May 24, 1932. R. L. MYERS 1,859,932

FLOAT VALVE HOUSING FOR REFRIGERATING PLANTS

Filed Oct. 21, 1927

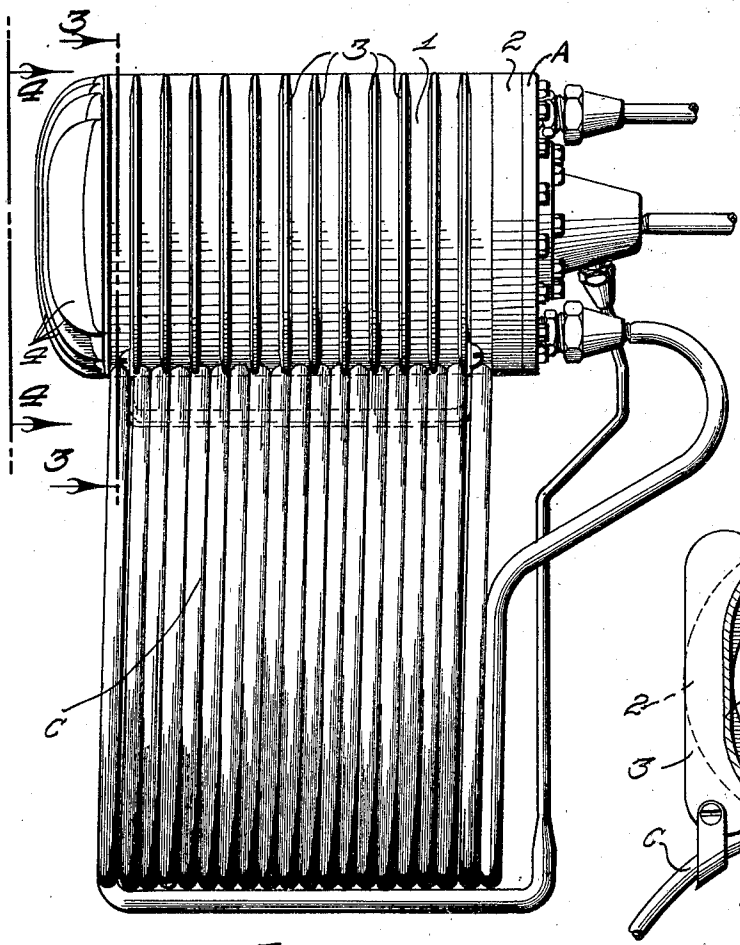

FIG. 1

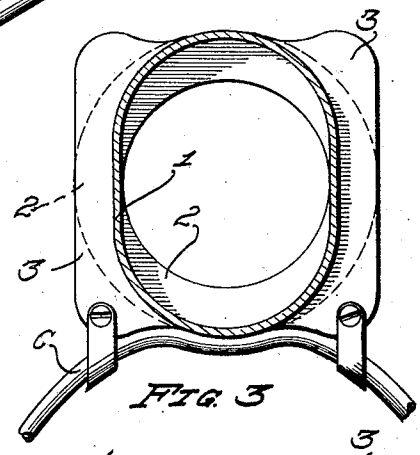

FIG. 3

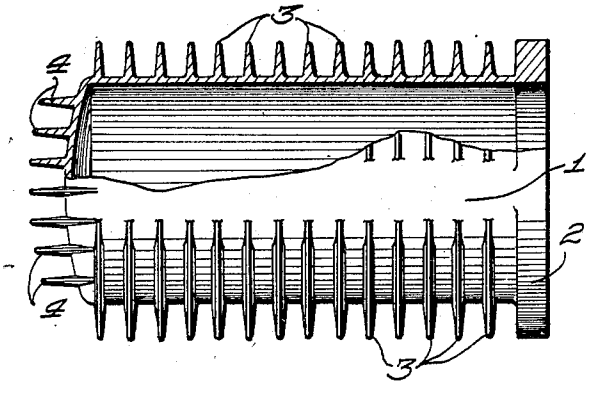

FIG. 2

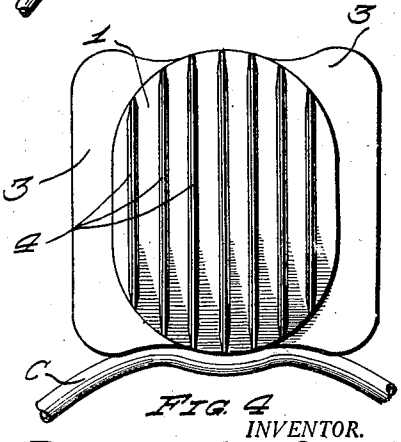

FIG. 4

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Patented May 24, 1932 1,859,932

UNITED STATES PATENT OFFICE

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FLOAT VALVE HOUSING FOR REFRIGERATING PLANTS

Application filed October 21, 1927. Serial No. 227,676.

