March 15, 1966 J. L. LANE 3,240,339

LIQUID DISTRIBUTOR AND SOLIDS SEPARATOR FOR RADIATORS

Filed Jan. 11, 1962

Fig. 1

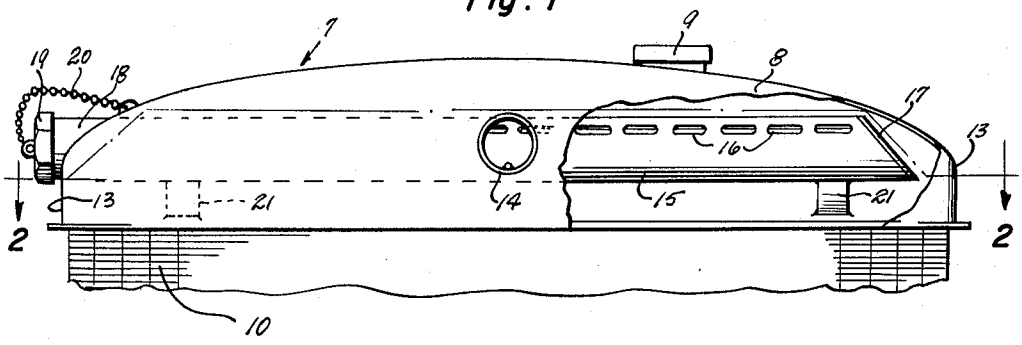
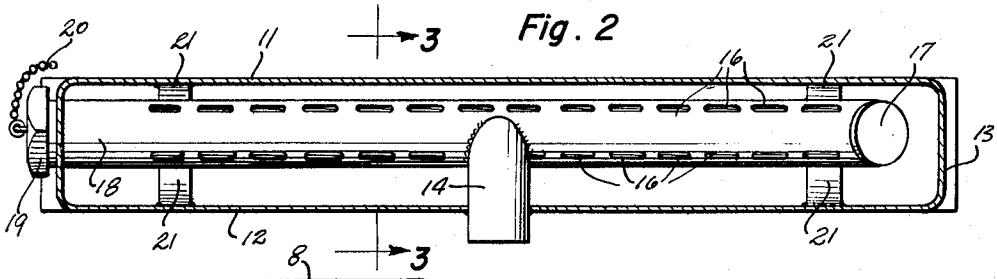


Fig. 2



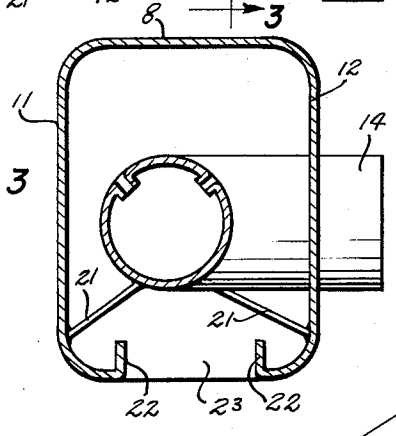


Fig. 3

Fig. 4

INVENTOR.

James L. Lane

United States Patent Office 3,240,339 Patented Mar. 15, 1966

3,240,339

LIQUID DISTRIBUTOR AND SOLIDS SEPARATOR FOR RADIATORS

James L. Lane, P.O. Box 61, El Centro, Calif.

Filed Jan. 11, 1962, Ser. No. 165,529
1 Claim. (Cl. 210—167)

This invention relates to radiators and more particularly to radiators used on internal combustion engines powering automotive vehicles and the like.

While admittingly nearly every radiator in the cooling system of internal combustion engines has some form of an upper tank on the same, a certain percentage of the radiators are not fully used for the purpose in which they are intended, namely, to provide a coolant liquid to cool the engine and prevent it from running so hot that its piston(s) and bearings will "freeze" and thus stop.

It is therefore an object of this invention to provide a liquid distributor for radiators of internal combustion engines that will overcome this above noted objection by an arrangement of structural parts as will be hereinafter described that will give the radiator on which it is mounted efficiency at all times.

Another object of this invention is to provide a distributor for radiators of internal combustion engines that will prevent the engine from overheating due to clogging of matter in its radiator as will be hereinafter described.

Another object of this invention is to provide a distributor for the radiator of any internal combustion regardless of the purpose to which the engine is put and regardless of the liquid used in the radiator though it is, of course, normally water.

Another object of this invention is to provide a distributor for radiators of internal combustion engines that will increase the radiators performance in seasonably warm weather and or in constantly torrid climates.

Another object of this invention is to provide a distributor for radiators of internal combustion engines that can readily be installed on any old radiator with a minimum of tools and by a person having limited experience in the radiator and installation art.

Another object of this invention is to provide a distributor for radiators of internal combustion engines in automobiles having an air conditioner. A distributor that will provide normal operating liquid temperatures even when the air conditioner is being used for long periods of time in a vehicle in heavy traffic under a blazing hot sun.

