June 8, 1937. J. F. ALEXANDER 2,082,866

RADIATOR WATER FILTER

Filed May 13, 1935

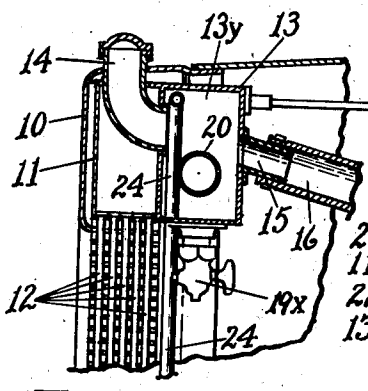


FIG. 3

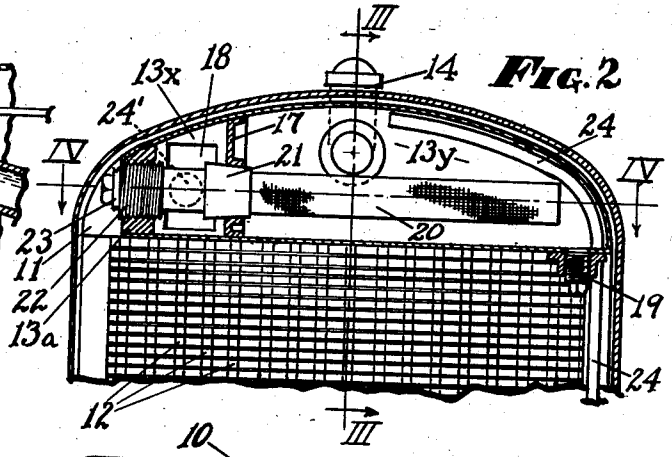


FIG. 2

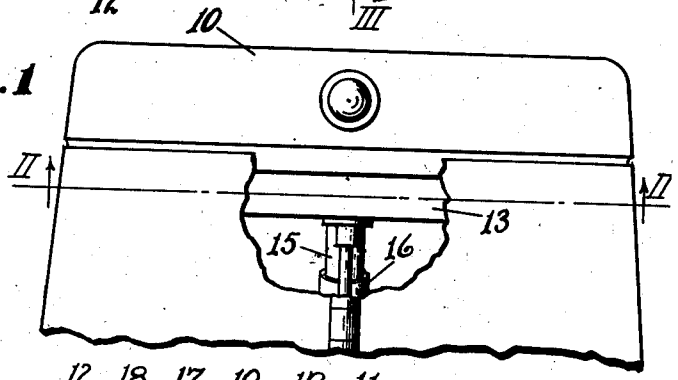
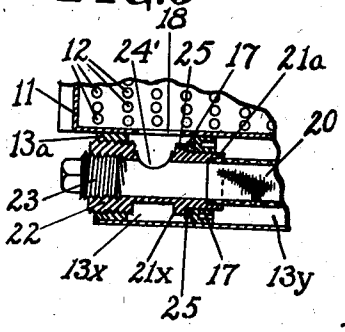


FIG. 1

FIG. 5



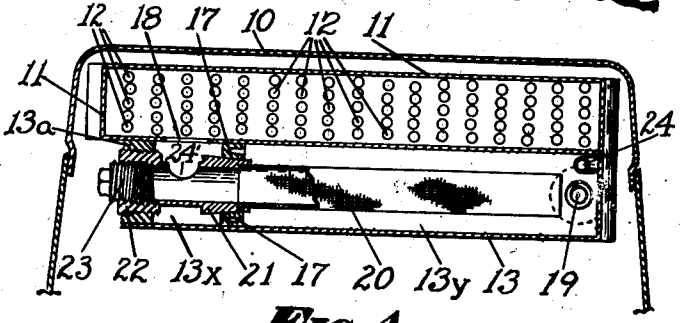


FIG. 4

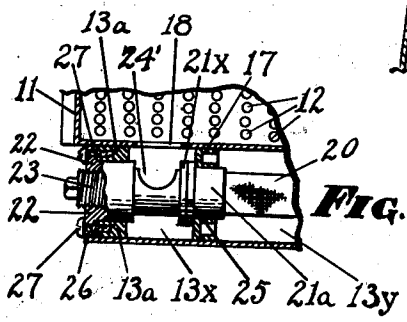


FIG. 6

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RADIATOR WATER FILTER

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Application May 13, 1935, Serial No. 21,136

3 Claims. (Cl. 257—125)

This invention relates to a device for cleaning the water that is being circulated through the cooling chambers of an internal combustion motor and the radiator employed in cooling the water.

The object of my invenion is to clean the water that is being circulated for cooling purposes and to prevent dirt, rust, etc., from being allowed to enter the water passages in the radiator and thereby clog the water passages and prevent the radiator from cooling the water.

