Mar. 3, 1925. 1,528,622

H. W. LIND

CONDENSER ATTACHMENT TO RADIATORS

Filed Jan. 4, 1924

Fig. 1.

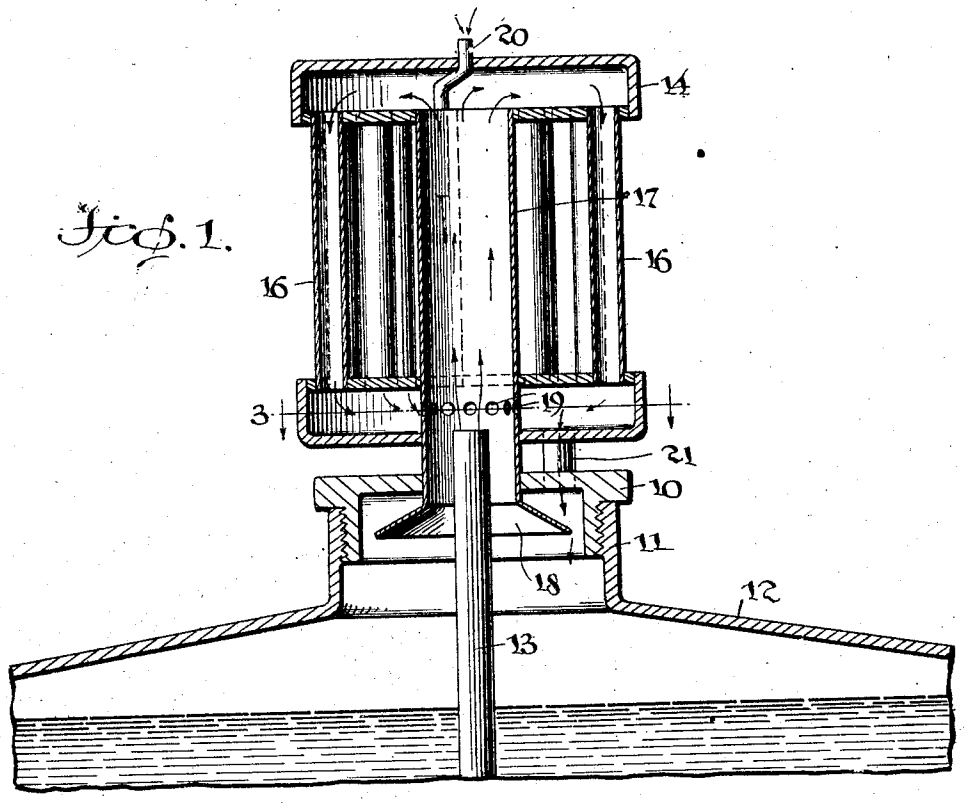


Fig. 2.

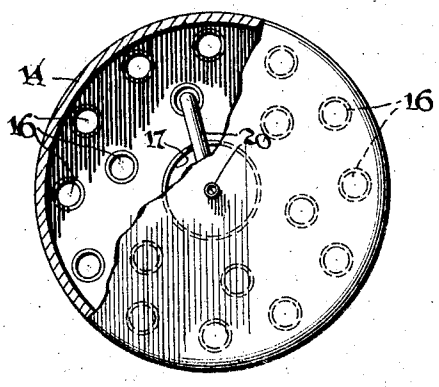
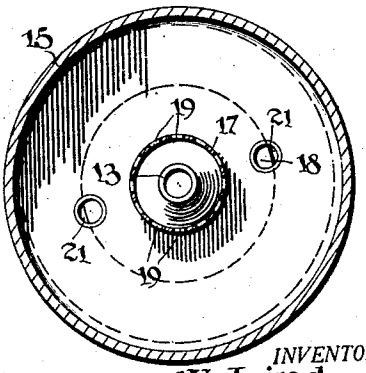


Fig. 3.



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Patented Mar. 3, 1925. 1,528,622

UNITED STATES PATENT OFFICE.

HARRY W. LIND, OF CHERRY VALLEY, ILLINOIS.

CONDENSER ATTACHMENT TO RADIATORS.

Application filed January 4, 1924. Serial No. 684,378.

To all whom it may concern:

Be it known that I, HARRY W. LIND, a citizen of the United States, residing at Cherry Valley, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Condenser Attachments to Radiators, of which the following is a specification.

This invention relates to the radiators of internal combustion motors, and has for one of its objects to provide a simply constructed device whereby steam generated by the abnormal heating of the water in the radiator will be condensed and the water of condensation returned to the radiator.

Another object of the invention is to provide a device of this character, which may be readily adapted without material structural change to radiators of varying sizes and forms and to the radiators of various constructions of motors.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention.

Figure 1 is a vertical sectional elevation.

Fig. 2 is a plan view with the upper drum partly in section.

Fig. 3 is a transverse section on the line 3—3 of Fig. 1, looking in the direction of the arrows.

The improved device is designed to be applied to the closure cap of the radiator of an internal combustion motor, and may be applied to the cap usually employed, or a special cap provided, but for the purpose of illustration the device is shown applied to a cap 10 of ordinary construction and attached to the radiator filler tube 11 in the ordinary manner, a portion of the radiator being represented at 12, with the overflow tube at 13.

The improved attachment includes an upper drum 14, a lower drum 15, a plurality of connecting circulating tubes 16, and a relatively large central flue 17.

The flue 17 is attached in the lower member of the upper drum 14 and extends entirely through both the upper and lower members of the lower drum 15, and for a distance into the interior of the cap 10, and flared at the lower end as shown at 18. The upper end of the overflow pipe 13 extends into the flue 17, and the latter is provided with a plurality of lateral orifices 19 providing communication between the flue and the interior of the lower drum 14.

A vent tube 20 extends through the upper member of the upper drum 14 and down into the upper part of one of the circulating tubes 16, as shown.

A plurality of return pipes 21 lead from the lower drum 15 through the cap 10, as shown.

The large flue 17, and the smaller conductor or circulation tubes 16 are exposed to the outside air flowing between the drums, which accelerates the condensing action within the flues and tubes, as will be obvious.

By this simple arrangement, any steam which may be generated by the abnormal heating of the water in the radiator, will rise through the relatively large central flue 17 and pass into the upper drum and thence downward through the conductor pipes 16. The steam will be condensed by contact with the air cooled members 16 and 17 and the water of condensation pass into the lower drum and thence through the return pipes 21 to the radiator. Any water of condensation which may be precipitated in the larger flue 17 will also flow back into the radiator.

Any slight vapors which may be carried over will pass through the orifices 19 into the larger flue 17 and be again subjected to the condensing action of the cold air passing around the flue.

The improved device is simple in construction, may be constructed of any size or capacity and of any suitable material.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

What I claim is:—

1. A device of the character described comprising an upper drum member, a lower drum member, a plurality of circulating tubes connecting said drums and providing communication between them, a flue member connected into the upper drum and extending through the lower drum and adapted to be connected for communication with the radiator of a motor driven vehicle, said flue having a plurality of laterally di-

rected orifices communicating with the lower drum, and return flues connected into the lower drum and adapted to communicate with the radiator.

2. The combination with the cap of the radiator of an internal combustion motor, of a cooler comprising an upper drum member, a lower drum member, a plurality of circulating tubes connecting said drums and providing communication between them, a flue member connected into the upper drum and extending through the lower drum and through the cap, said flue having a plurality of laterally directed orifices communicating with the lower drum, and return flues connected into the lower drum and into the cap.

In testimony whereof, I affix my signature hereto.

HARRY W. LIND.