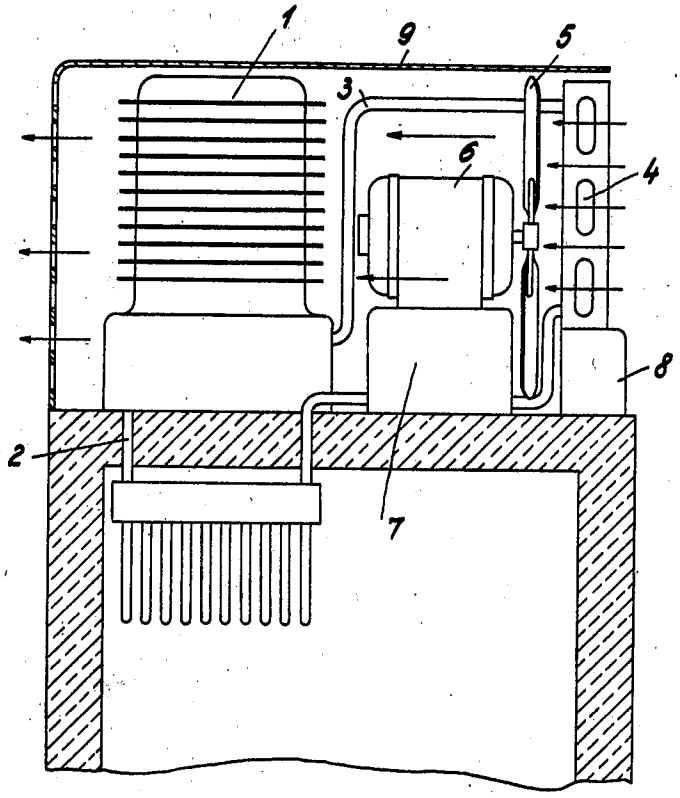
March 19, 1940. W. RAHN 2,194,171

REFRIGERATING APPARATUS OF THE COMPRESSION TYPE

Filed Sept. 29, 1938



Werner Rahn
Inventor
by Knight Bros.
Attorneys

Patented Mar. 19, 1940 2,194,171

UNITED STATES PATENT OFFICE

2,194,171

REFRIGERATING APPARATUS OF THE COMPRESSION TYPE

Werner Rahn, Berlin-Charlottenburg, Germany, assignor to Patentverwertungs-Gesellschaft mit beschrankter Haftung "Hermes," Berlin, Germany, a corporation of Germany

Application September 29, 1938, Serial No. 232,260
In Germany August 27, 1937

1 Claim. (Cl. 62—116)

The present invention relates to improvements in refrigerating apparatus of the compression type.

To carry off the waste heat produced in refrigerating apparatus of the compression type a special fan is in most cases employed driven by a small electric motor. This fan is usually arranged between the compressor and the condenser so that a current of air is drawn in by the fan over the heat radiating surface of the condenser and is forced to the heat radiating surface of the compressor. In some of the known arrangements the member controlling the supply of the refrigerant to the evaporator, for instance, the float-operated valve and the switch board for the binding posts and the electric switch gear have hitherto been arranged laterally of the fan motor and the compressor. According to the invention the driving motor for the fan is mounted on the top of the casing enclosing the control member (float-operated valve) controlling the supply of the refrigerant to the evaporator. Consequently, the diameter of the fan may readily be adapted to the height of the compressor without it being necessary to employ particularly high supports for the comparatively small fan motor. The casing containing the control member provides in this arrangement at the same time for a good distribution of the cooling air flowing from the fan to the compressor.

In many instances the size of the condenser is not so large that its height corresponds to the diameter of the fan when arranging the condenser in the form of a flat coil. According to the invention the condenser is arranged in this case on the switchboard for the binding posts and electric switch gear, such as, for instance, an auxiliary phase relay switch and in some cases an overload relay. The switchboard then forms so to say a baffle plate for the current of air drawn in by the fan so that the entire cooling air is guided over the cooling surfaces of the condenser.

In the accompanying drawing is shown an embodiment of the invention as applied to a domestic refrigerator in which the motor-driven refrigerating apparatus of the compression type is mounted on the refrigerator.

1 denotes the compressor-motor set, 2 the suction conduit, 3 the pressure conduit of the compressor. The compressor set is enclosed in a cowl 9 arranged on the top of the refrigerator and having at the right-hand side an opening for the reception of the condenser 4. The cooling air flowing from the fan 5 in the direction as indicated by the arrows serves to carry off the heat of condensation and the waste heat of the compressor set. The fan motor 6 is mounted on the top of a casing 7 containing the control member of the refrigerating apparatus; for instance, a float-operated valve. Under the condenser is arranged the switchboard 8 containing a terminal board for the distribution of the electric conductors, an auxiliary phase relay switch and an overload relay. The switchboard covers the lower portion of the opening of the cowl 9 and causes the entire cooling air drawn in by the fan 5 to flow over the heat radiating surfaces of the condenser 4.

What is claimed is:

In a refrigerator having an air-cooled refrigerating motor-compressor set, a cowl mounted outside of the refrigerator and having inlet and outlet openings and containing said motor-compressor set, a condenser for the compressed refrigerant mounted in the inlet opening of said cowl, a control member for regulating the circulation of the refrigerant, and a fan for circulating the cooling air through said cowl, said fan having an individual driving motor and blades of a diameter larger than the diameter of said motor and the height of said condenser, and said control member being disposed between said condenser and said motor-compressor set and serving as a support for said fan motor to elevate the latter, so that said fan blades convey the cooling air in a straight path through said condenser, over said control member and over said motor-compressor set.

WERNER RAHN.