Referring to the drawing in which like characters of reference refer to the same part throughout the several figures, Fig. 1 is a plan view of an automobile radiator and a portion of the hood. Fig. 2 is a sectional view as seen from the line II—II in Fig. 1. Fig. 3 is a sectional view, as seen from the line III—III in Fig. 2. Fig. 4 is a sectional view as seen from the line IV—IV in Fig. 2. Fig. 5 is a sectional view taken along the line IV—IV in Fig. 2 and showing a modified form of the invention. Fig. 6 is a sectional view taken along the line IV—IV in Fig. 2 and showing still another modified form of the invention.

In the drawing is shown a radiator cover 10 which houses a tank 11 into which open the cooling tubes 12. At 13 is a second tank adjacent the tank 11. At 14 is a spout connecting with the tank 13 and through which water may be poured to fill the cooling system above mentioned. At 15 is a short tube connecting with the tank 13 and at 16 is a rubber hose, one end of which is clamped on the tube 15 and the opposite end being clamped on a water circulating tube of an internal combustion motor in the usual manner. At 17 is a division in the tank 13, thereby dividing the tank into two chambers 13*x* and 13*y*, there being an opening 18 joining the tank 11 and the chamber 13*x* together.

At 19 is a screw plug closing an opening into the chamber 13*y*, said plug may be removed for cleaning purposes as will later be explained, or a valve 19*x* may be substituted for the plug 19. At 20 is a fine screen tube or filter element, one end of which is attached to a tapered fitting 21 which fits into a tapered hole in the division 17 to form a water tight joint between the elements 17 and 21. At 22 is a coupling threaded into the end wall 13*a* of the tank 13, and the left end of the element is rigidly attached to the coupling 22. At 23 is a screw plug that is screwed into the coupling 22 and may be removed therefrom for cleaning purposes as will be later explained. At 24' is an opening in the element 21 which will permit water coming through the screen 20 to be discharged into the chamber 13*x*.

At 24 is an overflow tube starting in the top portion of the chamber 13*y* and extending outside the tank 13 and to the bottom of the radiator in the usual manner.

The operation of my invention is as follows: Heated water from the motor enters the chamber 13*y* by passing through the hose 16 and the tube 15 and flows through the fine screen element 20 into the element 21 and is discharged therefrom through the opening 24' into the chamber 13*x* through the opening 18 into the tank 11 and through the tubes 12 where the water is cooled and thence through the internal combustion motor and then back through the hose 16 and tube 15 in the usual manner. In this process if there is any dirt, rust or sediment of any kind in the water it will be caught on the outside of the screen 20 and be prevented from further circulation with the water thereby preventing any possibility of said dirt, rust, etc., being deposited in the water passages or tubes 12 of the radiator and clogging said passages or forming heavy coatings on the interior thereof so that the cooling capacity of the radiator will be reduced or completely stopped. Now by removing the plugs 19 and 23, a hose may be inserted in the opening left by the removal of the plug 23 and a stream of water may thereby be flowed through the screen 20 and the chamber 13*y* and drained out through the opening left by the removal of the plug 19, and in this way the screen element 20 and the chamber 13*y* may be cleaned of the dirt, rust, etc., which these elements have accumulated. In case the screen element 20 does not clean sufficiently by the cleaning process, just described, the screen element 20 may be removed from the chamber 13*y* by removing the coupling 22 from the wall 13*a* and the screen may be replaced in the tank 13 in its original position as shown.

While element 21 is shown as being tapered and the element 22 as being a coupling, there are numerous fittings which may be employed other than these and still give satisfactory results. For instance, an element 21*a* with a flat shoulder 21*x* abutting the wall 17 with a gasket 25 therebetween would serve the same purpose as the tapered element 21, or a plate to which the left end of the element 21 may be connected and said plate being bolted by bolts 27 to the end wall 13*a* would serve the same purpose as the element 22 and also give satisfactory results.

Such other modifications of my invention as lie within the scope of the appended claims may be employed without departing from the spirit and intention of my invention. Now having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a cooling system for internal combustion motors; a radiator comprising a tank having water passages emptying therefrom, a second tank positioned in the rear of the first said tank; a partition in the second said tank forming a first and second compartment in the second said tank; said first compartment having a drainage opening, and means for opening and closing said drainage opening, a pipe connection to the first said compartment for receiving water from the motor into said first compartment; a filter, said filter being positioned in said first compartment and carried by one end of a fitting which passes through said partition in the second said tank; said fitting having an opening therein emptying into said second compartment, the other end of said fitting terminating in a second fitting that is detachably carried by the outside wall of said second compartment, and means in said second fitting for closing the opening into the first said fitting; and a passage for permitting the free passage of water between the second said compartment and the first said tank.

2. In a cooling system for internal combustion motors as in claim 1; and other pipe means entering the said first compartment for receiving water for the cooling system.

3. In a cooling system for internal combustion motors as in claim 1; and an overflow pipe, said overflow pipe leading from the upper portion of the said first compartment downwardly through said first compartment and to the exterior thereof.

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