

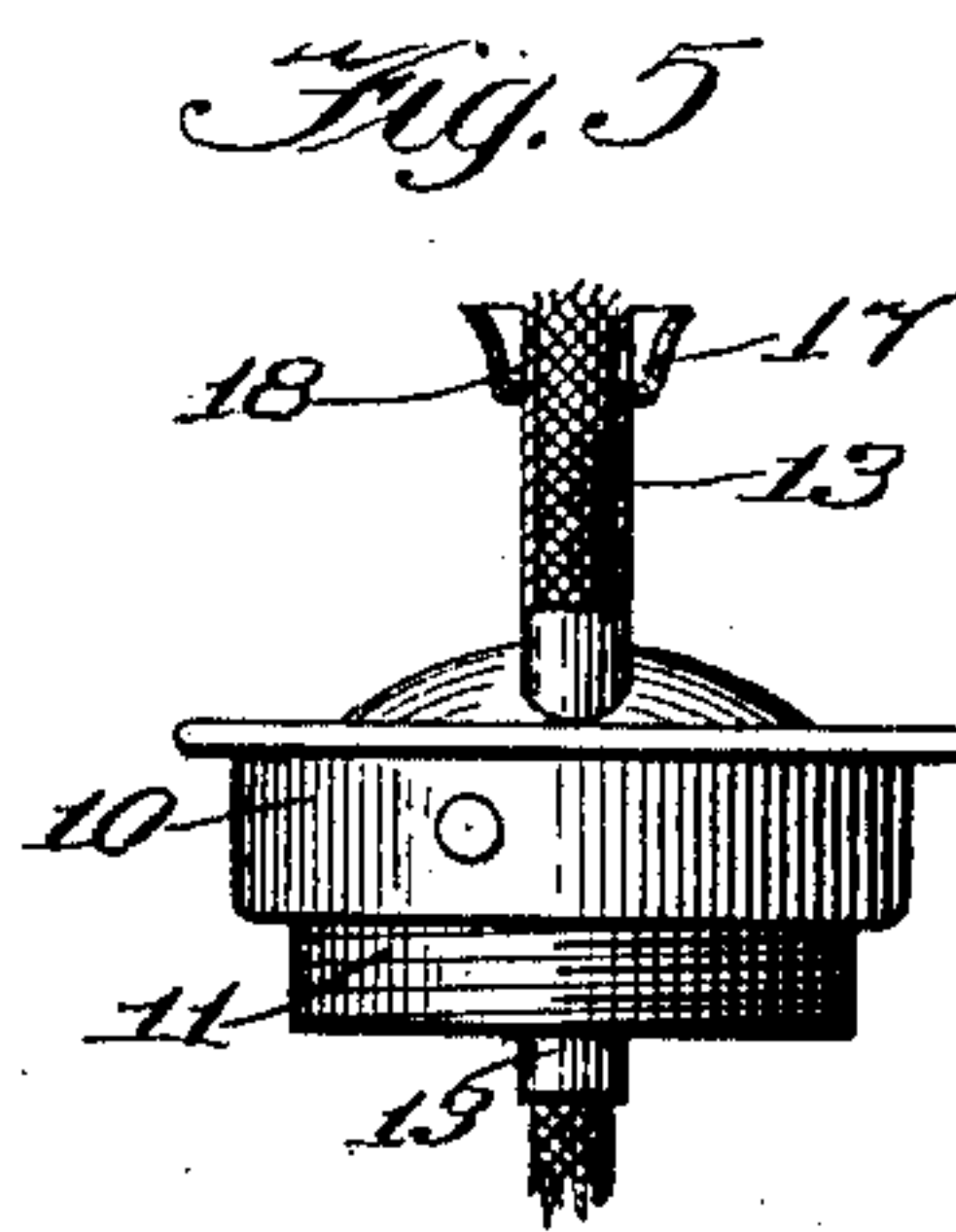
