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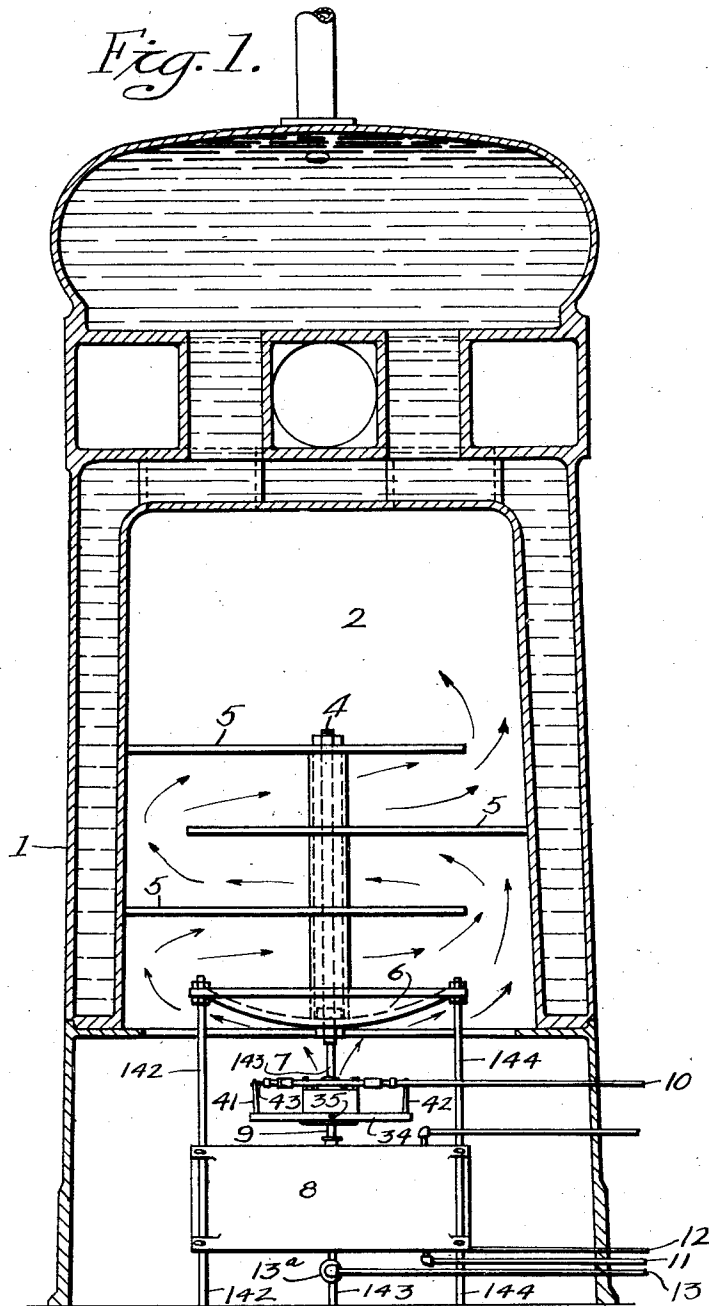
J. L. RICKETTS ET AL

