

Jan. 1, 1924

L. E. HEROD

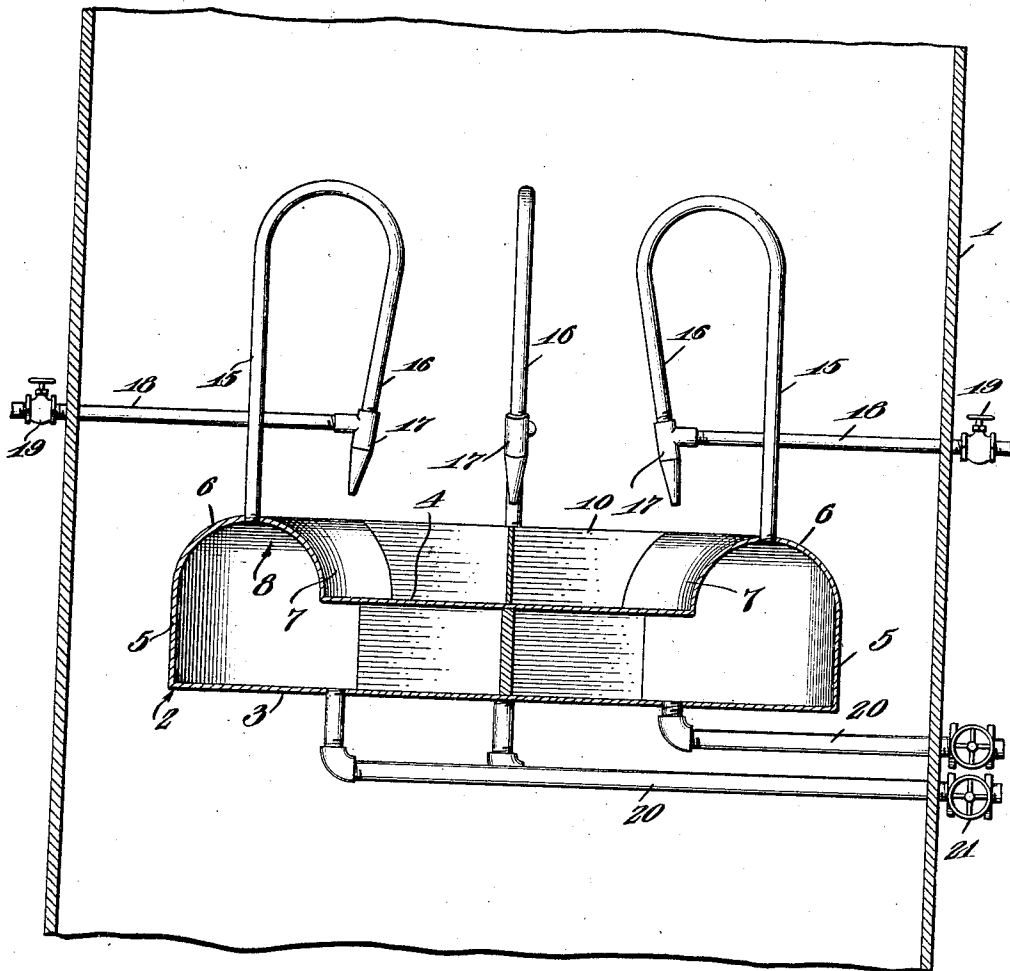
1,479,538

OIL BURNER

Filed Feb. 24, 1923

2 Sheets-Sheet 1

Fig. 1.



