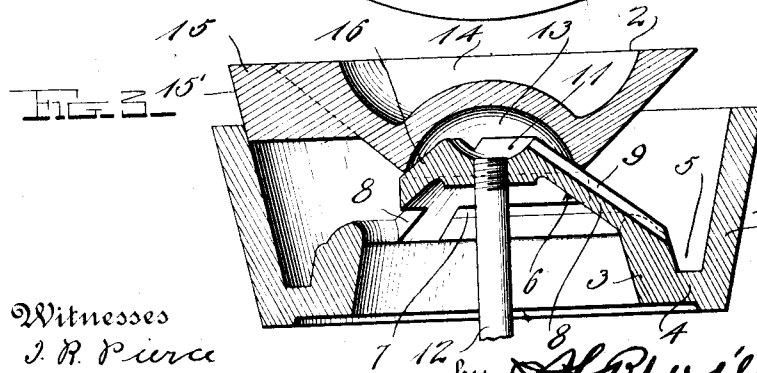
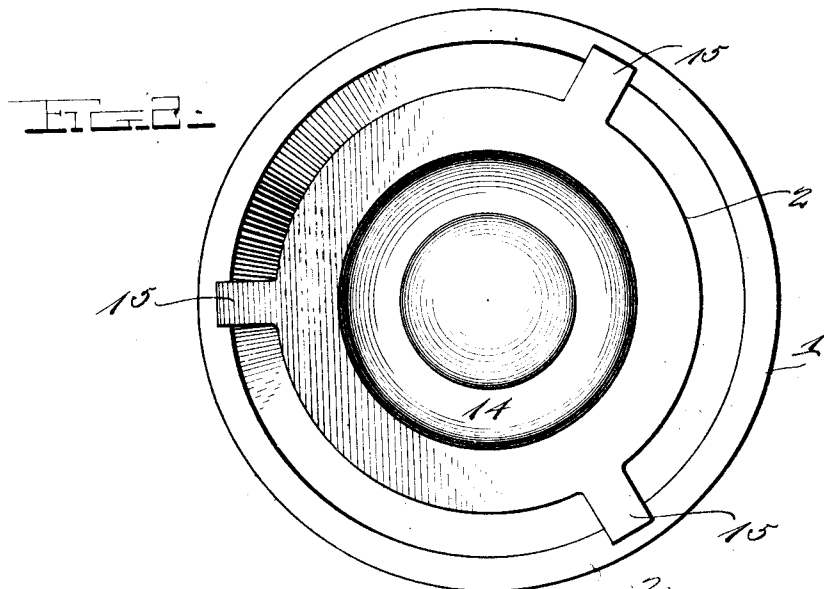
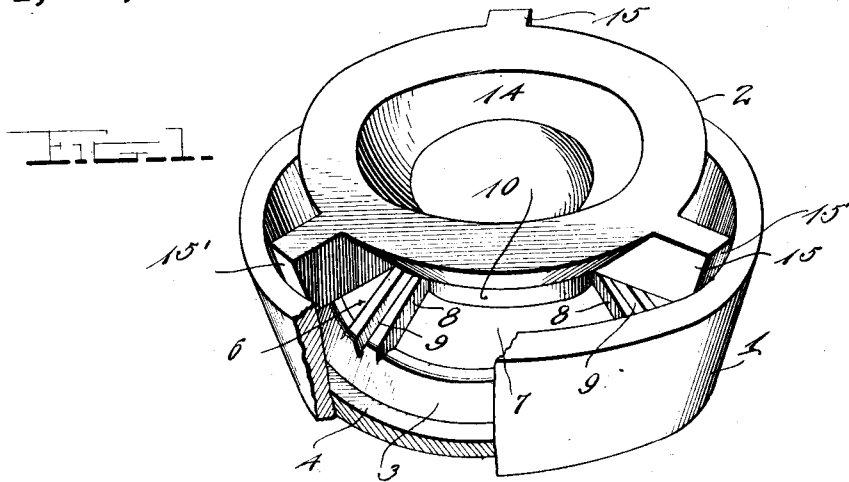


C. C. LILLIBRIDGE.
OIL BURNER.
APPLICATION FILED MAR. 4, 1912.

Patented Mar. 25, 1913.

2 SHEETS—SHEET 1.

1,056,918.



