

(No Model.)

E. B. REQUA.
LAMP BURNER.

No. 373,195.

Patented Nov. 15, 1887.

Fig. 1.

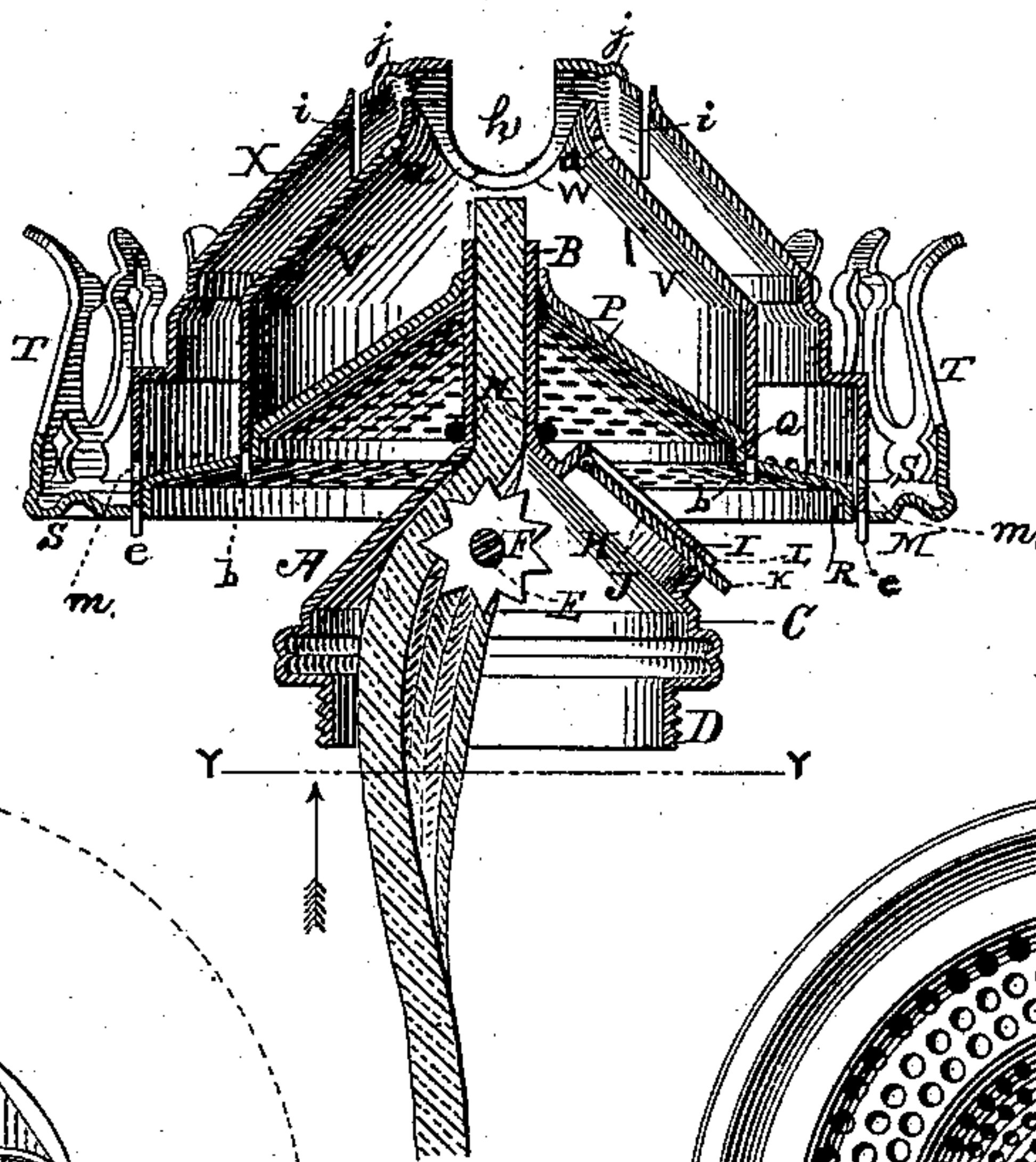


Fig. 3.

