

Nov. 1, 1938.

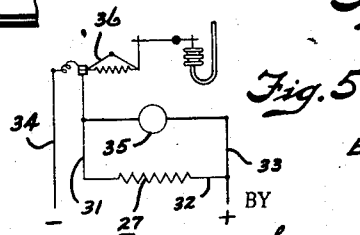
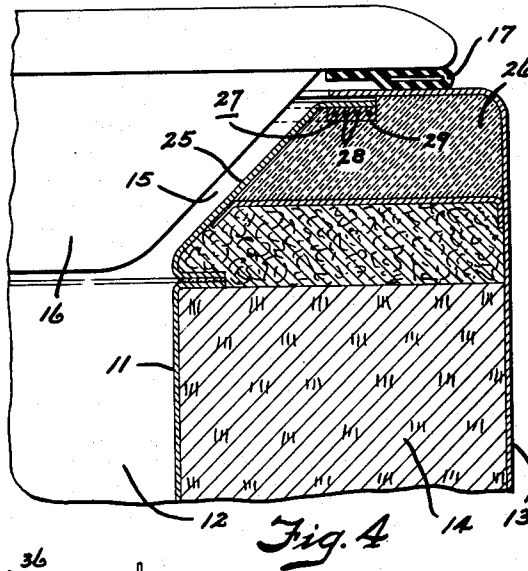
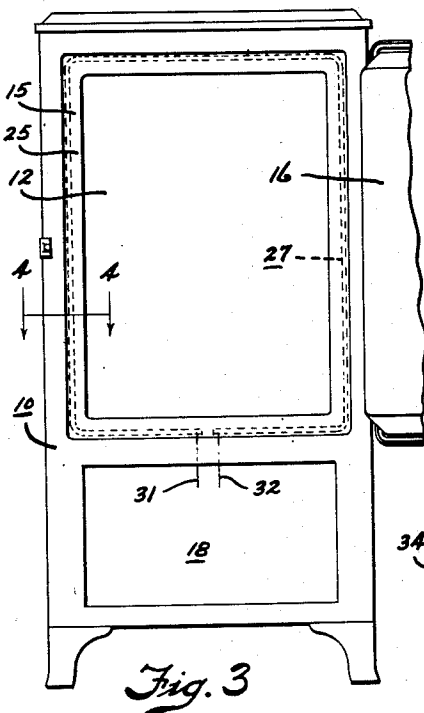
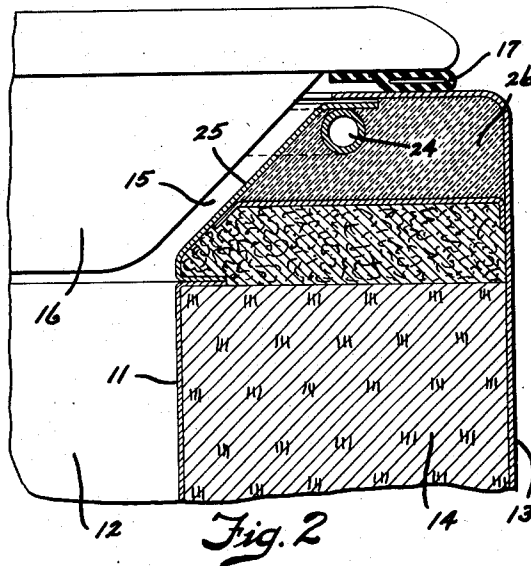
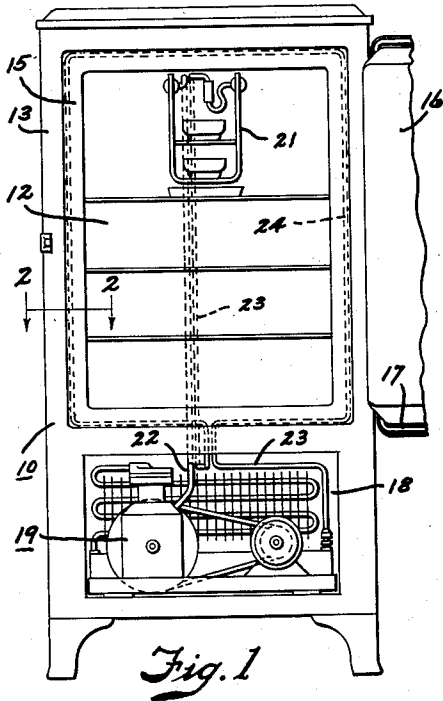
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2,135,091

