

C. T. HAAS & R. C. HUNTER.
OIL BURNER.
APPLICATION FILED JULY 17, 1912.

1,053,987.

Patented Feb. 25, 1913.

Fig. 1.

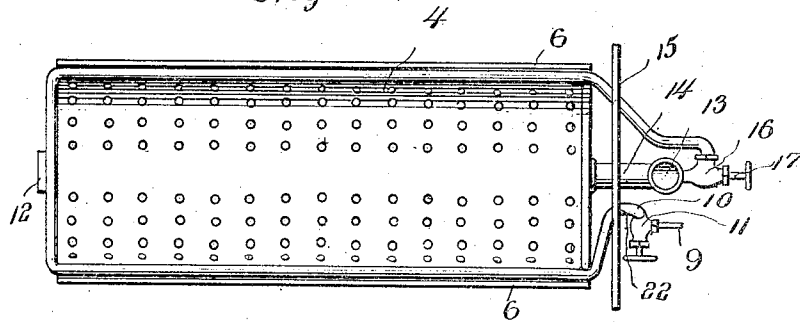


Fig. 2.

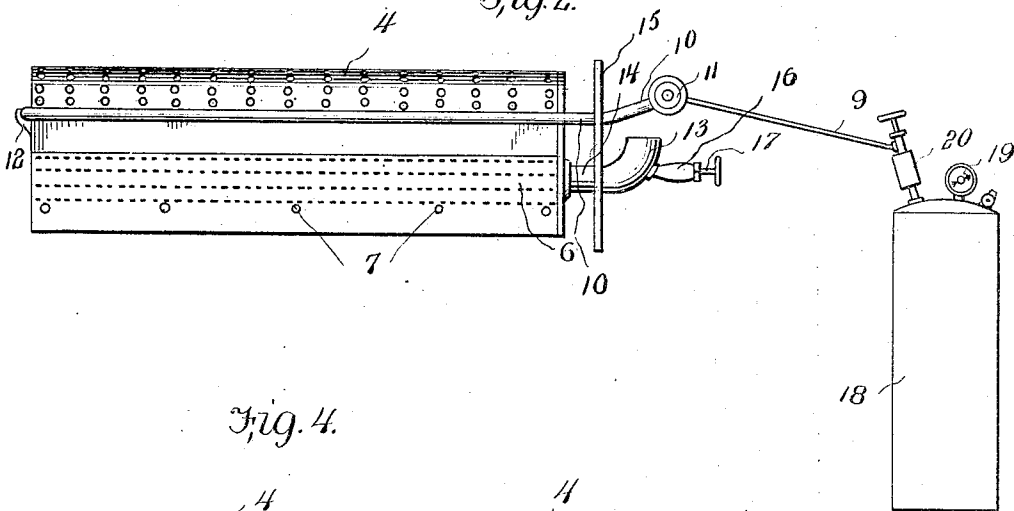


Fig. 4.

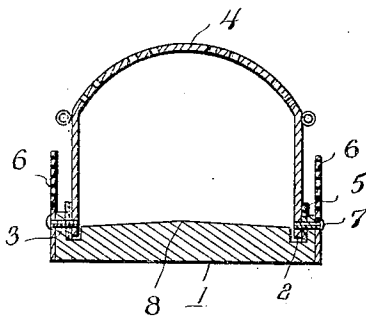
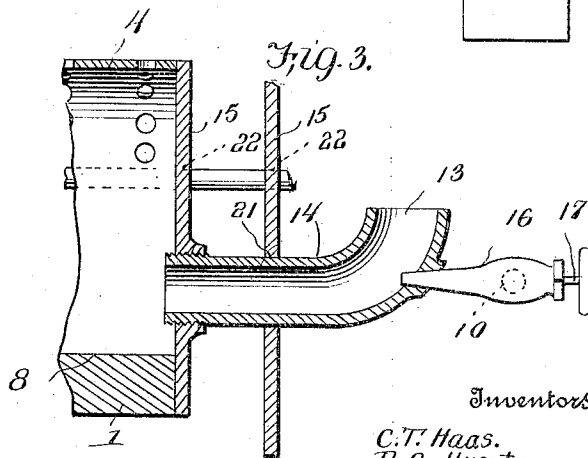


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES T. HAAS AND ROBERT C. HUNTER, OF TUCUMCARI, NEW MEXICO.

OIL-BURNER.

1,053,987.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed July 17, 1912. Serial No. 709,967.

To all whom it may concern:

Be it known that we, CHARLES T. HAAS and ROBERT C. HUNTER, citizens of the United States, residing at Tucumcari, in the county of Quay and State of New Mexico, have invented new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to oil burners, the object in view being to provide a burner adapted for burning gasoline, coal oil, and all crude oil products which have undergone a refining process.

One object of the invention is to provide, in connection with a distributing hood and oil fed wicks, a generator which is exposed to the heat rising from the wicks, and which will become quickly heated, and thereafter serve to vaporize the oil before it is admitted to the mixing nozzle and projected into the interior of the hood.