Witnesses
J. R. Pierce
C. L. Lillibridge

Inventor
C. C. Lillibridge

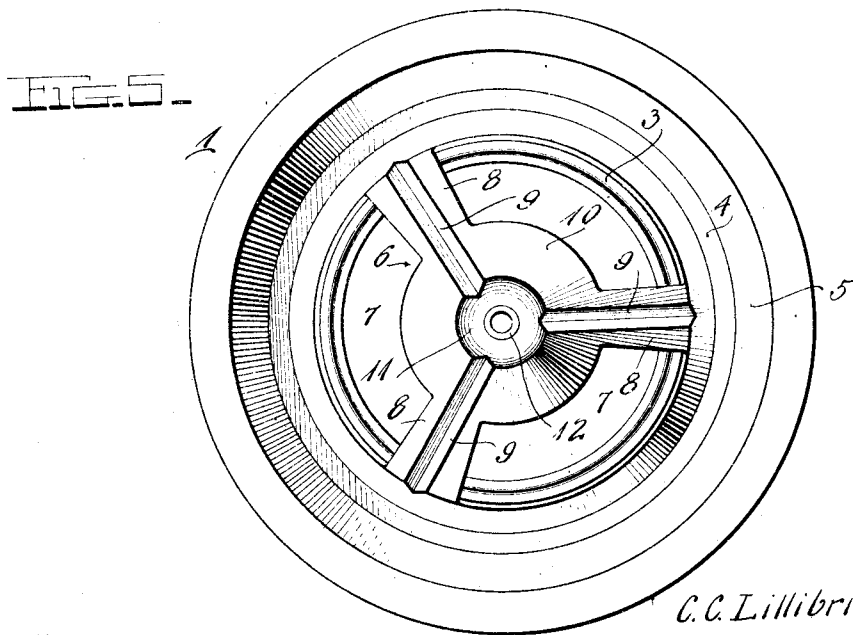
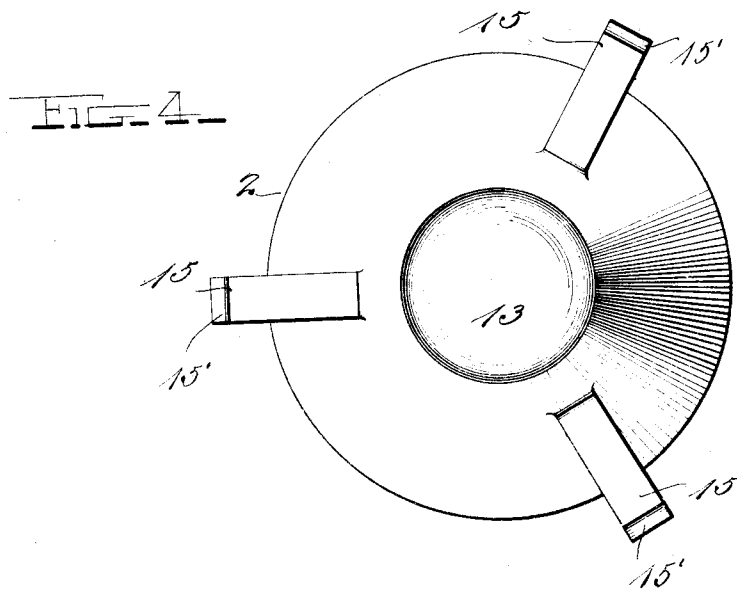
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UNITED STATES PATENT OFFICE.

CURTIS C. LILLIBRIDGE, OF HUTCHINSON, KANSAS.

OIL-BURNER.

1,056,918.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed March 4, 1912. Serial No. 681,445.

To all whom it may concern:

Be it known that I, CURTIS C. LILLIBRIDGE, a citizen of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, have invented certain new and useful Improvements in Oil-Burners; and I do 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 that class of burners known as oil gas burners, in which hydrocarbon oils are first vaporized and then burned.

The object of the invention is to provide an improved burner of this class which may be used in stoves, ranges, furnaces or other fire boxes, as a substitute for other fuels.

A special object of the invention is, to improve such burners with a view to reducing the number of parts, and consequently the cost, and increasing the efficiency or heating capacity.

With this and other objects in view, my invention consists in the improved construction, arrangement and combination of parts of a burner of this class, which will be more fully described hereinafter and afterward specifically claimed.

In order that the construction and operation of my improved burner may be readily comprehended I have illustrated a preferred embodiment in the accompanying drawings, in which—

Figure 1 represents a view in perspective of my improved burner, the parts being in position for operation, and one of the members partly broken away; Fig. 2 represents a top plan view of the complete burner; Fig. 3 represents a vertical sectional view of the complete burner taken on a diametric plane; Fig. 4 represents a bottom plan view of the upper member or spreader; and Fig. 5 represents a top plan view of the lower or base member.

Like reference characters mark the same parts wherever they occur in the various figures of the drawing.

