J. A. SHORES.

BRAZIER'S LAMP.

APPLICATION FILED MAR. 27, 1908.

905,009.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

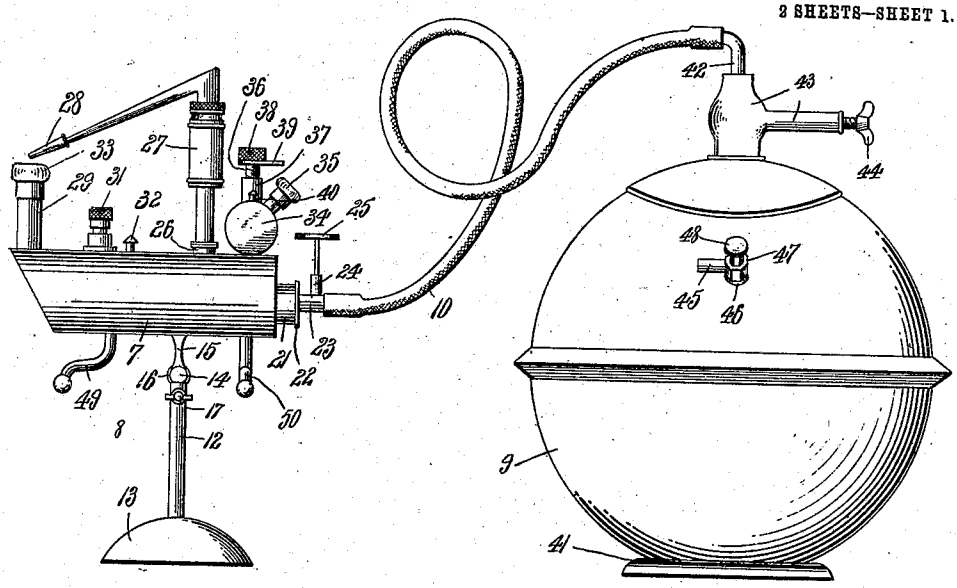


Fig. 1.

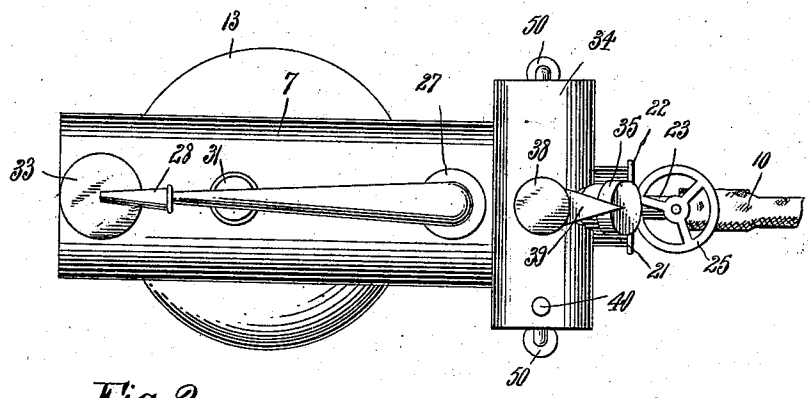


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

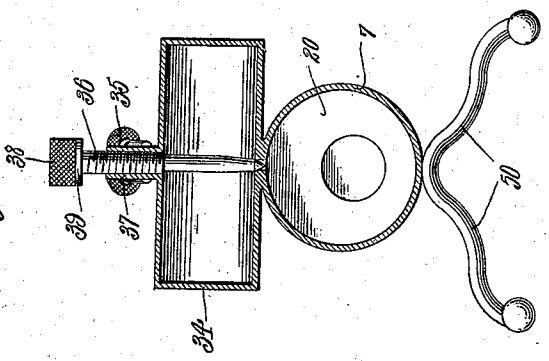


Fig. 5.