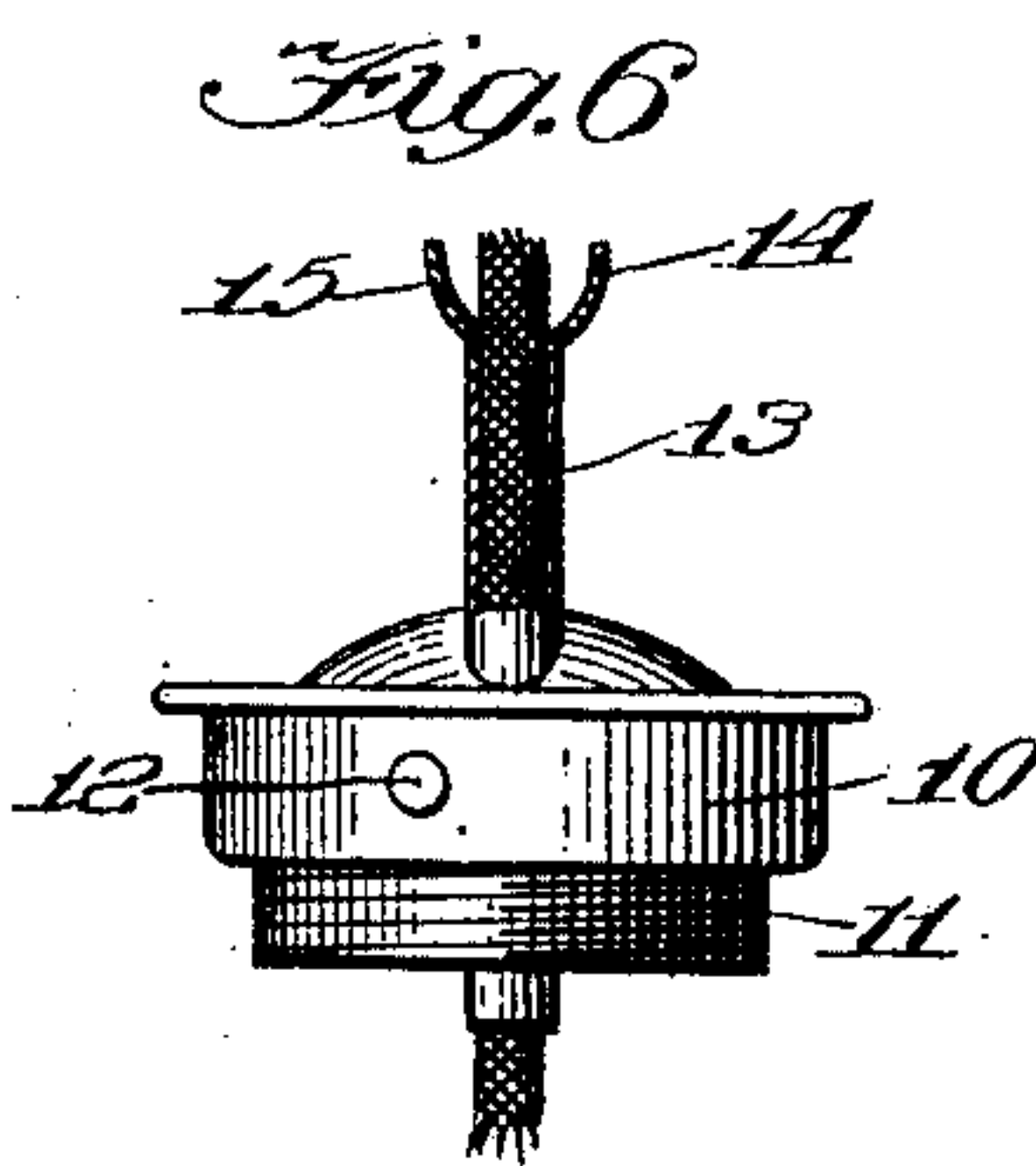
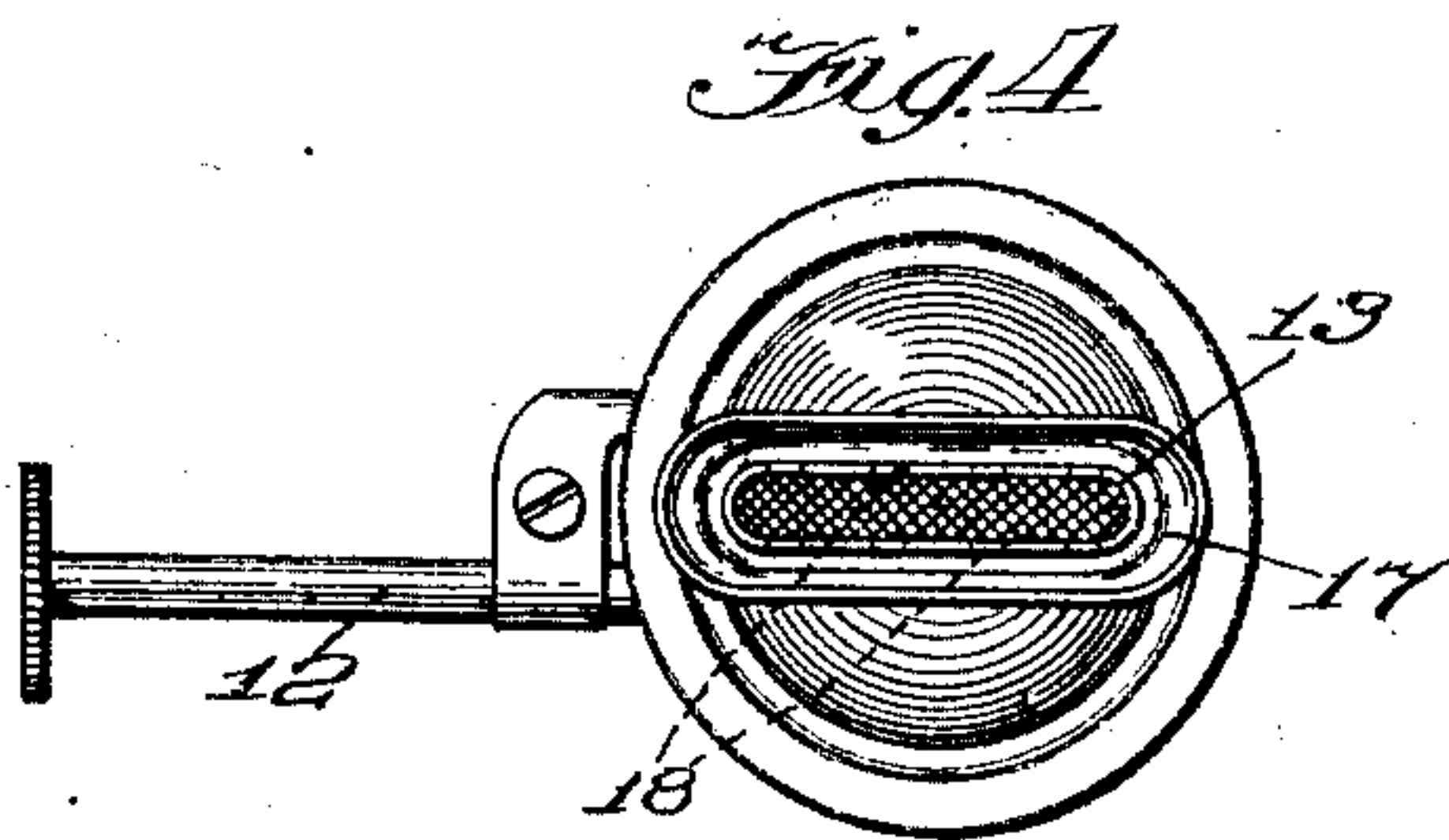
