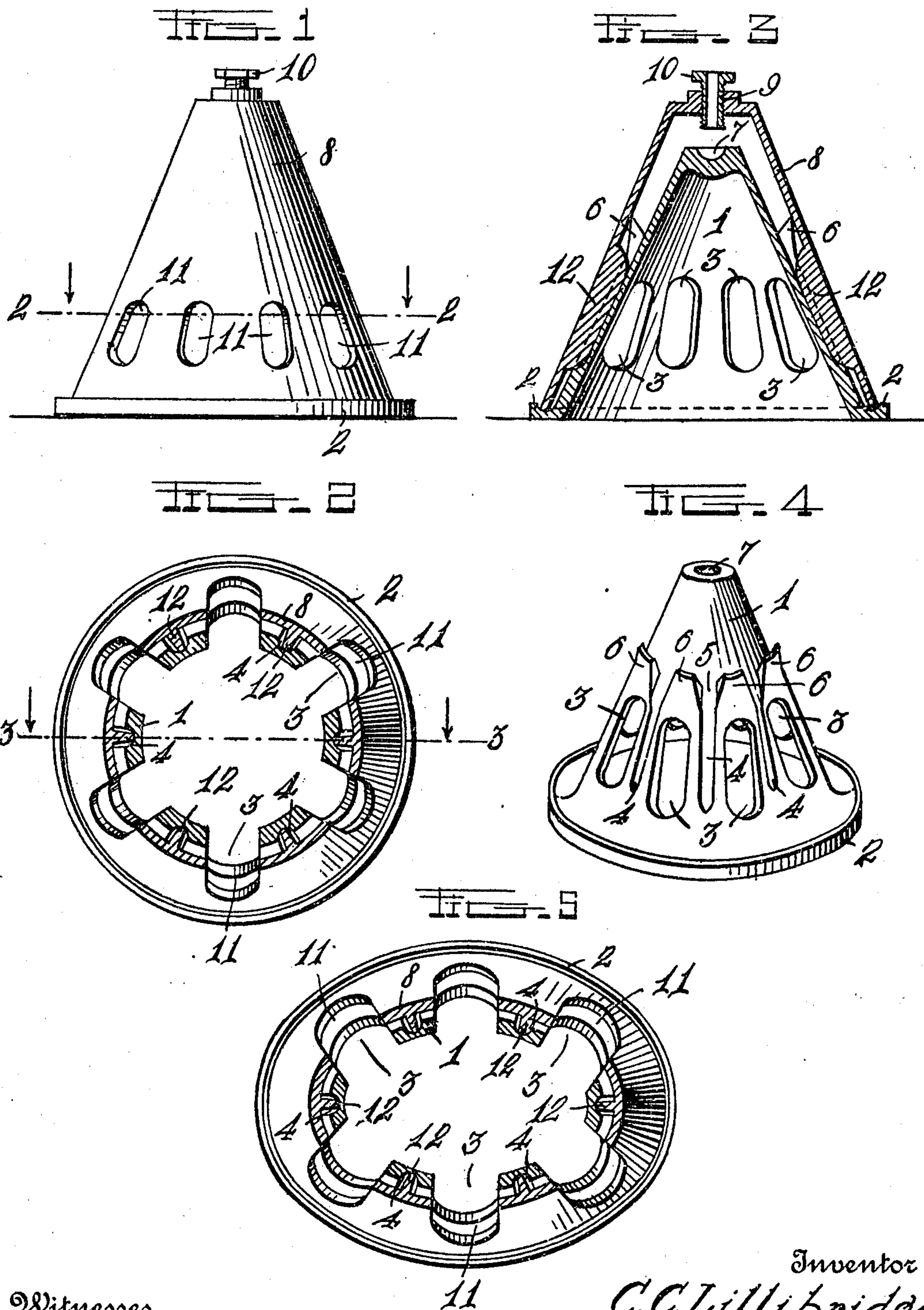


C. C. LILLIBRIDGE.  
OIL GAS BURNER.  
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Patented Apr. 26, 1910.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CURTIS C. LILLIBRIDGE, OF SHATTUCK, OKLAHOMA.

OIL-GAS BURNER.

956,114.

Specification of Letters Patent.

Patented Apr. 26, 1910.

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*To all whom it may concern:*

Be it known that I, CURTIS C. LILLIBRIDGE, a citizen of the United States, residing at Shattuck, in the county of Ellis and State of Oklahoma, 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.

The object of the invention is to provide an improved construction of burner having means whereby the oil when fed thereto will be evenly distributed and thoroughly vaporized before being discharged into the air mixing compartment of the burner.

