

No. 798,948.

PATENTED SEPT. 5, 1905.

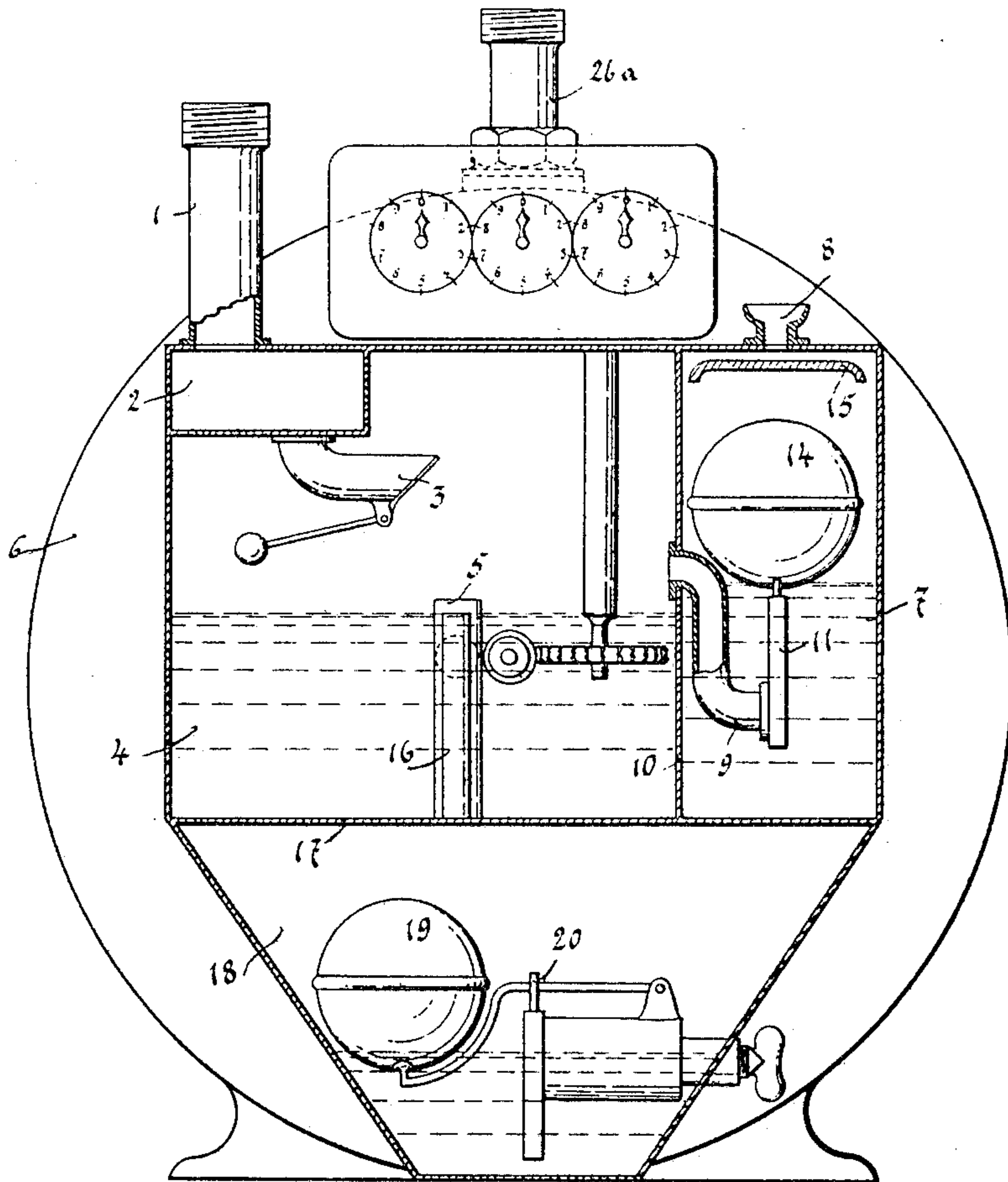
G. CAFFARO & J. V. BRACCO.

