

C. D. WRIGHT.

OIL BURNER.

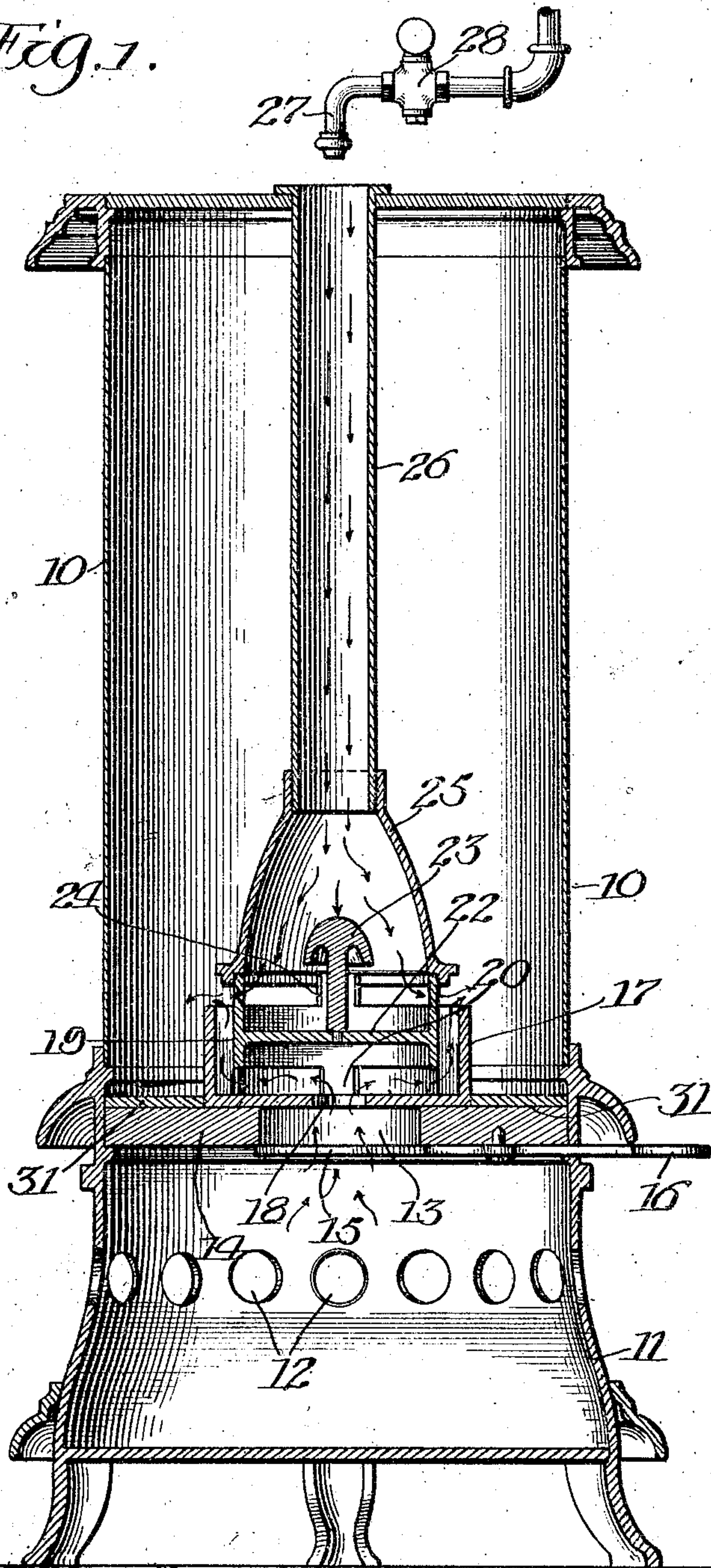
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928,620.

