

Aug. 24, 1926.

1,597,267

A. DE CLAIRMONT

DECARBONIZING AND LUBRICATING DEVICE

Filed March 30, 1925

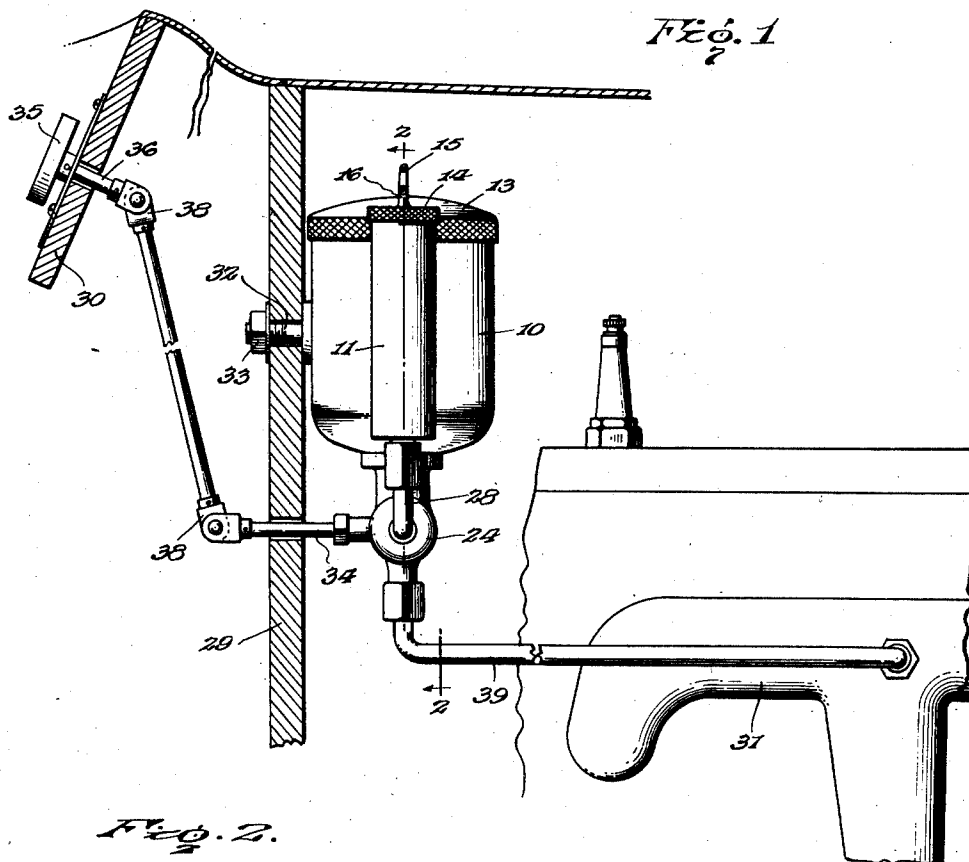


Fig. 2.

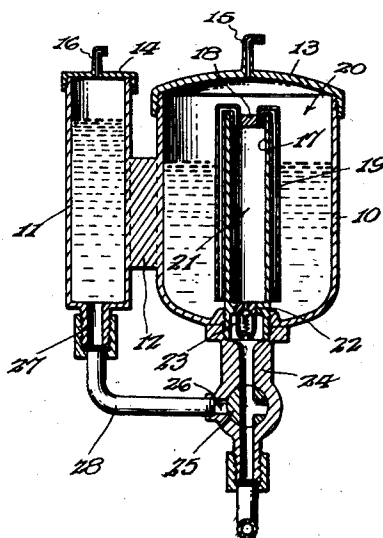
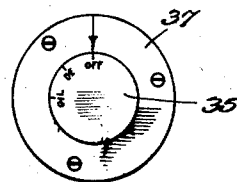


Fig. 3.



Inventor

A. de Clairmont.

By

Louis Tracy, Attorney

UNITED STATES PATENT OFFICE.

