

No. 736,013.

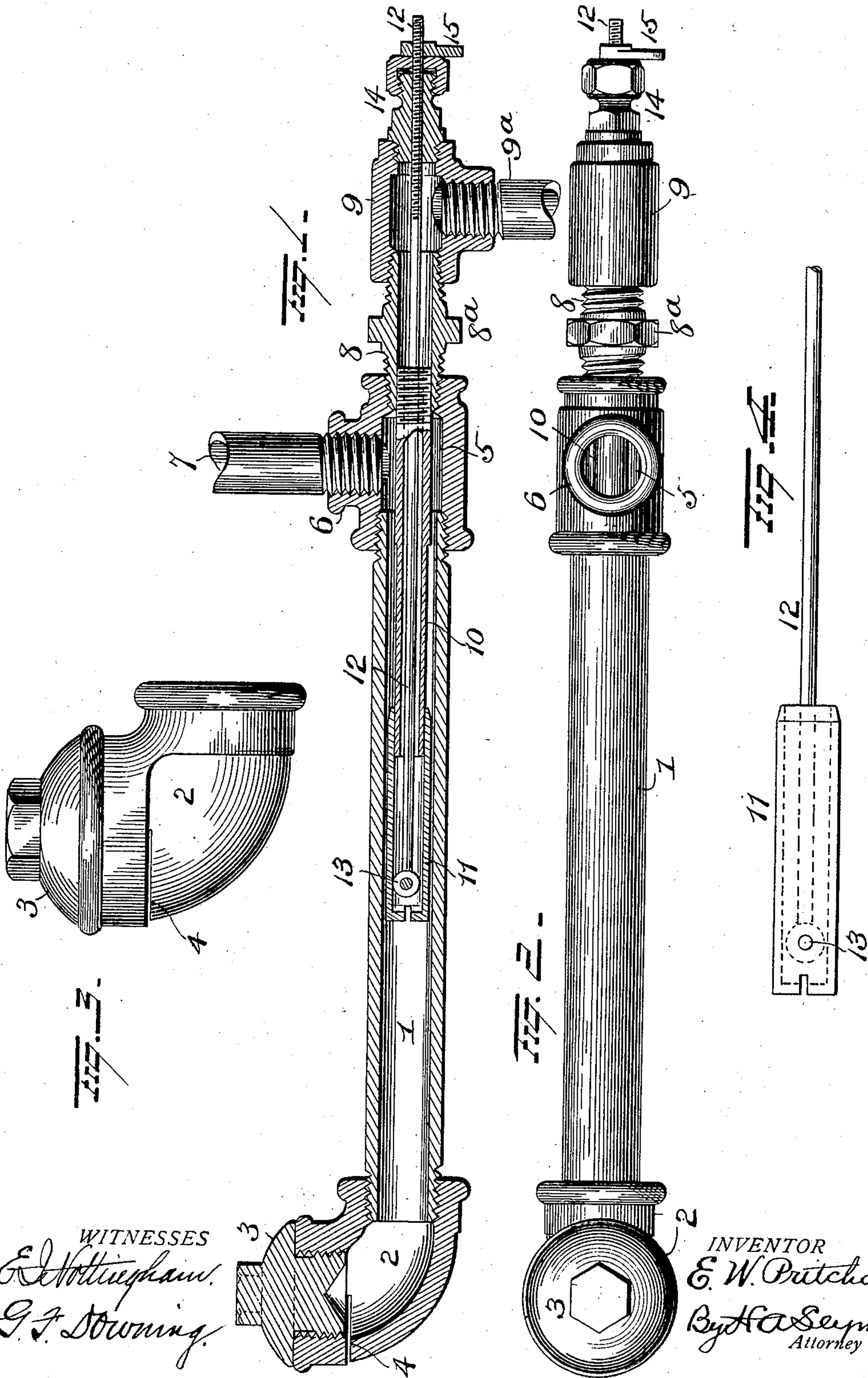
PATENTED AUG. 11, 1903.

