E. T. WORLEY.

CRUDE OIL BURNER.

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1,273,976.

Patented July 30, 1918.



Fig. 2.

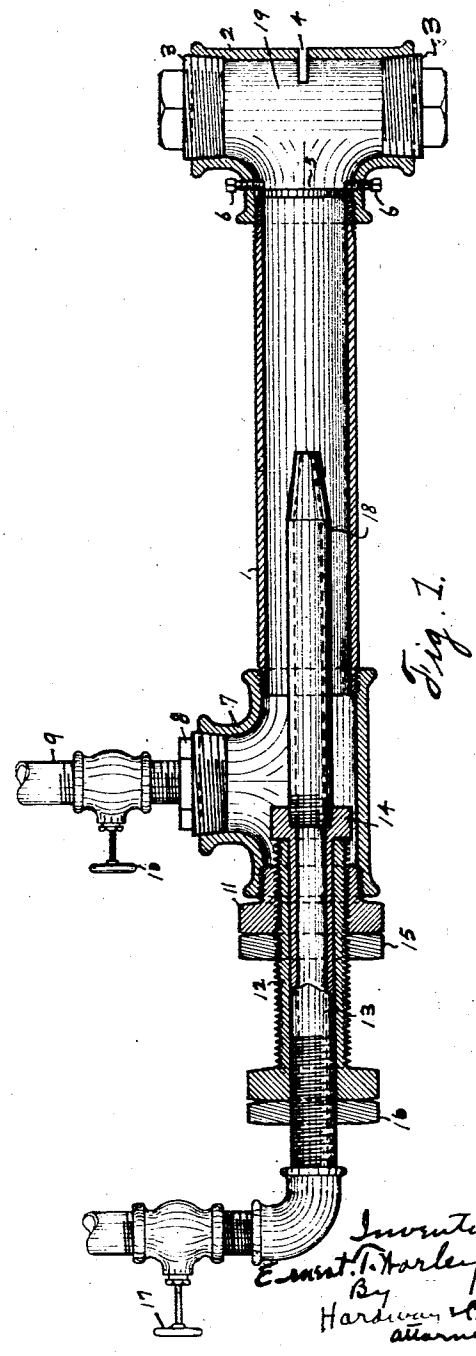


Fig. 1.

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UNITED STATES PATENT OFFICE.

ERNEST T. WORLEY, OF PORT HOUSTON, TEXAS, ASSIGNOR TO H. H. HOFFMAN & COMPANY, OF HOUSTON, TEXAS.

CRUDE-OIL BURNER.

1,273,976. Specification of Letters Patent. Patented July 30, 1918.

Application filed August 17, 1917. Serial No. 186,685.

To all whom it may concern:

Be it known that I, ERNEST T. WORLEY, a citizen of the United States, residing at Port Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Crude-Oil Burners, of which the following is a specification.

This invention relates to new and useful improvements in a crude oil burner.

The object of the invention is to provide a device of the character described whereby crude petroleum and other similar oils may be utilized as a fuel.

Another feature of the invention resides in the provision of a burner whereby the fuel is atomized before combustion takes place.

A further feature of the invention resides in the provision of a fuel nozzle which is adjustable relative to the steam pipe.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, use and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 shows a longitudinal sectional view of the burner, and

Fig. 2 shows a plan view of a baffle plate employed.

Referring now more particularly to the drawings wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 refers to a steam pipe upon the free end of which a T-connection 2 is screwed. The ends of this connection are closed by means of plugs 3, 3, which are screwed therein and the connection 2 is provided with a central transverse slit 4 through which the spray issues in a fan like sheet. Within the connection 2 is the perforated disk-like baffle 5 which is held against the end of the steam pipe 1 by means of the series of set screws 6. The other end of the steam pipe 1 is screwed into one end of the T connection 7. This connection has the plug 8 screwed into the neck thereof through which the steam pipe 9 enters, said last mentioned pipe being controlled by the valve 10. The other end of the connection 7 has a gland 11 screwed therein through which the sleeve 12 is threaded and the fuel pipe 13 passes through this sleeve and its inner end is formed into an enlarged head 14 against which the inner end of the sleeve 12 abuts. The gland 11 is locked into position on the sleeve by means of the locking nut 15 which is threaded on said sleeve and the sleeve is locked in position on the fuel pipe 13 by means of the lock nut 16 which is threaded on said pipe. The fuel pipe leads from a super-heater, (not shown), by means of which the fuel oil is first heated and said pipe is controlled by means of the valve 17. A fuel nozzle 18 is threaded, at one end, into the inner end of the fuel pipe 13 and is concentric with said pipe and with the steam pipe 1. The fuel is forced under pressure through the fuel pipe 13 and the nozzle 18 and is discharged into the steam pipe 1 through which steam is forced under pressure from the steam pipe 9. The steam and fuel are mingled together in the pipe 1 and are forced through the perforations of the baffle plate 5 into the chamber 19 formed in the connection 2, entering said chamber in an atomized form and passing out through the slit 4 into the combustion chamber where combustion takes place. The fuel passing out through the slit 4 is in an atomized form so that all of the fuel is consumed, thus preventing any waste of fuel.

What I claim is:

An oil burner including a steam pipe, a T-connection secured upon one end thereof, removable plugs closing the ends of said connection, said connection being provided with a central transverse slit, a perforated baffle plate secured in said end of said steam pipe, means through which steam is introduced into the steam pipe, an adjustable fuel nozzle concentrically arranged within said pipe through which fuel is discharged into said pipe, a fuel pipe through which fuel is delivered into said nozzle and means for controlling the fuel and steam, respectively, through said steam and fuel pipes.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERNEST T. WORLEY.

Witnesses:

FLORENCE JOHNSTON,

J. C. HARRELL.