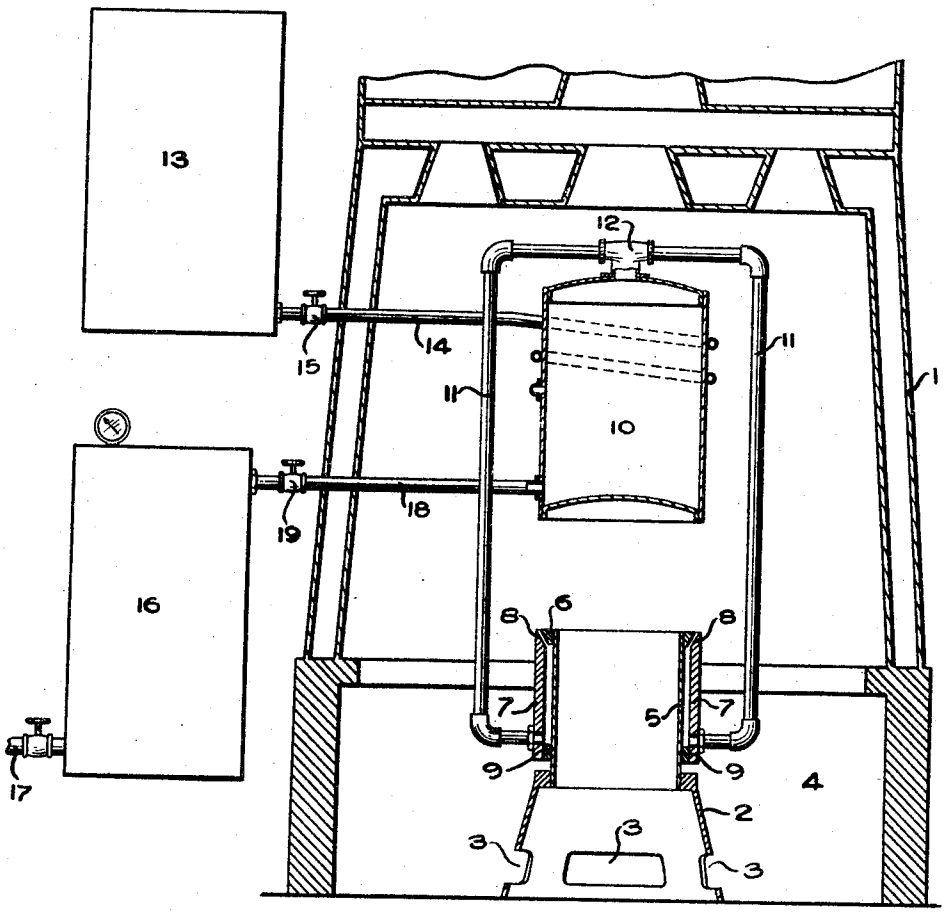
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C. V. BRYAN ET AL

OIL BURNER

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INVENTORS
CLARENCE V. BRYAN
JAMES J. BRYAN
By Fitzsimmons & Co.
Attys.

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UNITED STATES PATENT OFFICE.

CLARENCE VICTOR BRYAN, OF LAUREL, ONTARIO, AND JOHN JAMES BRYAN, OF AMARANTH STATION, ONTARIO, CANADA.

OIL BURNER.

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To all whom it may concern:

Be it known that we, CLARENCE VICTOR BRYAN and JOHN JAMES BRYAN, both subjects of the King of Great Britain, and residents of the villages of Laurel and Amaranth Station, respectively, in the county of Dufferin, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Oil Burners, of which the following is the specification.

Our invention relates to improvements in oil burners and the object of the invention is to devise an improved oil burner which will be simple in construction and effective in use.

A further object is to devise an oil burner in which the air and oil are mixed and heated to constitute a combustible gas prior to ignition.

Our invention consists of an oil burner constructed and arranged all as hereinafter more particularly described and illustrated in the accompanying drawing in which:

The figure represents a vertical sectional view through a furnace showing our burner in section positioned therein.

1 is the furnace. 2 is the base of my burner provided with the auxiliary air holes 3, said base being positioned in the ash-pit 4 of the furnace. 5 is a cylindrical ring mounted on the base and communicating therewith, said ring provided with the outwardly bevelled upper flange 6. 7 is the outer casing of the burner extending around the ring 5 and in spaced relation thereto and concentric therewith, said casing having a correspondingly bevelled upper edge 8 positioned in spaced relation to the flange 6, the bottom of the casing 7 having an inwardly extending flange 9 engaging the ring 5.

10 is a cylindrical mixer postioned above the burner and supported in place by means of the gas pipes 11, the upper ends of which are connected to the T union 12 secured to the top of the mixer 10 and communicating therewith, the lower ends of such pipes 11 extending inwardly through the casing 7.

13 is the fuel oil tank. 14 is an oil supply pipe provided with the control valve 15, said pipe 14 being coiled about the mixer 10 and its lower end extending through the side wall thereof. 16 is an air tank into which air is pumped through the pipe 17 from any suitable air compressing means (not shown). 18 is an air delivery pipe provided with the control valve 19, said pipe 18 leading from the tank 16 to the mixer 10.

In operating our device the oil is turned on by opening the control valve 15 and such oil flows through the pipe 14, through the coil thereof into the interior of the mixer 10, and when the air valve 19 is opened, compressed air is introduced from the tank 16 into the mixer 10, mixing with the fuel oil introduced thereinto, which when the burner is operating is heated so as to readily gasify, being delivered to the burner through the pipes 11, such gas passing up between the outer casing 7 and the ring 5 and being ignited as it passes out of the annular space between the flange 6 and the bevelled edge of the casing 7, auxiliary air passing upwardly through the interior of the burner base 2 and the ring 5.

From the above description it will be seen that we have devised a simple and effective oil burner in which the burner heating the mixing chamber in which the oil and air are introduced, provides an exceedingly efficient device in which the gas delivered thereto will be in the most combustible state. While we preferably use compressed air from the tank 16 when starting the burner we may, when the burner is once running, operate the same entirely with vapourized oil from the mixing chamber which will mix with the auxiliary air introduced through the interior of the burner.

What we claim as our invention is:

In an oil burner, the combination with the burner proper, of a mixing chamber positioned above the burner in spaced relation thereto, an air intake pipe to the mixing chamber, an oil intake pipe wound around the mixing chamber and connected thereto, a T-union at the top of the mixing chamber, opposed mixture carrying pipes connected at their upper ends to the T-union and at their lower ends to the opposed sides of the burner, said pipes in addition to carrying the mixture to the burner from the mixing chamber supporting the mixing chamber in position.

CLARENCE VICTOR BRYAN.
JOHN JAMES BRYAN.