

(No Model.)

4 Sheets—Sheet 1.

H. D. HINKS.

EXTINGUISHING MECHANISM FOR LAMPS.

No. 442,760.

Patented Dec. 16. 1890.

FIG 1

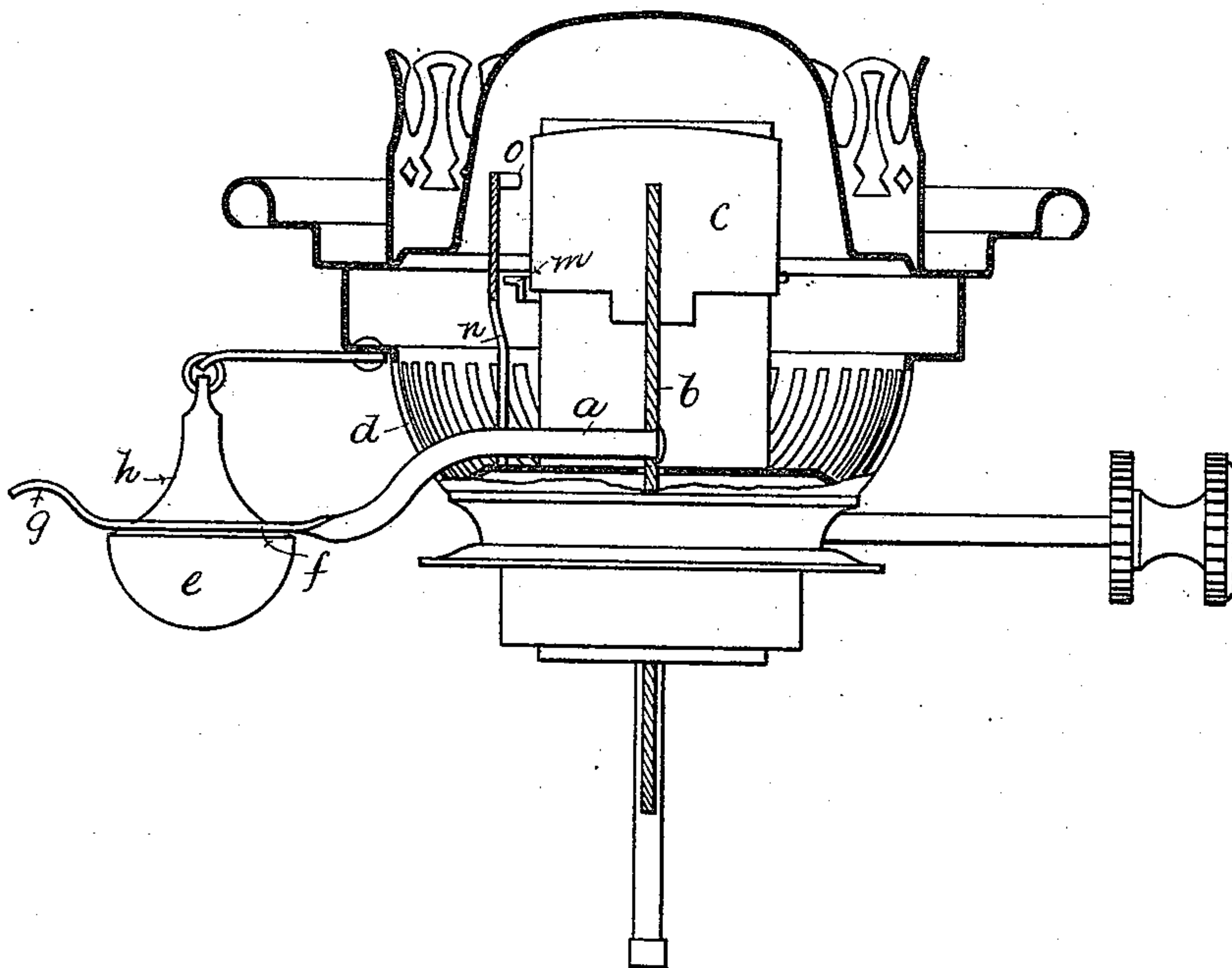
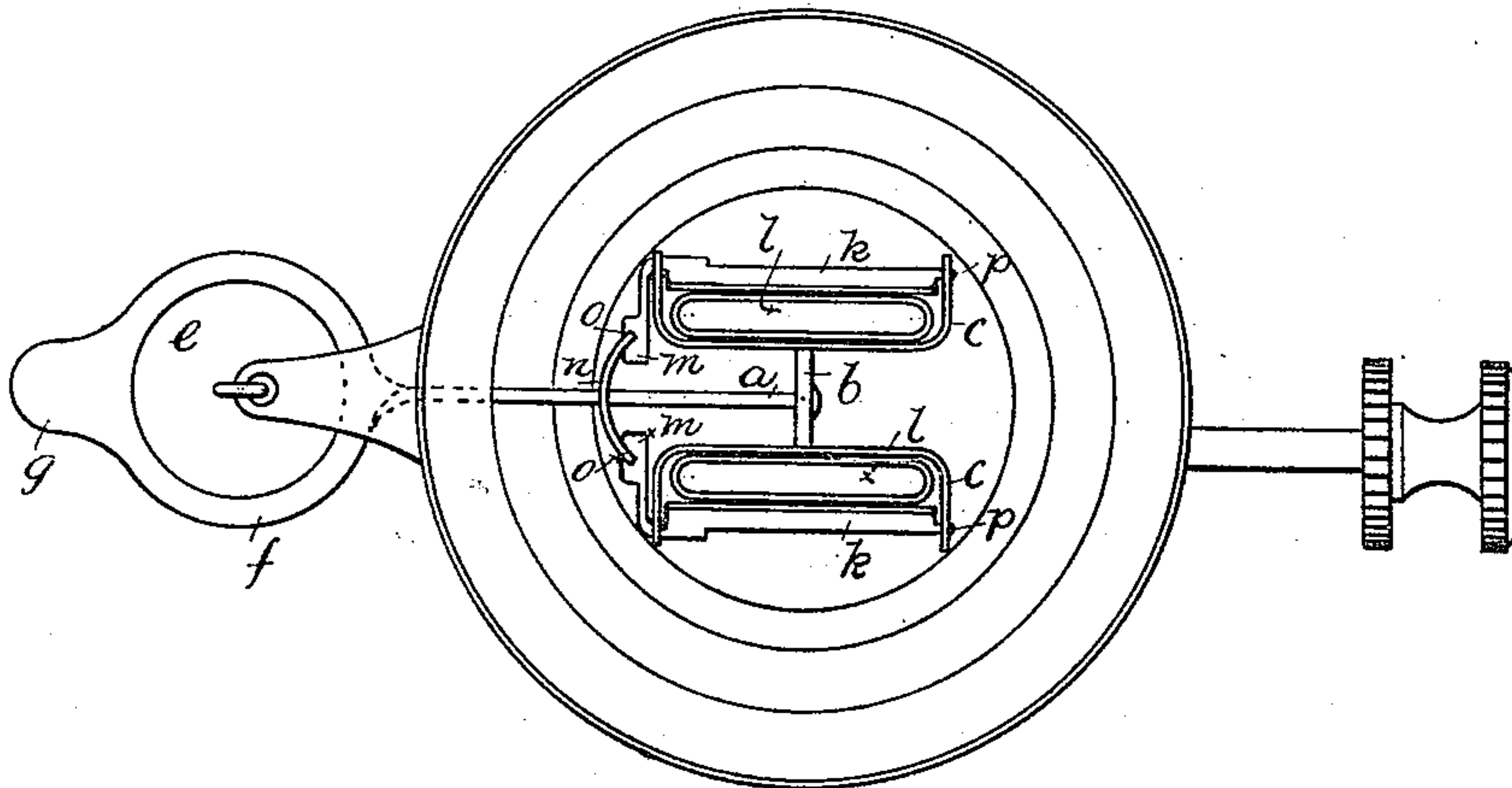


