April 7, 1931. H. B. HULL 1,799,372

REFRIGERATING APPARATUS

Filed Nov. 20, 1926

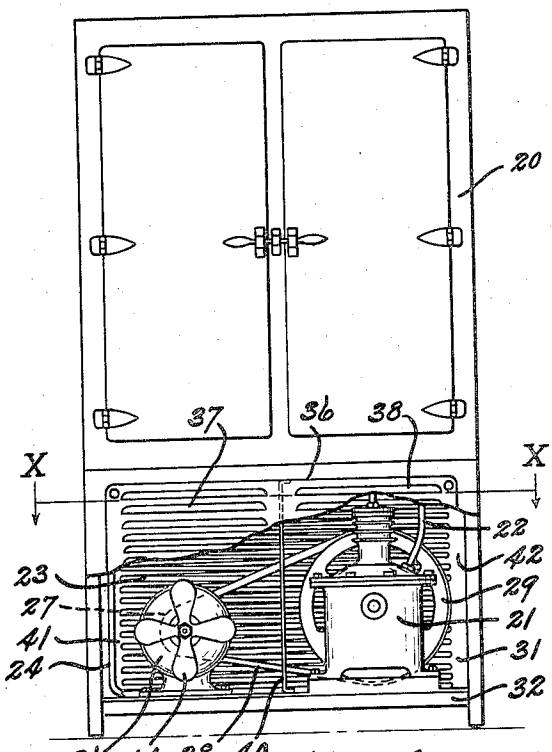


Fig. 1

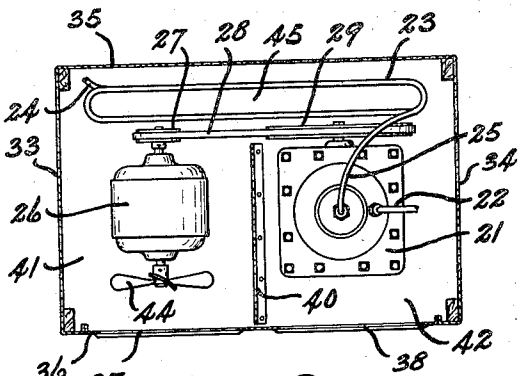


Fig. 2

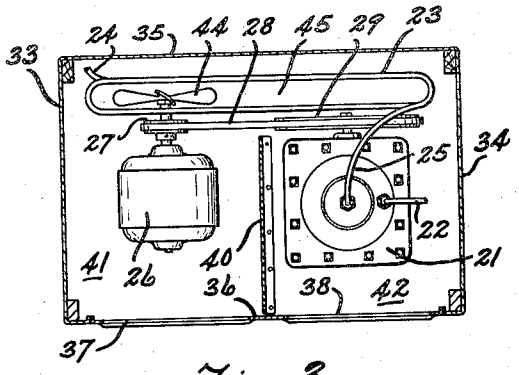


Fig. 3

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UNITED STATES PATENT OFFICE

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REFRIGERATING APPARATUS

Application filed November 20, 1926. Serial No. 149,759.

The present invention relates to refrigerators and particularly to that type of refrigerator in which an air-cooled condenser is located within a cabinet.

Refrigerators are often placed in the corners of rooms and, therefore, one side wall and a rear wall of the cabinet are placed adjacent the walls of the room. In some instances both side walls and rear wall of the cabinet are placed adjacent walls.

One of the objects of the present invention is to insure the circulation of cooling air for the condenser within the cabinet although either or both sides of the cabinet are placed against the walls of a room. One manner of carrying out this object is to construct the cabinet and the refrigerating apparatus in such a manner that the air will be taken into and expelled from the cabinet through passages in the front wall of said cabinet.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein preferred forms of the present invention are clearly shown.

In the drawings:

Fig. 1 is a front view of the improved refrigerating apparatus, showing a portion of the front wall of the cabinet broken away; and

Figs. 2 and 3 are sectional views of the cabinet, taken on line X—X of Fig. 1,—Fig. 2 showing one position of the air-circulating fan, and Fig. 3 showing another position of the fan.

