

OIL BURNER.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.

967,595.



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OIL BURNER.
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2 SHEETS—SHEET 2.

Fig. 3

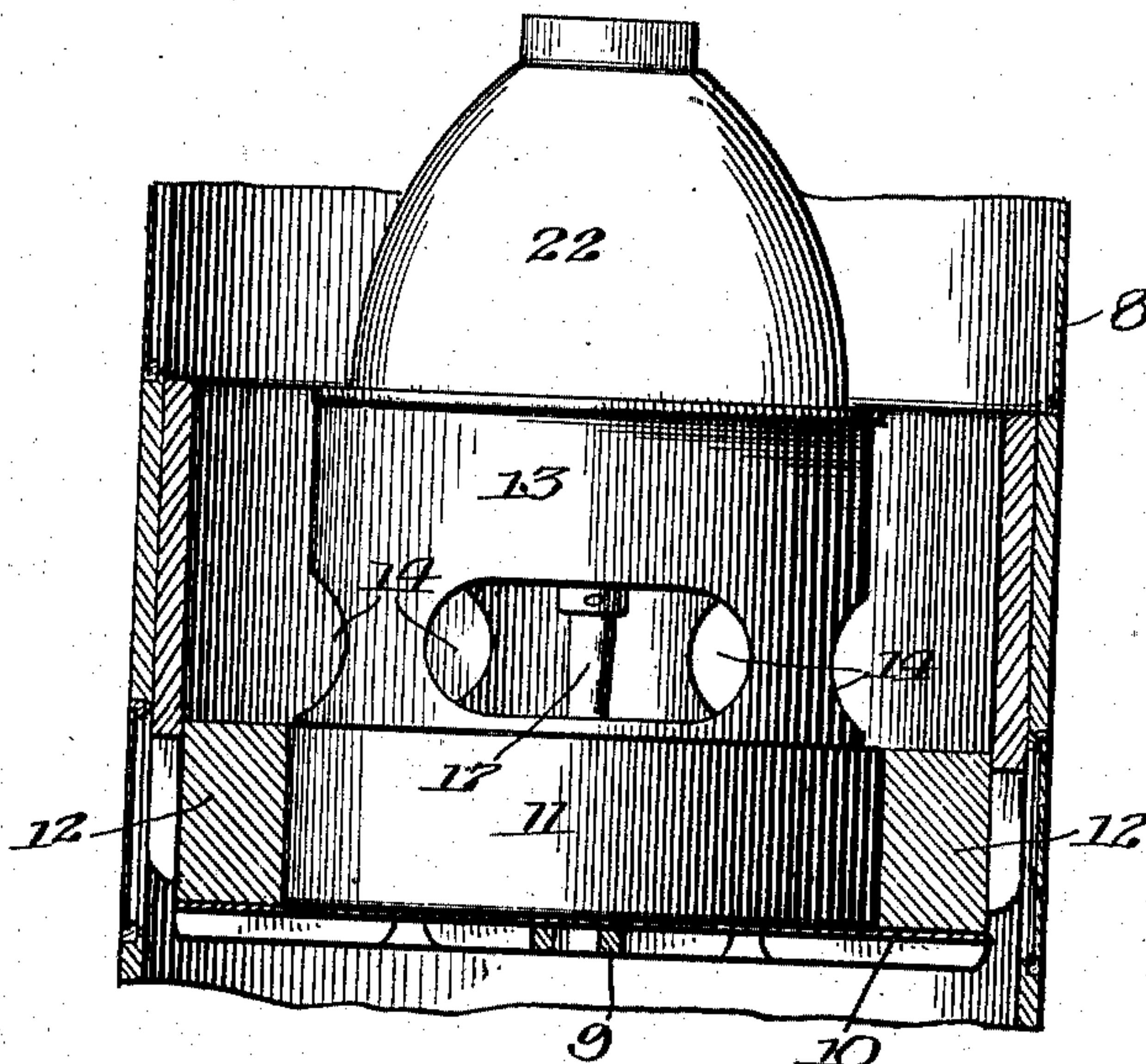


Fig. 4.