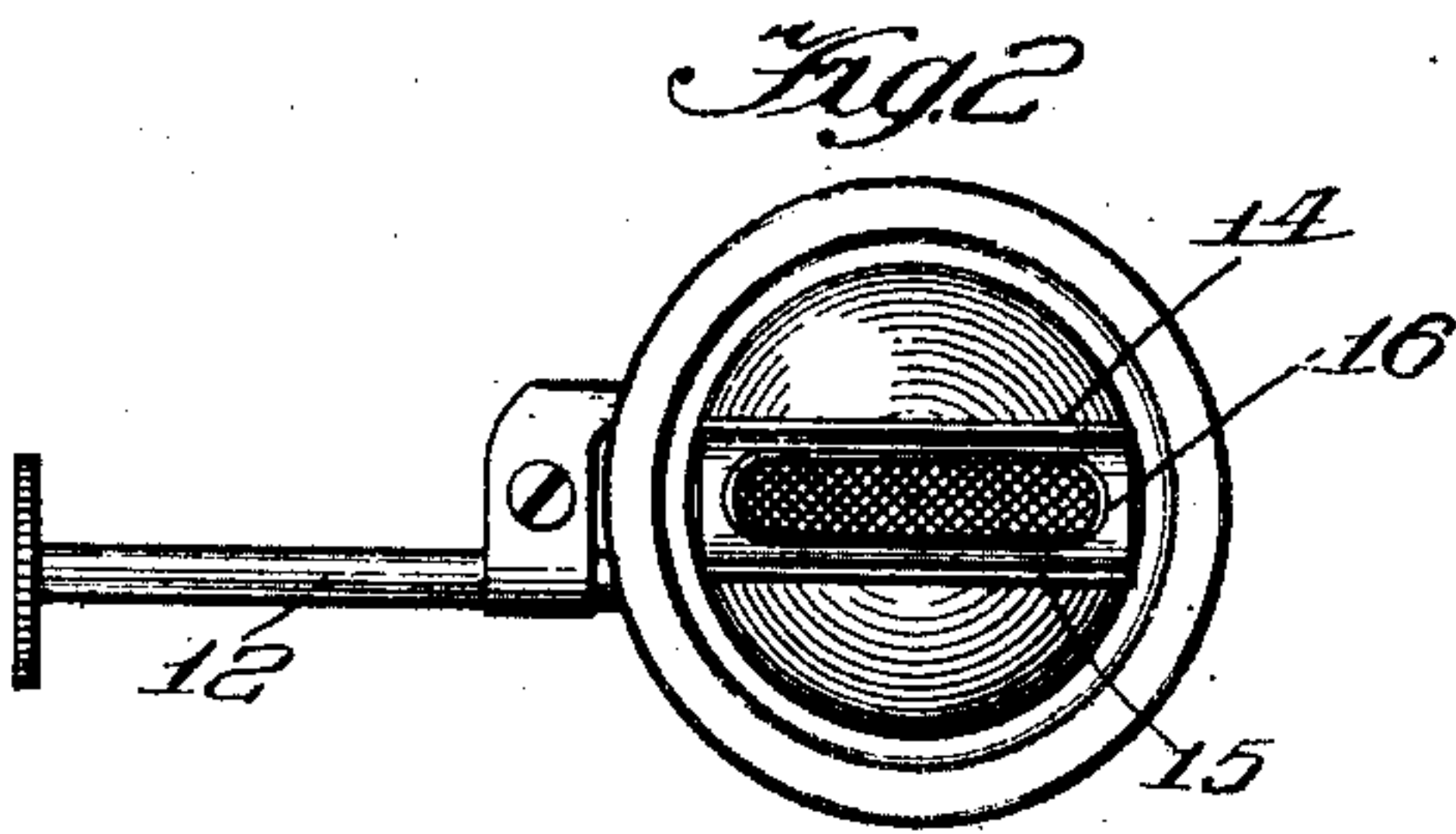
