R. L. SMITH.

OIL BURNER.

APPLICATION FILED JUNE 8, 1918.

1,323,922. Patented Dec. 2, 1919.

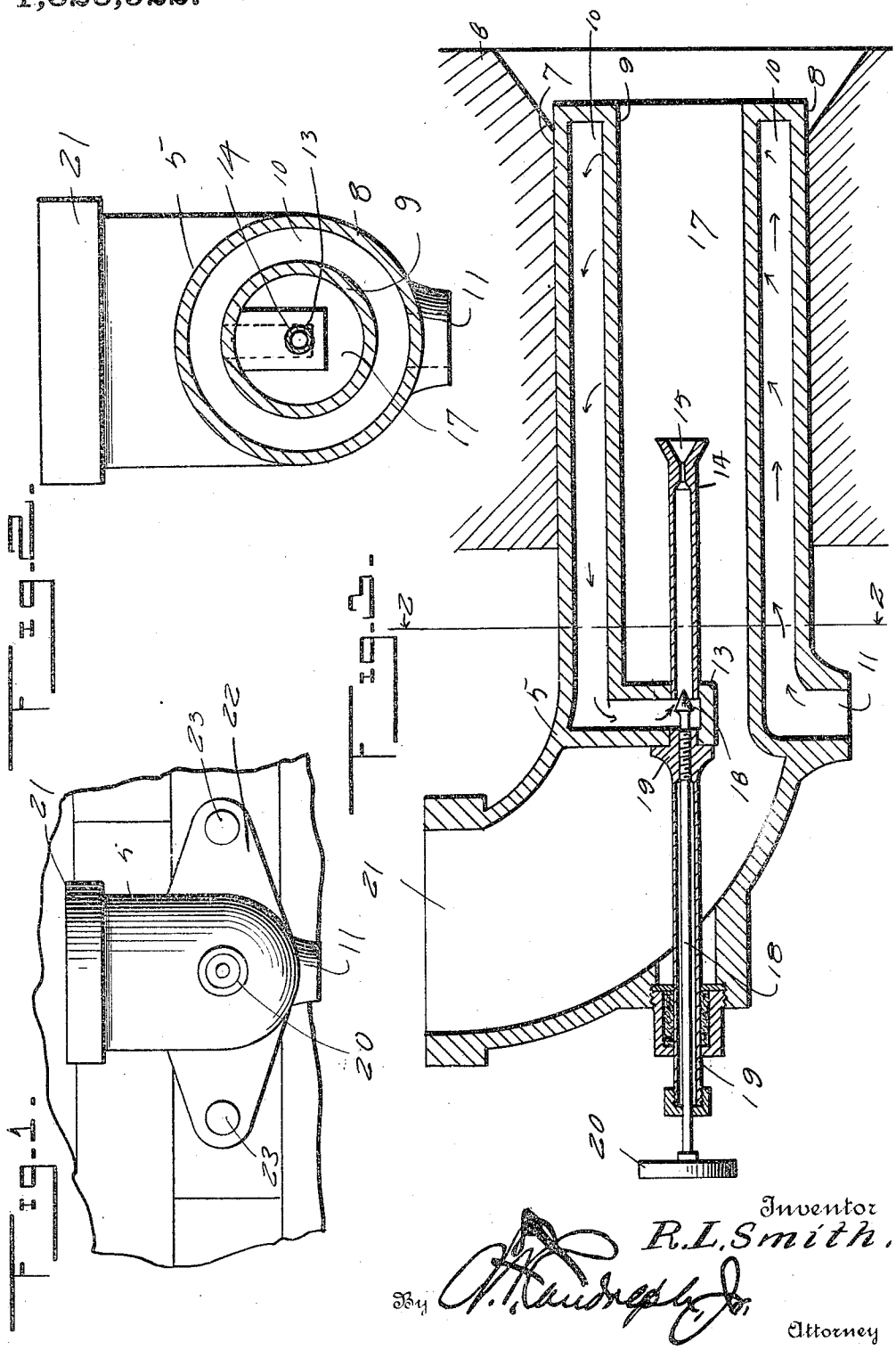


Fig. 1.

Fig. 2.

Fig. 3.

Inventor

R. L. Smith.

By A. L. Lindsley Jr.

