Aug. 24, 1926. 1,597,621

L. REICHARD

FUEL ATOMIZER

Filed April 14, 1924

Fig. 1.

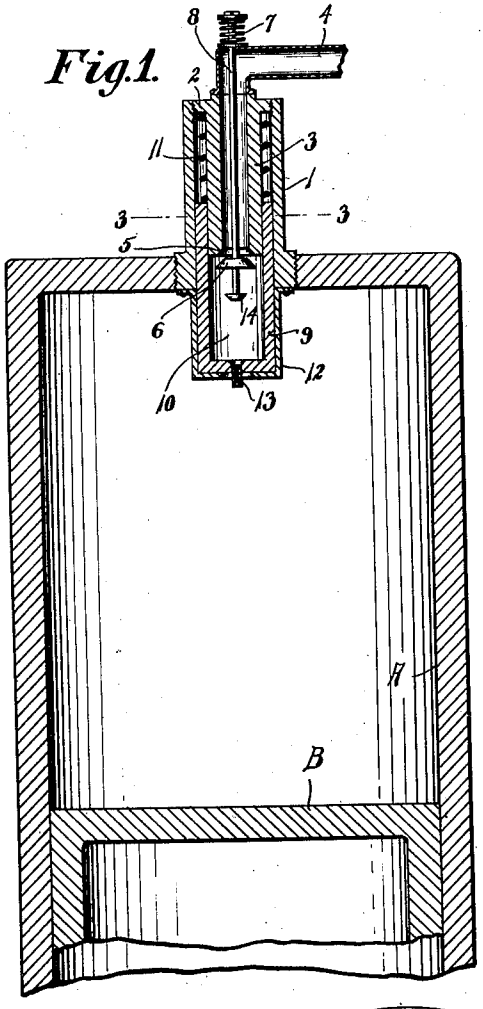


Fig. 2.

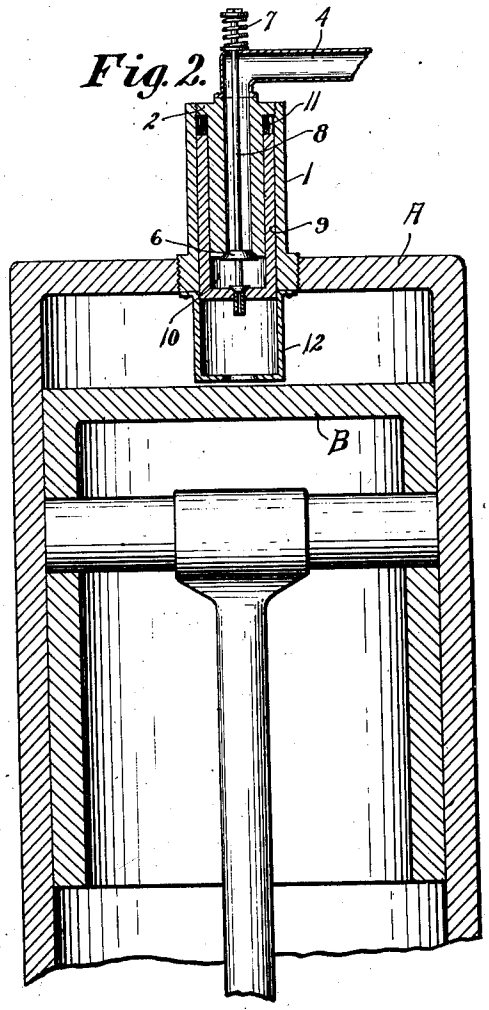
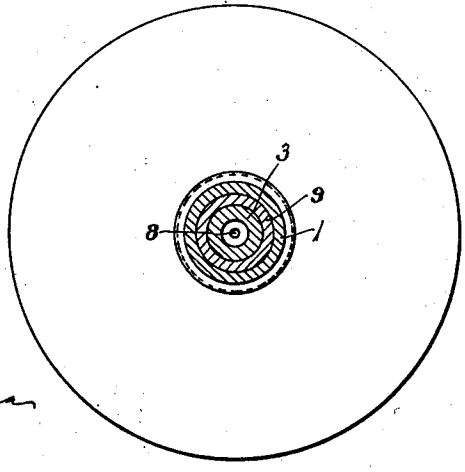


Fig. 3.



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WITNESS:

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UNITED STATES PATENT OFFICE.

LOUIS REICHARD, OF EASTON, PENNSYLVANIA.

FUEL ATOMIZER.

Application filed April 14, 1924. Serial No. 706,548.

This invention relates to improvements in internal combustion engines, the general object of the invention being to provide means for spraying the fuel oil into the cylinder of the engine so as to increase the combustibility of the mixture.

A further object of the invention is to provide means whereby the fuel is ejected from a contractible chamber, the walls of which are contracted on the compression stroke of the motor piston.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a sectional view through a motor showing my invention in use.

Figure 2 is a similar view but showing the parts in a different position.

Figure 3 is a section on line 3—3 of Figure 1.

In these views, A indicates a cylinder of an internal combustion motor and B its piston. In carrying out my invention I place a small cylinder 1 on the top of the cylinder A with its lower end in communication with the interior of the cylinder and its upper end closed by a cap 2 which is provided with a depending tubular extensions 3 to which the feed pipe 4 is connected. The lower end of the extension is formed with a valve seat 5 which is adapted to be engaged by a valve 6 when said valve is forced upwardly by a spring 7 on the upper end of its stem 8. A piston 9 is slidably mounted on the extension 3 and forms a chamber 10 for receiving the fuel when said cylinder 9 is pressed downwardly by a spring 11 which surrounds the tubular extension and has one end bearing against the cap 2 and its other end against the upper end of the piston 9. Depending stop arms 12 act to limit the downward movement of the piston 9 The piston 9 is provided with a nozzle 13 in its lower end which is adapted to be closed by a valve 14 formed on an extension of the stem 8 when the piston 9 is in its raised posiiton.

From the foregoing it will be seen that on the suction stroke of the piston B fuel will be drawn from the feed pipe through the tubular extension, past the valve 6, into the chamber 10, the valve 6 being opened by the suction action. On the compression stroke of the piston B the cylinder 9 is forced upwardly so that the fuel in the chamber 10 is compressed, the valve 6 being closed and thus the fuel will be sprayed through the nozzle 13 into the cylinder A until the nozzle is closed by the valve 14. Then the charge is exploded in the usual manner.

It will thus be seen that I have produced simple means for spraying the fuel oil into the combustion chamber of a motor, the spray means being controlled by the piston of the motor.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

In an internal combustion engine, a small cylinder threaded in a hole in the cylinder thereof, a cap closing the outer end of said small cylinder and having a tubular extension which depends into the small cylinder, a cylinder-like piston sliding in the space between the tubular extension and the small cylinder, a spring in said space for holding the piston in lowered position, a stop for limiting the downward movement of the piston, a nozzle in the lower end of the piston, a valve stem passing through the tubular extension, a pair of valves thereon, one for closing the nozzle and the other for closing the tubular extension, a piston connected with the stem and means for connecting the fuel supply with the tubular extension.

In testimony whereof I affix my signature.

LOUIS REICHARD.