March 22, 1927. 1,622,095

C. L. DE ROEHN

INDICATOR FOR AUTOMOBILE RADIATORS

Filed Dec. 4, 1926

Fig. 1.

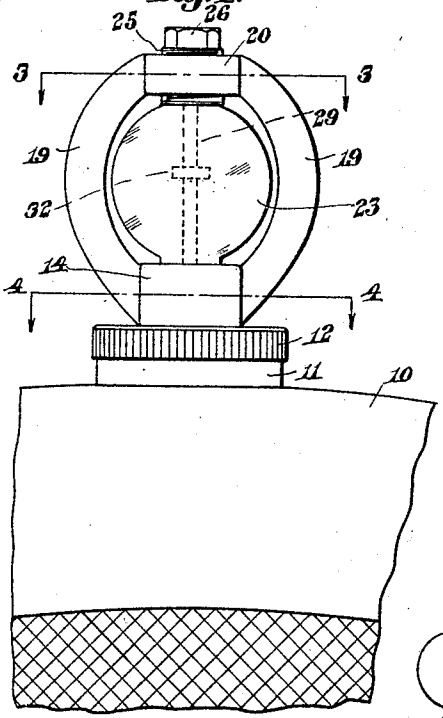


Fig. 2.

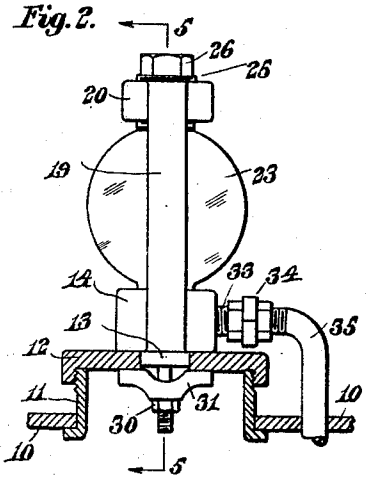


Fig. 3.

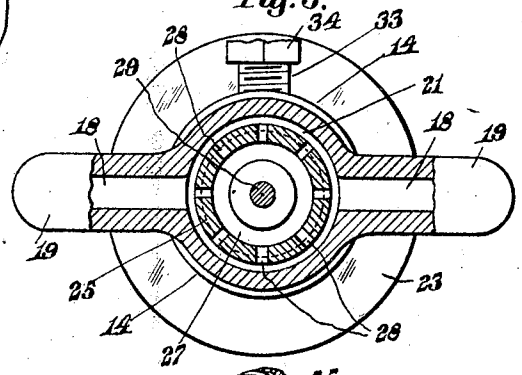


Fig. 5.

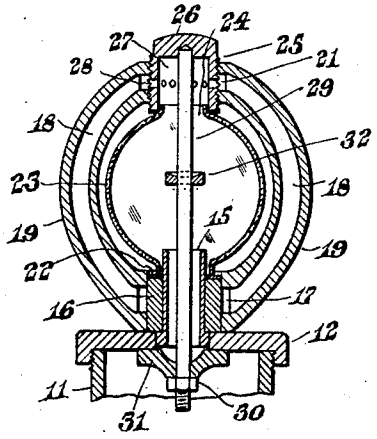
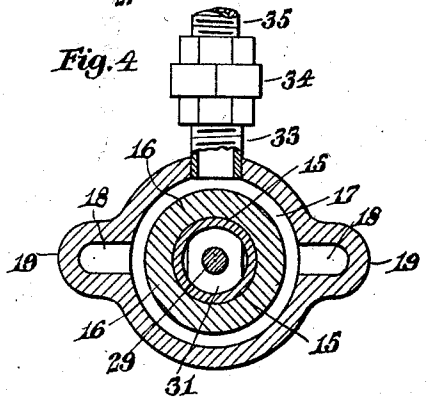


Fig. 4



Inventor:
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UNITED STATES PATENT OFFICE.

CLARENCE L. DE ROEHN, OF WATERVILLE, MAINE.

INDICATOR FOR AUTOMOBILE RADIATORS.

Application filed December 4, 1926. Serial No. 152,672.

This invention relates to devices for indicating the condition of water in the radiators of motor vehicles and has for its object the production of an inexpensive article of this character which may be attached readily to a radiator, said article including a transparent globe through which the water must circulate.

This object is attained by the mechanism illustrated in the accompanying drawings.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized, and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings—

Figure 1 represents a front elevation of a device embodying the principles of the present invention applied to the radiator of a motor vehicle.

Figure 2 represents a side elevation of the same with a portion of the radiator and its cap shown in section.

Figure 3 represents a horizontal section of said device on line 3, 3, on Fig. 1, and drawn to an enlarged scale.

Figure 4 represents a horizontal section of the same on line 4, 4, on Fig. 1, also drawn to an enlarged scale, and

Figure 5 represents a vertical section of the same on line 5, 5, on Fig. 2.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings 10 is a portion of the radiator of a motor vehicle which may be of any well known construction.

This radiator has an annular flange 11 extending upwardly therefrom through which water is ordinarily supplied and the upper end of said flange is closed by a cap 12.

In applying my device to a radiator a hole is formed in the top of the cap 12 to receive the hub 13 projecting downwardly from the base 14, this hub 13 being tubular and having a cylinder 15 extending upwardly through a sleeve 16 of soft yielding material, such as leather, which is driven into the cylindrical portion 15 so as to be immovable thereon.

The base 14 has an annular passage 17 formed therein communicating with the bores 18 of the curved tubular members 19 extending upwardly from said base 14.