1,861,284

OIL BURNER

Filed Nov. 2, 1928

2 Sheets-Sheet 1



Inventors,
Charles F. Dengler,
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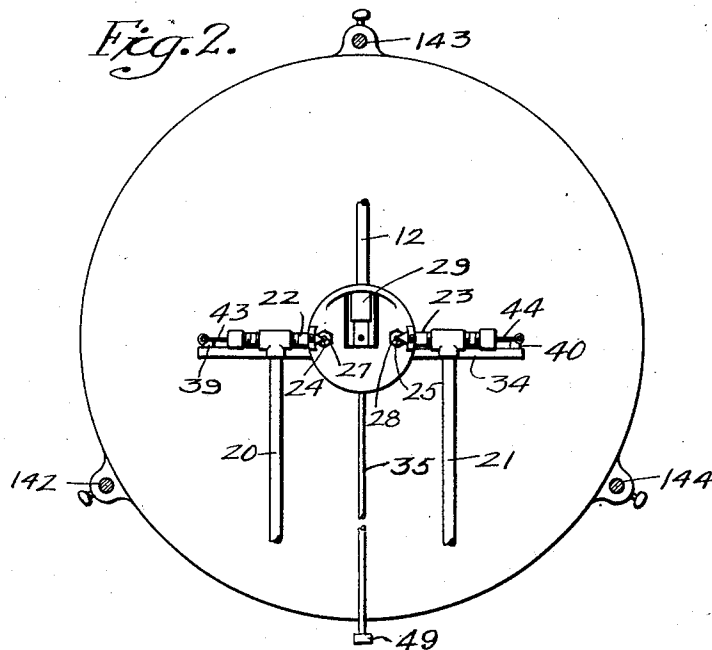
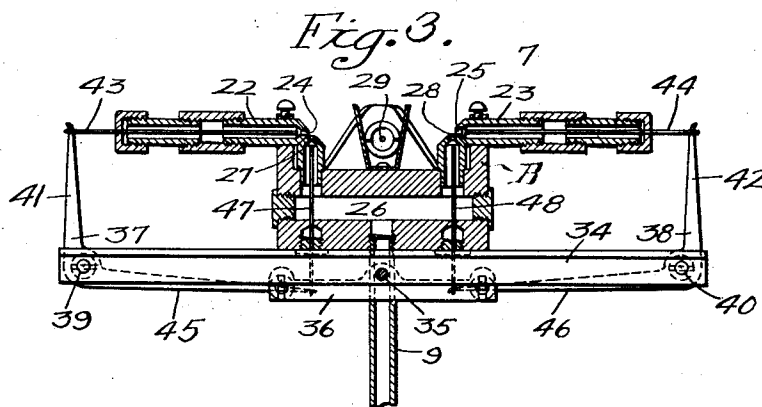
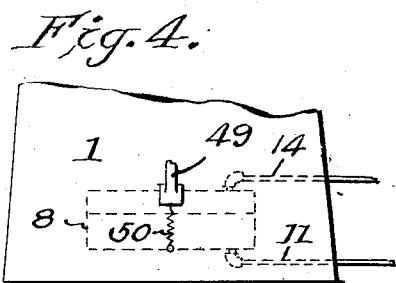
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OIL BURNER

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2 Sheets-Sheet 2



Inventors,
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UNITED STATES PATENT OFFICE

JOHN L. RICKETTS AND CHARLES F. DENGLE, OF PHILADELPHIA, PENNSYLVANIA

OIL BURNER

Application filed November 2, 1928. Serial No. 316,825.

This invention relates to oil burners and more particularly to the construction of that type of oil burner employing nozzles in the formation or partial formation of an inflammable mixture and has for an important object thereof the provision of a burner of this character wherein the maintenance of the nozzles in a clean operative condition is materially facilitated.

A more specific object of the invention is the provision in combination with an oil burner including a plurality of fuel supply nozzles of cleaners for said nozzles and a common actuating means for the cleaners so constructed that simultaneous actuation of the cleaners is avoided thereby preventing any danger of accidental extinguishing of the burner when in operation.

A still further object of the invention is the production of an apparatus of this character which may be very readily and cheaply manufactured which will be durable and efficient in service and a general improvement in the art.

These and other objects we attain by the construction shown in the accompanying drawings wherein, for the purpose of illustration, we have shown a preferred embodiment of our invention and wherein:

Fig. 1 is a vertical sectional view through a furnace having an oil burner constructed in accordance with our invention disposed therein;

Fig. 2 is a plan view of the oil burner;

Fig. 3 is a transverse sectional view thereof; and

Fig. 4 is a fragmentary front elevation illustrating the mounting of the control device for the cleaners.