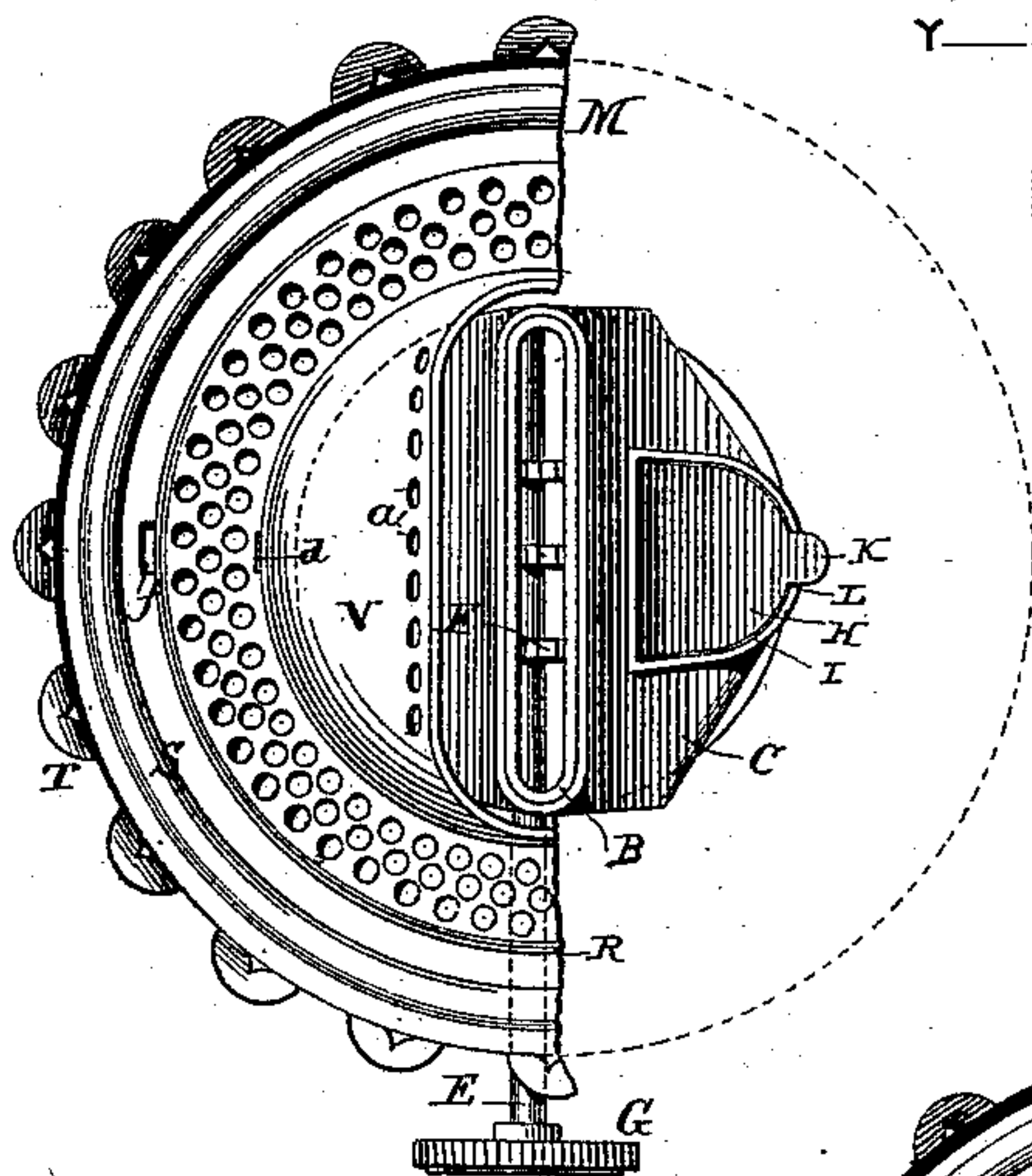


Fig. 4.