FIG 2



Witnesses.

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Charles J. Powell

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(No Model.)

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FIG 3

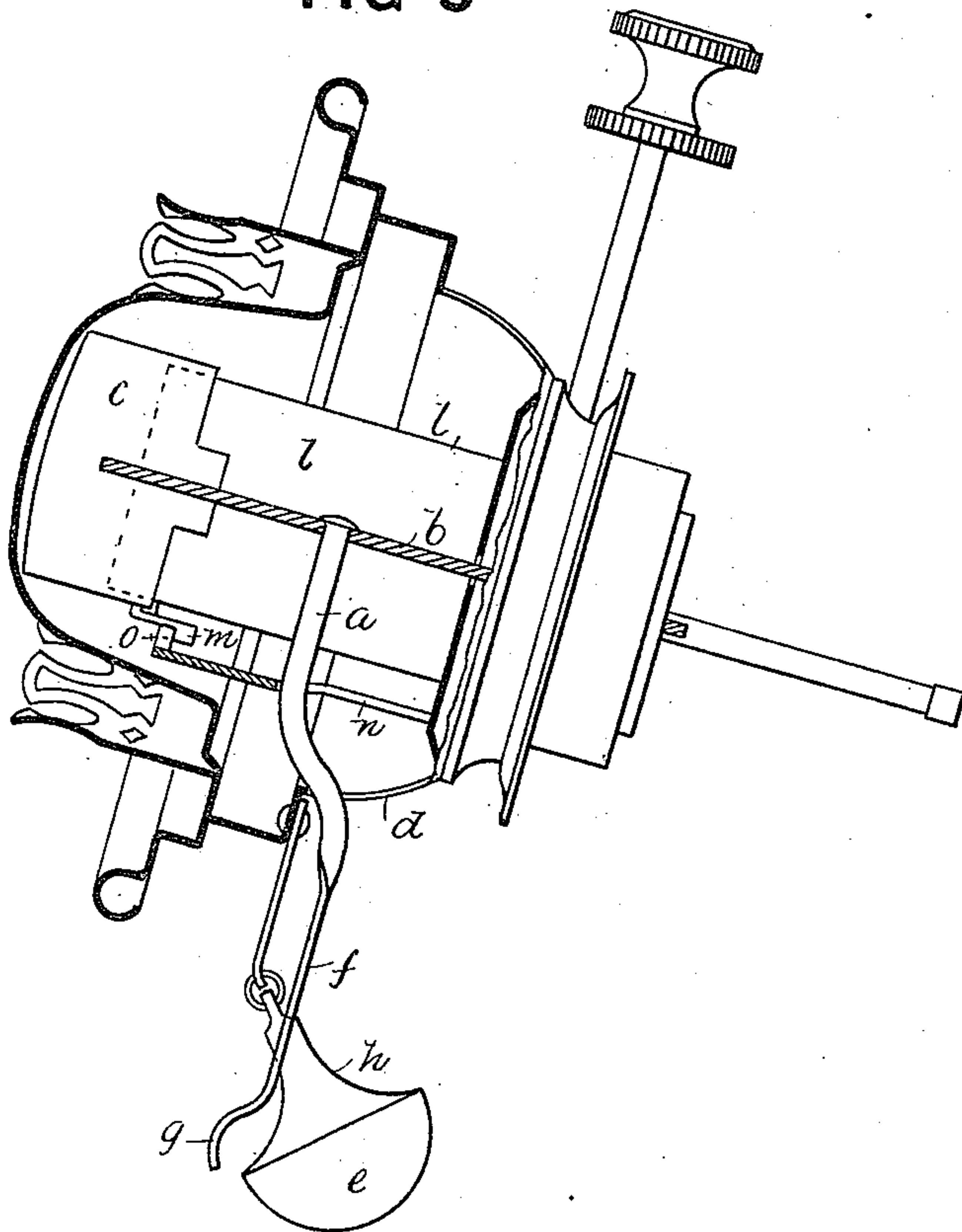


FIG 4

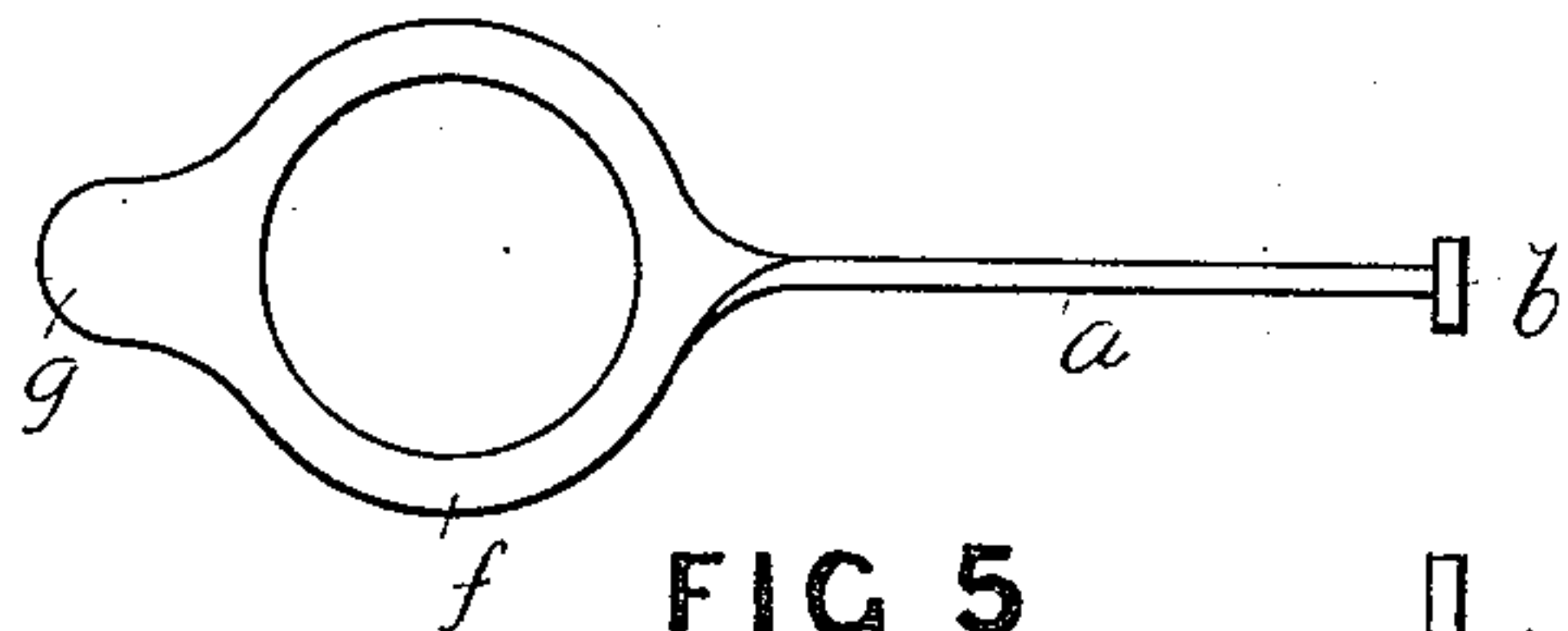
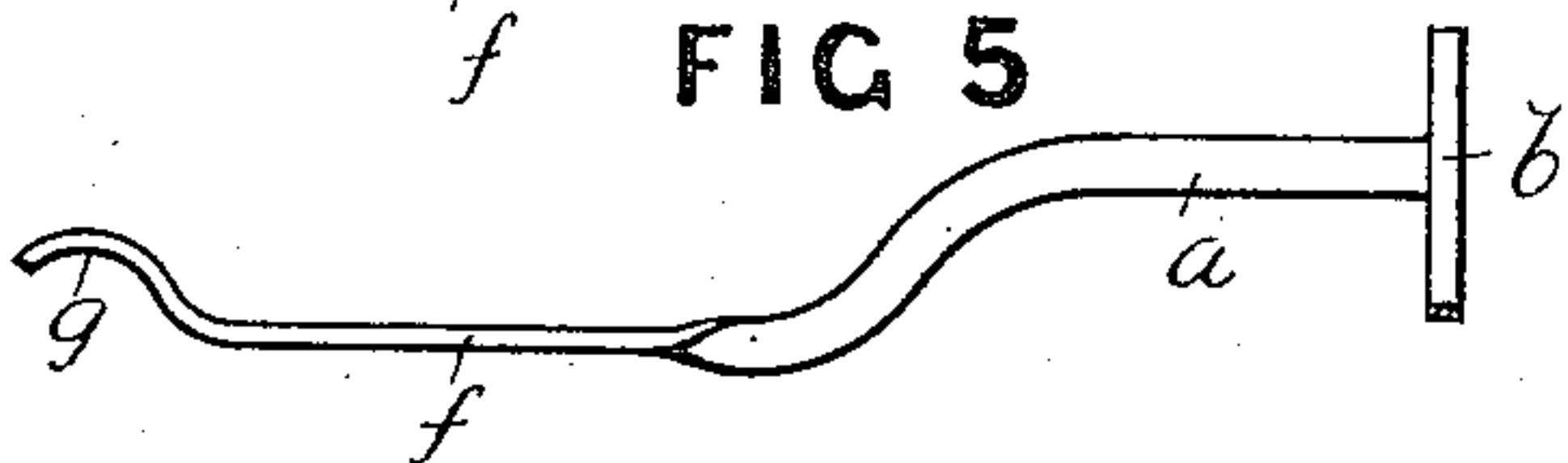


