

Lantern.

Patented March 24, 1857.

I bid

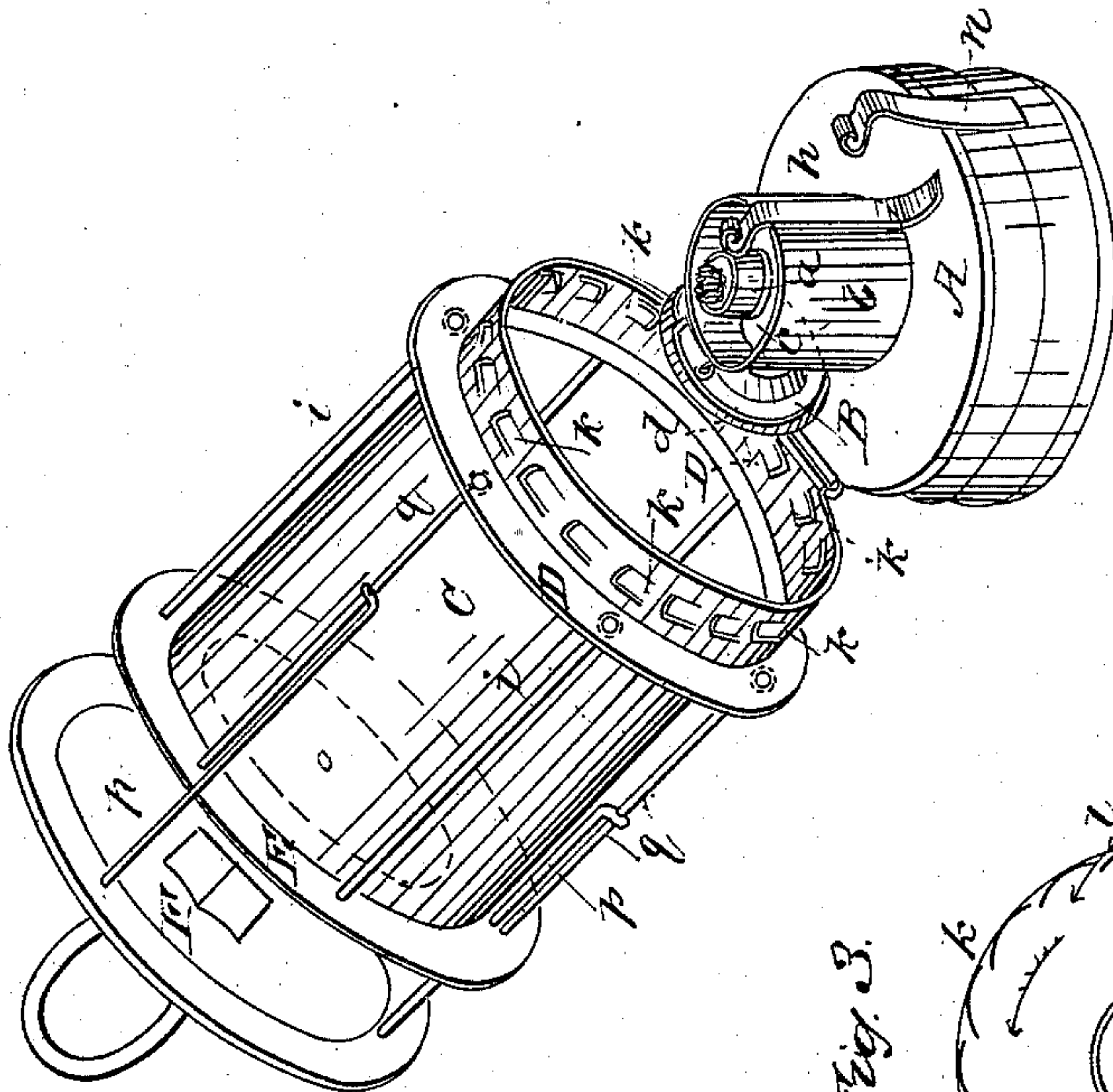


Fig. 3.

