United States Patent

Henley

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[54] HOT WATER TANK HEATER

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[52] **U.S. Cl.**.....**165/51,** 237/12.3 B

[51] **Int. Cl.**.....**B60h 1/06,** B60h 1/08

[58] **Field of Search**.....165/51; 237/12.33

[56] **References Cited**

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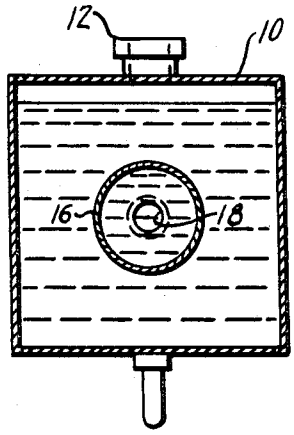
[57] **ABSTRACT**

A radiator, a tank, a cylindrical passageway running through the tank, a pump for pumping heated radiator water through the cylindrical passageway, and a pump for pumping the heated water in the tank about the cylindrical passageway out of the tank for use.

1 Claims, 4 Drawing Figures



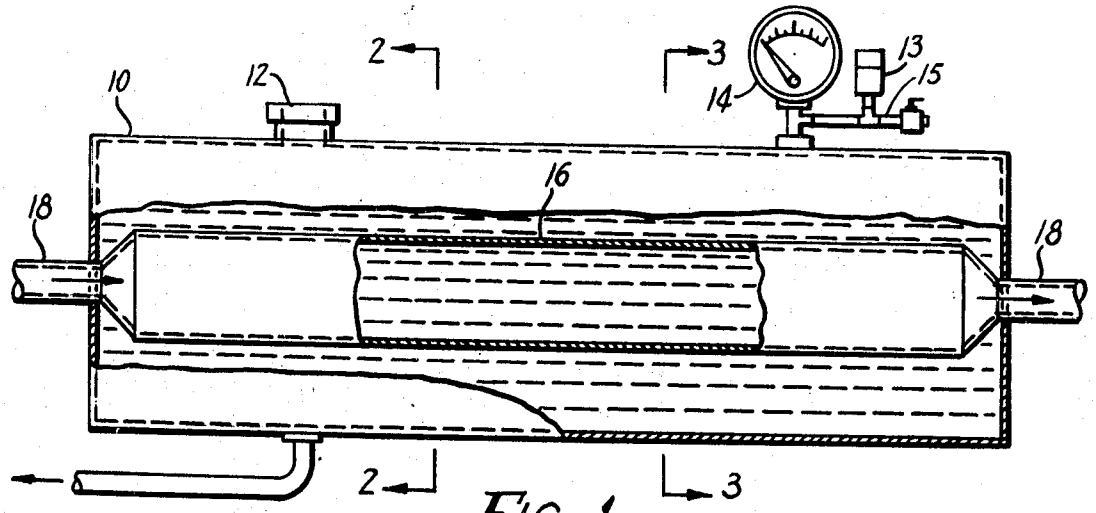


FIG. 1

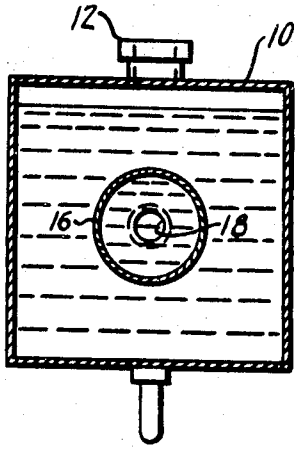


FIG. 2

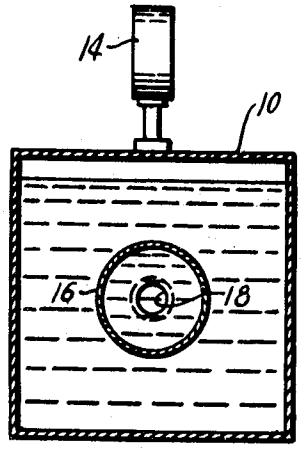


FIG. 3

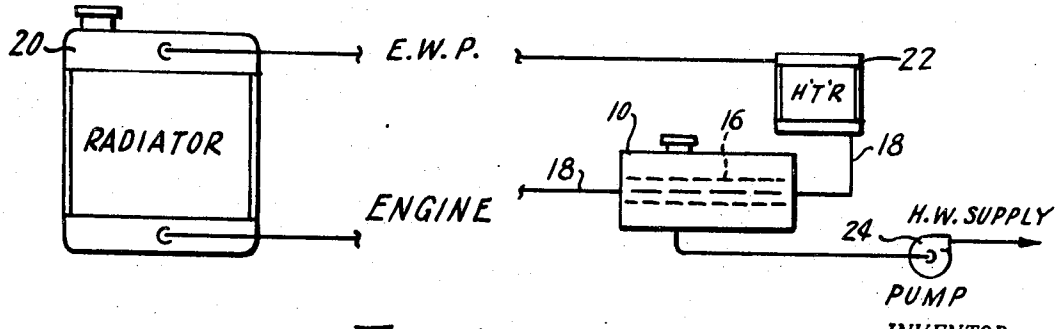


FIG. 4

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HOT WATER TANK HEATER

This invention is related to mobile hot water heaters. More specifically, this device consists of a small tank placed under the hood of a vehicle enabling the small trailer, boat operator, etc., to have a supply of hot water for washing, showering, etc., whenever desired. The device is particularly useful for small camping units that are used on pickup trucks. It is also a much safer method of heating hot water in small boats because the danger of explosion with heaters heated with the conventional propane is not present with the elimination of propane.

The primary object of this invention is to provide a simple and efficient mobile hot water tank.

Another object of this invention is to provide a safe means of delivering hot water in a mobile vehicle.

The above and other objects of this invention will become apparent to those skilled in the art after a consideration of the following detailed description of the preferred embodiment of this invention taken together with the accompanying drawing in which:

FIG. 1 is a cutaway elevational view of the tank;

FIG. 2 is a sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a sectional view taken on line 3—3 of FIG. 1; and

FIG. 4 is a diagrammatic view of water flow through the hot water system. Referring in detail to the drawing, there is illustrated a fresh water tank **10** having a fill cap **12**, pressure gauge **14**, relief valve **13**, and air stem **15** at the top of tank **10**. Mounted at the center of tank **10** along the longitudinal axis thereof is a cylindrical passageway **16** having both ends thereof connected to water line **18** at the opposite ends of tank **10**.

