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DEVICE FOR CLEANING THE COOLING SYSTEM OF AN INTERNAL COMBUSTION ENGINE

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Fig. 1.

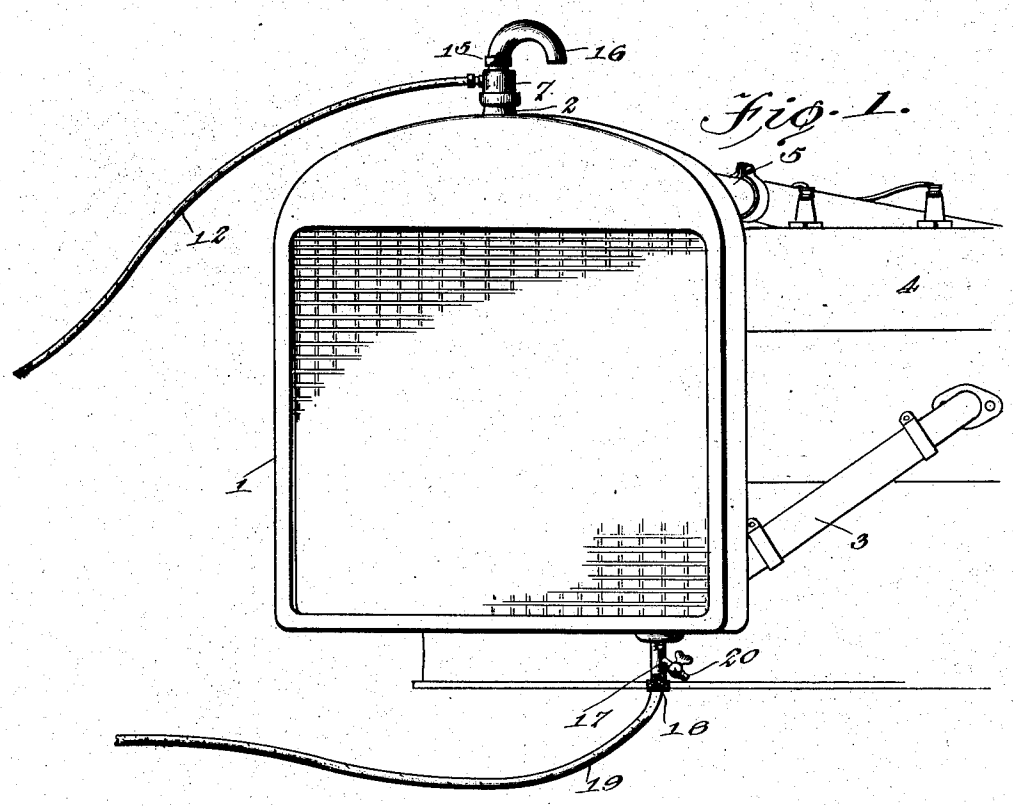


Fig. 2.

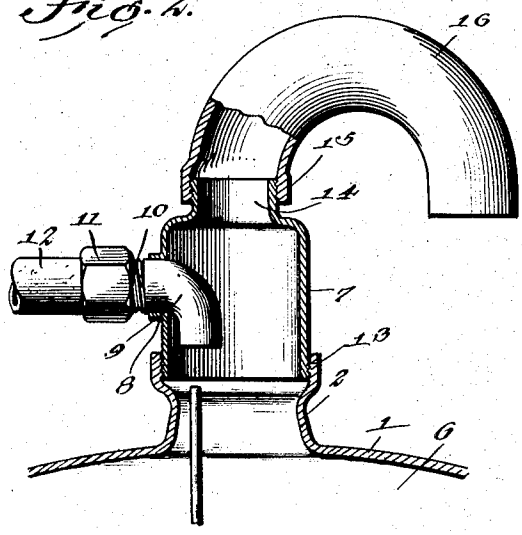
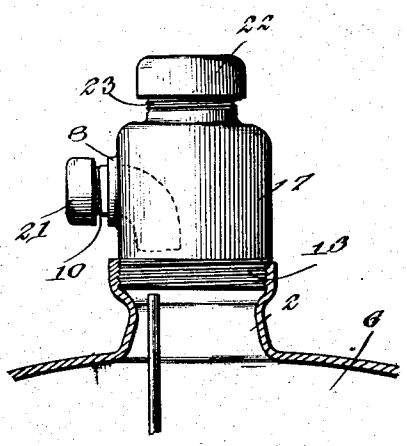


Fig. 3.



WITNESSES

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DEVICE FOR CLEANING THE COOLING SYSTEM OF AN INTERNAL-COMBUSTION ENGINE.

Application filed October 31, 1924. Serial No. 747,134.

This invention relates to a device for renewing water in a radiator and an engine for an automobile and has for its object the provision of a device which will cause a circulation of water through the radiator and cooling jacket of an engine for expelling all foreign matter from the water jacket and radiator and for supplying the radiator with water.

