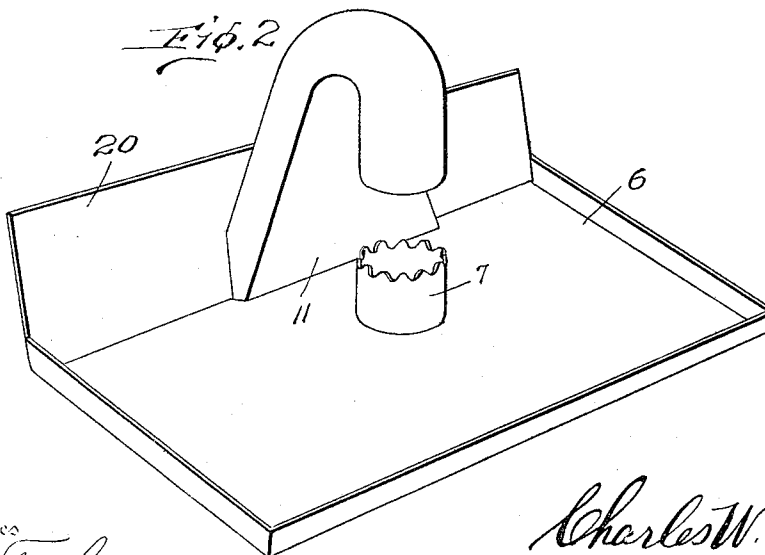
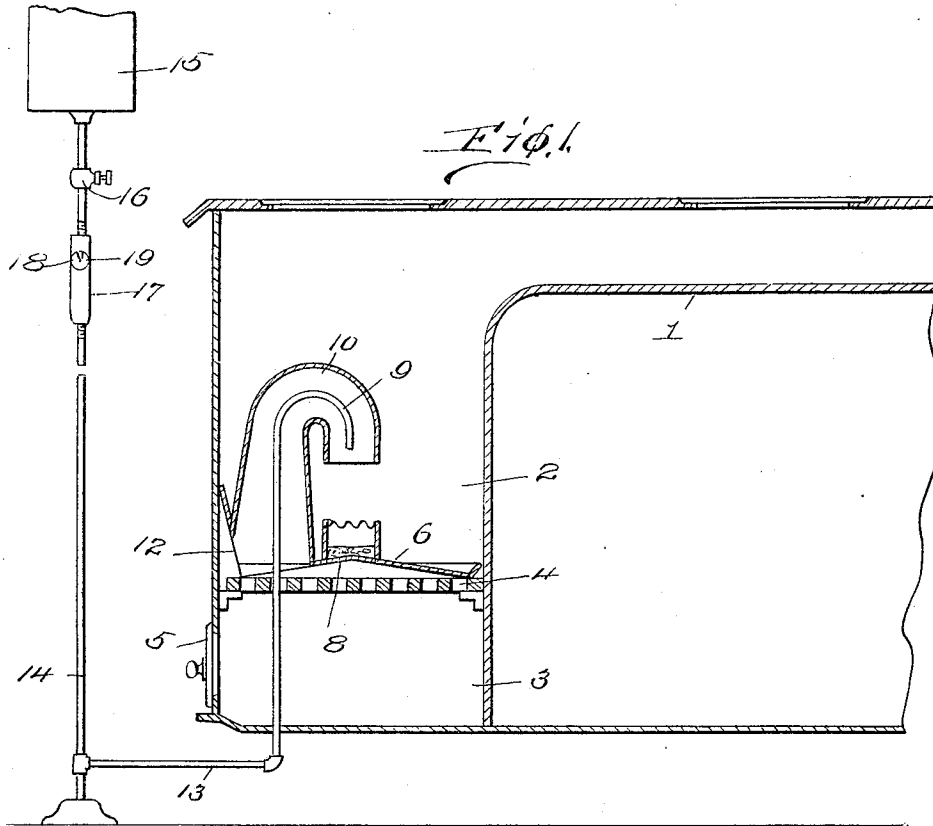


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CRUDE OIL BURNER.
APPLICATION FILED FEB. 5, 1910.

993,537.