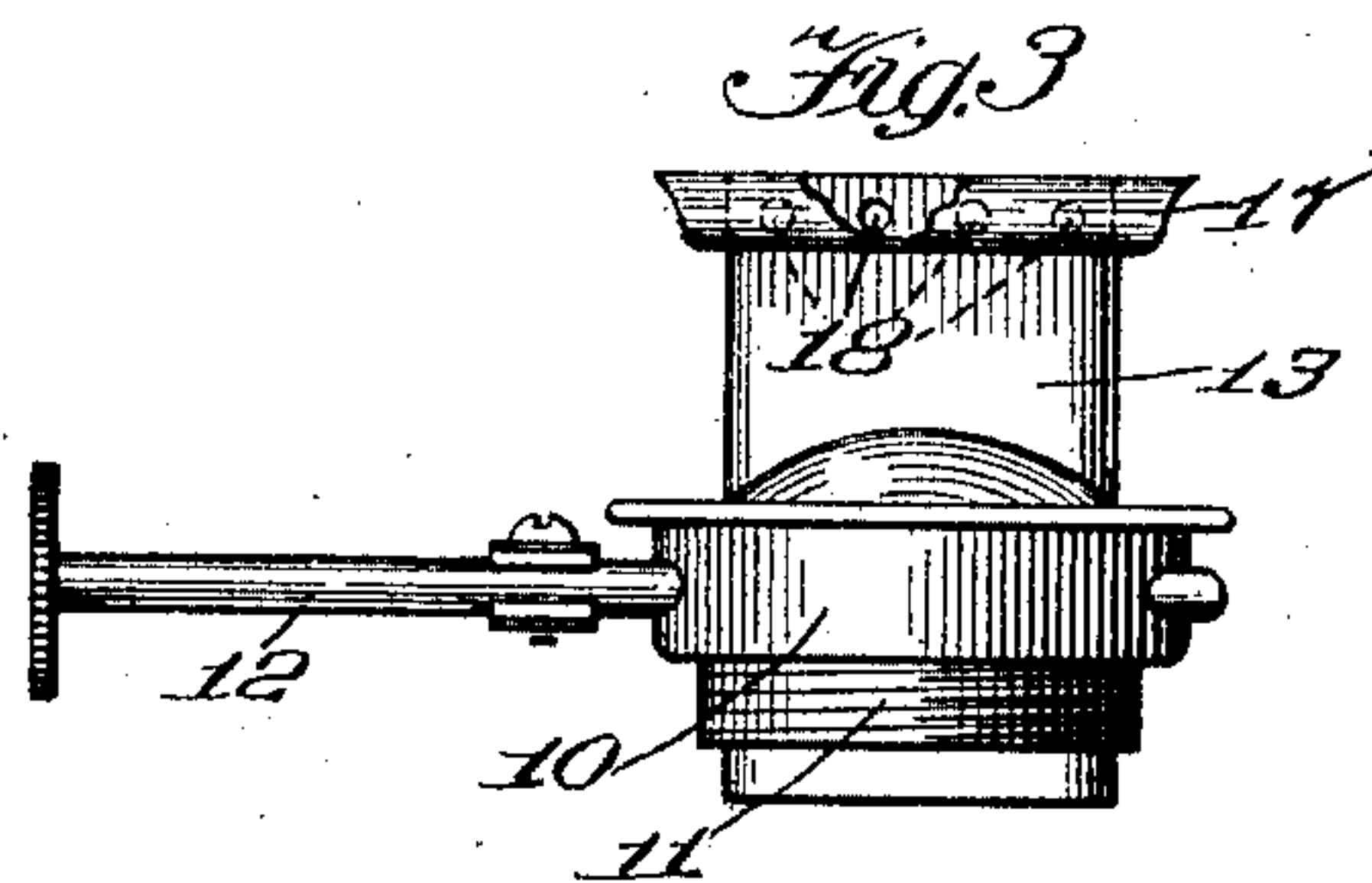