GAS METER.

APPLICATION FILED APR. 14, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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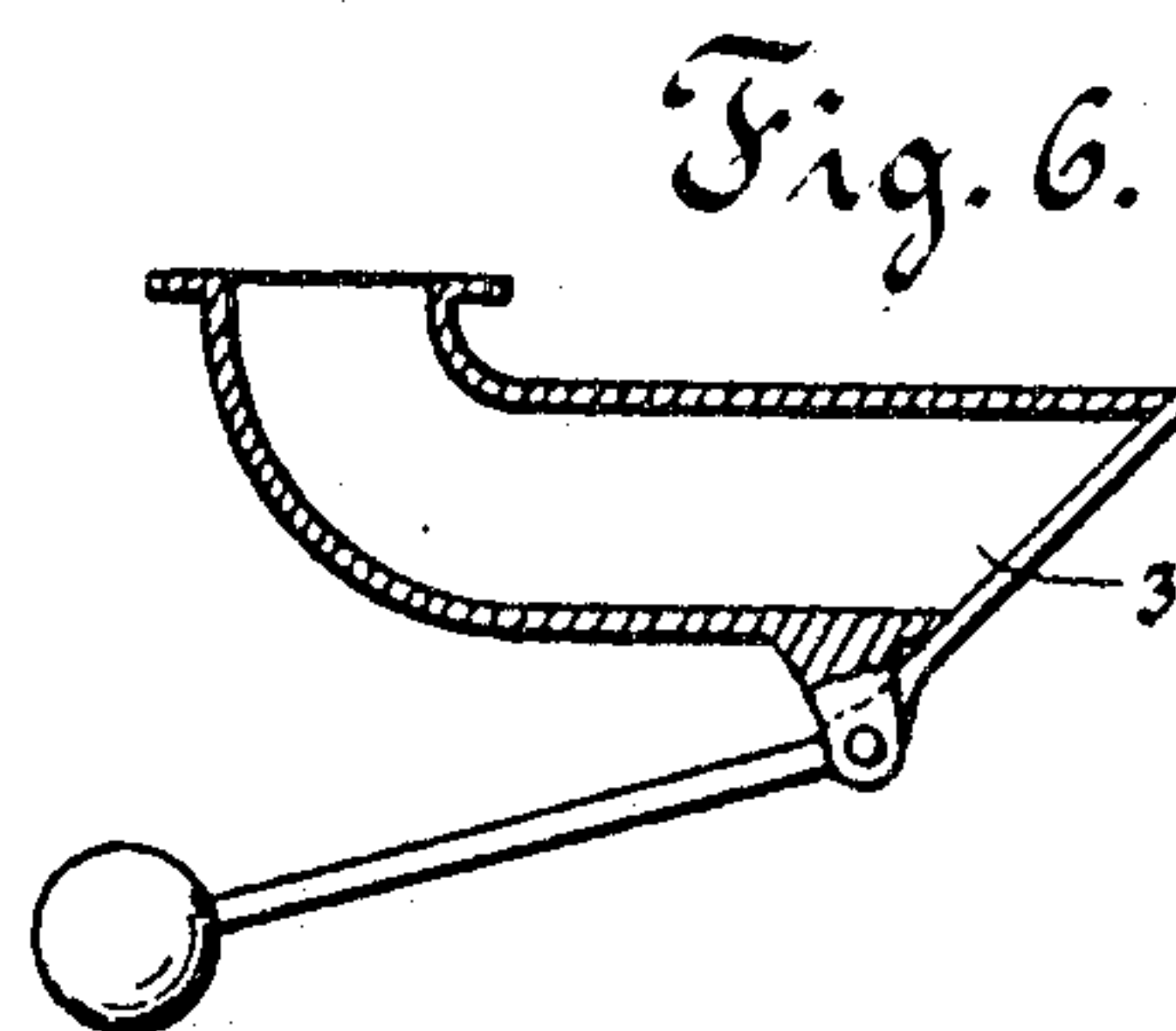
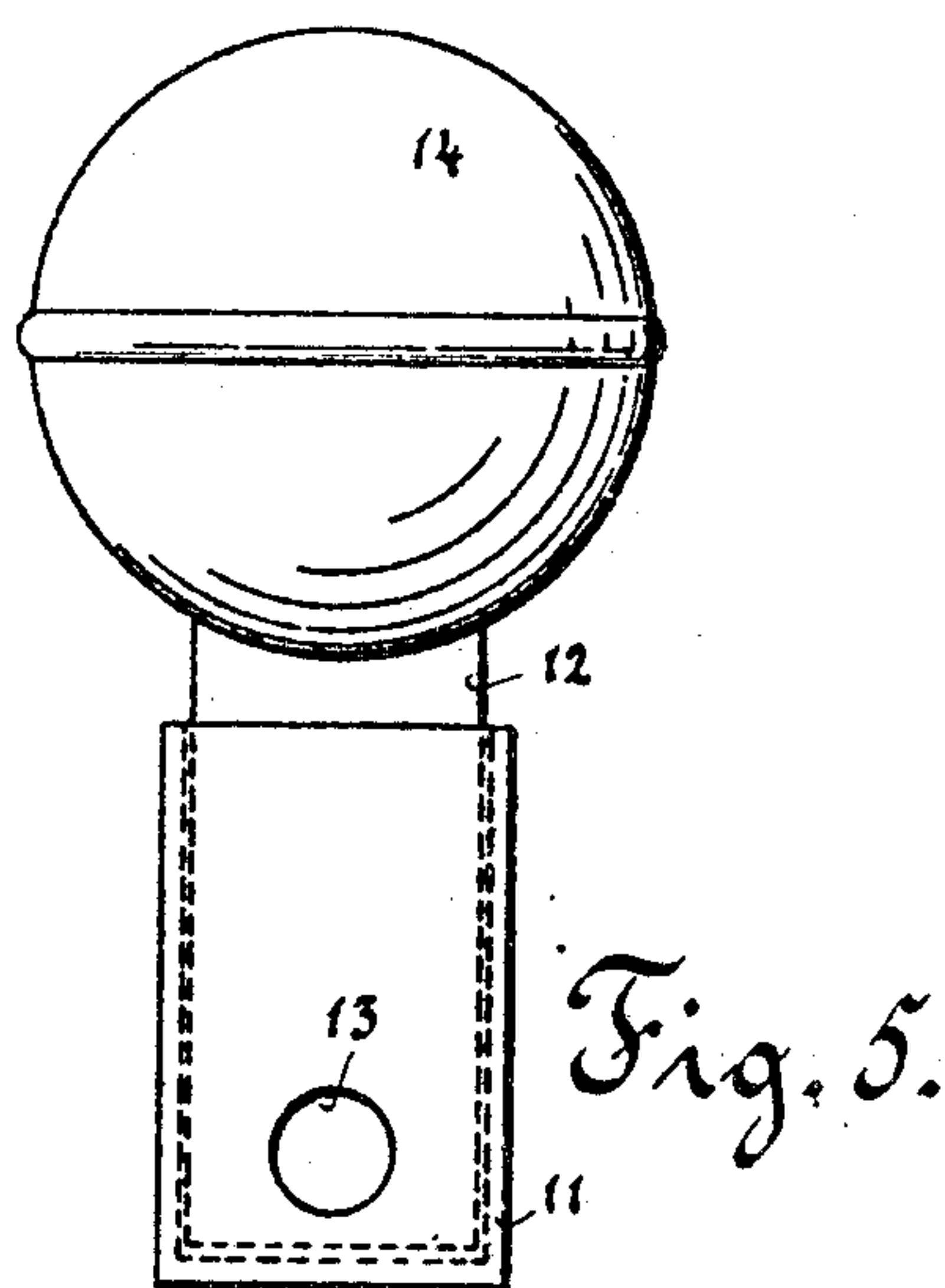