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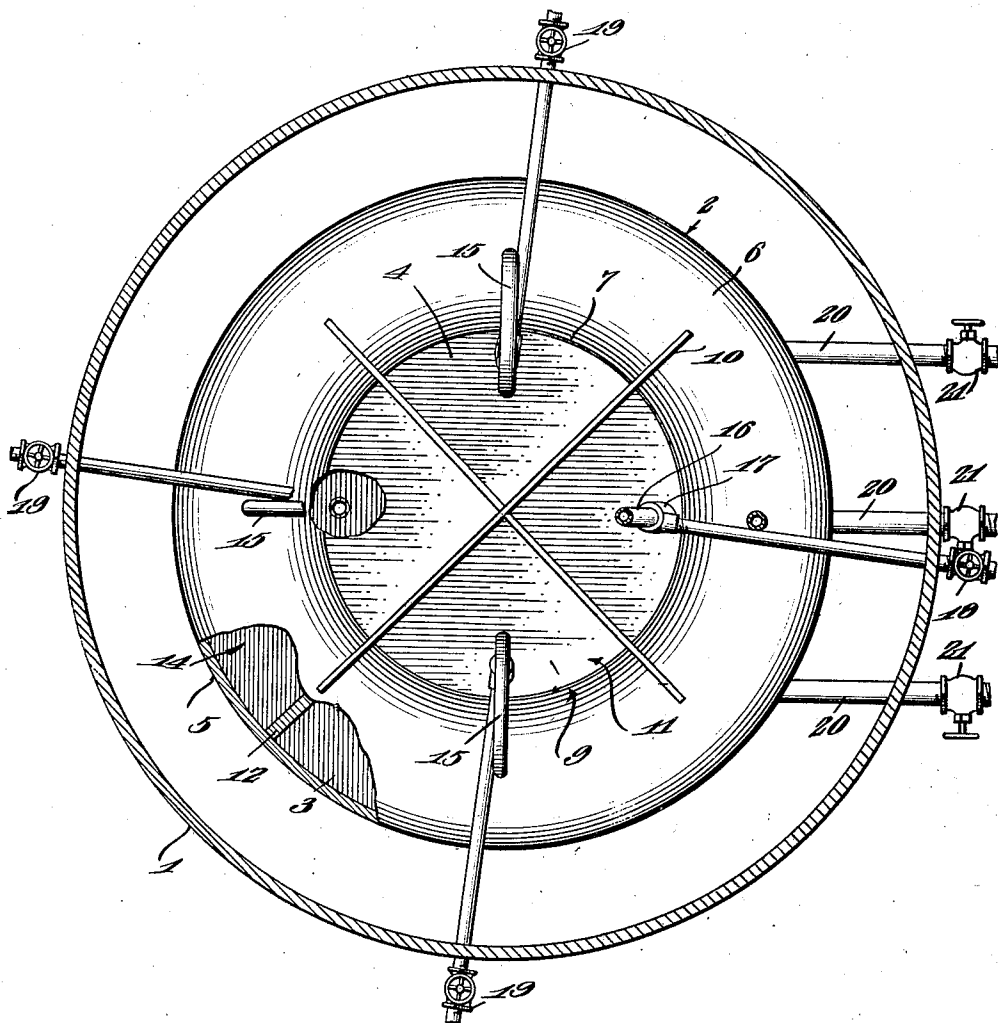
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Fig. 2.



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UNITED STATES PATENT OFFICE.

LEO E. HEROD, OF EAST CHICAGO, INDIANA.

OIL BURNER.

Application filed February 24, 1923. Serial No. 621,014.

To all whom it may concern:

Be it known that I, LEO E. HEROD, a citizen of the United States, residing at East Chicago, in the county of Lake and State of Indiana, have invented a new and useful Oil Burner, of which the following is a specification.

This invention aims to provide a simple but exceedingly efficient means for converting liquid fuel into gas in a heater, the gas being employed not only for heating purposes, but for the conversion of the liquid fuel into gas.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in vertical section, a device constructed in accordance with the invention, parts appearing in elevation; Figure 2 is a cross section wherein the device forming the subject matter of this application appears for the most part in top plan, portions being broken away.