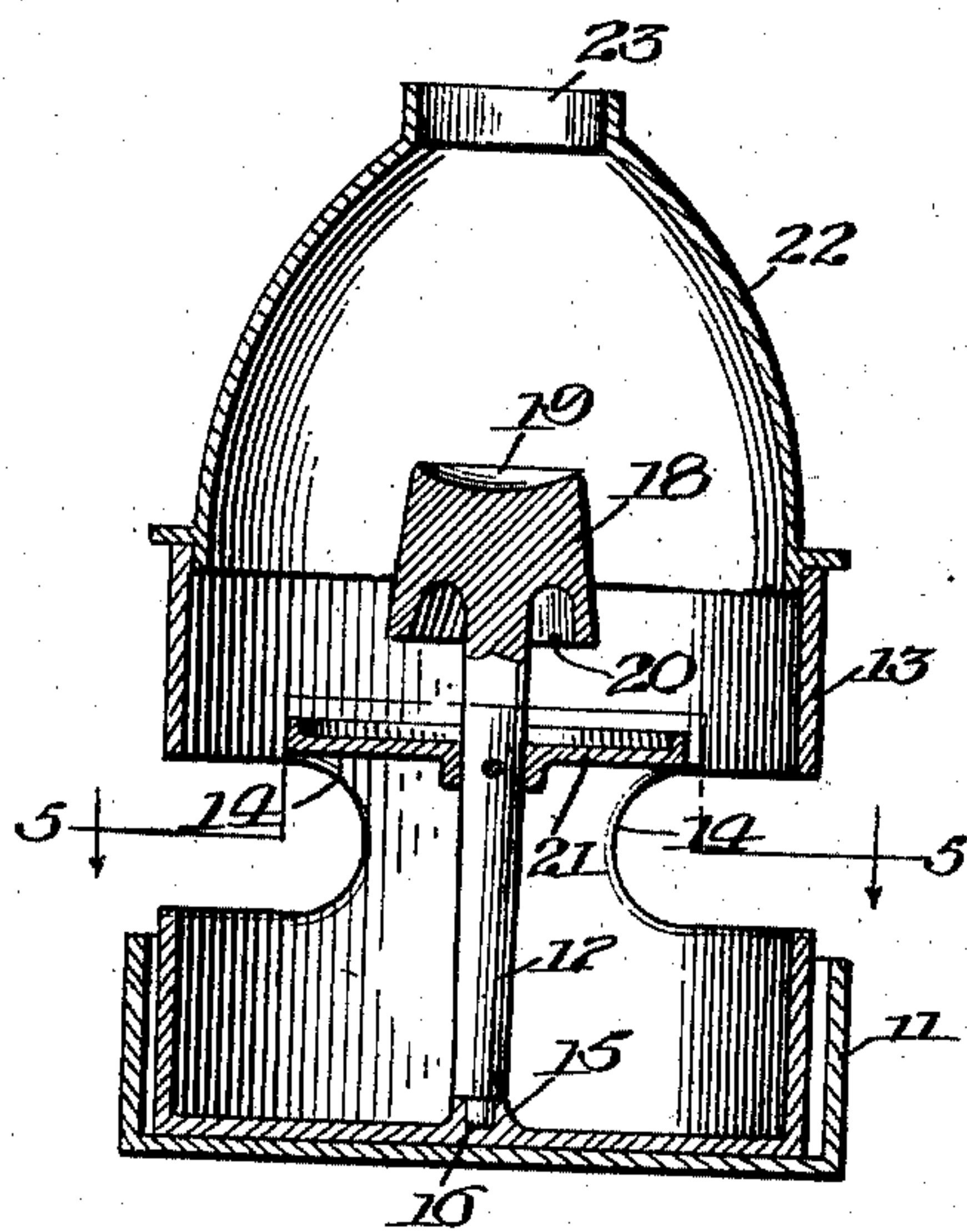
