

July 8, 1930.

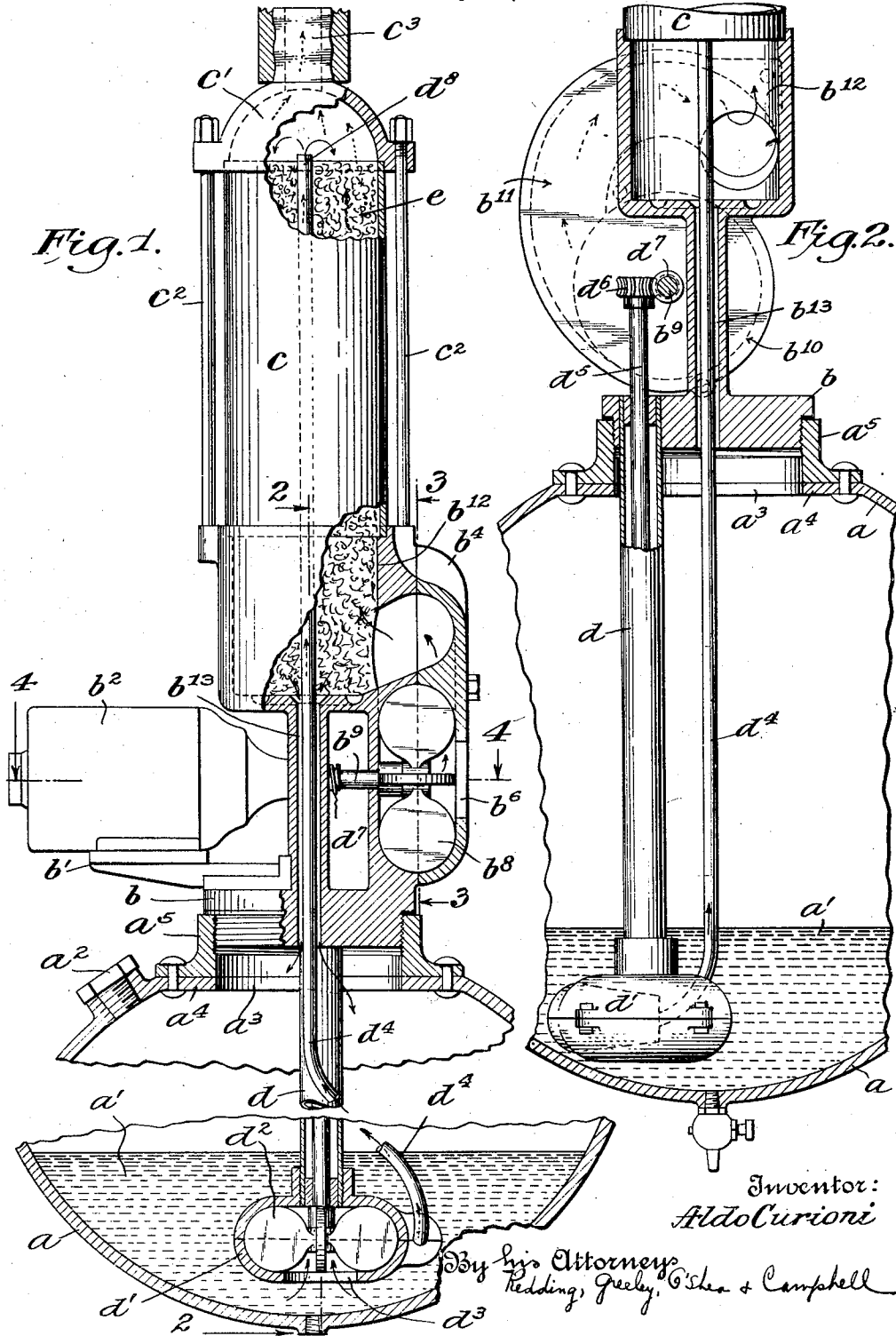
A. CURIONI

1,770,127

VAPORIZER

Filed Sept. 8, 1928

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

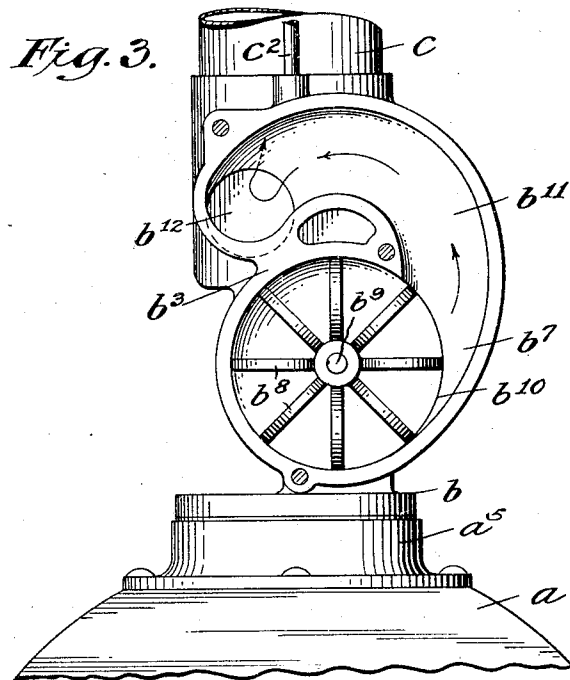
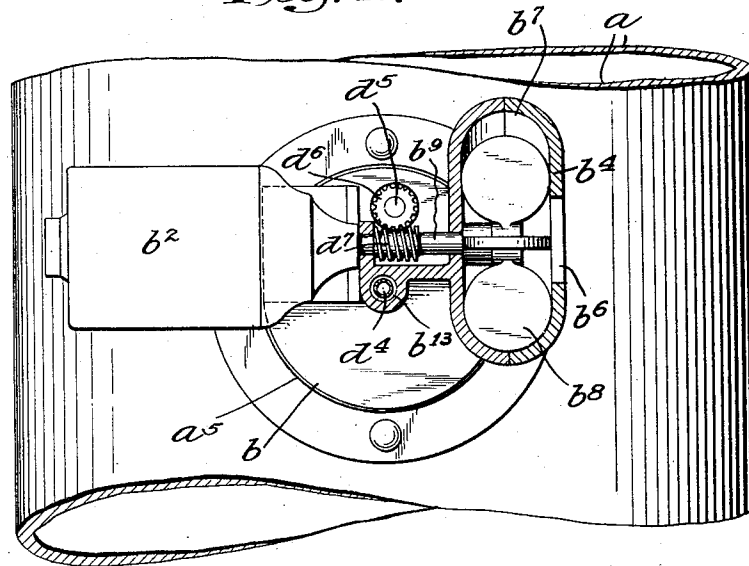


Fig. 4.



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VAPORIZER

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The present invention relates to devices for generating a combustible mixture for burning in stoves and the like. In localities where a supply of gas is not available, oil stoves are frequently used as a substitute for the well known gas stove. A certain amount of inconvenience is always involved in using oil stoves and this invention embodies a device which can be used with an ordinary gas stove, thus eliminating the objectionable odors, uncleanness, and difficulty of operation of oil stoves.

It is proposed to provide a device which may be used with a large supply tank, thus avoiding the necessity of refueling at frequent intervals. By constructing the parts as a device independent of the stove, it may be placed at a remote point and the combustible vapor carried to the stove through a pipe line.

Accordingly, an object of the invention is to provide a generating device which may be placed at a remote point and used to supply a combustible mixture as needed. A further object is to provide a construction which will not emit offensive odors nor accumulate dirt, but will operate efficiently and quietly.

A still further object is to provide a construction which is compact and easy to assemble as well as being simple in operation. Further advantages will appear as the invention is described more fully in connection with the accompanying drawings, wherein:

Figure 1 is a view in elevation, partly broken away and in section, showing a preferred form of the invention.

Figure 2 is a view in section, taken on line 2—2 of Figure 1, and looking in the direction of the arrows.