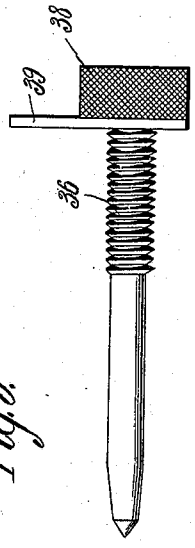


Fig. 3.

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UNITED STATES PATENT OFFICE.

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BRAZIER'S LAMP.

No. 905,009. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed March 27, 1908. Serial No. 423,711.

To all whom it may concern:

Be it known that I, JAMES A. SHORES, a citizen of the United States, residing at Crowder, in the county of Pittsburg, State of Oklahoma, have invented certain new and useful Improvements in Braziers' Lamps; 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 present invention has reference to braziers' lamps, and it aims, generally, to provide an exceedingly simple and efficient device of that nature for producing a flame of intense heat and for directing the flame against the work.

More especially, the invention resides in the provision of a tiltably-mounted receptacle having a front chamber adapted to contain a burning fluid, and a rear chamber into which a mixture of air and hydrocarbon vapors is introduced under pressure, the mixture being directed through a blow pipe, whose stem communicates with said chamber, across the flame of the ignited fluid and against the work.

The invention further resides in the provision of a supplemental hydrocarbon tank mounted upon the receptacle and communicating with the rear chamber thereof through a needle valve, which regulates the feed of the hydrocarbon to the mixture of air and hydrocarbon vapors, thus permitting the blast of flame directed against the work to be further intensified.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which,

Figure 1 is a side elevation of the complete invention. Fig. 2 is a plan view of the receptacle which forms the lamp proper. Fig. 3 is a longitudinal section through Fig. 2. Fig. 4 is a transverse section through the supplemental hydrocarbon tank and the rear chamber of the receptacle. Fig. 5 is an enlarged detail view of the needle valve.

Referring more particularly to the drawings, 7 designates the cylindrical receptacle which forms the lamp proper; 8 the standard which supports the receptacle; and 9 a spherical air-tank which communicates with the receptacle through a flexible rubber tube 10, as hereinafter described.

The standard 8, above referred to, comprises upper and lower telescoping sections 11 and 12, the latter of which is secured to a base 13, while the former is provided with a lateral pin 14 which projects through a perforated lug 15, depending from the bottom wall of the receptacle 7 and carries at its outer end a nut 16. The two sections of the standard are held in adjusted position with respect to each other by means of a thumb screw 17.

The receptacle 7 is divided by a transverse partition 18 into a front chamber 19 and a rear chamber 20, the last-mentioned chamber having a neck 21 formed on its rear end in which a threaded plug 22 is fitted, said plug being provided with an axial nipple 23 which is inserted into the adjacent end of the flexible tube 10. The nipple 23 is provided with a cut-off valve 24 whose stem carries a hand wheel 25. The upper wall of the chamber 20 has formed thereon a threaded shoulder 26 adapted to receive the threaded lower end of the vertical stem of a V-shaped blow-pipe 27 the upper section or operative position of which is normally disposed longitudinally of the receptacle and terminates in a head 28 which extends directly across the upper end of a vertical burner 29 which communicates with the interior of the chamber 19.

The burner is provided with a wick 30 whose lower end is submerged in the alcohol or similar hydrocarbon burning fluid with which the chamber 19 is filled, the fluid being introduced into said chamber through a feed opening normally closed by a screw cap 31, adjacent which opening is formed a second opening which is closed by a plug 32. The upper end of the burner 29 is normally closed by a cap 33. The chamber 20 is further provided with a transversely-disposed supplemental tank 34 secured to its upper wall rearwardly of the stem of the blow-pipe 27, said tank being adapted to be filled with gasolene which is supplied thereto through a feed opening closed normally by a cap 35. Through this tank and into the chamber 20, extends a needle valve 36 whose upper end projects through an internally threaded sleeve or collar 37 formed on the upper wall of the tank, the extreme upper end of the valve carrying a nut 38 by means of which it is rotated, to regulate the supply of gasolene fed to the chamber 20, said nut having secured thereto an index or pointer

39. The tank 34 is also provided with a second opening which is normally closed by a plug 40, the plug being removed during the filling of the tank, as will be understood.

