet. The cover 58 has a series of vertical openings 60 registering with a chamber 61 formed below the shelf 40 and rearwardly of the wall 39 of the unit 33. The openings 60 are generally similar to the openings 60' shown on the front wall 13 in FIG. 2 of the drawing to provide ventilation for the cabinet and, particularly, the chamber 61, it being noted that the bottom wall 54 has similar openings, one of which is indicated at 60'' in FIG. 4.

Suitably mounted on the upper surface of the wall 54 are four or more posts 62 having screws or other fasteners 63 for mounting of a compressor thereon for positioning in the chamber 61. No showing of the compressor or condenser is made as units of this type and kind for refrigerator units, as at 17, are well-known in the art. Also supported on the bottom wall 54 are rubber or other supporting blocks 64, upon which the portions 46 of the side walls 42 are adapted to bear in support of the unit 33 in the casing structure.

Turning now to the modified structure shown in FIGS. 7 and 8 of the drawing, here a different form of casing 65 is employed, the casing including a top wall 66, a bottom wall 67, front wall portions 68 and rear wall portions 69. Supported at the left side of the casing is a refrigerating unit, part of the door of which is indicated at 70 in FIG. 8 of the drawing, as well as the sealing strip for the door, as at 71, these being in all respects similar to the door 18 and the sealing strip 27 of FIG. 1 of the drawing.

In FIGS. 7 and 8, the modification consists primarily in the formation of the container or storage unit 72, which is generally similar in construction to the unit 33, with the exception that the unit 72 is preferably formed of suitable plastic material and comprises two primary parts, namely a container and storage part 73, including an integral doorframe part 74. The part 73 is defined by side walls 75, note FIG. 8, a top wall 76, a bottom wall 77, similar to 41, a shelf 78, similar to 40, a back wall 79, similar to the wall 38 and a supplemental back wall 80, similar to the wall 39. In molding the parts 73, the doorframe portion has one or two angleiron brackets 81 integrally molded therewith, as diagrammatically seen in FIG. 7, the brackets projecting downwardly beyond the doorframe to facilitate attachment to the front wall 63, as by screws 82. Upper and lower portions of the doorframe 74 are molded to form recesses 83 to facilitate attachment of hinge plates 84 therewith, as by screws 85, as clearly noted in FIG. 7 and shown, in part, in FIG. 8 of the drawing. The plates 84 have, at their free end portions beyond the limits of the frame 74, inwardly projecting pivot pins 86.

With the construction shown in FIGS. 7 and 8, a molded door 87 of plastic material is preferably employed and upper and lower surfaces of the door are preferably fashioned to form recesses 88, first, for the reception of the plates 84 and also to receive wear bushings 89, into which the pins 86 pass and operate. The door 87 can be magnetically supported in closed position by suitable magnetic means, diagrammatically illustrated at 90 between the door and doorframe, again, as with other devices of this type and kind. Fingertip rails, such as 28, 28' can be employed in connection with the showing in FIGS. 7 and 8 or any other means can be provided for opening and closing the door 87, as will be apparent, but the showings of these fingergrips have been omitted from FIGS. 7 and 8 in order to simplify the illustration.

The back wall 69 of the casing, in registration with the non-refrigerated compartment 32' of the showing in FIG. 7, has a large opening, as at 69', which is closed by a cover 91, similar to the cover 58. With the structure of FIG. 7, the compressor, diagrammatically outlined at 92 in FIG. 7, is mounted directly upon the wall 67 and is arranged in a chamber 93, generally similar to the chamber 61. It will also be apparent that the upper portion of the unit 72 is supported in connection with the casing 65 by one or more screws, as diagrammatically seen at 94 in FIG. 7 of the drawing. The unit 72 provides for storage of bottles, glasses or the like, as with the unit 33 shown in FIG. 4 of the drawing.

With units of the type and kind disclosed, beverages of various types and kinds stored in the units employed become accessible and directly associated with the ice cubes of the refrigerated compartment, it being further apparent that the refrigerated compartment can be utilized for storage of beverages of different types and kinds kept in a cool state, such beverages as beer, soft drinks, as well as milk and the like. From the foregoing, it will be understood that a cabinet structure of the type and kind under construction will fulfill a much needed want, particularly in keeping associated beverages and the like at one fixed station, thus expediting the servicing of the same. It will further be apparent that the non-refrigerated compartment can include means for storing articles of various types and kinds. From this standpoint, the size and structure of the non-refrigerated compartment can be varied.

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

1. A refrigerator cabinet comprising a casing, means forming a refrigerated compartment at one side of the casing, means forming a non-refrigerated compartment at the other side of the casing, the first named means comprising a refrigerator unit having a door giving access to said unit, the second named means comprising a compartment formed in the casing, a storage unit mounted in said compartment, said unit including a doorframe portion, a door hingedly mounted in connection with said doorframe portion controlling access to the storage unit, said storage unit having means for support of bottles and containers therein, said non-refrigerated compartment including means for support of a compressor therein in spaced relationship to said storage unit, said storage unit comprising a molded plastic container defined by top, bottom and side walls, offset rear walls

joined by a raised shelf, the forward end of the container including an integral portion forming the doorframe, the door of said unit comprising a molded plastic member, the hinge mounting of the door in connection with the doorframe of said container comprising hinge plates coupled with the doorframe, and said plates having projecting portions including hinge pins operating in upper and lower edge portions of the door.

2. A cabinet as defined in claim 1, wherein the door includes bushings in which the hinge pins are mounted.

3. A cabinet as defined in claim 2, wherein the means for support of a compressor in the second named compartment includes a chamber disposed below the shelf of said container.

4. A cabinet as defined in claim 3, wherein the casing has an opening registering with said last named chamber, and an apertured cover plate closing the opening in said casing.

5. A refrigerator cabinet comprising an outer casing, means forming a refrigerated compartment in one side of the casing, means forming a non-refrigerated compartment within the other side of the casing, the first named means comprising a refrigerator unit having a door giving access to said unit, the second named means including walls of said outer casing, a storage unit removably mounted in said non-refrigerated compartment, said storage unit comprising two primary parts, namely a container part and a door part, the container part being defined by top, bottom and side walls and deep and shallow back walls joined by a shelf portion, the front of the container being open, door frame means at the front of the container, hinge means for hinging the door part thereto, and said non-refrigerated compartment including means

for support of a compressor therein in spaced relationship to said storage unit.

6. A cabinet as defined in claim 5, wherein said hinging means is attached to a doorframe part fixed to flanges at the front of the top, bottom and side walls of the container.

7. A cabinet as defined in claim 5, wherein the casing of the cabinet includes front wall portions, said front wall portions below the removable storage unit being apertured to ventilate the second named compartment, said second named compartment having an opening at the rear of the casing, and a ventilated cover closing said last named opening.

8. A cabinet as defined in claim 6, wherein said doorframe part comprises top, bottom and side channels opening inwardly of the doorframe, and means for facing and closing said channels.

9. A cabinet as defined in claim 5, wherein said hinging means comprises hinge plates coupled with a doorframe portion of the container part, and said plates having hinge pins operating in upper and lower edge portions of the door part.

References Cited by the Examiner

UNITED STATES PATENTS

2,618,527	11/1952	Palmer	312—214 X
2,642,728	6/1953	Thomras	62—457 X
2,958,210	11/1960	Rill	312—214 X
3,160,452	12/1964	Rothman	312—236

FOREIGN PATENTS

905,224	9/1962	Great Britain.

CHANCELLOR E. HARRIS, *Primary Examiner.*