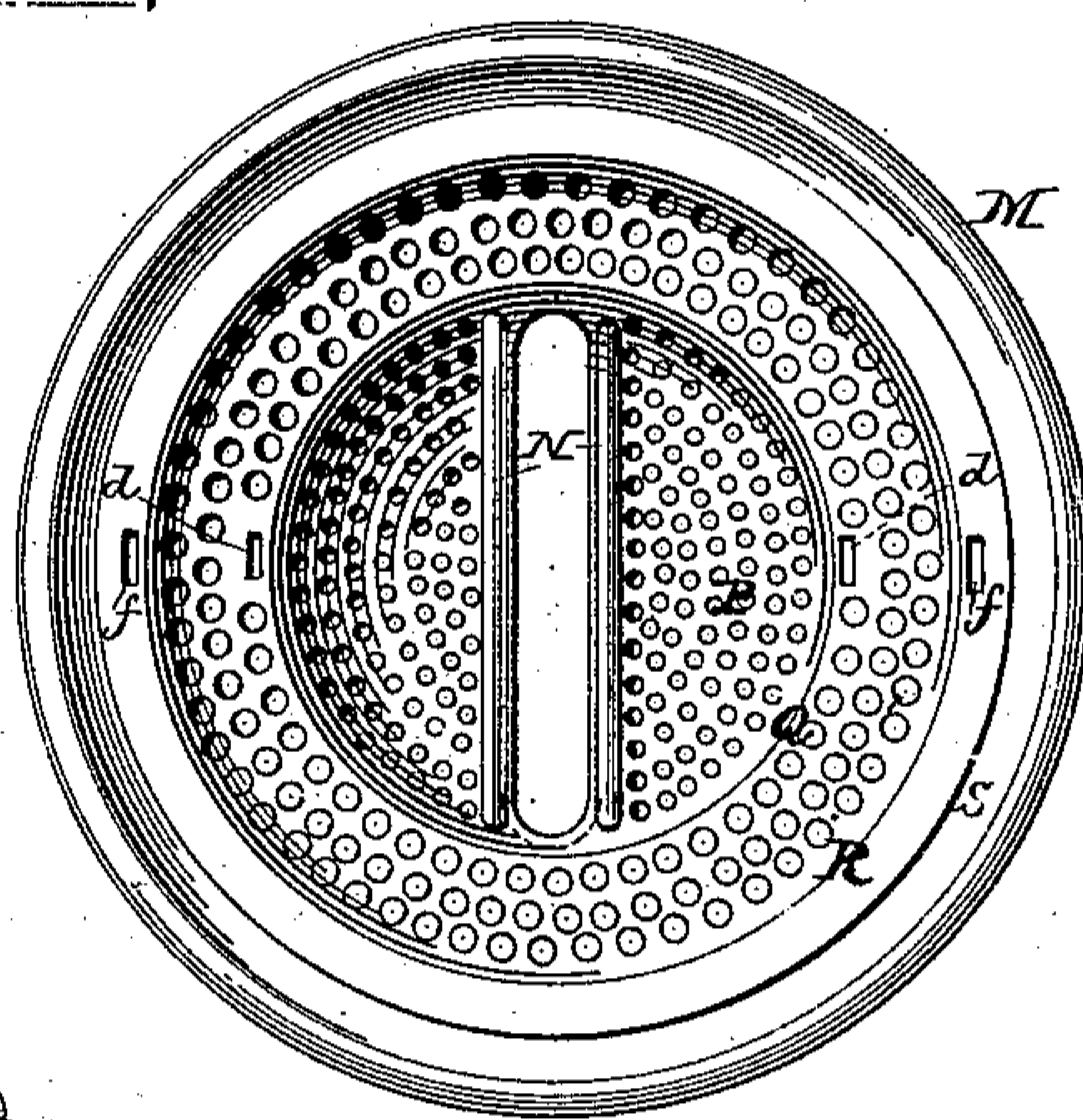


Fig. 2.

