Feb. 26, 1935. W. C. CRAIG 1,992,472

SEDIMENT SEPARATING TRAP

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Fig. 1.

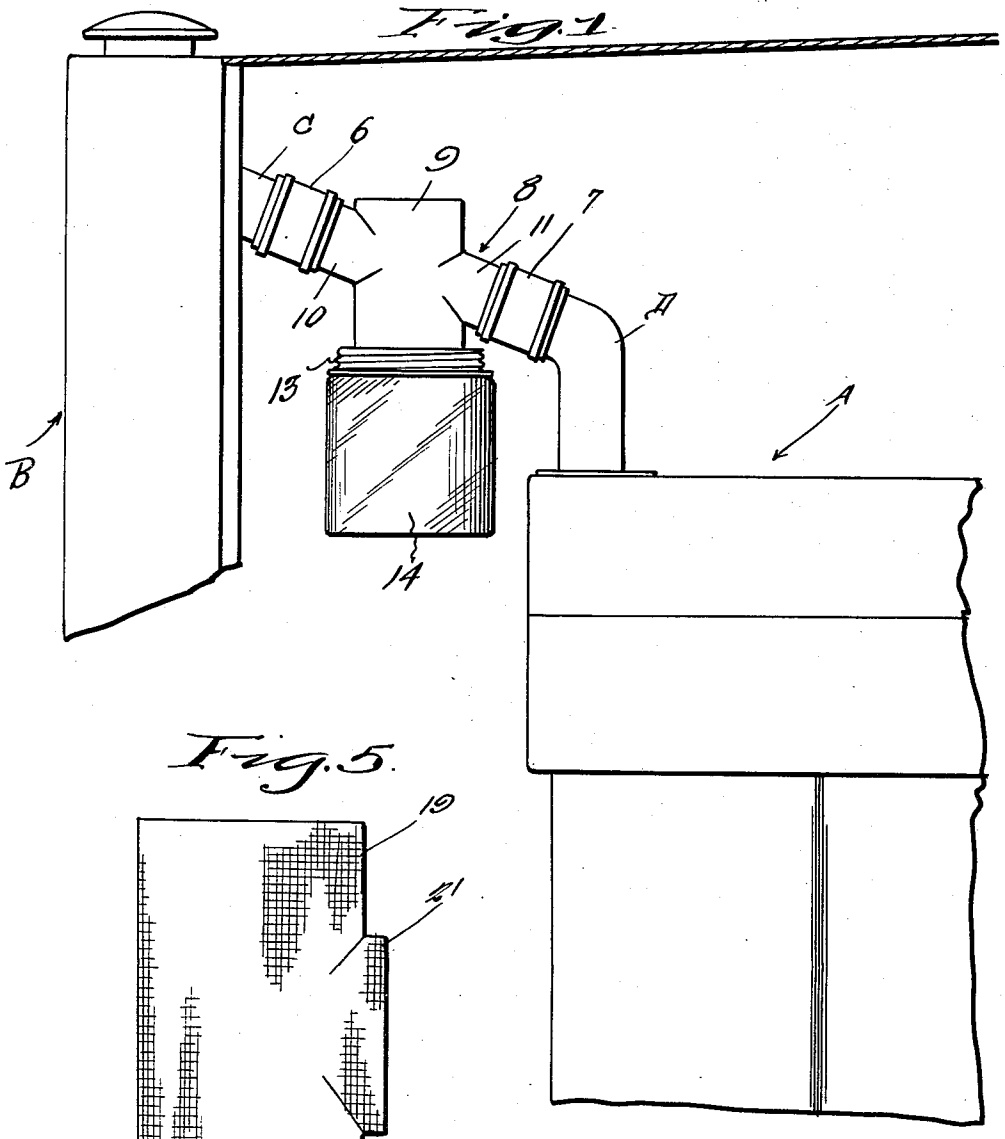


Fig. 5.

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Fig. 2.

