

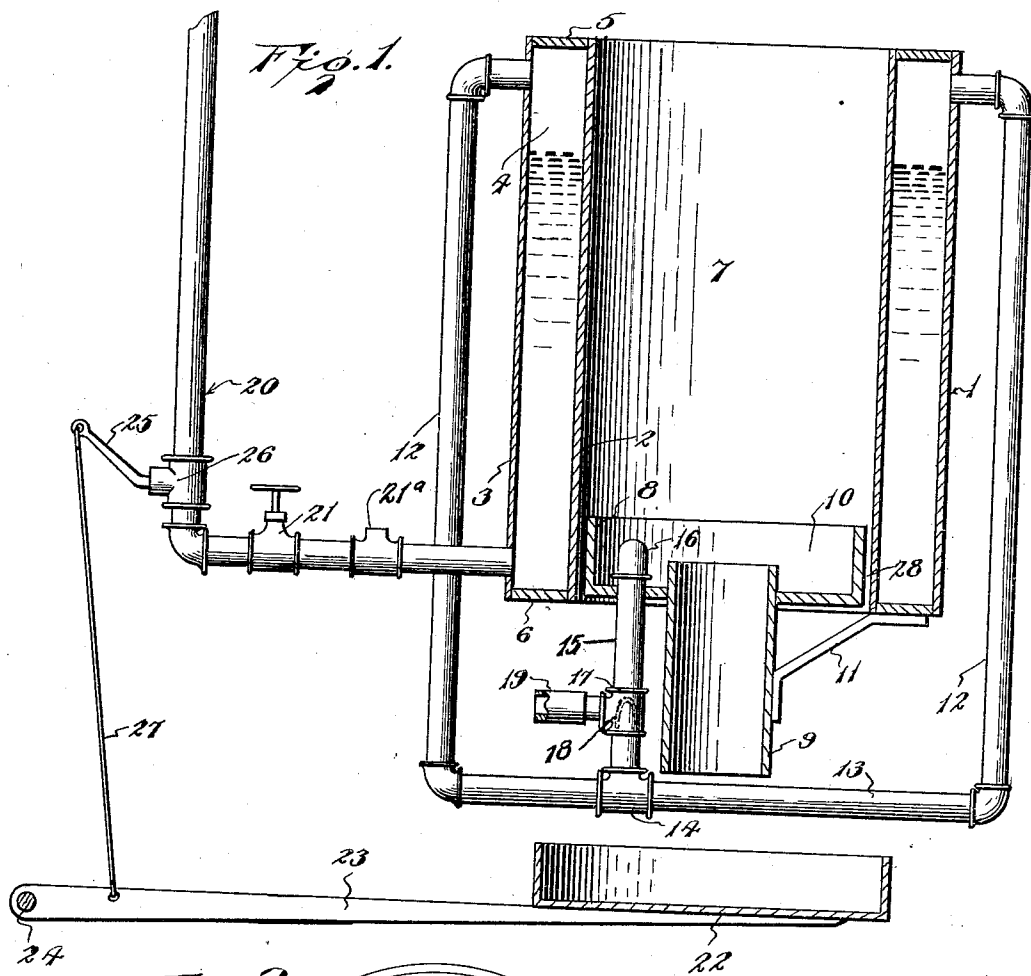
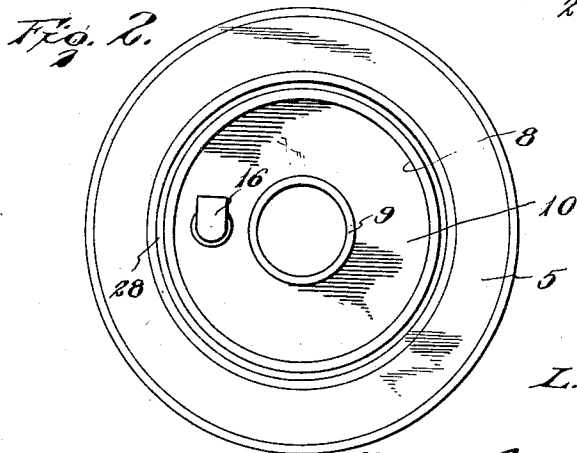
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OIL BURNER

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OIL BURNER

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The present invention is directed to improvements in oil burners.

The primary object of the invention is to provide a device of this character capable of being used in stoves, furnaces, and the like, the construction being such that hydrocarbon fuel will be quickly vaporized for effectively operating the burner.