REFRIGERATING APPARATUS

Filed Jan. 22, 1936

4 Sheets-Sheet 1



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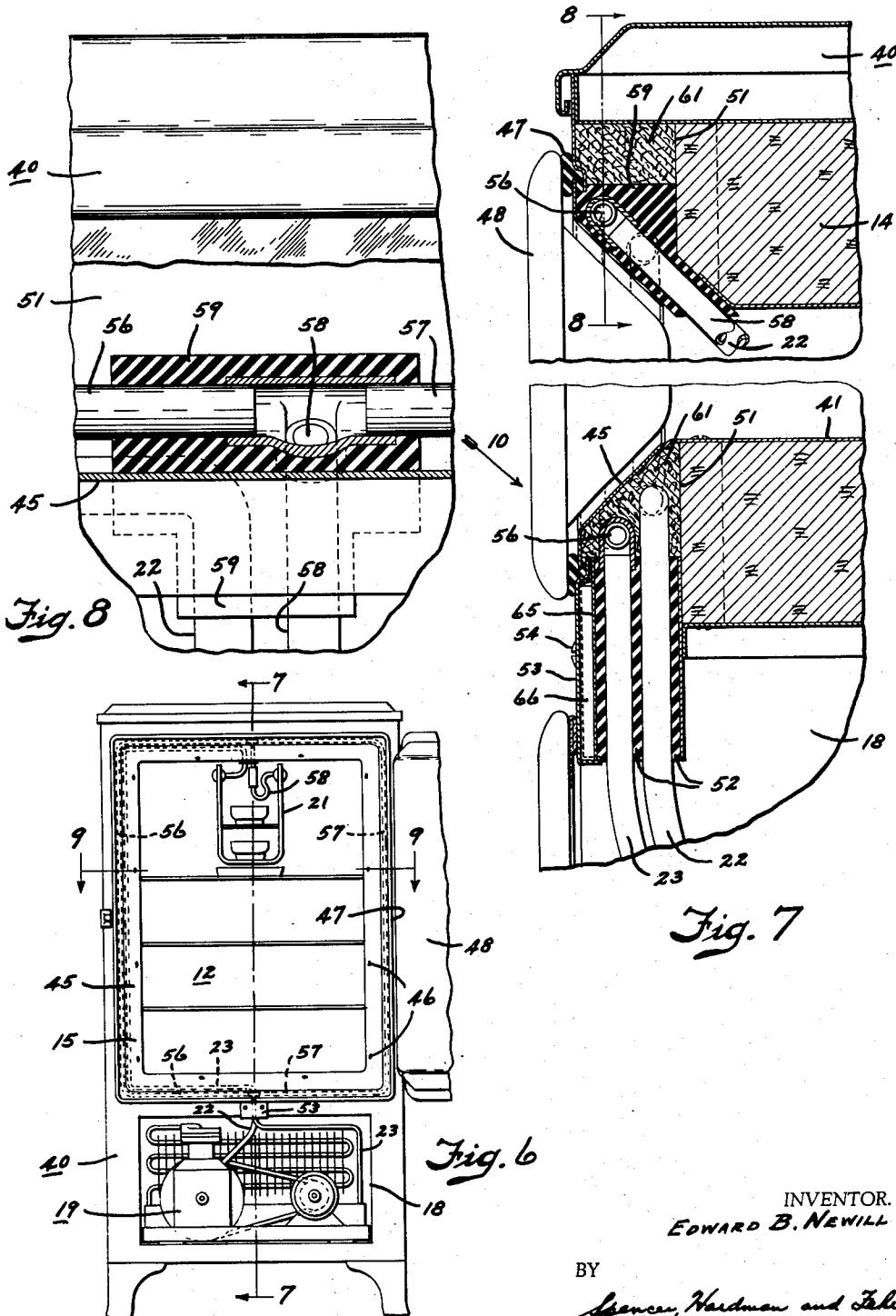
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REFRIGERATING APPARATUS