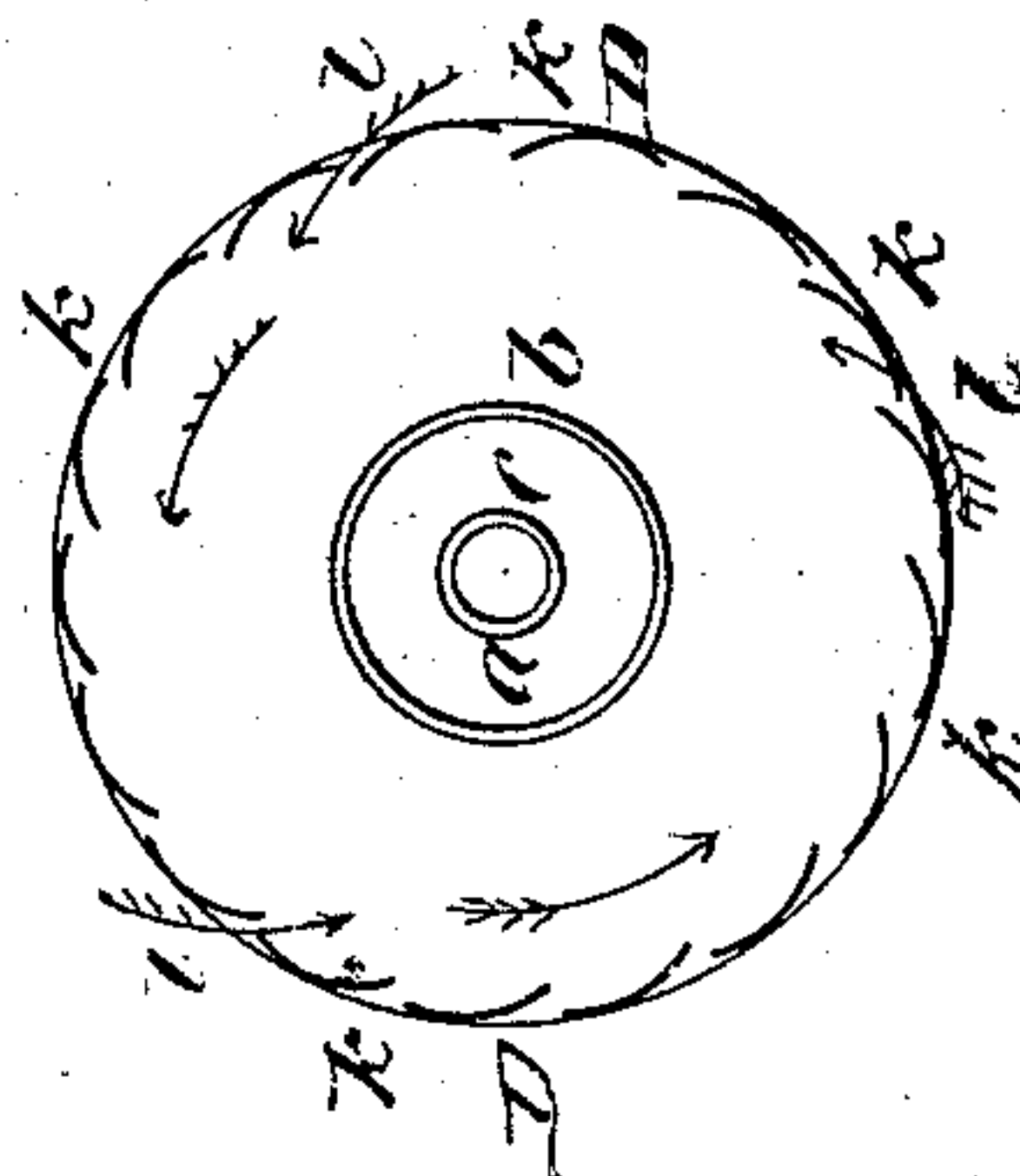


Fig 2

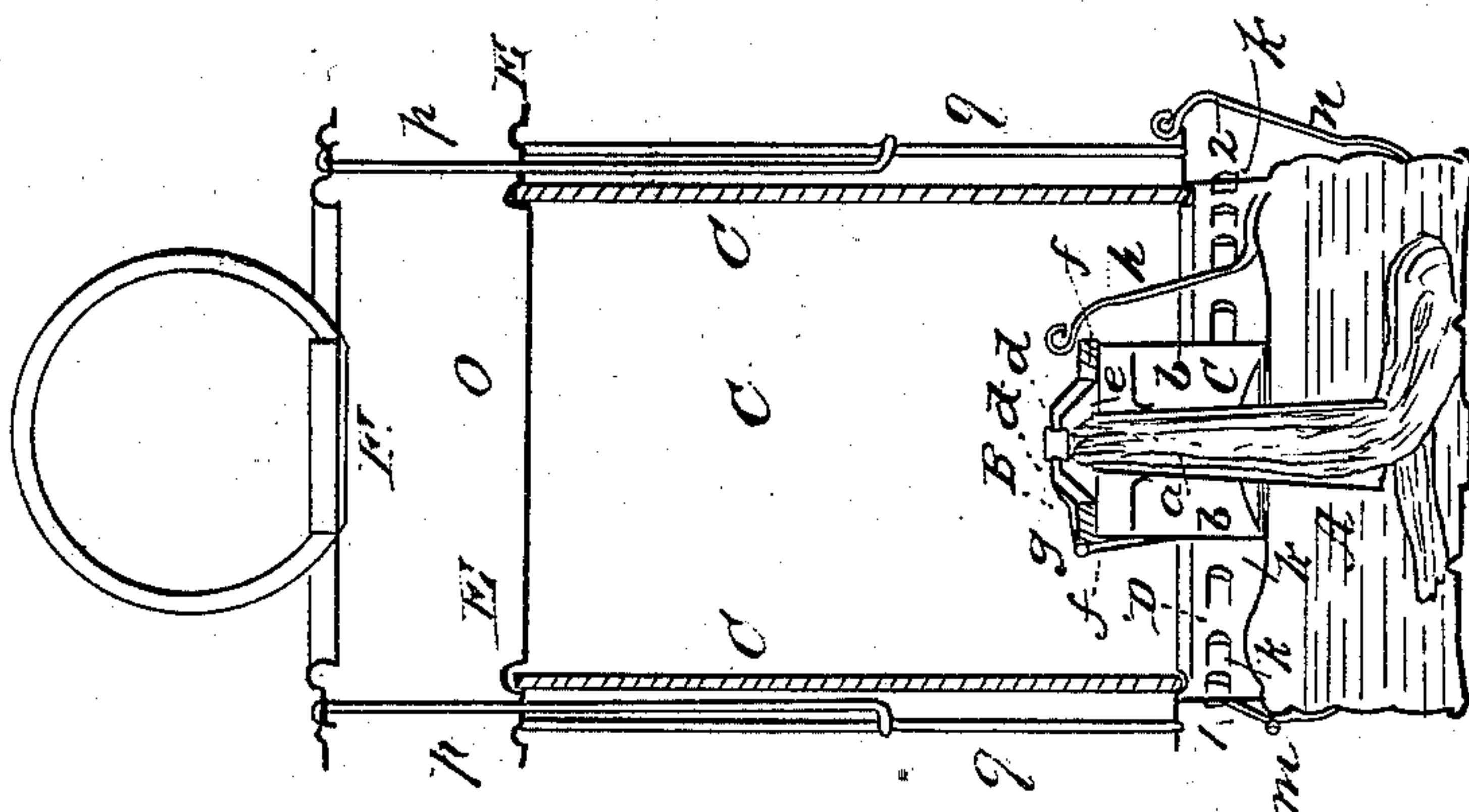
