

T. MUEHLEISEN.
OIL BURNER.
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Patented Apr. 1, 1919.

1,299,206.

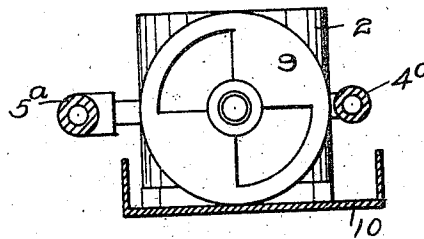
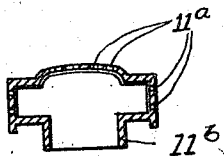
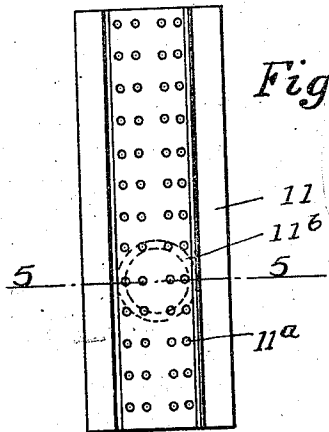
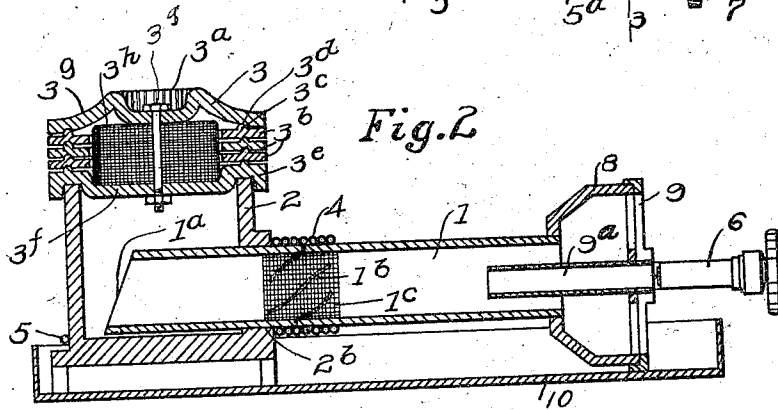
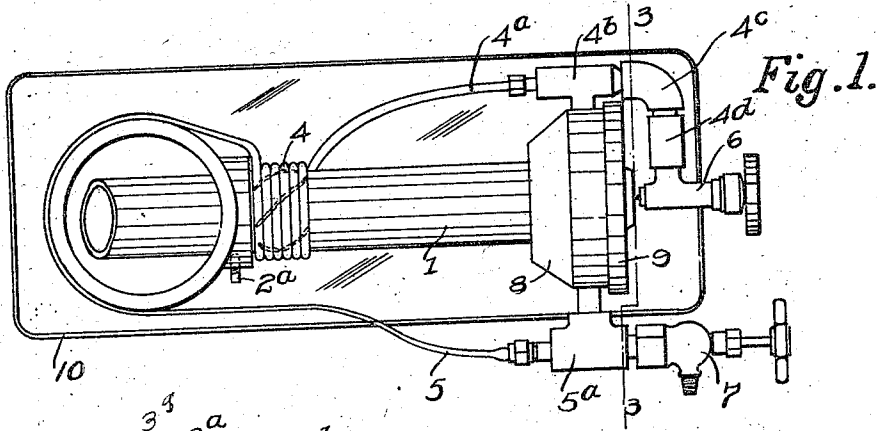


Fig. 5.

Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

THOMAS MUEHLEISEN, OF SAN DIEGO, CALIFORNIA.

OIL-BURNER.

1,299,206.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS MUEHLEISEN, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

My invention relates to a hydro-carbon oil burner adapted to be used for burning stove distillate or kerosene, refined or semirefined; and the objects of my invention are first; to provide an oil burner of this class in which the fuel supply is controlled by the gas valve, thus automatically controlling the flow of the fuel to the burner relatively to the volume of the fire: second, to provide an oil burner of this class with means for heating the fuel in its passage to the burner forming it into a gas: third, to provide a new and novel constructed burner portion for distributing the blaze and fourth: to provide an oil burner of this class which is very simple and economical of construction, durable, easy to install, easy to operate and will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this specification, in which:

Figure 1 is a plan view of my burner with the blaze distributing portion removed. Fig. 2 is a longitudinal sectional view thereof, showing parts in elevation. Fig. 3 is a sectional view through 3—3 of Fig. 1, Fig. 4 is a top or plan view of a modified form of blaze distributor to be used in ranges, cook stoves and the like and Fig. 5 is a sectional view through 5—5 of Fig. 4.

Similar characters of reference refer to similar parts throughout the several views of the drawings.

