

Nov. 4, 1924.

T. E. CRAVENS

1,514,135

OIL BURNER

Filed March 10, 1923

3 Sheets-Sheet 1

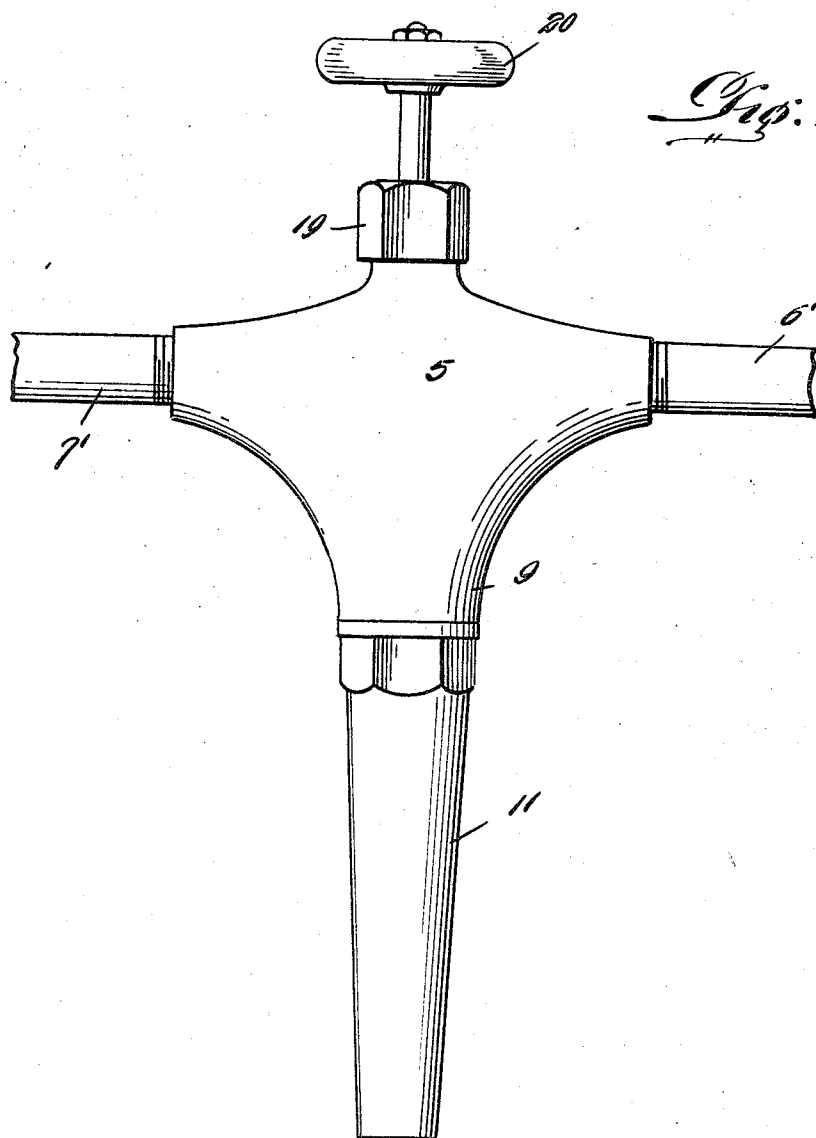


Fig. 1.

Witnesses:

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Charles C. D. Smith
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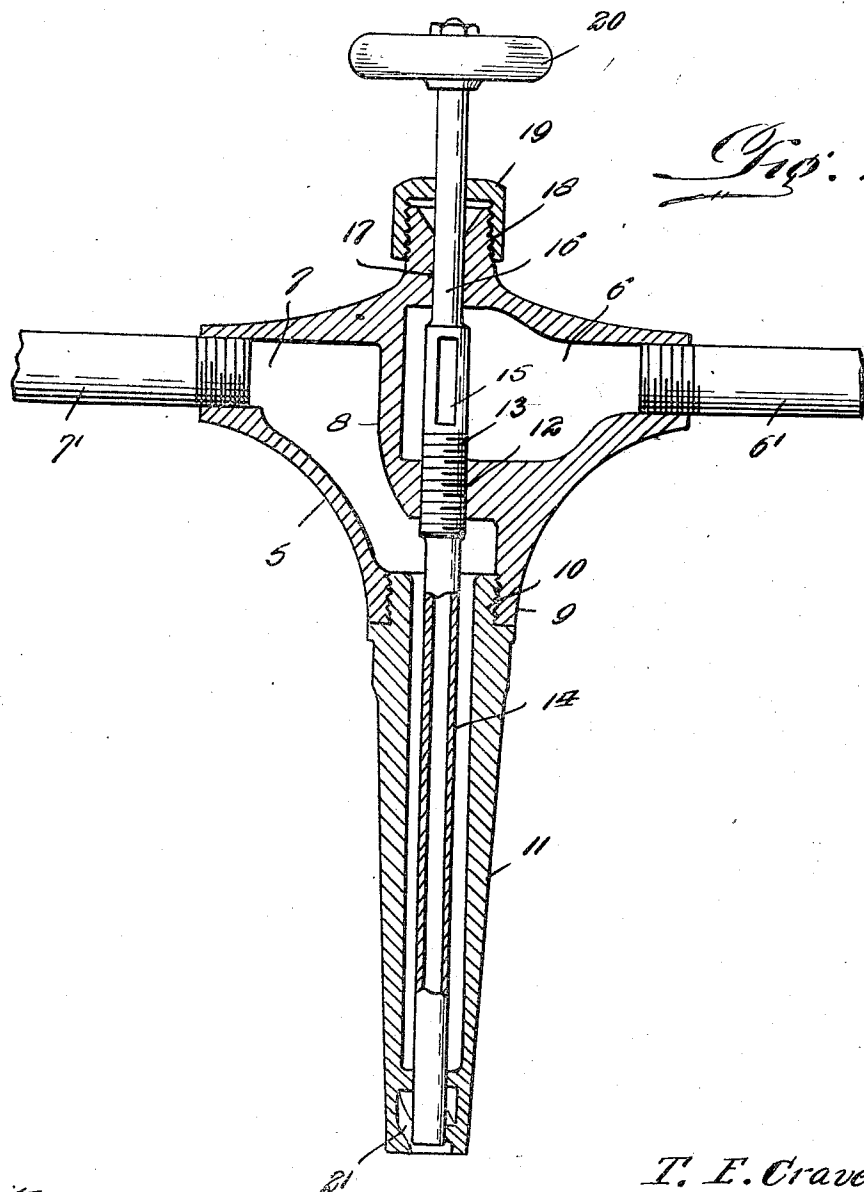
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3 Sheets-Sheet 2



