

No. 881,540.

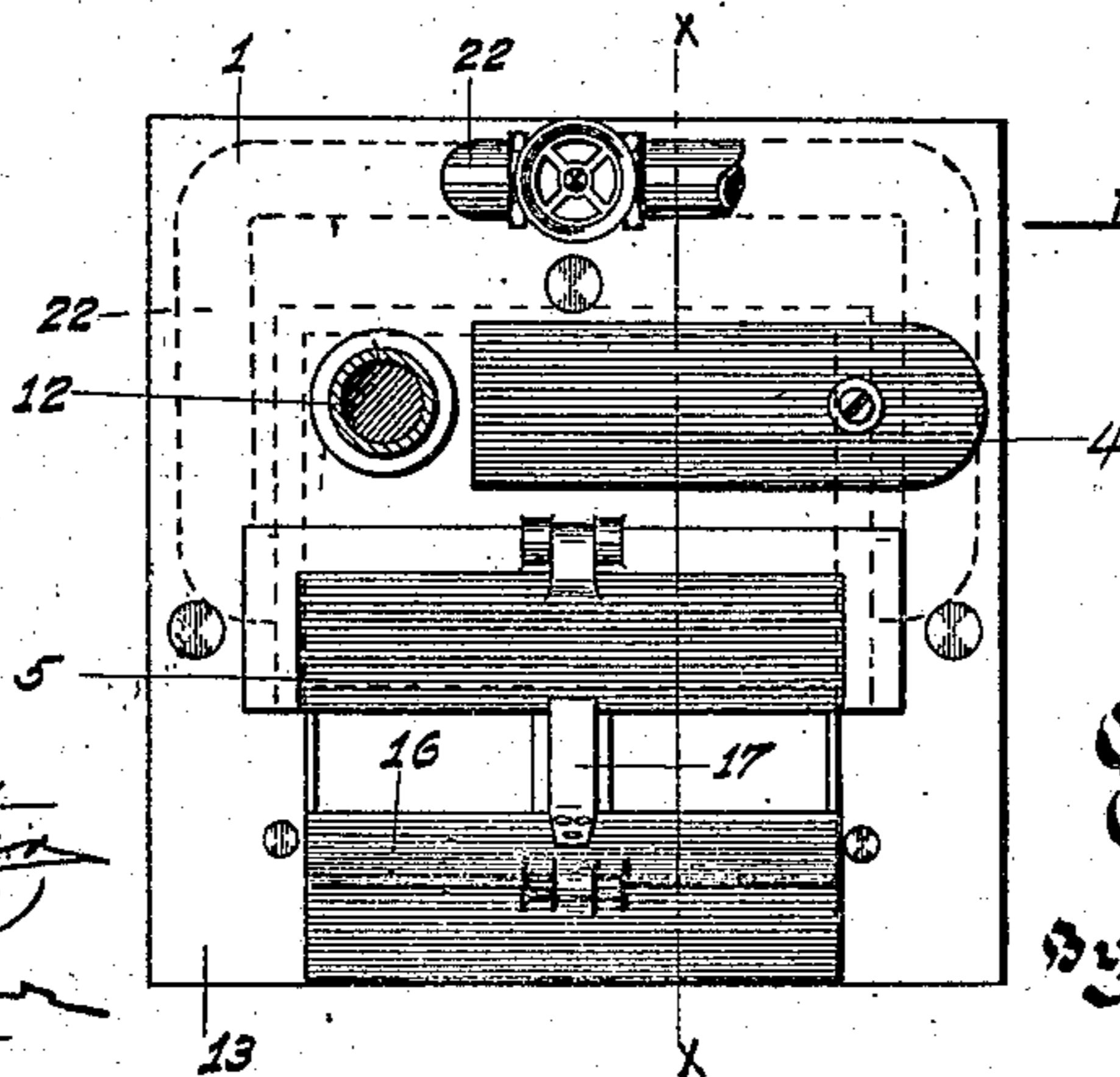