Filed Jan. 22, 1936

4 Sheets-Sheet 2



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2,135,091

REFRIGERATING APPARATUS

Filed Jan. 22, 1936

4 Sheets-Sheet 3

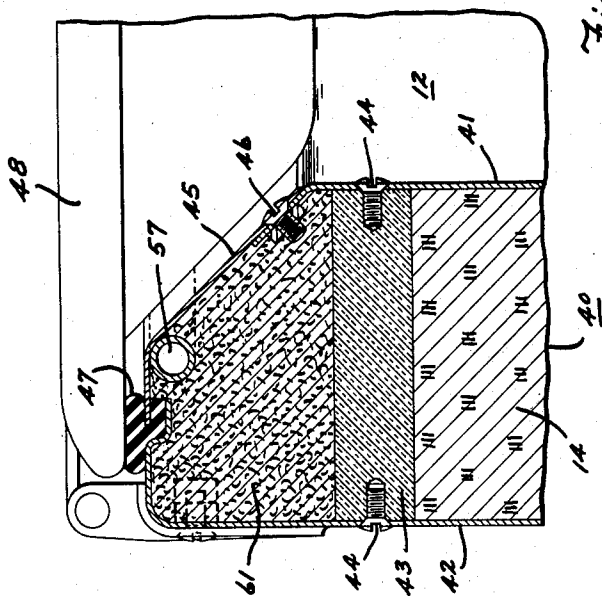
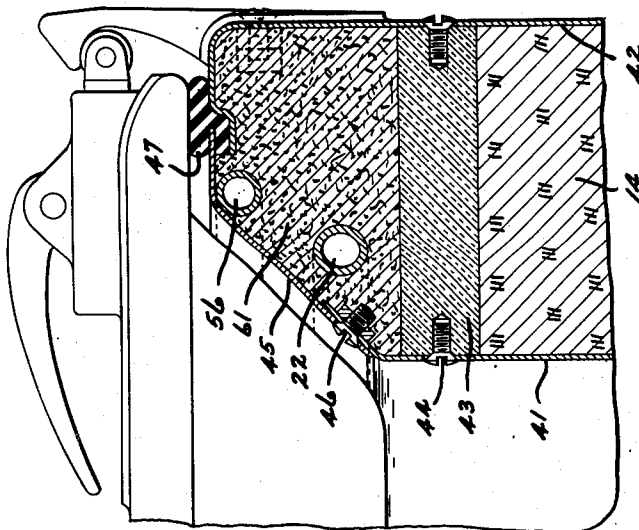


Fig. 9

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4 Sheets-Sheet 4

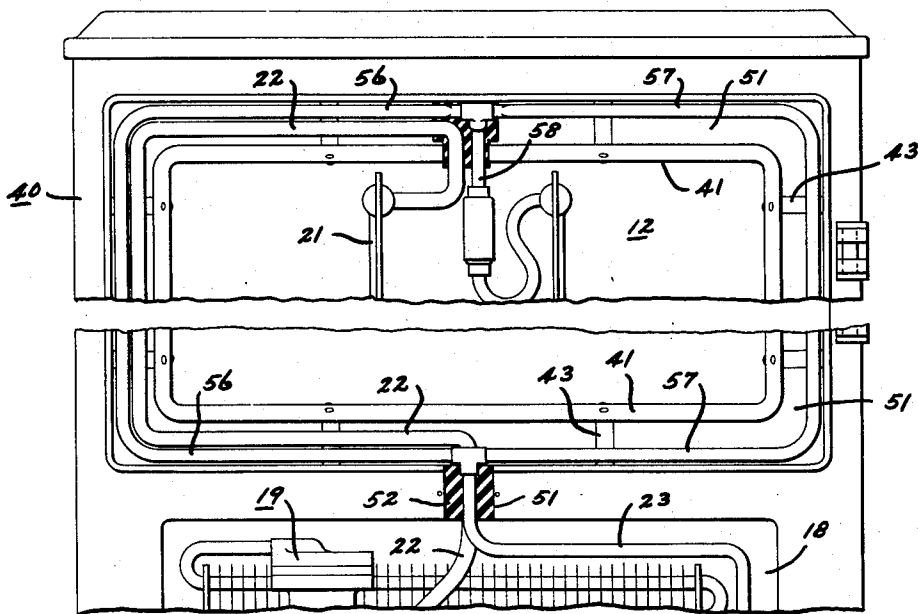
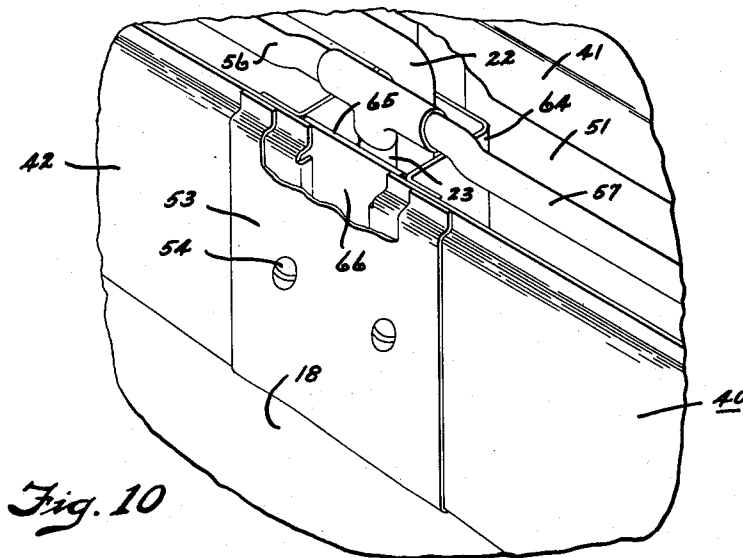


Fig. 11

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UNITED STATES PATENT OFFICE

2,135,091

REFRIGERATING APPARATUS

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Application January 22, 1936, Serial No. 60,292

10 Claims. (Cl. 62—89)

This invention relates to refrigeration and particularly to refrigerator cabinets having a refrigerating apparatus installed therein.