Patented May 30, 1911

2 SHEETS—SHEET 1.



Witnesses
J. M. Fowler
A. S. Kitchin

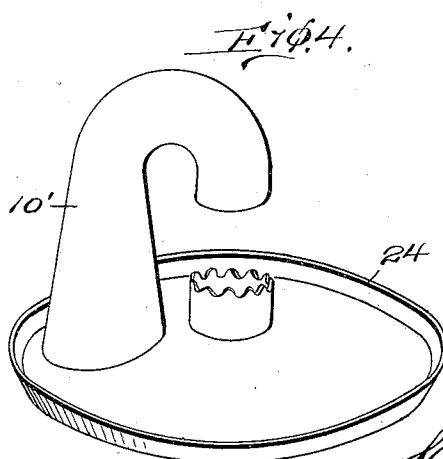
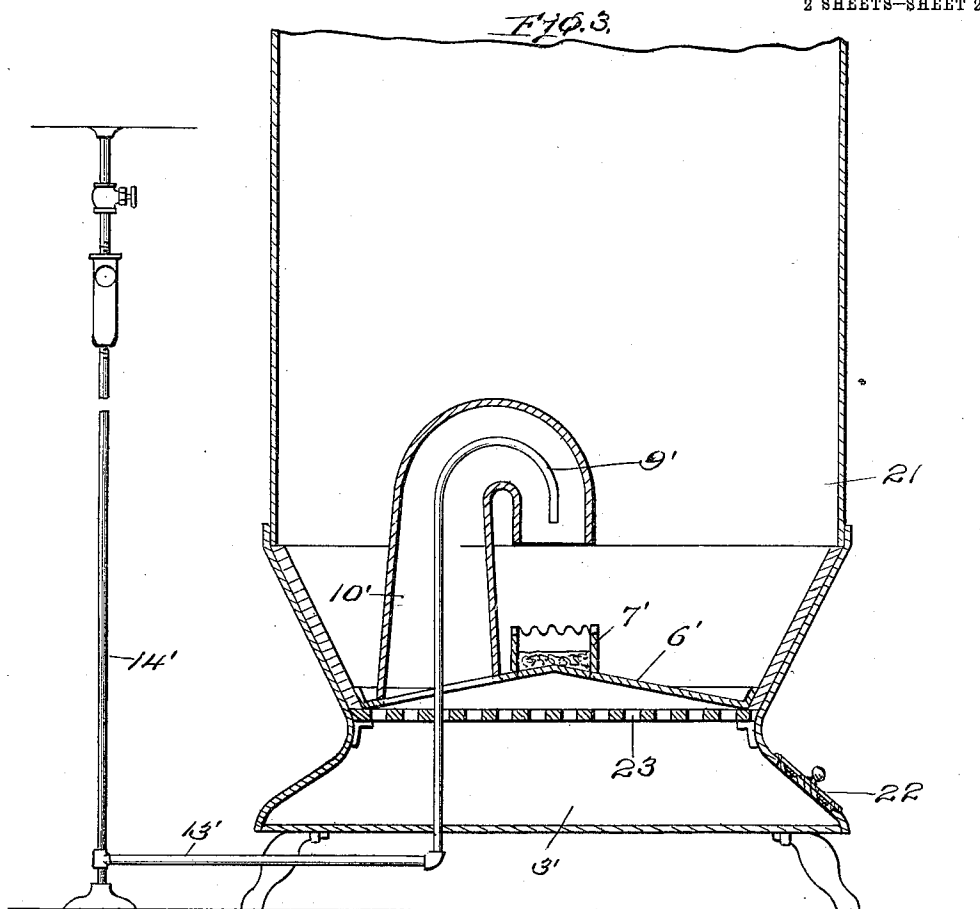
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES W. MCCOY, OF CUSTER, OKLAHOMA.

CRUDE-OIL BURNER.

993,537.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed February 5, 1910. Serial No. 542,275.

To all whom it may concern:

Be it known that I, CHARLES W. MCCOY, a citizen of the United States, residing at Custer city, in the county of Custer and State of Oklahoma, have invented certain new and useful Improvements in Crude-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 has for an object the arrangement of means for burning any kind of oil, particularly crude oil, in an ordinary stove used either for heating or cooking.

Another object of the invention is the arrangement of means which may be readily applied to an ordinary stove for burning crude oil therein and applying the draft to the center of the stove or heating device in such a way that the draft may be regulated by the ordinary draft regulating means of the stove.

A still further object of the invention is the arrangement of means for feeding oil into the stove or other heating device so that the oil will be deposited substantially centrally of the fire chamber of the stove and be supplied with sufficient air for supporting proper combustion, the oil supplying means being arranged in the air supplying means so as to prevent the temperature rising in the oil supplying means to the point of carbonizing the oil.

Another object of the invention is the arrangement of means for burning crude oil in a stove of any desired character which coacts with the ordinary draft of the stove for regulating the air fed to the burner.

A further and more specific object of the invention is the arrangement of a draft chamber for supplying air in an oil burner to the center or substantially the center of the stove in such a manner that the air will be projected downward and then spread against the sides of the stove for causing the heat to be thoroughly absorbed and utilized.

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 sectional view through a part of a cooking stove with an embodiment of the inven-

tion applied thereto, the same being shown partially in section. Fig. 2 is an enlarged detail perspective view of the pan and air supply member embodying certain features of the invention. Fig. 3 is a vertical section through a heating stove, showing a slightly modified form of the invention applied thereto, part of the same being shown in section. Fig. 4 is a detail perspective view of the pan and air supply member disclosed in Fig. 3.

