

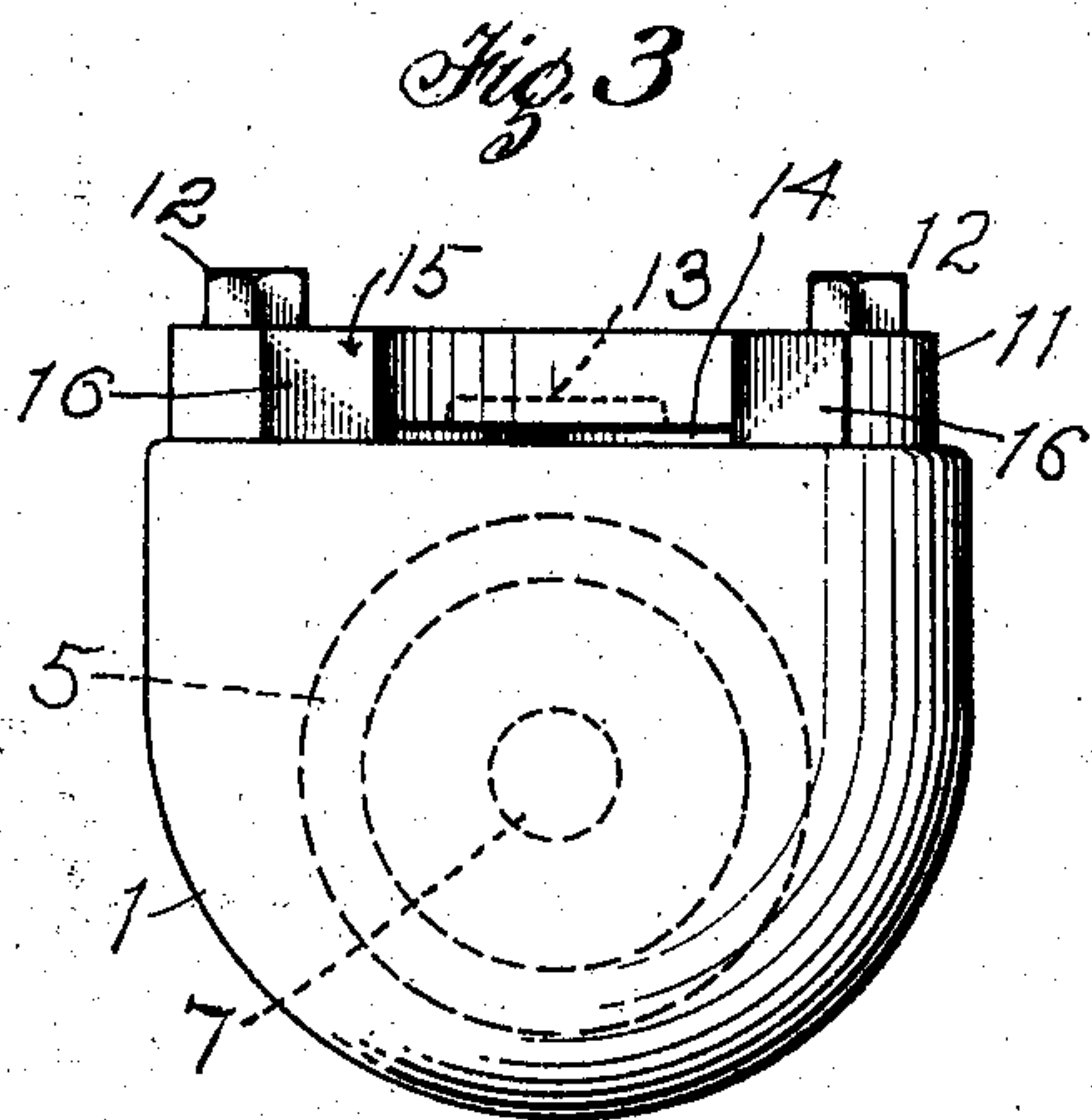