It has been found that the low temperature ordinarily maintained within a refrigerator cabinet leaks past or is transmitted beyond the seal on a door which closes an access opening in the cabinet wall and chills the exterior surface of the cabinet adjacent the door opening, below the dew point of moisture contained in air surrounding the cabinet, thus causing accumulation of moisture on these exposed surfaces of the cabinet. This accumulation or condensation of moisture on the exterior cabinet walls soon causes discolorization and deterioration of the exterior finish provided on the cabinet. Elaborate sealing means has heretofore been provided around the door opening or openings of such cabinets and these sealing means have, for example, been in the form of double gaskets or a plurality of spaced apart gaskets either secured to the door or to the cabinet. In addition expensive insulating trim strips or molding members have been employed for breaking the thermal conduction between the metal interior and the metal outer walls of refrigerator cabinets about door openings provided therein. Such trim strips and sealing means have presented a complicated and expensive structure and at best have not been entirely satisfactory. My invention is therefore directed to an improved structure for overcoming the difficulties enumerated.

An object of the present invention is to provide means for preventing condensation of moisture on the outside of a cabinet housing a refrigerating apparatus and particularly adjacent door openings provided in the cabinet.

Another object of the invention is to provide means within the walls of a refrigerator cabinet for imparting heat to that portion of the cabinet adjacent the door opening provided therein.

A further object of the invention is to provide means within the walls of a refrigerator cabinet for imparting heat to that portion of the cabinet adjacent the door opening thereof which means is a part of and energized or rendered effective by operation of the refrigerating apparatus associated with or installed in the cabinet.

In carrying out the foregoing objects it is a still further object of the invention to provide the means above described in a refrigerator cabinet having a closed refrigerating system installed therein and removable therefrom as a unit.

Further objects and advantages of the present invention will be apparent from the following de-

scription, reference being had to the accompanying drawings, wherein a preferred form of the present invention is clearly shown.

In the drawings:

Fig. 1 is a front elevational view of a refrigerator cabinet having one form of my invention embodied therein;

Fig. 2 is an enlarged fragmentary sectional view taken on the line 2—2 of Fig. 1 showing a conduit portion of a condenser of a refrigerating system imbedded in the cabinet wall;

Fig. 3 is a front elevational view of a refrigerator cabinet having another form of my invention embodied therein;

Fig. 4 is an enlarged fragmentary sectional view taken on the line 4—4 of Fig. 3 and showing an electrical resistance heating element imbedded in the cabinet wall;

Fig. 5 is a diagrammatic showing of an electrical circuit for a refrigerating system installed in the cabinets shown in Figs. 1 and 3;

Fig. 6 is a front elevational view of a refrigerator cabinet having my invention embodied therein and having a closed refrigerating system installed in the cabinet in a manner to permit removal of the system as a unit from the cabinet;

Fig. 7 is an enlarged fragmentary vertical sectional view through the cabinet shown in Fig. 6 and taken on the line 7—7 thereof;

Fig. 8 is a sectional view of a portion of the cabinet shown in Fig. 6 and is taken on the line 8—8 of Fig. 7;

Fig. 9 is an enlarged fragmentary horizontal sectional view through the cabinet shown in Fig. 6 and taken on the line 9—9 thereof;

Fig. 10 is a fragmentary perspective view taken in the direction of the arrow 10 in Fig. 7; and

Fig. 11 is a fragmentary view of the cabinet disclosed in Fig. 6 with the facing about the door opening thereof removed to show the refrigerant pipes within the cabinet walls.

Referring to the drawings, for the purpose of illustrating my invention, I have shown in Fig. 1 thereof a refrigerator cabinet generally represented by the reference character 10. The cabinet 10 includes an inner metal member 11 (see Fig. 2) forming the lining of a food storage compartment 12 and an outer metal member or shell 13. The metal members 11 and 13 are spaced apart to provide a chamber which is filled with any suitable or desirable insulating material 14. The compartment 12 is provided with an access opening 15 adapted to be closed by a door 16 which carries a resilient gasket 17 for engaging the outer shell 13 to prevent free circulation of air

to and from the compartment 12 when door 16 is closed. Cabinet 10 is provided with a machine compartment 18 which is adapted to contain or house any suitable or conventional refrigerant liquefying and circulating unit generally represented by the reference character 19 of a closed refrigerating system associated with or installed in the cabinet. The refrigerating system includes in addition to the unit 19 an evaporator or cooling element 21 mounted in the food compartment 12 and adapted to produce a refrigerating effect for cooling and causing circulation of air within the compartment 12 in the well-known manner. A gaseous refrigerant conduit 22 leads from the evaporator 21 to the compressor of the refrigerant liquefying and circulating unit to permit the compressor to withdraw refrigerant evaporated in the cooling element 21 to the unit 19. The liquid refrigerant conduit 23 which ordinarily extends directly from the receiver or condenser-receiver of a refrigerant liquefying and circulating unit in an apparatus of the type disclosed has a loop portion 24 formed therein and which loop is located or imbedded in the wall of the cabinet 10 in a manner and for a purpose to now be described.