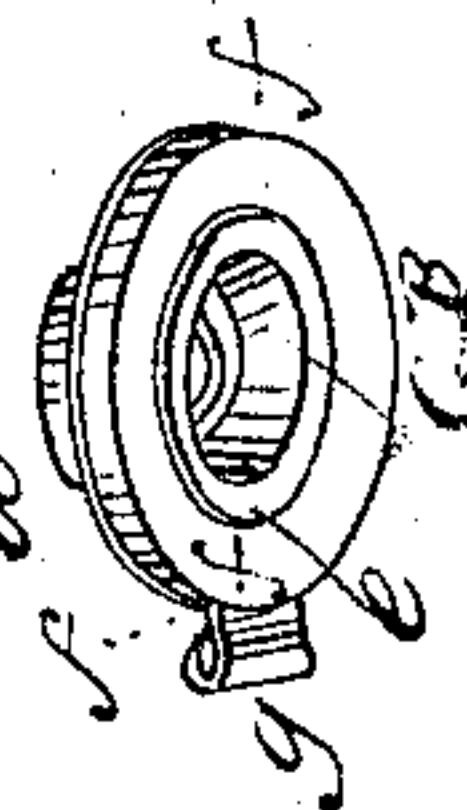


Fig. 4



UNITED STATES PATENT OFFICE.