Referring to the drawings, 20 indicates a refrigerator cabinet having a food compartment, a cooling compartment and a cooling unit therein (not shown). These compartments and the cooling unit may be of the usual construction, the cooling unit being connected with a compressor 21 by pipe 22, and connected with a condenser 23 by a pipe 24. The high-pressure side of the compressor 21 is connected by pipe 25 with the condenser, thus completing a closed refrigerant-medium circuit. Compressor 21 is driven by an electric motor 26 through belt-and-pulley connections 27, 28 and 29.

The bottom of the cabinet 20 is provided with a machine compartment 31 having a base 32. The side walls 33 and 34, and the back wall 35 are closed. The front wall is provided with a removable panel 36 having two sets of openings 37 and 38, which provide passages for the ingress and egress of air to and from the machine compartment 31. A vertical partition or baffle 40 is secured to the top and bottom walls of the machine compartment 31 and extends rearwardly from the front wall to provide compartments 41 and 42. Motor 26 is located within compartment 41, and compressor 21 is located within compartment 42. The driving connections 27, 28 and 29, and the condenser 23 are disposed in the rear of partition 40.

A fan 44 is driven by the motor 26. This fan may be located in either compartment 41 or 42, or may be located at either end of the motor 26, as shown in the drawings. Since the partition 40 terminates short of the rear wall 35, a passage 45 provides intercommunication between compartments 41 and 42, so that when the motor is operating for causing refrigerant to be withdrawn from the cooling unit or evaporator and forced at a higher pressure within the condenser 23, the fan 44 will cause air to enter, for example, through openings 38 into the compartment 42, about the compressor 21, about the condenser 23, through passage 45 and into compartment 41 where it will be expelled through openings 37. The direction of the circulating air has been given for example only, and it is to be understood that the air may enter the compartment through passages 37 and expelled through passages 38.

Thus, it will be seen that a refrigerator has been provided in which the operating mechanism is contained within the cabinet while either, or both, of the side walls of the cabinet may be placed against the wall of a room without impairing the circulation of the cooling air. By constructing and arranging the cabinet and mechanism as shown, the cooling air may be drawn into and expelled from the cabinet through one wall of said cabinet, the partition 40 insuring the circulation of air about the condenser 23. The passages 37

and 38 may be placed in the rear wall of the cabinet, however, since the rear wall of the cabinet is usually placed adjacent a wall of a room, it is preferable to provide the air openings in the front wall of the cabinet.

While the forms of embodiment of the invention as herein disclosed, constitute preferred forms, 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 refrigerator including a cabinet; a condenser within the cabinet; a partition separating said cabinet into a plurality of compartments; a passage between said compartments; one wall of the cabinet being open for the ingress of air into one of said compartments and for the egress of air from another of said compartments; a compressor within one of said compartments connected with the condenser; means within another of said compartments for driving said compressor; and a fan within said cabinet actuated by said means for causing the circulation of air through said compartments and about said condenser.

2. A refrigerator including a cabinet; a condenser disposed adjacent one wall thereof; a partition extending from the condenser toward the opposite wall of the cabinet; said latter wall being open for ingress of air into the cabinet on one side of the partition and for the egress of air from the other side of said partition; a compressor on one side of the partition and connected with the condenser; a motor on the other side of said partition; driving connection between the motor and compressor disposed between the end of the partition and the first-named wall; and a fan within the cabinet and driven by said motor for causing the circulation of air on opposite sides of the partition and about said condenser.

3. A refrigerator including a cabinet, one wall thereof being open for the ingress and egress of air; a baffle separating said cabinet into two compartments with a passage between said compartments; a compressor, a fan and a condenser within said cabinet, said condenser being disposed within said passage and having a portion thereof extending into each of said compartments.

4. A refrigerator including a cabinet, one wall thereof being open for the ingress and egress of air condensing means, refrigerant circulating means, and an actuating means for the circulating means, a fan for circulating air, all disposed within said cabinet; and a baffle between certain of said means and extending inwardly from said open wall for directing the main air currents over said condensing and circulating means.

5. A refrigerator including a cabinet, one wall thereof being open for the ingress and egress of air; condensing means, refrigerant circulating means, and an actuating means for the circulating means, a fan for circulating air, all disposed within said cabinet; and a baffle, said condensing means having at least a portion disposed to one side of said baffle and said circulating means disposed to the other side of said baffle, said baffle extending inwardly from said open wall for directing the main air currents over said condensing and circulating means.

In testimony whereof I hereto affix my signature.

HARRY B. HULL.