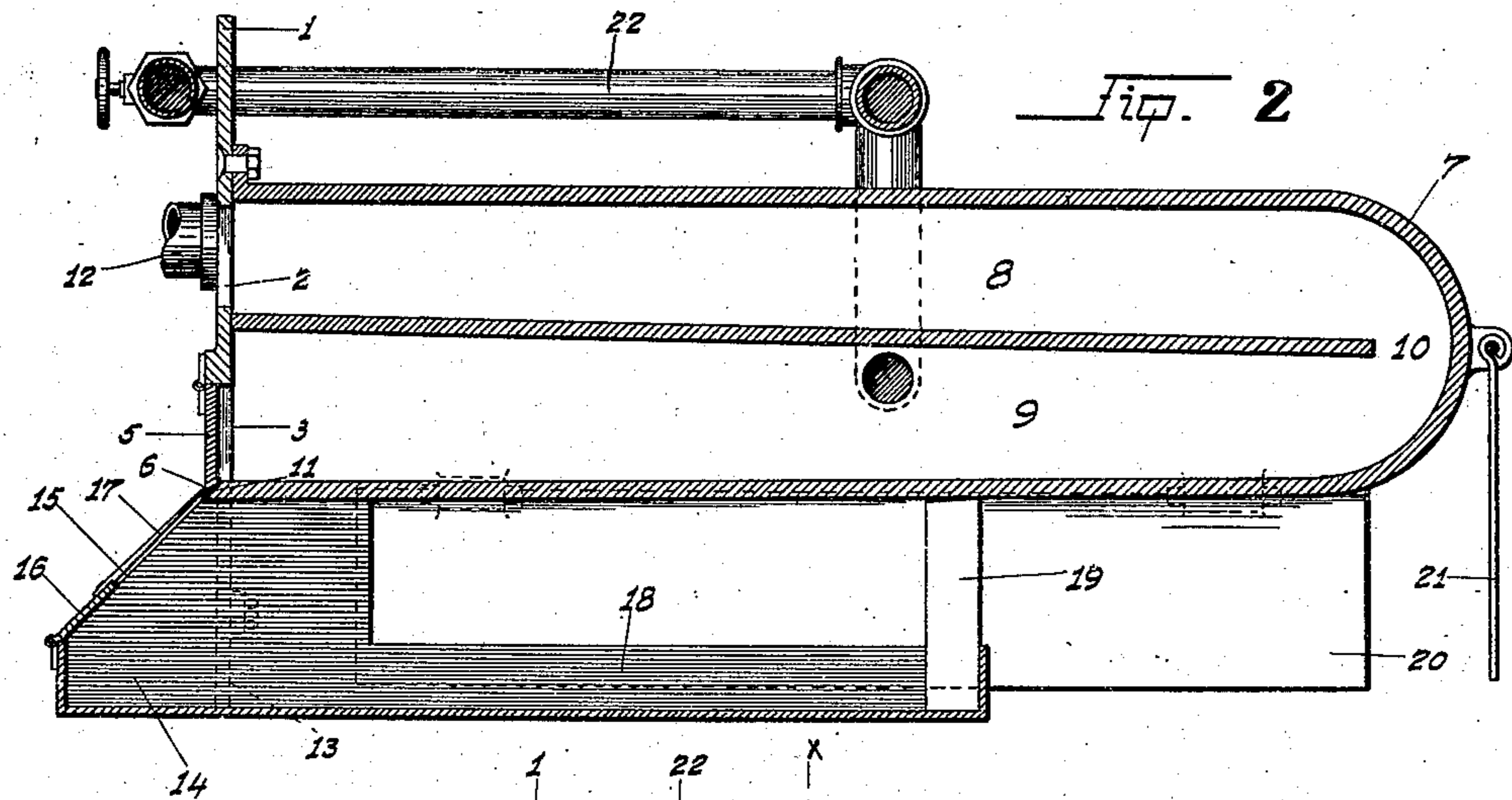