The loop portion 24 of conduit 23 may be imbedded in rubber or plastic material 26 provided at the front of cabinet 10 and within the chamber containing the insulation 14. Conduit loop portion 24 is positioned in contact with the inner metal liner 11 or with an extension 25 provided thereon and which extension forms the wall of the door opening 15 of cabinet 10. The metallic wall extension 25 may, if desired, be spaced or insulated from the compartment liner 11 and the cabinet exterior shell or panel 13. It is well known that refrigerant liquefied in conventional refrigerant liquefying and circulating units and being directed to an evaporator is warm and is often conveyed through a heat exchanger prior to being admitted to the evaporator for expansion. The heat of the liquid refrigerant passing from the receiver to the evaporator of a refrigerating system in an apparatus of the type disclosed is utilized for accomplishing the objects of the present invention. For example, warm liquid refrigerant flowing through conduit 23 and conduit loop 24 gives up its heat to the metal liner 11 at the front of compartment 12 and inwardly of the wall portion of cabinet 10 sealed by gasket 17 or to the metal wall 25 to cause the air adjacent the seal 17 and door opening 15 to be warmed. Warming of air about the door opening 15 within compartment 12 does not materially effect the temperature maintained in the food storage compartment and this warm air provides a warm zone intermediate the seal 17 and the food compartment proper to thus prevent transmission of cold to a point beyond the gasket seal 17 on the outer wall 13 of cabinet 10. This prevents the exterior wall 13 of cabinet 10 adjacent the gasket seal 17 from being chilled below the dew point of water contained in atmosphere surrounding the cabinet and thereby prevents condensation of moisture on the exterior wall surface of the cabinet.

Referring to Fig. 3 of the drawings wherein I have shown a modified construction for accomplishing the objects of the invention there is provided an electrical resistance unit 27 around the door opening 15 of cabinet 10. In this form of the invention the electrical resistance unit 27 may comprise a plurality of turns of small wire 28

imbedded or located in an insulating block or strip 29. The one end of wire 28 is connected to a wire 31 while the other end thereof is connected by a wire 32 (see Fig. 3). Wires 31 and 32 are connected in parallel circuit relation with wires 33 and 34 leading to the motor, indicated at 35 in Fig. 5, of the refrigerant liquefying and circulating unit 19. The power lines 33 and 34 leading to motor 35 are connected and disconnected by any conventional switch 36 actuated in any suitable manner well-known to those skilled in the art. It is to be understood that when the circuit is completed by switch 36 through the power lines 33 and 34 to motor 35 the circuit is also completed through the heater 27 to energize same and cause heat to be imparted to the metal liner 11 or its continuation 25 at the door opening 15. While I have disclosed the heater 27 as being energized only when the motor 35 of the refrigerant liquefying and circulating unit 19 is operated it is apparent that the heater 27 may, if desired, be arranged to be energized at all times while the power circuit leading to the control switch 36 is closed. The electric heater 27 will, as explained in referring to the structure disclosed in Figs. 1 and 2, warm that portion of the compartment 12 about the door opening 15 to prevent the low temperature of compartment 12 from being transmitted to the exterior of cabinet 10 beyond the gasket door seal 17.

I have shown in Figs. 6 to 11 inclusive of the drawings a refrigerating apparatus of the so-called removable unit type in which the refrigerating system may be bodily removed from the cabinet without disconnecting any of its refrigerant lines. In this showing of the invention it is to be noted that I apply the idea disclosed in Figs. 1 and 2 of heating by heat dissipated from the relatively warm liquid refrigerant pipe line leading to the evaporator of the refrigerating system. In the construction disclosed in Figs. 6 to 11 inclusive the inner metal lining 41 of the refrigerator cabinet 40 is held in spaced relation to the metal cabinet exterior shell or panel 42 by a block of insulating material 43 (see Figs. 9 and 11) and the lining 41 and shell or panel 42 are secured to the block 43 by screws 44. The extension of the liner 41 about the door opening of cabinet 40 is provided by a separate piece of metal 45 which is detachably secured to liner 41 by a plurality of screws 46. In this form of the invention the gasket seal 47 for door 48 is secured in a space provided along the front depressed edge of the cabinet exterior shell or panel 42. Gasket seal 47 is firmly held in place by the clamping action of the screws 46 which holds the member 45 in position. Since in this construction both the gaseous refrigerant return pipe 22 and the liquid refrigerant pipe 23 extend upwardly about the cabinet door opening within the front portion of the cabinet and since the refrigerating system is of the type which is to be bodily removed from the cabinet 40 as a unit provisions must be made to permit removal of the refrigerant pipes 22 and 23 along with the evaporator or cooling element 21 and the refrigerant liquefying and circulating unit 19 from the cabinet. To this end I have provided a space 51 set back from the exterior front of cabinet 40. The refrigerant pipe lines 22 and 23 extend through the setback space 51 and have suitable rubber or the like packing members 52 surrounding same at the point where they enter the cabinet wall. A plate 53 removably secured to the front wall of cabinet 40 by screws

