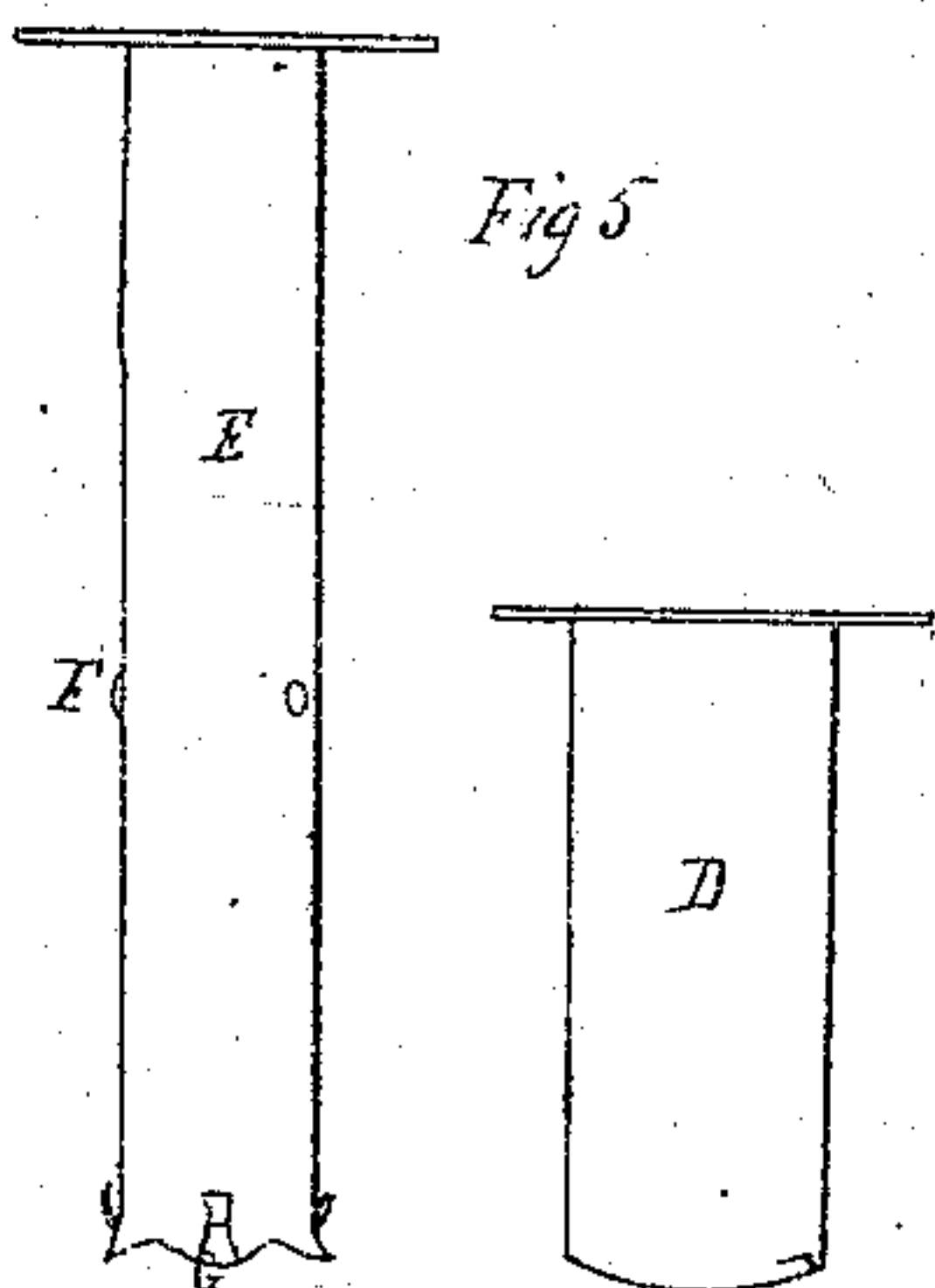
