

D. L. REESE.

BURNER.

APPLICATION FILED JAN. 21, 1910.

Patented July 26, 1910.

2 SHEETS—SHEET 1.

965,407.

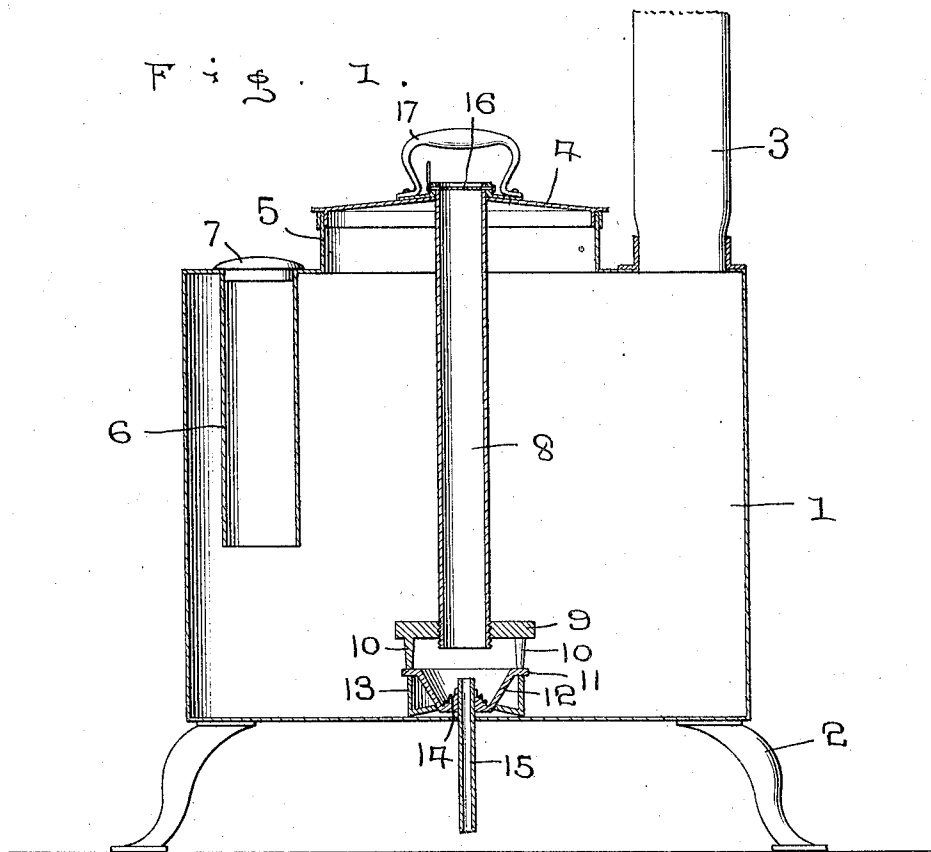
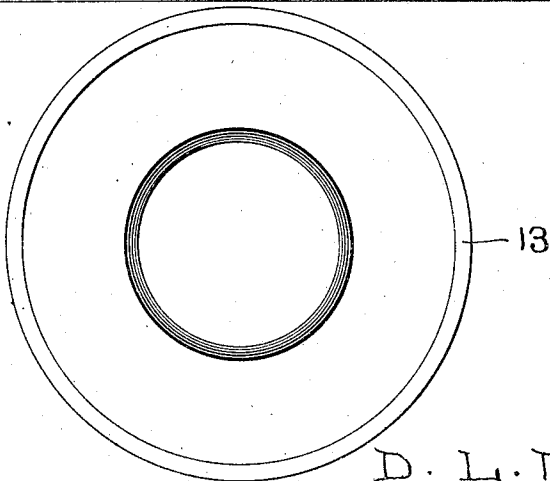


Fig. 2.