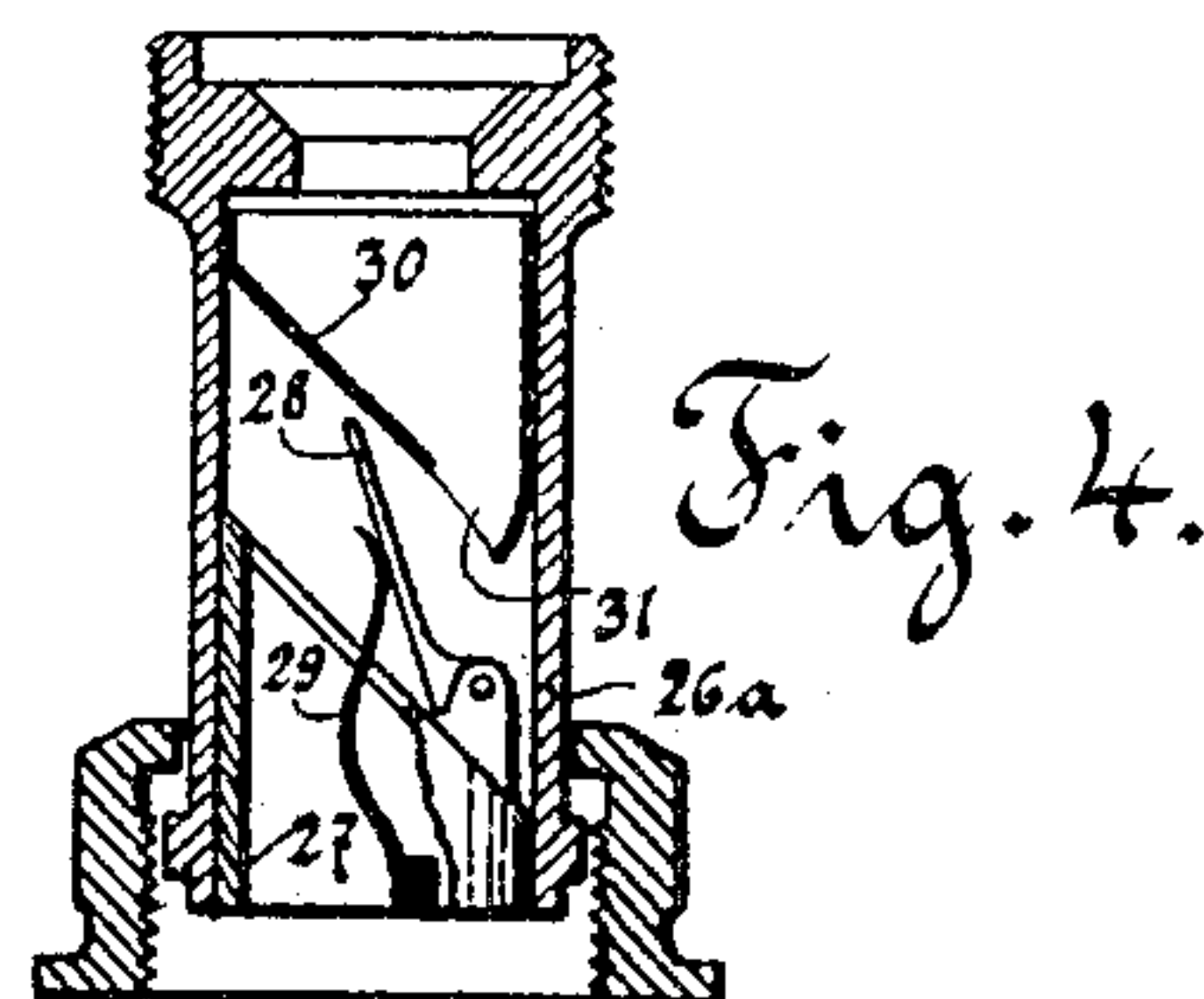
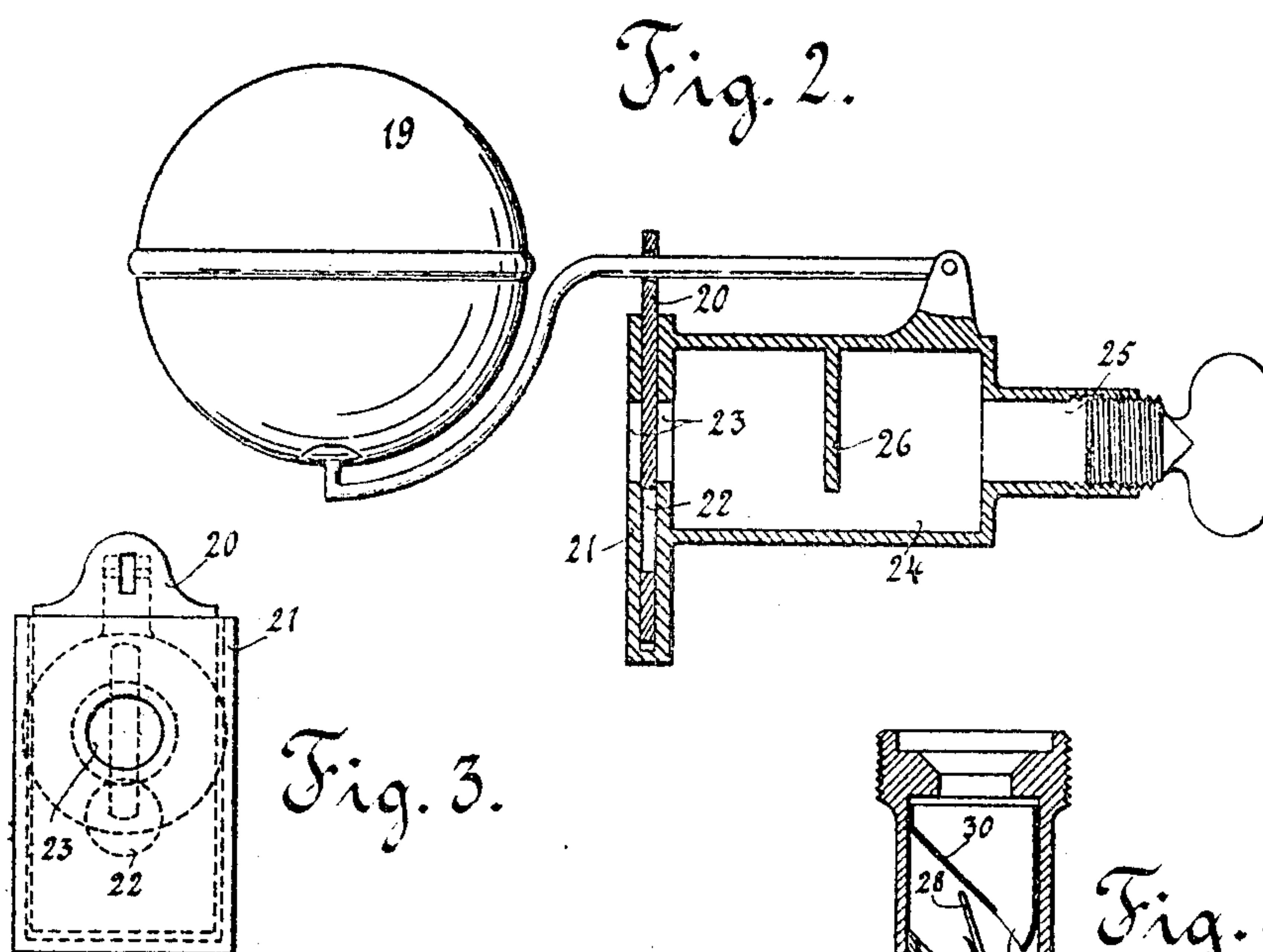
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GERARDO CAFFARO AND JOSÉ VICTOR BRACCO, OF BUENOS AYRES,
ARGENTINA.