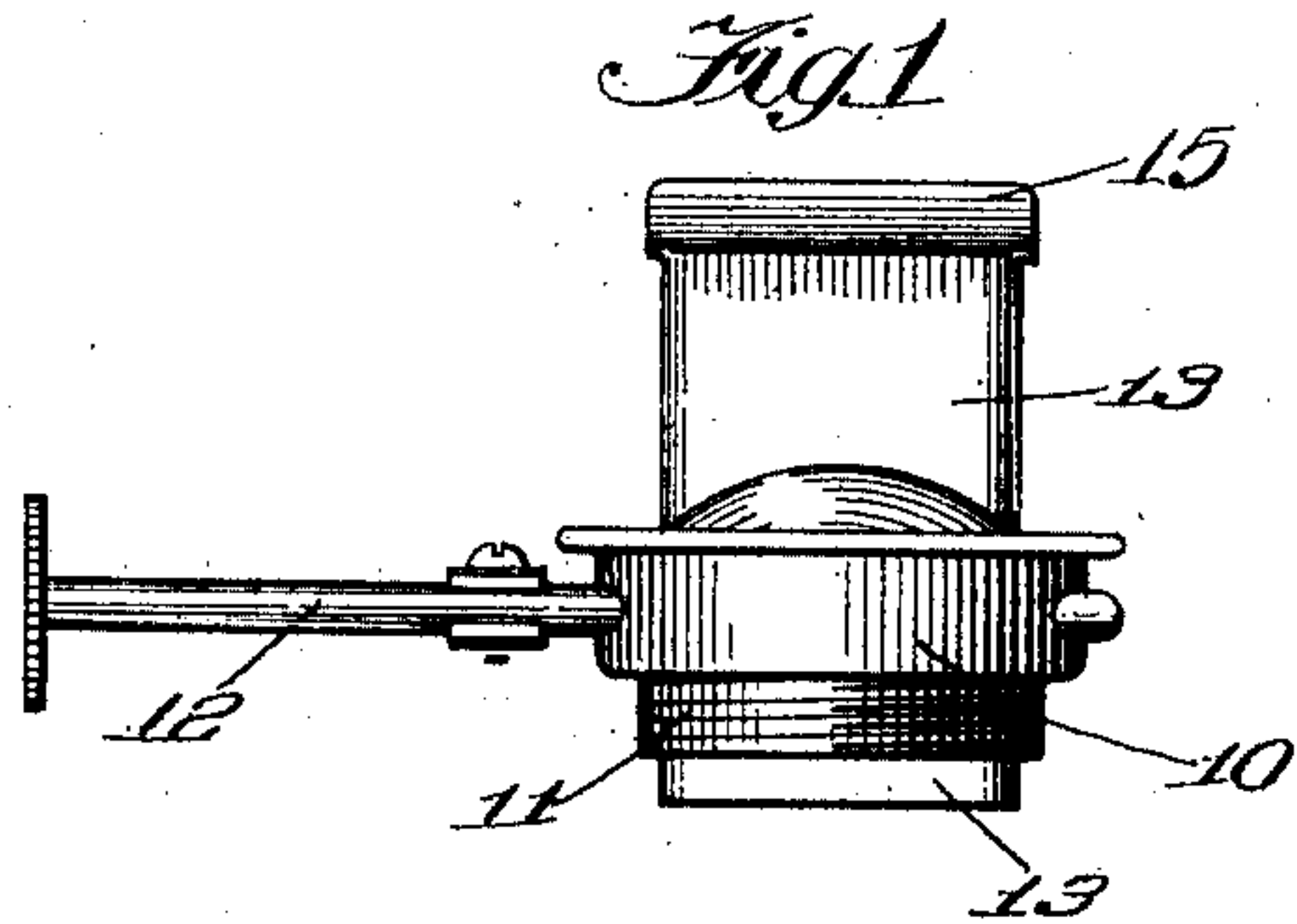
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PATENTED JULY 24, 1906.

