

(No Model.)

J. DODD.
GAS METER.

No. 573,399.

Patented Dec. 15, 1896.

Fig. 1.

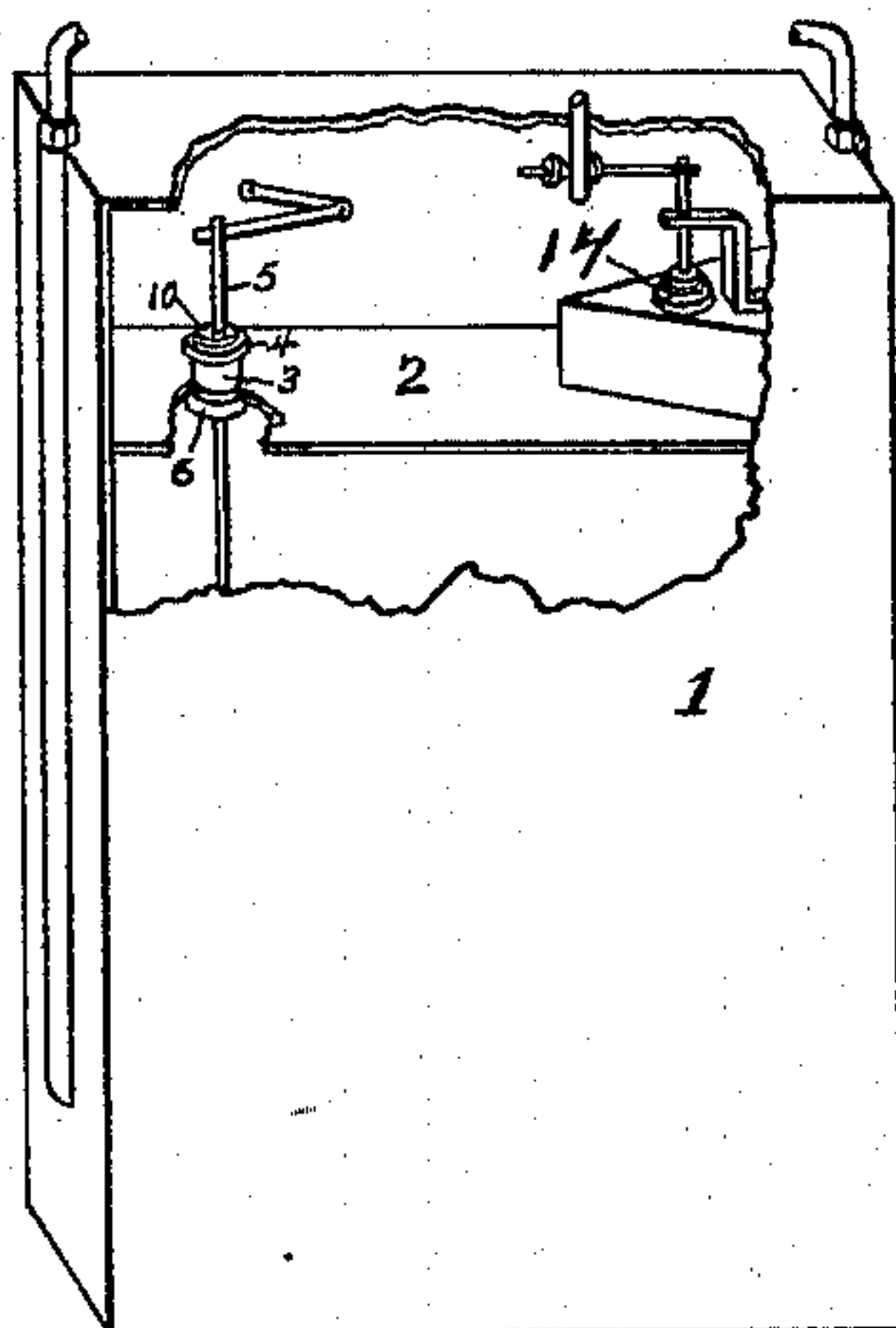


Fig. 2.