FIG 5



Witnesses

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FIG 6

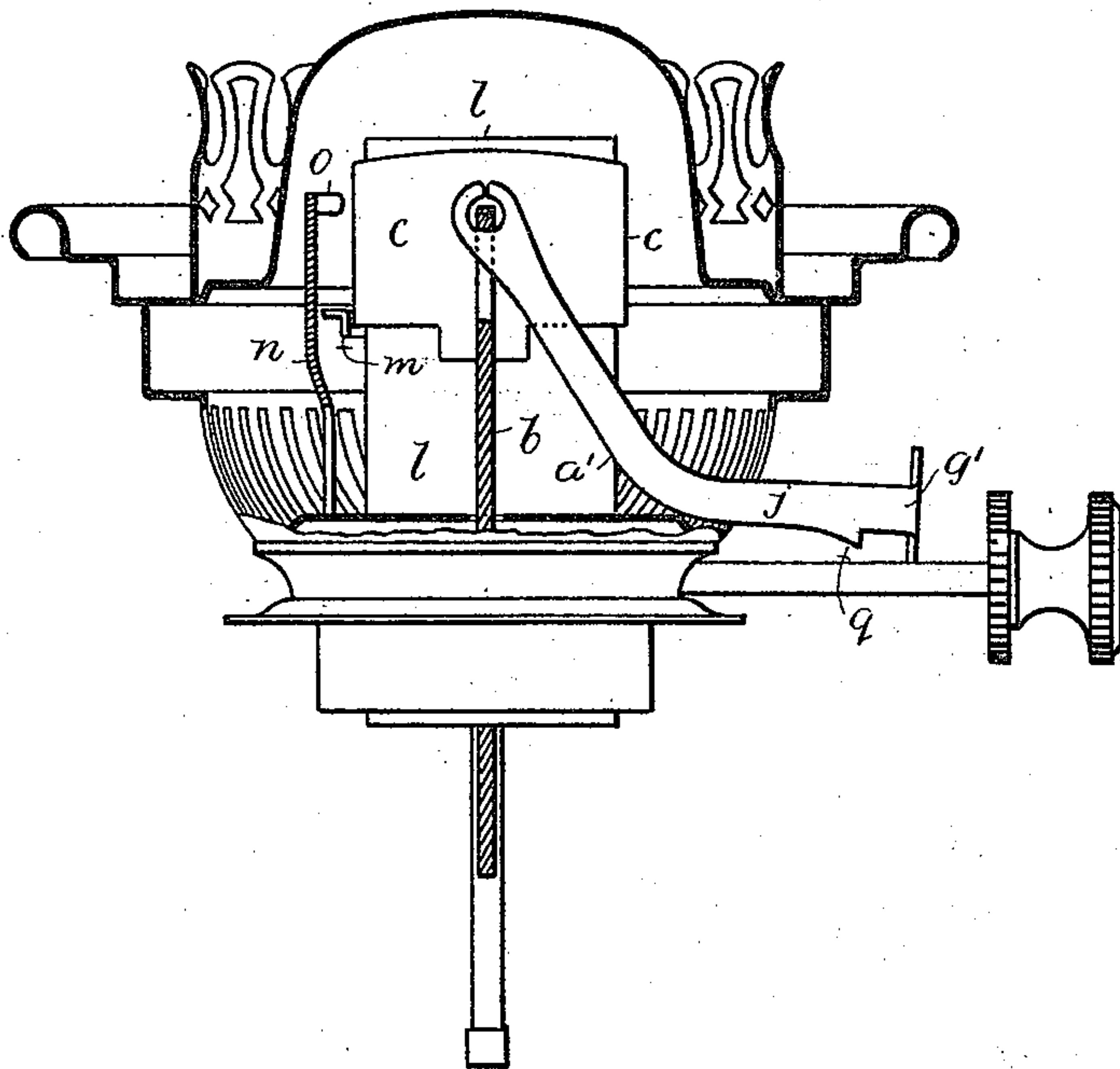
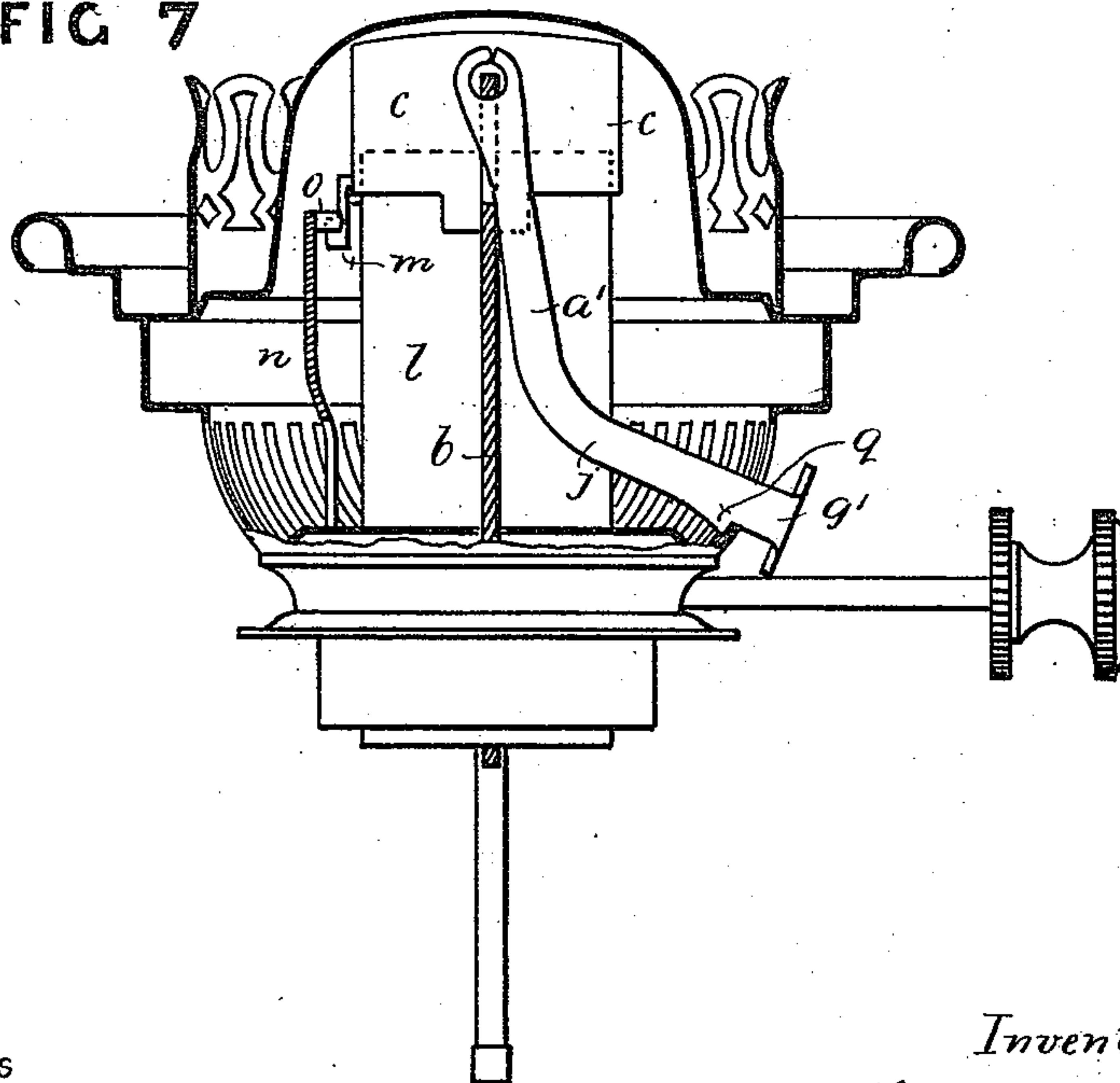


