L. C. GERKEN.

CARBURETER FOR GAS ENGINES.

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970,916.

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Fig. 1

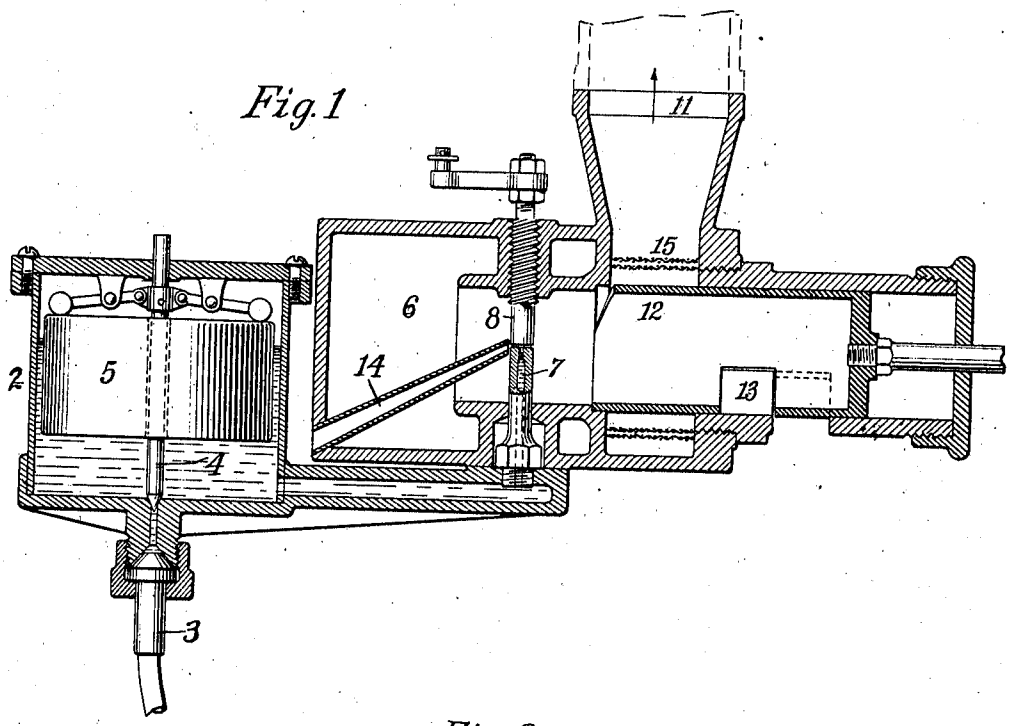
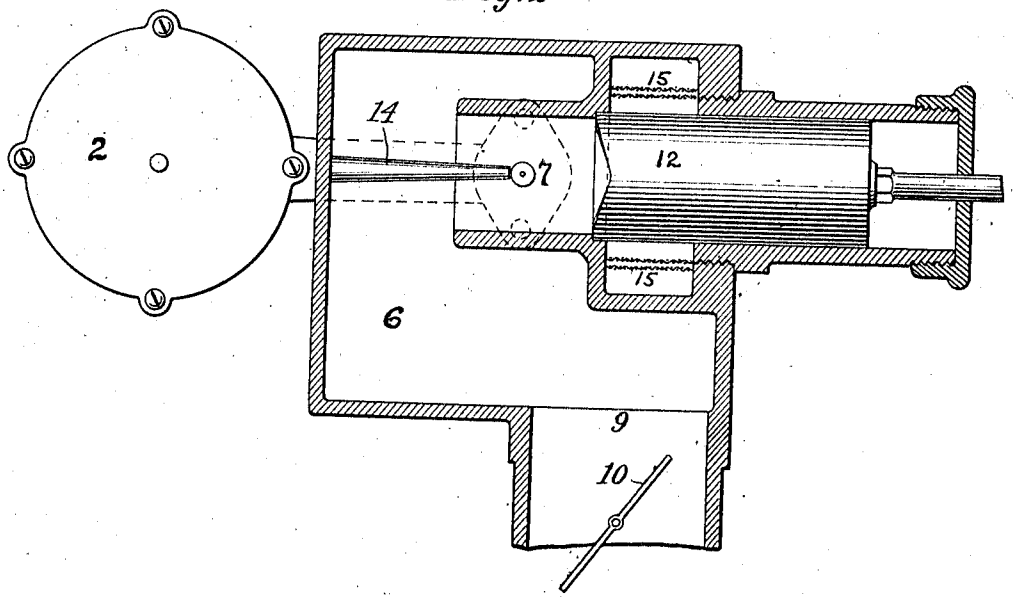


Fig. 2



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UNITED STATES PATENT OFFICE.