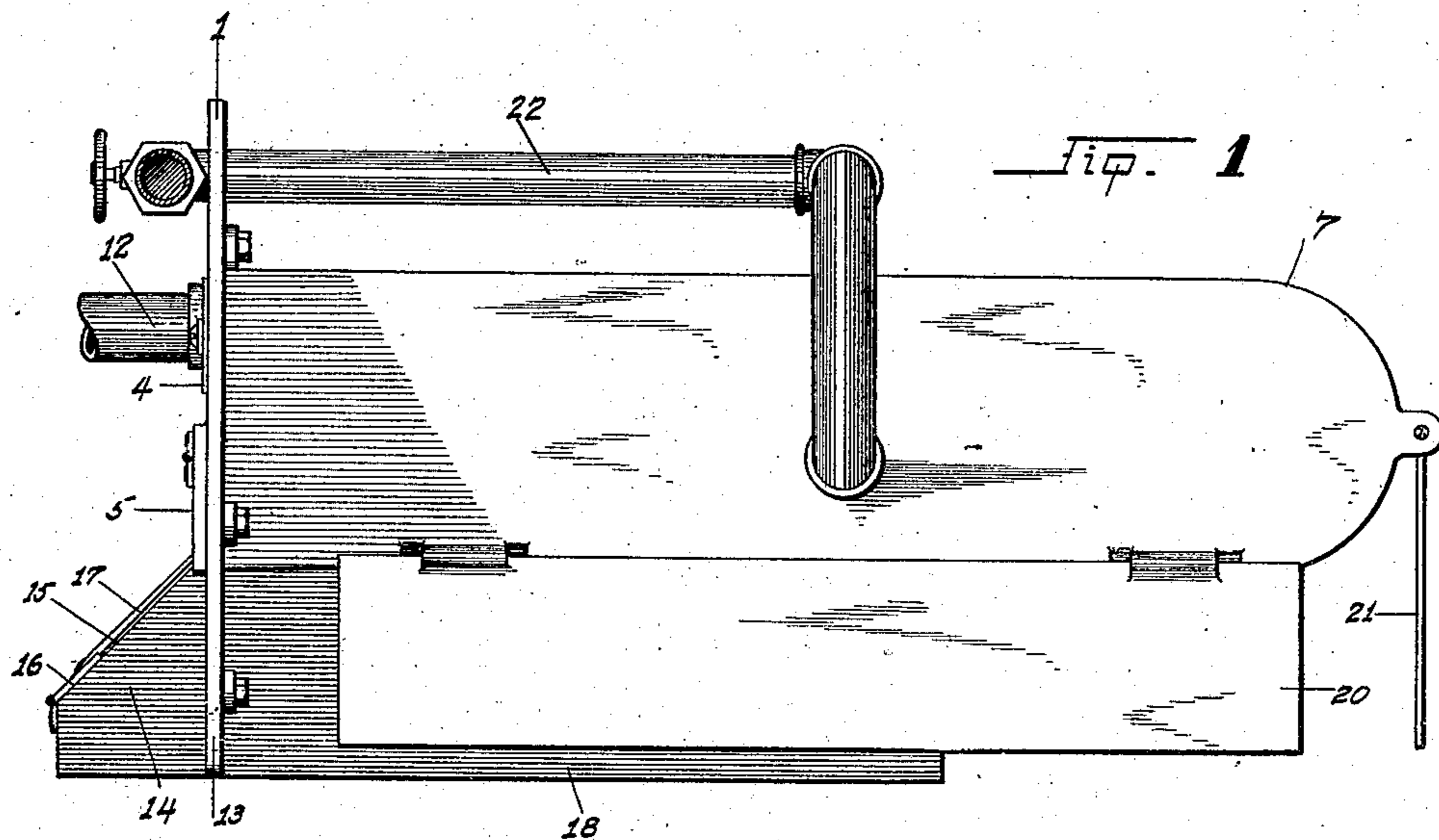
PATENTED MAR. 10, 1908.