The numeral 1 designates the body of a heater of any kind. Within the body 1 is located a drum 2 comprising a bottom 3 and a top 4, the side wall 5 being joined at its lower edge to the periphery of the bottom 3, the side wall comprising an inwardly extended, convexed annular crown 6 provided with a depending annular flange 7 which is joined to the periphery of the top 4, the crown 6 and the flange 7 forming an annular gas pocket 8 in the upper portion of the drum 2, the gas pocket 8 extending upwardly above the plane in which the top 4 is located. The top 4 and the flange 7 define a recess 9 in the top of the drum 2. External radial baffles 10 are located in the recess 9, the baffles being connected to the flange 7 and to the top 4, and dividing the recess 9 into compartments 11. Internal radial partitions 12 are located in the drum 2 and are disposed directly below the baffles

10, the partitions 12 being connected to the bottom 3, the side wall 5, the crown 6, the flange 7 and the top 4 and forming, within the drum, chambers 14 which are located directly below the compartments 11.

The lower ends of upstanding gas conduits 15 are connected to the crown 6, the conduits being downwardly and outwardly extended, as at 16, and terminating in burner nozzles 17, discharging outwardly against the flange 7. Air may be supplied to the nozzles 17, in any preferred way, for instance by means of pipes 18 provided with valves 19 located externally of the body 1 of the heater. Fuel inlet pipes 20 open through the bottom 3 of the body 1 of the heater, there being one fuel inlet pipe 20 for each of the chambers 14. Externally of the body 1 of the heater, cut-off valves 21 are interposed in the fuel inlet pipes 20.

In practical operation, liquid fuel enters the chambers 14 by way of the pipes 20 and is converted into gas by the flames discharged from the nozzles 17 against the flange 7, each nozzle 17 discharging into one of the compartments 11. The gas in the gas pocket 8 rises through the conduits 15, and combustion takes place at the outlets of the nozzles 17. Any one of the valves 21, or several of these valves may be closed, and, then, the corresponding nozzles 17 will be rendered inoperative. In view of the foregoing, the amount of heat produced by the device may be regulated as occasion may demand.

What is claimed is:—

1. In a device of the class described, a drum comprising a bottom, a top, a side wall connected to the bottom and provided with an inwardly extended crown having a depending flange which is joined to the top, the crown and the flange forming a gas pocket within the drum, the pocket extending upwardly above the plane of the top, the flange and the top forming a recess, means for supplying fuel to the drum, and upwardly extended gas conduits carried by the crown and communicating with the pocket, the conduits having depending portions provided with burner nozzles discharging into the recess.

2. A device of the class described, constructed as set forth in claim 1, and further characterized by the fact that the nozzles are so located that they discharge not only into the recess, but, as well upon the flange.

3. In a device of the class described, a drum comprising a bottom, a top, a side wall connected to the bottom and provided with an inwardly extended crown having a depending flange which is joined to the top, the crown and the flange forming a gas pocket within the drum, the pocket extending upwardly above the plane of the top, the flange and the top forming a recess, partitions within the drum and dividing the interior of the drum and the pocket into chambers, conduits carried by the drum and communicating with the chambers, the conduits comprising depending parts provided with burners discharging into the recess, means for supplying fuel to each chamber, and means for cutting off the fuel supply to any chamber.

4. In a device of the class described, a drum comprising a bottom, a top, a side wall connected to the bottom and provided with an inwardly extended crown having a depending flange which is joined to the top,

the crown and the flange forming a gas pocket within the drum, the pocket extending upwardly above the plane of the top, the flange and the top forming a recess, baffles in the recess and dividing the same into compartments, partitions within the drum and dividing the interior of the drum and the pocket into chambers, corresponding with the compartments, conduits carried by the crown and communicating with the chambers, the conduits comprising depending parts provided with burners discharging into the compartments, means for supplying fuel to each chamber, and means for cutting off the fuel supply to any chamber.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LEO E. HEROD.

Witnesses:

A. M. McKENZIE,
JOHN BOCHNOSKI.