With the foregoing 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 a burner constructed in accordance with the invention; Fig. 2 is a horizontal section on the line 2—2 of Fig. 1; Fig. 3 is a central vertical section on the line 3—3 of Fig. 2; Fig. 4 is a side view of the inner section of the burner; Fig. 5 is a horizontal section of a modified form of the burner.

As shown in the first four figures of the drawings, my improved burner comprises a substantially conical-shaped hollow inner section 1 having on its lower edge an annular radially projecting flange 2, and having formed around its sides a series of vertically elongated openings 3 between each of which is formed a vertically disposed groove 4, the upper ends of which grooves communicate with flared passages 5 formed between a series of lugs or offsets 6 formed at the upper end of each of the openings 3 as shown. In the upper end of the section 1 is formed an oil receiving and distributing recess 7. Adapted to be engaged with the inner section 1 of the burner is an outer substantially conical-shaped hollow section 8 having in its upper end a threaded opening 9 in which is screwed a bushing 10 whereby the oil supply pipe is connected to the burner. In the sides of the outer section 8

adjacent to its lower edge are formed a series of vertically elongated openings 11 between each of which on the inner surface of the section 8 is formed an inwardly extending vertically disposed flange or rib 12. When the outer section 8 is engaged with the inner section 1, the ribs 12 enter the grooves or channels 4 while the lugs 6 engage the inner surface of the outer section 8. When thus engaged, the lower edge of the section 8 rests upon the flange 2 on the lower edge of the section 1, thereby completely inclosing the upper portion of said inner section with the openings 3 and 11 registering. When the parts are thus arranged and oil is admitted through the connection at the upper end of the outer section, the oil enters the depression 7 in the upper end of the inner section and overflows therefrom, thus evenly distributing the oil which runs down the inclined sides of the upper portion of the inner section 1 and enters the flaring passages 5 and runs down the grooves or channels 4 on opposite sides of the ribs 12 and is vaporized by the heat of the burner. The vapor thus formed mixes with the air which passes out through the openings 3 from the interior of the inner section 1 and forms a combustible gas which burns freely through the openings 11 in the burner sections.

My improved burner is adapted to be set into the fire box of any form of stove and the oil is fed thereto by gravity or other means from a suitable oil supply tank not shown. While the burner has been described as being substantially conical in shape, it is obvious that the same may be constructed in other shapes to facilitate the engagement of the same with differently shaped fire boxes, one modification in the form of the burner being shown in Fig. 5 of the drawings, whereby the same is constructed in an elliptical shape in cross section, thus corresponding more with the shape of a narrow or oblong fire box. The openings in the inner and outer sections of the burner are herein shown and described as being of elongated shape. It is obvious, however, that these openings may be of any desired shape or that instead of providing one elongated opening, two or more openings may be arranged in the sides of the sections.

From the foregoing description taken in connection with the accompanying draw-



ings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

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.

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

1. In an oil gas burner, an inner section having formed therein a series of openings, oil feeding grooves formed in the sides of  
15 said section between each of the openings therein, an outer hollow section adapted to be engaged with said inner section, said outer section having formed therein a series of openings adapted to coincide with the  
20 openings in the inner section, and a series of ribs formed on the inner side of the outer section to engage the grooves or channels in the outer side of the inner section.

2. In a burner of the character described,  
25 an inner substantially conical shaped hollow section having formed therein a series of openings, an annular radially projecting flange on the lower edge of said section, a series of radially projecting lugs formed on  
30 the outer side of said section above the openings therein, oil conducting grooves formed between said openings, flaring oil passages formed between said lugs and communicating with said grooves, a conical shaped hollow outer section adapted to be engaged  
35 with said inner section, said outer section having formed therein a series of openings adapted to coincide with the openings in the

inner section, a series of radial vertically disposed ribs formed on the inner wall of the  
40 outer section and adapted to engage the grooves or channels in said inner section, and means whereby an oil supply pipe is connected to the upper end of said outer section.  
45

3. In an oil gas burner, an inner substantially conical hollow section having formed therein a series of elongated openings and in its upper end an oil distributing depression, a radially projecting annular flange on  
50 the lower edge of said section, a series of radially projecting lugs formed on the upper portion of the section above each of said openings, said lugs forming between themselves flared passages, vertically disposed  
55 grooves or channels formed between the openings in said section and communicating with said flared passages, an outer hollow substantially conical shaped section adapted to inclose said inner section and to rest on  
60 the annular flange at the lower end thereof, said outer section having a series of openings coinciding with the openings in the inner section, a series of radial inwardly projecting ribs formed between said open-  
65 ings, and adapted to engage the grooves and passages in said inner section, and means to connect an oil supply pipe with the upper end of said outer section.

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

CURTIS C. LILLIBRIDGE.

Witnesses:

L. E. PATTERSON,  
EVA E. PATTERSON.