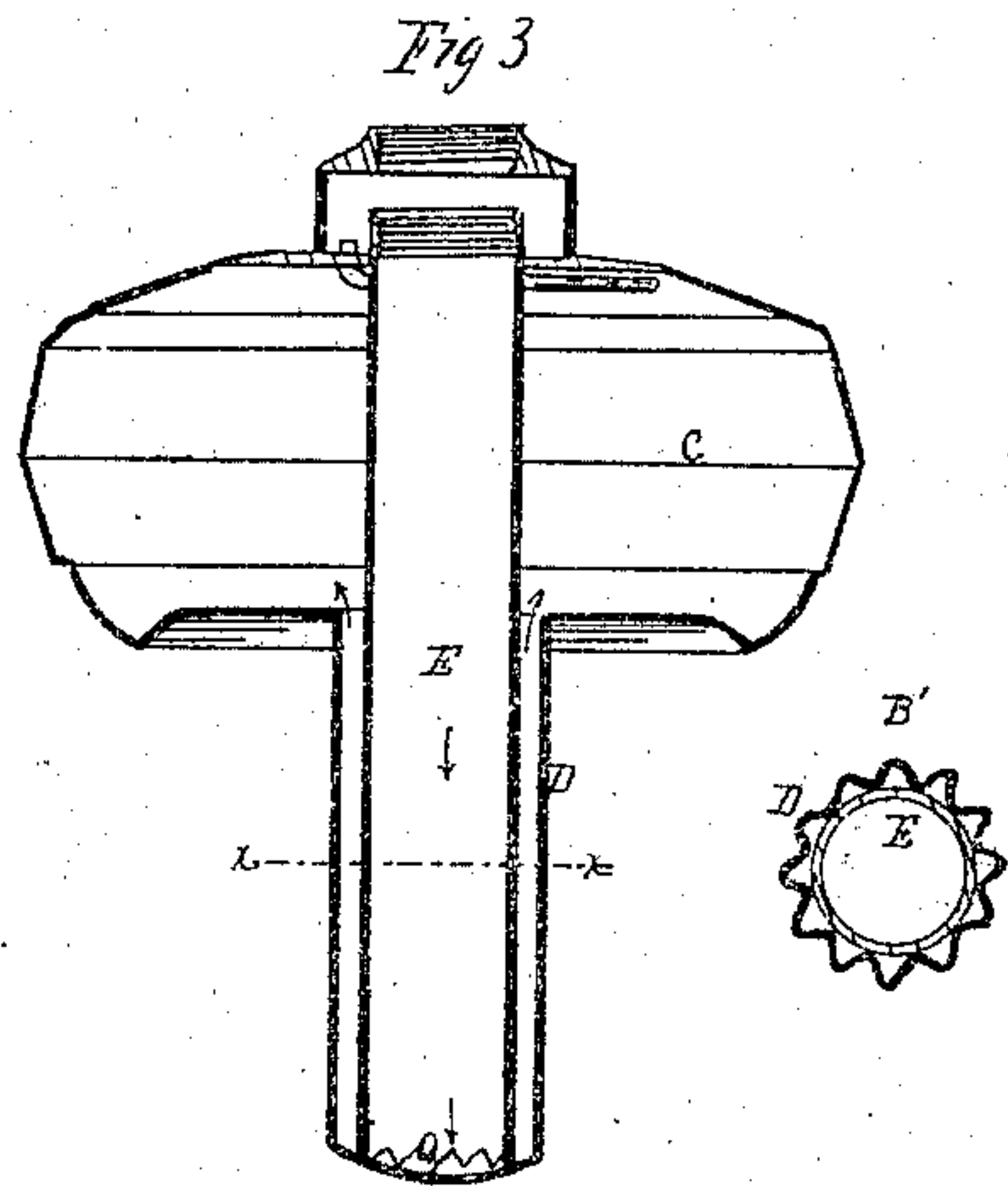
