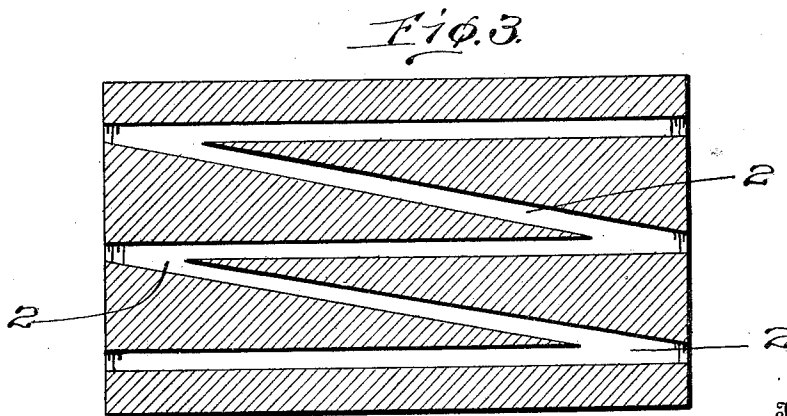
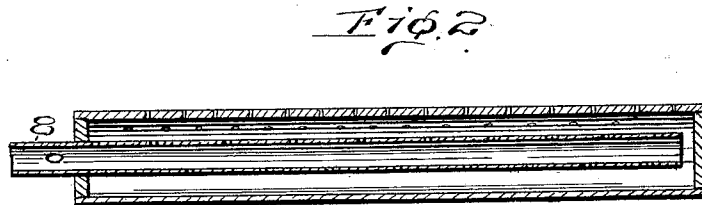
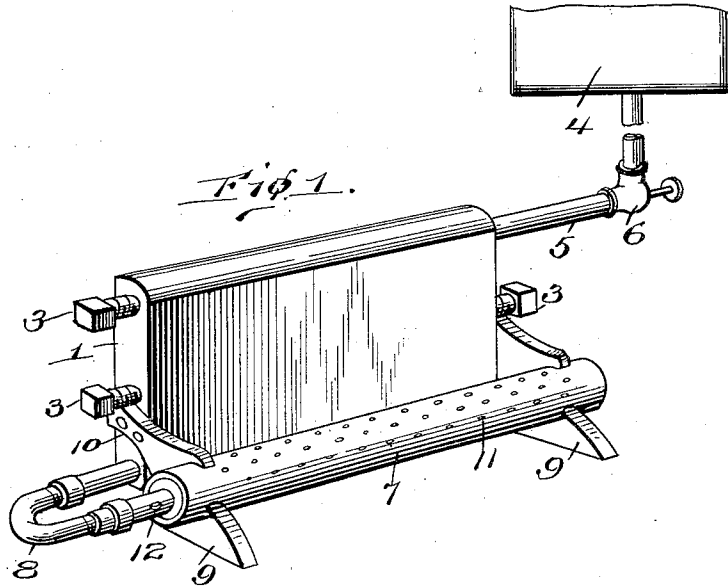


C. L. WILKINSON.
LIQUID FUEL BURNER.
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Inventor

C. L. Wilkinson

Witnesses
J. M. Fowler Jr.
R. R. Duffie

By John S. Duffie
Attorney

UNITED STATES PATENT OFFICE.

CHARLES L. WILKINSON, OF MENA, ARKANSAS.

LIQUID-FUEL BURNER.

1,047,471.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES L. WILKINSON, a citizen of the United States, residing at Mena, in the county of Polk and State of Arkansas, have invented certain new and useful Improvements in Liquid-Fuel Burners, of which the following is a specification.

My invention has relation to new and useful improvements in liquid fuel burners and especially to burners which are adapted to be used in a range or latrobe.

The primary object of my invention is to provide a burner that will burn coal oil gas without producing any smoke or soot or any disagreeable odors which arise from coal oil burners now in general use or on the market for sale.

