

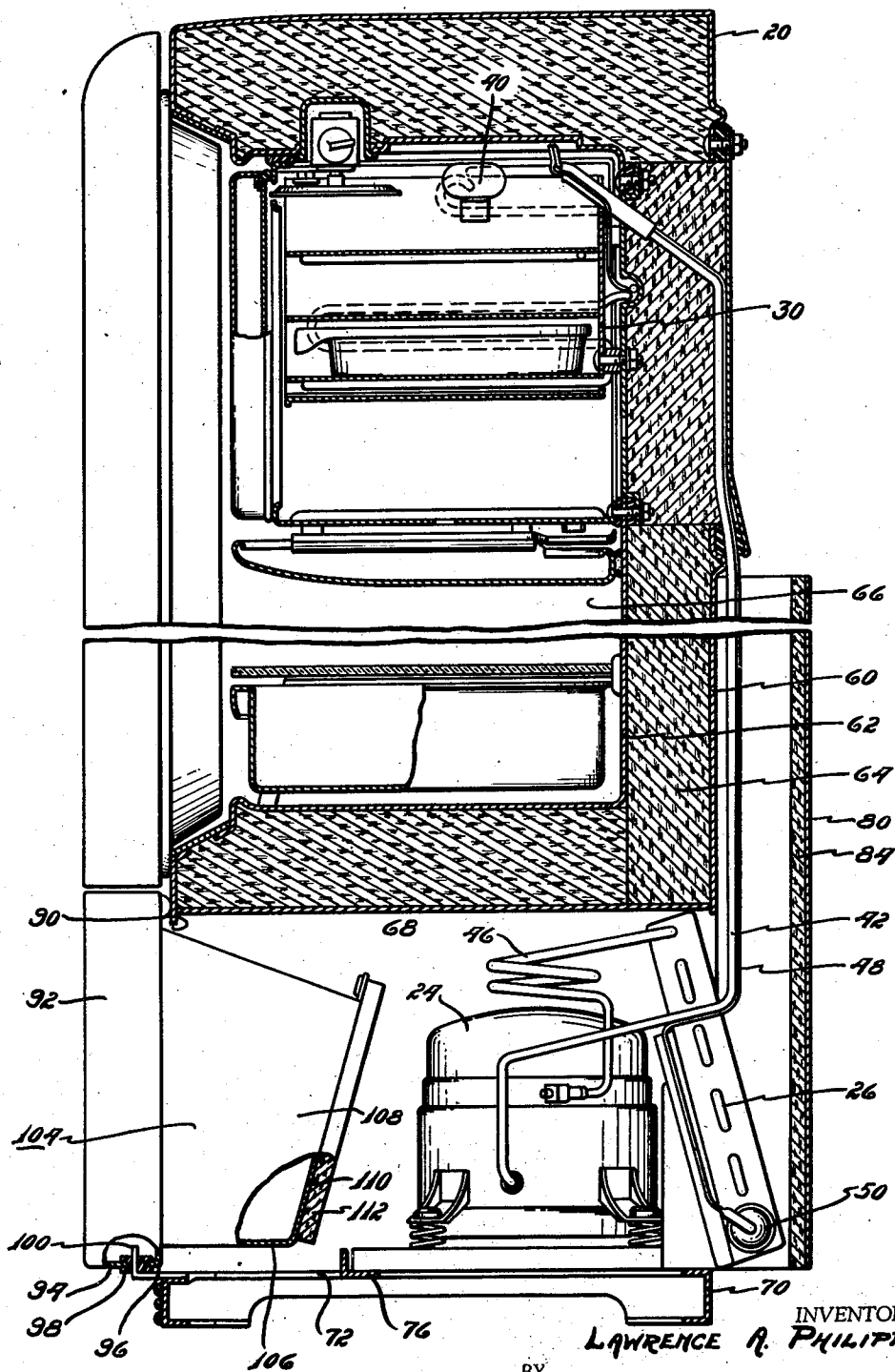
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REFRIGERATING APPARATUS

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REFRIGERATING APPARATUS

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2 Claims. (Cl. 62—116)

This invention relates to refrigerating apparatus, and more particularly to refrigerating apparatus of the household type.

The present application is a division of my co-pending application, Serial No. 351,834, filed August 8, 1940, for Refrigerating apparatus.

One of the objects of my invention is to provide a new and improved arrangement in a machine compartment of a refrigerator for inducing a natural flow of air over a condensing unit and for absorbing sounds emitted by the condensing unit.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing, wherein a preferred form of the present invention is clearly shown.

In the drawing:

The figure in the drawing is a side view of a refrigerator in elevation and partly broken away showing the invention.