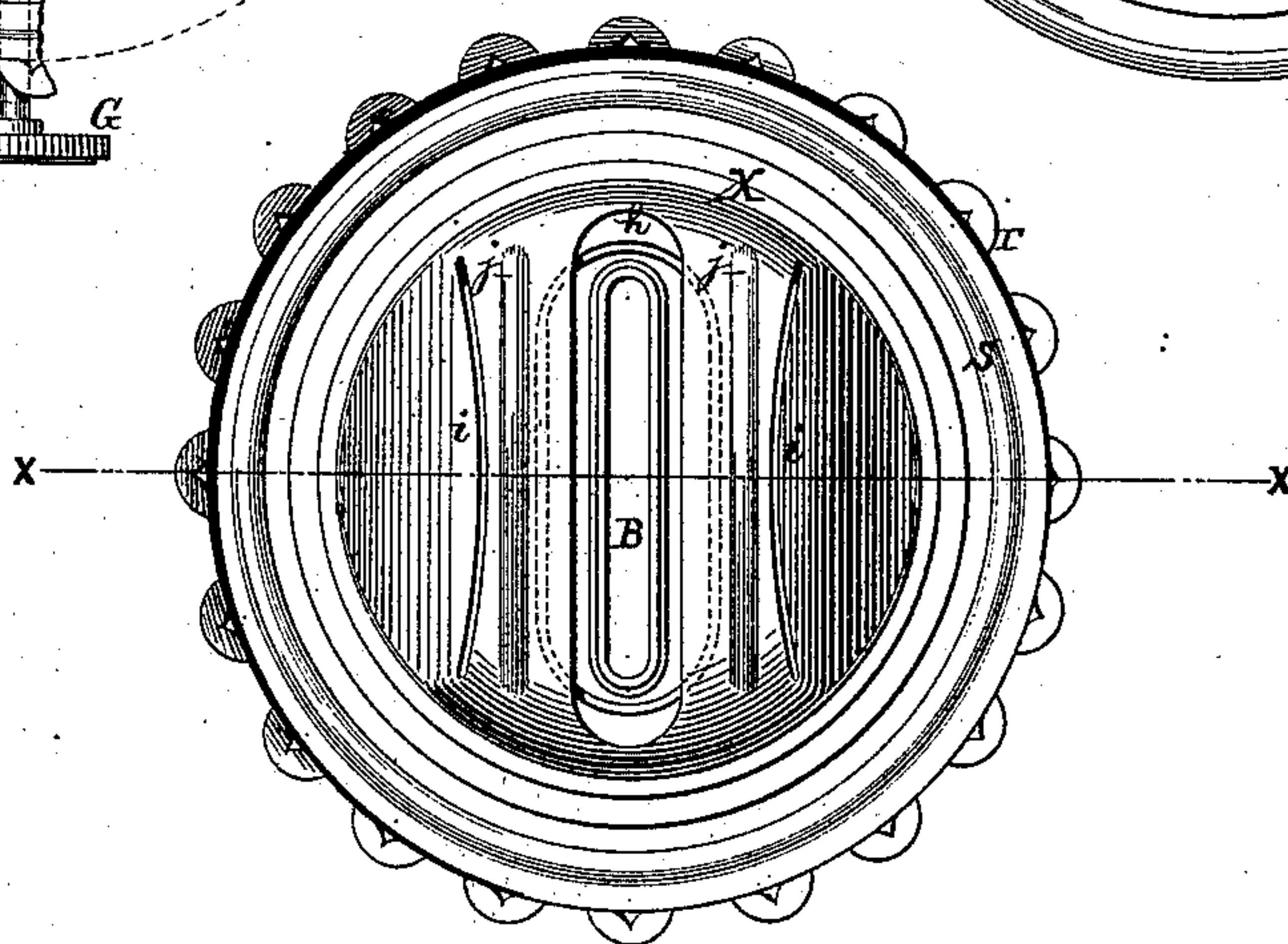
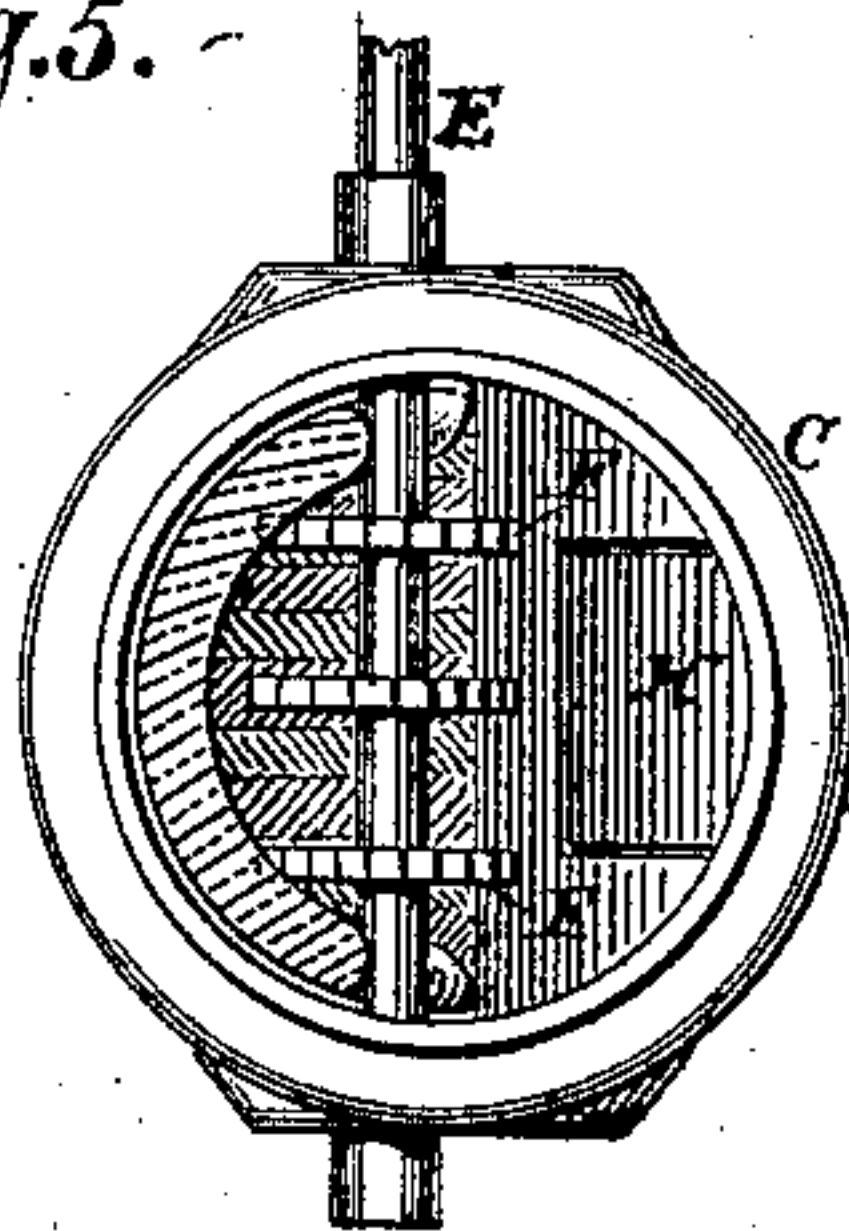