Another object of the invention is to so combine the generator with the body of the burner that the flame may be easily controlled to enable the burner to produce a larger or smaller amount of heat.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a plan view of an oil burner, embodying the present invention. Fig. 2 is a side elevation of the same, showing in addition to the burner, the compressed air supply tank and connections. Fig. 3 is a vertical longitudinal section through the burner. Fig. 4 is a vertical cross section through the same.

The burner contemplated in this invention comprises a base 1 which is provided along opposite sides thereof with gutters 2, and surrounded by an upstanding marginal flange 3 forming the outer walls of the gutters, as shown in the sectional views. Supported upon the base 1 is an arched and perforated hood 4, the opposite lower side edges of which are received in the gutters 2 above described. Just outside of the side walls of the hood 4, wicks 5 of any suitable material, preferably asbestos, are placed in the gutters, and preferably extend slightly above the top of the flange 3.

Secured to the flange 3 on the outer sides thereof, are perforated wick protectors 6, in the form of plates, the same being secured to the base 1 by means of fasteners 7, such as screws, which are inserted through the protector plates and also through the flanges 3, wicks 5 and hood 4, thereby securing all of said parts together. The floor 8 formed by the top of the base is made sloping from the center in opposite directions toward the gutters, so as to initially direct the oil into the gutters, so as to saturate the wicks in primarily heating the generator pipe, hereinafter described.

Extending around the hood is a generator pipe, one end of which projects beyond the end of the body of the burner, where it connects with a supply or feed pipe 9. At the point where the feed pipe 9 communicates with the generator pipe 10, there is placed a needle valve 11, for controlling the amount of oil passing to the generator pipe. The first run of the generator pipe passes along one side of the burner, thence around the back thereof, where it is supported by a grooved lip 12 provided on the end wall of the burner, and thence back along the side of the burner or hood, where it is terminally connected to the larger or expanded end 13 of a mixing nozzle 14 which projects through a removable end door or plate 15 into the interior of the hood 4.

At the point of junction of the generator pipe with the mixing nozzle, a needle valve casing 16 is arranged, the same being slightly above the center of the horizontal portion 14 of the mixing nozzle. The needle valve 17 in said casing controls the amount of vapor admitted to the interior of the hood, and as said vapor is injected into the hood, air is drawn in through the open end of the enlarged portion 13 of the mixing nozzle to promote combustion.

In conjunction with the burner hereinabove described, and in order to obtain the necessary pressure, we employ a compressed air supply tank 18 having a pressure gage 19, and a filler nozzle 20. This tank contains the oil and air pressure sufficient to force the oil to the burner, the passage of oil to the burner being regulated by the needle valve 11 and the regulating valve 17. The door or plate 15 is preferably made removable, and is provided with an opening 21 for the mixing nozzle, and other openings

22 for the passage of the opposite runs of the generator pipe.

To start the burner, a certain amount of oil is allowed to pass into the mixing nozzle 14, from which it finds its way to the floor 8 of the base 1, and runs down into the gutters in which the wicks 5 are located. The wicks are then lighted, and the heat therefrom soon brings the overlying generator pipe to a point where the oil, when admitted thereto, will be generated into a combustible gas. After the burner is once started, in a manner described, the generator pipe is maintained at a high degree of heat, so that the oil which is compelled to pass there-
10 through before finding access to the distributing hood, is thoroughly generated into gas. This makes the burner very economical in use, producing the highest degree of heat
15 with a minimum quantity of fuel.

The burner as a whole is preferably shown in oblong form which adapts it to be used in a coal range in the summer season as a substitute for coal and wood. The burner is,
20 however, susceptible to various other uses which will suggest themselves.

What is claimed is:

1. An oil burner, comprising a rectangular base provided with parallel gutters at
30 opposite sides thereof and having a floor which slopes toward the gutters, a perforated distributing hood supported by said base, wicks in said gutters and outside of the hood, a mixing nozzle leading into the hood,
35 a generator pipe extending around the hood and having parallel runs above the wicks

and entering the mixing nozzle, and an oil supply pipe leading to said generator pipe.

2. An oil burner, comprising a base provided with gutters at opposite sides thereof
40 and having a floor which slopes toward the gutters, a perforated distributing hood supported by said base, wicks in said gutters and outside of the hood, a mixing nozzle leading into the hood, a generator pipe extending
45 around the hood above the wicks and entering the mixing nozzle, an oil supply pipe leading to said generator pipe, and perforated wick protecting plates attached to the base and extending upward outside of
50 the wicks.

3. An oil burner, comprising a base provided with gutters at opposite sides thereof and having a floor which slopes toward the
55 gutters, a perforated distributing hood having its bottom edges seated in said gutters, wicks in said gutters and outside of the hood, a mixing nozzle leading into the hood, a generator pipe extending around the hood
60 above the wicks and entering the mixing nozzle, an oil supply pipe leading to said generator pipe, an upstanding flange extending around the margin of the base, and fasteners passing through said flange and
65 the hood.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES T. HAAS.
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Witnesses:

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E. W. BOWEN.