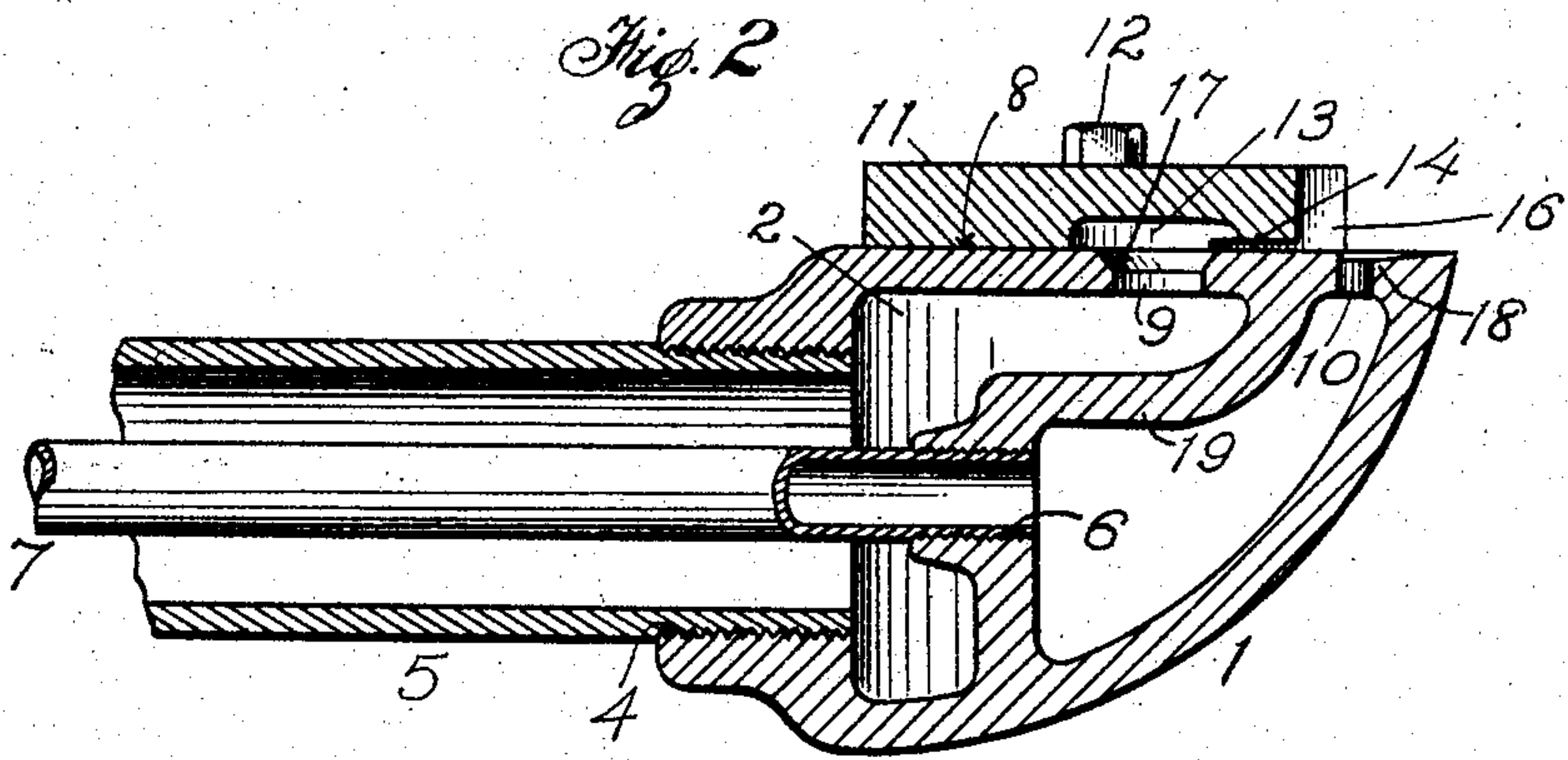