GAS-METER.

No. 798,948.

Specification of Letters Patent.

Patented Sept. 5, 1905.

Application filed April 14, 1905. Serial No. 255,644.

To all whom it may concern:

Be it known that we, GERARDO CAFFARO, mechanical engineer, and JOSÉ VICTOR BRACCO, employee, subjects of the King of Italy, residing at No. 745 Calle Tucuman, in the city of Buenos Ayres, Argentina, have invented certain new and useful Improvements in Gas-Meters, of which the following is a specification.

10 This invention relates to improvements in gas-meters, and more particularly to means connected with the same which insure their constant exact working and prevent these apparatus from being tampered with.

15 A further advantage of these improvements is that the necessary amount of water may be constantly kept in the apparatus without the necessity of looking after the same and filling in additional water as often as heretofore, it being besides impossible to withdraw from the apparatus any such amount of water as may interfere with the accurate function of the gas-meter, and the construction of the several parts is such that no instruments or
25 other foreign matter may be introduced into the same for the purpose of interrupting or disturbing the measuring appliances.

To facilitate the understanding of our invention, a gas-meter constructed in accordance
30 with the same has been represented in the accompanying drawings, wherein like figures of reference indicate like parts in all the views.

In said drawings, Figure 1 is a front view of the gas-meter, with parts thereof in vertical section. Fig. 2 shows a sectional view of a slide-valve provided with a float for letting out any superfluous water. Fig. 3 is a front view of said slide-valve with parts shown in dotted lines. Fig. 4 is a central vertical section of a feed-valve through which the gas passes from the gas-meter to the distributing-pipes which lead to the burners. Fig. 5 is a front view of another slide-valve with float which prevents the escape of gas through the
45 water-compartment as well as the withdrawal of water from the measuring-chamber, and Fig. 6 is a sectional view of a counterbalanced flap-valve which prevents the gas from returning to and air-currents from entering the
50 mains.

Referring to Fig. 1, the gas enters from the mains through the inlet-pipe 1 into the compartment 2 and thence through the counter-

balanced flap-valve 3 into the measuring-chamber 4, and here it enters the tube 5 and passes 55 through compartment 6 upward to the outlet. The measuring appliances and their arrangement are of the common type and will therefore not further be described. 7 is the compartment for filling in the water, provided 60 with the inlet 8. At a certain height a curved tube or siphon 9 is connected with its upper end to the partition-wall 10, and at its lower end a rectangular vertical casing 11 is secured. (See Fig. 5.) Within this casing 11 slides 65 the slide 12, which normally closes the port 13 of the casing. To the upper end of the slide 12 a float 14 has been fixed, which when the water in the compartment surpasses a certain height causes the slide 12 to ascend. Beneath the opening 8 a plate 15 has been fixed, 70 so as to protect the float 14 from being pushed down or disturbed otherwise. When the level of the water in compartment 4 has reached a certain height, all such additional water as 75 may enter into said compartment will flow out through the upper end of the tube 16, leading through the bottom 17 of compartment 4 into the compartment 18, where it remains until it also surpasses here a predetermined level, 80 whereupon the float 19 will ascend and lift the slide 20, provided in the casing 21, so that its opening 22 (see Fig. 2) corresponds with the openings 23 of the casing, by which the water will thus be allowed to flow out through 85 the tube 24 and spout 25. A vertical transversal partition 26 has been provided in the tube 24, so as to protect the slide-valve 20 from being operated upon in any undue manner by means of a tool or the like. The valve 90 26^a, provided at the outlet of the gas-meter, is of such particular construction that it will only allow of the passing of the gas-current in one direction—that is to say, from the gas-meter to the burner-pipes—so that a current 95 going in the opposite direction, such as might, for instance, be produced by blowing into the pipe above the valve-casing 26^a for the purpose of causing the indicators to move backward, will not pass. 100

As may be seen in Fig. 4, in the lower part of the valve-casing 26^a a short tube 27 has been fitted, of which the upper beveled end is liable to be closed by a flap 28, which is, however, normally held open by the spring 29, so 105 as to allow the gas to pass upward through

the valve. In order that this flap 28 may be closed when an air-current is blown from above into the valve-casing, a kind of funnel 30 is fitted into the upper end of the valve-casing, with its outlet 31 arranged in such a way as to direct said air-current directly upon the flap 28, which will be pressed down onto the tube 27 against the resistance of the spring 29, so that the communication between the pipe or the valve 26^a and the gas-meter is cut off during all such time as an air-current or other is being forced down into the valve.