My invention relates to float housings for refrigerating plants, one function of which is to intercept liquid refrigerant issuing from the chilling coil of the refrigerating system and the objects of my invention are: First, to provide a device of this class which is an efficient conductor of heat from the surrounding air to the refrigerant; second, to provide a device which is provided with fin means for increasing the contact area of the valve housing with the surrounding air; third, to provide a device of this class which may be mounted adjacent to a conventional chilling coil and cooperate therewith; forth, to provide a device of this class which absorbs heat from the surrounding air for gasifying the surplus liquid refrigerant from the chilling coil; fifth, to provide a device of this class which reduces to a minimum the quantity of refrigerant returning to the compressor in a liquid state; sixth, to provide a device of this class which enables the refrigerant to absorb the maximum amount of heat before returning to the compressor; seventh, to provide a device of this class which may be used with any conventional refrigerating system and cooling unit; eighth, to provide a device of this class which increases the efficiency of a refrigerating system chilling unit, and ninth, to provide a device of this class which is simple of construction, durable, efficient in its action, and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application, in which:

Figure 1 is a side elevational view of my float housing shown in connection with a chilling unit of a refrigerating system; Fig. 2 is a top or plan view of the float housing with parts and portions broken away and in section to facilitate the illustration; Fig. 3 is a sectional view thereof through 3—3 of Fig. 1 showing the chilling coil fragmentarily, and Fig. 4 is an end elevational view thereof from 4—4 of Fig. 1.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings.

The valve housing 1 is provided with semi-cylindrical upper and lower portions connected by straight sides and is open at its one end. Integral with the open end of the float valve housing 1 is a circular collar member 2. Said collar member forms flanges which extend inwardly from the upper and lower portions of the valve housing and other flanges which extend outwardly from the side portions thereof, as shown best in Fig. 3 of the drawings. Secured to the collar 2 is a plate A which supports the expansion valve control means therefore and the inlets and the outlets to the float chamber. The plate A and the mechanism supported thereon form no part of the present invention. Extending outwardly from the sides of the housing 1 are a plurality of spaced apart vertically positioned fins 3. Other vertical fins 4 extend across the closed end of the valve housing. It is preferred to construct the collar member, side and end fins integral with the float housing.

The housing 1 forms a receptacle for receiving refrigerant after passing through the chilling coil. Such refrigerant remaining in liquid form is allowed to collect in the housing 1, thereby preventing its passage to the compressor until vaporized.

Ordinarily the float housing is positioned by means of brackets or other suitable means above the chilling coil C of the refrigerating system, as shown in Fig. 1 of the drawings. When mounted adjacent to the chilling coil C the fins 3 of the float valve housing are shaped so as to provide ready means of mounting, as shown in Figs. 3 and 4. In some refrigerating systems the chilling coil is placed above the float housing. In those cases the float housing is simply hung from the coils or rested upon a surface and the coils mounted upon the float housing. Thus, when the float housing is placed adjacent to the chilling coils, it provides an effective additional chill-

ing means. While the housing 1 is referred to as a float valve housing within which the conventional valve regulating float is adapted to function, it will be understood that the present invention relates broadly to a receptacle for liquid refrigerant and means for enhancing the evaporation of the liquid prior to its passage to the compressing medium of a refrigerating system.

It is obvious that in the construction as illustrated in the drawings and described in the foregoing specification that there is provided a float housing as aimed at and set forth in the objects of the invention, and though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

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

1. In a refrigerating plant, a float valve housing for the heat absorbing side of the plant substantially oval-shape in cross section, positioned with the maximum diameter vertical, and closed at both its top and bottom sides.

2. In a refrigerating plant, a float valve housing for the heat absorbing side of the plant substantially oval-shape in cross section, positioned with the maximum diameter vertical, closed at both its top and bottom sides, and provided with integral heat absorbing fins extending on both its sides and closed end thereof.

In testimony whereof, I have hereunto set my hand at San Diego, California this 14th day of October 1927.

ROBERT L. MYERS.