The upper ends of the tubular members 19 are connected to the cylindrical portion 20 having a chamber 21 therein communicating with the upper ends of the bores 18.

Superimposed upon the upper end of the sleeve 16 is a soft washer 22 on which rests the lower end of a transparent globe 23 having an opening in the bottom through which the upper end of the cylinder 15 extends.

The upper end of the globe 23 has a cylindrical extension 24 which is disposed in the lower end of the inverted cup-shaped closure 25.

This closure 25 has a flat sided upper end 26 by which the closure 25 may be screwed into a threaded opening formed in the cylindrical portion 20 supported by the upper ends of the tubular members 19.

The closure 25 has a central cavity 27 therein which communicates through the radial openings 28 with the chamber 21 formed in said cylindrical portion 20.

The closure 25 has fixedly secured thereto a rod 29 which extends downwardly through the cylinder 15 and cap 12 into the interior of the flange 11.

The lower end of said rod 29 is threaded and has a nut 30 adjustably mounted thereon between which and the under face of the cap 12 is disposed a spider 31.

By adjusting the nut 30 the various elements may be clamped together and to the cap 12.

Secured to the rod 29 near the center of the globe 23 is a collar 32 with its upper face concaved.

Extending from the base 14 and communicating with the passage 17 is a short threaded nipple 33 connected by a union 34 to one end of a pipe 35, the opposite end of which communicates with the water circulating system of the radiator.

As the water circulates in the radiator and becomes heated it will boil and in doing so it will rise in the pipe 35 and enter the annular passage 17 from which it will pass through the tubular members 19 into the cavity 27 and then downwardly into the interior of the globe 23.

As this water passes downwardly from the

cavity 27 it will strike the collar 32 and be scattered in every direction forming a fountain of spray which will collect at the bottom of the globe 23 and pass therefrom through the cylinder 15 into the radiator 10.

As the water passes through the globe 23 it is in plain sight of the operator and the condition of the water is plainly indicated. He can see at once whether or not the water requires changing or is in good condition.

If the heat becomes so intense as to form steam this condition is immediately apparent.

When the water in the globe 23 appears dirty he knows that the engine is heating and should immediately rectify this condition.

When it is desired to supply fresh water to the radiator the pipe 35 is disconnected from the nipple 33 by turning the union 34 and then the radiator cap 12 may be removed from the radiator without disconnecting the indicating device from said cap.

During the circulation of the water through the globe 23, whatever sediment is carried therewith will settle in the bottom of the globe and this can be removed when the device is displaced from the radiator.

Obviously it is not essential that the globe should be mounted directly on the radiator cap for this globe may be mounted on some other part of the motor vehicle in view of the operator, provided the pipe 35 is connected to the discharge end of the water-circulating system and the cylinder 15 is connected to the radiator inlet.

This makes a very simple but effective means for indicating at all times the condition of the water in any radiator of a motor vehicle.

It is inexpensive to construct and may be installed quickly on any car at a minimum expense.

It is believed that the operation and many advantages of the invention will be understood without further description.

Having thus described my invention, I claim—

1. The combination of a chambered base adapted to be secured to the cap of a radiator; a pipe connection extending from the base to the water-circulating system; a transparent globe surmounting said base; and water passages external to said globe extending from said base and communicating with the upper end of said globe, the lower end of which has an opening therein communicating with said radiator.

2. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubular members; means for securing said device to a radiator cap; means for connecting the chambered base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; and a cylinder extending from the bottom of said globe through the radiator cap.

3. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubular members; means for securing said device to a radiator cap; means for connecting the chambered base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; a cylinder extending from the bottom of said globe through the radiator cap; and a sleeve of yielding material in said base surrounding said cylinder.

4. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubular members; means for securing said device to a radiator cap; means for connecting the chambered base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; a cylinder extending from the bottom of said globe through the radiator cap; and a closure in the upper wall of said chambered top member.

5. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubular members; means for securing said device to a radiator cap; means for connecting the chambered base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; a cylinder extending from the bottom of said globe through the radiator cap; and a baffle plate within said globe and above said cylinder.

6. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubular members; means for securing said device to a radiator cap; means for connecting the chambered base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; a cylinder extending from the bottom of said globe through the radiator; and a closure in the upper wall of said chambered top member, said closure having a cavity therein communicating through holes in the wall thereof with the chamber in said top member.

7. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubular members; means for securing said device to a radiator cap; means for connecting the chambered

base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; a cylinder extending from the bottom of said globe through the radiator cap; a closure in the upper wall of said chambered top member; a rod secured to said closure extending through said globe, cylinder, and cap; and clamping means threaded to the lower end of said rod.

8. The combination of a device consisting of a hollow base and a chambered top member connected by curved tubulars members; means for securing said device to a radiator cap; means for connecting the chambered base to the radiator water-circulating system; a transparent globe interposed between said base member and top member and communicating with the chamber of said top member; a cylinder extending from the bottom of said globe through the radiator cap; a closure in the upper wall of said chambered top member; a rod secured to said closure extending through said globe, cylinder, and cap; clamping means threaded to the lower end of said rod; and a collar secured to said rod within said globe and having a concaved upper face.

9. A new article of manufacture consisting of a transparent globe having oppositely disposed openings therein, of which the upper is in communication with the outlet end of the water-circulating system and the lower is in communication with the radiator inlet, and a member supporting the opposite ends of said globe and adapted to be attached to a motor car.

Signed by me at 746 Old South Bldg., Boston, Mass., this 26th day of November, 1926.

CLARENCE L. DE ROEHN.