or the like 54 covers or conceals the pipes 22 and 23 and the packing members 52. The pipe 23 has conduit connections 56 and 57 which extend outwardly and upwardly around the door opening 18 and within the space 51 in the cabinet front wall beneath the metal member 45 attached to the food compartment liner 41. These pipe connections or extensions 56 and 57 merge or are connected together at the top of the cabinet by a pipe 58 which leads to the evaporator 21. The pipe 22 is positioned beyond the pipe 23 and extends through the packing members 52 and space 51, thence toward one side of the cabinet 40 and upwardly to a point adjacent the top of the cabinet where the pipes 56 and 57 merge into pipe 58. The pipe 22 lies alongside the pipe 58 at the top of the cabinet and extends outwardly of the space 51 into the food compartment and is connected to the evaporator 21. A suitable packing member 59, such as rubber, surrounds the pipes 22, 56, 57 and 58 at the top of the cabinet and fits within the space 51 beneath the metal member 45. It will be noted that the gaseous refrigerant return pipe 22 of the refrigerating system is spaced inwardly of and out of contact with the door opening metal cover 45 and is surrounded by the insulation 61 which may be of a loose material, such as is known to the trade as Balsam wool or Kapok. Those portions 56 and 57 of the liquid refrigerant supply pipe 23 located beyond the packing members 52 and 59 lie in intimate thermal contact with the curved portion of the metal door opening cover member 45 as is best seen in Fig. 9 of the drawings. Therefore relatively warm liquid refrigerant flowing from the refrigerant liquefying and circulating unit 19 through pipe 23 and pipes 56 and 57 transmits its heat through pipes 56 and 57 to the metal door opening wall-forming member 45 to cause warming of air in that portion of the compartment 12 adjacent the door opening in the refrigerator cabinet 40 inwardly of the gasket seal 47. This relatively warm section of the interior of the food compartment of cabinet 40 prevents transmission of cold from the interior of the cabinet to the exterior metal wall thereof about the periphery of door 48. Sweating or condensation of moisture on the cabinet exterior metal wall about the opening closed by door 48 is consequently eliminated.

In Fig. 10 it will be seen that a box-like metal member 64 is suitably attached to the cabinet exterior metal shell 42 such as by being welded thereto and extends inwardly of the front wall of the cabinet into the space 51. This box-like element 64 provides a housing for receiving the refrigerant pipes 22 and 23 and their packing 52. The packing 52 and the metal door opening wall-forming member 45 have been eliminated from the showing in Fig. 10 for the sake of clearness. A metal slide 65 which engages the inner edge portion of an opening 66 provided in the cabinet exterior shell 42 is adapted to compress the packing 52 around the refrigerant pipes 22 and 23 to maintain same in position.

When the refrigerating system, installed in the cabinet 40 in the manner described, is to be removed from cabinet 40 for any purpose whatever the front cover plate 53 (see Figs. 7 and 10) is removed from the front wall of the cabinet. The screws 46 are then removed in order to permit the metal door opening wall-forming member 45 to be detached from the cabinet. It is to be understood that in detaching the one-piece member 45 from cabinet 40 the gasket seal 47 is also removed from the cabinet. After remov-

ing the elements in the manner thus far described the plate 66, made accessible by detachment of cover 53 and member 45 from the cabinet 40, is then moved upwardly out of the box-like housing 64. The structure with the elements thus far described as being removed from the cabinet is shown in Fig. 11 of the drawings and it will be noted by referring to this figure that the evaporator or cooling element 21, upon being detached from the food compartment wall, 10 can be removed from the cabinet 40 along with the refrigerant pipes 22, 23, 56, 57 and 58 and together with the refrigerant liquefying and circulating unit 19. Thus the entire refrigerating system is bodily removable from cabinet 41 without disconnecting any of the refrigerant pipe lines.