Referring now more particularly to the drawings, the burner 7 constructed in accordance with our invention is preferably located within the ash-pit of an ordinary boiler furnace 1 and is supported from a low pressure boiler 8 from which steam is passed upwardly by means of a pipe 9 to the burner to intermingle, in a manner hereinafter more fully described, with oil from a pipe 10. The low pressure boiler may be supplied with water through piping 11 and is also supplied with

a gas line 13 operating a Bunsen burner or the like indicated at 13—*a* through which the boiler is heated. The boiler 8 may be adjustably supported upon standards 142, 143 and 144 which may likewise serve to support a series of baffles 5 and 6, the baffles 5 being supported from the baffles 6 through a central spindle 4. Baffles 5 and 6 extend into the fire box 2 of the furnace and serve to prevent too rapid rise of the heat from the burner.

The oil burner 7 comprises a body "B" upon which are supported opposed nozzles 22 and 23, these nozzles constituting casings having outlet orifices 24 and 25 and being supplied with oil from line 10 through branches 20 and 21. The body "B" has an internal cavity 26 constituting a manifold in communication with the steam line 9 which is provided with outlet orifices 27 and 28 delivering steam transversely of the orifices 24 and 25. A pilot 29 supplied with gas from the line 12 is employed to ignite the combustible mixture formed by the admixture of air with the sprayed mixture of oil and steam passing upwardly from the orifices 25.

The numeral 34 generally designates a base which may be conveniently supported from the body "B" and which extends to opposite sides of this body. Centrally of the base a link 36 is secured to a pivot element 35 which pivot element may be extended through the furnace wall and provided with operating mechanism as hereinafter more fully set forth. By rocking the pivot element, the link 36 may be caused to rock and thus impart motion to rocker arms 37 and 38 pivoted to the base 34 at 39 and 40 respectively. The arms 41 and 42 of the levers which are remote from link 36 are connected at their outer ends to cleaning rods 43 and 44 which extend axially through the nozzles 22 and 23 and have their inner ends arranged adjacent the orifices 24 and 25 when link 36 is in its normal position. The arms 45 and 46 of the rocker arms are connected to cleaning rods 47 and 48 which extend upwardly through the body "B" and into the orifices 27 and 28. An actuating lever 49 may be secured to the rod 35, more clearly shown in Fig. 4, and may have secured to one end there-

of a spring 50 for maintaining the actuating lever and thus the link 36 in a normal position. It will be obvious that by oscillating this actuating lever the link 36 may be caused to rock and thus actuate rocker arms 37 and 38 with the result that the cleaning rods 43, 44, 47 and 48 will be impinged against any obstructions in the associated orifices loosening the same and insuring the clearing of the orifices.

Attention is also directed to the fact that the operation is such that the cleaning rod of but one of the oil nozzles is advanced at a time so that there is no danger of cutting off the supply of fuel from both nozzles so that the burner will be extinguished even momentarily. At the same time the cleaning operation can be very rapidly carried out.

As the construction employed is obviously capable of a considerable range of change and modification without in any manner departing from the spirit of our invention, we do not wish to be understood as limiting ourselves thereto except as hereinafter claimed.

We claim:

1. In an oil burner, a base, nozzles for one fluid extending upwardly through said base, nozzles across the top of said base and arranged at an angle to said first mentioned nozzles for another fluid, a lever pivoted to said base, a plurality of rocker arms pivoted to extensions from said base and connected to said lever, and rods connected to the extremities of the rocker arms and extending through said nozzles, whereby actuation of the lever will cause simultaneous actuation of the rocker arms and consequent simultaneous actuation of the rods to clean the nozzles.

2. A cleaner for the nozzles of a burner having a frame, comprising a lever pivoted to said frame and connected at each end to rocker arms also pivoted to said frame, each end of each rocker arm opposing the outer end of a nozzle and being connected to a rod extending through the nozzles of said burner whereby operation of the lever will cause simultaneous actuation of the rods.

3. In an oil burner, a pair of opposed oil nozzles, a cleaning rod longitudinally shiftable in each nozzle, a rocker arm connected to each cleaning rod, a link connecting the rocker arms and means for rocking said link.

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