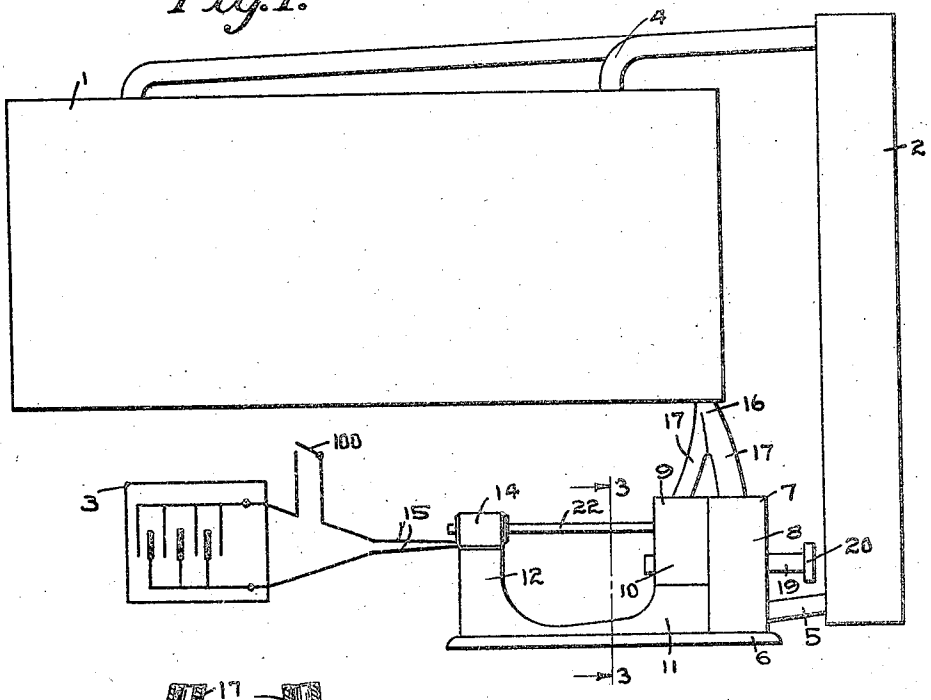
J. TORRENT, JR.

ANTIFREEZE DEVICE FOR RADIATORS.

APPLICATION FILED MAY 21, 1920.

1,353,678. Patented Sept. 21, 1920.

Fig. 1.



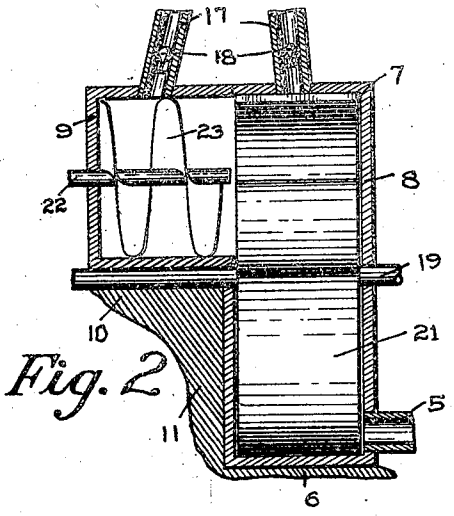


Fig. 2.

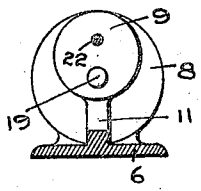


Fig. 3.

Witness

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UNITED STATES PATENT OFFICE.

JOHN TORRENT, JR., OF MUSKEGON, MICHIGAN.

ANTIFREEZE DEVICE FOR RADIATORS.

1,353,678. Specification of Letters Patent. Patented Sept. 21, 1920.

Application filed May 21, 1920. Serial No. 383,236.

To all whom it may concern:

Be it known that I, JOHN TORRENT, Jr., a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented a new and useful Antifreeze Device for Radiators, of which the following is a specification.

It is the object of this invention to provide novel means whereby, when an internal combustion engine is at rest, a circulation may be maintained through the radiator, to the end that the water may not freeze in the radiator, the device being of peculiar utility when used in connection with automobiles.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in side elevation, a device constructed in accordance with the invention; Fig. 2 is a section taken through the pump; and Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

The numeral 1 denotes an internal combustion engine. The radiator is shown at 2, and a storage battery is indicated at 3, all of these mechanisms being standard parts in an ordinary automobile.

The heated water is returned from the jackets of the engine 1, to the radiator 2 by a conduit 4. The outlet conduit for the radiator 2 is denoted by the numeral 5.

The pump may be variously constructed, but, preferably, the pump comprises a base plate 6, carrying a casing 7 comprising a drum-like main compartment 8 and an auxiliary compartment 9 communicating with the main compartment 8, the diameter of the auxiliary compartment 9 being considerably less than the diameter of the main compartment 8. The auxiliary compartment 9 is thickened to form a lower bearing portion 10. The web 11 connects the auxiliary compartment 9 with the base plate 6 and with the main compartment 8, the web 11 being extended to form a post 12 carrying an electrical motor 14. The numeral 15 designates a circuit including the storage battery 3 and the motor 14.

The numeral 16 denotes a conduit communicating with the water jackets of the engine 1, the conduit having branches 17 opening, respectively, into the compartment 8 of the pump and into the compartment 9 thereof, since the valves 18 are interposed in the branches 17. A shaft 19 is journaled in the thickened bearing portion 10 of the auxiliary compartment 9 and in the outer wall of the main compartment 8. The numeral 20, denotes, diagrammatically, any suitable means whereby the shaft 19, after the well known practice, is connected with the engine 1 to be driven thereby. The shaft 19 carries any suitable pumping means, located in the compartment 8. If desired, the pumping means may consist of the usual curved blades 21. The numeral 22 designates a shaft driven by the electrical motor. The shaft 22 operates any suitable pumping means 23 disposed in the auxiliary compartment 9. If desired, the pumping means 23 may be in the form of an Archimedean screw.

When the engine 1 is in operation, the shaft 19 will be driven from the engine, the pumping means 21 drawing water from the radiator through the conduit 5, and delivering the water to the jacket of the engine 1, through the corresponding branch 17 and the conduit 16.

When the engine 1 is at rest, and when it is desired to produce a circulation through the radiator 2, a suitable switch, located on the dash board of the vehicle or elsewhere, and denoted by the numeral 100, may be closed, thereby closing the circuit 15, whereupon the motor 14 will be operated from the storage battery 3, the shaft 22 being rotated, and the means 23 drawing water from the conduit 5, through the pumping mechanism 21 and delivering the water into the jacket of the engine 1, by the corresponding branch 17 and the conduit 16.

It will be clear that the device forming the subject matter of this application comprises a simple means whereby, when an internal combustion engine is at rest, a circulation of water through the radiator may

be brought about, by a mechanism driven by the storage battery which furnishes the current for the ignition circuit.

Having thus described the invention, what is claimed is:—

In a device of the class described, an internal combustion engine; a radiator; a conduit extended between the engine and the radiator; a casing interposed in the conduit, the casing having communicating compartments of different diameters; shafts journaled in the compartments; pumping means carried by the shafts and located in the respective compartments; means for driving the shaft of the larger compartment from the engine; an electrical motor operatively connected with the shaft of the smaller compartment; and a base plate carrying both the casing and the motor.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN TORRENT, JR.

Witnesses:

FREDERICK D. TORRENT,

H. R. JESSON.