The air tank 9, which, as originally stated, has an approximately spherical shape, rests upon a base 41 formed integral therewith and is provided at its top with a nipple 42 upon which the other end of the tube 10 is fitted, the nipple having formed therein an outlet passage which communicates with the interior of the air-tank, said passage being closed by a cut-off valve 43, whose stem fits in a lateral sleeve formed upon the nipple. The valve 43 is operated by a wing-nut 44 secured to the projecting end of its stem. The tank is provided with a second nipple 45 which is likewise located in the upper wall thereof and has formed therein an inlet passage with which the bore of a lateral sleeve 46 communicates, gasolene being introduced into the interior of the tank through said passage, communication between which latter and the tank is opened and closed by a cut-off valve 47 whose stem carries a milled head 48.

In the operation of the invention, the air-tank is filled to one-fifth its capacity with gasolene introduced thereinto through the inlet passage above referred to, after which one end of the usual flexible tube carried by an air-compressor (not shown) is fitted upon the nipple 45 and air under a pressure varying from five to twenty-five pounds is introduced into the interior of the tank, the valve 43 having previously been closed as will be understood. The valve 47 is then closed and the tank allowed to stand for twenty-four hours during which time, the air becomes completely saturated with the gasolene vapors. The wick in the mouth of the burner 29 is then ignited, after which the valves 43 and 24 are opened, whereupon the saturated air flows into the rear chamber 20 in the receptacle 7 and from thence through the blow-pipe 27 and against the flame at the mouth of the burner, directing the flame against the work and greatly increasing its intensity, which may be varied to a certain extent by swinging the upper section of the blow-pipe towards or from the center of the flame. Where an intensely hot flame is required, the needle valve is operated and an additional supply of gasolene is introduced into the chamber 20 from the tank 34, the vapors of the gasolene being absorbed by the saturated air during its passage through said chamber to the blow-pipe. The receptacle may be tilted in the usual manner upon its support, when the device is in operation, by means of the thumb and finger pieces 49 and 50 which are secured to the opposite ends of its bottom wall.

What is claimed is:

1. In a brazier's lamp, the combination of a receptacle having its interior divided into front and rear chambers, the front chamber being adapted to contain a burning fluid; a burner secured to the receptacle and communicating with the front chamber; means for introducing air under pressure into the rear chamber; a fluid supply tank mounted upon the receptacle and communicating with the rear chamber for introducing the fluid into the rear chamber simultaneously with the air; and a blow-pipe secured to the receptacle and communicating with the rear chamber, for directing a blast of air against the flame at the mouth of the burner.

2. In a brazier's lamp, the combination of a receptacle having its interior divided into front and rear chambers, the front chamber being adapted to contain a burning fluid; a burner secured to the receptacle and communicating with the front chamber; means for introducing air under pressure into the rear chamber; a fluid supply tank mounted upon the receptacle and communicating with the rear chamber for introducing the fluid into said rear chamber simultaneously with the air; means for regulating the supply of burning fluid introduced into said rear chamber; and a blow-pipe secured to the receptacle and communicating with the rear chamber, for directing a blast of air against the flame at the mouth of the burner.

3. In a brazier's lamp, the combination of a receptacle having its interior divided into front and rear chambers, the front chamber being adapted to contain a burning fluid; a burner secured to the receptacle and communicating with the front chamber; means for introducing air under pressure into the rear chamber; a fluid supply tank mounted upon the receptacle and communicating with the rear chamber for introducing the fluid into said rear chamber simultaneously with the air; a needle valve for regulating the supply of burning fluid introduced into said rear chamber; and a blow-pipe secured to the receptacle and communicating with the rear chamber, for directing a blast of air against the flame at the mouth of the burner.

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

JAMES A. SHORES.

Witnesses:
THOS. T. NORRIS,
ARTHUR C. SEWELL.