Patented July 20, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

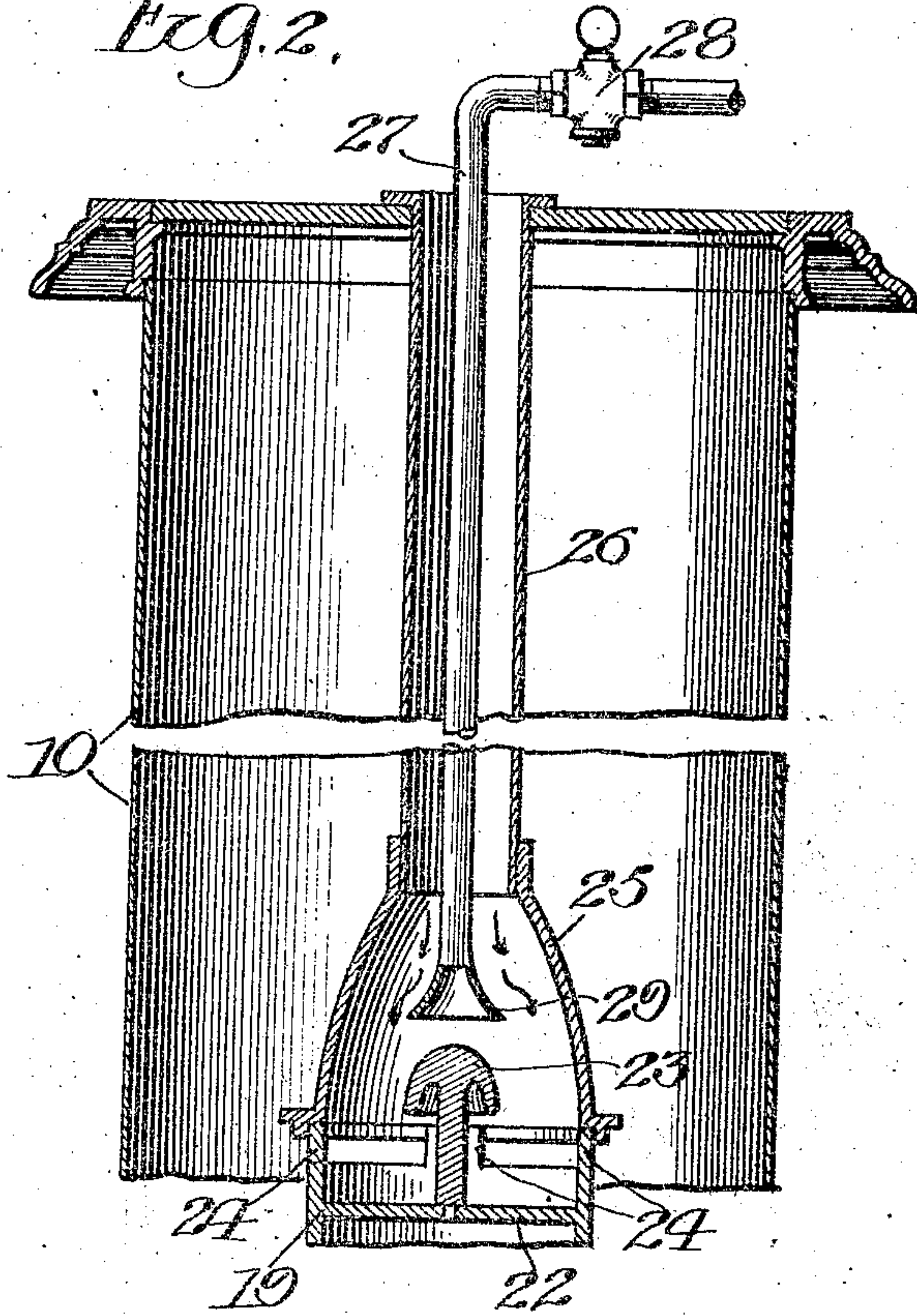
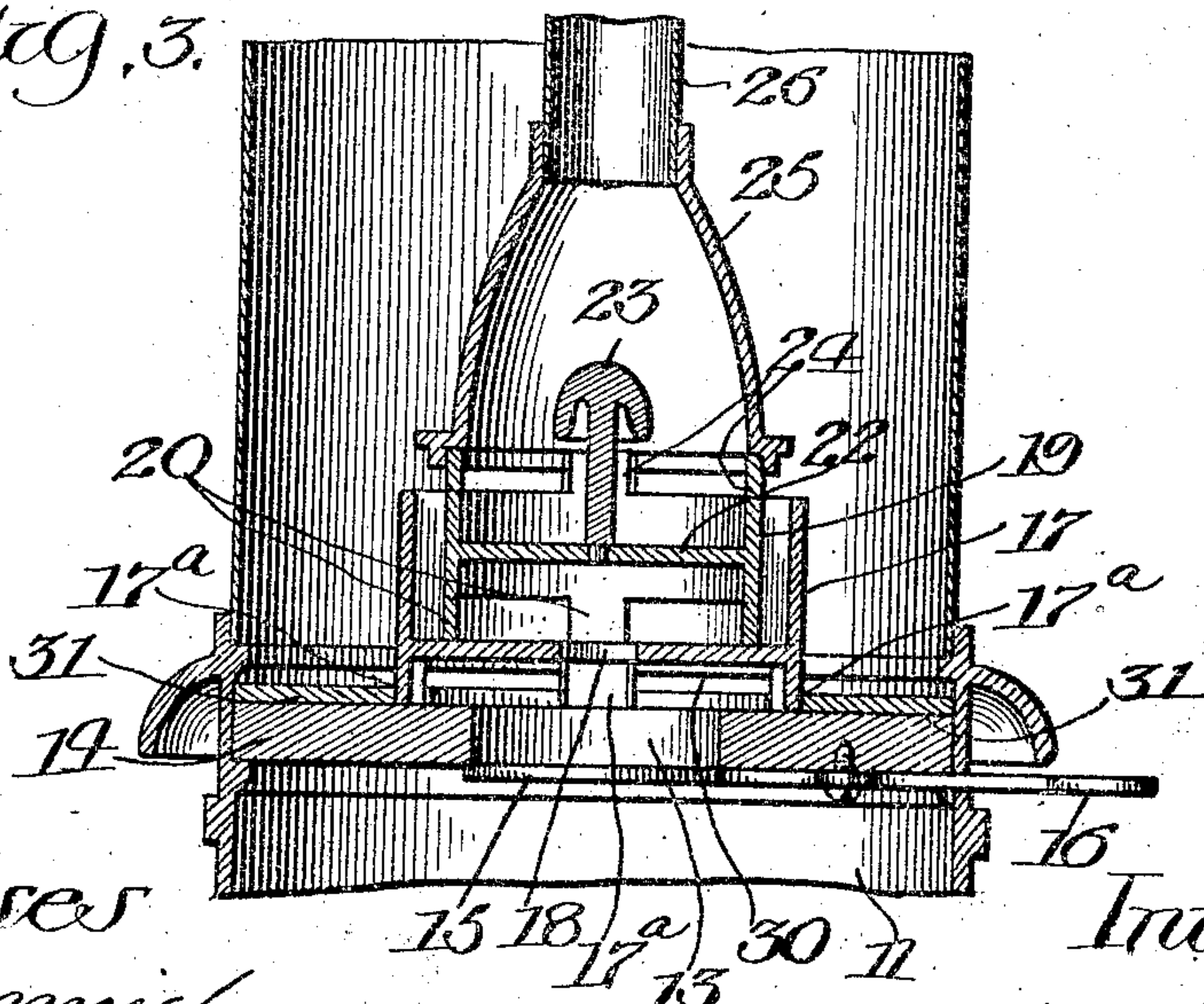