Fig. 5.



WITNESSES:
Charles Dietrich
W. A. Matthie

INVENTOR
Elias B. Regua,
BY
Ellison & Gill,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 373,195, dated November 15, 1887.

Application filed April 7, 1887. Serial No. 233,960. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a specification.

The invention relates to improvements in lamp-burners; and its object is to produce a burner the parts of which are simple in form and construction and readily detachable from each other when desired, and which, when united for use, constitute a burner adapted to produce a large pure flame capable of great illuminative power without an undue consumption of oil.

Referring to the accompanying drawings, forming a part of this application, Figure 1 is a central vertical section of a lamp-burner embodying the elements of the invention. Fig. 2 is a top view of same, the dotted line *xx* denoting the line of the section shown in Fig. 1. Fig. 3 is a top view of the burner without the outer flame-dome, one-half of the base thereof being broken away, so as to disclose the lower part of the wick-tube and the orifice therein through which the oil may be supplied to the fount without removing the tube therefrom. Fig. 4 is a bottom view of the burner-base, the wick-tube being removed; and Fig. 5 is a bottom view of the wick-tube detached from the burner-base, the wick being shown in section on the dotted line *Y Y* of Fig. 1.

In the drawings, *A* denotes the wick-tube, which, as may be observed, consists of the upper flat portion, *B*, adapted to snugly receive the wick, and the lower enlarged portion or base, *C*, which is circular in outline at its lower edge and is provided with the screw-thread *D*, arranged to engage the customary thread on the fount and thereby to secure the burner in position.

The base *C* of the burner-tube diverges from the upper or flat portion, *B*, as shown in Fig. 1, and its lower threaded edge is contracted so as to fit the mouth of the fount as usually constructed. At a point in the base *C* in line with and directly below the upper flat portion of the tube is applied the horizontal shaft *E*, carrying the wick-raising wheels *F* within said base and having upon its outer end the finger-

wheel *G*. It should be noted that the wheels *F* are wholly within the base and that the walls of the latter, as well as those of the upper part of the tube, are intact, and not slotted in the usual manner to permit the edges of the wheels located without the tube to come into contact with the wick.

Upon one side of the base *C* of the wick-tube is formed the filling-orifice *H*, encompassed by the flange *I*, (shown more clearly in Fig. 1,) and provided with the cover *J*, which is hinged at its upper end to said flange, and the lower end of which is furnished with the lip *K*, which projects beyond the flange *I* and, when the cover is closed, enters the receiving-recess *L*, thereby securing the cover and affording a convenient means for opening the latter. The orifice *H* permits the filling of the fount (not shown) without removing the wick-tube therefrom, and its encircling flange *I* prevents all tendency to leakage or the soiling of the exterior parts of the burner with oil.