E. W. PRITCHARD.

VAPOR BURNER.

APPLICATION FILED MAY 19, 1902.

NO MODEL.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

EDWARD WALTER PRITCHARD, OF DALLAS, TEXAS.

## VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 736,013, dated August 11, 1903.

Application filed May 19, 1902. Serial No. 108,008. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD WALTER PRITCHARD, a resident of Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Vapor-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 an improvement in vapor-burners, the object of the invention being to provide an improved burner in which steam will be utilized to heat the oil, mix with the vapor, and be burned therewith.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in section illustrating my improvements. Fig. 2 is a plan view, and Figs. 3 and 4 views of details of construction.

1 represents a burner-tube having screwed onto one end a curved burner 2, closed by a cap 3 and slit near the cap, as shown at 4, through which the combustible mixture is fed and burned. On the opposite end of this tube 1 an enlarged steam-chamber 5 is screwed or otherwise secured and is provided with a teat 6, into which a steam-supply pipe 7 is screwed and adapted to supply steam to the chamber 5 and tube 1. An opening is provided in the rear wall of chamber 5 to receive a tightly-fitting coupling 8, comprising two diverging cones with an enlarged angular center 8<sup>a</sup> to receive a wrench and permit rotation thereof. This coupling 8 is screwed into chamber 5 and connects a T-coupling 9 with a long nozzle 10, projecting into tube 1, and with said T-coupling 9 an oil-supply pipe 9<sup>a</sup> is connected, as shown. On the inner end of nozzle 10 an elongated tubular cap 11 is mounted and slit at its closed end for the escape of vapor into tube 1. This cap 11 is mounted to slide longitudinally on nozzle 10 to lengthen or shorten the same and compel the oil to pass through a longer or shorter heating zone before escape. This adjustment is accomplished by means of a long screw-threaded rod 12, connected at its inner end to a cross-pin 13 in

cap 11 and projects at its other end through packing-nuts 14, closing one end of T-coupling 9, and a set-nut 15 is located on the protruding end of rod 12 to move the latter longitudinally when nut 15 is turned, and thereby adjust the cap longitudinally to lengthen or shorten the nozzle.

In operation oil is fed through nozzle 10, which latter is heated by the supply of steam surrounding the same. The oil is vaporized and escapes through the slit in cap 11 and is mixed with the steam and the mixture burned at the slit 4 in burner 3.

It will thus be seen that with my improvements the steam not only serves as a part of the combustible mixture, but also as a heating medium to vaporize the oil, and I produce a burner which is extremely simple in construction, cheap to manufacture, and highly efficient as a heater.

A great many changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise construction set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a main supply-pipe provided with a burner at one end and a steam-supply connection at its other end, of an oil-supply extending into and only part way through the main supply-pipe and thereby forming an oil-and-steam-commingling chamber in the outer end thereof, a sliding sleeve encircling the discharge end of the oil-supply pipe, a rod extending through the oil-supply pipe and secured to the sliding sleeve, and means for adjusting the rod and sliding sleeve longitudinally and thereby varying the length of the oil-vaporizing chamber, substantially as set forth.

2. The combination with a burner-tube and means for admitting steam thereto, an oil-supply pipe, a T-coupling thereon, an oil-supply nozzle projecting into the tube and a coupling connecting the T-coupling and nozzle, of an elongated tubular cap closing the inner end of the nozzle and slit in its closed

end, a screw-threaded rod extending through  
the nozzle and couplings and through pack-  
ing-nuts in the T-coupling and connected at  
its inner end to the cap and a set-nut on the  
5 outer end of the rod to adjust the cap longi-  
tudinally.

In testimony whereof I have signed this

specification in the presence of two subscrib-  
ing witnesses.

EDWARD WALTER PRITCHARD.

Witnesses:

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J. P. GRAUL.