WITNESSES:

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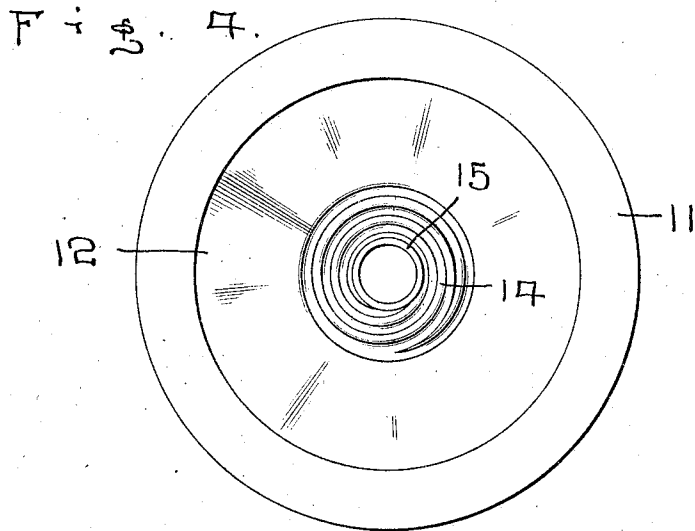
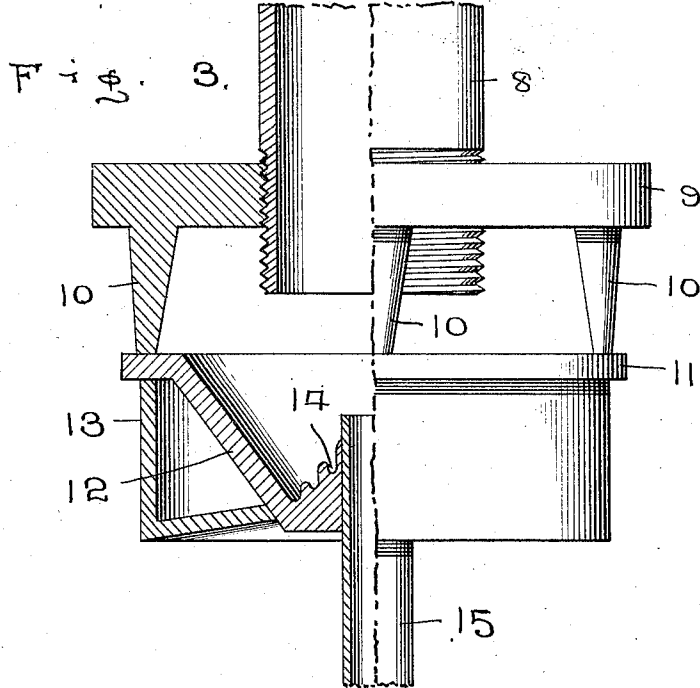
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UNITED STATES PATENT OFFICE.

DAVID L. REESE, OF REDLANDS, CALIFORNIA.

BURNER.

965,407.

Specification of Letters Patent. Patented July 26, 1910.

Application filed January 21, 1910. Serial No. 539,342.

To all whom it may concern:

Be it known that I, DAVID L. REESE, a citizen of the United States, residing at Redlands, in the county of San Bernardino and State of California, have invented certain new and useful Improvements in Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in burners and especially to the class in which hydro-carbon liquids are used for fuel having for an object to provide a burner which may be used in connection with stoves for heating and cooking and also in furnaces and the like.

A still further object of my invention is to provide a burner adapted to use a cheap grade of fuel and a still further object is to provide a device of this class wherein perfect combustion is obtained.

A further object is to provide a means for supplying air to said burner in order to promote a perfect combustion and a still further object is to employ an improved form of burner, by means of which the liquid fuel may be so fed as to consume all the heat giving qualities contained therein.

These and other objects will be hereinafter referred to and more particularly pointed out in the claims.

In the drawings forming a part of this application, Figure 1 is a longitudinal sectional view of an air-tight stove showing my improved form of burner coöperating therewith. Fig. 2 is a top plan view of the tubular supporting member with the burner removed. Fig. 3 is a side elevation of the burner partly in section showing the air and oil supply pipes as they would appear connected to such burner; and, Fig. 4 is a top plan view of the burner.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 is an air-tight stove of the usual or preferred form supported upon feet 2 and having a flue pipe 3 extending from the upper end thereof, while a top 4 is provided for a vertically extending portion 5 of said stove. An outlet pipe 6 extends vertically upward for a portion of the length of said stove having an opening adjacent the top thereof for which a closure 7 is provided, said outlet

pipe being adapted to supply heat to the room in which the stove is located, or if preferred, a suitable connection may be made with said outlet pipe 6, in order to supply heat to adjacent rooms to the one in which the stove is located.

