

Samuel W. Fowler. Imp^{ts} in Lamp Burners.

PATENTED JUN 27 1871

116292

Fig. 1.

Fig. 2.

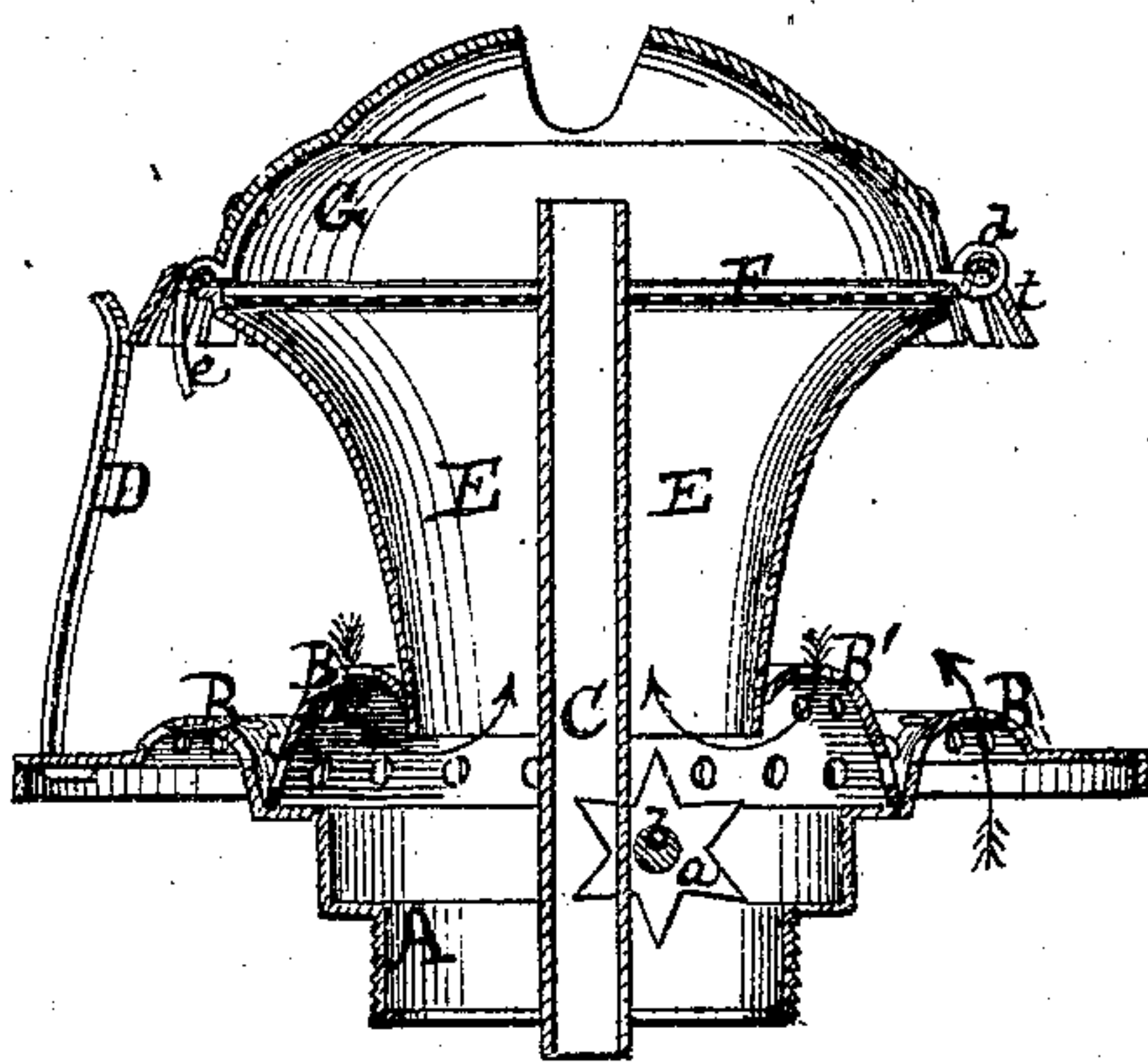
