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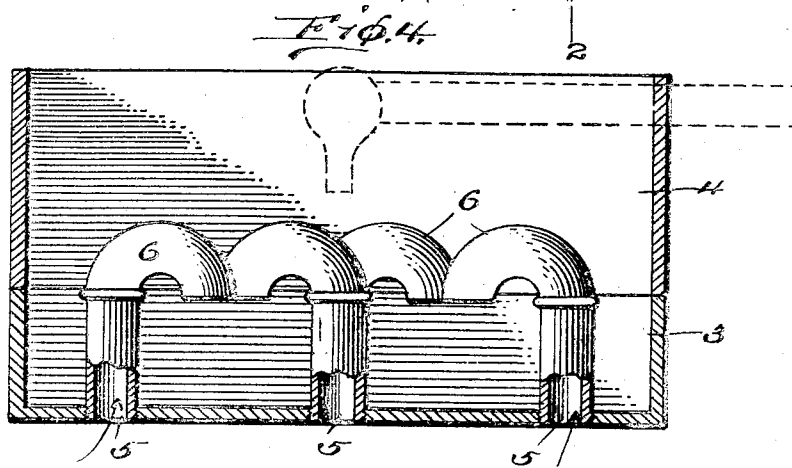
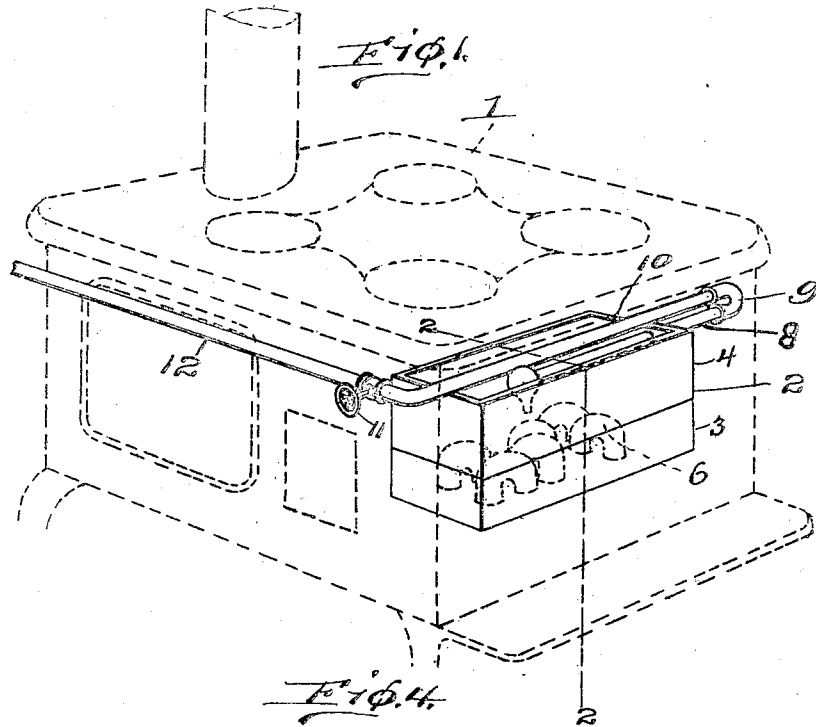
OIL BURNER.

APPLICATION FILED JULY 26, 1908.

942,028.

