W. D. BRECKENRIDGE.

OIL BURNER.

APPLICATION FILED AUG. 26, 1908.

920,818. **Patented May 4, 1909**

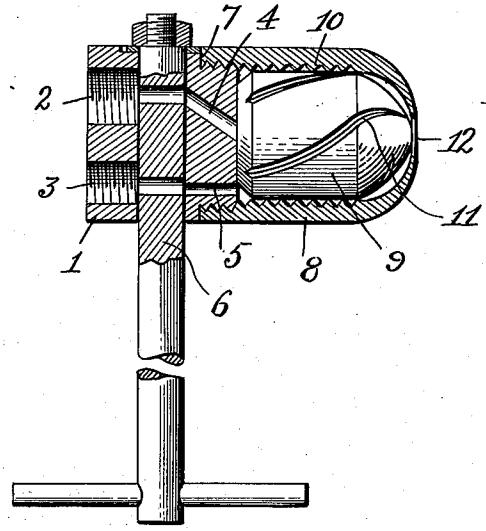


Fig. 1.

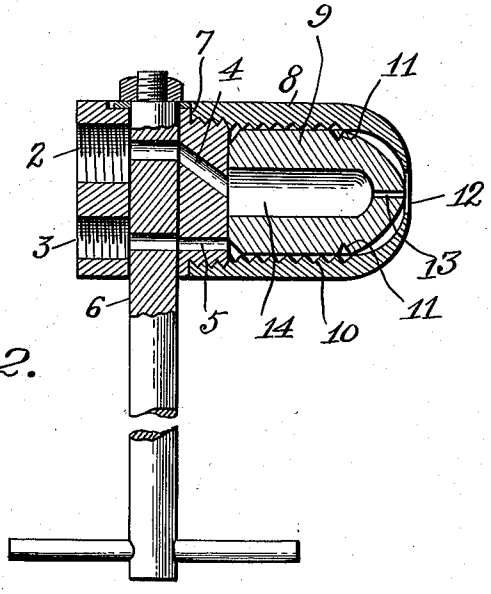


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM D. BRECKENRIDGE, OF WACO, TEXAS, ASSIGNOR OF ONE-HALF TO J. M. POWERS, JR., OF HOUSTON, TEXAS.

OIL-BURNER.

No. 920,818. Specification of Letters Patent. Patented May 4, 1909.

Application filed August 26, 1908. Serial No. 450,291.

To all whom it may concern:

Be it known that I, WILLIAM D. BRECKENRIDGE, a citizen of the United States of America, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Oil-Burners, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to oil burners of the type in which crude oil is fed through the burner and commingled at the tip with compressed air or steam so as to be vaporized and ignited.

The invention consists in certain novel features hereinafter first fully described and then particularly pointed out in the claim.

In the drawings, Figure 1 is a longitudinal section of the improved burner, the internal plug being shown in elevation in order to disclose the air-conveying spiral grooves. Fig. 2 is a similar view with the plug in section.

In carrying out the present invention, I employ a base or block, 1, having threaded openings, 2, 3, for the reception of the oil and air supply pipes, respectively. From these openings, ports or passages, 4, 5, lead through the block to the end of the same, the oil port, 4, being carried obliquely through the block to the center of the same. A single turning plug valve, 6, controls the two ports so that a single motion will turn on or cut off both the air and oil supply. This feature of the invention is very advantageous as the burner may be used in ordinary cook stoves and by unskilled persons without fear of accident due to carelessness. One end of the body is reduced to present an annular shoulder, 7, and beyond said shoulder it is threaded as clearly shown. The threaded portion is engaged by a tubular shell, 8, and the shoulder 7 acts as a stop to limit the movement of the shell to prevent jamming of the same and the plug, 9, which is fitted loosely within the shell and is held between the outer end of the same and the end of the body, as clearly shown in Fig. 1. The shell is formed with interior spiral grooves or threads, 10, and the plug is formed with external spiral grooves, 11, by reason of which the air, steam or other vaporizing agent is given a rotary motion as it passes through the burner and emerges from the orifice, 12, with a whirling motion, thereby serving to effectually draw the oil from the burner and become intimately mixed therewith and effect a complete vaporization thereof. The plug is provided with a central jet opening, 13, in its end which registers with the orifice in the end of the shell and discharges the oil in small quantities best adapted for thorough vaporization. The interior of the plug presents a rather large bore, 14, so that it will register with the oil port 4 notwithstanding slight inaccuracies of fitting.

The operation of the burner will be readily understood. The oil and air ports being open and the burner placed in a stove or other place where heat is desired, the oil and air will pass through the plug and the space between the same and the shell and commingle at the tip where they will vaporize and may be ignited. A strong steady flame is produced which may be regulated by an unskilled person and will not consume the oil in wasteful quantities.

Having thus described my invention, what I claim and desire to secure by Letters-Patent is:—

The combination of a body having two inlets, a plug resting against the body and having an axial bore registering with one of the inlets therein, a shell secured to the body and supporting the plug, the space between the shell and the plug communicating with one inlet in the body, and means for opening and closing said inlets.

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

WILLIAM D. BRECKENRIDGE.

Witnesses:

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