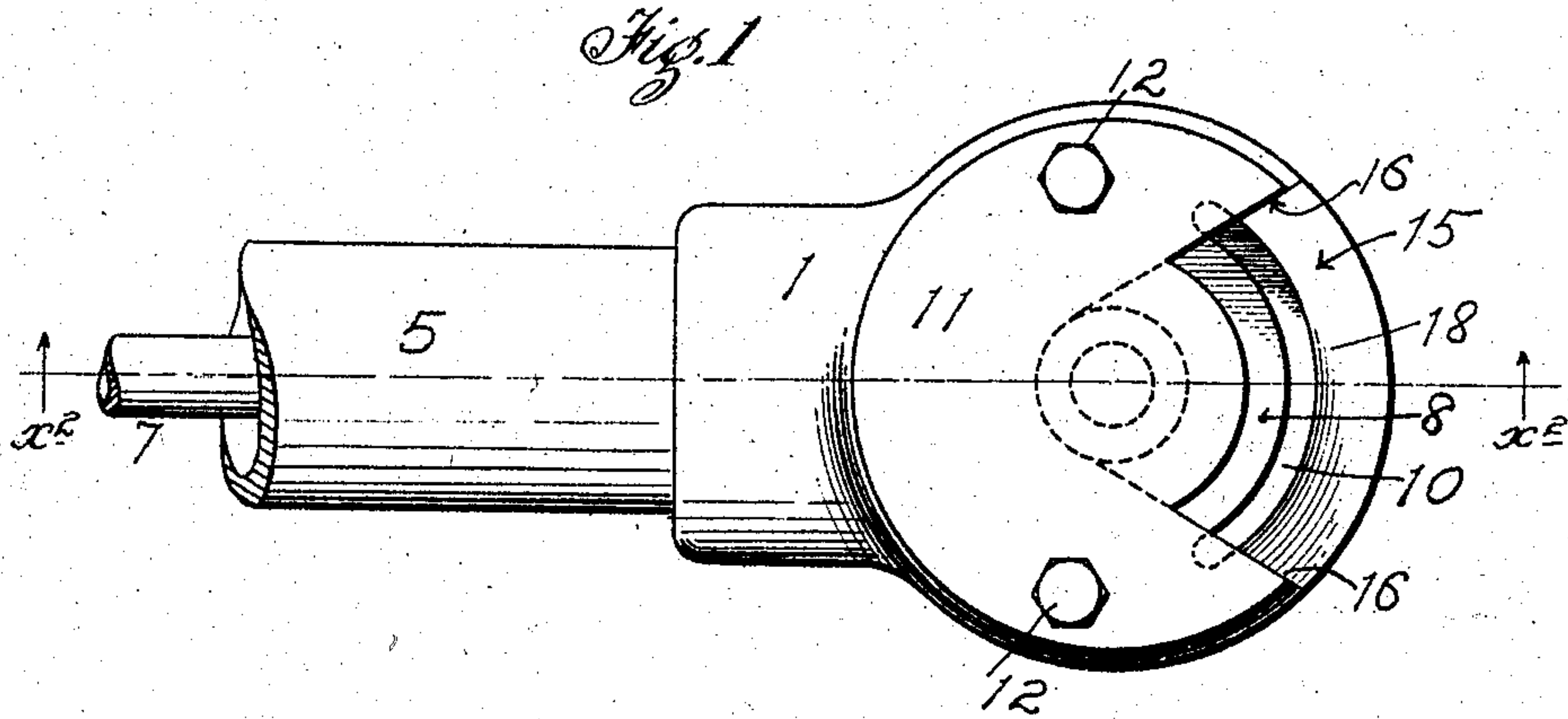
No. 787,045.