Fig. 3.



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3 SHEETS—SHEET 3.

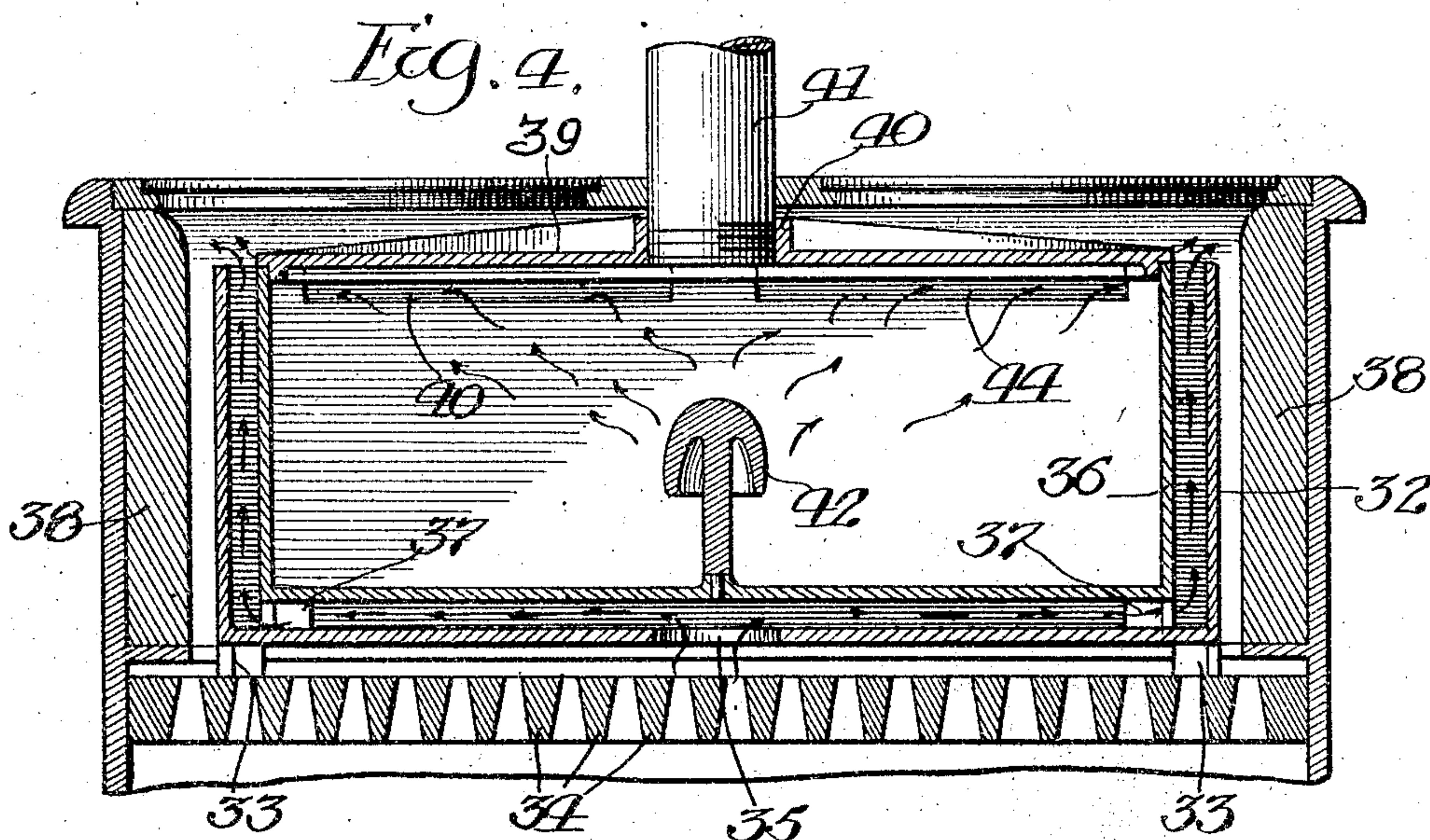


Fig. 5.