FIG. 4 shows water flowing out of a conventional radiator **20** and being pumped through the engine along line **18** into passageway **16** by an engine water pump (not shown). The flow of radiator water is controlled by the heater control inside the vehicle, the vehicle heater and defroster **22** being positioned in line **18** on the exit side of passageway **16**. Tank **10** is stored with fresh water which is heated as the heated water from the engine passes through passageway **16**. A pump **24**, which may be actuated manually, by air pressure, or by electrical mechanical means draws the heated fresh water from tank **10** for use. It should be noted that as the radiator water circulates through tank **10**, it takes approximately a mere 10 minutes to heat the entire body of fresh water in tank **10**.

While the preferred embodiments of this invention have been illustrated and described, it will be understood by those skilled in the art that modifications and changes may be resorted to without departing from the spirit and scope of the invention.

I claim:

1. A mobile fresh water heater, comprising a generally horizontal fresh water storage tank, a generally horizontal cylindrical passageway mounted at the center of the tank along the longitudinal axis of the tank between opposite ends of the tank in a manner so that water in the tank is sealed off from the inside of the passageway, the passageway being part of an internal combustion engine cooling system water line, the flow of engine heated water through the passageway causing the fresh water in the tank to heat up, a fill cap at the top of the tank for pouring in fresh water, a pressure gauge and release valve with an air stem extending from the top of the tank, a water pipe extending downward from the bottom of the tank, and a pump connected to the pipe for pumping the heated fresh water to the area where the water is to be used for washing and consumption, said passageway having a diameter larger than that of the water line located outside the tank for increasing the area of heat exchange with said passageway positioned to receive the flow of water directly after the water leaves the engine of the mobile vehicle.

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