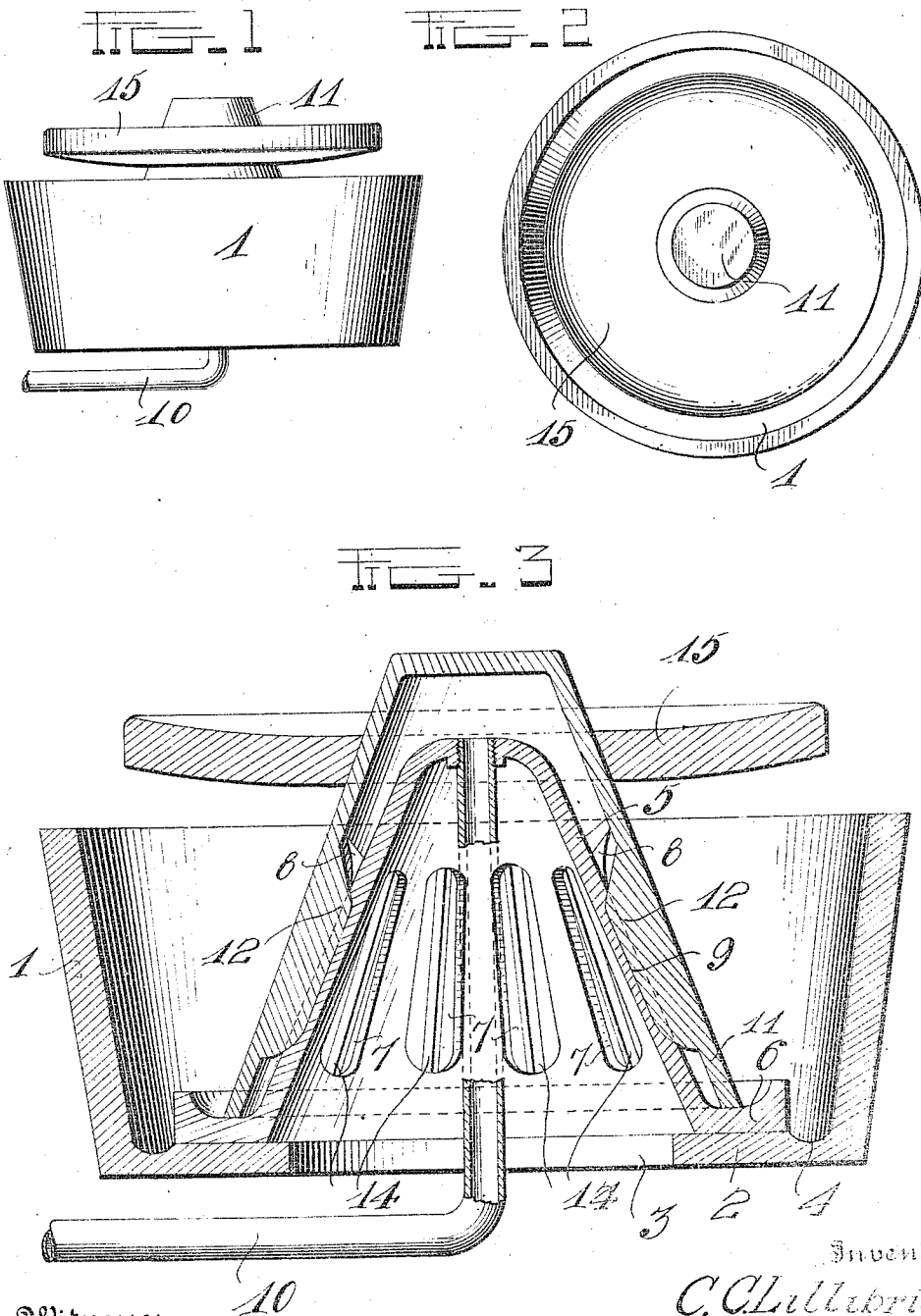


APPLICATION FILED MAR. 16, 1911.

1,005,987.

Patented Oct. 17, 1911.