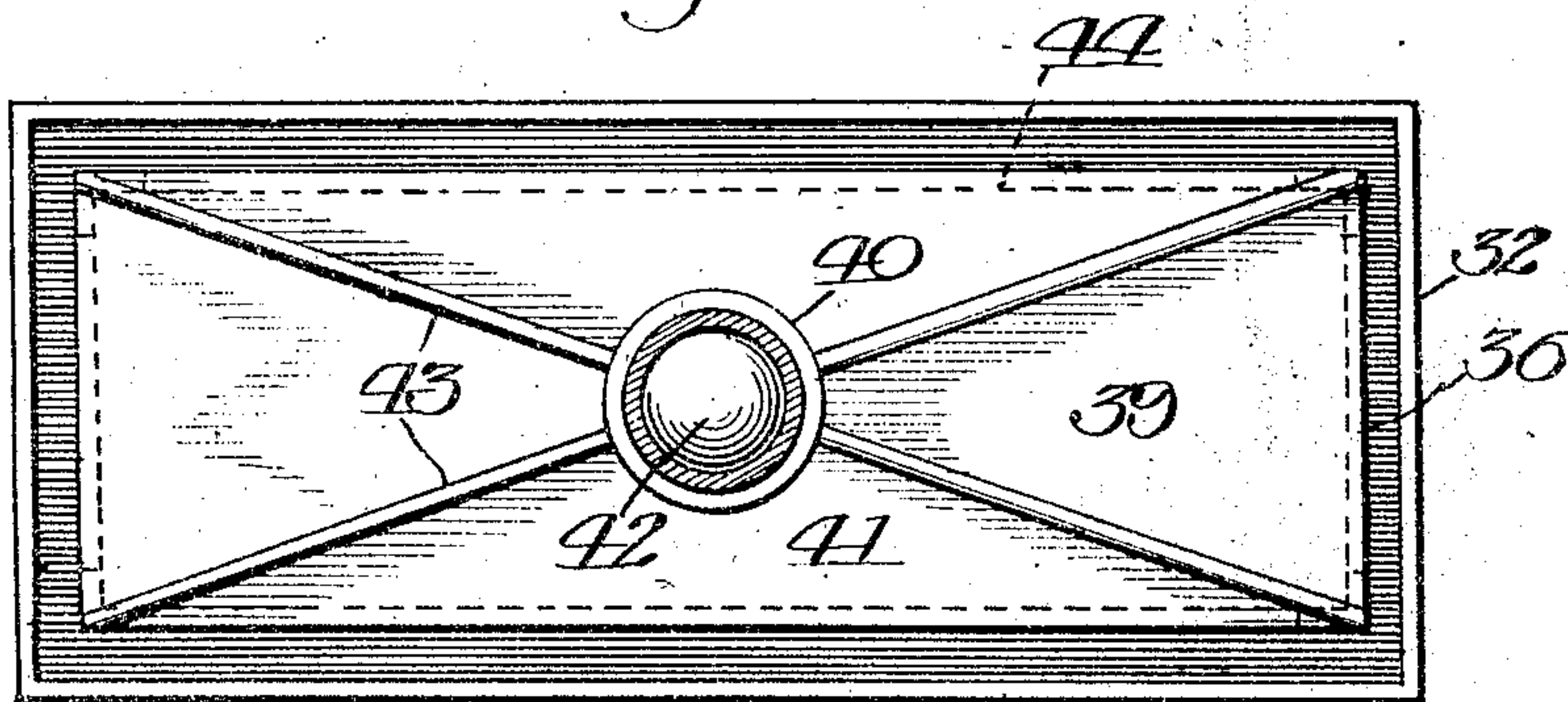
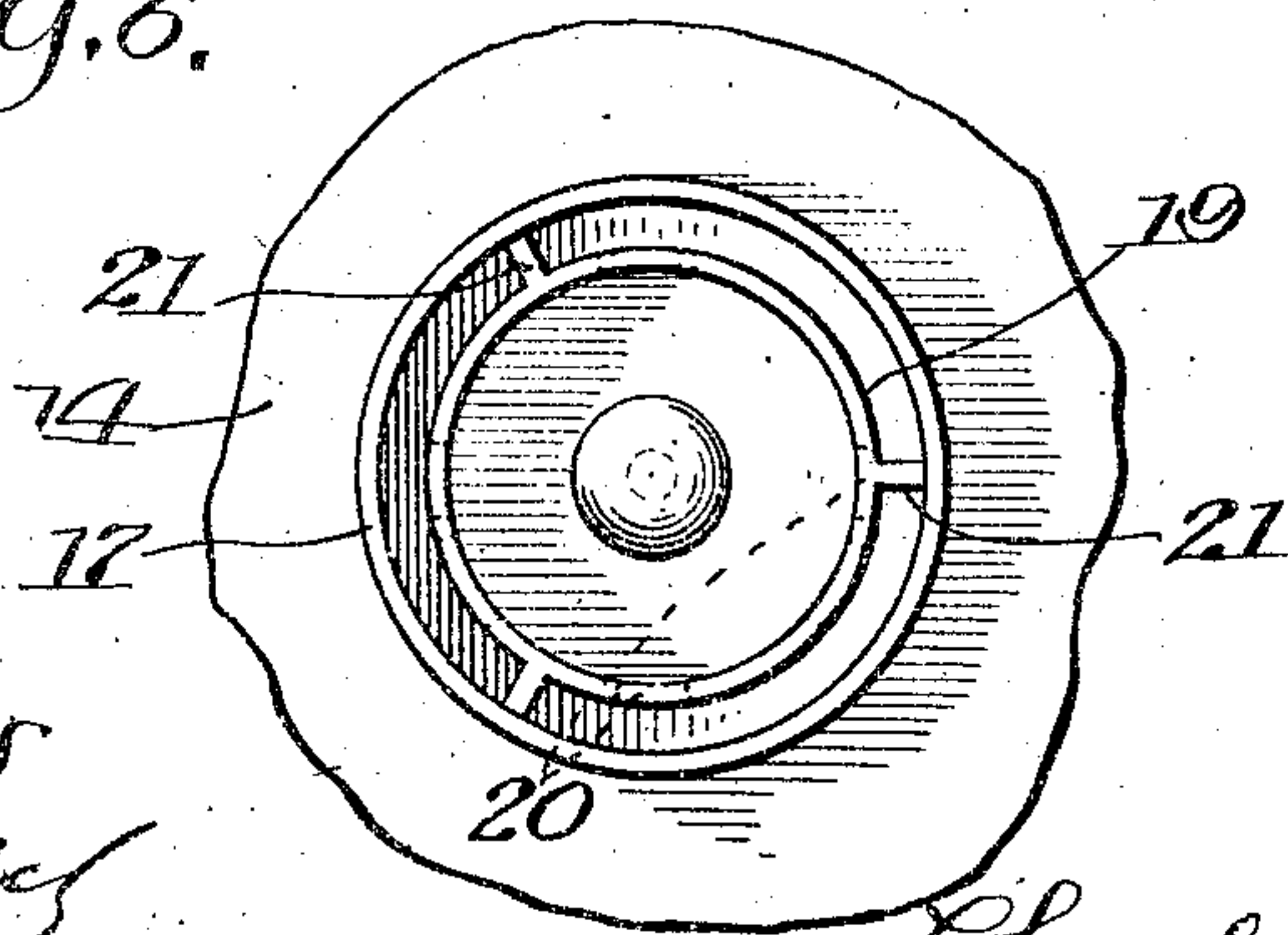