Referring specifically to the drawings, 1 indicates the base member and 2 the upper member or spreader. The base member 1 is preferably in the form of a circular bowl having its side walls inclined inwardly toward its lower end and provided, at a short distance inwardly from the lower end, with

a ring 3, concentrically located with reference to the walls of the bowl and connected thereto by an annular portion 4 of the bottom, forming an annular drip or drain channel 5. The ring 3 is slightly conical, its walls inclining inwardly from their bottom upward and mounted on and integral with the upper edge of said ring, is a skeleton truncated cone 6 which is interrupted by a plurality of segmental draft openings 7 alternating with radial arms 8, which are provided with grooves or channels 9 in their upper faces, merging into the upper part 10 of the cone, which is centrally provided with a segmental depression 11 from the center of which depends an oil supply pipe 13.

The upper member or spreader 2 comprises a structure of substantially inverted truncated conical form, the central portion of the bottom thereof being provided with a segmental recess 13 which, when this member is in position on the base member, as shown in Figs. 1 to 3 of the drawings, is seated upon and partially incloses the upper end of the interior cone of the base member. The upper portion of the spreader or upper member 2 is made hollow as at 14 in order to lighten the structure. Projecting radially from the upper edge of the upper member 2 are arms 15, which are of a proper length and beveled on their outer ends at 15' to engage partially in the upper end of the base member 1, when the member 2 is resting thereon, as before described, said arms entering partially into the bowl of the base member and serving to steady the upper member or spreader and prevent its displacement when in use.

In the use of my invention, oil supplied through the tube 12 rises into the depression 11 at the summit of the interior cone of the base member, and when a sufficient amount has entered this depression, it overflows into and through the channels 9, finally reaching the annular drip or drain channel 5. When the oil is lighted, it heats all parts of the burner and the oil coming in contact with the heated parts rapidly vaporizes and is consumed in its vapor form, the inverted conical form of the upper member or spreader 2 serving to spread the blaze, and sufficient air is provided through the draft openings 7 to properly mix with the vaporized oil, and burn with an intensely hot flame.

By reason of the peculiar arrangement of

parts, as described, the oil supply pipe is not exposed to the flame and is, therefore, in no danger of being choked up with soot or carbon.

- 5 It will be observed from the foregoing that I have reduced the number of parts of burners of this class to two only, and that these parts are of simple construction, presenting no forms difficult to manufacture.
- 10 My burner may, therefore, be very economically constructed and, inasmuch as the parts are of stout, heavy construction, they will not be liable to be cracked by expansion or contraction due to heat or cold, nor will
- 15 they be liable to breakage in ordinary use.

While I have specifically described the exact construction and arrangement of various parts of my burner, it will be obvious to those skilled in the art that changes and variations may be made in the form of the parts without departing from the spirit and scope of the invention.

Having thus fully described my invention what I claim as new and desire to secure by Letters-Patent is:

1. A burner of the class described comprising a base having a central draft opening and an annular drip channel, an integral ring rising from the base around said opening and forming the inner wall of said channel, upwardly converging arms formed integrally with said ring with segmental openings between them, the upper sides of the arms having grooves leading to said channel, and a truncated cone formed integral with the upper ends of said arms and having an oil depression communicating with the upper ends of said grooves; combined with an upper flame-spreading member having flaring walls to spread the flame and formed with a depression in the center of its under side to partially encompass the cone and the depression in the latter.

2. A burner of the class described comprising a base having a central draft opening and an annular drip channel, an integral ring rising from the base around said

opening and forming the inner wall of said channel, upwardly converging arms formed integrally with said ring with segmental 50 openings between them, the upper sides of the arms having grooves leading to said channel, and a truncated cone formed integral with the upper ends of said arms and having an oil depression communicating 55 with the upper ends of said grooves; combined with an upper flame spreading member of inverted frusto-conical shape resting on said arms and having in its lower face an inverted cup shaped chamber inclosing the 60 conical part of said base member, and arms radiating integrally from said flaring wall with their outer ends shaped to fit within the surrounding wall of the base member.

3. A burner of the class described comprising a base member provided with flaring walls, an annular drip channel, a central oil receptacle, and radiating distributing channels between the oil receptacle and drip channel, in combination with an upper 70 member in inverted conical shape provided with a depression to cover the oil receptacle, flaring walls to spread the flame and radiating arms fitting within the upper edges of the flaring walls of the base member. 75

4. A burner of the class described comprising a base member provided with flaring walls, a drip channel, an oil receptacle, and distributing channels between the oil receptacle and drip channel; in combination 80 with an upper member provided with a depression to cover the oil receptacle, flaring walls to spread the flame, and radiating arms having beveled outer ends fitting within the upper edges of the flaring walls of 85 the base member.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CURTIS C. LILLIBRIDGE.

Witnesses:

C. W. McDANIEL,
S. G. STEAD.