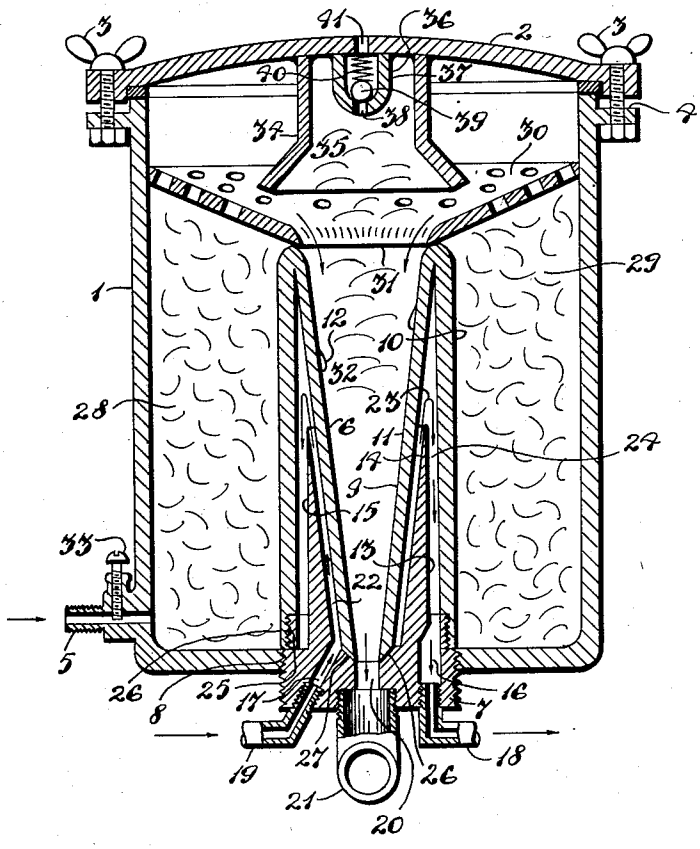
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LUBRICATING OIL RECLAIMER

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LUBRICATING OIL RECLAIMER

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1 Claim. (Cl. 210—122.5)

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This application is a division of my copending application Serial No. 491,119, filed June 17, 1943.

My invention relates to improvements in lubricating oil reclaimers, an object thereof being to provide a device of the character herewithin described, by the use of which oil may be reclaimed as distinct from being merely filtered water and gasoline being vaporised off in the reclaiming process.

A further object of my invention is to provide a device of the character herewithin described wherein the vapors are prevented from returning into the filtering chamber, by contrast, being kept separate and discharged into the atmosphere.

A further object of my invention is to provide a device of the character herewithin described attachable to the motor of an automobile, being compact so that it may readily fit within the hood thereof to reclaim oil used for lubricating the engine while the motor is running.

A further object of my invention is to provide a device of the character herewithin described, the heating element of which is particularly efficient, in its ability to radiate heat substantially uniformly over the whole interior surface of the converging wall thereof, the said heating element being also designed for easy manufacture by die-casting methods.

A further object of my invention is to provide a device of the character herewithin described which is simple to construct and will therefore retail at a modest price, being rugged and designed for long service without attention.

With the above more important objects in view and such other minor objects as may appear as the specification proceeds, my invention consists essentially in the arrangement and construction of parts all as hereinafter more particularly described, reference being had to the accompanying drawing, in which the figure is a sectional elevation of my lubricating oil reclaimer.

My lubricating oil reclaimer comprises the cylindrical outer casing 1 enclosed by means of the cap 2 maintained in place by the conventional wing nuts 3, the shanks of which extend through an integral flange 4 extending around the casing 1 adjacent the upper edge thereof.

Adjacent the base of the casing 1 is an oil inlet 5, through which oil to be reclaimed enters from the oil circulating system of the automobile.

Positioned concentrically within the casing 1 is my novel heating element 6, the same comprising a screw-threaded base 7 designed to be received into the central, screw-threaded aperture 8 formed in the floor of the casing 1, and an upper portion.

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The upper portion 9 of my heating element 6 comprises the cylindrical surrounding wall 10 and the downwardly converging interior wall 11 over which oil 12 is designed to flow as will be hereinafter described.