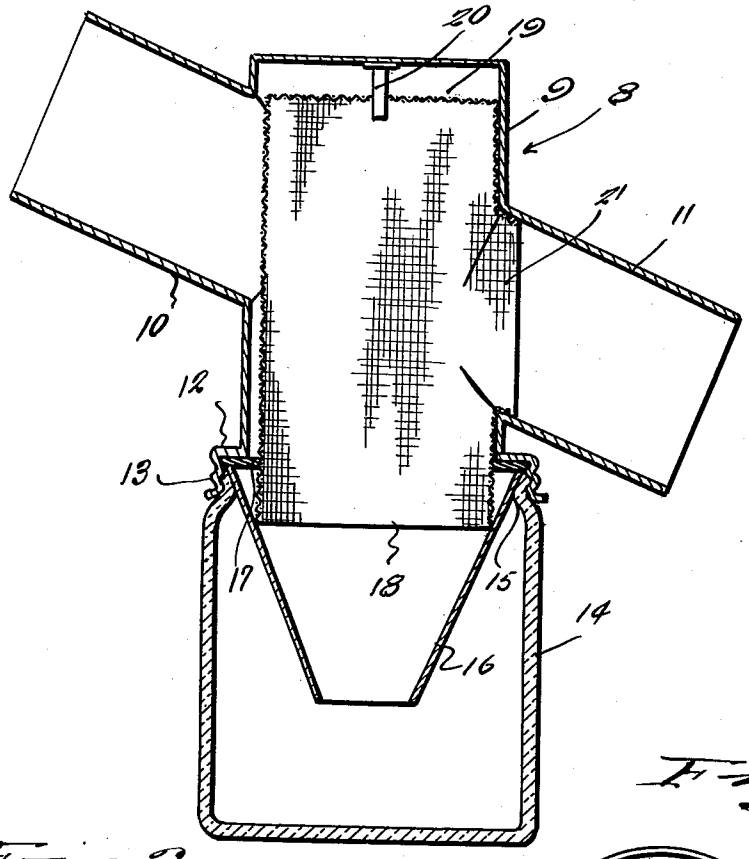


Fig. 3.

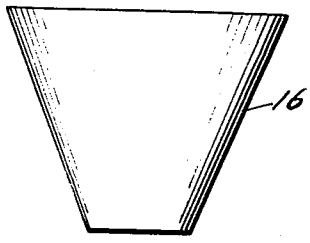
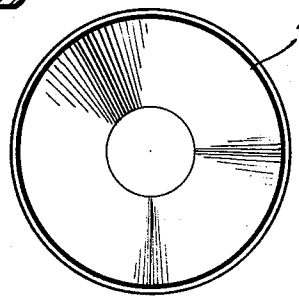


Fig. 4.



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Patented Feb. 26, 1935 1,992,472

UNITED STATES PATENT OFFICE

1,992,472

SEDIMENT SEPARATING TRAP

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Application September 16, 1933, Serial No. 689,766

2 Claims. (Cl. 210—165)

This invention relates to an improved and novel automotive accessory which may be conveniently referred to as a sediment separating and collection trap, the same being adapted for installation in the radiator return pipe of a conventional water cooling and circulating system.

Although present day automobile radiators are constructed of materials not subject to easy corrosion, it is evident that the cast iron motor block is subject to such detrimental corrosion. Hence it is a matter of common knowledge to those skilled in radiator repair work that the cooling fluid carries with it certain particles and sediment which in time clog the radiator passages. The greatest portion of the sediment is composed of rough scales. It is also known that the rubber tubing and hose used in the system is subject to wear and the loose particles are picked up by the circulating fluid and this also tends to clog the radiator.

The present invention provides a means which takes care of this detrimental result, said means being in the form of a sediment separating and collecting trap which is installed in the return pipe, that is the pipe between the motor block and top of the radiator. Although this feature is not broadly new in the art to which this invention pertains, the style and structure which I utilize undoubtedly constitutes an improvement and distinctive device forming a contribution to the trade and the art.

In the accompanying drawings wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is an elevational view showing the invention and the manner in which it is installed.

Figure 2 is a sectional view of the complete trap constructed precisely in accordance with my inventive idea.

Figures 3 and 4 are detail views of the sediment discharge funnel and deflector element.

Figure 5 is an elevational view of the cage-like strainer.

In the drawings of Figure 1 the motor block is denoted by the letter A, the radiator is indicated at B, the radiator pipe connection at C and the motor block pipe connection at D. The improved trap is located between these two pipes C and D and connected thereto through the instrumentality of appropriate unions or couplings 6 and 7.

