

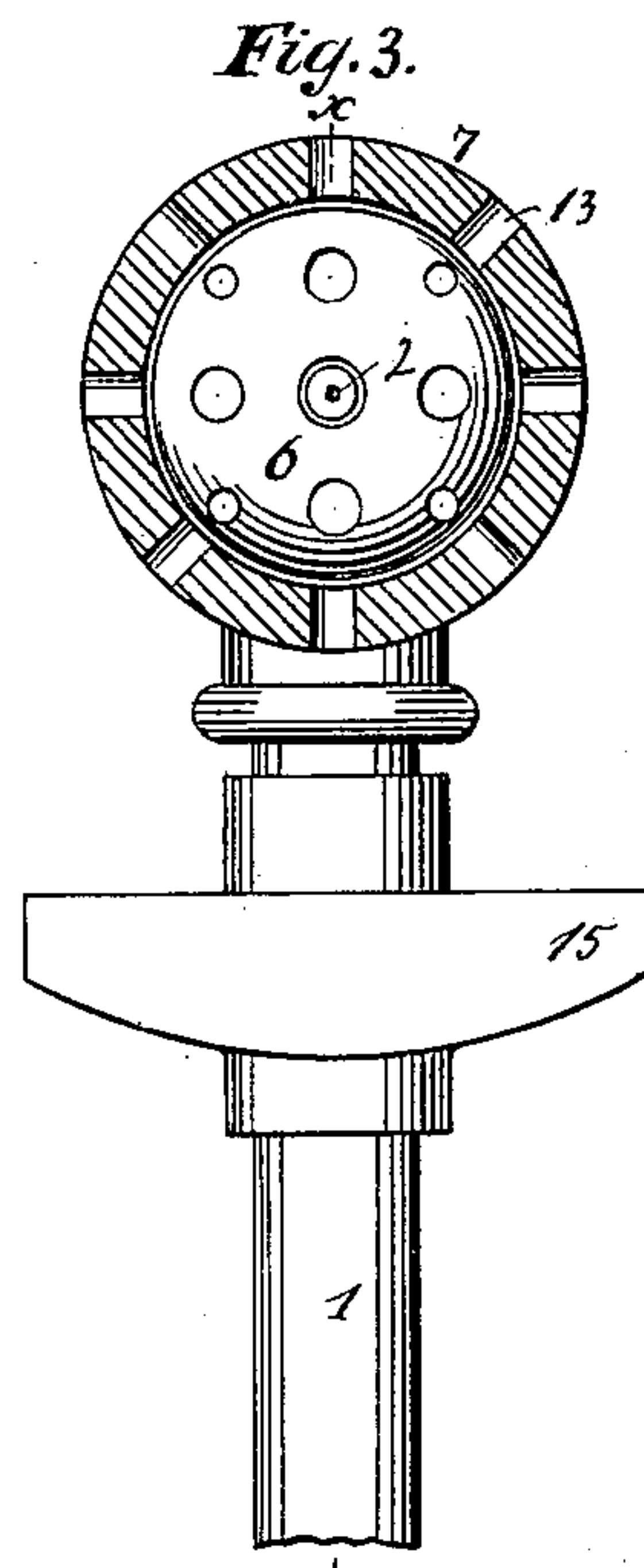
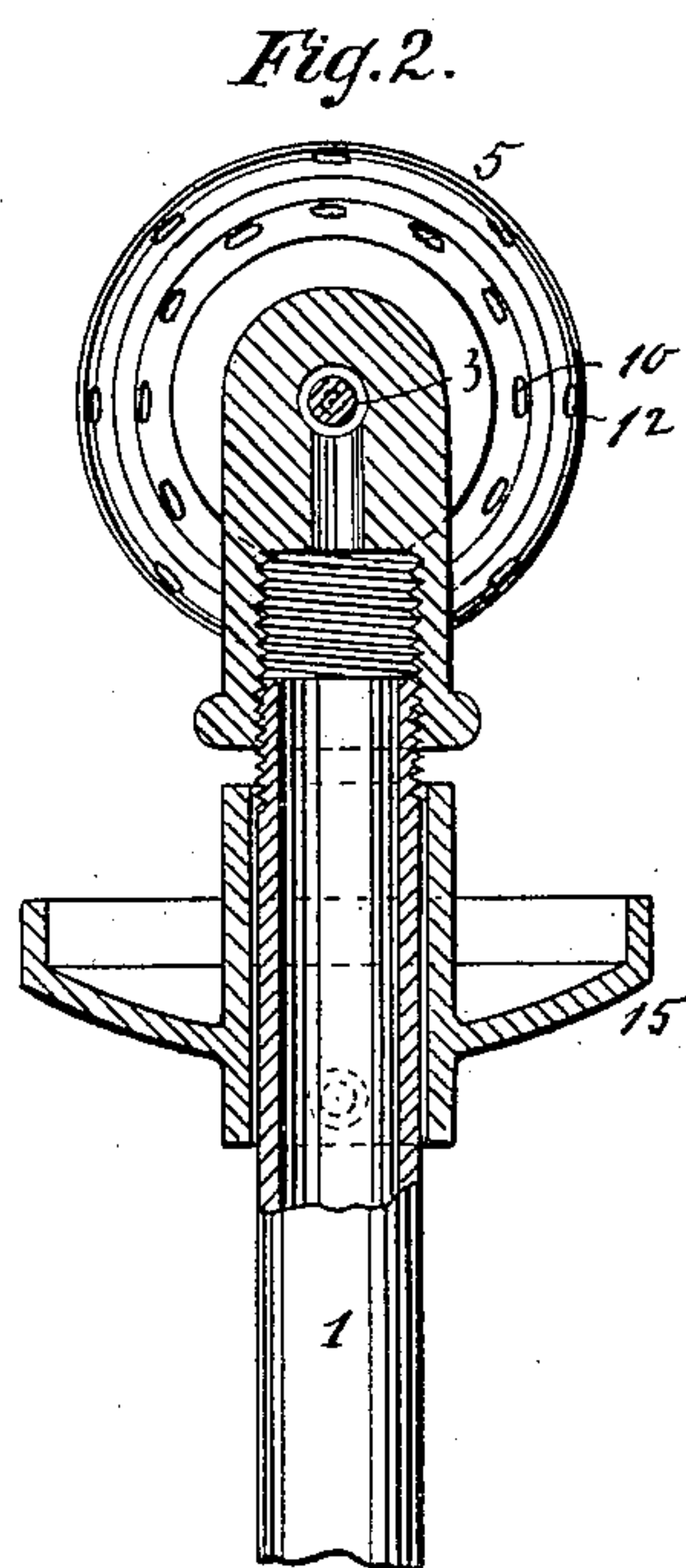