The wick-tube, although adapted to fit upon an ordinary burner-fount, is capable of receiving a very large wick, which, when in position, is somewhat curved in cross-section at the lower part of the base *C*, and thence lies between the raising-wheels *F* and the side of said base opposite to the orifice *H*, thus leaving the space around the latter free to receive the stream of oil as it passes to the fount, as more fully illustrated in Fig. 1.

The burner-base *M* is open transversely at its center and is passed downward upon the wick-tube, the upper end of the interior of the base being adjacent to the upper edge of the tube and the parallel wires *N* secured to the base resting upon the shoulder formed by the divergence of the sides of the lower part of the tube. The burner-base is thus held firmly, and any rocking movement therein when in use is entirely avoided. The parallel wires *N* are located at the base of the cone *P* and form no obstruction to the passage of the air upward through the same.

The interior of the burner-base is in the form of a perforated cone, *P*, as shown in Fig. 1, the lower edge of which constitutes a circular vertical flange, *Q*, whence said base inclines outward to the circular vertical flange *R*, the portion between the flanges *Q R* being perforated,

while beyond the flange R is formed the chimney-rest S, encompassed by the series of spring-fingers T, the rest and fingers being integral with the base. Over the cone P is placed the interior dome, V, having a flame-slot, W, with a row of apertures, *a*, on each side thereof. The walls of the upper half of the dome V diverge downward from the flame slot, while the walls of the lower half thereof are vertical, their lower edge fitting closely around the flange Q at the base of the cone P, and being there sustained by the small lugs *b b*, extending downward through the slots *d d*, as shown. The outer flame-dome, X, is seated over the dome V, its lower edge closely hugging the circular vertical flange R of the burner-base and being there securely held by the lugs *e e* entering slots *f f* in said base. The upper portion of the dome X is provided with the flame-slot *h* and on each side thereof with the air-slots *i i*, between which and the flame-slot are the strengthening-ribs *j*. The metal of the dome X at the outer edges of the slots *i i* is deflected slightly upward, so as to direct the air into the flame. The flame-dome X is substantially similar in outline to the interior dome, V, and around its lower edge is supplied the series of apertures *m* for the passage of air.

The parts of the burner are arranged together in the order in which they have been described above, and are readily detachable from each other. The flame-dome and interior dome may be lifted from the burner-base, and the base, either with or without the domes and the chimney, (not shown,) may be elevated from the wick-tube. The construction of the parts is such, however, that when assembled they will be firm, and not at all likely to become disarranged under ordinary circumstances.

In the operation of the invention, the wick leading from the oil-fount having been lighted and the chimney set in position, the air may enter the interior dome, V, through the perforated cone P, whence it will be directed into the base of the flame by the upper converging walls of said dome. The air may also enter between the domes V and X through the perforations in the burner-base, some of this latter body of air finding its way through the apertures *m* to the outer side of the dome X, while the remaining portions thereof will ascend between the domes, a part passing di-

rectly into the base of the flame and the other part finding an exit through the slots *i i*, being discharged therefrom directly into opposite sides of the flame a little above the points at which any other part of the air meets the flame. The particular arrangement of the lines of contact of the air-drafts with the flame is such that combustion as nearly perfect as possible takes place, and the highest point of luminous power attainable from hydrocarbon oil is reached.

The flame-dome X of the construction shown and described would produce good results if placed alone on the usual burner now in use. The burner-base, also, is of novel construction, and would produce advantageous results if used in lieu of the usual burner-base, and the wick-tube of the construction described is adapted for use in connection with burners open at their bottoms to receive it—such as are found in the open market. Hence I do not limit myself to all of the details of construction united in a single burner; but

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

1. In combination with the wick-tube and flame-dome, the burner-base slotted at its center to fit over the tube and the parallel supporting-wires connected with said base and fitting over said tube, substantially as and for the purposes set forth.

2. In a lamp-burner, the wick-tube and burner-base, in combination with the flame-dome X, having on each side of the usual flame slot the ribs *j j* and air-slots *i i*, substantially as and for the purposes set forth.

3. In a lamp-burner having a wick-tube, the burner-base slotted at its center to fit over the tube and provided with the perforated cone P, having slots *d d* and *f f*, combined with the interior cone, V, having lugs *b b* to enter said slots *d d*, and the exterior flame-dome having lugs *e e* to enter the slots *f f*, the burner-base between the cone V and dome X being perforated, substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 5th day of April, A. D. 1887.

ELIAS B. REQUA.

Witnesses:

WILLIAM B. ELLISON,
CHAS. C. GILL.