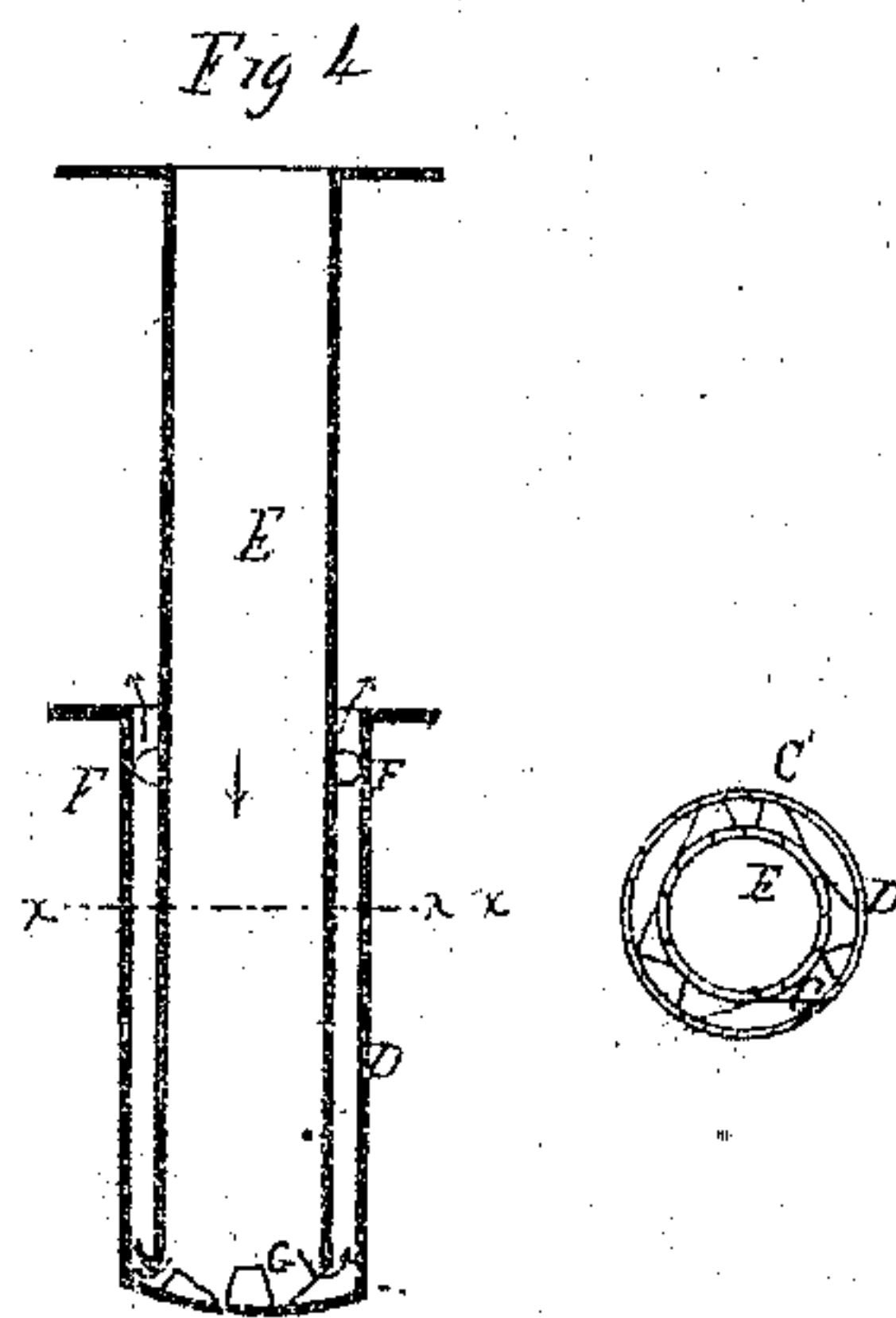
