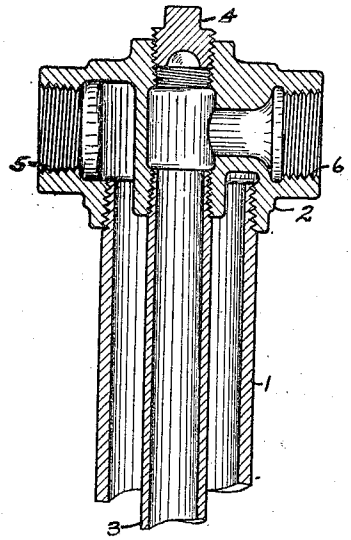
J. O. DECUIR.

OIL BURNER.

APPLICATION FILED MAY 11, 1920.

1,423,650. Patented July 25, 1922.



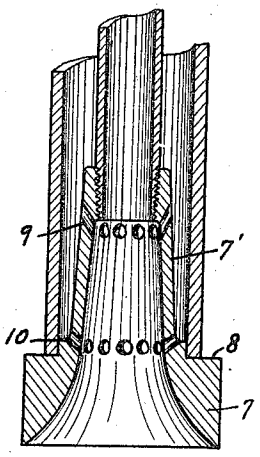


FIG. 1.

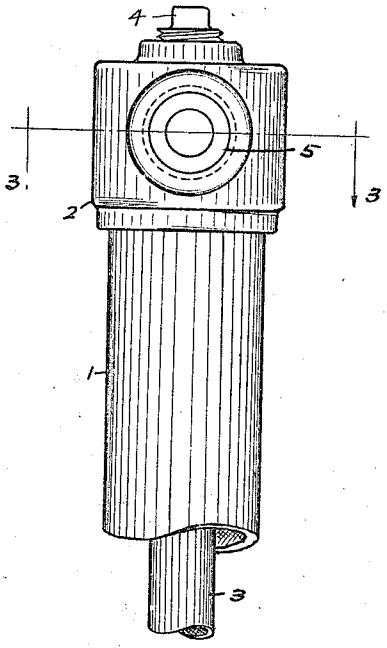


FIG. 2.

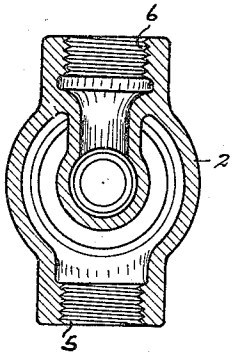


FIG. 3.

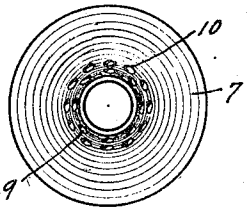


FIG. 4.

Joseph O. Decuir INVENTOR

BY

Hardway, Cathey ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH O. DECUIR, OF HOUSTON, TEXAS.

OIL BURNER.

1,423,650. Specification of Letters Patent. Patented July 25, 1922.

Application filed May 11, 1920. Serial No. 380,623.

To all whom it may concern:

Be it known that I, JOSEPH O. DECUIR, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in an Oil Burner, of which the following is a specification.

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

One object of the invention is to provide a device of the character described which has been specially designed to utilize oil as a fuel.

Another object is to provide an oil burner having a flared nozzle through which the fuel is discharged by fluid pressure; the flared formation of the nozzle permits the fuel to spread immediately after it is discharged so that combustion will take place near the nozzle, rather than a considerable distance from it as is the case with many burners now in use.

Another object of the invention is to provide a device of the character described which is of simple construction, which may be cheaply manufactured, and easily kept in repair.

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

Figure 1 shows a longitudinal, sectional view.

Figure 2 shows a fragmentary side view,

Figure 3 shows a transverse, sectional view taken on the line 3—3 of Figure 2, and Figure 4 shows a nozzle end view.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 designates a tubular casing, one end of which is threaded into the T-connection 2. Arranged concentrically within this casing and spaced therefrom is the fuel pipe 3 which is anchored to said connection. The connection has a cleanout plug 4 opposite the fuel pipe which may be removed for the purpose of gaining access to said pipe for cleaning the same out. The connection 2 has a tapped hole 5 to receive a steam or air pipe through which said fluid may be admitted under pressure into the chamber between the casing 1 and pipe 3, and said connection also has a tapped hole 6 to receive a fuel oil pipe through which fuel is fed into the pipe 3.

A nozzle 7 is provided, formed with an elongated nipple 7′ which is threaded on to the adjacent end of the fuel pipe 3 and this nozzle is provided with an annular shoulder 8 which abuts against the nozzle end of the casing, when the nipple is screwed home, and forms a tight joint therewith. The nozzle is flared outwardly as shown and is provided with two rows of perforations, 9 and 10, therearound, the former of which are located just beyond the discharge end of the fuel pipe 3 and the latter of which are arranged in the throat of the nozzle as shown.

The steam issues out through said perforation, under pressure, and mingling with, the fuel and discharge the same out into the combustion chamber where it is consumed. In some burners the pressure is so great that, with the form of nozzle used by them, the fuel is thrown too far back into the combustion chamber before it is ignited. To avoid this, I have flared the nozzle so that when the steam and fuel issue out they will be permitted to freely expand, and the friction of them against the flared nozzle will retard them causing combustion to take place near the nozzle and approximately in the center of the combustion chamber.

What I claim is:

An oil burner including a tubular casing, a T-connection to which the same is anchored, a fuel pipe arranged concentrically therein and spaced therefrom forming a chamber, said fuel pipe being anchored to said connection, means for admitting fuel into said pipe, means for admitting steam into said chamber, a nozzle, formed with a bell-shaped discharge passageway and fitted within the discharge end of the casing formed with an annular shoulder which abuts against the adjacent end of the casing, forming a tight joint therewith, an elongated nipple formed integrally with said nozzle and anchored to said fuel pipe, said nozzle and nipple each having a circular row of ports through which steam may be discharged from said chamber through said nozzle.

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

JOSEPH O. DECUIR.

Witnesses:

WM. A. CATHEY,

A. ALLEN.