Positioned in spaced relationship with the wall portions 10 and 11 is an upwardly projecting and encircling baffle 13, the interior and exterior surfaces 14 and 15 of which diverge towards the base thereof, these surfaces being therefore parallel with the adjacent opposing surfaces of the wall portions 11 and 10 respectively.

It will be seen that the baffle 13 is integral with the base 7 of my heating element, and it will also be observed that the base is provided with the internally screw-threaded drillings 16 and 17 into which are received the elbows 18 and 19 respectively, and which connect wtih the exhaust manifold or pipe.

The base 7 of my heating element is also provided with the internally screw-threaded central aperture 20 into which the elbow 21 is received, and through which oil is returned to the engine after being reclaimed, and from the foregoing it will clearly be recognized that exhaust gases enter the elbow 19 and proceed upwardly through the drilling 17 after which they expand into the annular and upwardly extending reversed conical passageway 22 existing between the adjacent surface 14 of the baffle 13 and the interior wall portion 9, emerging at the upper end thereof and angling downwardly as indicated by the arrows 23 to return down the annular or cylindrical passageway 24 and discharging through the drilling 16 and the elbow 18.

Finally, in connection with my heating element 6 it wil be noted that the base portion 7 and the upper portion 9 are separate, the base portion being provided with the externally screw-threaded flange 25 which is engaged by a complementary and internally screw-threaded flange 26 on the surrounding wall portion 10, the lower end 26 of the interior wall portion being tapered as illustrated to engage the chamfered annular seating 27 surrounding the aperture 20 in the base portion 7.

From the foregoing it will clearly be perceived that the surrounding wall portion 10 of my heating element, provides, with the outer casing 1, a filtei chamber 28, bounded by the said wall portion and the said outer casing, this chamber

containing filtering material 29, held in place at the top by means of the oil-pervious or perforated, shallow-reverse conical plate 30.

The plate 30 is provided with the central aperture 31 of a diameter approximately equal to the diameter of my heating element where the surrounding wall portion and the interior wall portion unite at the top thereof, and from the foregoing it will be apparent that oil to be reclaimed enters through the inlet 5 and traverses the chamber 28, thereafter traversing the oil-pervious plate 30 and spilling over into the downwardly converging distillation chamber 32 within the confines of my heating element, and in this context it will be noted that the oil inlet 5 is provided with the small metering stem 33 by means of which the volume of oil entering the filtering chamber may be adjusted.

Secured concentrically to the underside of the cover plate 2 is a cowling 34 of the cross-sectional configuration clearly illustrated and designed to lead off vapor 35 through the valve 36, this valve consisting of the cage 37 provided with an aperture 38 and enclosing a ball and spring 39 and 40. Vapors finally discharge into the atmosphere through the central aperture 41 provided in the plate 2.

Since various modifications can be made in my invention as hereinabove described and many apparently widely different embodiments of same made within the scope of the claim without departing from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense and I desire only such limitations placed thereon as are specifically expressed in the accompanying claim.

What I claim as my invention is:

A lubricating oil reclaimer comprising in combination, an outer casing and, a heating element, said element embodying a vertical and cylindrical, surrounding wall, an inverted frusto-conical interior wall the upper end whereof is coterminous with said surrounding wall, and a base, said walls and base enclosing a chamber from which heat is radiated by said interior wall, an intermediate baffle spaced between said surrounding and interior walls to provide a counterflow path for a heating medium within said chamber, said heating element being concentrically positioned with respect to said outer casing and being spaced therefrom, said surrounding wall providing, with said outer casing, a filter chamber bounded by said surrounding wall and said outer casing and having an oil inlet therein, filtering material within said filter chamber, an annular oil-pervious plate upon the top of said filter chamber for retaining said filtering material within said filter chamber, said heating element base having heat medium intake and discharge apertures therein on either side of said baffle to heat said interior wall, said interior wall functioning as a funnel for filtered oil which, in process of being reclaimed, traverses said filter chamber and thereafter said interior wall to be acted upon by the heat radiated therefrom, the lower end of said interior wall opening into an oil discharge aperture in said heating element base.

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