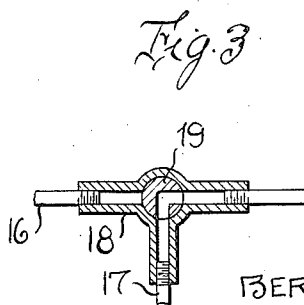
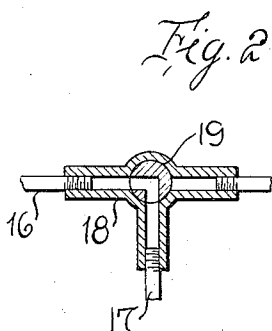
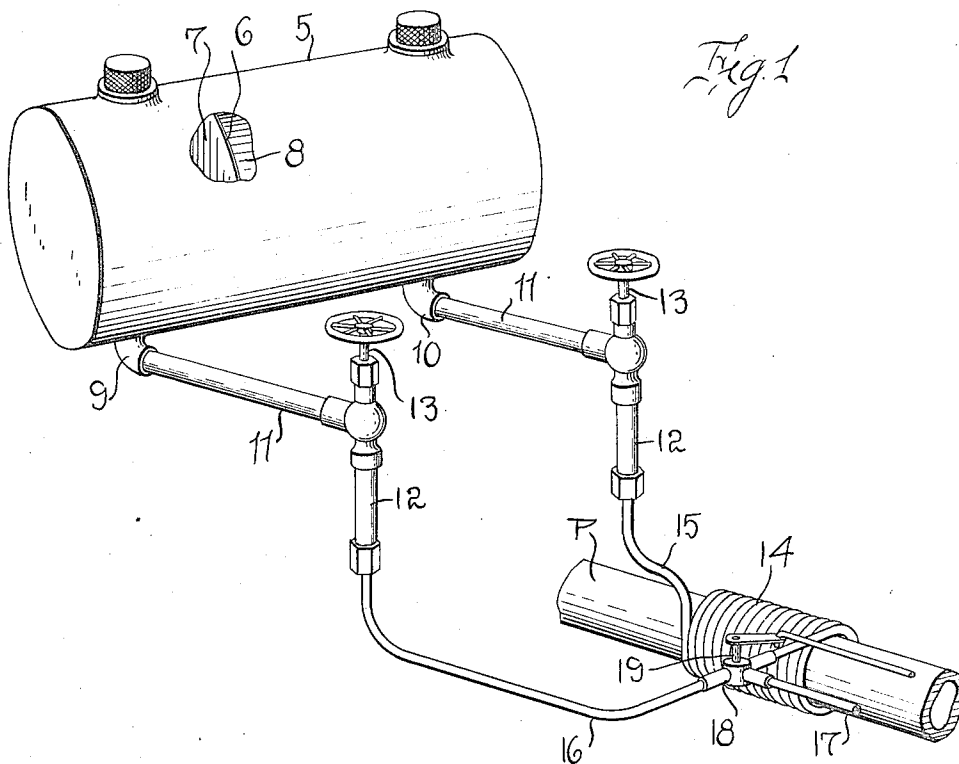


B. R. JAMES.
 FUEL VAPORIZER FOR INTERNAL COMBUSTION ENGINES.
 APPLICATION FILED MAY 22, 1916.

1,215,027.

Patented Feb. 6, 1917.



Inventor

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UNITED STATES PATENT OFFICE.

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FUEL-VAPORIZER FOR INTERNAL-COMBUSTION ENGINES.

1,215,027.

Specification of Letters Patent.

Patented Feb. 6, 1917.

Application filed May 22, 1916. Serial No. 99,168.

To all whom it may concern:

Be it known that I, BERTIE R. JAMES, a citizen of the United States, residing at Carter, in the county of Beckham and State of Oklahoma, have invented certain new and useful Improvements in Fuel-Vaporizers for Internal-Combustion Engines, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to an improved fuel vaporizer for internal combustion engines such as are generally used upon automobiles and has for its primary object to provide means whereby the engine may be initially
15 started on gasoline as a fuel, and kerosene or other relatively crude and inexpensive oils subsequently employed for the operation of the engine.

It is another and more particular object
20 of the invention to provide a device for the above purpose including a tank having gasoline and kerosene compartments, a pipe coil engaged upon the exhaust pipe of the engine and connected at its ends to the respec-
25 tive compartments, a conduit connected to one end of the pipe coil and extending through the carbureter, and a three-way valve operable to supply the gasoline or vaporized kerosene to the carbureter.