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES D. WRIGHT, OF DALLAS, TEXAS.

OIL-BURNER.

No. 928,620.

Specification of Letters Patent.

Patented July 20, 1909.

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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 Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to certain new and useful improvements in that type or class of hydro-carbon burners in which oil is used as fuel, and while it is more especially intended for use and will hereinafter be referred to as an oil burner in connection with a heating and cooking stove, yet it is applicable for use, with slight and obvious changes, in other kinds of appliances which require heat, and for other purposes; and it consists in certain peculiarities of the construction, novel arrangement, and operation 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 efficient in operation, and so made that its parts will not readily become carbonized so as to choke up the passages, as often occurs in the oil burners heretofore in common use, and also in such a manner that a double draft or opposing drafts, one from the top and the other from the bottom of 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, soot or unconsumed particles of carbon, yet attaining the greatest amount of heat units from a minimum of fuel.

A further object is to so construct and arrange the parts of the burner that the vaporizer or spreader for the oil may be in some instances shielded in both directions from the drafts of cold air supplied thereto through the draft passages, thus permitting the parts to become quickly heated and gas immediately produced.

Still another object is to so make the burner that the residue which sometimes clings to the parts may be removed without liability of displacing any of the members of the device.

Numerous 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 one form of the invention, showing it applied to a heating stove; Fig. 2 is a similar view of a portion of the casing of the heating stove and a part of the burner, showing the parts shortened for the convenience of illustration and illustrating a modification in the manner of supplying oil to the vaporizer or spreader; Fig. 3 is a central vertical sectional view of a portion of the casing of a heating stove and a part of the burner, showing a modification in the construction of the outer pan of the burner; Fig. 4 is a view partly in vertical section and partly in elevation of a portion of a cooking stove, showing the burner adapted for use in connection therewith and in position within the fire-box thereof; Fig. 5 is a top plan view of the burner for a cooking stove, showing it removed from the same; and Fig. 6 is a plan view of a portion of the heating stove shown in Figs. 1 to 3, inclusive, illustrating the vaporizer and inner and outer pans with the top of the burner removed.