2 SHEETS—SHEET 1.



Witnesses

C. R. Hardy

OB Hopkins

Inventor:

C. C. Lullbridge

by

by *A. B. Wilson & Co.*

Attorneys

C. C. LILLIBRIDGE.
OIL GAS BURNER.
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2 SHEETS-SHEET 2.

FIG. 4

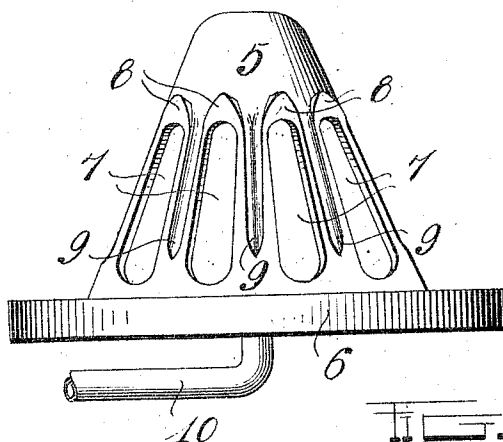


FIG. 5

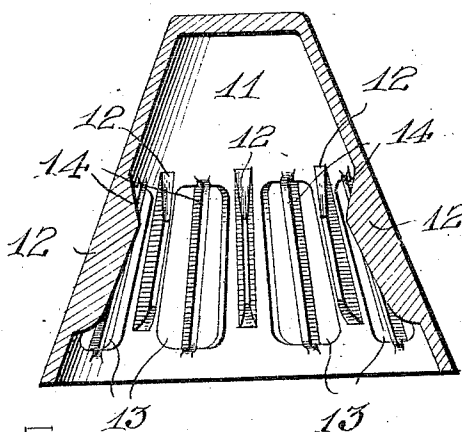


FIG. 6

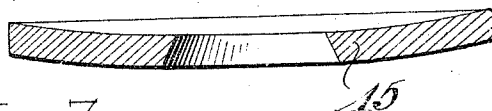
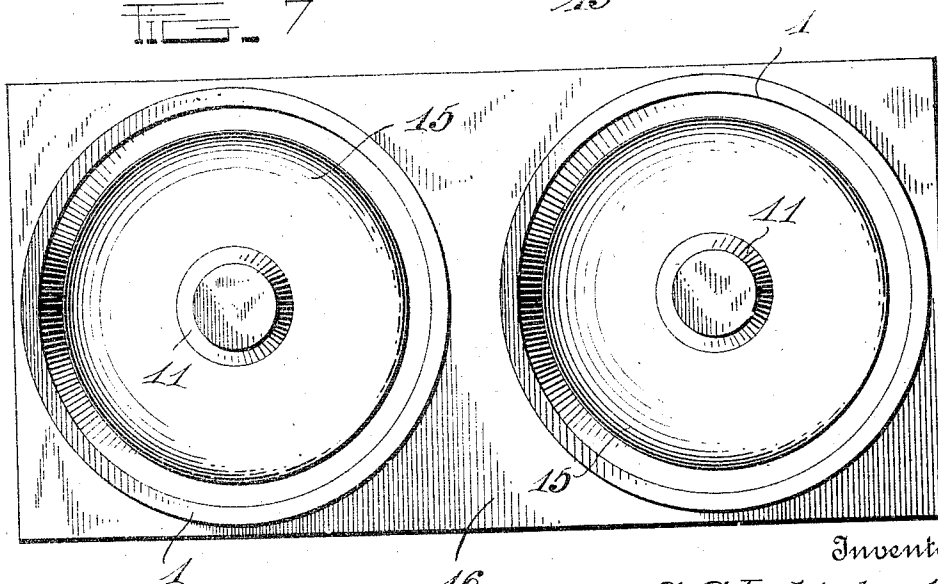


FIG. 7



Witnesses
C. R. Hardy
or Hopkins

Inventor
C. C. Lillibridge
by *A. B. Wilson & Co*
Attorneys

UNITED STATES PATENT OFFICE.

CURTIS C. LILLIBRIDGE, OF HUTCHINSON, KANSAS.

OIL-GAS BURNER.

1,005,987.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed March 16, 1911. Serial No. 614,856.

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-Gas 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.

This invention relates to improvements in oil gas burners.

One object of the invention is to improve the construction of the burner shown in United States Patent, No. 956,114, granted to me April 26, 1910, whereby the efficiency or heating capacity of the same is greatly increased, and the oil feeding and vaporizing mechanism improved.