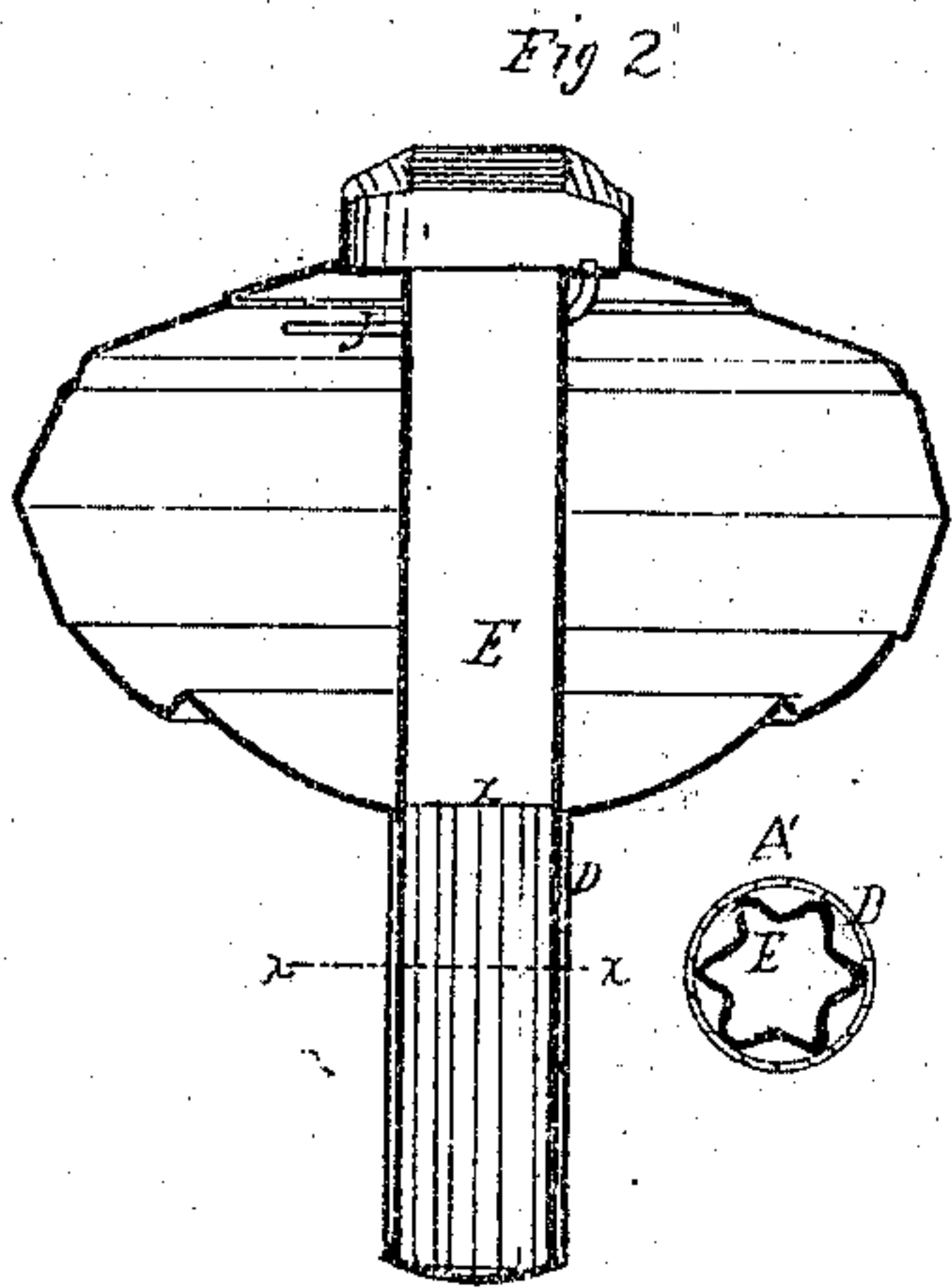