Suitably secured in the top 4 and extending downwardly therefrom within the stove 1 is an air supply pipe 8, the lower portion of said air supply pipe being removably secured with a deflector 9, the lower portion of said air supply pipe extending through the body of said deflector, the latter having supporting members 10 which are adapted to rest upon a flange 11 of the bowl-shaped burner 12, said burner being supported and surrounded by a tubular member 13, the latter resting upon the base of the stove. A spirally arranged channel 14 extends upwardly through the central portion of said bowl-shaped burner for a portion of the distance therein, while an oil supply pipe 15 connected with some suitable source of supply, extends upwardly through the center of the spiral channel 14. Although it is preferred that said channel member 14 should be arranged spirally, yet if it is preferred, it is possible to arrange a plurality of channels in concentric circles, without defeating the purpose for which they are used.

As the liquid fuel passes through the supply pipe 15, it is carried to the upper portion of said pipe and allowed to flow down within the spiral channel 14, where it is gradually fed to the lower portion of the bowl-shaped burner 12. After igniting the fuel, air for supporting the combustion of said fuel is supplied in predetermined quantities through the air supply pipe 8 which is provided with a regulating damper 16 located within said air supply pipe, the adjacent portion thereof being held in engagement by the top 4 and at a point below the handle 17 of said top.

In operation, it will be appreciated that the air passing through the air supply pipe will become heated and thus cause a more perfect combustion of the fuel and the flame under the deflector 9 will heat the same to such an extent that said deflector may be well termed a generator, in view of the fact that the heat generated therefrom will cause the fuel to change from a liquid to a gas, thereby increasing the combustion many fold.

It will be readily appreciated that the

parts of the burner are so constructed that in case it should become necessary to clean them, they may be easily removed for that purpose. When it is desired to use the burner for the purpose of cooking, it will be necessary to arrange certain parts differently to allow articles of food to be placed on the generator and cooked, but the same may be done without departing from the spirit of the invention.

It will be seen that the air supplied to the burner is through the medium of the down draft pipe 8 and damper 16 and as the air passes through said pipe 8, it becomes thoroughly heated so that by the time it reaches the burner, it will be in a state so as to commingle with the liquid fuel and form a gas, thereby aiding the combustion and heating the stove many fold.

What I claim is:—

1. A burner comprising a bowl-shaped member, a spiral channel extending upwardly from the periphery of the base of said member, a fuel supply pipe extending vertically through the center of said channel, a supporting member for said bowl-shaped member, an air supply pipe terminating above said bowl-shaped member, and a deflector supported on the upper portion of said bowl-shaped member.

2. A burner comprising a substantially bowl-shaped member having a horizontally extending flange integral therewith, a deflector having supporting means resting on said flange, an air supply pipe removably

secured in said deflector and extending downwardly adjacent the top of said bowl-shaped member, a supporting means for said bowl-shaped member, and a fuel supplying pipe entering said bowl-shaped member.

3. A burner comprising a bowl-shaped member, a tubular support for said member, fuel supplying means for said burner, a deflector supported above and on portions of said member, an air supplying means for said burner extending through said deflector.

4. A burner comprising a bowl-shaped member, a tubular support therefor, said member having a peripheral flange thereon, means to supply fuel to said burner, a deflector mounted on the flange of said bowl-shaped member and air supplying means for said burner.

5. A burner comprising a bowl-shaped member having a peripheral flange thereon, a tubular support therefor, said flange resting upon the upper peripheral edge of said tubular support, means to supply fuel to said burner, a deflector mounted on said flange and supported thereabove, and air supplying means for said burner extending through said deflector.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID L. REESE.

Witnesses:

J. H. LOGIE,
A. N. DIKE.