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

The reference numeral 10 designates the casing of a heating stove, which may be of the ordinary or any preferred construction, but in the present instance is shown as being cylindrical in shape and mounted on a base 11 which may be provided with a series of openings 12 for the admission of air which may pass through a central opening 13 in a horizontally disposed plate or grate 14 within the stove, to the lower surface of which plate may be pivotally secured a damper 15 having a handle 16 extended through the wall of the base 11, which damper may be turned in either direction on its pivot so as to regulate the passage of air through the opening 13 and into and out of the burner. Located on the upper surface of the horizontal grate 14 is the outer pan 17 of the burner, which pan is preferably annular in shape and has a central opening 18 in its bottom, as is clearly shown in Fig. 1 of the drawings. Located within the pan 17 is the inner pan 19 of the burner which is also annular in shape and has on its lower

portion a series of legs 20 to rest on the bottom of the outer pan, and is preferably provided on its outer surface with a series of radially disposed lugs 21 (see Fig. 6) to rest against the inner surface of the outer pan 17 so as to firmly hold it in position therein. The inner pan 19 is provided about midway between its ends with a horizontally disposed partition 22 to the central upper portion of which is secured the lower end of a mushroom-shaped vaporizer or spreader 23 for the oil. The upper portion of the inner pan 19 is provided with a series of upright extensions 24 on the upper ends of which is mounted a hood or cover 25, which is preferably dome-shaped as shown. Extended through the top of the stove-casing 10 is a draft-pipe 26 which is preferably screwed into a suitable opening in the top of the hood 25, and is for the purpose of furnishing a downwardly directed draft of air to the burner, and also for the purpose of permitting oil to be passed therethrough from a feed-pipe 27, which may be connected to a source of oil supply (not shown) and provided with a valve 28 to regulate the flow of oil therethrough.

In Fig. 2 of the drawings I have shown a modification in the means for supplying oil to the vaporizer and burner, which consists in extending the feed-pipe 27 downwardly through the draft-pipe 26 and providing its lower portion with a conical or bell-shaped end 29, which is located at a suitable distance directly above the vaporizer 23, so that in the passage of air downwardly through the pipe 26 the same will be deflected as indicated by the arrows and prevented from coming in direct contact with the vaporizer. In other respects, the parts of the burner in this modification are similar in construction to those shown in Fig. 1 and above-described.

In Fig. 3 is shown a modification in the construction of the outer pan 17, which consists in providing the bottom of said pan with a series of legs 17^a to rest on the grate 14, thus raising the bottom thereof slightly above the grate which will permit air to pass through openings 30 between said legs. In this construction, as well as in the construction shown in Fig. 1, a ring-like plate 31 is employed to fit around the outer surface of the legs 17^a and pan 17, respectively, and against the inner surface of the base 11 of the stove, thus firmly holding the pan in position therein. It will be observed in Fig. 1 that the pan 17 is without legs, and in this respect only differs from the construction shown in Fig. 3, and will cause all of the air to pass between the inner and outer pans, whereas when the construction shown in Fig. 3 is employed a portion only of the air will be caused to pass up between said pans.

In Figs. 4 and 5 of the drawings is shown another modification in the construction of

the burner which is especially adapted for use in cooking stoves and in which the same general principle is involved, yet in this construction a rectangular shaped outer pan 32 having legs 33 to rest on the grate 34 and provided with a central opening 35 in its bottom is employed, and a similarly shaped inner pan 36 having a series of legs 37 to rest on the upper surface of the bottom of the outer pan is used, which inner pan is smaller than the outer pan so that passage ways will be afforded between their walls. In this construction both the inner and outer pans, as before stated, are rectangular so as to be adapted to fit within the rectangular shaped casing 38 or fire-box of the cooking stove, a portion of which only is shown in Fig. 4 of the drawings. The inner pan 36 is provided with a cover or top 39 having a central opening or collar 40 in which a draft-pipe 41 extended through the top of the stove-casing is secured, and through which air and oil may be passed to the interior of the inner pan. As in the other construction the bottom of the inner pan has extended upwardly from its central portion a mushroom-shaped vaporizer 42 on which the oil may be deposited from a feed-pipe (not shown) and through the draft-pipe 41, as in the other construction. The top of the inner pan 36 is preferably provided with strengthening ribs 43 which will render it more durable; and just below said top the walls of the inner pan are provided with openings 44 which will correspond with the openings between the extensions 24, as in the other constructions, and are for the passage of air.

