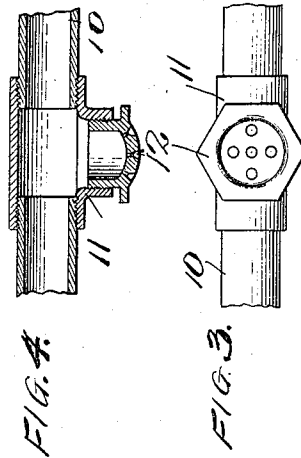
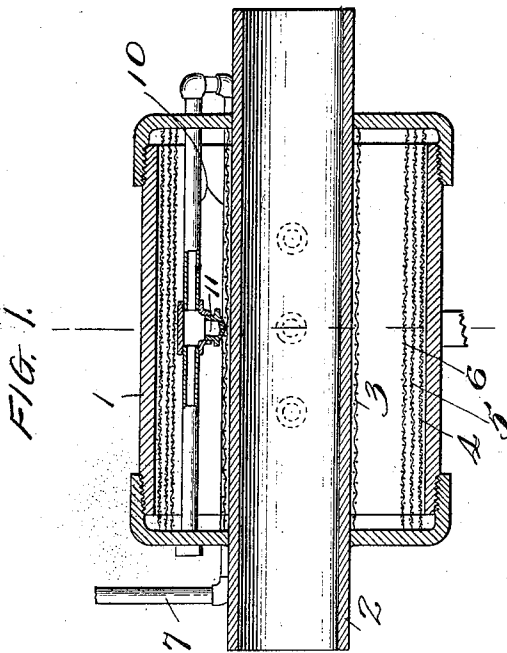
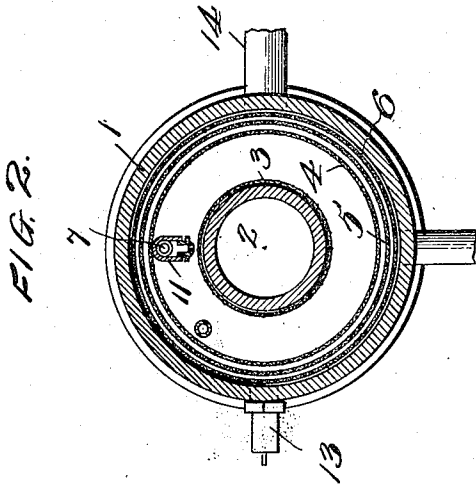


R. E. SHERMAN.
VAPORIZER.
APPLICATION FILED AUG. 12, 1912.

1,064,782.

Patented June 17, 1913.



WITNESSES

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VAPORIZER.

1,064,782.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RICHARD E. SHERMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vaporizers, of which the following is a specification.

The present invention relates to improvements in vaporizers, and is designed for use in connection with gas operated engines of various types.

The object of the invention is the provision of a vaporizer, attached, preferably to the exhaust pipe or tube of a gas engine and receiving heat therefrom to vaporize the crude, or other oil, fed to the vaporizer.

In the practical application of my device for actual use in connection with the exhaust pipe from the engine, I utilize means for regulating the flow of oil to the vaporizer where it is vaporized by the heat from the exhaust pipe in connection with other mechanical means, and I provide further improved and novel features as will be evident from the following specification taken in connection with the drawings.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles.

Figure 1 is a vertical, longitudinal sectional view of the vaporizer proper. Fig. 2 is a transverse sectional view of the vaporizer. Fig. 3 is a bottom plan view of the oil spray or nozzle. Fig. 4 is a vertical longitudinal sectional view of the oil spray or nozzle.

In the preferred embodiment of my invention I employ the casing 1 which forms a cylindrical chamber with closed ends, about the exhaust pipe 2, a portion of which is illustrated in the drawings and through which the exhaust from the engine passes, the gases of combustion serving to heat the interior of the chamber to a temperature sufficiently high in order that crude or other oil may be vaporized therein.

Within the casing and directly surrounding in close proximity the pipe 1 is located a wire gauze or screen 3 of foraminous

material, while three other screens 4, 5, and 6 are located in the chamber adjacent the interior walls of the cylindrical casing. The screen 3 is for the inflowing oil and the screens 4, 5, and 6, are for the purpose of filtering the outgoing gases.

Crude oil is fed to the vaporizing chamber from a suitably located oil tank (not shown,) through the oil feed pipe 7. In Fig. 1 it will be seen that the oil feed pipe 7 is provided with a return bend 10 inside the casing or drum and a spraying nozzle 11 is interposed in the pipe. This nozzle is formed with a depending perforated cap 12 through which the oil is fed to the foraminous screen 3. The return bend 10 permits the oil to become heated in its passage through the drum before reaching the spray, and in this manner the vaporization of the oil is aided by a preliminary heating.

A plurality of air valves, as 13, are provided in the drum 1 as air inlets to furnish fuel air for mixing with the gases in the drum and these valves are actuated by suction from the engine as usual.

The vapor or gas, with the air mingled therewith passes through the filtering screens 4, 5, and 6 into the gas or fuel supply pipe 14 which is provided with the usual regulating valve.

In Fig. 1 an auxiliary gasoline supply tank is illustrated at 19 adapted to supply fuel through valve 20 to the fuel supply pipe. This supply is for use in starting the engine, as it will of course be understood that the vaporizer illustrated will not commence to vaporize the inflowing oil until the exhaust pipe conveys the heated gases of combustion through the drum, whereupon the gasoline feed may be cut off at the valve 20 and the vaporization may then be secured through the heat from the exhaust pipe.

The operation of the device is obvious. Crude or other oil is fed through the oil pipe from a supply tank, into the return bend in the drum. In its passage through the bend the oil is given a preliminary heating, and as it is sprayed through the perforated cap of the nozzle, the heat from the gases of combustion in the exhaust pipe vaporizes the oil. Air is admitted to the

drum through the valves and the gases are commingled and the fuel gas passes out through the gas supply pipe to the engine.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. The combination with a heating member, of a drum surrounding the same and provided with closed ends, an oil inlet pipe to the drum, a foraminous screen surrounding said member for distribution of oil, and a similar screen adjacent the walls of the drum forming a space for filtered gas to pass to the outlet of the drum.

2. A vaporizer comprising a heating member, a drum incasing said member and provided with oil inlet and gas outlet, a foraminous screen surrounding the heating member for distribution of oil, and a series

of foraminous screens adjacent the walls of the drum for filtering vapor in its passage to the outlet.

3. The combination with a vaporizing drum having an oil inlet pipe passing there-through with a return bend and provided with a spray nozzle, of a heating member within the drum, a foraminous screen inclosing said member for distribution of oil, and a series of screens adjacent the walls of the drum forming a filtered gas space provided with a gas outlet.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD E. SHERMAN.

Witnesses:

JEROME H. PRATT,
BARTON CERUCAIR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."