(No Model.)

E. B. REQUA.

LAMP BURNER.

No. 488,972. Patented Dec. 27, 1892.

Fig. 1.

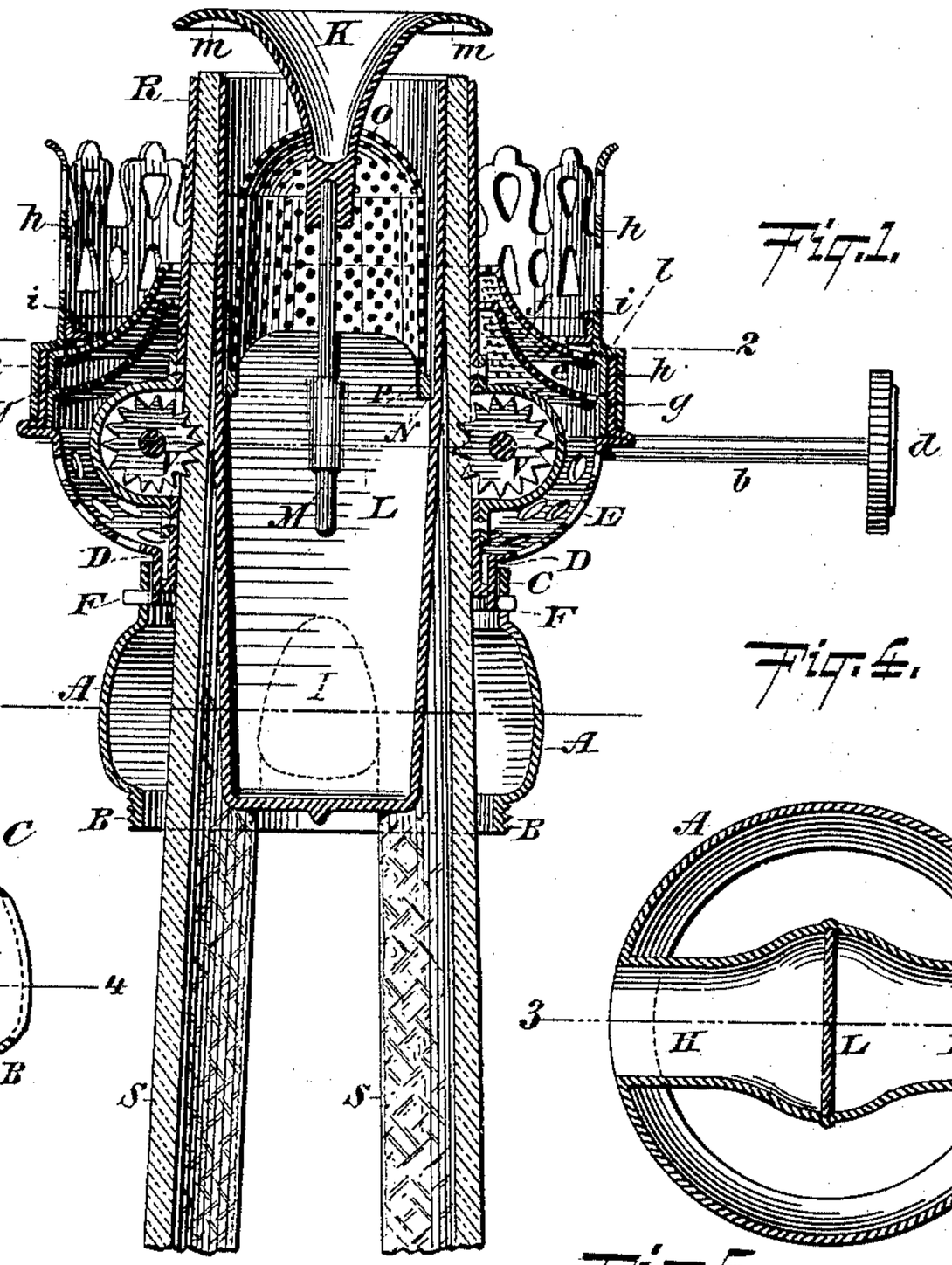


Fig. 3.