Patented Nov. 30, 1908.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

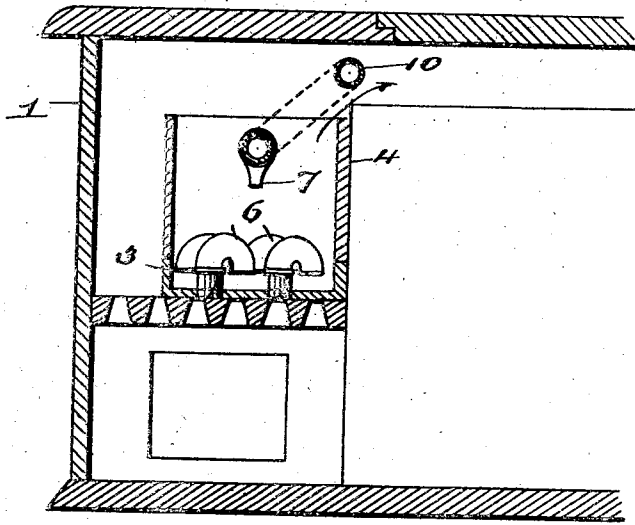
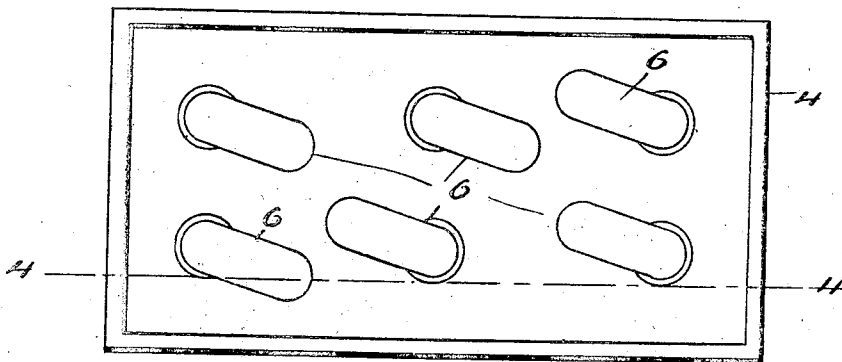


Fig. 3.



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UNITED STATES PATENT OFFICE.

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OIL-BURNER.

942,028.

Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed July 26, 1909. Serial No. 509,610.

To all whom it may concern:

Be it known that I, JOSIAH NEWMAN YOUNG, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Oil-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.

This invention relates to improvements in oil burners, and particularly to oil burners where the oil is evaporized and mixed with air previous to ignition, and has for an object the provision of means for controlling the mixing of air and oil and the localizing of the flame.

A further object of the invention is the arrangement of a box or housing into which heated air is distributed, and also into which is projected oil either in a heated or gaseous state, from which box flame is designed to pass for heating purposes.

A still further object of the invention is the arrangement in an oil burner, of a housing having a plurality of goose-neck tubes for distributing air into the housing, in combination with means for supplying oil to the housing, either in a heated or gaseous state, for mixing with the air, after which the mixture of air and oil is permitted to burn, and the blaze pass out the top of the box.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a perspective view of an embodiment of the invention, an ordinary stove being shown in dotted lines in connection therewith. Fig. 2 is a section through a stove and burner embodying the invention taken substantially on line 2—2 of Fig. 1. Fig. 3 is a top plan view of a box or housing embodying certain features of the invention. Fig. 4 is a section through Fig. 3 approximately on line 4—4.

In forming a device embodying the invention the same may be arranged to fit into any kind of stove, and is preferably adapted for cooking stoves. A box or housing is provided which may entirely fill the fire chamber, or partially fill the same. Mounted in