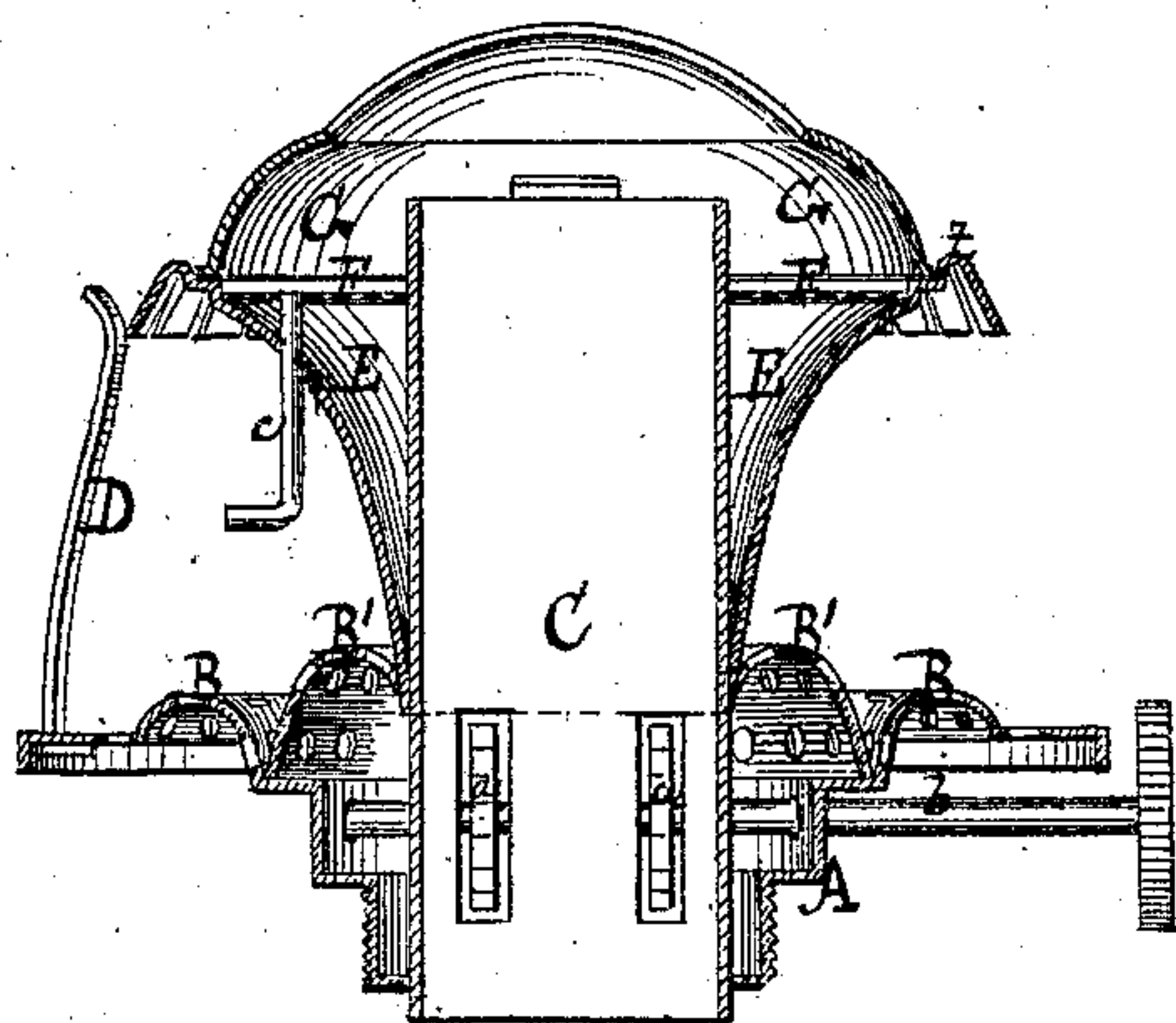
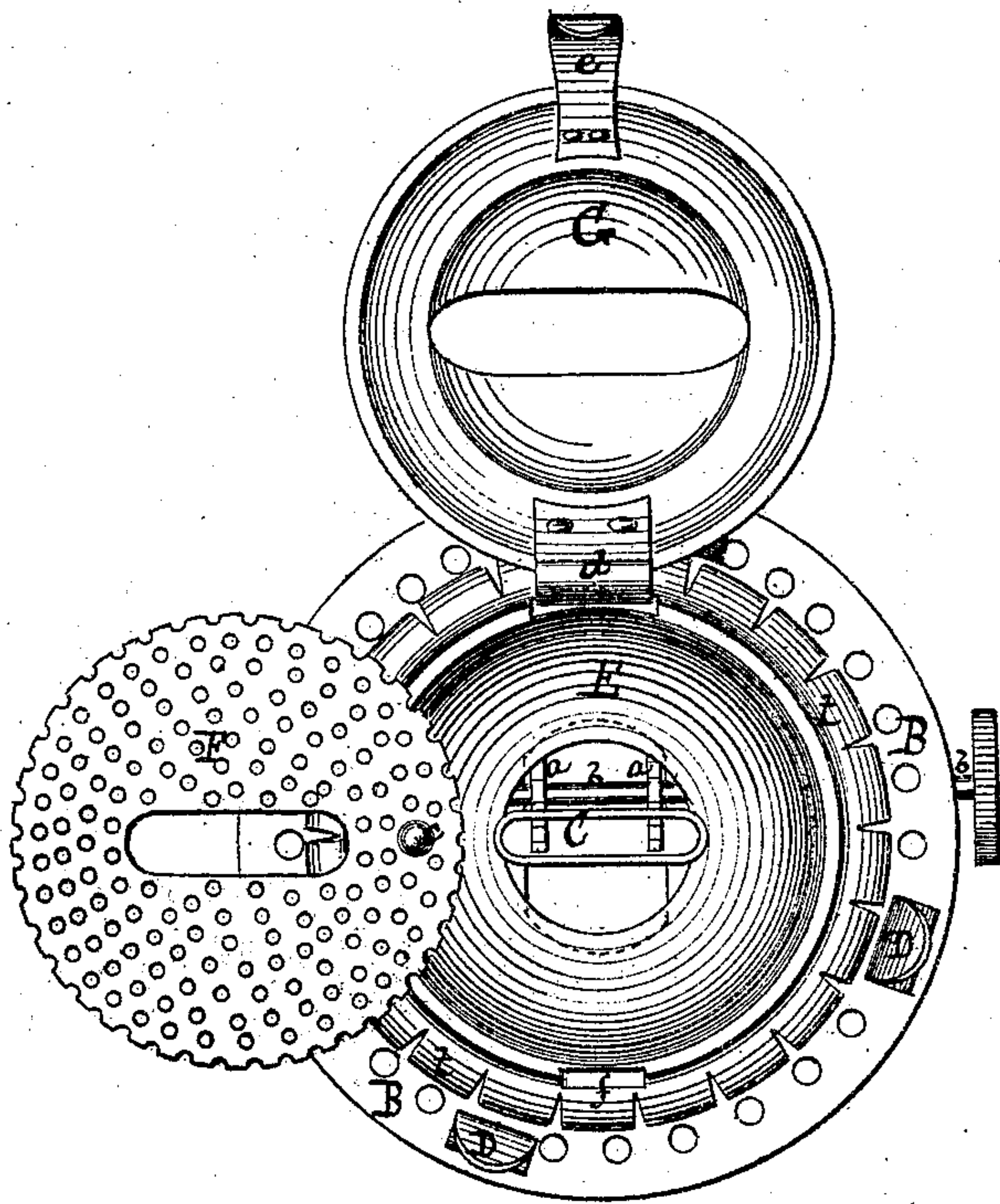