I am aware of the fact that complete refrigerating systems have previously been made removable from a cabinet as a unit by installing the refrigerant lines within grooves along the front wall of the cabinet in which the door opening is provided. However, in such structures the refrigerant pipes were widely spaced and insulated from the door opening trim strips or molding members and it was the intention of such structures to prevent transmission of heat from these pipes through the trim strips to the interior of the food compartment. My invention is to be distinguished from such prior structures as described in that it is an object of this invention to locate the relatively warm liquid refrigerant pipe or pipes, in intimate thermal contact or association with the door opening wall-forming member so as to permit warming of that portion of the interior of the food compartment adjacent the door at the front of the cabinet for the purpose herein disclosed.

From the foregoing it will be seen that I have provided an improved refrigerating apparatus wherein means is provided for eliminating the condensation of moisture on the exterior metal wall of the refrigerator cabinet adjacent the food compartment access opening. In one form of my invention I utilize heat evaporated by a part or element of the refrigerating system associated with a cabinet for accomplishing the objects desired. The means for imparting heat to the walls of the food compartment access opening is in the present invention normally ineffective and rendered effective automatically by operation of the refrigerant liquefying and circulating unit. Thus I have provided means for preventing chilling of the metal exterior cabinet wall and thereby eliminate objections to prior refrigerating apparatus.

While the form of embodiment of the invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. A refrigerating apparatus comprising in combination, a cabinet having a closed refrigerating system associated therewith, said cabinet being provided with a food storage compartment having an access opening, a door having a part thereof adapted to engage said cabinet about said access opening for closing same, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also including a refrigerant circulating unit operatively connected to said cooling element and

located exteriorly of said food compartment, a metal member forming the walls of said food storage compartment access opening and forming as well a continuation of the food compartment walls and the cabinet exterior walls, means breaking the metal-to-metal contact of said metal member with the exterior walls of said cabinet, said means forming a seal for the food storage compartment access opening and being adapted to be engaged by said door, and means for imparting heat to the walls of said cabinet adjacent the point of engagement of said door with said seal, said last named means being in intimate thermal contact with the walls of said cabinet and being normally ineffective and rendered effective automatically by operation of said refrigerant circulating unit.

2. A refrigerating apparatus comprising in combination, a cabinet having a closed refrigerating system associated therewith, said cabinet being provided with a food storage compartment having an access opening, a door having a part thereof adapted to engage said cabinet about said access opening for closing same, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also including a refrigerant circulating unit located exteriorly of said food compartment and having a fluid conducting pipe connection with said cooling element, means forming walls of said access opening to said food storage compartment, and at least a portion of said fluid conducting pipe connection being disposed in intimate thermal association with said access opening wall-forming means for transferring heat of fluid conducted through the pipe to said access opening wall.

3. A refrigerating apparatus comprising in combination, a cabinet having a closed refrigerating system associated therewith, said cabinet being provided with a food storage compartment having an access opening, a door having a part thereof adapted to engage said cabinet about said access opening for closing same, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also including a refrigerant circulating unit located exteriorly of said food compartment and having a fluid conducting pipe connection with said cooling element, a sheet metal member forming walls of said access opening to said food storage compartment, and at least a portion of said fluid conducting pipe connection being disposed in intimate thermal contact with the metal access opening wall for transferring heat of fluid conducted through the pipe to said access opening wall inwardly of the point at which the door engages the cabinet.

4. A refrigerating apparatus comprising in combination, a cabinet having a closed refrigerating system associated therewith, said cabinet being provided with a food storage compartment having an access opening, a door having a part thereof adapted to engage said cabinet about said access opening for closing same, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also including a refrigerant circulating unit located exteriorly of said food compartment and having a

fluid conducting pipe connection with said cooling element, means forming walls of said access opening to said food storage compartment, at least a portion of said fluid conducting pipe connection being disposed in intimate thermal association with said access opening wall-forming means for transferring heat of fluid conducted through the pipe to said access opening wall, said access opening wall-forming means being detachably secured to said cabinet, and said closed refrigerating system being removable from said cabinet as a unit upon detachment of said access opening wall-forming means therefrom.

5. A refrigerating apparatus comprising in combination, a cabinet having a closed refrigerating system associated therewith, said cabinet being provided with a food storage compartment having an access opening, a door having a part thereof adapted to engage said cabinet about said access opening for closing same, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also including a refrigerant circulating unit located exteriorly of said food compartment and having a fluid conducting pipe connection with said cooling element, means forming walls of said access opening to said food storage compartment, a portion of said fluid conducting pipe connection extending substantially entirely around the access opening and being disposed in intimate thermal association with said access opening wall-forming means for transferring heat of fluid conducted through the pipe to said access opening wall inwardly of the point at which the door engages the cabinet, said access opening wall-forming means being detachably secured to said cabinet, and said closed refrigerating system being removable from said cabinet as a unit upon detachment of said access opening wall-forming means therefrom.