ADOLFO DE CLAIRMONT, OF LOS ANGELES, CALIFORNIA.

DECARBONIZING AND LUBRICATING DEVICE.

Application filed March 30, 1925. Serial No. 19,481.

This invention relates to an improved decarbonizing and lubricating device for internal combustion engines, being somewhat similar to the decarbonizer disclosed in Patent No. 1,356,967, granted to me October 26, 1920.

The invention seeks, among other objects, to provide a device for admitting successive small quantities of decarbonizing fluid to the cylinders of an engine for loosening any carbon or oily deposits in the cylinders while the engine is running so that the loosened carbon will be expelled from the cylinders, and wherein the device may then be operated to admit oil to the cylinders for lubricating the cylinders before the ignition circuit is closed and the engine is set to work, to thereby obviate abrasion to the cylinder walls, pistons, or piston rings.

The invention seeks, as a further object, to provide a device embodying a decarbonizing fluid container and an oil container, wherein said containers will be formed as a unit, and wherein flow from both containers will be controlled by a single valve.

And the invention seeks, as a still further object, to provide a device which may be readily applied and which will be well adapted for general use.

Other and incidental objects will appear hereinafter.

In the accompanying drawings:

Figure 1 is a side elevation showing my improved decarbonizing and lubricating device applied.

Figure 2 is a vertical sectional view on the line 2-2 of Figure 1, looking in the direction indicated by the arrows.

Figure 3 is a detail elevation of the control knob employed.

In carrying the invention into effect, I employ a decarbonizing fluid container or chamber 10, beside which is arranged an oil container or chamber 11 connected with the former container by a web 12. Thus, the containers comprise a single unit and, as shown, the container 10 is considerably larger than the container 11. Both of the containers are of substantially cylindrical shape and screwed on the upper end of the container 10 is a cover 13 while a cover 14 is similarly attached to the upper end of the container 11. Rising from the cover 13 is a vent tube 15 and rising from the cover 14 is a similar vent tube 16. Near their upper ends, these tubes are turned laterally so as

to prevent the entrance of foreign matter through the tubes into the containers.

Screwed through the bottom of the container 10 is an axially disposed standpipe 17 closed at its upper end by a plug 18, and extending upwardly along said pipe at its outer side is a pair of syphon tubes 19, the upper ends of which are turned laterally into the upper end of said pipe and extend through the plug 18. At their lower ends, the tubes 19 terminate close to the bottom of the container 10 and it is now to be observed that this container provides a liquid chamber 20 while the standpipe 17 provides a suction chamber 21 connected with the liquid chamber by the syphon tubes. Near the lower end thereof, the pipe 17 is provided with an internal web 22 and screwed through said web is a downwardly opening spring pressed check valve 23.

Screwed on the lower end of the standpipe 17 externally of the container 10, is a valve casing 24 mounting a two-way valve 25 and, as shown in Figure 2, the casing is provided with a lateral passage 26 communicating with the valve chamber of the casing. Formed on the lower end of the container 11 is a nipple 27 and connecting said nipple with the passage 26 of the valve casing is a pipe 28.

In Figure 1 of the drawings, I have shown the improved device mounted at the forward side of the dash 29 of a conventional motor vehicle. The instrument board of the vehicle is indicated at 30 while the intake manifold of the vehicle engine is indicated at 31. In the present instance, I have shown the container 10 as provided at its rear side with a laterally directed stud 32 which is arranged to extend through the dash 29 and screwed on said stud is a nut 33 rigidly connecting the device with the dash. However, any other approved means may be employed for mounting the device. The valve 25 is provided with an elongated stem 34 which projects freely through the dash and associated with said stem is a control knob 35 upon the instrument board 30. This knob is provided with a shaft 36, the adjacent section of which is journaled through a bearing plate 37 fixed to the instrument board and, as will be observed, said shaft connects the knob with the valve stem 34, suitable universal joints 38 being interposed in the length of the shaft. Thus, the knob may be turned for rotating the valve 25.

