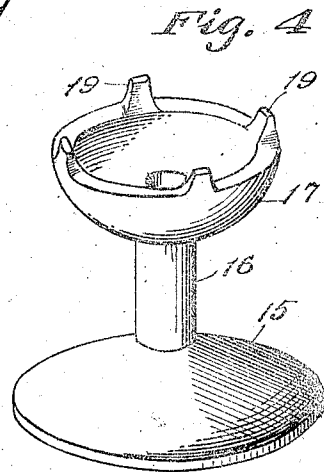
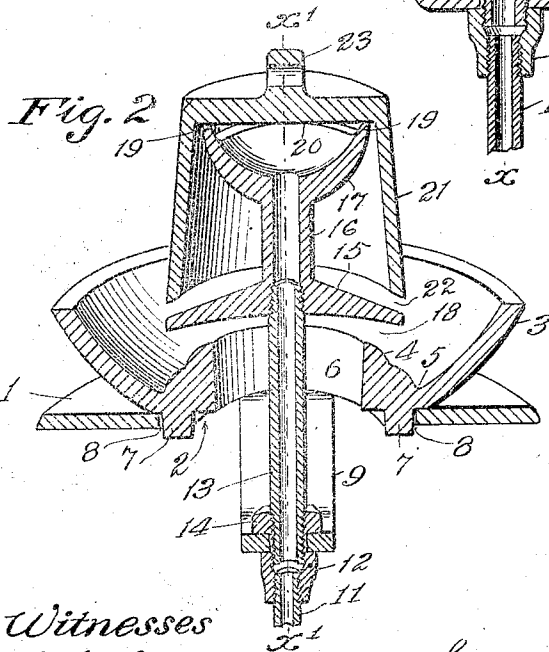
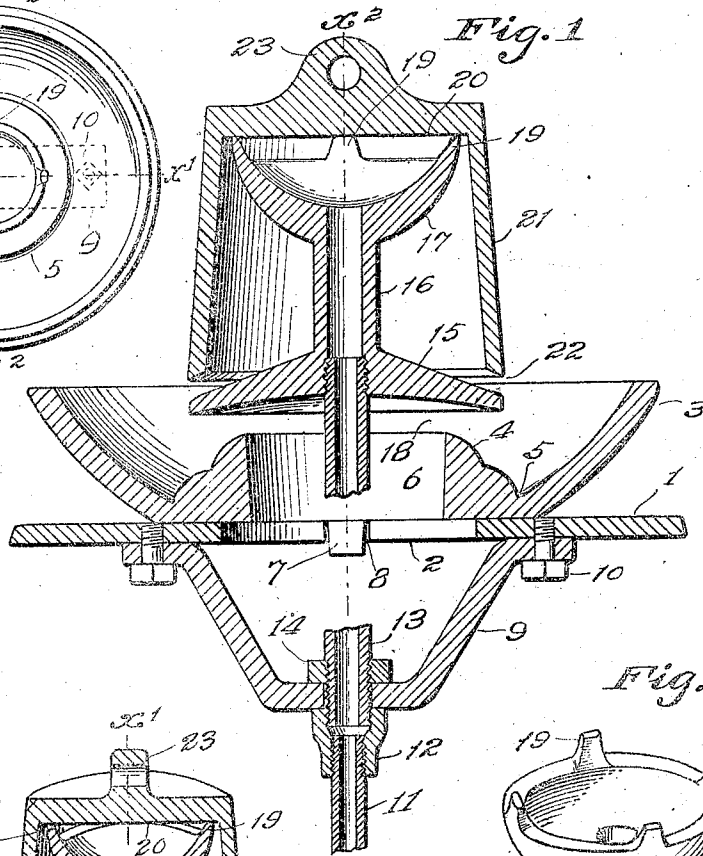
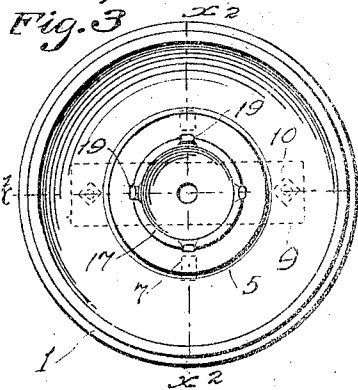


A. K. LINDLEY.
OIL BURNER.

APPLICATION FILED OCT. 20, 1908.

Patented Sept. 21, 1909.

934,616.



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UNITED STATES PATENT OFFICE.

ANDREW K. LINDLEY, OF LOS ANGELES, CALIFORNIA.

OIL-BURNER.

934,616.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed October 20, 1908. Serial No. 458,706.

To all whom it may concern:

Be it known that I, ANDREW K. LINDLEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improved Oil-Burner, of which the following is a specification:

An object of this invention is to produce an oil-burner for use of distillates which will not overheat the oil in the supply-pipe, and in which the vaporizing-cup is readily accessible for cleaning.

A further object of the invention is to produce a burner in which the flow of vapor and the flow of air at the point where the vapor and air mix is absolutely unobstructed, and the invention consists of the novel features herein shown, described and claimed.

The accompanying drawing illustrates the invention.

Figure 1 is a vertical central section on line x^1 , Figs. 2 and 3. Fig. 2 is a vertical central section on a reduced scale on line x^2 , Figs. 1 and 3. Fig. 3 is a plan of the combustion-pan with the vapor-spreader removed. Fig. 4 is a perspective of the vaporizing-cup, stand-pipe, and air-spreader removed from the burner.