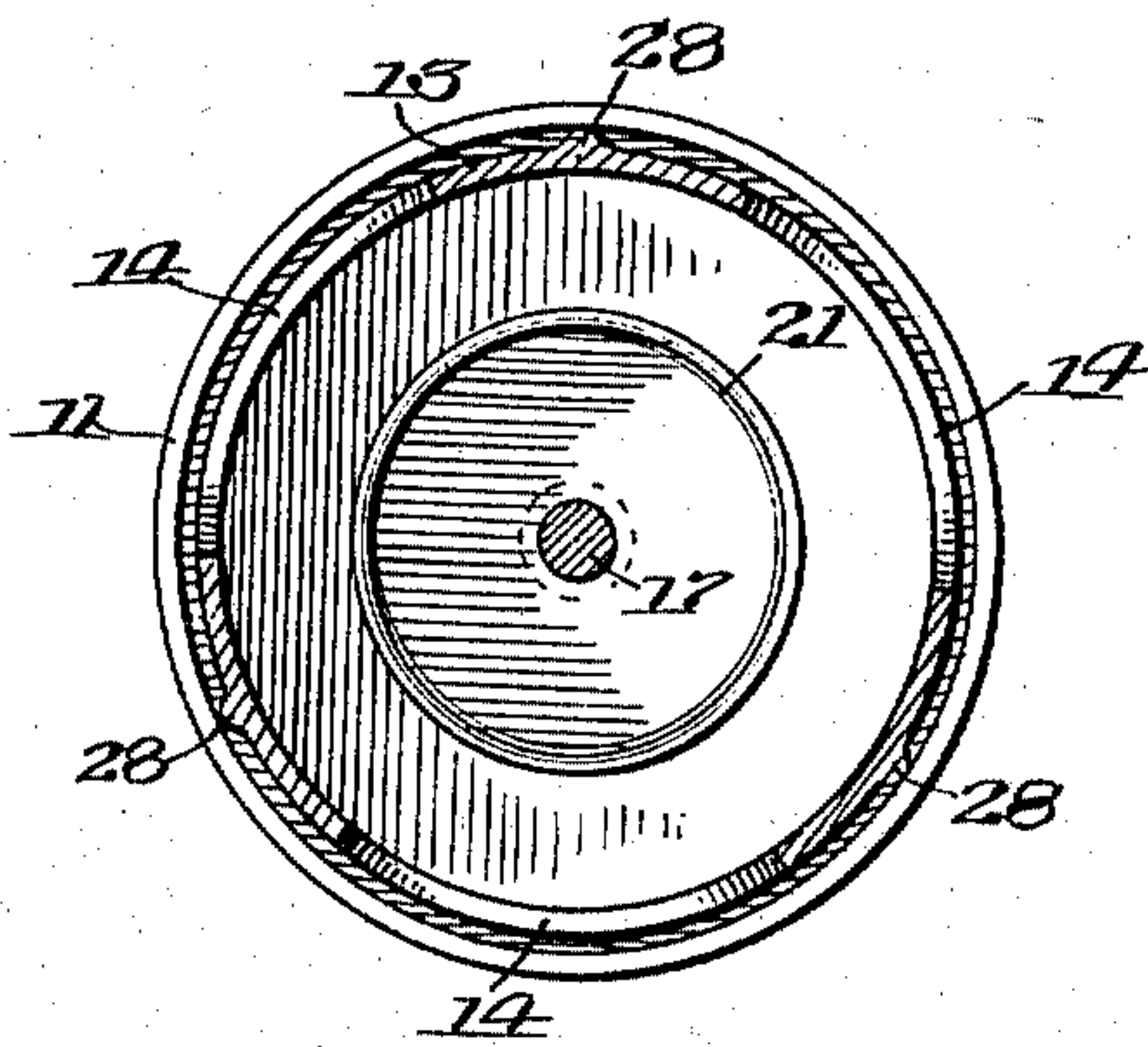


