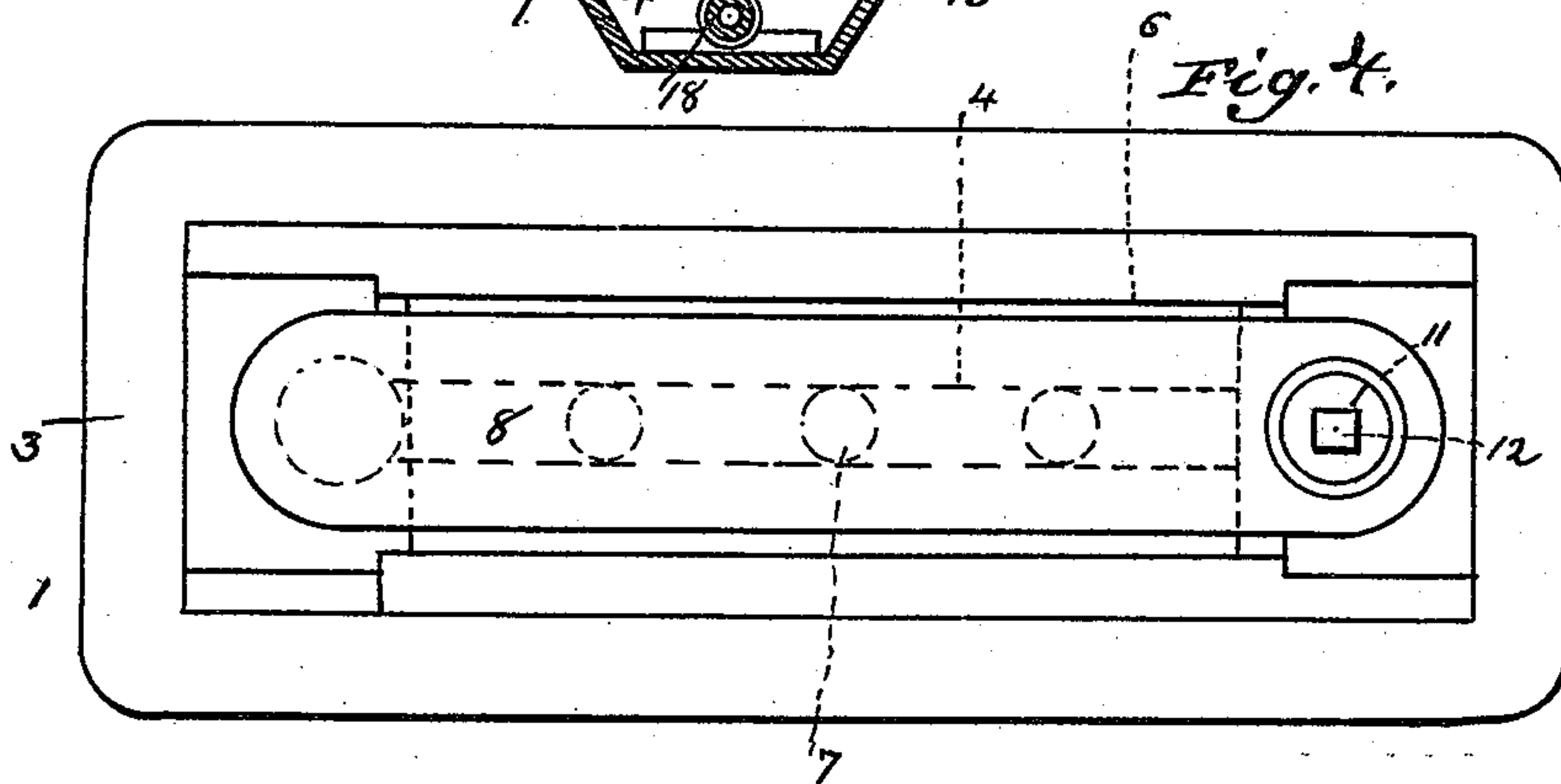