The support 1 may be the bottom of the stove, and a central vertical air-passage 2 of considerable size is formed through the support. The combustion-pan comprises the rim 3, the raised center 4 forming the annular gutter 5 and the central air-passage 6, there being lugs 7 extending downwardly from the metal of the raised center 4 into notches 8 extending from the air-opening 2 into the support 1 to hold the vaporizing-pan in a central position with the air-opening 6 in registration with the opening 2. A bracket 9 is attached at its ends to the support 1 by tap-screws 10, the center of the bracket being a considerable distance below the level of the support 1, and said bracket being crosswise of the opening 2. The supply-pipe 11 is connected to a coupling 12, and the supply-pipe extension 13 is inserted downwardly through a jam-nut 14, then through the center of the bracket 9 into the coupling 12; said extension extending upwardly to a position above the raised center 4 and at the center of the air-opening 6.

The air-spreader 15, stand-pipe 16, and vaporizing-cup 17 are formed integral and screwed upon the upper end of the exten-

sion supply-pipe 13 so that the air-spreader covers the opening 6 through the combustion-pan, thereby producing a continuous comparatively thin air-passage 18 between the raised center 4 and the bottom of the air-spreader. The stand-pipe 16 forms a further extension of the supply-pipe, thereby leading the oil to the center of the vaporizing-cup 17. The vaporizing-cup 17 is of less diameter than the air-spreader 15 and is hemispherical in form. Lugs 19 project upwardly from the edge of the cup to support the vapor-spreader. The vapor-spreader is in the form of an inverted cup and comprises a flat top 20 resting upon the lugs 19 and a downwardly-extending rim 21, said rim being nearly the same diameter as the air-spreader 15, and the lower edge of the rim being near to the upper face of the air-spreader so as to form within the vapor-spreader, between the vaporizing-cup and the air-spreader, a heating chamber opening through the continuous thin vapor-passage 22 so that as the vapor passes outwardly through the passage 22 it will meet the air passing outwardly through the passage 18 at the peripheral edge of the air-spreader 15. A perforated ear 23 extends upwardly from the top 20 for manipulating the vapor-spreader when it is desired to clean the vaporizing-cup 17.

In practical operation the oil is admitted through the supply-pipe to the vaporizing-cup, and overflows the upper edge of the vaporizing-cup and runs down the outer surface of the vaporizing-cup, stand-pipe 16, and the air-spreader 15, into the trough 5, and then the oil is lighted and burns up around the vapor-spreader 21 until sufficient heat is generated to vaporize the oil in the cup 17. Then the vapor will pass over the edge of the cup 17 between the lugs 19 and downwardly through the vapor heating chamber inside of the vapor-spreader 21, and through the vapor-passage 22, and fresh air will pass upwardly around the bracket 9, through the opening 2, through the opening 6, and through the opening 18; the air and vapor meeting at the edge of the air-spreader 15, thereby causing a continuous thin flame to encircle the vapor-spreader 21, and furnishing sufficient heat to continue the process of vaporizing the oil in the cup 17.

By experimentation and calculation the parts are so proportioned that the flame thus

produced will not overheat the standpipe 16 so as to clog the stand-pipe. By mounting the parts as shown and described I produce a continuous flame of practically equal intensity all the way around by passing the vapor through the narrow continuous slit 22, and the air through the narrow continuous slit 18, and this is of great importance in producing a smokeless flame in an air-draft burner.

I claim:—

1. A combustion-pan having a raised center and a central opening through the raised center, a supply-pipe mounted vertically in said opening, an air-spreader mounted upon the pipe, a stand-pipe forming an extension of the supply-pipe above the air-spreader, a vaporizing-cup upon the upper end of the stand-pipe, and a vapor-spreader in the form of an inverted cup covering the vaporizing-cup and extending downwardly near to the air-spreader.

2. A combustion-pan having a raised center and an air-passage through the raised center, a supply-pipe extending upwardly through the air-passage, an air-spreader upon the supply-pipe, a vaporizing-cup above and spaced apart from the air-spreader, and a vapor-spreader mounted upon the vaporizing-cup and terminating near the top of the air spreader, so as to bring the vapor and air together near the periphery of the air-spreader; a chamber being formed within the vapor-spreader between the cup and the air-spreader.

3. A combustion-pan having a raised center and an air-passage vertically through the raised center, a supply-pipe at the center of the air-passage, and an air-spreader upon

the supply-pipe immediately above the raised center, said air-spreader being larger than the opening through the raised center; a vaporizing cup above the air-spreader and a vapor-spreader upon the vaporizing-cup spaced apart from and discharging vapor at the periphery of the air-spreader; a chamber being formed within the vapor-spreader between the cup and the air-spreader.

4. A support having a vertical air-passage, a bracket secured to the bottom of the support, a combustion-pan upon the support and having a vertical air-passage registering with the air-passage through the support, a supply-pipe secured to and extending through the bracket and through the air-passages of the support and the combustion-pan, an air-spreader upon the supply-pipe larger than the air-passage through the combustion-pan, thus forming a thin continuous slit for the passage of air, a stand-pipe extending upwardly from the air-spreader and forming an extension of the supply-pipe, a vaporizing-cup upon the upper end of the stand-pipe, lugs extending upwardly from the edge of the vaporizing-cup, and a vapor-spreader covering the vaporizing-cup and extending downwardly and forming a thin slit for the discharge of vapor between the lower edge of the vapor-spreader and the periphery of the air-spreader.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 7th day of October, 1908.

ANDREW K. LINDLEY.

In presence of—

JAMES R. TOWNSEND,

M. BEULAH TOWNSEND.