Attorney

UNITED STATES PATENT OFFICE.

RALPH L. SMITH, OF LANSING, MICHIGAN.

OIL-BURNER.

1,323,922. Specification of Letters Patent. Patented Dec. 2, 1919.

Application filed June 8, 1918. Serial No. 239,012.

To all whom it may concern:

Be it known that I, RALPH L. SMITH, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, 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.

My invention relates to oil burners especially adapted for use in connection with drop forge furnaces and the like.

An important object of my invention is to provide an oil burner adapted to be installed in a drop forge furnace in one side thereof to permit of the heat radiated from the wall of the furnace acting on the oil fed to the burner, thus adding greatly to the efficiency of the burner.

A further object of the invention is to provide an oil burner of the character described which is of highly simplified construction, easy to install in a furnace and highly efficient in use.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a front elevation of my improved oil burner applied to a furnace,

Fig. 2 is a transverse section taken on line 2—2 of Fig. 3, the view being taken in the direction of the arrow, and,

Fig. 3 is a vertical longitudinal central sectional view through my improved oil burner.

In the drawings, wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 5 generically designates my improved oil burner applied to a wall 6 of a furnace having a cylindrical opening 7 therein for the reception of a cylindrical extension 8 formed on the oil burner 5. Arranged within the cylindrical extension 8 and formed integral therewith is a cylindrical wall 9 spaced from the cylindrical extension 8, thus forming an annular passageway 10. An oil inlet 11 formed on the bottom portion of the device is in communication with the annular fuel passage 10 and is connected to any suitable source of fuel supply. Communicating with the upper portion of the annular fuel passage or channel 10 and depending therefrom is a valve chest 13 arranged rearwardly thereof. A nozzle 14 extending from the valve chest 13 is arranged within the cylindrical extension 7 and is provided with a flared mouth 15. A valve 16 seated on one end of the nozzle 14 serves to control the supply of fuel to the combustion chamber 17. A valve rod 18 connected to the valve 16 is in threaded engagement with a sleeve 19 inclosing the greater portion of the valve rod. An operating handle 20 is attached to the end of the rod 18.

An air inlet 21 for low pressure air is in communication with the combustion chamber 17 where the vaporization of the oil and air occurs. Flanges 22 formed integral with the burner 5, are provided with apertures for the reception of bolts 23, attaching the device to the side wall of the furnace.

The operation of my improved oil burner is as follows:

The oil in entering through the fuel inlet 11 passes through the fuel passageway 10, in the direction of the arrows therein. By virtue of the heat radiated from the wall 6 of the furnace acting on the incoming fuel, the same tends to rise to the upper portion of the annular fuel chamber 10 and is fed through the valve chest 13 to the nozzle 14, from where it enters the combustion chamber 17 and vaporizes with the incoming air. To regulate the amount of fuel supply to the combustion chamber 17, it is obvious that the needle valve 16 may be adjusted accordingly. While no means are shown for regulating the amount of air supplied to the burner, it is obvious that any well known means of adjusting the air may be supplied.

While I have shown and described the preferred embodiment of my invention, it is understood that I may make such minor changes in arrangement and construction of parts as will remain within the spirit of the invention and the appended claims.

Having thus described my invention, what I claim is:

1. An oil burner including a hollow cylindrical body having an annular fuel chamber and an interior combustion chamber, a depending valve chest in communication with said annular chamber and arranged in

the rear portion of the combustion chamber, the rear end portion of the cylindrical body being curved and forming an air inlet, a needle valve for the valve chest, said needle valve being provided with an operating rod extending exteriorly of the curved rear portion of the cylindrical body, and an elongated discharge nozzle connected to the valve chest and arranged centrally of the combustion chamber.

2. An oil burner including a hollow cylindrical body having an annular fuel chamber and an interior combustion chamber, a valve chamber arranged in the rear portion of the combustion chamber and in communication with said annular fuel chamber, an elongated discharge nozzle in communication with said valve chest and arranged centrally of the combustion chamber, the mouth of said discharge nozzle being flared outwardly, and a valve for said valve chest.

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

RALPH L. SMITH.

Witnesses:
MACK-MACKINDOR,
CHARLES MOTT.