FIG 7



Witnesses

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H. D. HINKS.
EXTINGUISHING MECHANISM FOR LAMPS.

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Patented Dec. 16. 1890.

FIG 8

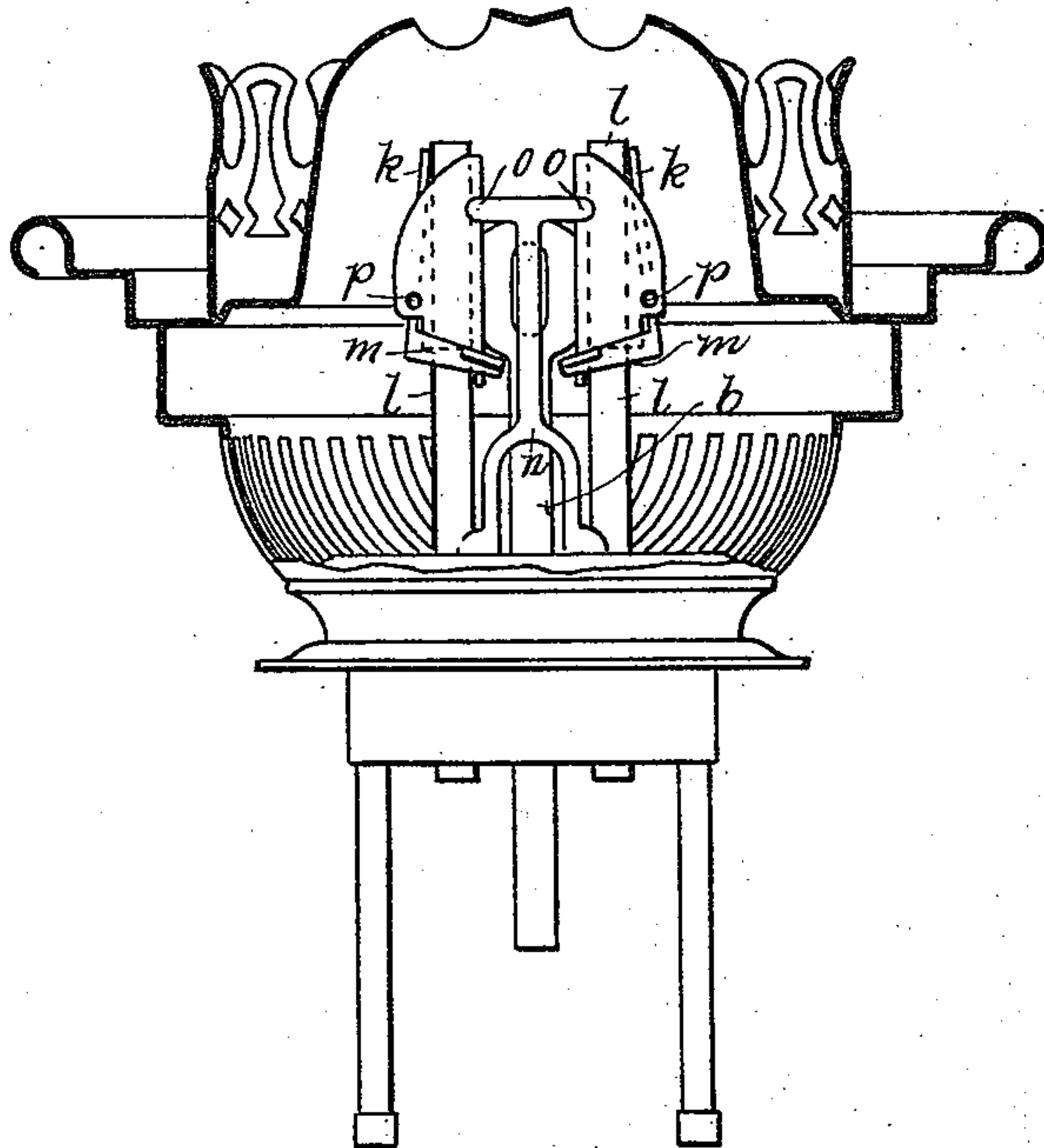
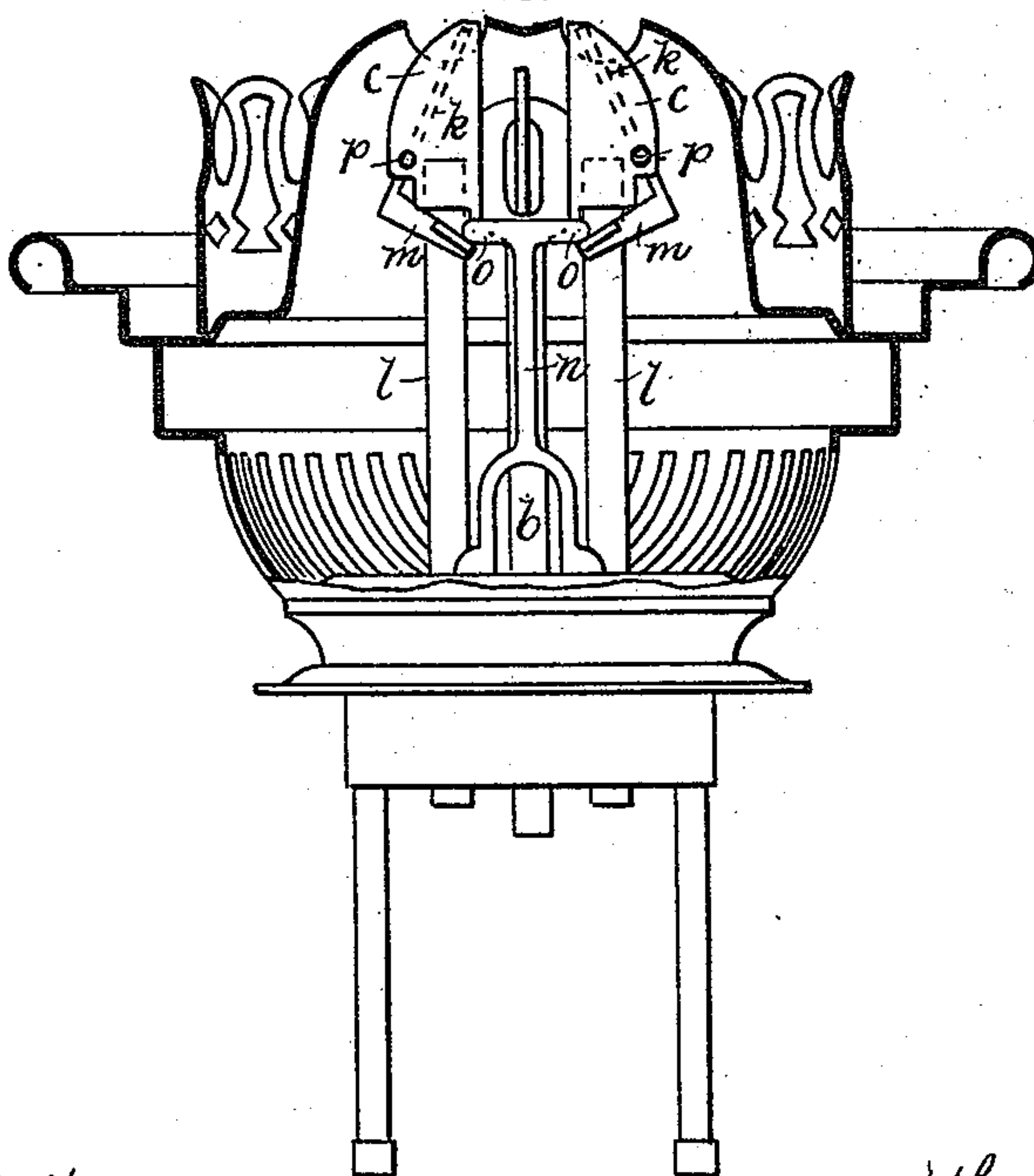


FIG 9



Witnesses

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UNITED STATES PATENT OFFICE.

HARRY DAIN HINKS, OF BIRMINGHAM, ENGLAND.

EXTINGUISHING MECHANISM FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 442,760, dated December 16, 1890.

Application filed March 8, 1890. Serial No. 343,218. (No model.) Patented in England January 27, 1890, No. 1,398.

To all whom it may concern:

Be it known that I, HARRY DAIN HINKS, a subject of the Queen of Great Britain, and a resident of Great Hampton Street, Birmingham, in the county of Warwick, England, have invented certain new and useful Improvements in or Connected with Extinguisher Mechanism for Lamps, (for which I have applied for a patent in Great Britain, No. 1,398, bearing date January 27, 1890,) of which the following is a specification.