Referring to the drawing, the figure discloses my improved refrigerator cabinet, designated in general by the numeral 20. Within this refrigerator cabinet, I have disposed a refrigerating system which includes a motor compressor unit 24, condenser 26, heat absorbing unit 30, and an accumulator 40. Evaporated refrigerant is withdrawn from the accumulator 40 through a vapor return conduit 42 whence it passes to the motor compressor unit 24 wherein it is compressed and from which it is delivered through conduit 46 to condenser 26. In the condenser it is liquefied and from which it is delivered to heat absorbing unit 30 through a small diameter tube 48 after first passing through a strainer device 50. The heat absorbing unit is of the non-flooded type wherein droplets of liquid refrigerant are passed into the heat absorbing unit, but due to the absorption of heat very little, if any, liquid refrigerant passes into the accumulator 40. Thus, the refrigerant passing through conduit 42 is gaseous refrigerant and, as disclosed, I have arranged the conduit 42 in thermal heat exchange relation with the small diameter tube 48 so as to cool the liquid refrigerant passing through the tube 48. These two conduits may be secured together by solder if desired.

A detailed description of the cooling system and operation of the condensing system is contained in the above application of which this is a division. Further description herein is believed unnecessary to a complete understanding of the subject matter herein described and claimed.

Referring more specifically to the drawing, the

refrigerator cabinet includes an outer casing 60 and an inner liner 62. Insulation 64 is interposed between the walls 60 and 62 to insulate a food storage compartment 66 formed by the inner walls of the liner 62. The outer casing extends downwardly to provide a machine compartment 68. A base 70 is provided for the cabinet and is open as at 72 to provide for the free circulation of air through the machine compartment.

Within the machine compartment I have disposed my motor compressor unit 24 and condenser 26. The motor compressor unit is mounted upon an angle iron 76 which is supported by the base 70. At the rear of the cabinet I have provided a flue 80 for aiding and setting up a natural draft of air over the motor compressor unit and condenser to take the heat of condensation out of the machine compartment 68. It will be noted that on the inner side of the flue 80 I have provided insulating material 84, which may preferably be of sound absorbing characteristics. As indicated, the insulation is formed of sheet cork. It may, however, be of any suitable fibrous material which has characteristics for sound absorbing. The front of the cabinet is cut away as at 90 so as to provide an opening for gaining access to the machine compartment. This opening is closed by a door 92 which is formed of double walled sheet metal having ends 94 and 96 which carry gasket material 98. These ends are turned in toward each other and are spaced apart so as to receive an angle member 100 carried by the base 70. By this arrangement it is possible to tilt the door outwardly away from the machine compartment at its upper edge. The angle member 100 may extend from one side of the machine compartment to the other if desired or part way so that it will be sufficient for supporting the weight of the door. On the rear side of the door I have provided a vegetable bin 104 which is secured to the door in any suitable manner and is tiltable with the door. Thus when the upper part of the door 92 is tilted outwardly away from the machine compartment, access may be had to the interior of the vegetable bin. The bin includes bottom wall 106, side walls 108 and rear wall 110. Secured to the rear wall is a slab of insulating material 112, which as indicated, is formed of sheet cork. This insulating material 112 like insulating material 84 may be of any suitable material so long as it has heat absorbing characteristics as well as insulation qualities so as to insulate the vegetables from the heat of condensation as well as absorb noises created by

the motor compressor unit. This vegetable bin may extend from one side of the machine compartment to the other. As will be noted, the condenser is placed on an incline, with the lower portion being directly over the lowermost portion of flue 80 while the upper portion of the condenser is positioned slightly within the machine compartment 68. The condenser is formed of a serpentine coil having spaced apart fins therein so as to be very effective in the dissipation of heat while permitting the free flow of air thereabout. Since the lower part of the cabinet is open at 72 and the lower part of the flue 80 is open to the atmosphere, air may freely pass up through the machine compartment and the flue and over the motor compressor unit and condenser and out through the flue to thus remove the heat of condensation. By placing the inner wall 110 of the vegetable bin at an angle it tends to guide the flow of air toward the motor compressor unit as the air travels upwardly due to the natural draft flow of air. Also, as air passes upwardly through the flue over the lower portion of the condenser, it tends to create an aspirating effect to draw air through the machine compartment over the motor compressor unit at the upper portion of the condenser.

Although only a preferred form of the invention has been illustrated, and that form described in detail, it will be apparent to those skilled in the art that various modifications may be made therein without departing from the spirit of the invention or from the scope of the appended claims.

I claim:

1. Refrigerating apparatus comprising a cabinet having a machine compartment, a flue at the rear of the cabinet and being arranged so that its lower end is open to the atmosphere, a refrigerant compressor positioned in said machine compartment, a refrigerant condenser having a portion positioned in said compartment and a portion in said flue, an insulated panel of sound absorbing material in said flue, and an insulated panel of sound absorbing material positioned in said compartment on an angle on the opposite side of said compressor from said flue and being arranged so that the upper portion thereof is tilted toward said flue and said cabinet being open below said compressor and condenser and the panel on an angle to receive air to pass over the heat emitting part and into said flue.

2. Refrigerating apparatus comprising a cabinet having a machine compartment, a flue disposed at the rear of the cabinet and arranged so that its lower end is open to the atmosphere, a refrigerant compressor positioned in said machine compartment, a refrigerant condenser having a portion positioned in said compartment and a portion in said flue, and a panel positioned in said compartment on an angle on the opposite side of said compressor from said flue and arranged so that the upper portion thereof is tilted toward said flue, said machine compartment being open below said compressor and condenser to receive air to pass over the heat emitting part and into said flue.

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