Fig. 5



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OIL-BURNER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES D. WRIGHT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to improvements in that class of burners, in which oil is used for fuel, and while it is more especially intended for use, and will hereinafter be referred to as an oil-burner in connection with a heater or stove, yet it is applicable for use with slight and obvious changes in other kinds of appliances which require heat, and it consists in certain peculiarities of the construction and novel arrangement of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide an oil-burner of the above-named general character, which shall be simple and inexpensive in construction, strong, durable and effective in operation, and also made in such a manner that a downwardly directed draft to the burner, will be afforded, to the end that almost perfect combustion will be attained, thus preventing the loss of fuel in the form of smoke, and unconsumed particles of carbon.

A further object of the invention is to provide an oil-burner which may be readily installed in almost any kind of a heater or stove without materially altering the parts of the same, and which can be readily removed therefrom for the purposes of cleaning or renewing the parts.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains, to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1, is a central vertical sectional view of an oil-burner embodying the invention, showing it in position within a heating stove. Fig. 2, is a central vertical sectional view of a heater or stove showing a burner embodying the invention, mounted therein, and illustrating a modification in the manner of supplying the fuel oil thereto. Fig. 3, is an enlarged view partly in section and partly in elevation of a portion of a stove casing and the burner mounted

on the grate thereof. Fig. 4, is an enlarged central vertical sectional view of the burner showing it detached. And Fig. 5, is a horizontal sectional view taken on line 5—5 of Fig. 4.

Like numerals of reference refer to corresponding parts throughout the different views of the drawings.

The reference numeral 8, designates a stove or heater which may be made of any suitable size, form and material, but preferably cylindrical in shape as shown. The lower portion of the stove or heater 8, is provided with a horizontally disposed grate 9, of the ordinary or any desired construction, on which may be placed a metal plate 10, to support the base piece or receptacle 11, of the burner, which receptacle is preferably made of cast-iron, and may be of any suitable size and shape, but preferably cylindrical, as shown.

Located on the plate 10, and around the base piece or receptacle 11, is a quantity of material 12, such as fire-clay or the like, used for firmly holding the base piece 11, in position. Located within the receptacle 11, is the burner, which is designated as a whole by the reference numeral 13, and which is hollow and cylindrical in shape, or of a shape to correspond with the base piece or receptacle 11, in which its lower portion is fitted. The burner 13, is closed at its bottom, but has its upper end open, and is provided between its ends with a series of openings 14, for the passage of the drafts of air and flames from the burning fuel. These openings are usually and preferably located just above the receptacle 11, and by preference are disposed horizontally as is clearly shown in Figs. 2, and 3, of the drawings. The bottom of the burner body 13, is provided at about its center with an upwardly extended boss 15, having a socket 16, to receive the lower end of the stem 17, of the vaporizer or spreader 18, which is mounted on the upper end of said stem and is preferably provided with a slight cavity or depression 19, in its upper portion to hold a small quantity of oil. The lower portion of the spreader or vaporizer 18, is also preferably provided with an upwardly extended cavity 20, which surrounds the upper portion of the stem 17, and is for the purpose of allowing flames and heat to enter the same so as to more quickly heat the spreader or vaporizer.

Horizontally mounted on the stem 17, below the vaporizer 18, is a shallow cup 21, which is larger in diameter than the vaporizer 18, and will catch and retain oil as it falls from the vaporizer, where it can be ignited when the burner is first put in operation. Resting on the top of the burner body 13, is a dome-shaped cover 22, which has in its upper portion an opening 23, to receive the lower end of the draft-pipe 24, which is extended at its upper end through the top of the stove casing and is by preference slightly tapered from its upper end downwardly, as is clearly shown in Fig. 1, of the drawing. This draft-pipe is employed for the purpose of furnishing the downwardly directed draft of air to the burner, and also for the purpose of permitting oil to be passed therethrough, from a feed pipe 25, which may be connected to a source of oil supply (not shown) and provided with a valve 26, to regulate the flow of oil therethrough.