30 It is a further general object of the invention to provide a device for the above purpose which is exceedingly simple and inexpensive in its construction, highly reliable and efficient in practical use, and will result
35 in considerable economy in the consumption of fuel.

With the above and other objects in view, my invention consists in the novel features of construction, combination and arrange-
40 ment of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,

Figure 1 is a perspective view illustrating the preferred embodiment of the invention;

45 Fig. 2 is a horizontal section showing the three-way valve in position to supply gasoline to the carbureter; and

Fig. 3 is a similar view showing said valve in position to supply the vaporized kerosene
50 to the carbureter.

Referring in detail to the drawing, 5 designates a tank or reservoir which may be

suitably mounted upon a vehicle body and is provided with an internal partition wall 6 dividing the same into a gasoline chamber 7 55 and a kerosene chamber 8, the latter constituting the greater portion of the interior area of the tank. Each of these fuel receiving chambers is provided with a feed opening at its top and an outlet pipe 9 and 10 60 respectively at its bottom.

To the outlet pipes 9 and 10, the pipes 11 are connected, said pipes extending horizontally and each having a depending pipe section 12 coupled to its outer end. Each of 65 the couplings is provided with a suitable valve, indicated at 13, whereby the supply of fuel from the compartments or chambers of the tank may be controlled.

A length of tubing, preferably of copper, 70 is closely coiled, as at 14, and engaged upon the exhaust pipe of the engine indicated at P. One end of this copper tube is extended, as at 15, and coupled to the pipe 12 of the kerosene chamber 8. The other end of said 75 coiled tube is also extended, as at 16, and similarly coupled to the pipe 12 of the gasoline chamber 7. To this latter end portion of the tube, a pipe or conduit 17 is connected by means of a T-coupling 18 and extends to 80 the carbureter. A rotary three-way valve 19 is suitably mounted in the coupling 18, and in the position of this valve as shown in Fig. 2 of the drawing, one of the ports thereof is in communication with the end portion 16 85 of the copper tube leading to the gasoline reservoir 6 and another port in communication with the conduit 17. Thus, gasoline will be supplied to the carbureter of the engine in starting the operation of the same. 90 After the engine has been properly started, the valve is turned or rotated by any suitable means under the control of the operator, to the position shown in Fig. 3, where-
95 in one of the valve ports is in communication with the end of the pipe coil 14 and another in communication with the conduit 17, while communication between said conduit and the portion 16 of the pipe coil which leads to the gasoline chamber is cut 100 off by the valve member. The kerosene flowing through the coiled tube 14 is highly heated and vaporized so that it will pass from said coil through the conduit to a suit-

able magazine chamber to be mixed with the proper proportion of air to produce a readily combustible mixture.

From the foregoing description, taken in connection with the accompanying drawing, the construction, manner of operation, and several advantages of my invention will be clearly and fully understood. It will be seen that I have produced a very simple and reliable device whereby, after the engine has been properly started upon gasoline, the supply of such fuel may be cut off by the operation of the valve 19 and the operation of the engine continued on kerosene as a fuel. As this latter fuel may be obtained at relatively small cost, it will be apparent that considerable economy is thus realized in the operation of automobile engines. As the kerosene is first thoroughly vaporized, its proper combustion is assured without diminution of the driving power of the engine.

While I have shown and described the preferred construction and arrangement of the several parts of the device, it is to be understood that the same is susceptible of considerable modification therein and I, therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

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

In a fuel vaporizer for internal combustion engines, a fuel receptacle having separate kerosene and gasoline compartments, a discharge pipe leading from each of said compartments and provided with a controlling valve, a coiled tube surrounding the exhaust pipe of an engine and connected at one of its ends to the pipe leading from the kerosene compartment, a tube connected at one of its ends to the pipe leading from the gasoline compartment, a conducting pipe through which the fuel is supplied to the engine cylinders, a three-way valve connecting the other ends of said tubes to the conducting pipe, and means for manually operating said valve to establish communication between the tube connected to the outlet pipe of the gasoline compartment and said conducting pipe, or to cut off such communication and establish communication between the coiled tube and the conducting pipe.

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

BERTIE R. JAMES.

Witnesses:

E. R. UTLEY,
M. R. WILSON.