O. E. BROWN & A. M. FIELD.

OIL BURNER.

APPLICATION FILED MAY 1, 1907.

2 SHEETS—SHEET 1.



Witnesses
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J. D. Webster

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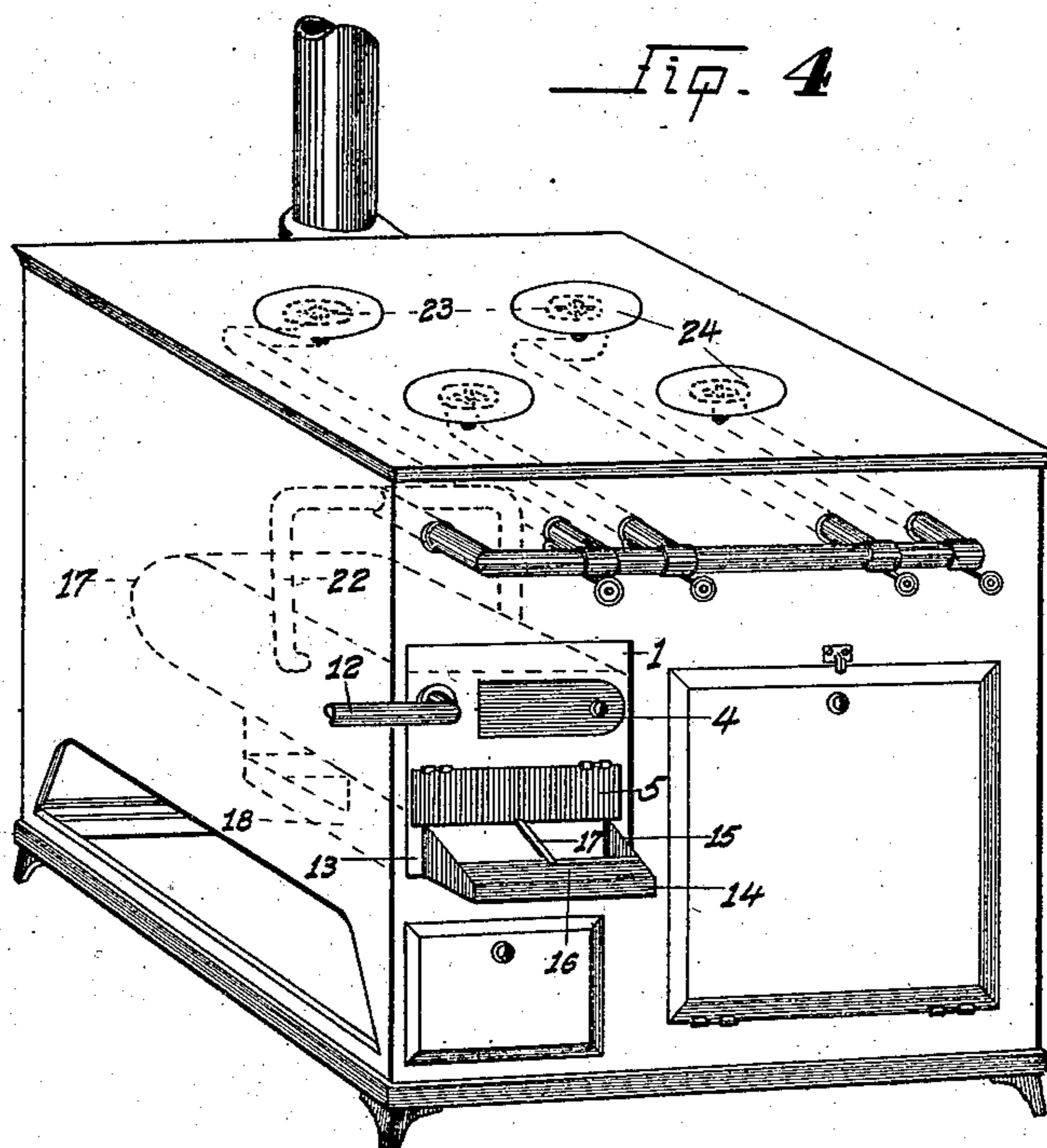
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UNITED STATES PATENT OFFICE.

OSCAR E. BROWN AND AUGUSTUS MARION FIELD, OF TULARE, CALIFORNIA; SAID BROWN
ASSIGNOR TO SAID FIELD.

OIL-BURNER.

No. 881,540.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed May 1, 1907. Serial No. 371,351.

To all whom it may concern:

Be it known that we, OSCAR E. BROWN and AUGUSTUS MARION FIELD, citizens of the United States, residing at Tulare, in the county of Tulare and State of California, have invented certain new and useful Improvements in Oil-Burners; and we do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in oil burners and particularly to that class adapted for use in cooking stoves, ranges and heaters, our object being to produce a retort burner as will highly gasify the oil and do away with soot and other deleterious matter; also to produce a means for conveying the gas from the generator to any desired point. These objects and many minor ones we accomplish by means of a burner having a gasifying chamber, a combustion pan arranged therebeneath, means for conveying gas from such gasifying chamber to said combustion pan or chamber, or to other points; also by such other and further construction as will appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of our improved burner. Fig. 2 is a longitudinal section of the burner taken on a line $x-x$ Fig. 3. Fig. 3 is a front end elevation of the burner. Fig. 4 is a perspective view of a stove showing our improved burner installed therein.

Referring more particularly to the reference characters on the drawings 1 designates the front plate of the burner the same being adapted to be bolted to the front end of the stove or range. The said plate 1 has two openings 2 and 3 for the purpose as will appear. The opening 2 has a pivoted sliding door 4 and the opening 3 a swinging door 5, the lower end of said door 5 having a beveled edge 6 for the purpose as will appear.

Bolted to the plate 1 is a box or casing 7 having two chambers 8 and 9 opening into each other at the rear end as at 10. The

opening 2 opens into the chamber 8 and the opening 3 into the chamber 9, the bevel 6 co-acting with a bevel 11 on the bottom of said box 7 for a purpose as will appear.

