C. K. WALLACE.

OIL BURNER.

APPLICATION FILED MAR. 13, 1920.

1,380,507.

Patented June 7, 1921.

FIG. 1

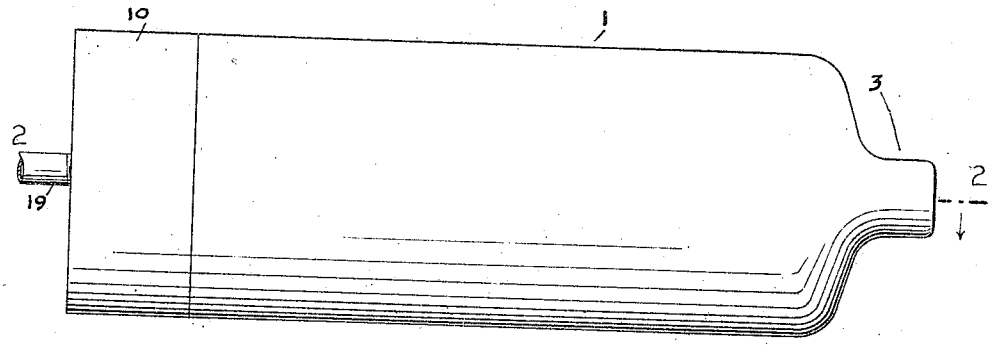
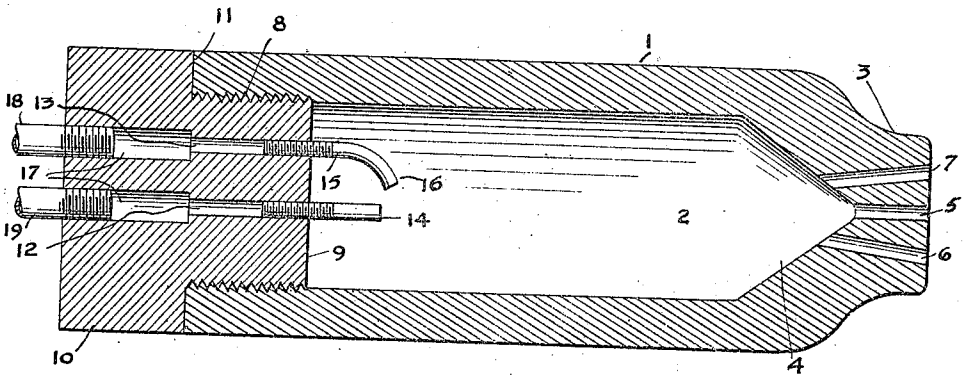


FIG. 2



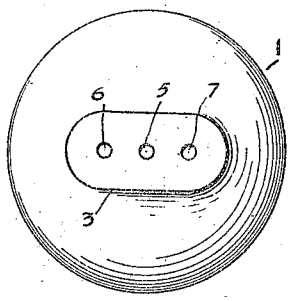


FIG. 3

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OIL-BURNER.

1,380,507. Specification of Letters Patent. Patented June 7, 1921.

Application filed March 13, 1920. Serial No. 365,446.

To all whom it may concern:

Be it known that I, CLYDE K. WALLACE, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Oil-Burners, of which the following is a specification.

The primary object of the invention is to provide a relatively simple, inexpensive, strong and durable oil burner which will cause a more thorough combustion of oil and operate at a relatively low oil consumption to produce a hot effective fan like flame, the construction and operation of the burner being such that carbon accumulations in or on the burner are prevented.

The invention possesses other advantages and features, some of which, with the foregoing will be set forth at length in the following description where I shall outline in full that form of the invention which I have selected for illustration in the drawings accompanying and forming a part of the present specification. In said drawings I have shown one form of the construction of my invention but it is to be understood that I do not limit myself to such form, since the invention as expressed in the claim may be embodied in a plurality of forms.

Referring to the drawings:—

Figure 1 is a side elevation of the burner of my invention.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a front elevation of the burner.

The present embodiment of the burner comprises an elongated cylindrical tubular cast iron body 1 providing a mixing chamber 2. One end of the body is closed by a reduced end portion 3 formed so as to provide a conical end 4 for the chamber 2. At the apex of this end is a small fuel outlet passage or opening 5 and in the same horizontal plane therewith on opposite sides thereof are passages 6 and 7, which passages diverge toward their outer ends. These three passages open into the chamber adjacent the apex of the conical end 4 so as to direct the fuel from the burner in a flat fan like spray. The body is cast in one piece and is relatively heavy and thick so as to withstand the heat and prevent burning off of the tip thereof.

The inner end of the body is open, internally screw threaded as at 8 and receives the screw threaded reduced portion 9 of a plug 10, the body portion of which plug is flush with the outer surface of the body 1. A shoulder 11 on the plug engages the end of the body 1. The plug 10 is provided with an air or steam passage 12 and an oil passage 13 extending therethrough. The inner ends of these passages are screw threaded and receive nozzles 14 and 15 respectively. The nozzle 14 is straight whereas the nozzle 15 for the oil is curved as at 16 so as to discharge in front of the nozzle 14. The outer ends of the passages 12 and 13 are enlarged and threaded as at 17 and receive oil and air or steam feed pipes 18 and 19 respectively.

In the operation of the burner air or steam under high pressure is conducted from a source of supply not shown through the pipe 19 and passage 12 to the nozzle 14 and is directed through the chamber 2 by said nozzle, toward the conical end 4.

Oil is likewise delivered under high pressure to the nozzle 15 through the pipe 18, passage 13 and across the path of the air or steam. The oil in being discharged into the stream of air issuing from the nozzle 14 will be swirled around in the chamber 2, thoroughly atomized so that it will pass into the conical end 4 and out through the outlet passages 5, 6 and 7 in a finely divided vaporous combustile state and may be easily ignited so as to burn without smoke. With this finely divided highly vaporized mixture, a hot flame will be provided at a low fuel consumption. By having the air and oil fed into the chamber 2 under high pressure and forming the chamber with a conical outlet end provided with small outlets 5, 6 and 7 I provide for perfect combustion of the oil and due to the force with which the oil and air are projected into and through the chamber 2 no carbon will form in the chamber or on the burner tip.

I claim:—

An oil burner embodying in its construction a one-piece tubular body portion closed

except for small outlet passages at one end and having a screw threaded opening at its other end, a flanged plug having screw threads engaging with the screw threads of said opening, the flange of said plug being flush with the body, and means extending through the plug for discharging oil and an atomizing fluid into said body, said body being in a conical form interiorly at the end thereof in which the outlet passages are provided, one of said outlet passages being in line with the apex of said conical portion and the other outlets being disposed on opposite sides of said apex, said body portion having a reduced tip portion through which portion the outlet passages are formed.

CLYDE K. WALLACE.