The main burner tube 1, super mixer 2, distributor 3, coil 4, feed pipe 5, gas valve 6, supply valve 7, damper support 8, damper 9, pan 10 and special burner 11, constitute the principal parts of my oil burner.

The main burner tube 1 is an ordinary pipe or tube and it is secured at one end in the damper support 8 and on the opposite end thereof is adjustably mounted the super

mixer 2, shaped as shown best in Figs. 1 and 2 of the drawings. The extended end of this tube 1 is beveled at 1^a of the proper shape to provide exit of the gas properly and said gas strikes against the super mixer 2 and rebounds, thus more thoroughly mixing the same. This tube 1 is also provided with a plurality of fine slots 1^b adapted to permit a small portion of the gas to pass out there- through where it burns on the outside and over these slots is a screen 1^c adapted to further mix the gas passing therethrough and also prevent backfiring into the tube 1 and wound around this tube 1 over the slots 1^b is the coil 4 thus providing means for heating the coil 4, thus reducing the fuel to a gas in the coil 4 after which it passes to the valve 6, through the pipe 4^a, support 4^b, L 4^c and connection 4^d. The support 4^b is rigidly secured in one side of the damper support 8, which provides a support for the valve 6 for holding it properly positioned. The tube 1 is held in adjusted position in the super mixer 2 by means of a set screw 2^a. This super mixer 2 is a cup shaped member provided with an orifice 2^b in one side thereof adapted for the tube 1. Mounted on the top of the blaze conductor 2 is a distributor which consists of the upper member 3 which is provided with a plurality of fine slots 3^a adapted to permit the exit of the blaze and it is supported by a plurality of plates 3^b placed one upon the other and these plates are provided with conforming lugs 3^c and grooves 3^d adapted for holding these plates in their proper relative position to each other. These lugs 3^c however, are spaced apart leaving spaces between the adjacent plates to permit the blaze to pass out between the different plates, one of the plates 3^b is mounted on a special plate 3^e which is provided with an annular groove in its lower surface, adapted to fit the upper end of the super mixer 2 and it is provided with a cross bar 3^f which is provided with a central hole adapted for the bolt 3^g, which is a binding bolt for binding the members 3, 3^b and 3^e together forming the burner or blaze distributor. It will be here noted that a large number of the plates 3^b may be used, thus forming a vertical burner for heating purposes. Mounted inside of these plates is a screen 3^h which is adapted to prevent back-firing and add to the mixing and the proper distribution of the gas. Secured on the opposite side of the damper support 8 from the support 4^b is a T

support 5^a, adapted for supporting the feed pipe 5 and inlet valve 7 in proper position.

It will be here noted that the feed pipe 5 passes around the super mixer 2 from the support 5^a to the coil 4 over the pan 10 for heating the fuel oil in the passage to the coil 4. This is done by turning on the fuel and letting it run down into the pan after filling the pipe 5 then igniting the fuel in the pan which is the proper method of starting the burner. Secured in the damper member 9 is a conductor pipe 9^a which conducts the gas from the regulating valve 6 to the proper position in the tube 1. The damper is an annular member fitting over the damper support 8 and provided with segmental openings adapted to admit air in an adjusted volume in the tube 1 to provide proper combustion.

In the modified form of construction, shown in Figs. 4 and 5 of the drawings there is provided an elongated burner adapted for use in ranges and the like. The downwardly extending annular portion 11^b is adapted to fit over the top of the super mixer 2 and the blaze is distributed through the holes 11^a as shown best in Figs. 4 and 5 of the drawings.

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

1. In a hydrocarbon burner a main tube, an adjustable air damper mounted thereon, a fuel conducting tube extending some distance into said main tube, a gas forming coil mounted around said main tube, a plu-

rality of slots in said main tube forming a burner for heating said coil, a super mixer adjustably secured on the extended end of said main tube, and a burner mounted on the upper end of said super mixer.

2. In a hydrocarbon burner a main tube, an adjustable air damper mounted thereon, a fuel conducting tube extending some distance into said main tube, a gas forming coil mounted around said main tube, a plurality of slots in said main tube forming a burner for heating said coil, a super mixer adjustably secured on the extended end of said main tube, a burner mounted on the upper end of said super mixer, and means for regulating the flow of gas from said coil to said conducting tube whereby the supply of fuel is regulated to said coil.

3. In a hydrocarbon burner a main tube, an adjustable air damper mounted thereon, a fuel conducting tube extending some distance into said main tube, a gas forming coil mounted around said main tube, a plurality of slots in said main tube forming a burner for heating said coil, a super mixer adjustably secured on the extended end of said main tube, a burner mounted on the upper end of said super mixer, comprising a plurality of plates mounted one upon the other in spaced relation, and means for holding them in certain relative position to each other.

In testimony whereof, I have hereunto set my hand at San Diego, California this 26th day of February 1918.

THOMAS MUEHLEISEN.