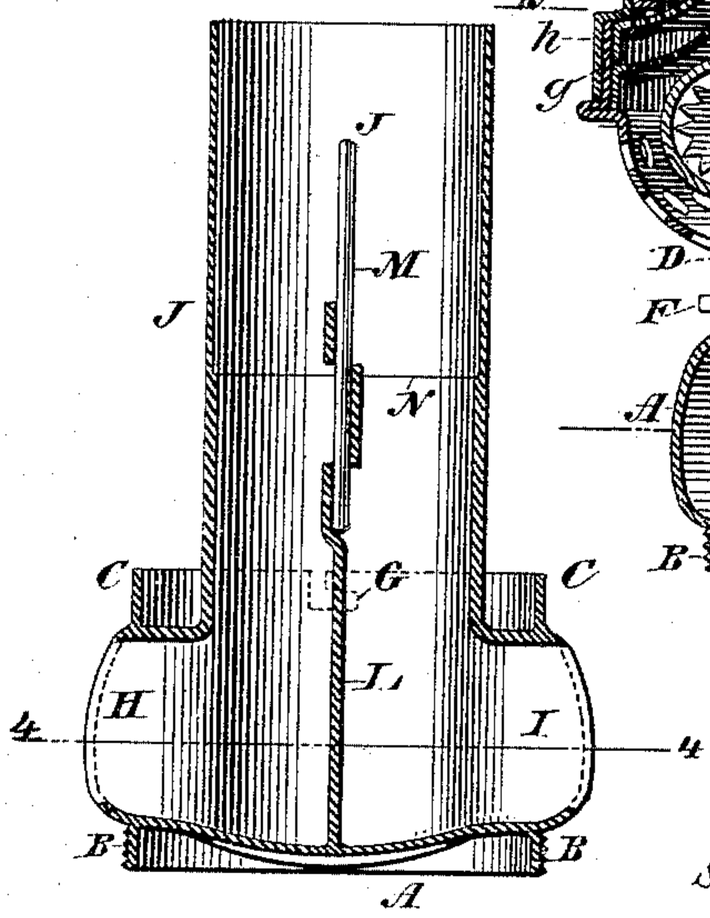


Fig. 4.

Fig. 2

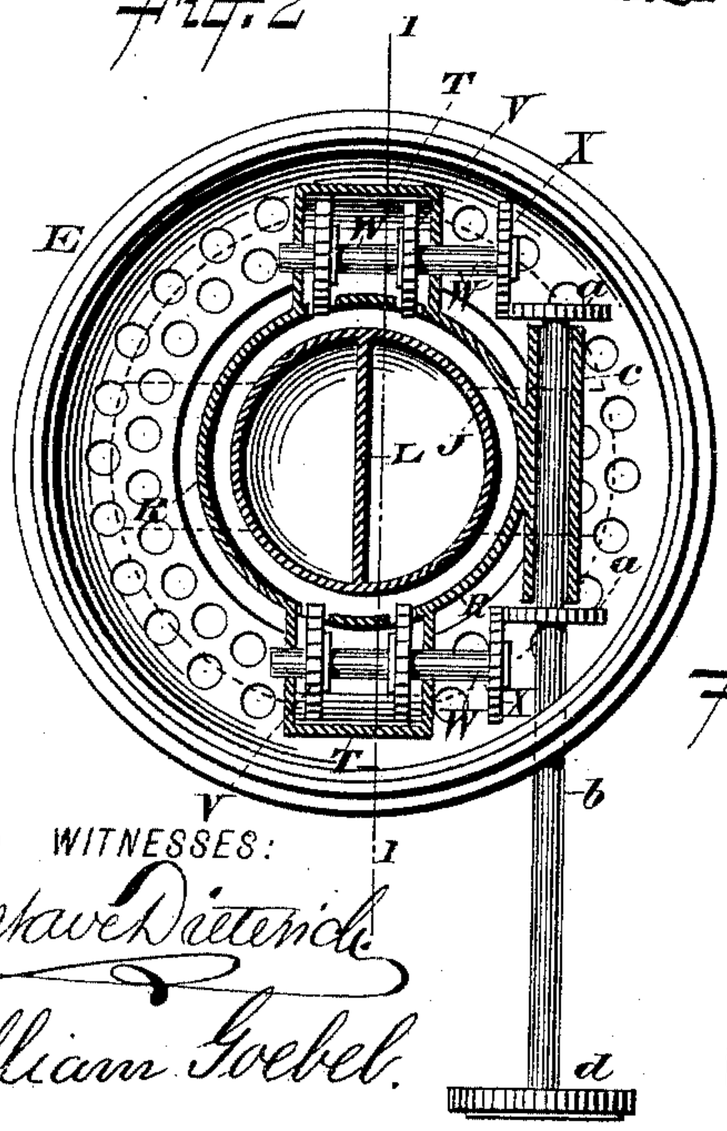


Fig. 5.