Another object of the invention is to provide a burner of this kind which consists of a minimum number of parts, is durable, and one which can be manufactured at a very small cost.

Another object of the invention is to provide an oil burner which is so constructed that should the flame become accidentally extinguished, the flow of oil to the burner will be automatically cut off.

With these and other objects in view, this invention resides in the novel features of construction, formation, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a vertical sectional view through the device.

Figure 2 is a top plan view.

Referring to the drawings, 1 designates the burner which consists of an inner cylinder 2 and an outer cylinder 3 annularly spaced to provide an oil receiving chamber 4, said chamber being closed at its upper and lower ends by ring closures 5 and 6 respectively, which also serve to maintain the cylinders in spaced relation.

The inner cylinder provides a combustion chamber 7 in the lower end of which is engaged the circular pan 8 having an air inlet tube 9 depending from the bottom thereof, the upper end of the inlet or tube being extended into the pan to provide an annular trough 10. The tube 9 is supported by a bracket 11.

Leading from the upper end of the chamber 4 are pipes 12, said pipes being disposed vertically and exteriorly of the burner and having their lower ends connected with a pipe assembly 13 having a union 14 to which is connected the lower end of the pipe assembly 15, said pipe assembly having its upper end

extended into the pan. A discharge nozzle 16 is carried by the extended end of the pipe assembly 15, said nozzle being disposed tangentially in order that the vaporized fuel will be subjected to a whirling action within the combustion chamber.

The pipe assembly 15 includes a union 17 in which is mounted an injector nozzle 18, there being a sleeve 19 connected with the union to admit air to the union to promote combustion.

An oil supply pipe assembly 20 is connected with the lower end of the burner for conducting oil into the lower end of the chamber 4, said assembly leading from a suitable source of supply such as a tank.

This pipe assembly has carried thereby a feed regulating valve 21 and a check valve 21a to prevent back flow of oil from the chamber 4.

Disposed under the pan 8 and tube 9 is a pan 22 supported on an arm 23 pivoted to a suitable support as at 24, said arm being connected to the arm 25 of the trip valve 26 in the pipe assembly 20 by a link 27. Obviously, should the flame become accidentally extinguished, oil overflowing from the pan 8 will drip into the pan 22, thereby actuating the arm in order that the valve 26 will be closed to prevent flow of oil to the chamber.

It will be observed that the pan 8 is spaced from the cylinder 2 to provide an annular passage 28 to permit air to enter the combustion chamber 7, the air admitted thus, with the air entering the tube 9, causing the burner to operate efficiently.

The burner may be supported in any suitable manner and is so constructed that it can be conveniently applied to heating apparatus of various types.

To place the burner in operation, a torch saturated with oil may be used to provide a temporary flame to heat the burner for vaporizing the fuel. The vaporized fuel will then flow through the pipes 12, pipe assemblies 13 and 15, and will be discharged from the nozzle 16, the discharged vapor being ignited from the flame of the torch so that the burner will operate until a supply of fuel is exhausted or cut off.

From the foregoing, it is thought that the operation, and many advantages of the herein described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:

1. An oil burner comprising a combustion chamber and an annular liquid fuel receiving chamber, a pan mounted in the lower end of the combustion chamber and annularly spaced from the walls thereof, an air admitting tube extended into the pan, a gaseous fuel discharge nozzle mounted in the pan and disposed tangentially with respect to the combustion chamber, and means for conducting gaseous fuel from the fuel chamber to the nozzle.

2. An oil burner comprising a combustion chamber and a surrounding oil receiving chamber, an oil supply pipe assembly connected to the oil chamber, a pan located in the combustion chamber, means for conducting gaseous fuel from the oil chamber to the combustion chamber, a drip pan pivotally supported below the combustion chamber, and means operable by the tripping of the second pan for cutting off the flow of fuel through the pipe assembly by overflow of fluid from the first pan.

3. An oil burner comprising a combustion chamber, a surrounding oil chamber, a member within the lower end of the combustion chamber and spaced from the walls thereof to define an annular air passage and having a centrally disposed air inlet, a pipe assembly for conducting gaseous fuel from the oil chamber to the combustion chamber, an oil supply pipe connected to the oil chamber and including a valve, and a drip pan pivotally mounted below the combustion chamber and connected with the said valve to cut off the supply of oil when the drip pan is actuated by an excess of overflow.

In testimony whereof I affix my signature.

LEWIS J. FISHER. [L. s.]