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HIGH-HUMIDITY REFRIGERATOR

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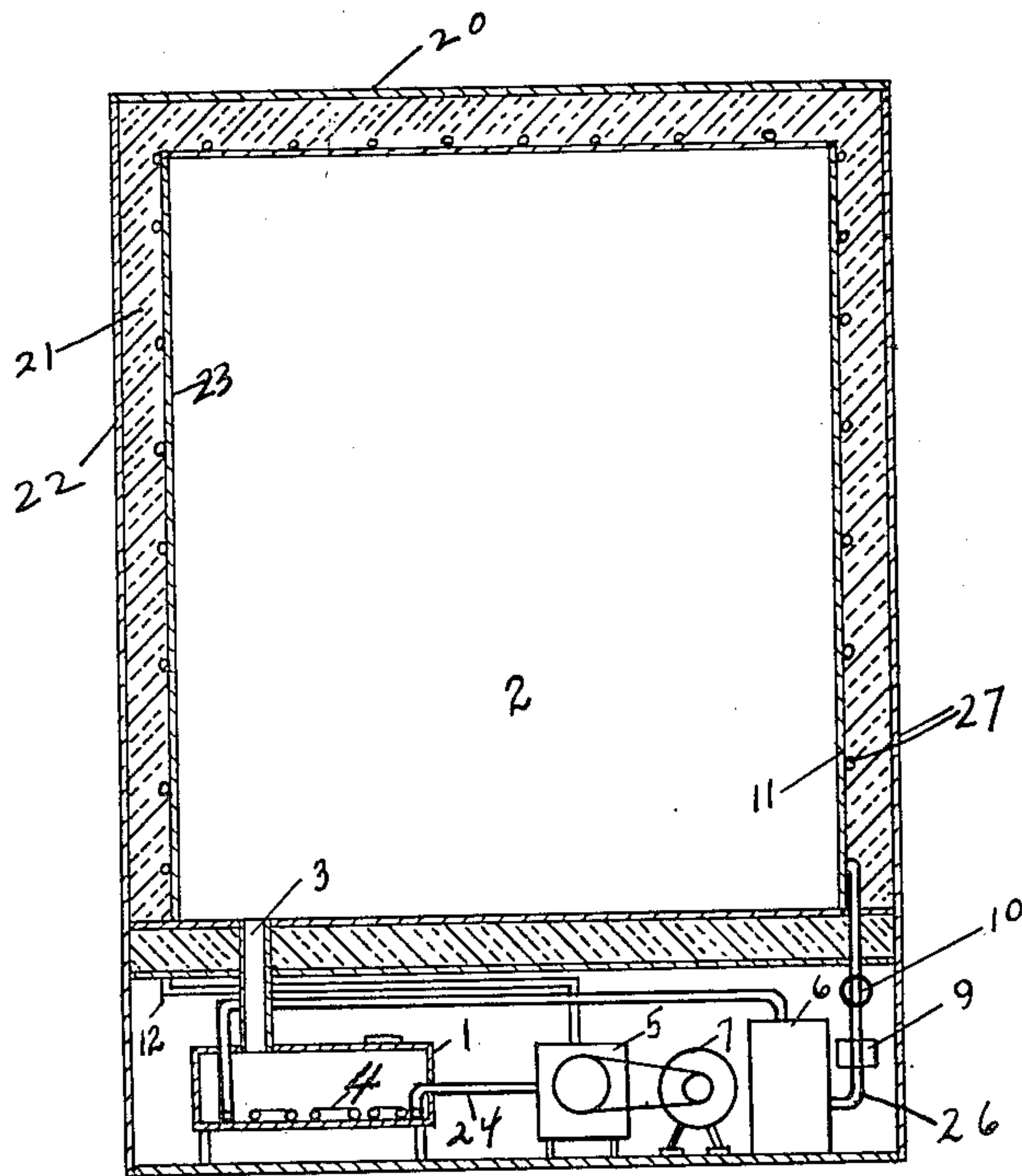