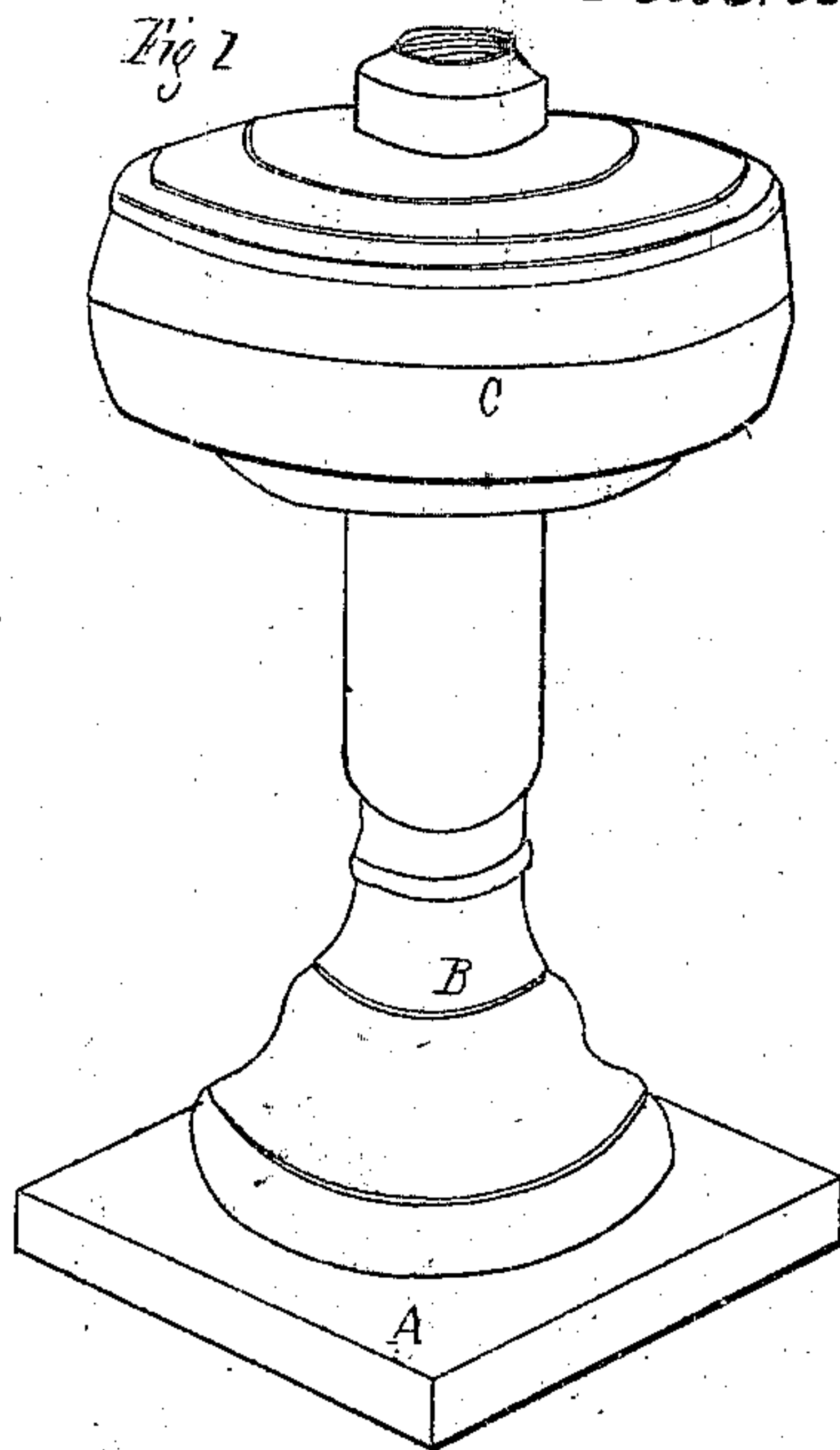


