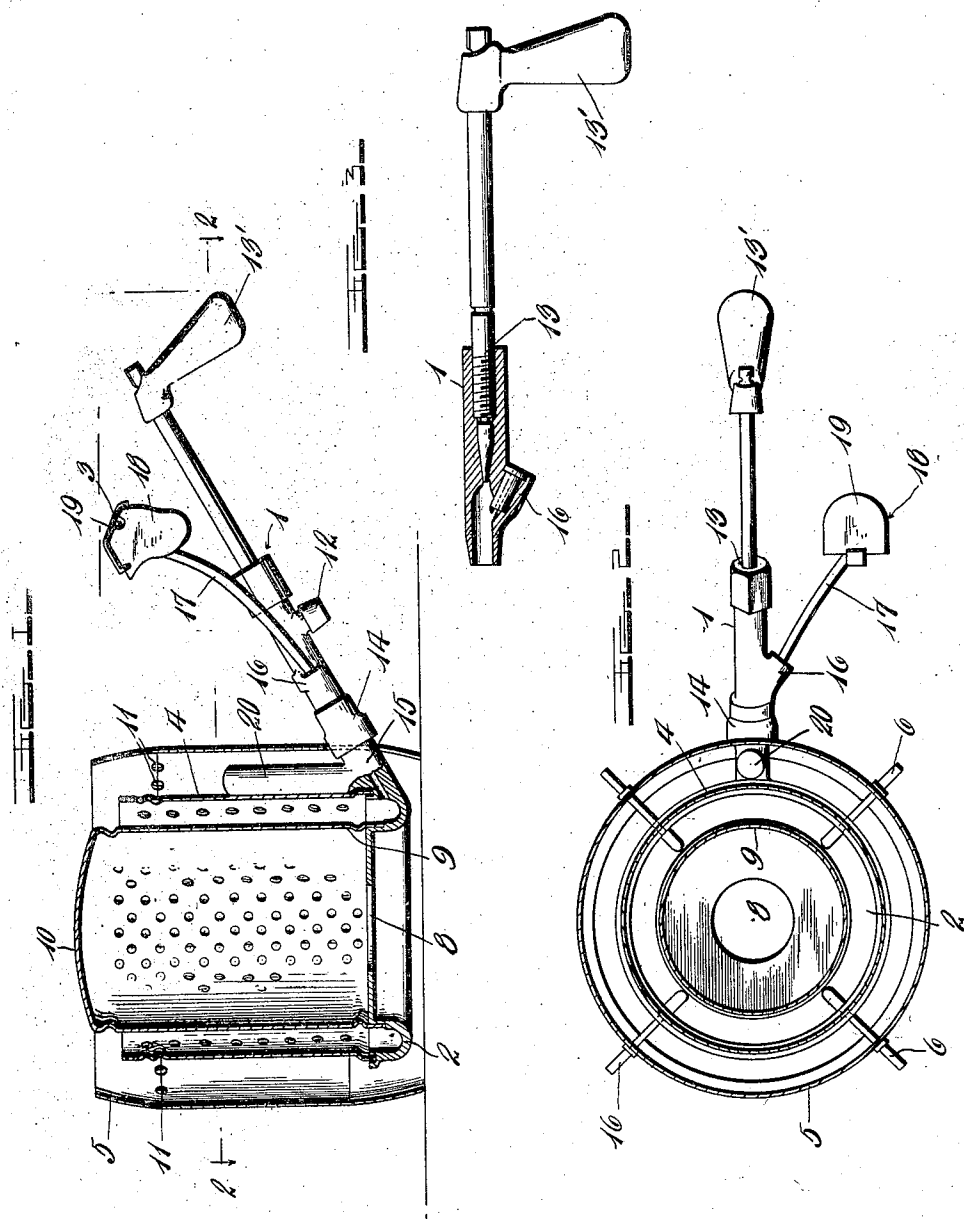


Apr. 24, 1923.

1,452,650

C. W. MUMMERY
BURNER

Filed Nov. 2, 1922



Inventor

Clyde W. Mummery

8041 E. E. Jew Attorney

Patented Apr. 24, 1923.

1,452,650

UNITED STATES PATENT OFFICE.

CLYDE W. MUMMERY, OF RICHMOND, MICHIGAN.

BURNER.

