Feb. 27, 1934.

F. SHENTON

1,948,773

VENT FOR TANKS

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Fig. 1.

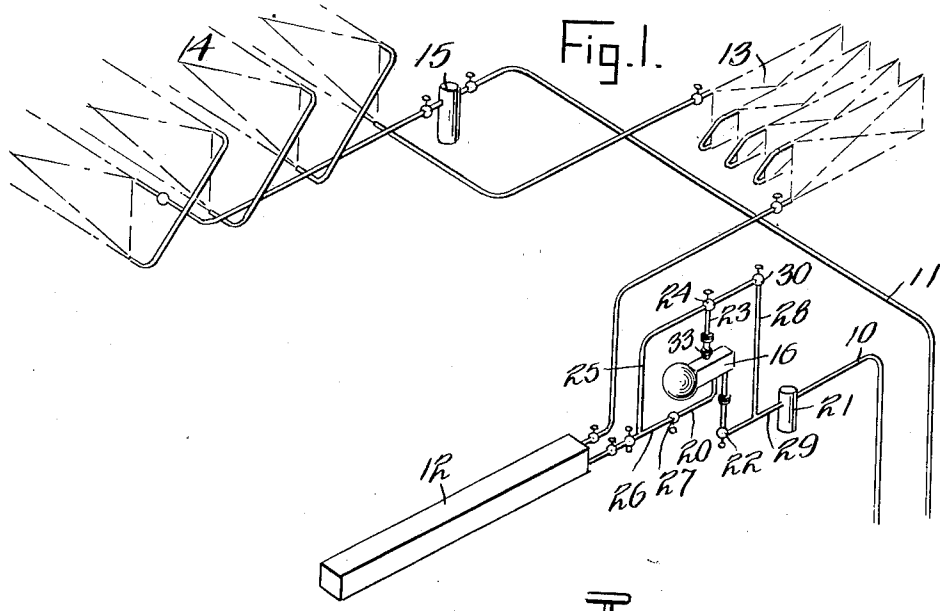


Fig. 2.

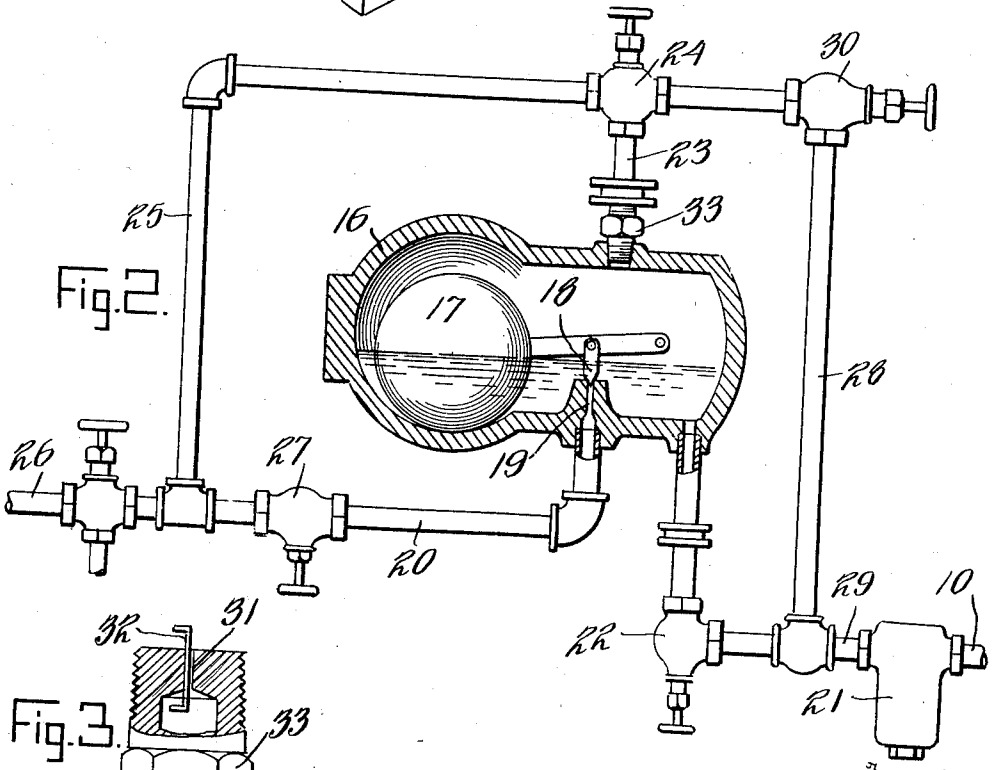


Fig. 3.