From the foregoing and by reference to the drawings it will be seen and readily understood that oil may be turned on at the top of the draft-pipe by means of the feed-pipe 27 and cock or valve 28, 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, when the parts 17, 19, 23 and 25 of the burner will become heated and form gas within the dome and upper portion of the inner pan. As the air passes down the draft-pipe or tube 24 it will meet with the current of air admitted through the lower passages, and pass outwardly from the burner in the form of flames, thus heating the stove-casing. After the parts of the burner have become sufficiently heated the draft from below through the openings 13 and 18 may be turned on and regulated by means of the damper 15, or otherwise, and uniting with the air from the draft-pipe 26 will produce an intensely hot flame.

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.

5 It is apparent that the products of combustion may escape through a suitable outlet in the top or upper portion of the heating stove with which the same may be provided, and that when the construction shown in
10 Fig. 4 is employed they will escape therefrom through an outlet in the same manner as if coal or other fuel is employed.

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

1. An oil burner consisting of spaced apart inner and outer receptacles, the inner receptacle being divided into two compartments and having an apertured cover and
20 provided with openings in its upper and lower portions and the lower compartment having an opening in its bottom, a vaporizer located in the upper compartment of the inner receptacle, and means to supply oil to
25 the vaporizer through the aperture in said cover.

2. An oil burner consisting of an outer receptacle having an opening in its lower portion, an inner receptacle having a horizontal
30 partition between its upper and lower ends and provided with openings above and below said partition, an apertured cover for said inner receptacle, a vaporizer mounted on said partition below the opening in said
35 cover, and means to supply oil to the vaporizer.

3. An oil burner consisting of an outer receptacle adapted to be supported on the grate of a stove and having an opening in
40 its lower portion, an inner receptacle spaced from the outer one and having a horizontal partition between its upper and lower ends and provided with openings above and below said partition, an apertured cover for
45 said inner receptacle, a vaporizer mounted on said partition below the opening in said cover, and means to supply oil to the vaporizer.

4. An oil burner consisting of an outer receptacle having an opening in its lower portion, an inner receptacle spaced from the
50 outer one and having a horizontal partition between its upper and lower ends and provided with openings above and below said partition, an apertured cover for said inner receptacle, a vaporizer centrally mounted on
55 said partition below the opening in said cover, a draft-pipe communicating through said cover with the upper portion of the inner receptacle, and means to supply oil to
60 the vaporizer.

5. An oil burner consisting of an outer receptacle having an opening in its lower portion, in inner receptacle spaced from the

outer one and having an upper and lower
65 compartment and provided with openings in the upper and lower portions of its walls, an apertured cover for said inner receptacle, a vaporizer located in the inner receptacle beneath the opening in said cover, and means
70 to supply oil to the vaporizer through the aperture in said cover.

6. An oil burner consisting of an outer receptacle having an opening in its lower portion, an inner receptacle spaced from the
75 outer one and having a horizontal partition between its upper and lower ends and provided with openings above and below said partition, an apertured cover for said inner receptacle, a vaporizer mounted on said partition
80 below the opening in said cover and having its upper surface rounded, and means to supply oil to the vaporizer.

7. An oil burner consisting of an outer receptacle having an opening in its lower portion, an inner receptacle spaced from the
85 outer one and having a horizontal partition between its upper and lower ends and provided with openings in its walls above and below said partition, a dome-shaped and
90 apertured cover for said inner receptacle, a vaporizer mounted on said partition below the opening in said cover and having its upper surface rounded, a draft-pipe communicating through said cover with the upper
95 portion of the inner receptacle, and means to supply oil to the vaporizer.

8. An oil burner consisting of an outer receptacle having an opening in its lower portion, an inner receptacle spaced from the
100 outer one and having a horizontal partition between its upper and lower ends and provided with openings in its walls above and below said partition, a dome-shaped and apertured cover for said inner receptacle, a
105 vaporizer mounted on said partition below the opening in said cover and having its upper surface rounded, a draft-pipe communicating through said cover with the upper portion of the inner receptacle, and
110 an oil supply-pipe extended downwardly through the draft-pipe into the cover of the inner receptacle and having a bell-shaped lower end.

9. An oil burner consisting of spaced apart
115 inner and outer receptacles, the outer receptacle having an opening in its lower portion and the inner receptacle having an apertured cover and provided with openings in its upper portion, a vaporizer located within the
120 inner receptacle below the opening in the cover thereof, and means to supply oil to the vaporizer through the aperture in said cover.

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Witnesses:

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