Application filed November 2, 1922. Serial No. 598,578.

To all whom it may concern:

Be it known that I, CLYDE W. MUMMERY, a citizen of the United States, residing at Richmond, in the county of Macomb and State of Michigan, have invented certain new and useful Improvements in Burners, of which the following is a specification.

This invention relates to burners especially adapted and intended for burning kerosene or other hydrocarbons without the use of a wick, and it is adapted and intended for use on oil stoves or the like.

The object of the invention is to provide improved means for vaporizing the oil or generating a vapor which is burned in a combustion space located above the vaporizer. A feature of the invention is the introduction of air into the oil where it is fed into the generating trough, together with means for supplying additional heat to the point of inlet to the trough, whereby complete vaporization is effected and carbonization is prevented.

Further objects of construction in the details of the burner will be apparent from the following description and the accompanying drawings in which Fig. 1 is a vertical section of the burner. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a detail in section of the inlet valve structure.

The base of the burner consists of an annular trough 2, in which vaporization is effected, the casting of which the trough is formed having a central air opening 8. This trough supports inner and outer perforated shells 9 and 4 the lower edges of which rest in machined seats formed in the inner and outer edges of the trough respectively, the shells or tubes being spaced apart to form an annular combustion chamber communicating with the trough below. The inner combustion tube 9 is closed at the top as shown at 10, and the shells are surrounded by an outer casing or wall 5 having air holes 11 around the same near the top, for the purpose of admitting additional air to the upper part of the burner. The shells are spaced and held in proper position by means of screws 6 which extend through the casing 5 and perforated wall 4 and project inwardly to substantial contact with the inner combustion wall 3 to guide the latter and center it in position.

The fuel oil used is fed to the trough from any suitable source of supply thru a nipple 12 on a needle valve casing 1, the needle

valve 13 being tapped into the end of the casing and provided with a handle 131 whereby it may be operated. This casing is connected by a union 14 with a bored boss 15 cast on the side of the trough. The valve casing 1, slightly inside or beyond the valve seat has a bored boss 16 for the connection of a pipe 17 which is provided at its upper end with a priming cup 18 having a lid 19, and the upper edge of this priming cup is notched as indicated at 3 to form an air inlet.

Extending inwardly from the boss 15 is a rod or finger 20 which projects upwardly in the space between the combustion wall 4 and the outer casing 5, and preferably in contact with the former. The purpose of this rod is to conduct heat to the oil passage in the boss 15, at about the point where said oil flows into the vaporizing trough, to assist in vaporizing the oil.

In the operation of the burner, it is primed by introducing a quantity of starting fluid into the priming cup 18, whence it flows into the trough and may be lighted by a match to heat the parts and start generation. The needle valve is then opened and vapor is generated and is consumed in the space between the walls 9 and 4, air being supplied from the inner and outer sides thru the perforations in said walls. In the operation the vaporization causes an inflow of air thru the notch inlet 3 in the priming cup, and this air passes thru the pipe 17 and mixes with the oil which is fed into the vaporizing trough. Also heat is conducted by the rod 20 to the vaporizing trough, particularly at the point of inlet, and the heat so conducted, as well as the supply of heated air, greatly assists the vaporization and prevents clogging and carbonization in the oil inlet passage, which is an objection often met with in burners of this general type. The air holes 11 near the top of the outer shell 5 will serve to admit additional air near the tip of the flame, if necessary, or to permit a relief for an excessive amount of air flowing up thru the bottom of the shell.

The device is not limited to the particular details shown but various modifications are possible within the scope of the following claims.

I claim:

1. A burner comprising a vaporizing trough, spaced perforated walls mounted thereon and forming a combustion chamber

above the trough, an inlet pipe to the trough,
and a rod projecting upwardly from the
inlet pipe, beside the outer of said walls,
and serving to conduct heat to said inlet
5 pipe.

2. In a burner, a vaporizing trough pro-
vided with an inlet pipe, a pair of perforated
shells standing on said trough and spaced
apart to form a combustion chamber above
10 the trough, and a heat conducting projection

extending from the inlet pipe upwardly be-
side the outer of said shells, to conduct heat
therefrom to said inlet pipe.

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

CLYDE W. MUMMERY.

Witnesses:

EARLE M. FRENCH,
S. HOWARD SMITH.