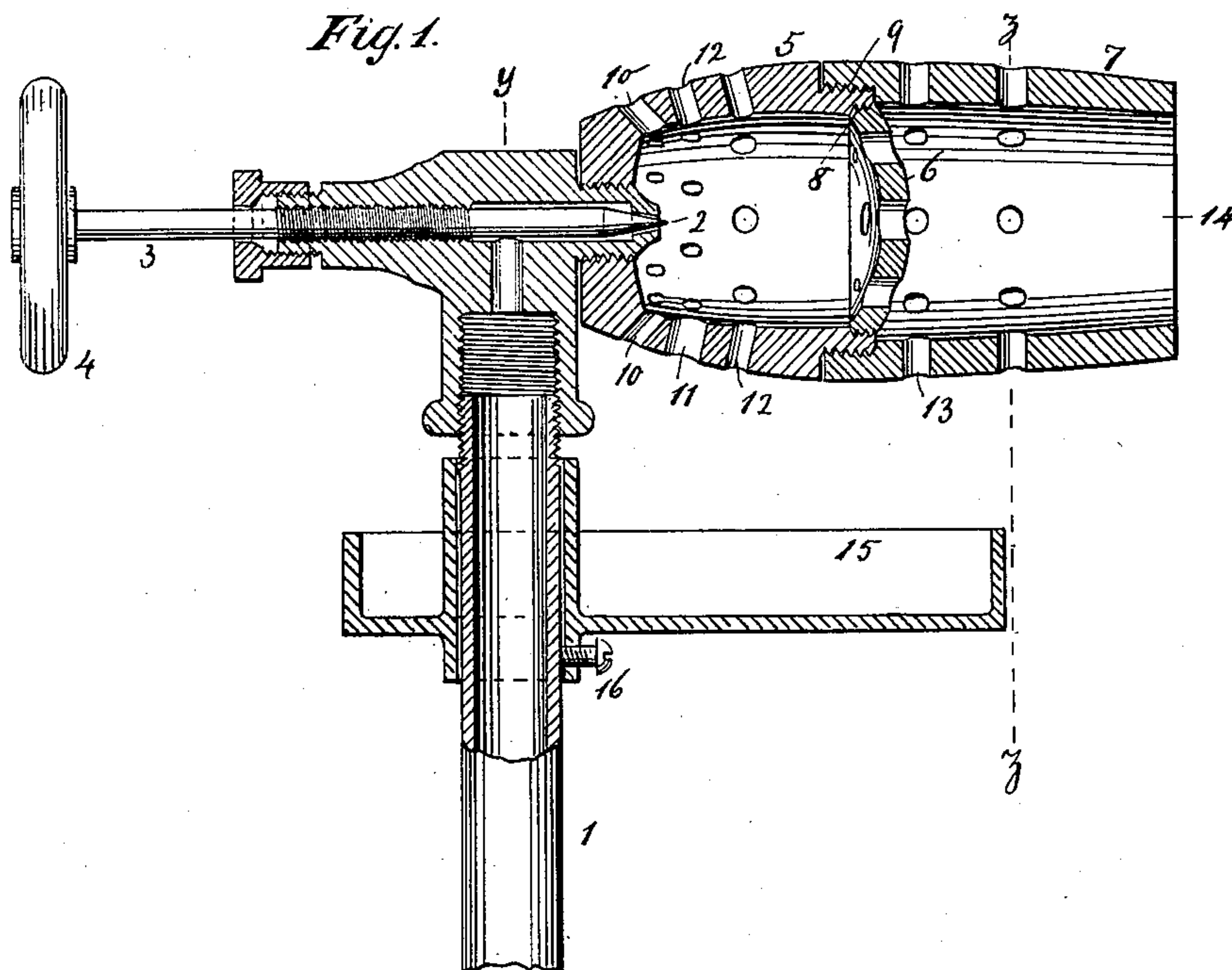
No. 611,949.