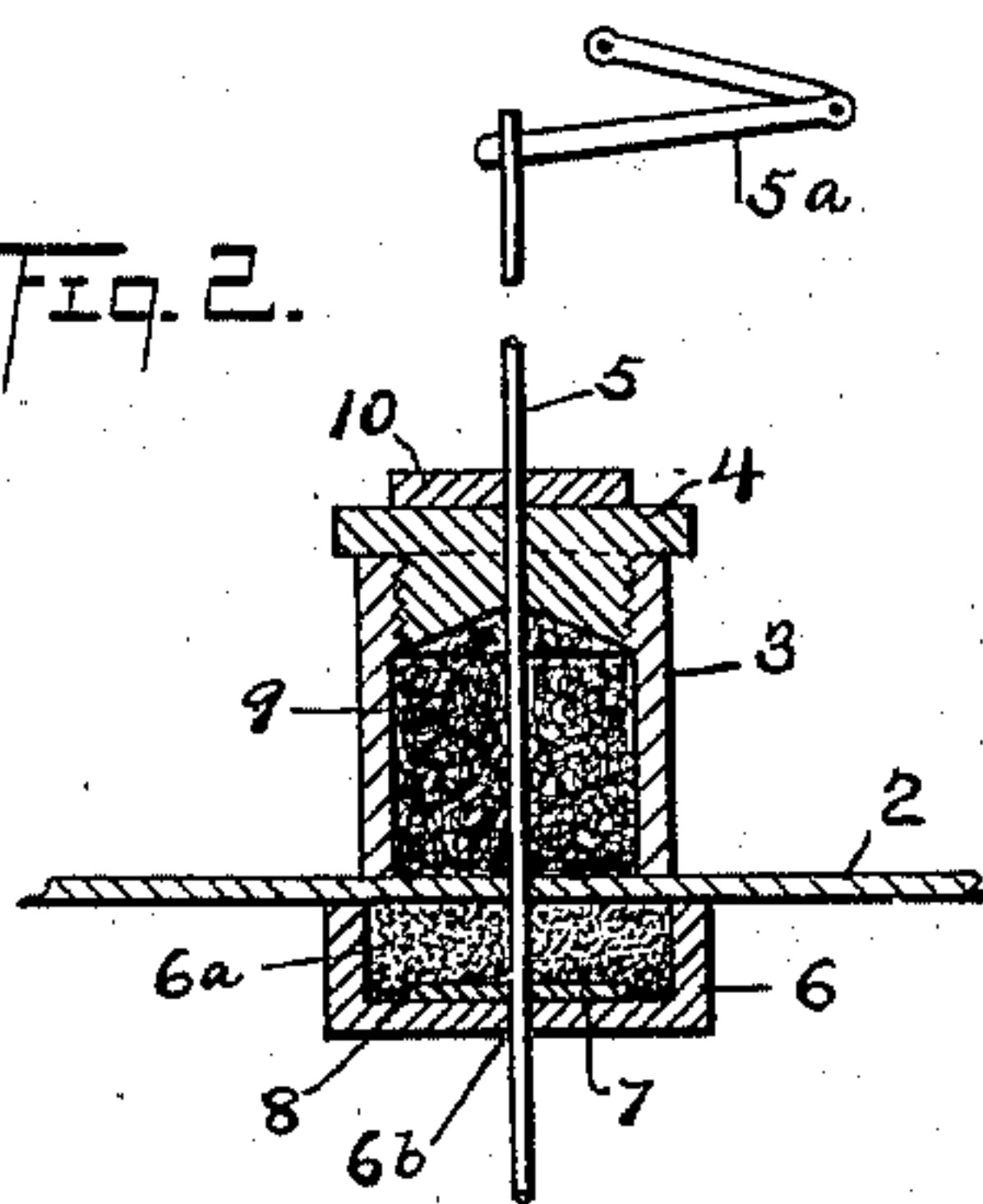


Fig. 3.

