H. B. RENOUF.

THAWING DEVICE.

APPLICATION FILED SEPT. 24, 1921.

1,431,044. Patented Oct. 3, 1922.

Fig. 1.

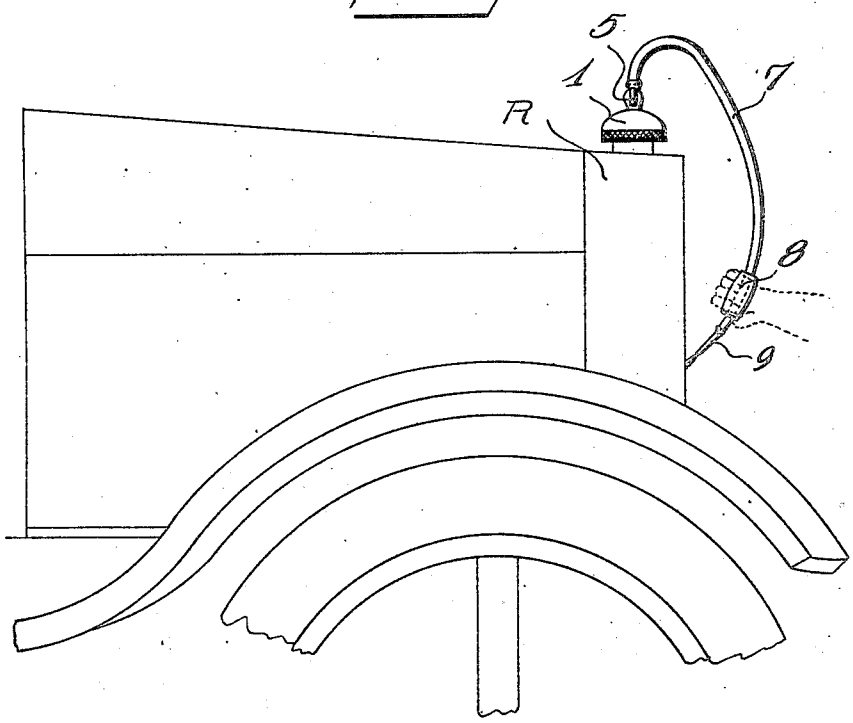
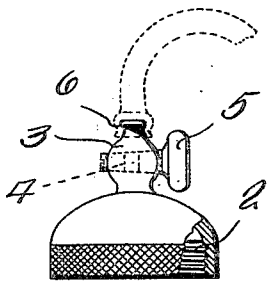


Fig. 2.



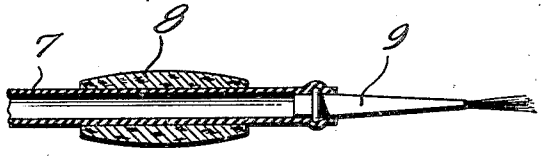


Fig. 3.

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UNITED STATES PATENT OFFICE.

HARRY B. RENOUF, OF KENT, OHIO.

THAWING DEVICE.

Application filed September 24, 1921. Serial No. 502,849.

To all whom it may concern:

Be it known that I, HARRY B. RENOUF, a citizen of the United States of America, residing at Kent, in the county of Portage and State of Ohio, have invented certain new and useful Improvements in Thawing Devices; and I do hereby declare that the following is a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in motor driven vehicle accessories and has for an object to provide a thawing attachment for automobiles employing water cooling systems for the motors thereof, whereby such steam as may be generated in the cooling system of the automobile may be used for thawing the same, when frozen, thus dispensing with the heretofore practiced methods of thawing the systems as by pouring hot water into the radiator thereof or throwing hot water over those parts believed to be clogged by the frozen water.

Other objects will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by persons skilled in the art, I have in the accompanying illustrative drawings and in the detailed following description based thereon set out one practical embodiment of the same.

In these drawings:

Figure 1 is a fragmentary side elevation of an automobile provided with my improved attachment;

Figure 2 is an elevation in detail, a part thereof being broken away and shown in section, of the radiator cap of the device; and,

Figure 3 is a detail in section showing the steam ejecting nozzle of the device.