# J. Ingersoll, Lamp.

N<sup>o</sup> 74,542.

Patented Feb. 18. 1868.



# United States Patent Office.

JOHN INGERSOLL, OF CLEVELAND, OHIO.

*Letters Patent No. 74,542, dated February 18, 1868.*

## IMPROVEMENT IN LAMPS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN INGERSOLL, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Lamps; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the lamp.

Figures 2 and 3 are vertical transverse sections.

The other figures are detached sections, to which reference will be had.

Like letters of reference refer to like parts in the several views.

A, fig. 1, represents the base or pedestal of the lamp, and B the standard, to which the globe or oil-chamber C is attached, all of which is or may be constructed in the ordinary way and of such material commonly used in the manufacture of lamps. Descending from the bottom of the globe is a tube, D, fig. 2, closed at the end and fitted to the socket of the standard, whereby the globe is supported and connected to the base. Descending from the under side of the top of the globe is a tube, E, of sufficient length to reach through the globe, thence to the bottom of the tube D. This tube E has a plain, smooth surface down to the point *x*, where it enters the tube D; thence downward it is corrugated, as shown in the transverse supplementary figure A'. Fig. 3 is a modification of fig. 2, the difference consisting simply in corrugating the outer tube D, instead of the inner one E, and continuing the plain, smooth surface of the inner tube to the bottom, as indicated by the transverse supplementary figure B'. Figure 4 is also a modified construction of the same, in which it will be seen that both tubes are plain and smooth throughout, the tube E being kept from contact with the outer tube or shank D, by the lugs or points F, at the top, and the outward curved points G at the bottom. The respective relation of the two is shown in the transverse supplementary figure C'. It will be obvious that in these various constructions the object to be obtained is a space between the two tubes, the purpose of which will presently be shown.

Having thus described the construction and arrangement of the several parts of the lamp, the practical operation of the same is as follows: The lamp is provided with an ordinary cap-burner and wick, the latter passing down in the tube to near the bottom. The lamp is filled by pouring the oil into the tube from the top, which flows out from the bottom through the openings *a* at the lower end of the tube, thence upward into the globe, as indicated by the arrows.

It is well known that oil-lamps, as ordinarily made, are very liable to explode in consequence of a large accumulation of gas between the oil and the base of the burner, which, on coming in contact with the flame, ignites, and bursts the lamp with great violence and imminent danger of life. A lamp constructed as above described cannot explode, for the reason that the oil is supplied to the wick only through the tube in which it is placed, the large surface of the oil in the globe being shut off from the wick by the tube soldered to the base of the burner, or rather the collar into which the burner is screwed; hence but a very small amount of gas can accumulate about the base of the burner, which is taken up by the saturated wick and burned. The gas that naturally accumulates above the oil in the globe, and which in the lighter oils is quite large, is conducted out from the globe to the burner through the small gas-tube J', figs. 1 and 3, and is then consumed along with the oil carried up by the wick, thereby increasing the intensity of the light without the least danger of explosion. Even should the flame reach the end of the tube, it would not run back in the tube and ignite the gas in the globe, but burn at the end in perfect safety. The lighter or more volatile parts of the oil, on standing in the lamp, ascends to the top, and that of the heavier gravity, which is the least combustible, falls to the bottom; hence, if the oil is burned from the top, its consumption is much more rapid and with an increase of light than if burned from the bottom; therefore, a uniform volume of light is not obtained from all the oil consumed, but by burning the oil from below, as this lamp is designed to do, a greater uniformity in the intensity of the light is obtained by the consumption of the most volatile parts of oil along with the heavy, it being supplied to the burner, as above said, by the small tube J'. Another advantage of this lamp consists in its entire safety while being carried about in the hand. As the large body of the oil is shut off from the burner, it cannot swash up



about the base of the plane, as is the case of the common lamp, which, in consequence, often explodes by the ignition of the oil in actual contact with the flame, or from the increase of gas caused by the agitation ascending up into the burner.

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

Extending the tube E from the top of the lamp down into the hollow stem or shank D, and so arranged, in relation to each other and the globe of the lamp, as to form a passage for the oil between the said tube and shank in filling and in burning, substantially as set forth.

JOHN INGERSOLL.

Witnesses:

W. H. BURRIDGE,

J. HOLMES.