A further object of my burner is to provide for the mixing of the coal gas and air within the same before attempting to combust it. In other words, by the employment of my burner I consume a large percentage of natural air by mixing the same and the coal oil gas together before burning.

A further feature of my invention is that it is also adapted to utilize gasoline or naphtha in lieu of coal oil, with perfect safety.

The supply tank to the burner may be either of two kinds: first, a pressure tank may be employed in which case the same may be placed in the basement of the house in which the burner is used, and, second, a gravity tank may be used in which case it is necessary to place the tank above the level of the ground.

With the foregoing and other objects in view my invention consists of the novel features of construction, combination and arrangement of parts as are described in this specification, illustrated in the accompanying drawings forming a part thereof and particularly pointed out in the appended claim.

Referring to the drawings: Figure 1 is a perspective view of my burner ready for use. Fig. 2 is a longitudinal, vertical, sectional view of the burner tube. Fig. 3 is a vertical, central, longitudinal, sectional view of the generator employed.

Referring more particularly to the drawings, in which like numerals designate like parts throughout, my invention is described as follows:

The generator 1 is constructed of solid metal through which passes a plurality of

ducts or passages 2, which communicate with each other and form one continuous conduit from the right-hand end of the uppermost duct to the left-hand end of the lowest duct. Plugs 3 are provided at the terminals of each duct, except at the right-hand terminal of the uppermost duct and the left-hand end of the lowest duct, which are adapted to be removed when it is desired to clean the generator and therefore said plugs will be referred to as cleaning plugs. Liquid fuel enters said conduit through one of the vents of the uppermost duct. As illustrated it enters the conduit from the right-hand vent of said duct and this is the preferred construction. The liquid fuel is conveyed from the tank 4 into the uppermost duct by means of a pipe 5, which pipe is provided with a controlling valve 6, which valve is adapted to cut off or regulate the flow of liquid fuel to the entire burner.

Liquid fuel passes from the generator into the burner tube 7 by means of a pipe 8 which communicates with the left-hand vent of the lowest duct and which extends into said burner tube 7. The pipe 8 extends into the burner tube so that its end terminates adjacent the right-hand end of the burner tube and is provided with a plurality of openings therein which distribute the gas which has been generated by the generator 1 equally throughout the burner tube, thereby causing flame to burn evenly upon the outer periphery of the burner tube from end to end.

The burner tube 7 is supported by means of brackets 9 which brackets form a rest for the burner and connect the burner tube to the generator, as the rear portions 10 of said brackets are secured by suitable means to the ends of the generator.

When the oil passes into the generator 1 it will be vaporized continuously by the heat generated from the burner tube. It will pass into the burner tube from the lowest duct by means of said pipe 8 and after being equally distributed throughout said burner tube will pass out through the perforations 11 therein. Air enters the burner tube 7 through a perforation or opening 12 in the pipe 8 adjacent the left-hand end of said burner tube. This perforation is made of sufficient size that a large quantity of air may be drawn into said chamber and as the gaseous fuel and air

pass from the pipe 8 into the interior of the burner tube they will become thoroughly mixed, in readiness to pass through the perforations 11 of said tube to be combusted.

5 Although I have specifically described the construction, combination and arrangement of the several parts of my invention, yet I do not confine myself to such specific construction, combination and arrangement of
10 parts but reserve and may exercise the right to make such changes therein as do not depart from the spirit of the invention or the scope of the appended claim.

Having described my invention what I
15 claim as new, is:

A liquid fuel burner, including a generator having a tortuous arrangement of ducts extending therethrough, a burner-tube sup-

ported contiguous to and from said generator, an approximately U-shaped pipe with
20 one leg connected to one end of the lowest duct the other leg of said pipe extending through one end of, and within said burner-tube and having a plurality of openings
25 therein, the inner end of said pipe terminating adjacent the opposite end of said burner-tube, and a fuel-supply pipe connected to the uppermost duct, the intermediate ducts having applied thereto
30 closure-plugs.

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

CHARLES L. WILKINSON.

Witnesses:

E. M. HOPPET,

E. R. JACKSON.

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