Patented Oct. 4, 1898.

C. G. SMITH.
BURNER.

(Application filed Apr. 22, 1898.)

(No Model.)



WITNESSES:

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INVENTOR

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BY

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UNITED STATES PATENT OFFICE.

CHARLES G. SMITH, OF NEW YORK, N. Y.

BURNER.

SPECIFICATION forming part of Letters Patent No. 611,949, dated October 4, 1898.

Application filed April 22, 1898. Serial No. 678,511. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. SMITH, a citizen of the United States, residing at New York, (Brooklyn,) in the county of Kings and State of New York, have invented new and useful Improvements in Burners, of which the following is a specification.

This invention relates to a device which may be designated as an "automatic illuminating-torch burner," such burners being serviceable, for example, at portable tanks or blowers, as used in nightwork on railways and elsewhere; and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of the burner sectioned along $x x$, Fig. 3. Fig. 2 is a section along $y y$, Fig. 1. Fig. 3 is a section along $z z$, Fig. 1.

A pipe 1, leading from a suitable pressure-tank or supply, (not shown,) allows the combustible or illuminant to flow to the outlet, which can be opened more or less or entirely closed by the pin-point or end 2 of the stem or valve 3, actuated by handle or wheel 4.

The burner or burner-body is shown at 5 and has a diaphragm 6 and a mouth portion 7, made to project beyond the diaphragm. The diaphragm and mouth portion are both removably secured to the burner 5. The latter is shown with an internal screw-thread 8 and an external screw-thread 9. The diaphragm 6 is threaded or screwed to the inner thread 8 and the mouth portion 7 to the outer thread 9.

The burner at its rear has a set or row of perforations 10 and a lower or igniting perforation 11. This perforation 11 is shown of larger size than the other perforations. In addition to these perforations further perforations 12 and 13 are shown on the burner and mouth portion, respectively. The mouth portion is of course open at the front 14 to allow the escape of the flame or light. The diaphragm 6 is also suitably perforated. A drip or oil cup is shown at 15.

To light the burner, put alcohol, benzene, or

the like in the drip or igniting cup 15 and ignite the same. The flame from the cup burning up over or contacting with the burner heats the latter. When the combustible in the cup is nearly exhausted, the flame-regulating valve or handle 4 is turned or opened the required degree and the outflowing illuminating material is ignited by the flame from the cup 15 entering the burner through the large or ignition opening 11.

It may be noted that when using such an illuminant as benzene or gasoline the holes or perforations 12 and 13 can be omitted, retaining only the rear row 10 of ventilating-openings with the lower ignition-opening 11. For some illuminants, such as kerosene, the ventilating-openings 12 and 13 should be retained. The cup 15 below the burner can be set or fixed at proper height or adjustment by set-screw or fastening 16.

What I claim as new, and desire to secure by Letters Patent, is—

1. A burner, consisting of a burner-body having a delivery-mouth and front and rear sets of perforations, a perforated diaphragm secured in the burner-body intermediate the front and rear sets of perforations, a supply-pipe connection for delivering the illuminating fluid to the rear perforated portion of the burner-body, and a valve for regulating the flow of the fluid into said rear perforated part of the burner-body, substantially as described.

2. A burner, consisting of a rear perforated body-section, a front perforated body-section detachably connected with the rear body-section, a perforated diaphragm detachably secured in the burner-body between the perforations in the front section and the perforations in the rear section, a supply-pipe connection on the rear body-section for supplying the illuminating fluid, and a valve for controlling the flow of the said fluid into the rear perforated body-section, substantially as described.

3. A burner for an illuminating fluid, consisting of a perforated body, a valve for controlling the flow of the illuminating fluid thereinto, a mouth-section mounted on said

perforated burner-body, and a transverse perforated diaphragm arranged within the burner-body between the perforations therein and the perforations in the mouth-section,
5 substantially as described.

4. A burner provided with a diaphragm and a mouth portion, and having at its rear a series of ventilating-perforations, and a lower igniting-perforation of larger diameter than
10 the ventilating-perforations substantially as described.

5. A burner having internal and exter-

nal screw-threads, a perforated diaphragm screwed to the inner thread, and a mouth portion screwed to the outer thread substantially 15 as described.

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

CHARLES G. SMITH.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.