Fig. 3.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

SAMUEL W. FOWLER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. 116,292, dated June 27, 1871.

To all whom it may concern:

Be it known that I, SAMUEL W. FOWLER, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Lamp-Burners; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms part of this specification.

My invention consists in the combination, with the wick-tube and base-plate in a lamp-burner and with a secondary perforated base-plate, of a cylindrical or other-shaped tube which surrounds the wick-tube, whereby the lamp may be replenished with oil without removing the burner, and air be supplied to the flame by being caused to pass up from the base-plate close to the wick-tube, thereby insuring many desirable and important results.

In the accompanying drawing, Figure 1 is a transverse vertical section of a lamp-burner having my improvements applied thereto. Fig. 2 is also a transverse vertical section of the same, the plane of section being at right angles to that of Fig. 1. Fig. 3 is a plan view of the burner, showing the parts in a position for replenishing the lamp with oil.

A designates the body of the burner, and B the perforated base-plate, the latter being provided with a screw for screwing into the collar of the lamp in the usual way, and also with a wick-tube, C, and ratchet-wheel or wheels *a a* and shaft *b* of the usual construction. I preferably stamp the perforated base-plate B and body A out of one piece of metal in a well-known manner. D D are springs projecting upward from the base plate B for holding the chimney, by outside pressure, in a manner at present practiced. I preferably attach these springs D to the base-plate, a short distance from the rim thereof, so as to leave a portion of the base-plate outside the springs on which to rest a globe-ring, thereby adapting the burner for receiving a globe whenever it be desired to use the same. E designates the filler-tube, which is of cylindrical or other proper form, and is sufficiently large to surround the wick-tube. I preferably adopt a conical form, and provide the tube with a flaring upper end or mouth carrying a flange, *t*, which is turned over and outward so as to leave only the desirable space between it and the chimney for

permitting air to ascend to the flame above the cone, and the edge of this flange *t* may be slitted, if desired; and, indeed, the flange may extend outward sufficiently far to hold the chimney by inside pressure alone, as in the Collins' burner, and thereby permitting the arms D to be dispensed with. In the example shown, the lower end of this filler-tube E is secured to a perforated intermediate plate, B', which latter plate extends from the base-plate B to the tube E, the lower end of the tube passing through said plate B'; but the intermediate plate B' and tube E may be stamped up in a single piece. It will be observed, by reference to Fig. 2, that the air enters through the perforations in the base-plate B, then passes down through perforations in the plate B', and then up the tube, its velocity being thereby broken so as to insure a steadier light. The lower end of the body A is cut out so as to leave a free communication through the filler-tube into the lamp. It will therefore be observed that this filler-tube E serves as a means for replenishing the lamp with oil without removing the burner. At the top of this tubular filler E a perforated disk, F, is placed; and I have shown this disk as connected to the tubular filler in a very simple manner. For instance, it is provided with a short rod, *c*, which passes through a hole made in the filler-tube, its end being bent or headed so as to prevent the disk becoming readily detached and at the same time so as to permit the disk being swung round so as to uncover the mouth of the filler-tube sufficiently for refilling the lamp, the disk resting on a ledge or shoulder provided for it on the filler-tube. This disk is no more nor less than a safety-plate for preventing the flame dropping or dipping into the lamp or following any escaping gas down into the lamp, and thereby causing an explosion, it being well known that fire will not pass through fine perforations in a metal plate unless the plate becomes heated to a high degree; and this latter is prevented, in the present instance, by the air which passes up the filler-tube to the flame cooling said plate. It is therefore desirable to attach the safety-plate in such way that it cannot inadvertently be left off, and by noticing the arrangement of the parts as shown in Fig. 3 it will be observed that the burner cannot be adjusted into an operative condition without the replacement of the safety-plate after a replenishment of the lamp. This

perforated disk may be placed further down in the filler-tube, and be either stationary, and the oil poured through it, or adjustable. I, however, prefer to locate it just below the upper end of the wick-tube and have it adjustable. G designates the cone, and this is attached to the filler-tube E, preferably by a hinge, *d*, on one side, and a tongue, *e*, entering a slot, *f*, on the other side, for locking it in place. This removable cone enables the upper end of the wick-tube to be exposed for trimming the wick accurately and readily, which cannot be well done with an ordinary burner adapted for carrying the sun-burner chimney, as in the latter case the wick needs to be run up above the deflector, where there is no edge to cut against.

I am aware that lamp-burners have been provided with filler-tubes and with tubes for permitting the escape of any gas generated in the lamp; but I know of none combined with the burner or constructed in such manner that the filler-tube shall answer a twofold purpose—that of a filler for conducting oil into the lamp for replenishing

the same, and that of a conductor for causing the air to pass up along and close to the wick-tube in its travel to the flame, thereby keeping the wick-tube cool and supplying the flame with air, which, in passing through the perforated plates B and B', is deprived of any current or velocity which might affect the flame, and hence many advantages are gained.

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

1. The combination of the filler-tube E with the base-plate B and perforated plate B', substantially as and for the purposes herein specified.

2. The new article of manufacture of a lamp-burner, composed of the body A, base-plate B, perforated plate B', wick-tube C, ratchet-wheels and shaft, tubular filler E, perforated disk F, cone G, and chimney-holding springs D, substantially as herein specified.

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Witnesses:

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