The float 14 by means of its slide 12 normally keeps shut the opening 13 of the casing 11; but when water is being filled in the compartment 7 the float, which will ascend with the level of the water, lifts the slide 12, so that the water is now free to pass through the opening 13 and tube 9 into compartment 4, where its level is always constant, owing to the superfluous water passing through tube 16 down into compartment 18. From this it will be gathered that the gas cannot at any time pass from compartment 4 to the chamber 7, since when there is little water in this latter the float 14 and slide 12 keep the communication 13 shut by their own weight, and as long as a high-water level keeps the float, with its slide, afloat the water flowing during that time from compartment 7 to the chamber 4 does not allow of any gas passing in the opposite direction. It will also be seen that it is quite impossible to withdraw any water from compartment 4 through the compartment 7, since although all the water contained in this latter compartment had been pumped out by introducing a rubber tube or other into the opening 8, the communication 13, which is in that case kept perfectly closed by the slide 12 with float 14, will not admit of any water being drawn by suction from compartment 4 into compartment 7.

The flap-valve (represented in Fig. 6) will prove very useful in the case that, owing to a defective operation of the valve 26^a, a person should try to force an air-current down through this valve into compartment 4 for the purpose of moving the indicators backward such current would pass to a very limited extent only, since as said flap-valve 3 will not allow of any return-current therethrough to the mains the air-pressure produced in the chamber 4 would soon render impossible the introduction of any more air.

Having thus clearly described and ascertained our said invention and in what manner the same is to be performed, we declare that what we claim, and desire to secure by Letters Patent, is—

1. In a gas-meter, the combination with a measuring-chamber, of a liquid-compartment, a siphon mounted in the latter and communi-

cating with the former, a valve for closing the siphon and a float for operating said valve.

2. In a gas-meter, the combination with a measuring-chamber, of a liquid-compartment normally open to the atmosphere, a siphon mounted in the liquid-compartment and entering the measuring-chamber, a casing on the lower end of the siphon, a slide-valve mounted in the casing and a float mounted on said slide.

3. In a gas-meter, the combination with a measuring-chamber and a communicating liquid-compartment, of a waste-chamber communicating with the measuring-chamber and a valve in the waste-chamber automatically operable by a predetermined amount of water in said chamber.

4. In a gas-meter, the combination with a measuring-chamber, a water-compartment and a waste-chamber communicating with the measuring-chamber, of means for regulating the discharge from the waste-chamber comprising a conduit leading from the chamber, a valve for normally closing one end of said conduit and a float for operating said valve.

5. The combination with the waste-chamber, of a conduit communicating with the atmosphere, a slide mounted on one end of said conduit adapted to close the same and having an opening adapted to register with the opening of the conduit, a float to operate said slide, and a partition in said conduit, for the purpose specified.

6. A gas-meter having an outlet-port through which a current can flow in one direction only, comprising a gravity-operating element, a seat therefor, and means above said element to direct a reverse current onto the same.

7. A gas-meter having an outlet-port designed to permit a current of gas to flow in one direction only, comprising a casing, a gravity-operated flap pivoted therein, a seat for said flap, and means above the latter to direct a reverse current onto the top of the flap.

8. A gas-meter having an outlet-port designed to permit a current of gas to flow in one direction only, comprising a casing, a diagonally-disposed seat in said casing, a gravity-operating flap pivoted above said seat and adapted to close the same, a spring to normally hold the valve off its seat, and a deflecting surface mounted in the casing parallel with the valve-seat, for the purpose specified.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, at Buenos Ayres, this 10th day of March, 1905.

GERARDO CAFFARO.
JOSÉ VICTOR BRACCO.

Witnesses:

ALFREDO FENER,
P. AUTO. L. BELLA.