Extending between the lower end of the valve casing 24 and the intake manifold 31, is a pipe 39 which preferably enters the manifold near the upper end of the trunk 5 thereof.

In use, a suitable decarbonizing fluid is placed in the container 10 while the container 11 is filled with lubricating oil, the valve 25 being turned to closed position and, 10 in this connection, it is to be noted that the plate 37 is preferably provided with an indicating arrow while the knob 35 is provided with suitable indicia for denoting the different set positions of the valve. The device 15 is brought into use after the vehicle engine has been running some time so that the cylinders will be hot, and preferably when the vehicle is descending a grade, so that the engine may, by the momentum of 20 the vehicle, be kept in operation with the ignition off. Under these conditions the valve 25 is turned to the position shown in Figure 2, for connecting the suction chamber 21 with the manifold 31. Accordingly, engine suction will be communicated to the 25 suction chamber 21 so that upon the downward stroke of each of the engine pistons, a small quantity of decarbonizing fluid will be lifted from the chamber 20 through the tubes 19 into the chamber 21, to thence flow 30 through the pipe 39 to the manifold and thence into one of the cylinders. Upon entering the cylinders, the decarbonizing fluid will tend to soften any carbon deposits in the cylinders as well as tend to remove any oil 35 residue on the cylinder walls, pistons, and piston rings, and in feeding the decarbonizing fluid to the cylinders in successive small quantities, the greatest cumulative 40 effect will be obtained. After all of the decarbonizing fluid has been discharged into the cylinders and before the ignition is turned on, the valve 25 is turned to connect the container 11 with the pipe 39 so that oil 45 from said container will be drawn into the manifold and thence taken into the engine cylinders. Accordingly, the cylinder walls, pistons and piston rings will be again properly lubricated so that by the time the bottom of the grade is reached, the ignition circuit may be closed and the engine operated 50 without danger of scoring or scratching the cylinder walls, pistons and piston rings through faulty lubrication. When the en-

gine is thus set to work, the loosened carbon 55 and oil residue will be blown out through the exhaust manifold of the engine with the result that the engine cylinders, pistons and piston rings will be rendered comparatively clean. I accordingly provide a device which 60 may be operated without inconvenience to the motorist and wherein all danger of injury to the engine through the removal of lubricant from the engine cylinders by the decarbonizing fluid, will be avoided by the 65 introduction of an auxiliary supply of lubricant to the cylinders. If desired, the containers 10 and 11 may be mounted at the rear side of the vehicle dash within reach of the driver when, of course, the control 70 knob 25 will be mounted directly on the valve stem 34 and the control shaft eliminated.

Having thus described the invention, what I claim is: 75

1. In a decarbonizing and lubricating device, the combination of a decarbonizing fluid chamber provided at its lower end with a nipple, a lubricant chamber provided at its lower end with a nipple and connected at 80 a point between its ends with the former chamber by a web supporting the lubricant chamber beside the fluid chamber, and a pipe extending between said nipples connecting the lubricant chamber with an outlet 85 common to both chambers and forming a rigid brace between the lower ends of the chambers for bracing the chambers against relative movement and preventing fracture of said web. 90

2. In a decarbonizing and lubricating device, the combination of a decarbonizing fluid chamber, a lubricant chamber smaller than the former chamber and connected at a point between its ends with the fluid chamber by a web supporting the lubricant chamber in spaced parallel relation to the fluid chamber within the lines thereof, said chambers being provided at their lower ends with nipples, and a pipe extending between said 100 nipples connecting the lubricant chamber with an outlet common to both chambers and forming a rigid brace between the lower ends of the chambers for bracing the chambers against relative movement and preventing fracture of said web. 105

In testimony whereof I affix my signature.

ADOLFO de CLAIRMONT, M. D. [L. S.]