My invention relates to the improvements hereinafter described in extinguisher mechanism for lamps, which said improvements are partly based upon an invention for "improvements in or connected with extinguisher mechanism for lamps," for which Letters Patent were granted in Great Britain to William Snelgrove, bearing date March 5, 1887, and numbered 3,414, and also upon an invention for "improvements in or connected with extinguisher mechanism for lamps," for which Letters Patent were granted in Great Britain to Joseph Hinks, of the firm of James Hinks & Son, (Limited,) bearing date January 18, 1888, and numbered 808, both of which patents are the property of the said firm of James Hinks & Son, (Limited.) The said patented invention No. 3,414 of 1887 consists, essentially, in the employment of a hanging weight so arranged with respect to a ring terminating a lever that on the inclination or tilting of the lamp beyond a certain limit the weight, by reason of its upper inclined surface, strikes or presses against the inside of the ring, thereby raising the said lever and disengaging a catch by which the extinguishers of the lamp had been held down. The released extinguishers are raised by a spring and the lamp extinguished. Thus on the upsetting of the lighted lamp the flame is extinguished as soon as the lamp has acquired an inclination of only a few degrees from the perpendicular, and the ignition of the contents of the lamp, if spilled, is prevented. The said patented invention No. 808 of 1888 consists, essentially, in means employed for the purpose of obviating the use of springs for closing the shutters when raised and of the arrangement of levers used therein, and also of modifications of the ring, hood, or

cover embracing or encircling the actuating pendent weight.

In constructing extinguisher mechanism according to this my present invention my object is to provide an arrangement of parts whereby the levers, with their fulcrum-joints and the interference with the ordinary perforations of the burner-body, are dispensed with. This improved arrangement admits of some modification, and may be applied in conjunction with the before-named pendent weight to act automatically, and in such cases also that it may be extinguished by hand by means of or without the said weight.

I employ shutters or flaps having inclined arms or their equivalents, in combination with a stop or trip action, so that when the extinguishers are raised a certain height such arms, &c., come in contact with the said stop or its equivalent, and the flap is closed over the flame. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the burner. Fig. 2 is plan of the burner. Fig. 3 is a vertical section of the burner as it appears when the lamp is upset. Figs. 4 and 5 are detailed views of the operating-arm. Figs. 6 and 7 are modifications showing the extinguisher without the pendent weight. Fig. 8 is a side part elevation showing the tripping action with the shutters down; and Fig. 9 is a side part elevation showing the shutters, Fig. 8, raised and tripped or closed over.

Similar letters refer to similar parts throughout the several views.

As an automatic arrangement I provide an arm *a*, suitably bent and shaped, the one end of which is rigidly attached to the distance or connecting cross-bar *b* between the two extinguishers *c c*, (or in the case of single-wick lamps otherwise rigidly connected to the single extinguisher.) This arm *a* is extended through one of the ordinary perforated (air) slots *d* in the side of the burner-body at that part where hangs the pendent weight *e* and terminates in a ring *f* or other suitable form, which engages with the said weight *e*, as already described in the specifications referred to. At the outer side of this ring the metal is shaped further to provide a lift-piece

g, so that at will it may be raised independently of the weight *e*.

Upon the upsetting or tilting of the lamp the pendent weight *e*, by reason of its upper
5 coned or curved surface at *h*, when falling to the one side, moves forward the arm *a*, and consequently the extinguishers *c c*, direct, thus obviating the use of levers and their fulcrum-joints, and also the preparing of bearings for such levers upon the burner-body,
10 and, moreover, the friction necessary in the use of such levers is also avoided.

The closing of the flaps *k* over the tops of the wick-tubes *l* to extinguish the flames is effected
15 as follows, (as described in the before-mentioned English specification, No. 808 of 1888:) Each flap is provided with an inclined arm *m*. *n* is a fixed upright, the top of which is formed with stop-pieces *o o*. When the sliding ex-
20 tinguishers *c c* have been lifted nearly to their full extent, the two inclined arms *m m* strike

against the stop-pieces *o o*. The continued motion of the sliding extinguishers causes the said inclined arms to turn upon their pivots *p p*, and thereby to turn the flaps over and
25 cover the wicks and extinguish the flames. (See Figs. 6 and 7.)

What I claim, and desire to secure by Letters Patent of the United States, is—

The combination of the extinguishers *c c* 30 and the cross sliding bar *b*, having the rigid extended arm *a* connected thereto, with the pendent weight *e*, suspended from a fixed bracket and having the upper inclined surface *h*, which operates upon the ring *f* of the
35 said arm *a*, substantially as described and illustrated, and for the purposes specified.

HARRY DAIN HINKS.

Witnesses:

ARTHUR J. PHILIP,
ERN. W. JONES.