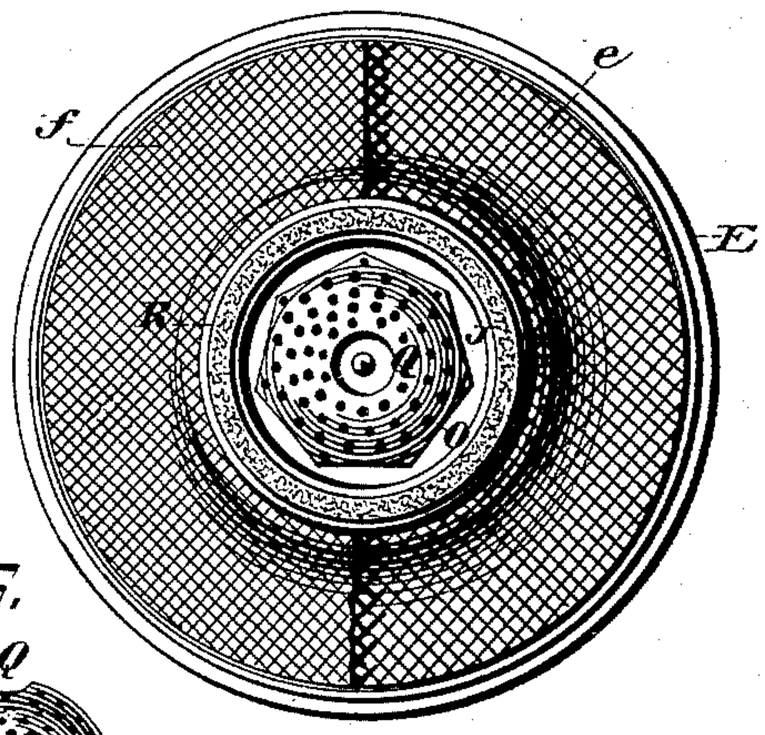
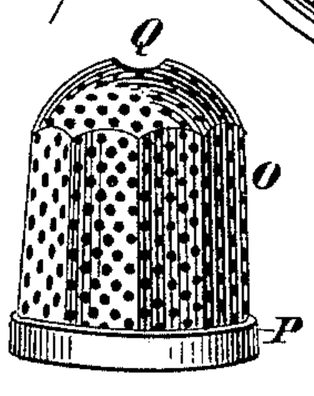


Fig. 6.



WITNESSES:

Gustave Dietenick

William Goebel.

INVENTOR

Elias B. Requa,

BY

Chas. O. Gill

ATTORNEY

UNITED STATES PATENT OFFICE.

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

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 488,972, dated December 27, 1892.

Application filed June 25, 1890. Serial No. 356,639. (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 consists in the devices hereinafter described and claimed, reference being had to the accompanying drawings, in which

Figure 1 is a central vertical section of a lamp burner constructed in accordance with the invention, the section being on the dotted line 1—1 of Fig. 2, which is a transverse section of said burner on the dotted line 2—2 of Fig. 1; Fig. 3 is a detached central vertical section of the interior draft tubes of the burner, said section being on the dotted line 3—3 of Fig. 4, which is a transverse section of same on the dotted line 4—4 of Fig. 3; Fig. 5 is a top view of the burner base showing two foraminous plates, a portion of the upper plate being broken away to disclose the other plate beneath it, the lower plate being provided with coarse perforations and the upper one with fine perforations; Fig. 6 is a side elevation of a perforated thimble which in use occupies a central position within the interior vertical draft tube of the burner.

In the accompanying drawings A designates a cylinder provided with the screw-threaded flange B at its lower edge adapting the burner for attachment to the usual form of lamps now on the market. The upper edge of the cylinder A is provided with the flange C to receive the lower contracted neck D of the burner base E, said neck being provided with pins F, to enter the slots G in the flange C and thus lock the burner base to the cylinder in the manner of a bayonet joint. The cylinder A is hollow and supports within it the transverse tubes H, I, and central vertical tube J, which extends upward to within a short distance of the inverted cone-shaped button K and operates as a wick tube. Within the vertical tube J is provided the vertical partition L which sub-divides the tube into two parts and forms a division between the tubes H, I, as illustrated more clearly in Fig. 3. The tubes H, I, open through the cylinder A, as shown by dotted lines in Fig. 1 and by full lines in Figs. 3 and 4, and their purpose is to admit currents of air into the tube J. If the partition L were omitted from the central tube J it is possible that the air instead of passing upward to the flame would move directly through the tubes H, I. The partition L also serves as a support for the post M upon which is inserted the inverted cone-shaped button K, the latter having at its lower end a socket adapted to fit upon the upper end of said post, as illustrated in Fig. 1. Within the tube J is provided the annular shoulder N located slightly below the upper end of the partition L to afford a support for the lower edge of the perforated thimble O, which is inserted downward through the upper end of the tube J and rests upon the shoulder N therein, its lower edge encircling the upper reduced portion of the partition L, as illustrated in Fig. 1. The perforated thimble O is provided at its lower edge with the strengthening band P and at its upper end is provided with the central opening Q to receive the lower end of the button K when the latter is inserted in position upon the upper end of the post L. The perforated thimble O is polygonal in cross section and slightly tapering in order that currents of air passing through its perforations may circulate entirely around it. The upper reduced end of the partition L fitting within the lower end of the perforated thimble O tends to preserve said thimble in a vertical position within the tube J and prevent said thimble from leaning against the interior walls of said tube.