6. A refrigerating apparatus comprising in combination, an outer wall structure forming a cabinet, said cabinet having a closed refrigerating system associated therewith and being provided with an insulated food storage compartment having an access opening, a door having a part thereof adapted to engage the outer wall structure of said cabinet about said access opening for closing the opening, said refrigerating system comprising a cooling element mounted within said cabinet and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also comprising a refrigerant circulating unit operatively connected to said cooling element and located exteriorly of said food compartment, means extending across said food compartment access opening to form the walls thereof, and heat dissipating means disposed in heat exchange relationship with said food compartment access opening wall forming means, said heat dissipating means being adapted to impart heat to the walls of said access opening inwardly of said cabinet from the point at which the door engages the outer wall structure thereof for maintaining air in the space between said door and walls of the access opening at a relatively higher temperature than air within the food storage compartment proper.

7. A refrigerating apparatus comprising in combination, an outer wall structure forming a cabinet, said cabinet having a closed refrigerating system associated therewith and being provided

with an insulated food storage compartment having an access opening, a door having a part thereof adapted to engage the outer wall structure of said cabinet about said access opening for closing the opening, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also comprising a refrigerant circulating unit operatively connected to said cooling element and located exteriorly of said food compartment, metallic means insulated from the outer wall structure of said cabinet and extending across said food compartment access opening to form the walls thereof, heat dissipating means disposed in heat exchange relationship with said food compartment access opening wall-forming means, said heat dissipating means being adapted to impart heat to the walls of said access opening inwardly of said cabinet from the point at which the door engages the outer wall structure thereof for maintaining air in the space between said door and walls of the access opening at a relatively higher temperature than air within the food storage compartment proper, and said heat dissipating means extending substantially entirely around the food compartment access opening.

8. A refrigerating apparatus comprising in combination, an outer wall structure forming a cabinet, said cabinet having a closed refrigerating system associated therewith and being provided with an insulated food storage compartment having an access opening, a door having a part thereof adapted to engage the outer wall structure of said cabinet about said access opening for closing the opening, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also comprising a refrigerant circulating unit operatively connected to said cooling element and located exteriorly of said food compartment, means extending across said food compartment access opening to form the walls thereof, heat dissipating means disposed in heat exchange relationship with said food compartment access opening wall-forming means, said heat dissipating means being adapted to impart heat to the walls of said access opening inwardly of said cabinet from the point at which the door engages the outer wall structure thereof for maintaining air in the space between said door and walls of the access opening at a relatively higher temperature than air within the food storage compartment proper, and said heat dissipating means being normally ineffective and rendered effective automatically by operation of said refrigerant circulating unit.

9. A refrigerating apparatus comprising in combination, an outer wall structure forming a cabinet, said cabinet having a closed refrigerating system associated therewith and being provided with an insulated food storage compartment

having an access opening, a door having a part thereof adapted to engage the outer wall structure of said cabinet about said access opening for closing the opening, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also comprising a refrigerant circulating unit operatively connected to said cooling element and located exteriorly of said food compartment, metallic means insulated from the outer wall structure of said cabinet and extending across said food compartment access opening to form the walls thereof, heat dissipating means disposed in heat exchange relationship with said food compartment access opening wall-forming means, said heat dissipating means being adapted to impart heat to the walls of said access opening inwardly of said cabinet from the point at which the door engages the outer wall structure thereof for maintaining air in the space between said door and walls of the access opening at a relatively higher temperature than air within the food storage compartment proper, and said heat dissipating means extending substantially entirely around the food compartment access opening and being normally ineffective and rendered effective automatically by operation of said refrigerant circulating unit.

10. A refrigerating apparatus comprising in combination, an outer wall structure forming a cabinet, said cabinet having a closed refrigerating system associated therewith and being provided with an insulated food storage compartment having an access opening, a door having a part thereof adapted to engage the outer wall structure of said cabinet about said access opening for closing the opening, said refrigerating system comprising a cooling element mounted within and adapted to maintain said food storage compartment between predetermined temperature limits, said refrigerating system also comprising a refrigerant circulating unit operatively connected to said cooling element and located exteriorly of said food compartment, metallic means insulated from the outer wall structure of said cabinet and extending across said food compartment access opening to form the walls thereof, heat dissipating means disposed in heat exchange relationship with said food compartment access opening wall-forming means, said heat dissipating means being adapted to impart heat to the walls of said access opening inwardly of said cabinet from the point at which the door engages the outer wall structure thereof for maintaining air in the space between said door and walls of the access opening at a relatively higher temperature than air within the food storage compartment proper, and said heat dissipating means extending substantially entirely around the food compartment access opening and being normally ineffective and rendered effective automatically by operation of said refrigerant circulating unit.

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