With this and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:—Figure 1 is a side view of my improved burner; Fig. 2 is a top plan view; Fig. 3 is a central vertical section of the same; Fig. 4 is a side view of the inner oil deflecting cone; Fig. 5 is a central vertical sectional view of the outer deflecting cone; Fig. 6 is a similar view of the flame spreader removed from the burner; Fig. 7 is a plan view of a double burner.

In the embodiment of the invention I provide an inner base member 1 which is preferably in the form of a circular bowl having its side walls preferably inclined inwardly toward the lower end of the bowl as shown. In the bottom 2 of the bowl is formed a centrally disposed draft opening 3. In the bottom of the bowl around the opening 3 is formed an annular drip or drain channel 4 adapted to catch the overflow oil. The base 1 serves to confine a part of the heat of the burner which vaporizes the oil and causes the same to mix with the air and thus form a highly combustible and economical gas.

Arranged in the base and adapted to be engaged with the bottom 2 over the opening 3 is an inner oil deflecting cone 5 having on its lower edge an angular flange 6

and in its sides a series of vertically disposed elongated air passages 7. Around the side and top edges of the passages 7 are formed outwardly projecting flanges 8. The spaces between the side flanges 8 form inclined grooves or channels 9. In the upper end of the cone 5 is formed a threaded feed opening with which is engaged the threaded end of the oil feed pipe 10, said pipe passing up through the opening 2 in the bottom and through the cone as shown.

Arranged over the inner cone 5 is an outer cone 11 said outer cone having on its inner side a series of spacing ribs 12 which are adapted to engage the grooves 9 between the flanges 8 on the inner cone thereby spacing said cones the proper distance apart. In the sides of the cone 11 between the ribs 12 are formed passages 13 which register with the passages 7 in the inner cone. The passages 13 are divided centrally by longitudinal ribs 14 which project inwardly to a slight extent as shown. With the upper end of the outer cone 11 is engaged a flame spreader 15 which is preferably in the form of a concaved or saucer shaped circular plate. The spreader plate 15 is of less diameter than the base 1 and is disposed immediately above the upper end of the same as shown. By thus arranging the spreader the flame will be deflected and directed against the sides of the fire box of the stove in which the burner is arranged.

In Fig. 7 of the drawing is shown a double arrangement of burner adapted particularly for use in fire boxes of cooking stoves. In this form of the device two small burners are secured to a rectangular base plate 16 in such position that one of the burners will be below each of the openings in the top of the stove over the fire box, when the base plate 16 rests on the grate of the box.

In the operation of the burner the oil is discharged from the feed pipe between the upper portions of the two cones and flows downwardly in the grooves or channels 9 in the inner cone 5 and around the ribs and flanges on said cones and is vaporized by contact with these parts when the same become heated. The flame from the oil and gas formed by vaporized oil and air burns through the passages 13 in the outer cone and blazes up out of the upper end of the base. The flame is deflected when leaving

the base by the spreader 15 as hereinbefore described and the heating capacity of the burner thus greatly increased.

By arranging the oil feed pipe as herein shown and described the discharge end of the same is not exposed to the flame and therefore will not become carbonized by the heat or stopped up with soot or other accumulations.

10 From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

15 Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

20 Having thus described my invention, what I claim is:

1. In an oil gas burner a bowl shaped base having in its bottom a central draft opening, and an annular groove, an inner burner section arranged in said bowl over the opening therein, said inner section having therein a series of openings and a series of oil feeding grooves, an oil supply pipe arranged in and opening through said inner section, an outer section having formed therein a series of openings adapted to co-

incide with the openings in the inner sections, longitudinal dividing ribs arranged in said openings in the outer section, and a series of ribs formed on the inner side of the outer section and adapted to engage the oil feeding grooves in said inner section. 35

2. In an oil gas burner a bowl shaped base having in its bottom a central draft opening, and an annular groove, an inner burner section arranged in said bowl over the opening therein, said inner section having therein a series of openings and a series of oil feeding grooves, an oil supply pipe arranged in and opening through said inner section, an outer section having formed therein a series of openings adapted to coincide with the openings in the inner section, longitudinal dividing ribs arranged in said openings in the outer section, a series of ribs formed on the inner side of the outer section and adapted to engage the oil feeding passages in the inner section and a concaved spreader plate removably engaged with and supported on said outer cone. 40 45 50 55

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

CURTIS C. LILLIBRIDGE.

Witnesses:

C. W. McDANIEL,
N. J. EBY.