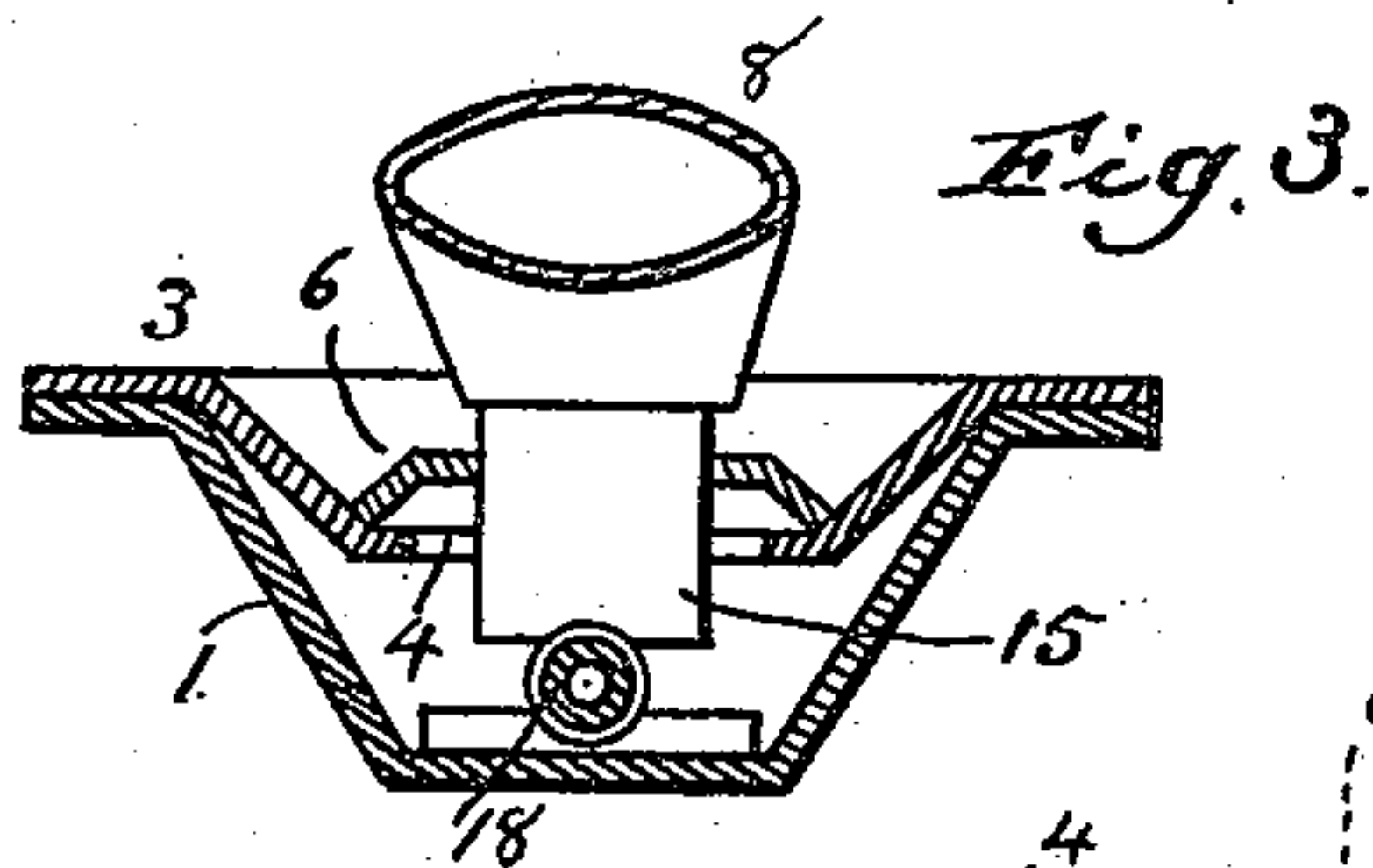
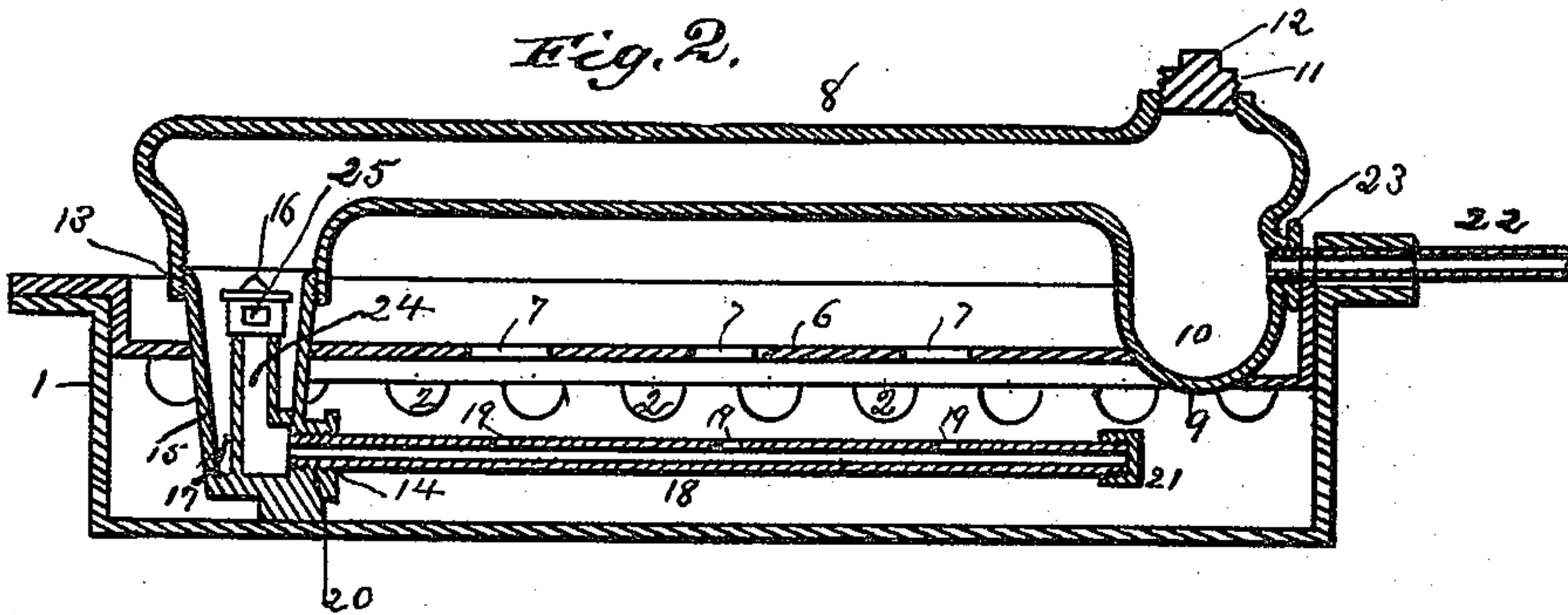
