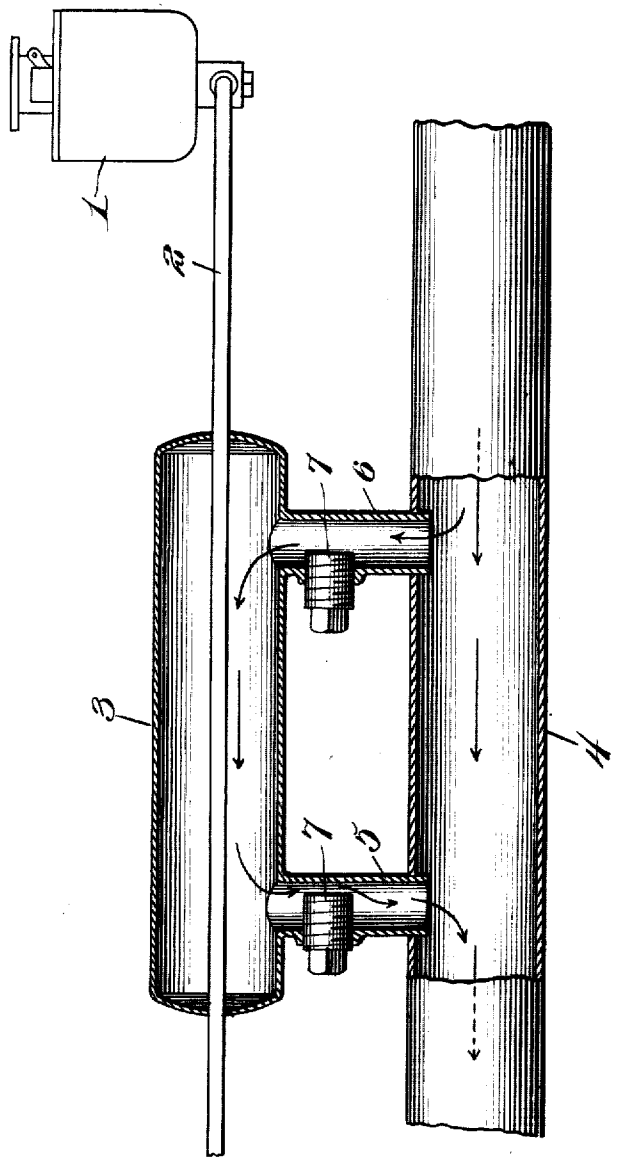
R. L. COFFMAN.

FUEL HEATER FOR GAS ENGINES.

APPLICATION FILED JUNE 3, 1916.

1,267,185. Patented May 21, 1918.



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ROBERT L. COFFMAN, OF BIG SANDY, TENNESSEE.

FUEL-HEATER FOR GAS-ENGINES.

1,267,185. Specification of Letters Patent. Patented May 21, 1918.

Application filed June 3, 1916. Serial No. 101,574.

To all whom it may concern:

Be it known that I, ROBERT L. COFFMAN, a citizen of the United States, residing at Big Sandy, in the county of Benton and State of Tennessee, have invented new and useful Improvements in Fuel-Heaters for Gas-Engines, of which the following is a specification.

This invention relates to a heater and more particularly to a device for heating the fuel of a gas engine before entering the carbureter so that the same may very quickly vaporize.

The primary object of the invention is to provide novel means for regulating the heating effective irrespective of changes of the source of heat

An object of the invention is to provide a heater so associated with the exhaust pipe that the proper passage of the gases through the exhaust pipe will not be interfered with.

Besides the above my invention is distinguished in the use of two plugs so located that upon moving one of the plugs toward closing position and the other toward opening position, the amount of heat conveyed to the fuel pipe of the gas engine may be regulated.

With these and other objects in view the invention will be better understood from the following detailed description taken in connection with the accompanying drawing, wherein—

The figure is a longitudinal view through the invention.

Referring to the drawing, the numeral 1 designates a carbureter, the fuel pipe 2 of which has an intermediate portion encircled by the casing 3 of my heater. This casing 3 is preferably disposed above and parallel with the exhaust pipes 4 as shown, and is of ample size to well surround the fuel pipe 2, the latter passing through the heads of the casing and preferably along the axis of the latter. Near its ends the casing is connected with the exhaust pipe by upright pipe sections 5 and 6 which open freely out of the bottom of the casing and into the top of the exhaust. These pipe sections also are preferably of ample size so as to permit any carbon or other accumulation which may gather within the casing 3, to fall through them into the exhaust 4 and be blown out the latter. Each pipe section is by preference formed in one side with a boss as shown, the same being internally threaded for the reception of an externally threaded plug 7, the latter having its inner end flat and its outer end squared or otherwise formed for the reception of a wrench or suitable tool.

From the foregoing description it will be seen that in the passage of the hot gases from the engine, some of the heated gases will pass up into the casing 3 and give up some of their heat to the fuel passing through the pipe 2. When the plug 7 in the pipe 6 is moved to open position and the plug 7 in the pipe 5 moved almost to closed position, a large amount of the heated gases will be trapped in the casing for heating the fuel pipe to a high degree. The reverse is true when the plugs are moved to opposite position, that is to say, when the plug in pipe 6 is moved almost to closed position and the plug in pipe 5 moved to open position, the passage of the gases through the exhaust port will tend to suck the heated gases from the interior of the casing 3.

It will be observed that by making the inner ends of the plugs flat as shown, neither may be screwed inward far enough to make close contact with the opposite wall of the pipe section, and therefore the structure does not, strictly speaking, provide valves in these pipe sections, but only means by which the passage of the gases through them may be restricted as thought desirable. In whistles, horns, foot warmers and the like, whose inlets are connected with the exhaust pipes from internal combustion engines, it is found that soot, carbon and other accumulations soon clog the parts. My specific construction is formed with this in view. If the parts should become clogged, it is very easy to remove the plugs 7 and reach in the holes in the bosses then exposed, so as to clean the interior of the pipe sections, all soot, etc., falling through them into the exhaust 4 whence it is blown out through the muffler should there be one at the rear of the machine. At any time by rapping on the casing 3, nearly all of the accumulation therein will be caused to fall through the pipe sections if the plugs are open.

It should be apparent from the foregoing description that I provide a device which is admirably adapted for the purpose for which it is intended, that the device is simple, durable and efficient of construction, and

may be manufactured and sold at a comparatively low cost.

What I claim is:—

In a fuel heater for gas engines, the combination with the exhaust pipe from the engine, and the carbureter and fuel pipe therefor; of a casing surrounding said fuel pipe and disposed above and parallel with the exhaust pipe, upright cylindrical pipe sections connecting the bottom of the casing near its ends with the top of the exhaust pipe and each having a boss in one side, and a plug threaded into each boss and having a flat inner end, for the purpose set forth.

In testimony whereof I affix my signature.

ROBERT L. COFFMAN.