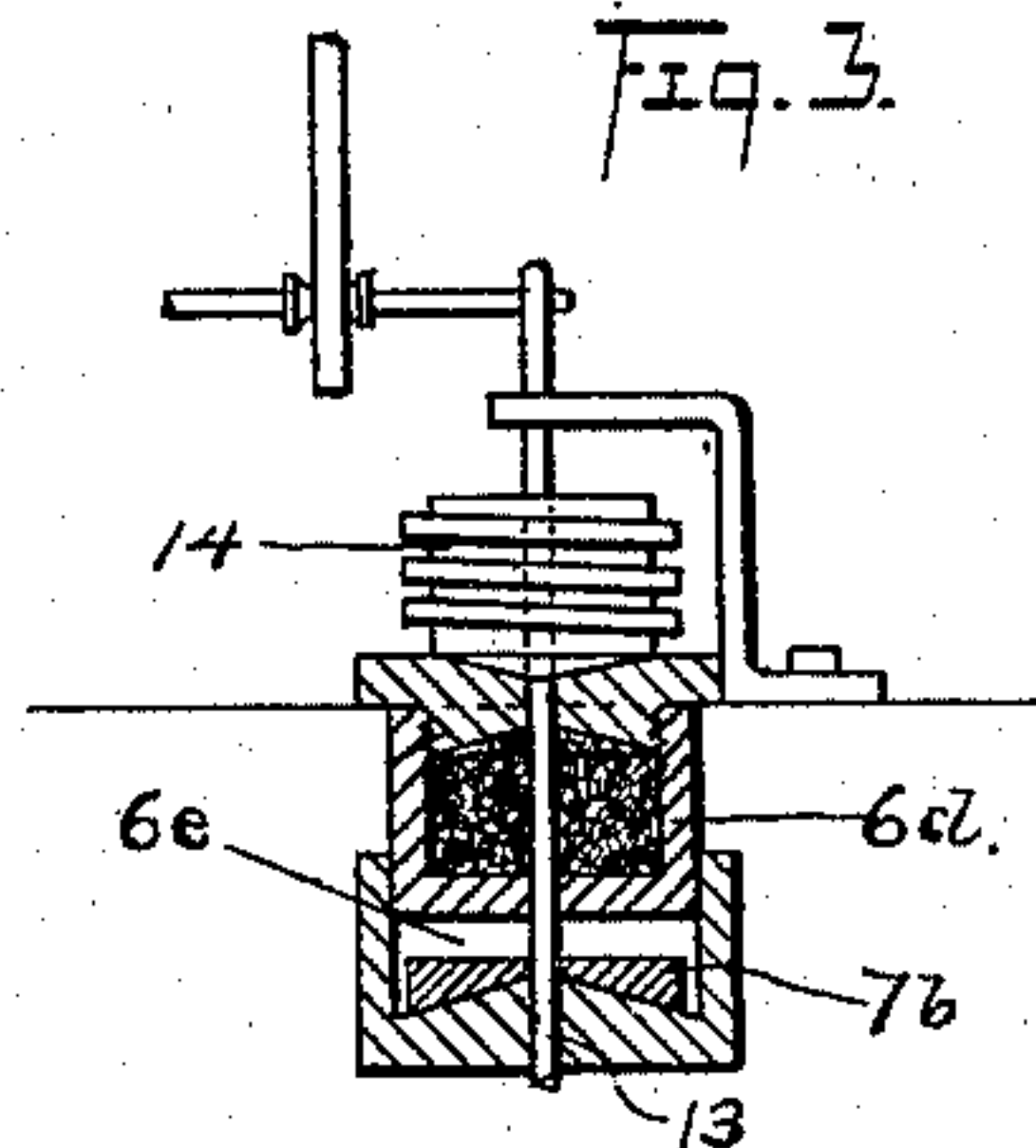
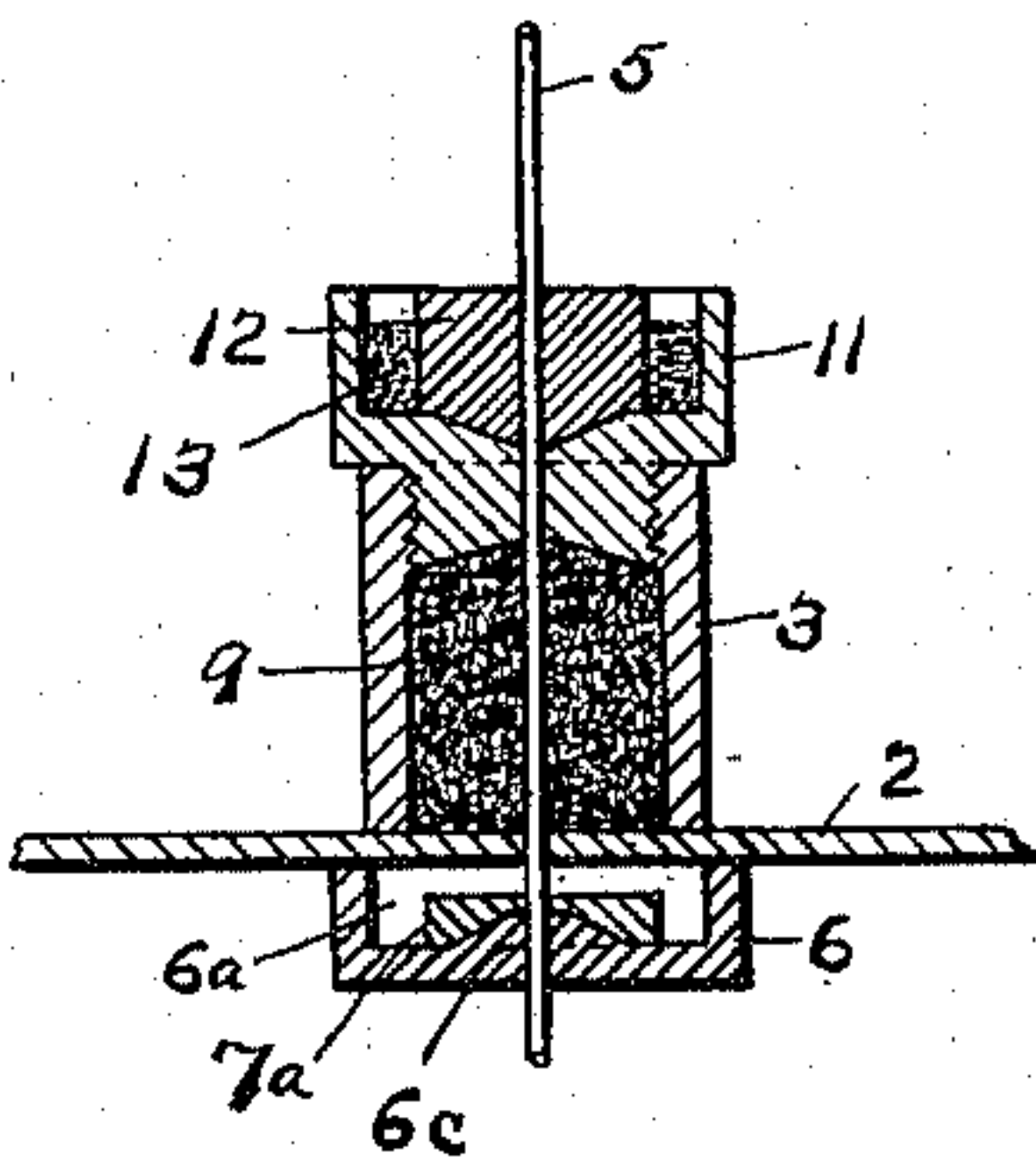