the box or housing is a plurality of tubes bent over at the top and communicating with the exterior of the housing and particularly with the ash pit of the stove, so that air may travel through the draft regulator, from 60 thence through the ash pit to the bottom of the housing, and finally from the bottom of the housing through the tubes positioned in the housing into the interior of the housing. As the tubes in the housing are bent over at 65 their upper ends the air is evenly distributed, and no oil or other matter from above can pass into the tubes. Positioned above the tubes in the housing is a discharge nozzle for discharging oil either in a liquid or 70 vaporized state into the housing for mixing with the air. The nozzle is supplied with oil from any desired source and the pipe leading thereto is preferably positioned in the path 75 of the flame which passes out of the housing toward the ordinary draft chimney of the stove.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings, in which 1 indicates a stove of any desired character, and 2 a housing positioned in the fire chamber of the stove. Housing 2 is constructed of a base member 3 and a top or flame guiding member 4. Base member 3 85 is substantially a box or housing with the upper end open, and is provided with a plurality of pipes 5 having ends 6 turned over and pointing downward. Pipes 5 extend through the bottom of base member 3 so 90 that any air beneath base member 3 may pass up through the pipes, and from thence be discharged downward through the curved ends 6. Mounted upon base member 3 is a flame guiding member 4 which is substantially a continuation of base member 3 and 95 is designed to guide the flame as the same passes outward toward the smoke stack of the stove. The flame guiding member 4 also confines the air discharged through ends 6 to the immediate vicinity of the nozzle 7 for 100 mixing with oil either in the liquid or gaseous state as the same is discharged therefrom. The nozzle 7 may be of any desired construction, and is secured to a pipe 8 105 which passes through one end of member 4 and is supported thereby. Pipe 8 is connected by member 9 to a return pipe 10 which passes across the stove at the point 110 where the flame from housing 2 passes in its

travel to the chimney, and thereby is heated for heating the oil passing therethrough. Pipe 10 extends to the exterior of stove 1 and is provided with a valve 11 for controlling the amount of oil flowing therethrough. 5 From valve 11 a pipe 12 extends to any desired supply of fuel oil. By this arrangement of pipes and nozzle in the path of the flame the same are heated until the oil is 10 turned into a vapor before the same is discharged from nozzle 7. From this it will be observed that as the vapor of the oil from nozzle 7 is discharged the same will freely mix with the air in housing 1 which is also 15 heated, as the same is designed to pass through pipes 5 and ends 6 which are maintained also in a very highly heated condition by the flame. The pipes 5 are distributed over base 3 substantially evenly and 20 may be of any desired number, and the ends 6 are set at any desired angle for assisting in distributing evenly the air discharged therefrom.

When it is desired to start the burner the 25 nozzle may be heated by a torch or if desired asbestos in a loose condition may be placed in housing 3 and the oil permitted to saturate the same, after which the oil is ignited, which will not only heat the pipes 5 30 and ends 6, but also nozzle 7 and pipes 8 and 10. After the oil has been ignited that has been placed upon the asbestos a continual supply is provided therefor by turning valve 11 on slightly at the beginning. Valve 11 is 35 turned on more and more as the burner is heated, and as the oil more freely evaporates until the burner is burning to the desired extent. If desired at this time the asbestos may be removed or may be left in the housing as desired. 40

What I claim is:

1. In an oil burner, the combination with a housing open at the top and adapted to be

positioned in the fire chamber of the stove, a plurality of pipes mounted in the bottom 45 of said housing and extending to the exterior thereof and open to the ash pit of the stove for permitting air to pass from said ash pit into the pipes, a semi-circular pipe 50 secured to the top of each of said first mentioned pipes, whereby the air passing through said first mentioned pipes will be directed downward against the bottom of the housing, the upper part of said semi-circular pipes being below the upper edge of 55 said housing, a nozzle positioned substantially central in said housing for discharging oil and vapor into the housing, a pipe extending from said nozzle and bent upon itself for passing transversely across the 60 natural air draft of the stove and slightly above one edge of the housing, whereby flame passing from said housing will contact with said pipe for heating oil passing therethrough, and means for regulating the 65 amount of oil passing through said pipe.

2. In a device of the character described, the combination with a stove, of a housing positioned in the fire chamber thereof, a plurality of tubes bent over at the top and communicating with the exterior of the housing 70 above the ash pit of said stove so that air may travel from the ash pit to the bottom of the interior of the housing and from there through the natural draft of the stove, a 75 nozzle for distributing oil to the interior of said housing, a pipe extending across the vertical draft of the stove for supplying oil to said nozzle, and means for controlling the flow of oil through said pipe. 80

In testimony whereof I affix my signature in presence of two witnesses.

JOSIAH NEWMAN YOUNG.

Witnesses:

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