Fig. 1

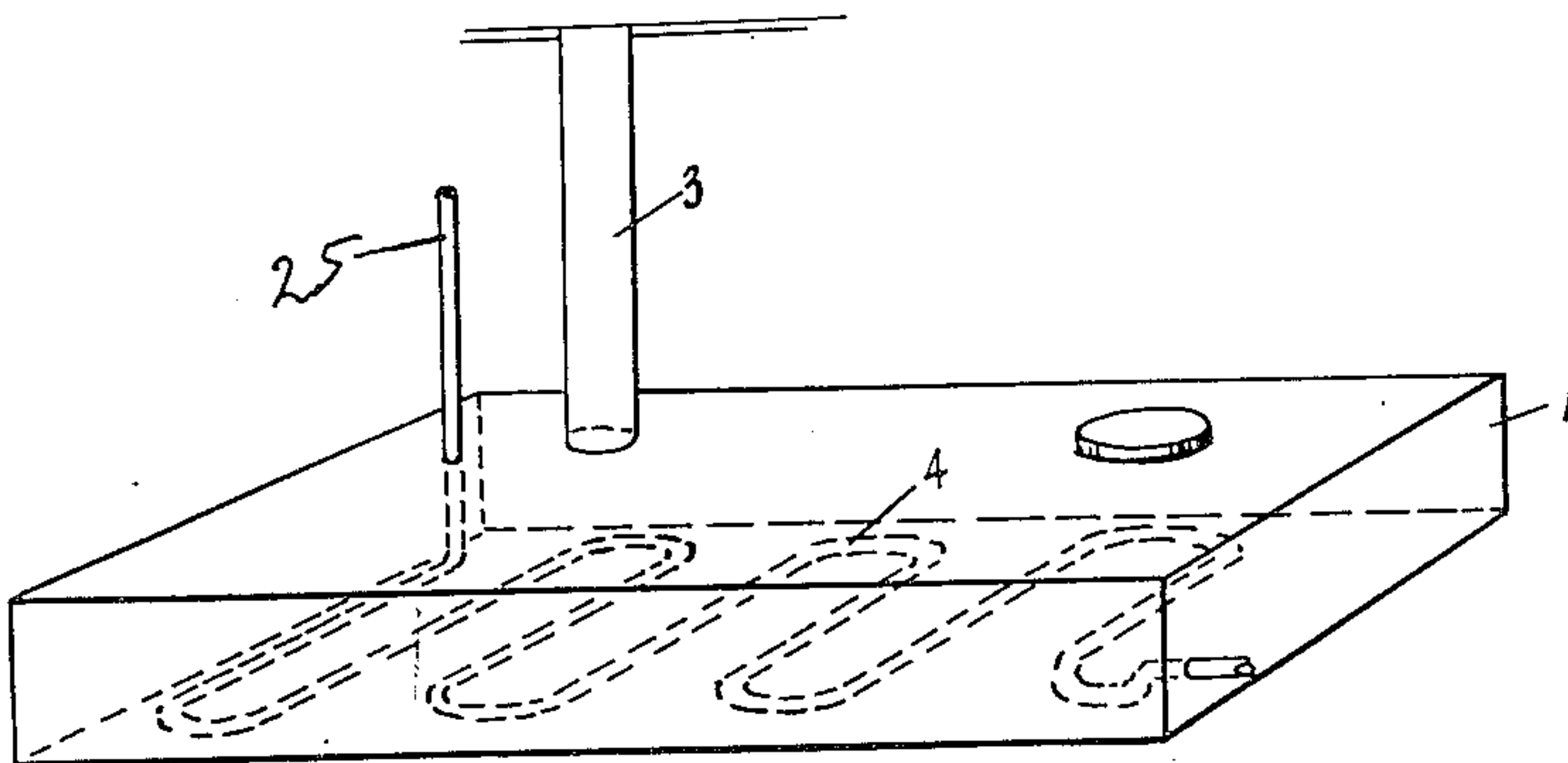


Fig. 2

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UNITED STATES PATENT OFFICE

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HIGH-HUMIDITY REFRIGERATOR

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1 Claim. (Cl. 62—103)

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My invention relates to improvements in refrigerators and has for one object to maintain a relatively moist atmosphere in the refrigeration area.

Another object of the invention is to provide a suitable apparatus and system for the disposal of water of condensation from the cold element.

Other objects will appear from time to time throughout the specification and claim.

My invention is illustrated more or less diagrammatically in the accompanying drawing wherein—

Figure 1 is a vertical diagrammatic section through a refrigerator box showing the relationship of the parts;

Figure 2 is a diagrammatic perspective showing the container into which water of condensation discharges.

Like parts are indicated by like characters throughout the specification and drawings.

2 is the food storage or refrigeration chamber of a refrigerator box 20. This box is provided with insulation 21, an outer housing 22, and inner cold walls 23. The section is perpendicular to the box so the box does not appear in the drawing.

7 is a motor which drives a compressor 5 which discharges compressed refrigerant through the duct 24 into the coils 4 in the vaporizer chamber 1. The duct 25 leads from the coil 4 to the condenser 6. The duct 26 leads from the condenser 6 to the receiver 9, thence through the expansion valve 10 to the evaporator coils 27 on the outside of the cold plates 23.

The operation of the device is conventional. The refrigerant circulates through the compressor, the heat exchange coils 4 in the vaporizer chamber, thence to the condenser vanes to the evaporator coils and back to the compressor. The surface of the cold plates or cold walls is thus maintained at a cooled temperature such that water of condensation is deposited upon these walls. This water flows down to the floor of the box and thence through the passage 3 to the closed vaporizing box 1. There the cold water of condensation meets the hot gases on their way to the condenser. The heat in those

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gases vaporizes the water in the heat exchange box 1 and that vapor returns through the passage 3 as water vapor to the cold chamber 2 where it is again condensed and returned to the heat exchange. The result of this is a continuous return of the water of condensation from the cold surfaces back to the atmosphere in the box as water vapor. This accomplishes two purposes. It disposes of the water of condensation making it unnecessary to have any run off to carry water of condensation from the refrigerator insulation but much more important than that it insures a continuous return of moist air to the box so that the atmosphere in the box is kept in a continuous condition of high moisture content as contrasted with the usual situation in connection with electric refrigerators and the like where the vapor travel from the contents of the box and from the atmosphere in the box tends to desiccate the water therein and the box contents.

I claim:
In a refrigerator, a box having walls to enclose a refrigeration surface, means outside the walls for cooling at least two of the walls and the top of the box to cause condensation of moisture on the walls and top, a duct adapted to discharge the condensed water from the chamber, a receptacle adapted to receive the discharge water, means for heating the water therein and for returning it to the refrigeration chamber through the same duct where it enters whereby the water returns as vapor, being cooled by the condensate which travels through the same channel in opposite directions.

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