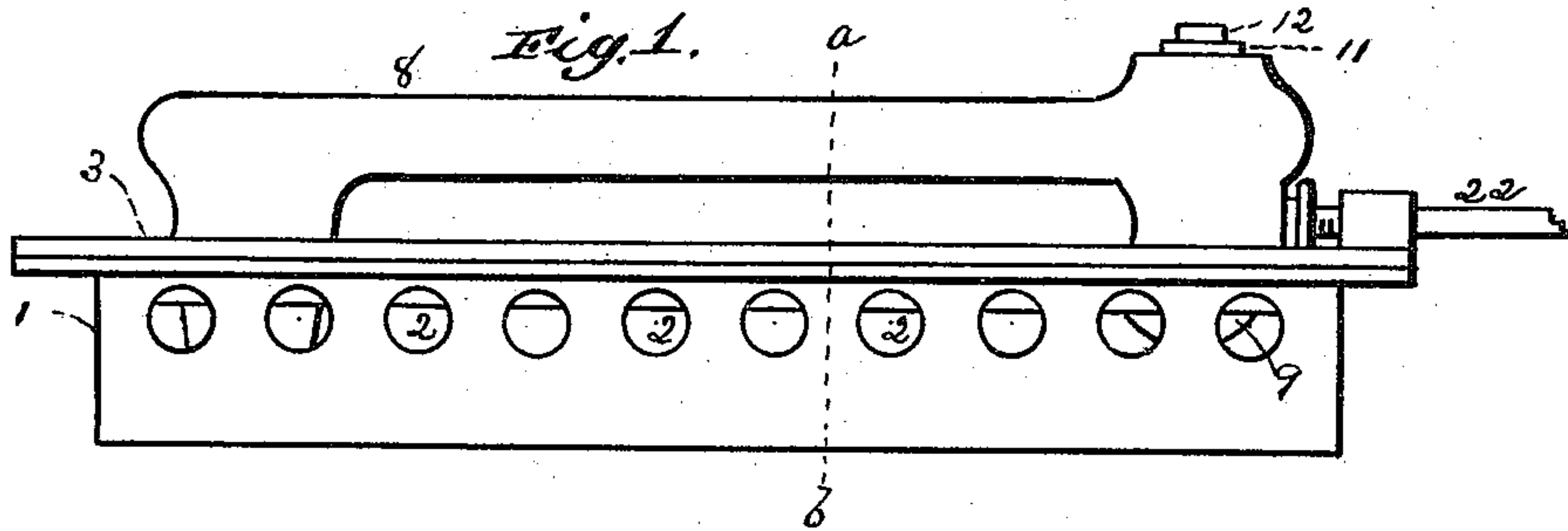