Fig. 4.



WITNESSES

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GAS-METER.

SPECIFICATION forming part of Letters Patent No. 573,399, dated December 15, 1896.

Application filed February 3, 1896. Serial No. 577,886. (No model.)

To all whom it may concern:

Be it known that I, JOHN DODD, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Gas-Meters, of which the following, with the accompanying drawings, is a full, clear, and exact specification.

My invention relates to stuffing-boxes used in gas-meters.

The object of my invention is a simple and an effective improvement or addition to stuffing-boxes in which the flag-rod and other moving parts of a gas-meter turn, whereby the leakage of gas will be effectually prevented.

My invention consists in the details of construction and combination of parts described herein and defined in the claims.

In the drawings, Figure 1 is a front elevation of a gas-meter, part of the front and top walls being broken away to illustrate the application of my invention thereto. Fig. 2 is an enlarged vertical section of my improved stuffing-box, showing its use in connection with the flag-rod. Fig. 3 is enlarged vertical section of the stuffing-box, illustrating a modification of its form and showing its use with the crank-shaft that operates the slide-valve. Fig. 4 is an enlarged vertical section of a stuffing-box with my improvement and is designed to illustrate modifications thereof.

1 is the outer wall of a gas-meter, and 2 is a partition, commonly known as a "floor," that divides the gas-meter horizontally into two compartments—a lower and an upper compartment.

3 is a stuffing-box that is soldered or otherwise attached above to the floor 2 on its upper side and is provided with a screw-cap 4 of the usual construction.