Referring to the accompanying drawings by numerals 1 indicates a cooking stove of any desired kind having a fire chamber 2 and an ash pit 3 separated by any desired kind of grate 4. The ash pit 3 is provided with the usual door 5 having the usual sliding draft regulating member which regulates the amount of air passing into the stove. Positioned on top of grate 4 and extending the full length and width of the fire chamber 2 is a pan 6. Pan 6 is conical so as to provide an inclined bottom for directing the overflow of oil from cup 7 located centrally of the pan to the sides of the pan. The inclined bottom 6 will also assist in directing the flame against the sides of the stove, and thus properly apply the heat.

The cup 7 is partially filled with asbestos 8 or other absorbent material capable of resisting fire. Oil from a pipe 9 is designed to pass into cup 7 and saturate the asbestos 8, after which the same is ignited and the heat thereof heats pipe 9 and the surrounding air duct 10 to such an extent as to gasify the oil as the same enters the fire chamber. The oil thus turned into gas is made thoroughly combustible by the mixing therewith of heated air from duct 10 so that a proper combustion is provided and smoke and the like substantially eliminated. Duct 10 is broadened at 11 where the same joins the inclined bottom of pan 6, and is arranged to have the rear part thereof open at 12 for permitting a freer entrance of air into the pipe and a sufficient amount to properly supply the proper proportion of air to the amount of oil supplied by pipe 9. The air is controlled by the ordinary draft controlling means arranged in door 5 of the stove 1 so that no new means are to be provided and no change is made in the stove 1. The pan 6 and its air duct 10 are placed in the stove, together with pipe 9, and no change is necessary so that the stove is not mutilated or destroyed. The only necessary requirement is

for an opening to be made at the bottom of the ash pit or at some desired place for the passage of pipe 9 therethrough for joining a pipe 13. Pipe 13 is connected with an upright pipe 14 which carries a supply tank 15. Interposed in pipe 14 is a valve 16 for regulating the flow of oil therethrough and an indicating device 17 for indicating the amount of oil passing through the pipe. The indicating means 17 is arranged above the discharge end of pipe 9 as the same is provided with a peep hole or opening 18 used to observe the flow of oil from nozzle 19. By this construction and arrangement the amount of oil may be regulated by valve 16 and the amount of air regulated by the regulating appliance on door 5, so that a proper amount of air and oil may be supplied at all times, and also the amount of oil and air varied according to the amount of heat desired. In connection with the supply of air it will be observed that substantially all the air that passes into fire chamber 2 passes through duct 10 as the sides of pan 6 are designed to contact with the sides of the fire chamber 2. In order to provide opening 12 and yet have the sides of the pan contact with the wall of the fire chamber on that side an inclined and wider side member 20 is provided, as more clearly shown in Fig. 2.

In Figs. 3 and 4 will be observed a similar modified form of the invention which is adapted for use in heating stoves. Referring more particularly to these figures 21 indicates a heating stove of any desired kind having a door 22 near the bottom thereof entering the ash pit and arranged with the ordinary slide draft regulating means controlling the amount of air passing through the stove. Positioned on the grate 23 of stove 21 is a pan 6' having an inclined bottom and a peripheral flange 24 for catching any of the oil which flows from cup 7' which cup is similar to cup 7 of the preferred structure, and will therefore need

no further description. The flange 24 in addition to catching any oil overflowing from cup 7' acts as means for preventing any air from passing from ash pit 3' to the upper part of the stove, except through the air pipe 10'. Air duct 10' is connected rigidly with pan 6' and is similar to duct 10 of the preferred structure made larger at the bottom than at the discharge point. The duct 10' is also bent at its upper end so as to form a half circle in order to discharge air passing therethrough in a downward direction against cup 7'. The pipe 9' is arranged centrally of duct 10' in a similar manner to the pipe 9 of the preferred structure, and also similarly to pipe 9 of the preferred structure stops short of the extremity of duct 10'. Pipe 9' passes through the grate 23 and through the bottom of the stove and is connected to supply pipe 13', which in turn is connected to pipe 14' and associated structures, which pipe and associated structures are similar to pipe 14 and associated structures and will therefore need no further description. In fact the structure shown in Figs. 3 and 4 is modified only to such an extent as to adapt the same to a heating stove but involving the same principle as utilized in the form shown in Figs. 1 and 2.

What I claim is:

In an oil burner, a conical pan having an upstanding flange about its periphery, a cup disposed at the apex of the conical pan and provided with a scalloped upper edge, an air duct extending upwardly through the pan and bent upon itself with its extremity directed downwardly upon the cup, and a fuel supply pipe disposed within the air duct with its extremity positioned to discharge fuel into the cup.

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

CHARLES W. McCOY.

Witnesses:

J. R. GARDNER,
GLADYS HARMON.