ANDREW RALSTON, OF WEST MIDDLETOWN, PENNSYLVANIA.

POCKET-LANTERN.

Specification of Letters Patent No. 16,880, dated March 24, 1857.

To all whom it may concern:

Be it known that I, ANDREW RALSTON, of West Middletown, in the county of Washington and State of Pennsylvania, have invented a new and useful Improvement in Pocket-Lanterns; and I do hereby declare that the following is a full, clear, and exact description of the construction of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view, Fig. 2 a vertical section; Fig. 3 a section through the line I—II of Fig. 2; and Fig. 4 a perspective view of a detached part, which will be described hereafter.

In all these figures the same letters of reference indicate alike parts.

A is the lamp, *a* the wick tube, which sets into the tube *b* on top of the lamp; there are two rings *c, c*, soldered on the tube *a*, of a diameter nearly equal to the inside diameter of tube *b*, by which the wick tube is kept in its position.

B is the cap of the lamp, shown separately in Fig. 4; it consists of two disks *d* and *e*, of which the disk *d* has a larger diameter than the counter disk *e*; the center portion of both is raised in cone shape, so as not to touch or press on the end of the wick. They are riveted together in their center and a ring *f* of india-rubber or any other elastic substance is firmly kept between them, which (when the cap is shut down) presses on the top of the tube *b*, preventing the oil in the lamp from leaking through. The cap, B is connected with the tube *b* by a hinge *g*.

h is a spring, which is hook-shaped at its upper end, and keeps the cap B firmly down, when the lamp is not in use. The tube *b* is to be sufficiently high to allow the cap B of being laid back, as shown in Fig. 1.

C is a glass cylinder; D is the bottom ring; E the top ring of the cylinder; both are united by the wires *i, i, i* and are shaped so as to keep the glass cylinder securely. In the ring D there are openings *k, k*, punched in, in the manner as clearly shown in section in Fig. 3, and also in the other figures; the sheet being not entirely broke through, but forming small lips which allow the air to enter the lamp nearly

tangentially (as shown by arrows *l, l*, in Fig. 3) preventing the same from striking the flame directly, but forming a rotating current in the lamp; by this simple arrangement the strongest wind or even storm does not affect the flame in the least degree; although the air enters the lantern above the lamp.

The lamp A is connected with the ring D by a hinge *m*, and secured, when closed or brought up to the ring in its position by a spring *n*, similar to the spring *h*, of the cap of the lamp. (Fig. 1 shows the lantern, when opened, and Fig. 2 when closed.)

The arrangement of connecting the lamp to the cylinder of a lantern by means of a hinge, is to my knowledge, novel, and of the greatest convenience, as access to the lamp is had hereby, in the easiest and simplest manner, for the purpose of filling it with the oil, or lighting the wick, &c.

o is the opening in the upper ring E for the escape of the smoke and gases; it is of such a width as to insure a free escape of the same.

F is a sliding cap, which can be closed down on the ring E, when the lamp is not in use; or raised, when in use; it is provided with the wires *p, p, p*, which pass through openings in the ring E, and are bent at their lower ends so as to form eyes, made to slide on the wires *q, q*; the latter form thus the guiding rods for the cap F, when sliding up or down; and are at the same time an additional connection between the rings D and E, and form also a protection for the glass cylinder C;—using wire for the connection and guiding of the sliding cap F gives the advantage, that it does not obstruct the free ventilation of the lantern, (when in use), as it leaves all the space between the cap F and the ring E almost perfectly open. The manner in which the air is admitted into my lantern, it forming a rotating current as above shown, together with the large opening *o* through the upper ring E, allowing the smoke and air to pass out and circulate freely; and the perfectly open space between the cap E and ring F, offering no obstruction to the free escape of the gases; all this combined, produces the effect, that no smoke will condense on the inside of the glass cylinder, leaving the

same always clear, and further, that the light burns bright and produces thus very little smoke.

Having thus described my improved lantern, what I claim herein as new and desire to secure by Letters Patent is:

The sliding cap F, the cap, B, and the wick tube *a*, with its two rings or disks *c*, *c*,

constructed, arranged combined and operating in the manner herein set forth and described. 10

ANDREW RALSTON.

Witnesses:

JOHN SHANNAHAN,
AUD. McMASTER.