F. WENDLING.

ANTIFREEZING DEVICE FOR AUTOMOBILES.

APPLICATION FILED MAY 13, 1919.

1,355,069. Patented Oct. 5, 1920.

Fig. 1.

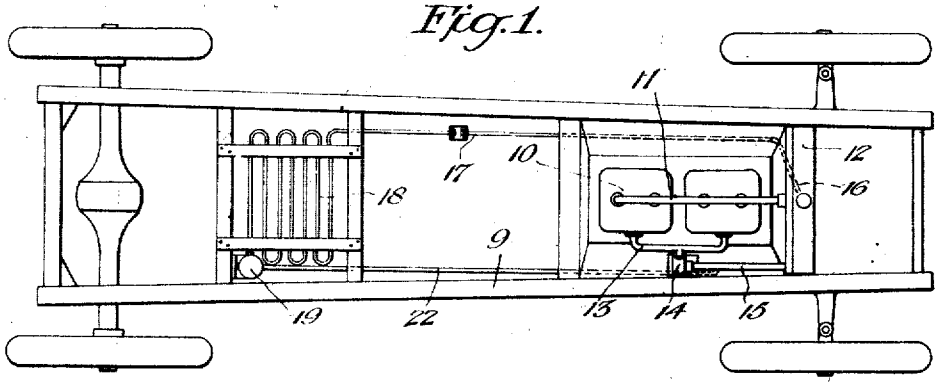


Fig. 2.

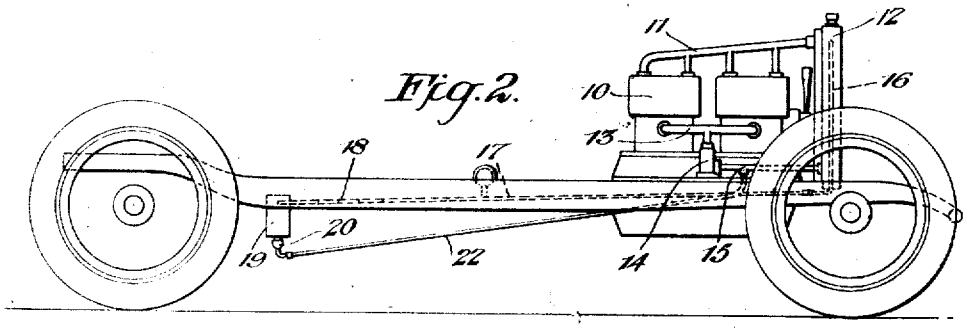
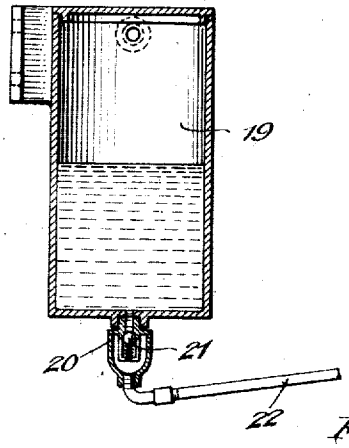


Fig. 3.



WITNESSES

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ANTIFREEZING DEVICE FOR AUTOMOBILES.

1,355,069. Specification of Letters Patent. Patented Oct. 5, 1920.

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To all whom it may concern:

Be it known that I, FRED WENDLING, a citizen of Germany, and a resident of Edmonton, Alberta, Canada, have made certain new and useful Improvements in Antifreezing Devices for Automobiles, of which the following is a specification.

My present invention relates generally to automobiles and other motor cars, using water cooled motors and particularly to anti-freezing devices in connection with the radiators of such motors, and has for its object the prevention of loss by volatilization of the volatile portions of anti-freezing solutions commonly used at present.

As well known a common anti-freezing solution for radiators is formed by adding alcohol and glycerin to the water supply in a certain percentage which at present can only be maintained at an efficient point by almost constant addition of the more volatile alcohol. This is due, as is well understood, to the exhaust of the alcohol fumes through the overflow pipe, and my invention proposes the employment of simple, effective means for condensing these fumes and returning the liquid of condensation into the cooling system.

I preferably accomplish the desired result by an apparatus capable of ready attachment to an automobile without interference with the normal operation thereof, of the nature and extent which I will now describe with reference to the accompanying drawing forming a part of this specification, and wherein:—

Figure 1 is a top plan view of the chassis of an automobile showing the practical application of my invention;

Fig. 2 is a side elevation thereof, and,

Fig. 3 is a vertical section through the condensation tank.

Referring now to Figs. 1 and 2, I have shown an automobile chassis 9 including a motor 10 of a water-cooled type, the upper portion of the jacket of which communicates by pipes 11 with the upper portion of the radiator 12, the lower portion of which communicates by pipes 13 with the water pump 14, in turn connected by a pipe 15 with the lower portion of the radiator 12.

The overflow pipe 16 of the radiator is, in accordance with my improvements connected to one end of a pipe 17, which extends rearwardly to a condenser coil 18, the outlet of which leads to the upper portion of a tank 19. The condenser coil 18 and tank 19 are suitably mounted beneath the rear portion of the chassis 9 sufficiently remote, at least, from the motor 10 to be well beyond the influence of its heat, so that the alcohol fumes will be condensed to liquid form and discharged into the tank 19 instead of being exhausted into the atmosphere as usual.

The tank 19 has an outlet fitting 20 at its base containing an outwardly opening spring seated valve 21, a pipe 22 leading from this fitting 20 to the intake pipe 15 of the water pump 14. Thus accumulated, pressure with tank 19 periodically forces the valve 21 from its seat and permits the condensed liquid to pass into the cooling system again through the pump where it is thoroughly mixed with the radiator solution.

In this way, by providing against air or fluid leaks, I am able to maintain the solution at its highest efficiency at all times, and avoid the necessity of constantly replenishing the alcohol as is necessary at present, and it is to be observed that I accomplish these advantages by an apparatus which is at once simple, inexpensive and durable in use.

I claim:—

1. The combination with a water cooling radiator for motors, having an overflow pipe of a condenser coil connected to said outer end of the overflow pipe, and a liquid trap connected to said condenser coil for receiving fluid therefrom and having a pressure controlled outlet.

2. The combination with the cooling system of a combustion motor including a radiator having an overflow pipe, of a condenser separate from the radiator and remote from the motor and, connected at one end to said overflow pipe, and pipe connections between the other end of said condenser and said cooling system for automatically and periodically returning liquid from said condenser into the cooling system, as described.

3. The combination with the cooling system of a combustion motor, including a radiator having an overflow pipe, of a pipe leading from said overflow pipe to a point out of the influence of the heat of said motor, a liquid trap with which said latter pipe communicates, and a valved connection between said liquid trap and a portion of said cooling system, as described.

4. The combination with the cooling system of a combustion motor, including a radiator having an overflow pipe, of a pipe leading from said overflow pipe, a condenser with which said latter pipe communicates, a liquid trap into which the condenser discharges having a valved outlet, and a pipe connecting said valved outlet with a portion of the cooling system.

5. The combination with the cooling system of a combustion motor, including a radiator having an overflow pipe, of a pipe leading from said overflow pipe, a condenser with which said latter pipe communicates, a liquid trap in the form of a tank into the upper portion of which said condenser discharges, having an outlet at its base, a pipe connecting said outlet with a portion of the cooling system, and an outwardly opening spring controlled valve controlling said outlet.

FRED WENDLING.