B. MOORE.

LIQUID FUEL BURNER.

APPLICATION FILED JUNE 25, 1909.

939,613. Patented Nov. 9, 1909.

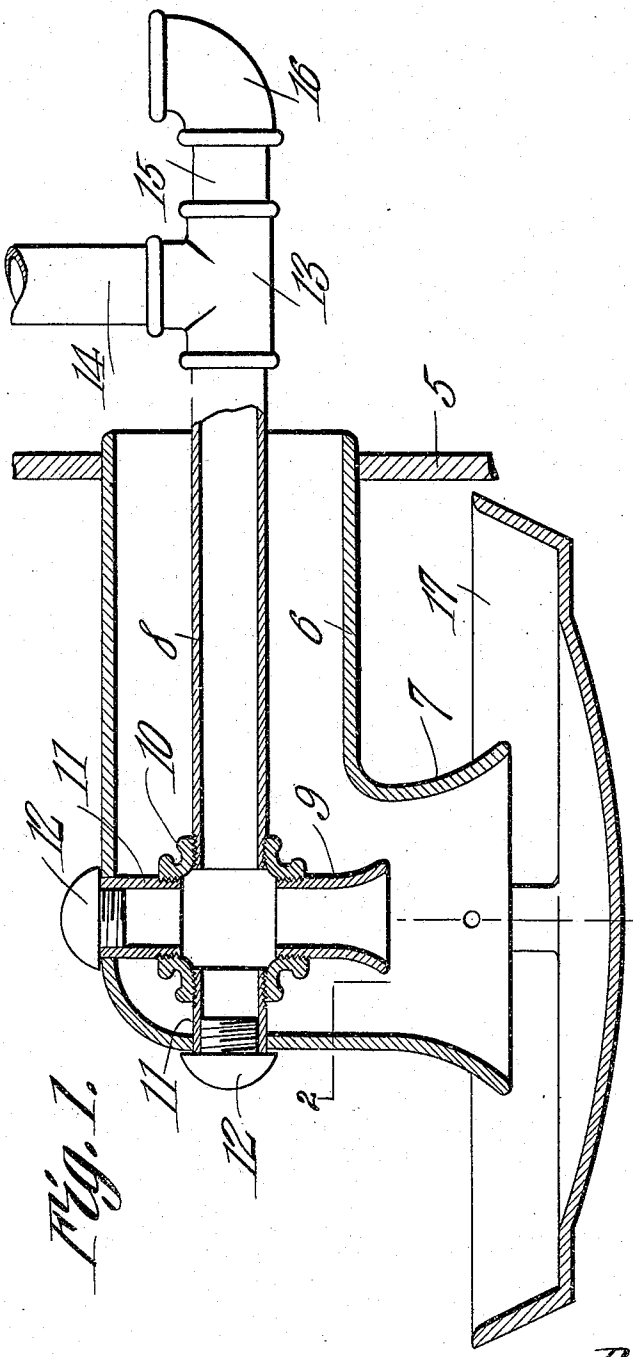

Fig. 1.

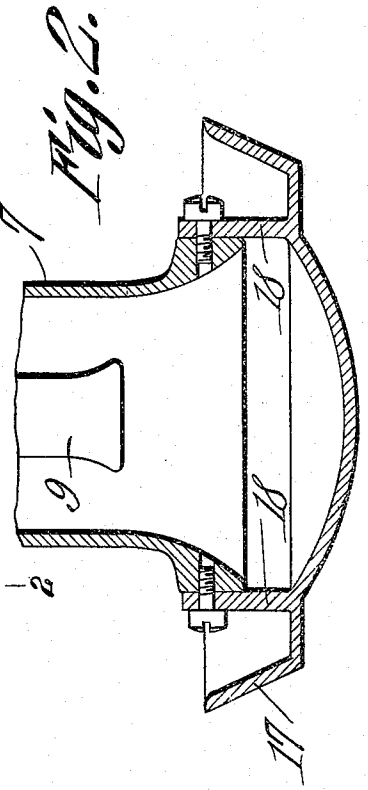

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

BENTON MOORE, OF CHERRYVALE, KANSAS.

LIQUID-FUEL BURNER.

939,613. Specification of Letters Patent. Patented Nov. 9, 1909.