5 is the flag-wire that passes vertically through the stuffing-box and the floor. Underneath the floor 2 is a cup 6, that is soldered to the under side of the floor and has an opening in its bottom through which the flag-wire 5 passes. The opening 6^a in the cup 6 forms a chamber that is adapted to be filled with tallow, oil, paraffin, or other suitable compact lubricant. Fixed upon the flag-rod 5 within the chamber 6^a and so placed as to fit snugly against the bottom of the chamber is a disk 7, that turns with the flag-rod.

The object of the disk 7 is to produce a large bearing-surface from the opening made at 6^b through which the flag-rod passes outwardly therefrom.

In assembling the parts described the stuffing-box 3 with the cap 4 removed is soldered to the upper side of the floor 2. The flag-rod 5 is then inserted in the opening through the bottom of the stuffing-box and passed up through the stuffing-box before the flag-arm 5^a is attached to the flag-rod 5. The cup 6 is then pushed up over the flag-rod 5 below the table and is soldered to the under side of the table 2. Heated tallow, oil, or paraffin is then poured into the stuffing-box 3 and finds its way around the flag-rod 5 into the chamber 6^a and fills said chamber. The tallow is designated by the reference-figure 8. The stuffing-box 3 is then filled with the usual packing 9, and the cap 4 is put in place. I have illustrated a disk 10 fixed upon the flag-rod 5 above the cap 4. This is no part of my invention, but may be added as an additional safe guard against the escape of gas through the stuffing-box, if desired, though I do not deem its use necessary.

The description so far relates to the form of my invention illustrated in Fig. 1 and by Fig. 2. Referring to Fig. 4, the flag-wire 5, the stuffing-box 3, the floor 2, cup 6 with the chamber 6^a are of the same construction as the parts already described in Figs. 1 and 2. In Fig. 4 the bottom of the cup around the opening through which the flag-rod passes is shown as conical, as seen at 6^c. The disk 7^a within the chamber 6^a, attached to the flag-rod, is concaved to fit over the cone bottom 6^c. The chamber 6^a is filled with tallow or paraffin and the parts assembled in the same manner as in the preferred form.

As showing an additional modification of my improvement, instead of putting the cup 6 below the table 2, as so far described, the cup and chamber below the table may be dispensed with and the screw-cap that closes the upper end of the stuffing-box 3 may have a cup 11 formed on its upper side, the disk 12, fixed to the flag-rod 5 within the cup 11, and tallow poured into the cup around said disk, as illustrated. The bottom of the cup 11 in Fig. 4 is illustrated as conical, and the disk 12 is shaped to fit over the conical floor of the cap-cup 11.

Referring to Fig. 3, my improvement is illustrated as applied to the crank-rod 13, that operates the slide-valve of the meter. 6^a is the cup forming a chamber 6^c, the cup having a
5 conical bottom, and a disk 7^b, adapted to fit said chamber-bottom, is fixed to the rod 13 within the chamber. 14 is the worm through which the index-shaft 13 (not shown) is operated.

10 As the other parts of the device are all understood in the art further description of them is unnecessary.

The tallow or paraffin or other compact lubricant with which the chamber referred to
15 is filled makes a complete and perfect seal against the escape of gas therethrough and at the same time keeps the rod or shaft passing through the chamber perfectly lubricated, so as to work easily. I have found in prac-
20 tice that the compact lubricant as it is used by the moving of the parts settles and at all times keeps a perfect seal around the flag-wire and disk and around the crank-shaft and disk. For convenience said chamber and the

compact lubricant therein are referred to in 25 the claims as a "seal-chamber."

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

1. The combination, in a gas-meter, of a stuffing-box, a seal-chamber, a rotatable shaft 30 passing through the stuffing-box and the seal-chamber, and a disk fixed to the rotatable shaft within the seal-chamber, substantially as described.

2. The combination, in a gas-meter, of a 35 stuffing-box, a seal-chamber having a conical or concave bottom, a rotatable shaft passing through the stuffing-box and the seal-chamber, and a disk fixed to the rotatable shaft within the seal-chamber and adapted to fit the 40 bottom thereof, substantially as described.

In testimony whereof I affix my signature, in the presence of two witnesses, this 31st day of January, 1896.

JOHN DODD.

Witnesses:

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