Figure 3 is a view in section, taken on line 3—3 of Figure 1, and looking in the direction of the arrows.

Figure 4 is a view in section, taken on line 4—4 of Figure 1, and looking in the direction of the arrows.

Referring to the above drawings, *a* designates a supply tank for a quantity of gasoline or other suitable fluid *a'* which may be introduced through an inlet *a²*. The top of the container is provided with an aperture

a³ and a flanged portion *a⁴* upon which a threaded neck *a⁵* is secured.

A fixture *b* is threaded at its lower extremity to engage the neck and is thus secured upon the tank. The fixture is formed as a block, or unitary casting, a bracket *b'* being provided upon which an electric motor *b²* is supported. The fixture is formed with a machined face *b³* over which a cover plate *b⁴* is secured. The cover plate is apertured to provide a port *b⁶* through which air may be drawn for producing the mixture.

Within the fixture and cover plate, a chamber *b⁷* is formed for receiving a fan *b⁸*. The motor drives a shaft *b⁹* upon which the fan is secured, thus providing a means for rotating the fan. An exhaust port *b¹⁰* communicates with a duct *b¹¹* which conducts the air from the fan to a chamber *b¹²*, formed in the fixture, as indicated by the arrows in Figures 1, 2 and 3.

The chamber *b¹²* is provided with an extension comprising a cylindrical member *c* and a head *c'*. The cylindrical member is confined between the fixture and head by means of bolts *c²*. An outlet *c³* is formed in the head, through which the combustible mixture passes to the pipe line of a stove.

The fixture is provided with a tube *d* which extends into the tank and carries a housing *d'* near the bottom thereof. This housing contains a centrifugal pump *d²* which takes the fuel through an aperture *d³* and forces it through a pipe *d⁴*. A power shaft *d⁵* is carried in the tube *d*, the shaft being driven through a worm wheel *d⁶* and a worm *d⁷* mounted on the shaft *b⁹*.