(No Model.)

C. E. BURBANK.
HYDROCARBON OIL BURNER.

No. 440,942.

Patented Nov. 18, 1890.



WITNESSES

Jas B. Clarke
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INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES E. BURBANK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
MARY L. BURBANK, OF SAME PLACE.

HYDROCARBON-OIL BURNER.

SPECIFICATION forming part of Letters Patent No. 440,942, dated November 18, 1890.

Application filed May 31, 1890. Serial No. 353,700. (No model.) Patented in Canada June 1, 1888, No. 29,267.

To all whom it may concern:

Be it known that I, CHARLES E. BURBANK, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hydrocarbon-Oil Burners, (for which I have obtained a patent in Canada June 1, 1888, No. 29,267;) and I do hereby 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 novel improvements in hydrocarbon-oil burners; and it consists in the construction and novel arrangement of parts, as will be hereinafter described.

The annexed drawings, to which reference is made, illustrate my invention, in which—

Figure 1 is a side elevation of an oil-burner embodying my invention. Fig. 2 is a vertical longitudinal central sectional view of the same. Fig. 3 is a vertical cross-section through line *a b*, Fig. 1; and Fig. 4 is a plan view of the same.

The object of my invention is to simplify the construction and render more certain the operation of that class of stoves in which hydrocarbon oils are used or converted into gas or vapor before being burned.

Referring by numerals to the accompanying drawings, 1 represents the outer case or fire-pot, which consists of a cast-iron pan of a suitable form and size to hold the retorts. It is provided with a series of holes 2 for admitting air to the flame.

In the case or fire-pot 1 is fitted a shallow pan or deflecting-plate 3, having a longitudinal opening 4 (shown in cross-section in Fig. 3 and by dotted lines in Fig. 4) under the retort and just long enough to permit the retort to fit nicely.

Above and in the pan 3 is placed a plate 6, having flanges on either side and a series of holes 7 for the flame to pass through. (Shown in section in Fig. 2 and by dotted lines, Fig. 4.) The retort is preferably made of cast metal in one solid piece, consisting of the body portion 8 and the refuse-receptacle 9; but it may be made of any suitable material. Di-

rectly over the receptacle-chamber 10 is a screw-plug 11, having a wrench-section 12, thereby providing a suitable means for getting at the interior of the receptacle for the purpose of cleaning it out when required, the object being to provide means whereby it may be readily reached for that purpose. At the opposite end of the retort is an opening in the under side, into which is secured by a screw portion 13 (see Fig. 2) a downwardly-projecting case 15, provided at its lower end with a female-threaded opening 14, and arising from the lower portion of this case is a tube or pipe 24, and at its upper end it is provided with a cone-shaped hollow deflecting-cap 16, its object being to prevent refuse of any kind from getting into and obstructing the gas-tube. This pipe 24 communicates with the tube or pipe 18 and the case 15 by the perforation 25 in the cap 16, the oil in its passage passing through said perforation 25 into the pipe 24, and thence into the pipe 18. The refuse or other foreign matter, instead of going into the gas-tube, falls on the cone-cap and passes down and over the sides into the refuse-chamber 17, (shown in Fig. 2,) thereby allowing nothing but the pure hydrocarbon vapor or gas to pass down into the gas-tube 18. The gas-tube 18 is preferably made of iron gas-pipe; but any other suitable material may be used. It is provided with a series of fine holes 19, thereby forming a gas-burner, and is secured to the portion 14 by a screw 20, (see Fig. 2,) and its opposite end is provided with the usual screw-cap 21.

In Fig. 1, 22 represents the inlet-pipe, screwed into the retort by the screw portion 23. (Shown in Fig. 2.)

In operating with this device it is placed in the fire-box of a stove, (or in any place adapted to receive it,) and oil or other suitable liquid is let through the inlet-pipe 22, the oil passing down or along the inside of the retort into the tube 15, and from thence to the gas-burner 18. The fire is started in a few moments by lighting the oil, which fills the burner and is ignited as it flows through the perforations 19. The heat thus created rises and heats the retort until it vaporizes the oil within it, and the

gas thereby generated flows through the perforations, producing a perfect combustion without smoke.

I claim as my invention—

- 5 In a vapor or gas generator for burning oil, a retort provided with a refuse-receptacle at its inlet end, and a means, substantially as described, for getting at the interior of the receptacle to clean it, in combination with a
10 rear refuse-receptacle, a perforated burner-

tube connected with said receptacle, and a vertical tube within the receptacle provided with a conical deflecting-cap, for the purposes set forth.

In testimony whereof I affix my signature in 15 presence of two witnesses.

CHARLES E. BURBANK.

Witnesses:

CHARLES WALTER,
EMORY H. BATES.