W. S. HAMM & C. I. MITCHELL.

LANTERN BURNER.

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UNITED STATES PATENT OFFICE.

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LANTERN-BURNER.

No. 826,934.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM S. HAMM, a resident of Lakeside, and CHARLIE I. MITCHELL, a resident of Chicago, county of Cook, and State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Lantern-Burners, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to burners for lanterns adapted for the use of so-called "signal-oil," which is usually a compound of lard-oil and kerosene, the burner comprising a wick-tube without an inclosing cone, such as is commonly used in connection with kerosene-burners.

The prime object of the invention is to provide against the extinguishing of the flame by downdrafts; and a further object is to provide means for taking care of the overflow of a burner of this kind.

The invention consists in a wick-tube having a flaring flange at its upper end, this flange being located either at the extreme end of the tube or adjacent thereto, and, if located below the end of the tube, drain-ports being provided in the latter within the flange for carrying back the overflowing oil.

The invention is adapted particularly for use in connection with railway-train lanterns. These lanterns are subjected to use in a wide range of varying conditions, and it has been found exceedingly difficult to produce a burner which will meet all of these conditions. One of the obstacles to continuous combustion is found in the fact that lanterns of this character are frequently so used as to cause a temporary reversal of the air-currents, and consequently as the burners have been usually made the flame is apt to be smothered, there not being sufficient air concentrated upon it to maintain combustion. The oil used is sluggish in its action and not as volatile as kerosene, particularly when cool. When a lantern is so made that the temperature of the oil on a cold day may be maintained at such point that the oil will feed to the burner with sufficient rapidity, it is found that when the lantern is kept in a warm room long enough to permit the temperature of the oil in the font to be raised it will feed too rapidly and is apt to run down over the burner and font.

The construction hereinafter described provides for a sufficient concentration of the air upon the wick in the case of a reversal of draft to maintain combustion, and it also provides in one form of construction shown for the return of the oil in case of the overflow referred to.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the burner, showing one form of construction. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation showing a modified form of construction. Fig. 4 is a plan view of the same; and Figs. 5 and 6 are side views of the burner-head, the wick-tube being shown in cross-section, Fig. 5 showing the construction of Figs. 3 and 4 and Fig. 6 the construction of Figs. 1 and 2.

The burner is provided with the usual base 10, having a threaded neck 11 for engaging the font, and the usual wick-controlling stem 12. From the base 10 there rises a wick-tube 13 through the base, usually oblong in plan-section to provide for the use of a flat wick.

At the top of the tube 13 is formed a flaring flange. In the construction of Figs. 1, 2, and 6 this flange takes the form of a pair of wings 14 15, rising from the longer sides of the tube and being inclined outwardly therefrom, preferably being curved or outwardly bowed. These wings may be prolonged beyond the ends of the tube and united together, as shown at 16. In the construction illustrated the wings are formed of a single piece of metal apertured to fit upon the end of the tube and bent to the desired form.

In the construction illustrated in Figs. 3, 4, and 5 the flange at the top of the wick-tube 13 takes the form of a continuous flaring trough 17, secured to the wick-tube a little below its upper end, as shown, the upper edge of the flange and of the tube being approximately in line. When this form of construction is followed, the wick-tube is preferably perforated, as shown at 18, along its flattened sides within the flange and approximately at the base thereof.

When the burner as thus made in either of its forms is in use, the normal or upwardly-flowing air-currents find free access to its tip and maintain combustion as perfectly as if the flanges were not present. Indeed, the

flame is rendered more steady by their use, as it is guarded from the distorting effect of excessive drafts due to high winds or other causes. Should the air-currents be reversed
5 by the sudden dropping of the lamp, due to its sudden stop in case of rapid descent, as in some forms of signals used by railway men, or should they be reversed from any other cause, enough air will be caught by the flange
10 or flanges and deflected upon the flame to maintain combustion.

We claim as our invention—

1. A domeless lantern-burner having a wick-tube provided with an upwardly-in-
15 clined flaring flange at its upper end.

2. A domeless lantern-burner having a wick-tube provided with an imperforate up-

wardly-inclined flaring flange at its upper end.

3. A domeless lantern-burner having a wick-tube provided with a continuous imperforate upwardly-inclined flaring flange adjacent its upper end. 20

4. A domeless lantern-burner having a wick-tube provided with a continuous imperforate upwardly-inclined flaring flange adjacent its upper end, the tube being perforated within the flange. 25

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