Pipe *d⁴* extends through an over-sized duct *b¹³* in the fixture and the fluid is discharged at the top of the chamber, as indicated at *d⁸*. Within the chamber, a porous substance *e* is provided, the fluid which is discharged at the top of the chamber, percolating down through the substance. The percolating fluid is met by the upward flow of air provided by the fan *b⁸*, and the resulting combustible mixture in gaseous form is carried off through the outlet *c³*.

It will be apparent that the fixture is of such nature that it can be easily manufac-

tured at low cost. The number of moving parts and bearings is reduced to a minimum and the device requires very little attention. Although the invention has been described with reference to the specific construction shown in the accompanying drawings, it is not to be limited, save as defined in the appended claims.

I claim as my invention:

1. Means for producing a combustible fluid from a supply of fuel oil comprising a fixture formed with a duct, means to support a chamber on the fixture, means carried by the fixture for connecting the chamber with the supply, means carried by the fixture to induce a flow of air into the chamber through the duct, an outlet for the chamber, and power means for driving the flow inducing means and supplying the fuel oil to the chamber.

2. Means for producing a combustible fluid from a supply of fuel oil comprising a fixture formed with a duct, means to support a chamber on the fixture, means carried by the fixture for connecting the chamber with the supply, means carried by the fixture to induce a flow of air into the chamber through the duct, an outlet for the chamber, power means carried by the fixture for driving the flow inducing means, a power shaft driven by the power means and extending into the supply, and a pump driven by the power shaft for supplying the fuel oil to the chamber.

3. Means for producing a combustible fluid from a supply of fuel oil comprising a fixture, means to support a chamber on the fixture, a pipe extending from the supply into the chamber and terminating adjacent the top thereof, an outlet for the chamber, a fan carried by the fixture, said fixture being formed with a duct between the fan and chamber, a motor carried by the fixture and driving the fan, a power take off connected to the motor and extending into the supply, and a pump driven by the power take off to force the fuel through the pipe.

4. Means for producing a combustible mixture comprising a tank for containing a supply of fuel, a fixture carried by the tank, means to support a chamber on the fixture, a pipe extending from the supply into the chamber and terminating adjacent the top thereof, an outlet for the chamber, a fan carried by the fixture, said fixture being formed with a duct between the fan and chamber, a motor carried by the fixture and driving the fan, a power take off connected to the motor and extending into the supply, and a pump driven by the power take off to force the fuel through the pipe.

5. Means for producing a combustible mixture comprising a tank for containing a supply of fuel, a fixture carried by the tank, means to support a chamber on the fixture, a duct formed in the fixture between the cham-

ber and the tank, a pipe extending from the tank through the duct into the chamber and terminating adjacent the top thereof, an outlet for the chamber, a fan carried by the fixture, said fixture being formed with a duct between the fan and chamber, a motor carried by the fixture and driving the fan, a power take off connected to the motor and extending into the supply tank, and a pump driven by the power take off to force the fuel through the pipe.

6. Means for producing a combustible mixture comprising a tank for containing a supply of fuel, a fixture carried by the tank, a chamber formed in the fixture, porous material in the chamber, a duct formed in the fixture between the bottom of the chamber and the tank, a pipe extending from the tank through the duct into the chamber and terminating adjacent the top, centrally thereof, an outlet for the chamber adjacent the top thereof, a fan carried by the fixture, said fixture being formed with a duct connecting the fan with the bottom of the chamber, a motor carried by the fixture and driving the fan, a power take off connected to the motor and extending into the supply tank, and a pump driven by the power take off to force the fuel through the pipe.

7. Means for producing a combustible mixture comprising a tank for containing a supply of fuel, a fixture carried by the tank, a chamber formed in the fixture, a cylindrical casing, a cover, means to connect the casing and cover to the fixture to form a closure for the chamber, porous material in the chamber, a duct formed in the fixture between the bottom of the chamber and the tank, a pipe extending from the tank through the duct into the chamber and terminating adjacent the top centrally thereof, an outlet for the chamber adjacent the top thereof, a fan carried by the fixture, said fixture being formed with a duct connecting the fan with the bottom of the chamber, a motor carried by the fixture and driving the fan, a power take off connected to the motor and extending into the supply tank, and a pump driven by the power take off to force the fuel through the pipe.

8. Means for producing a combustible mixture comprising a tank for containing a supply of fuel, a fixture carried by the tank, a chamber formed in the fixture, a cylindrical casing, a cover means to connect the casing and cover to the fixture to form a closure for the chamber, porous material in the chamber to cause the fuel to percolate therethrough, a duct formed in the fixture between the bottom of the chamber and the tank, a pipe extending from the tank through the duct into the chamber and terminating adjacent the top, centrally thereof, a tube carried by the fixture and extending within the tank, a power shaft in the tube, a pump housing carried by the tube and connected to the pipe, a pump in the

housing driven by the shaft, an outlet for the
chamber adjacent the top thereof, a fan hous-
ing formed in the fixture, a fan in the hous-
ing, said fixture being formed with a duct
5 connecting the fan housing with the bottom
of the chamber, a motor carried by the fixture
and driving the fan, and means to drive the
power shaft from the motor.

This specification signed this 6th day of
10 September, A. D. 1928.

ALDO CURIONI.

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