PATENTED APR. 11, 1905.

C. G. KIPLING & H. L. WORDEN.

OIL BURNER.

APPLICATION FILED AUG. 25, 1904.



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# UNITED STATES PATENT OFFICE.

CHARLES G. KIPLING AND HORACE L. WORDEN, OF LOS ANGELES,  
CALIFORNIA, ASSIGNORS OF ONE-THIRD TO ALFRED MEYER, OF  
LOS ANGELES, CALIFORNIA.

## OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 787,045, dated April 11, 1905.

Application filed August 25, 1904. Serial No. 222,088.

*To all whom it may concern:*

Be it known that we, CHARLES G. KIPLING and HORACE L. WORDEN, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to the class of oil-burners wherein a flat jet of steam is directed over the open oil-outlet to atomize and carry forward the oil by suctional action.

One object of the invention is to provide a burner of this class of extreme simplicity of construction and efficiency in operation.

Another object of the invention is to so construct the burner that the oil in passing to the outlet will pass within the steam-conduit, and the oil and steam will also be brought into heat-interchanging relation in the burner, so that the oil will be heated most effectually by the steam, and the oil-pipe can be made smaller than the steam-pipe, which is desirable, as the volume of steam passing is greater than the volume of oil.

Another object of the invention is to provide a burner that can be easily opened for cleaning and inspection and will have a minimum number of parts.

The accompanying drawings illustrate the invention.

Figure 1 is a plan of the burner. Fig. 2 is a vertical section on the line  $x^2 x^2$ , Fig. 1. Fig. 3 is an end view.

The burner comprises a hollow body 1, having two chambers 2 3 arranged side by side and separated by a partition 19, the rear chamber 2 having an opening 4 to receive the steam-pipe 5 and the chamber 3 having an opening 6 to receive the oil-pipe 7, which passes through the steam-pipe 5 and through the chamber 2 to said opening 6, the said pipes screwing into said openings. The two chambers 2 3 occupy the entire volume of the body 1, and the partition 19 extends from near the rear lower part of said body to near the front upper end thereof, so as to present an ex-

tended surface in said chambers for the transmission of heat from the steam-chamber to the oil-chamber.

The top 8 of burner-body 1 is substantially flat, and ports or openings 9 and 10, communicating with the respective chambers 2 3, are formed in said top, the port 9 for the steam being in the rear and 10 in front. Port 10 is desirably arc-shaped and may be concentric with the port 9.

A cap-plate or deflector 11 is fastened to top 8 of the burner, as by means of screws 12, so as to extend over the port 9 and direct the steam therefrom toward and over the oil-outlet 10, said cap-plate having a steam-pocket 13 above port 9, an arc-shaped slot, recess, or steam-outlet 14 extending from said pocket toward the oil-outlet, and a segmental notch 15 in that portion which corresponds to the oil-outlet, so that the space above the oil-outlet is left free and unobstructed and is provided with diverging side walls formed by the ends 16 of said notch.

The port 9 may have a flare 17 at its upper end, which, in conjunction with the pocket 13, insures free delivery of steam to the steam-outlet 14.

To insure that no moisture from the steam can pass down through slot 10, the top or table 8 may be cut away or inclined in front of said outlet, as shown at 18, so that the front wall of the slot will be lower than the rear wall, and the moisture will be carried beyond the oil-outlet. This also insures that the steam will not cause any back pressure on the oil.

What we claim is—

1. An oil-burner comprising a hollow body with a partition therein forming steam and oil chambers, said body having a flat top with a steam-opening communicating with the steam-chamber and with an outlet communicating with the oil-chamber and extending in front of the steam-opening, a cap-plate fastened to said top plate and extending over the steam-opening and having a recess on its under side for directing the steam from the steam-opening over the oil-outlet, a steam-

pipe leading to the steam-chamber and an oil-pipe leading through the steam-pipe and steam-chamber to the oil-chamber.

2. An oil-burner comprising a hollow body  
5 with a partition therein forming steam and oil chambers, said body having a flat top with a steam-opening communicating with the steam-chamber an opening forward of the central opening communicating with the oil-chamber  
10 and forming an oil-outlet, a cap-plate fastened to the top plate and having a steam-pocket above the said steam-opening, said cap-plate being formed with a recess extending forwardly from the steam-opening directing  
15 steam from the steam-opening forwardly over the oil-outlet, a steam-pipe leading to the steam-chamber and an oil-pipe leading through the steam-pipe and steam-chamber to the oil-chamber.

20 3. An oil-burner comprising a hollow body with a partition therein forming steam and oil chambers, said body having a flat top with

a steam-opening therein, communicating with the steam-chamber and a segmental opening forwardly of said steam-opening communicating with the oil-chamber and forming an oil-outlet, the forward wall of said oil-outlet being lower than the rear wall thereof and the top plate being inclined upwardly forward of said oil-outlet, a cap-plate fastened on said  
25 top plate and having a recess extending over the steam-opening for directing steam therefrom over the oil-outlet, a steam-pipe leading into the steam-chamber and an oil-pipe leading through the steam-pipe and steam-chamber  
30 to the oil-chamber.  
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In testimony whereof we have hereunto set our hands, at Los Angeles, California, this 18th day of August, 1904.

CHARLES G. KIPLING.

HORACE L. WORDEN.

In presence of—

FREDERICK S. LYON,

RILLA ROBERTS.