Referring now to Figure 2 it will be observed that the improved trap comprises a one-piece sheet metal unit 8 preferably constructed of non-corrosive material. This comprises an inverted cup-like casing 9 having nipples or branches 10 and 11 with which the couplings 6 and 7 are appropriately connected. At its lower open end the casing 9 is provided with an annular flange 12 and a depending screw threaded rim 13 which constitutes a hanger as well as a cap for the glass receptacle 14 in which the sediment is collected and from which it is subsequently dumped when the receptacle is substantially full. Advantage is taken of the bead-like portion 15 of the screw threaded neck of the glass jar to use this as a suspension ledge for the frustro-conical funnel 16. This funnel serves as a deflector as well as a miniature chute for conveniently delivering the sediment into the glass bottle or jar. In this connection I call attention to a gasket ring 17 which is clamped between the threaded neck of the jar and the flange 12, this serving not only as a packing element but as a guide and retaining element for the lower open bottom portion 18 of the cage-like strainer or stream 19. The part 19 is somewhat less in diameter than the casing 9 and its closed top is held partly in place by a stabilizing pin 20 carried by and depending from the top of the casing 9 as shown in Figure 2. On one side only the strainer is provided with an intake neck 21 which telescopes into the nipple 11 to facilitate the entrance of the sediment laden fluid as well as to aid in holding the strainer in place. The strainer is sufficiently long however to permit its open bottom 18 to rest telescopically in the funnel 16. Incidentally the strainer is removable and therefore renewable and can be inserted through the open bottom of the casing 9.

It is evident by considering the drawings and description that the accessory is aptly fitted for the special purpose for which it is provided. It is susceptible of installation in the system without requiring alteration of existing parts. It is located at a point where it is especially useful for trapping and retaining conveniently the sediment. It is also so conveniently located as to permit the glass jar to be readily accessible for detachment and emptying of the deposited sediment. Thus it will be seen that the invention is characterized by features of accommodation and adaptation calculated to transcend those of similar traps intended for the same purpose. Measures have been taken to prevent clogging of the trap itself by the use of a relatively large cage-like screen instead of merely spanning the outlet nipple 10 with a screen disk. In other words the screen area is sufficiently enlarged to minimize the likelihood of clogging of said screen. Moreover the screen is to be made of non-corro-

sive material as are the other parts of the structure so as to prolong life and wear. Being properly balanced and correctly designed the invention constitutes a noteworthy progressive step in the art and trade. Although it cannot be referred to as an original innovation it is nevertheless ingenious since it embodies refinement and improvements which permit it to accomplish the desired purpose more effectively and with greater dependability.

Particularly do I wish to emphasize the one-piece construction of the metal unit 8 since it is effectively coupled and retained in place and provides an appropriate suspension for a glass jar of appropriate proportion. When made in accordance with the invention as illustrated this unit 8 effectively accommodates the cage-like screen. Then too I wish to mention again the position of the gasket 17 which provides a leak-proof connection between the stem 13 and the neck of the jar 14 and also functions as a stabilizing and retaining element for the lower end portion of the screen. Thus by attaching the upper end of the screen to the pin 8, telescoping the inlet neck 21 into the nipple 11 and supporting the lower open end portion by way of the funnel 16 and gasket 17 a well balanced arrangement is assured.

A careful consideration of the foregoing description in conjunction with the illustrative drawings will enable the reader to obtain a clear understanding of the purpose, features and advantages, the explicit construction, and the invention as hereinafter claimed.

It is to be understood that minor changes in the shape, size, relative proportions, and materials may be resorted to in practice without departing from the spirit of the invention or the scope of the invention as now claimed.

Having thus described my invention what I claim as new is:

1. In a structure of the class described, a one-piece unit comprising an inverted open bottom cylindrical casing provided on diametrically opposite sides with attaching nipples and formed at its bottom with an annular outstanding flange and a depending screw threaded rim, a transparent jar like receptacle having a threaded neck threadedly connected with said rim, a gasket ring interposed between the receptacle neck and said flange and projecting into and beyond the wall of said casing, a funnel removably supported on the interior of the neck portion of said receptacle and depending into the receptacle, a cage-like strainer screen of cylindrical design removably fitted in said casing, the lower end thereof being open and extending down through and in contact with said gasket ring and being seated on the inner surface of said funnel, the major portion thereof being contained in said casing and formed on one side with an inlet neck, said neck telescoping into the adjacent companion fluid intake nipple.

2. A structure of the class described comprising a one-piece unit comprising an inverted open bottom cylindrical casing provided on diametrically opposite sides with attaching nipples and formed at its bottom with a depending screw threaded receptacle attaching rim, a sediment collecting jar having a screw threaded neck detachably connected with said rim, a funnel having its lower end portion depending into the jar and its upper end portion hung solely from the bead defined by said screw threaded neck, a strainer screen arranged removably in said casing and having its lower end extending down into said jar and resting on said funnel, said strainer being of cylindrical cage-like design and fitting rather snugly within the casing and being of proportions corresponding somewhat with said casing, the strainer being completely open at its bottom and formed on one side with an inlet neck telescoping into the adjacent companion intake nipple of the casing, the diametrically opposed part of said strainer spanning the remaining nipple.

WALTER C. CRAIG.