A further object of the invention is the provision of a device for causing a circulation of water under pressure in the cooling system of an engine whereby rust and other foreign matters are expelled from the cooling system.

A still further object of the invention is the provision of a radiator cap whereby it is possible to connect a hose for supplying water to the radiator under pressure and whereby the water may be readily discharged to remove foreign matter forced along the cooling system by said water.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawing forming a part of the specification; nevertheless it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications which shall define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a view in perspective of the forward end of an automobile showing our invention attached to the radiator of the same.

Figure 2 is a vertical section of our improved radiator cap for supplying water under pressure to the radiator.

Figure 3 is a side view of the radiator cap constructed in accordance with our invention showing the inlet and discharge end of said cap closed by a removable cover.

Referring more particularly to the drawings, 1 designates the radiator of an automobile having the usual threaded nipple 2 adapted to receive the usual hub cap. The radiator as is usual is provided at its lower end with a chamber adapted to be placed in communication with a hose connection 3 which leads to the water jacket of an engine 4. The water jacket of said engine is connected at its upper end by means of a conduit 5 to the upper end of the radiator 1 whereby the upper end of the water jacket of the engine is placed in open communication with the chamber 6 in the upper end of the radiator.

We replace the usual radiator cap by means of a cup-shaped member 7 having a flanged opening 8 in which is mounted a nozzle 9. The inner end of the nozzle is bent downwardly and within the cup-shaped member 7 while the outer end is threaded as shown at 10 to receive the usual connection 11 for a hose 12. The lower end of the cup-shaped member is threaded as shown at 13 and screwed into the outer threaded end of the nipple 2.

The upper end of the member 7 is reduced in cross section as shown at 14 and threaded to receive the threaded end 15 of a curved pipe 16. This pipe is screwed onto the reduced end 14 of the member 7 and has a discharge outlet through which the water normally flows from the cooling system when the device is in operation. The curved pipe 16 may be made of metal or the same may be a portion of a flexible hose having a connection for removably securing the hose to the threaded portion of the member 2 of the radiator.

The usual petcock which is connected to the lower chamber of the radiator 1 is removed from its usual threaded opening and into which is screwed a pipe 17. The lower end of the pipe is threaded and adapted to receive the usual threaded band 18 for securing a hose 19 to the pipe 17. The hose 12 and 19 are connected to a source of water under pressure for supplying the radiator and the water jacket of the engine with water under pressure for forcing rust and other foreign matter from the cooling system. A petcock 20 is screwed into an opening in the pipe 17 and is adapted to be employed in the usual manner for exhausting water from the cooling system. When the hose 19 has been removed from the pipe 17 the cap is ordinarily screwed onto the end for closing the same.

As shown in Figure 3, when the cup-shaped member is not employed for the purpose of admitting and discharging water simultaneously from the radiator and the hose 12 and discharge pipe 16 has been removed, a cap 21 is screwed onto the threaded end 10 of the nozzle 9 and a cap 22 is

screwed upon the threaded end 23 of the reduced section 14 of the cup-shaped member 7.

When it is desired to clean out the radiator and the water jacket of the engine, the cap 21 is removed and the hose 12 is connected to the nozzle 9. The cap 22 is also removed and the discharge pipe 16 is screwed thereon. The cap on the lower outer end of the pipe 17 is also removed and the hose 19 is connected to said pipe by the nut 18. The outlet valves are turned on so that the water under pressure will flow through pipes 12 and 19, through the radiator and through the cooling jacket of the engine and be discharged through the conduit 16. A sufficient circulation is provided until it is evident from the appearance of the water from pipe 16 that the cooling system is clear of foreign matter. The pipes 12 and 19 are then removed and then the caps, as has been previously explained, are replaced and the engine is ready for operation.

While the filling nipple is shown in the drawing as internally threaded it must be borne in mind that the nipple may be externally threaded to receive the internal threads of the section 7 of the connecting member.

What we claim is:

1. In a cleaning device for a radiator of an automobile, a radiator cap comprising a cup-shaped member provided with a perforation in the wall thereof and having one end open and threaded, the other end being reduced and threaded and provided with a discharge port, a curved pipe removably connected with the reduced threaded end and an inlet nozzle mounted in the perforation in the wall of the cup-shaped member.

2. In a cleaning device for a radiator of an automobile, a radiator cap comprising a cup-shaped member provided with a perforation in the wall thereof and having one end open and threaded, the other end being reduced and threaded and provided with a discharge port, a curved pipe removably connected with the reduced threaded end and an inlet nozzle mounted in the perforation in the wall of the cup-shaped member, the outwardly projecting end of the nozzle being threaded to receive a hose-connection, the first mentioned threaded end of the cup-shaped member being adapted to be screwed in the usual threaded inlet pipe of the radiator.

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