



# UNITED STATES PATENT OFFICE.

LAURENCE A. GILMORE, OF FRANKLIN, LOUISIANA.

OIL BURNER.

Application filed April 19, 1923. Serial No. 633,156.

*To all whom it may concern:*

Be it known that I, LAURENCE A. GILMORE, a citizen of the United States, residing at Franklin, in the parish of Saint Mary and State of Louisiana, have invented certain new and useful Improvements in Oil Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to liquid fuel burners and has for its object the provision of a burner which will result in a material saving of fuel and at the same time produce a hot flame, obviate choking and of such construction as to be readily dismembered for cleaning and replacement when necessary.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the application:

Figure 1 is a side view of an oil burner embodying the invention, the outer shell being in section,

Figure 2 is a longitudinal section on the line 2—2 of Figure 1,

Figure 3 is a detail perspective view of the burner tip, and

Figure 4 is a section on the line 4—4 of Figure 1.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The burner comprises an oil tube 1 provided at opposite ends with enlargements 2 and 3, the latter having a portion reduced and externally screw threaded. A shell 4 receives the tube 1 and its outer end is provided with an inner flange 5 which overlaps the outer end of the enlargement 2 and its inner end is enlarged, as indicated at 6, and internally screw threaded to engage the threaded portion of the enlargement 3. A

steam pipe 7 connects with the enlargement 6, whereby to supply steam to the space formed between the shell 4 and tube 1. Openings 8 are formed in the tube 1 adjacent the enlargement 2, whereby to provide a passage for the steam from the space 9 into the tube 1 to mix with the oil which burns at the outlet or tip.

The burner tip comprises a threaded stem 9 to make screw thread connection with the enlargement 2 and a flat head 10 and an intermediate polygonal portion 11 to receive a wrench or other tool, whereby to tighten or loosen the burner tip. The flat head 10 flares with the result that the flame spreads, thereby distributing the heat which is essential when the burner is constructed for heating a boiler.

It will be understood from the foregoing, taken in connection with the accompanying drawings, that the burner is of such construction as to admit of the parts being readily assembled or dismembered for any required purpose, such as cleaning or replacement. In practice, the oil or other liquid fuel is supplied to the tube 1 from any suitable source and steam or like fluid medium is supplied to the outer shell 4 and after passing through the space 9 enters the tube 1 through the opening 8 and mixing with the oil flows therewith through the burner tip and is consumed at the outlet. The steam in its passage through the space 9 meets the oil in the tube 1, which results in a ready commingling of the steam and oil to produce a mixture which will burn at the tip to produce a hot flame, with the result that there is a material saving of the fuel and the burner prevented from easily and quickly becoming clogged. The openings 8 are inclined whereby to offer a minimum resistance to the passage of the steam therethrough and to assist the action of the steam jets in causing the oil to flow through the tube 1 and the mixing of the oil and steam prior to the discharge of the same at the outlet of the tip 10.

What is claimed is:

An oil burner comprising a tube having a reduced portion and enlargements at opposite ends thereof integral therewith, the reduced portion having an opening therethrough, a shell having its rear end enlarged,

said shell being screw threaded to one of the enlargements, an inwardly extending flange at the forward end of the shell overlapping the outer end of the adjacent enlargement, said shell being spaced from the reduced portion of the tube to provide a conduit for a supporter of combustion, and a burner tip fitted to the outer end of the oil

tube and engaging the adjacent enlargement and said flange.

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

LAURENCE A. GILMORE.

Witnesses:

LOUIS LE BLAIN,

JAS. E. ALPHA.