Another object of this invention is to provide a distributor for radiators of internal combustion engines that will not substantially increase the space required for the cooling system of the engine.

Another object of this invention is to provide a distributor for radiators of internal combustion engines that will not have any moving parts in order to accomplish its function of increasing the overall efficiency of the engine's cooling system.

Still another object of this invention is to provide a distributor for radiators of internal combustion engines that will have a filter tube incorporated therein and therefore not require any separate mechanism to be installed in the cooling system for the accomplishment of this purpose.

Other and further objects and advantages of this liquid distributor for radiators of internal combustion engines will be hereinafter described and the novel features thereof defined in the appended claim.

Referring to the drawing:

FIGURE 1 is a view of this invention as seen from the rear and looking forward. The invention is installed on a radiator, the upper part of which is shown in phantom lines.

FIGURE 2 is a sectional view taken substantially along line 2—2 of FIGURE 1 as viewed in the direction indicated by the arrows.

FIGURE 3 is a sectional view taken substantially along line 3—3 of FIGURE 2 as viewed in the direction indicated by the arrows.

FIGURE 4 is a pictorial view of the filter tube of this invention.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawing in detail, there is generally indicated by the character **7** a tank of the same width as that of a radiator of an internal combustion engine. The tank **7** comprises a convex top **8** having a capped opening **9** through which the coolant liquid is placed when the tank is secured to the top of the radiator **10** shown in phantom lines in FIGURE 1 of the appended drawing.

The tank has a front side **11** and a back side **12**, one or both of which may be given additional strength and rigidity by the employment of a plurality of indentations of any desired size and shape, none of which however is shown in any of the figures of the accompanying drawing.

The ends of the said convex top **8** are downwardly formed to provide end members **13** while the aforesaid back **12** is provided with a centrally located opening for the reception of the liquid inlet tube **14** that has one end permanently secured to the longitudinal center of a distributor and filter **15** which is in tubular form and which is provided with a plurality of elongated openings **16** that are in lateral spaced relation to each other and adjacent to the top thereof as clearly shown in FIGURES 1, 2 and 4 of the appended drawing.

The distributor filter **15** has a closed end **17** and the other end **18** projecting through one of the ends **13** of the said tank **7**. The end **18** is provided with a screw type of cap **19** which is prevented from becoming lost or temporarily misplaced when removed from the end of the distributor filter **15** by means of a chain **20**.

The filter **15** is rigidly secured inside the said tank **15** by means of two or more braces **21**.

Looking now at FIGURE 3 of the appended drawing it will readily be seen that the lower portion of the front side **11** and back side **12** is rolled under to terminate in an upturned edge **22** that extends the full width of the tank **7** thereby producing a rectangular opening **23** in the underside of the said tank **7** which is secured by any desired means to the top of the aforesaid radiator **10**.

The actual method of operation of this liquid distributor is almost self-explanatory when one examines FIGURE 1 of the appended drawing where it can readily be seen that this novel invention of a liquid distributor for radiators is as has been said before, mounted by any desired means to the top of a radiator **10** which has the hose from the water jacket on top of the engine block of an internal combustion engine secured to the end of the liquid inlet tube **14** and that any water or other liquid that may be used in the cooling system will naturally flow through the said inlet tube **14** into the distributor filter **15** where any settlement will remain while the water or its equivalent will flow out through the plurality of elongated openings **16** with equal distribution on into the tank **7** where it will, of course, enter the radiator **10** as water will do in any cooling system of this or a similar type.

From the foregoing it will now be seen that there is herein provided an improved liquid distributor for radiators which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it will be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

In accordance with the provisions of the United States Patent Statutes, as stated in the United States Code Title 35 Patents, I have now described the principle of construction and operation of my invention of a liquid distributor for radiators in the form which I personally consider the best embodiment thereof, and what I now claim as my invention and desire to secure by Letters Patent is:

In an internal combustion engine cooling system including a radiator having an inlet chamber extending across the top thereof, a straight tubular member in said chamber and substantially coextensive therewith, said tubular member having an end portion extending through an opening in one end of said chamber, the sides of said portion being sealed with the sides of said opening through said chamber, the outer end of said end portion of said

tubular member having a cleanout opening, a removable cover for closing said cleanout opening said tubular member having liquid retaining walls with relatively small liquid outlet slots therethrough extending longitudinally relative to said tubular member and closely spaced along said tubular member adjacent to the top portion thereof to cause liquid to fill a substantial portion of said tubular member before flowing through said openings in the walls of said tubular member, and means for admitting liquid to said tubular member.

References Cited by the Examiner

UNITED STATES PATENTS

989,975	4/1911	Holt	210—308 X
1,013,973	1/1912	Trisler	165—153
2,082,866	6/1937	Alexander	165—119 X
2,498,594	2/1950	Tomel	165—119

REUBEN FRIEDMAN, *Primary Examiner.*

HERBERT L. MARTIN, *Examiner.*