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VENT FOR TANKS

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3 Claims. (Cl. 62—115)

This invention relates generally to the art of refrigeration and particularly to means for venting a float valve installed in the liquid line leading from the source of supply to the evaporator or low side of the system.

The object of the invention is to provide in connection with such float chamber, a vent connection which will prevent the float chamber from becoming air or gas bound.

Referring to the accompanying drawing which is made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a diagrammatic view of a system of cooling coils with my invention applied thereto,

Figure 2 is an enlarged view showing the float chamber in section with vent connection in plan, and

Figure 3 is an enlarged detail view partly in section showing the vent connection.

In the drawing numeral 10 indicates a line leading from a liquid source and numeral 11 the suction line from the evaporator.

Numerals 12, 13, 14 and 15 are conventional refrigerating elements and are shown only to clearly demonstrate the relation of my invention to the art of refrigeration. Since the evaporator may be of the type shown or numerous other combinations, this part of the system will, therefore, not be further described.

As shown in Figure 2, a chamber 16 has a float 17 mounted therein to which float is attached a valve 18 controlling an outlet valve passage 19 to a pipe 20. The line 10 is connected with the lower side of the float chamber 16. A pipe 23 is connected through a valve 24 with a line 25, the line 25 being connected to a line 26 which passes to the evaporator. Line 20 also connects through valve 27 to line 26 leading to the evaporator.

The pipe 28 is connected to pipe 29 and offers a means for bypassing the refrigerating fluid around the float valve through 24 and 25 to 26. Liquid strainer 21 and parts 22, 24, 27, 28 and 30 are conventional to refrigerating systems, but are not considered essential in connection with my invention.

Passage of gas from the upper portion of the chamber 16 to the pipe 23 is through a vent connection 33. In order to better facilitate the manufacturing construction of this vent connection and make it less liable to become clogged, the vent 31 is drilled much larger than required and a wire 32 is positioned in the vent to reduce the vent to size desired. The purpose of the vent 31 is to prevent the tank 16 from becoming air or gas bound, the gas being permitted to pass out through the vent pipe 23, valve 24 and line 25 to the low pressure line 26. The purpose of the vent 31 is to enable me to position the chamber 16 at an elevation above that of the liquid receiver. Without this vent the tank 16 must be placed at or below the level of the liquid in the receiver.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention and therefore I do not limit myself to what is shown in the drawing and described in the specification, but only as indicated in the appended claims.

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

1. In a refrigerating system, a liquid chamber having inlet and outlet connections thereto, a float operated valve for controlling the outlet, a vent connection positioned in the top of said chamber, said vent being connected to the discharge pipe from said chamber, said vent having a loosely positioned rod therein to reduce its diameter, substantially as set forth.

2. In combination with the liquid supply line to an evaporator of a refrigerating system of a liquid chamber connected to said supply line and having an outlet connected to the evaporator, a float in said chamber in control of a valve in said outlet, a vent in the top of the said chamber connected to the line leading to the evaporator, said vent being larger than required and having a rod positioned therein to reduce its size, substantially as set forth.

3. In a refrigerating system having a liquid receiver and an evaporator, a liquid chamber positioned in the outlet passage from the liquid receiver, said chamber having a float control outlet valve mounted therein, the top of the chamber having a vent therein, said vent being somewhat larger than necessary to permit escape of gas from the chamber and having a rod loosely positioned in the vent to reduce its size to that required and a pipe leading from the vent to the said evaporator to conduct gas drawn from the chamber to the evaporator, substantially as set forth.

FRANCIS SHENTON.