The burner base E is perforted, as shown in Figs. 1 and 2, and supports centrally within it the wick tube R which extends upward to the upper end of the tube J and forms between itself and said tube J the space for the circular wick S, as illustrated in Fig. 1. Within the base E are formed the housings T, shown more clearly in Fig. 2, to receive the wick wheels V mounted upon the shafts W and penetrating through slots formed in the wick tube R so as to engage the wick S at opposite sides of the burner base. The shafts W have upon their outer end the pinion wheels X which are engaged by the pinion wheels *a* mounted upon the shaft *b* which is housed at its inner end by the sleeve *c* and

carries at its outer end the button *d* by which the shaft may be conveniently rotated. It will be observed that upon the rotation of the shaft *b* the pinion wheels *a* will simultaneously engage the pinions X and thereby effect the simultaneous rotation of the shafts W and wick wheels V. It is of importance to secure the simultaneous rotation of the wick wheels V on opposite sides of the wick tube R since if one pair of said wick wheels should start to rotate before the other pair, one side of the wick would be elevated or depressed slightly before the other part thereof commenced its movement.

Within the burner base E is supported the foraminous plate *e* and above this plate is provided the additional foraminous plate *f* having finer perforations than those of the plate *e* so as to more finely diffuse the currents of air prior to their entrance into the chimney or globe.

The burner base E is provided at its upper outer edges with the vertical flange *g* which receives the outer edges of the foraminous plates *e*, *f*, and also the lower edge or flange of the circular frame *h* which incloses the lower end of the globe or chimney, not shown, and is preferably of ornamental configuration. The frame *h* fits snugly upon the flange *g* and is provided with the interior horizontal flange *i* which extends inward over the outer edges of the plate *e* and serves as a chimney or globe rest. The horizontal flange *i* is circular and extends entirely around the frame *h*, to which it is soldered or riveted.

The inverted cone-shaped button K has its outer edges extended downward to form the concave space *m*, whose effect in conjunction with the air currents passing upward through the tube J is to cause the lamp flame to assume a globular form and be drawn inward over the outer edges of the said button, the purpose being to secure the maximum degree of power from the flame and to maintain the latter as pure and steady as possible.

The wick S is cylindrical above the air-tubes H, I, and bifurcated below said tubes, so as to straddle the latter as indicated in Fig. 1. I prefer to insert the wick S in position by first separating the burner base E from the cylinder A, and then inserting the bifurcated ends of the wick through said cylinder on opposite sides of the tubes H, I, until the upper cylindrical portion of the wick snugly incloses the central draft tube J, after which the burner base E is replaced on the cylinder A, the tube R fitting against the outer surfaces of the wick.

In the use of the burner, air currents pass upward through the burner base E and foraminous plates *e*, *f*, to the interior of the globe or chimney, being finely diffused during their upward passage, and additional air currents enter the central tube J from the tubes H, I, and pass thence to the interior of the flame and lower side of the button K, being finely diffused in transit by the perforated thimble O.

The burner which is made the subject of this application embraces a further development of the burner described and claimed in Letters Patent of the United States numbered 416,183 and granted to me December 3, 1889.

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

1. In a lamp burner the cylinder A having a flange at its lower end for attachment to the lamp and a flange at its upper end for connection with the burner base, the transverse tubes H, I, extending inward from opposite sides of said cylinder, and the central tube J extending upward from and carried by said tubes H, I, combined with the perforated burner base E, the tube R secured at lower end to the lower end of said base, and the flange at the upper end of said base to receive the chimney frame, the said tube J extending upward from the tubes H, I, to the upper end of the tube R; substantially as and for the purposes set forth.

2. In a lamp burner, the perforated burner base E having the flange *g* encircling its upper edge and supporting from its lower contracted end the vertical tube R, combined with the frame *h* fitting upon the flange *g* and provided with the inwardly extending flange *i*, the cylinder A attached to the lower end of the burner base, and the transverse tubes H, I, and vertical tube J supported within said cylinder, the tube J extending upward within and to the upper end of the tube R; substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 24th day of June, A. D. 1890.

ELIAS B. REQUA.

Witnesses:
CHAS. C. GILL,
E. D. MILLER.