

R. L. & H. R. HANNAH.
LIQUID FUEL BURNER.
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1,063,875.

Patented June 3, 1913.

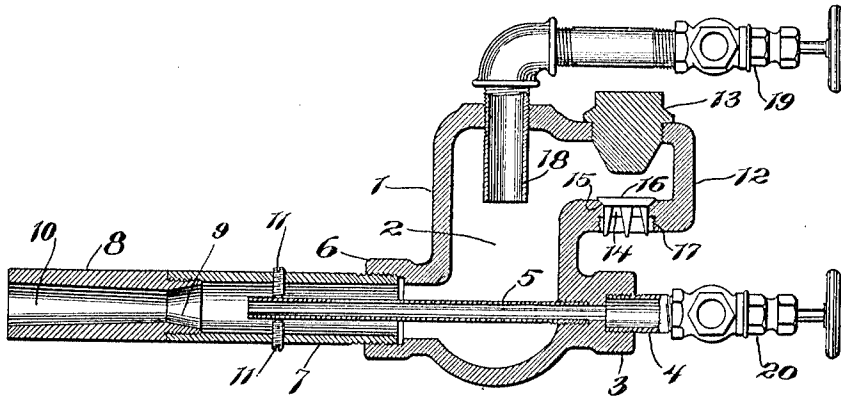


FIG. 1

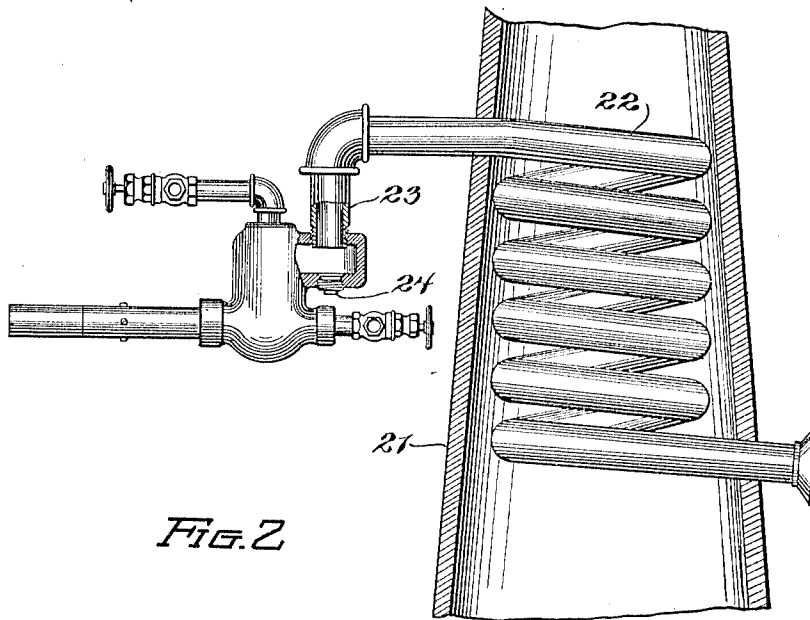


FIG. 2

Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT L. HANNAH AND HOMER R. HANNAH, OF WACO, TEXAS, ASSIGNORS OF ONE-HALF TO WILLIAM W. SELEY AND ALBERT H. BELL, BOTH OF WACO, TEXAS.

LIQUID-FUEL BURNER.

1,063,875.

Specification of Letters Patent.

Patented June 3, 1913.

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To all whom it may concern:

Be it known that we, ROBERT L. HANNAH and HOMER R. HANNAH, citizens of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented new and useful Improvements in Liquid-Fuel Burners, of which the following is a specification.

This invention relates to liquid fuel burners and more particularly to that type which are specifically constructed to burn semi-viscous fluids, such as crude oil, coal or gas tar, and the like.

One of the principal objects of the invention is to provide a simple and efficient device of this character wherein the air will be mixed with the oil in such proportions as to produce an efficient mixture and in proportion to the blast desired.

Further objects of this invention will appear as the following specific description is read in connection with the accompanying drawing, which forms a part of this application, and in which:—

Figure 1 is a sectional view showing the device adapted to burning the liquid fuels. Fig. 2 is a similar view showing the device arranged to burn heavy oils.

Referring more particularly to the drawing, 1 represents a suitable casing in which a mixing chamber 2 is provided. Extending from one side of the chamber is an internally threaded nipple 3 to which is connected a steam supply pipe 4. This nipple has its bore reduced in size and threaded so as to receive a jet tube 5 which communicates with the steam connection 4 and passes through the mixing chamber 2 and out of the casing through a nipple 6. The nipple 6 is internally threaded and has a bore of considerably larger diameter than the diameter of the jet tube 5 so as to receive a nozzle pipe 7 in the outer end of which is threaded the spray nozzle 8. This nozzle is provided with a frusto-conical inner end 9 which communicates with a tapered bore 10 extending therethrough. The jet tube 5 is held centered in the nozzle pipe by means of a plurality of set screws 11 which are threaded into the pipe and abut the jet tube adjacent its end.

The casing 1 is shown provided with an offset head 12 in the upper portion of which is mounted a removable cleaning and limiting plug 13. The lower portion of the casing is formed with an aperture 14 having a valve seat 15 against which the regulating valve 16 is adapted to seat. The aperture 14 is also provided with an offset threaded portion 17, the purpose of which will be hereinafter described. Projecting into the upper portion of the casing adjacent the plug 13 is a fuel feeding tube 18 which enters the mixing chamber 2, as shown. This tube is provided with a regulating valve 19 and the steam pipe 4 is provided with a similar valve 20. When both of these valves are open, oil will flow into the mixing chamber and be sucked into the nozzle 10 by the jet of steam issuing from the tube 5. This suction will also cause the valve 16 to raise in accordance with the force of steam and will thereby proportionately feed the required amount of air to the mixing chamber in accordance with the blast desired.

In Fig. 2, there is shown an ordinary smoke stack 21 in which an air feed coil 22 is located. This coil is connected directly to the casing by a pipe 23, the plug 13 being removed for this purpose. In this instance, the valve 16 is removed and a plug 24 seated in the offset threaded portion of the aperture 14. Thus, the mixing chamber is supplied with heated air through the pipe 23 which assists in producing a more effective mixture where heavy oils of the type named are used.

What is claimed is:—

1. A fuel burner comprising a casing having a mixing chamber therein, a discharge pipe secured to the casing and having a nozzle, a steam pipe passing through the mixing chamber and entering the discharge pipe, means for controlling the feed of steam to the discharge pipe, an oil feed tube entering the casing and discharging into the mixing chamber, said casing having openings, a valve operatively mounted in one of said openings and a plug seated in the other opening and adapted to limit the movement of the valve.

2. A fuel burner comprising a casing hav-

ing a mixing chamber therein, fuel and
steam inlet pipes leading into the casing, an
offset head formed on the casing having op-
posite threaded openings, a valve opera-
5 tively mounted in one of said openings and
a closing plug for the opposite opening ex-
tending into the head and adapted to limit
the movement of the valve.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

ROBERT L. HANNAH.
HOMER R. HANNAH.

Witnesses:

GEO. W. OLIVER,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
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