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Fig. 3.

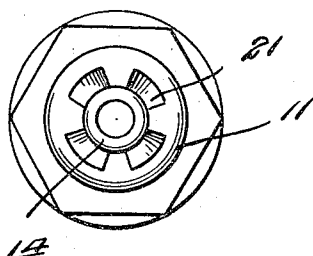


Fig. 4.

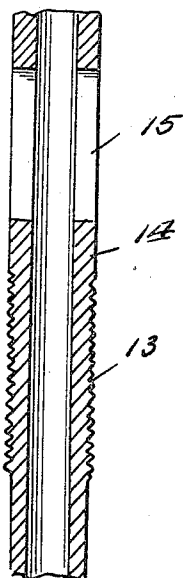
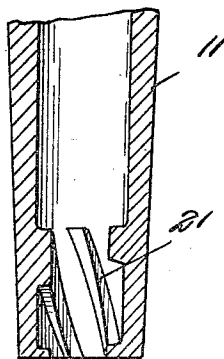


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS EDWARD CRAVENS, OF TEXAS CITY, TEXAS.

OIL BURNER.

Application filed March 10, 1923. Serial No. 624,078.

To all whom it may concern:

Be it known that THOMAS E. CRAVENS, a citizen of the United States, residing at Texas City, in the county of Galveston and State of Texas, has invented certain new and useful Improvements in Oil Burners, of which the following is a specification.

My invention relates to oil burners, and has for the primary object thereof to substantially improve upon similar types of burners, with which I am now familiar, the same being characterized by its simplicity of construction, and efficiency of operation, it being further adapted for developing an extremely high degree of heat.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination, and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:—

Figure 1 is an elevational view of an oil burner constructed in accordance with my invention.

Figure 2 is a transverse cross sectional view thereof.

Figure 3 is an end view, showing more clearly the outlet nozzle of the burner.

Figure 4 is a fragmentary cross sectional view of the burner nozzle.

Figure 5 is an enlarged fragmentary cross sectional view of the adjustable fuel conveying tube forming a component part of the present invention.

Referring to the drawings in detail, my burner comprises a head 5, which is of substantially T configuration, the same being formed with an oil passage 6, and a steam passage 7, separated from each other by a partition 8. The steam and oil passages 6 and 7 are formed respectively, with screw threaded inlets, to which are secured oil and steam pipes 6' and 7'. The said steam passage 7 has communication with an outlet, which is screw threaded as shown for receiving the upper reduced and screw threaded end 10 of a somewhat conical-shaped nozzle 11, the portion of which adjacent the said reduced and screw threaded end is of an-

gular-shape to permit the ready removal or application of the said nozzle 11 from or to the burner head 5. The said partition wall 8 is formed with a vertical screw threaded opening 12, within which is the enlarged and screw threaded portion 13 of a steam or other fuel conveying tube 14, this tube being relatively long, and extending downwardly into the said burner nozzle 11. The said enlargement 13 is formed with an inlet 15, within the said outlet passage 6, and formed upon the upper end of this tube, is a rod 16, which extends outwardly through a vertical opening 17 in the said body 5, an externally screw threaded member 18 being formed around this opening for the reception of a packing nut 19. Upon the extreme upper end of this rod 16 is a hand wheel 20.

The outer end of the said nozzle 11 is formed internally with spaced and spirally arranged ridges 21, it being of course understood that the outlet end of the fuel conveying tube 14 is adjustable with relation to these spiral ridges in view of the fact that the said tube may be moved within the burner by a rotation of the hand wheel 20.

Steam entering the passage 7 in the burner head 5 through the pipe 7', passes through the nozzle 11 and is given a whirling action through the instrumentality of the said spiral ridges 21, and by adjusting the burner outlet tube 14 with respect to the outlet end of the nozzle 11, varying proportions of steam and oil will be mixed for consequently increasing or diminishing the degree of heat produced by the flame at the outlet nozzle of the burner.

Although I have herein shown and described the preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be made therein, without departing from the spirit and scope of the invention as claimed.

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

A burner comprising a head casing having a nozzle and provided with a pair of compartments, the nozzle being provided at its discharge end with an interiorly located spirally disposed ridge, a tube screw threaded in the partition between the compartments and having an end portion snugly received within the inner edge surface of

the ridge, said tube being provided with an opening which communicates with one of the compartments only, the tube being provided with a rod handle which passes through the 5 wall of the head casing, the thread upon the tube being of a length sufficient to permit the discharge end of the tube to be projected beyond the discharge end of the nozzle, and the tube opening being disposed beyond that end of the thread, which is disposed toward 10 the discharge end of the tube.

In testimony whereof I affix my signature.

THOMAS EDWARD CRAVENS.