Application filed June 25, 1909. Serial No. 504,334.

To all whom it may concern:

Be it known that I, BENTON MOORE, a citizen of the United States, residing at Cherryvale, in the county of Montgomery and State of Kansas, have invented a new and useful Liquid-Fuel Burner, of which the following is a specification.

The burner which is the subject of the present invention is designed more particularly for domestic cooking and heating stoves, the object of the invention being to provide an improved burner of this kind which has a down draft, and which may be connected to the stove through the fire-box door, in order to give it proper draft.

The burner also embodies certain novel structural details, which will appear more fully hereinafter.

In the accompanying drawing:—Figure 1 is a sectional view of the burner, constructed in accordance with the present invention. Fig. 2 is a cross section on line 2—2 of Fig. 1.

In the drawing, 5 denotes the fire-box door of the stove to which the invention is applied. In this door is mounted, so as to extend into the fire-box, an air-supply pipe 6, the inner end of which has a downwardly directed, flared discharge mouth 7. The outer end of the pipe is open, so that air may enter and pass through the same, it being discharged downwardly from the mouth 7 into the fire-box.

At 8 is indicated the oil-pipe, said pipe entering the pipe 6 through the open outer end thereof, and extending lengthwise therethrough to a point above the mouth 7, where it is fitted with a downwardly directed, flared discharge nozzle 9, which extends for a short distance into the mouth 7. The nozzle is connected to the pipe 8 by a cross-coupling 10, which also carries tubes 11 extending to and seating in openings made in the pipe 6, the outer ends of said tubes being closed by screw plugs 12. These tubes serve to hold the pipe 8 in proper position within the pipe 6. The diameter of the pipe 6 and its discharge mouth is considerably greater than that of the oil pipe 8, said oil pipe and nozzle being thus spaced from the pipe 6 and its discharge mouth.

On the outside of the stove the oil-pipe 8 is connected to a T-coupling 13, to one of the lateral branches of which is connected a pipe 14, which leads to a tank or other suitable source of oil supply. To the other branch of the coupling is connected a short section of pipe 15, carrying an elbow 16. This short pipe is in alinement with the oil pipe 8, and is provided to supply air to the oil passing through said pipe to the nozzle. The elbow is upwardly presented, to prevent overflow of the oil.

Beneath the mouth 7 is mounted a pan 17, to catch the overflow from the burner. This pan is supported on the pipe 6 by means of bracket arms 18 connected to the latter.

A burner constructed as herein described receives an abundant supply of air to support combustion. Air drawn into the elbow 16 passes through the pipe 8 with the oil, and the air and oil are discharged from the nozzle 9 into the downturned end of the pipe 6, at the mouth of which combustion takes place. The air passing through the pipe 6 commingles with the oil as it issues from the nozzle, and a thorough mixture of oil and air is thus effected. The draft in the fire-box of the stove produces a down-draft on the burner, the air being drawn thereby through the pipe 6. The draft may be regulated by setting the ordinary dampers of the stove as usual.

The burner is economical in its consumption of fuel, and it can be readily applied to any ordinary cooking or heating stove, no alteration or modification in the structure thereof being necessary. The flared mouth 7 spreads the fuel, whereby a large flame is produced.

What is claimed is:—

1. A liquid fuel burner comprising an air-supply pipe open at its ends, a fuel pipe entering one end of said pipe and discharging from the other end thereof, said fuel pipe extending through the air pipe in spaced relation thereto, a T-coupling connected to the outer end of the fuel pipe, a supply pipe connected to the lateral branch of the coupling, and an elbow connected to the branch of the coupling which is in line with the branch to which the fuel pipe is connected, said elbow being upwardly presented.

2. A liquid fuel burner comprising an air supply pipe open at its ends, and having at one end a downwardly directed discharge mouth, a fuel pipe entering the opposite end of said pipe, and extending therethrough in spaced relation therewith, a cross coupling connected to the inner end of the fuel pipe, a

nozzle connected to said coupling, and projecting in the direction of the aforesaid discharge mouth, tubes connected to the other branches of said coupling, and extending to the air-supply pipe, there being openings in said pipe to receive the said tubes, and plugs closing the outer ends of the tubes.

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

BENTON MOORE.

Witnesses:
A. D. HILEMAN,
W. E. H. ANDERSON.