In Fig. 2, of the drawings, is shown a modification in the means for supplying oil to the vaporizer and burner, which consists in extending a draft-pipe 24^a, from the upper portion of the cover 22 of the burner body to the wall of the stove 8, so as to afford communication through the side of the stove, with the cover 22, instead of through the top of the stove as shown in Fig. 1, and above described. In this modification, a feed pipe 25^a, which may have communication at one of its ends with a supply of oil, (not shown) is extended into the draft-pipe 24^a, and may be supported at a distance therefrom within the same in any suitable manner, but usually by means of spider-like supports 27, located at suitable points within the draft-pipe. In this modified construction, the feed-pipe 25^a, is provided with a valve 26^a, to control the flow of oil through said pipe.

As shown in Fig. 5, the burner body 13, is provided on its outer surface with a series of vertically disposed ribs 28, which will hold the main portion of said body, at a slight distance from the receptacle 11, thus forming an air-space between the two parts.

From the foregoing and by reference to the drawings, it will be readily understood and clearly seen that oil may be turned on by means of the feed-pipe and its valve, when it will strike the top of the vaporizer or spreader, where it may be ignited by means of a match or otherwise, and continue to burn as the oil is fed or supplied to said vaporizer, or cup 21, below the same, when the burner body 13, vaporizer 18, cup 21, and cover 22, will become heated and form gas within the dome-like cover and body of the burner.

In the operation of the burner, air will pass down the draft-pipe and out through

the openings 14, in the burner body into the stove casing, and it is apparent that the products of combustion may escape through suitable openings 29, in the top of the stove when the construction shown in Fig. 1, is employed, or through an outlet pipe 30, in the upper portion of the stove when the construction shown in Fig. 2, is used. By using the base 11, which is held at a slight distance from the lower portion of the body 13, it is apparent that an air space between the same will be afforded and that as the base 11, is protected externally by means of the material 12, such as fire-clay, or the like, it, as well as the lower portion of the body, will be protected from the intense heat generated by the burning gases and oil, thus rendering the device more durable.

It will be understood that the invention is susceptible of considerable modification, without departing from the principles and spirit thereof, and for this reason, I do not desire to be understood as limiting myself to the exact construction of the parts herein shown, and set forth.

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

1. An oil burner consisting of a hollow body having an opening between its upper and lower ends and adapted to be supported within the stove or heater, an apertured cover for said body, a vaporizer located within the body below the opening in said cover, a cup suitably supported within the body below the vaporizer, a draft-pipe communicating through said cover with the body, and means to supply oil to the vaporizer.

2. In a stove or heater having in its lower portion a horizontally disposed grate, the combination of a hollow base located on the grate, a hollow body having an opening between its upper and lower ends and located within the base at a distance from the walls thereof, an apertured cover for said body, a vaporizer located within the body below the opening in said cover, a draft-pipe communicating through said cover with the body, and means to supply oil to the vaporizer.

3. In a stove or heater having in its lower portion a horizontally disposed grate, the combination of a hollow base located on said support, protecting material surrounding the base, a hollow body having an opening between its upper and lower ends and located within the base at a distance from the walls thereof, an apertured cover for said body, a vaporizer located within the body below the opening in said cover, a draft-pipe communicating through said cover with the body, and means to supply oil to the vaporizer.

4. An oil-burner consisting of a hollow

body having an opening between its upper and lower ends and adapted to be supported within the stove or heater, an apertured cover for said body, a vaporizer located
5 within the body below the opening in said cover and having a cavity in its upper portion, a cup suitably supported within the body below the vaporizer, a draft-pipe com-

municating through said cover with the body, and means to supply oil to the vaporizer. 10

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