LOUIS C. GERKEN, OF NEW YORK, N. Y.

CARBURETER FOR GAS-ENGINES.

970,916. Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed April 20, 1908. Serial No. 428,036.

To all whom it may concern:

Be it known that I, LOUIS C. GERKEN, of Eltingville, in the borough of Richmond, city of New York, and State of New York, have invented a new and useful Carbureter for Gas-Engines, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a vertical section partly in elevation, Fig. 2 is a horizontal section partly in plan.

In the operation of gas engines, especially gas engines which are used in driving motor cars, it is of great importance to secure a reliable and uniform mixture of the gasolene vapor with the air, constituting the combustible mixture which is supplied to the engine cylinder. My invention effects this better than has been done heretofore.

In the drawing which shows the preferable construction of my invention, 2 is the chamber which contains the gasolene, supplied to it from supply pipe 3 controlled by a valve 4 and float 5, these parts being of ordinary construction, and capable of variation by the skilled mechanic.

6 is the carbureting chamber communicating with the vessel 2 by means of supply nozzle 7 controlled by a regulating valve 8. The chamber 6 communicates with the atmosphere through an air port 9 which is controlled by a suitable valve 10 and which communicates with the port 11 leading to the engine cylinder by way of a passage which is controlled by a suitable throttle valve 12. This valve also preferably controls an air supply port 13.

The mixture of gas and air is drawn into the engine cylinder by suction caused by the piston of the cylinder, and the air is caused to mix effectively with the gasolene by the following device: 14 is an air supply jet-pipe communicating at its outer end with the atmosphere and terminating in proximity to the mouth of the nozzle 7, being directed at an oblique angle to the nozzle so that the air which passes through the pipe 14 will impinge upon the stream of gasolene issuing from the duct 7 and will tend to carry it laterally through the entrance to the port 11. When the suction is created by the piston of the gas engine as above mentioned, it will draw a jet of air from the pipe 14 and this jet impinging upon the gasolene liquid issuing from the nozzle 7 will forcibly carry the gasolene and cause it to splash upon a gauze baffle or screen or screens 15 which fit over the mouth of the port 11, and the direction of the ports is such that the mixture of gasolene and air will strike this screen sidewise at an angle to the normal. In this way I secure a very effective mixture of the gas and air, and the strength of the stream of air through the pipe 14 may be varied by manipulation of the valve 10, for the effect of closing this valve will be to cause a greater volume of air to enter through the pipe 14 and thus to increase the strength of the jet above mentioned and to increase the rate of flow of the gasolene.

The parts may be varied in many ways, and within the scope of my invention as broadly defined it is not necessary that the gauze screens should be used or that the jet of air and gasolene should strike the same at an angle to the vertical, though these constructions are preferable.

I claim:

1. In a carbureting device, a mixing chamber having a port adapted to be connected with an engine cylinder and also having an air port, an adjustable valve controlling the air port, a throttle valve controlling the engine port, a fuel discharge nozzle extending into the said chamber, an air jet-pipe terminating adjacent to and behind the nozzle, and a perforated screen or baffle in the engine port around the throttle valve, the air jet being arranged at an oblique angle to said screen to direct the mixed air and fuel against said screen at an angle to the plane thereof; substantially as described.

2. In a carbureting device, a mixing chamber having a laterally extending outlet provided with a port adapted to be connected to an engine cylinder, a hollow cylindrical throttle valve seated in said extension and controlling said port, a fuel discharge nozzle within said chamber, an air discharge pipe terminating adjacent to and behind the nozzle and directed toward the open end of the throttle valve, and the casing having another air port controlled by the throttle; substantially as described.

In testimony whereof, I have hereunto set my hand.

LOUIS C. GERKEN.

Witnesses:
ANNA E. WALLACE,
LE ROY DAVIES.