12 is an oil supply pipe entering through the plate 1 into the chamber 8.

Bolted between lower bifurcations 13 on the plate 1 is a burner pan constructed as follows:—A closed sided end mixing box or combustion chamber 14 extends beyond the front of the plate 1, there being a beveled portion 15, said beveled portion being open in the front and having a door 16 extending part way thereover, a finger 17 extending from said door 16 upward to, and bearing against the door 5 thereby holding the bevel 6 close against the bevel 11 when the door 5 is in its normal position. Backward from the portion 14 is a pan extension 18 having open sides and end, there being an upward support 19 bearing against the under side of the box 7. Swinging plates 20 are secured to the sides of the box 7 and a similar plate 21 is secured to the end thereof, said plates to be used or left off at will of operator. From the upper part of the chamber 9 pipes 22 lead to any desired point as burners 23 (Fig. 4) under the lids of the stove 24.

In practice a little oil is placed in the pan 18 and ignited. The oil is then permitted to pass into the chamber 8 through the pipe 12. The heat from the pan 18 then starts to vaporize said oil and it passes through the opening 10 into the chamber 9 where it becomes highly gasified. Said gas forces the door 5 open and passes between the bevels 6 and 11 into the box 14. Here the draft draws in air around the finger 17, said air mixing with the gas in combustion chamber 14, and the same passing to the pan 18 where it ignites and passes through the open sides of said pan and around through the stove, continuing to heat the box 7. Any surplus gas from the chamber 9 may be taken through the pipes 22 to burners 23 or to storage tanks, lighting jets or other desired points, the said pipes being supplied with necessary regulating cocks for the purpose. The door 4 may be opened for the purpose of cleaning soot out of the chamber 7, or may be left open to admit air while in operation if desired. Thus it will be seen we have produced a burner which substantially fulfils all the objects of the invention as set forth herein.

While this invention sets forth in detail the present and preferred construction of our device, still in practice many small deviations from such detail may be resorted to at will without departing from the spirit of the invention.

Having thus described our invention what we claim as new and useful and desire to secure by Letters Patent is:—

10 1. In a device of the character described a box divided into two chambers connected at their inner ends, means for conveying oil to the upper chamber, an opening into the front of the lower chamber, a door swung in front of said opening and engaging with the bot-
15 tom of said lower chamber to form an outlet, a burner pan, and means leading from the connection of said door and said bottom to said burner pan, as set forth.

20 2. In a device of the character described a box divided into two chambers connected at their inner ends, means for conveying oil to the upper chamber, an opening into the front of said lower chamber, the bottom of
25 said lower chamber being beveled outwardly at such opening, a swinging door over said opening having a beveled lower end co-acting with said first named beveled end, a mixing box extending outward from said bevels, and
30 a burner pan extending backward from said mixing box, as set forth.

3. In a device of the character described a box divided into two chambers connected at their inner ends, means for conveying oil into
35 the upper chamber, an opening into the front end of said lower chamber, a swinging door covering said opening, the bottom thereof co-acting with the bottom of said lower chamber to form an outlet, a mixing box secured to
40 said first named box beneath and extending outward from the said opening, said box being beveled from said opening outward, a door

partly covering said beveled portion, a finger piece upward from said last named door and bearing against said first named door, and a
45 burner pan extending backward from said mixing box beneath said first named box, as set forth.

4. In a device of the character described a front plate, a gas generating box bolted
50 thereto, said box being divided into two chambers connected at their rear ends, an opening in said front plate into the lower one of said chambers, a door swung on said plate over said opening and engaging the bottom
55 of said box, a burner pan disposed under said box, and means whereby the gas from said box will pass through said opening and into said pan, as set forth.

5. In a device of the character described a
60 gas generating box, means conveying oil thereto, a mixing chamber secured thereto and extending outward from the front thereof, means admitting air therein, a burner pan extension from such chamber underneath
65 said box, there being spaces intermediate the bottom of said box and the upper edges of the sides of said pan, and means conveying gas from such box to said mixing chamber.

6. In a device of the character described a
70 gas generating box, a burner pan arranged therebeneath, there being air spaces between the bottom of said box and the top edges of said pan, means connecting said box and
75 said pan, and plates hinged to the sides and end of said box whereby the magnitude of said air spaces is regulated, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

OSCAR E. BROWN.
A. MARION FIELD.

Witnesses:

PERCY S. WEBSTER,
FRANK H. CARTER.