Having more particular reference to the drawings, in connection with which like characters of reference will designate corresponding parts throughout, it is, of course, to be understood that my improved thawing device or attachment is for use in connection with those types of motor driven vehicles or automobiles employing water cooling systems for the motors thereof.

In the present embodiment of the invention, I have shown the device as applied to the filling opening cap of the ordinary automobile radiator R, the same consisting of a closure cap 1 internally screw threaded as at 2 in order that the same may be turned into engagement with the sleeve forming the filling opening for the radiator R, while a valve casing 3 is formed on the top of said cap 1 and receives a rotary plug valve 4 therein provided with a suitable form of handle 5 for an obvious purpose. The upper or free end of the valve casing 3 is provided with the usual flared end 6 for facilitating positive engagement of one end of a flexible tube 7 thereover, said tube having a hand grip 8 formed of paper pulp or other suitable heat insulating material, fixedly engaged with the same in proximity to its free end, while said free end of the tube is engaged over the annular flange formed on the inner end of the steam ejector nozzle 9.

When not using my improved device, the flexible tube 7 may be carried in the tool kit or other convenient compartment of the automobile, while the valve 4 on the cap engaging the filling opening is preferably left in a partially open position. Thus, in event of freezing of the cooling system, when the motor of the vehicle has been started and operated for a short period time, the reduced quantity of water in the cooling system will be converted into steam by reason of its contact with the heated engine or motor cylinders and this steam will find escape through the partially open valve 4, thus notifying the vehicle operator of the condition of the water cooling system of the vehicle. The flexible tube 7 may be now engaged over the flared end 6 of the valve casing 3 whereupon the valve plug 4 is turned to its full open position, thus permitting maximum escape of steam from the radiator R, which in turn will be directed through the flexible tube 7 and ejected from the nozzle 9 onto such portion of the radiator or water cooling system as the operator may believe to be effected. With continued application of steam so generated in the cooling system, it will be appreciated that the system will be thawed and by consequence, that proper circulation of the cooling medium within the same will be permitted.

Of course, the flexible tube 7 may be of any length, such as conditions or preference may dictate, since as above stated, it may be desirable in some instances to direct the steam generated in the radiator R onto those parts of the cooling system under the ve-

hicle hood, in which event a somewhat longer tube than that shown in the drawing will be required.

By reason of the arrangement of the handle 8, which is preferably formed of heat insulating material, it will be appreciated that the user of the device will be prevented from being burned by the steam heated ejecting nozzle 9 and therefore, may advantageously use the device.

Manifestly, the construction shown is capable of considerable modification and such modification as is within the scope of my claims I consider within the spirit of my invention.

I claim:

1. The combination with the radiator of a cooling system having a steam cavity, of a valve controlled steam outlet opening communicating with said cavity, and a conduit communicating with said outlet opening whereby the steam contained within the radiator may be conveyed to points exteriorly of said radiator substantially as and for the purpose specified.

2. The combination with an automobile radiator having a steam cavity arranged therein, a removable cap covering said cavity, of a valve casing cast integral with said cap, a valve seated in said casing, and a flexible conduit communicating with said valve casing whereby the steam contained within the cavity of the radiator may be conveyed to points exteriorly of the rediator.

3. The combination with a radiator of the cooling system of an automobile having a steam cavity therein, a detachable cap for covering said cavity, a valve casing secured to the upper side of said cap, a valve seated within said casing, a handle arranged exteriorly of said casing and connected to said valve, and a steam ejecting nozzle communicating with said valve casing.

4. A device of the character described comprising an automobile radiator closure cap having a valve casing cast integral with the upper side thereof, a valve seated in said casing, a tube engaged at one end with the outlet portion of the valve casing, a steam ejecting nozzle engaged with the remaining end of said tube, and a heat insulated handle fixedly engaged with the tube at a point adjacent said nozzle.

In witness whereof I have hereunto set my hand.

HARRY B. RENOUF.