

W. F. SCHAFER & J. H. COOK.  
OIL VAPORIZER AND BURNER.  
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1,062,188.

Patented May 20, 1913.

Fig. 1.

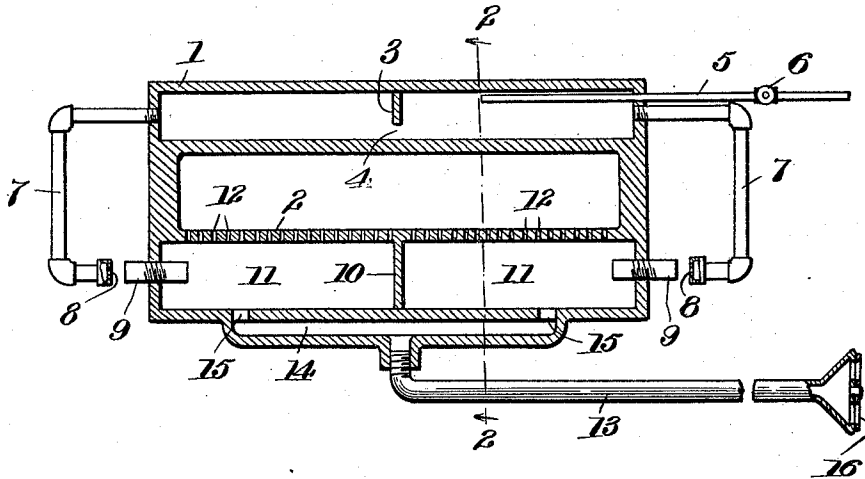
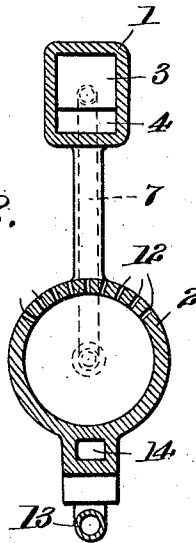


Fig. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## OIL VAPORIZER AND BURNER.

1,062,188.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed February 17, 1912. Serial No. 678,210.

*To all whom it may concern:*

Be it known that we, WALTER F. SCHAFER and JOHN H. COOK, citizens of the United States, residing at Mena, in the county of Polk and State of Arkansas, have invented certain new and useful Improvements in Oil Vaporizers and Burners, of which the following is a specification.

This invention relates to burners for vaporized fluids and has for its object to provide improved means for commencing and continuing the vaporization of the fuel.

The burner is particularly adapted for the combustion of crude petroleum, although other hydro-carbons may be used if desired.

Our invention consists essentially of a generating chamber, and a burner chamber rigidly cast together, making an inexpensive and durable oil burner.

In the drawings, forming a part of this specification, Figure 1, is a longitudinal sectional view of our improved burner, and Fig. 2, is a section on the line 2—2 of Fig. 1.

Like numerals of reference indicate corresponding parts in the several figures of the drawings.

Numeral 1 indicates the generating chamber of our burner and 2 the burner proper. The chambers 1 and 2 are cast together in one casting, the chamber 1 being superposed above the burner 2. Chamber 1 is divided by a partition 3, an opening 4 being left in the lower part of the partition. Fuel is admitted to the chamber 1 by supply pipe 5, having a suitable valve 6 therein.

Vapor is taken from the chamber 1 to the burner 2 by pipes 7, said pipes having a small orifice 8 at their discharge ends. Opposite the orifices 8 and slightly spaced therefrom, are pipes 9 screwed into the ends of the burner chamber 2. This construction admits of air being forced into the burner by the vapor passing out of the orifice 8. The burner is divided into two cylindrical chambers 11 by a partition 10. The burner is further provided with perforations 12, common to gas or oil burners. Air is further admitted to the chamber 11, by a pipe 13, leading to a pocket 14, having openings 15 communicating with the burner. The

amount of air let into the pipe 13 is controlled by a valve 16.

Our burner is operated by admitting liquid fuel into the generating chamber 1, where it is vaporized by the heat from the burner 2, and the vapor or gas thus generated is carried to the burner by the pipe means. Should other air be needed to effect perfect combustion, it can be admitted and the amount regulated by the pipe 13 and the valve 16 respectively.

From the foregoing specification and the accompanying drawings, it will be seen that we have produced a cheap and effective liquid fuel burner, and one that is easily operated.

Having thus described our invention, what we claim is:

1. A burner having a burner chamber provided with a perforated portion, a superposed fuel chamber offset from the burner chamber, fuel supply means for the fuel chamber, a partition extending partially across the fuel chamber, a partition in the burner chamber, said burner chamber provided with an inlet at each end, pipe means leading from each end of the fuel chamber to the inlets and stopping short thereof, substantially as described.

2. A burner having a burner chamber provided with a perforated portion, a superposed fuel chamber offset from the burner chamber, fuel supply means for the fuel chamber, a partition extending partially across the fuel chamber, a partition in the burner chamber, pipe means at each end of the burner communicating with the fuel chamber and burner chamber, an air pocket having inlets to the burner chamber, one on each side of the partition, and air intake means leading to the pocket, substantially as described.

3. A burner having an integral body consisting of a burner chamber having a perforated wall, a superposed fuel chamber offset from the burner chamber and an air pocket connected to the burner chamber, a partition in the fuel chamber extending partially across the same, fuel supply means, a partition in the burner chamber, an inlet open-

ing between the pocket and chamber on each side of the partition of the burner chamber, a valved air intake pipe leading to the pocket, inlets on opposite sides of the burner chamber and pipe means leading from the fuel chamber to each inlet and stopping short of the same, substantially as and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WALTER F. SCHAFER.  
JOHN H. COOK.

Witnesses:

W. WARNER,  
W. L. GREEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."