

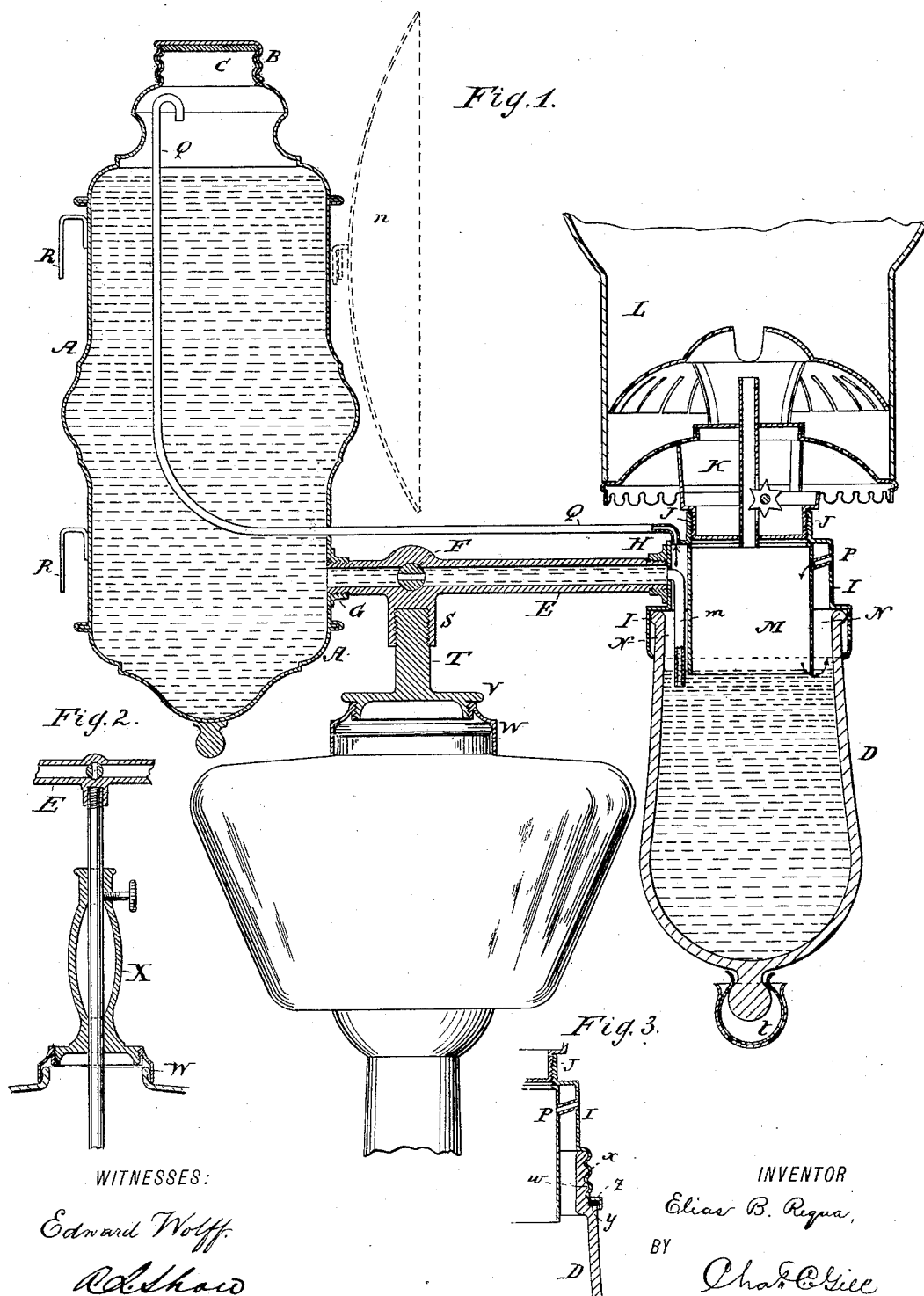
(No Model.)

E. B. REQUA.

LAMP.

No. 342,133.

Patented May 18, 1886.



WITNESSES:

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

LAMP.

SPECIFICATION forming part of Letters Patent No. 342,133, dated May 18, 1886.

Application filed November 30, 1885. Serial No. 184,257. (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 Lamps, of which the following is a specification.

The invention relates to improvements in lamps; and it consists in a novel automatic means for feeding the oil from a suitable reservoir to an oil-fount connected with the lamp-burner, and for maintaining the oil at a uniform height in said fount without regard to the quantity of same in the reservoir.

The invention will be fully described hereinafter, and is illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical longitudinal section of an embodiment of the invention, and Figs. 2 and 3 are vertical sections of modified parts of same.

The lamp embodying the invention sought to be protected herein may be employed as a bracket or wall lamp, or it may be applied to a movable stand or to the collar of the ordinary lamp, as hereinafter specified.

In the accompanying drawings, A designates the reservoir, which will be of suitable size and outline, and provided with a removable cap, B, firmly closing a mouth, C, through which the oil in suitable quantities may be supplied. The lower portion of the reservoir A is connected with the oil-fount D by a pipe or tube, E, having a cock, F, one end of the pipe or tube being screwed into an internally-threaded collar, G, affixed to the reservoir, and the other end of the pipe or tube being screwed into an internally-threaded collar, H, fastened to the metallic band I, supporting at its lower portion the glass fount D, while its upper portion forms a lamp-collar, J, by which the burner-frame K is attached.

The burner frame may be of any usual construction, and may be supplied with a chimney or globe, L.

Within the metallic band I is provided and firmly secured the cylinder or tube M, between which and the bands is formed a space, N, and which projects downward into the glass fount D a sufficient distance to enter the oil after

the fount has been filled therewith to the desired height. An air tube or vent, P, passes through the band I and cylinder or tube M, as shown in Fig. 1, and from the opposite side of the lamp an air-tube, Q, extends from the upper portion of the space N into the interior of the reservoir A, and thence upward to the upper end of same, where the extremity of the tube Q is turned or bent over so that its mouth will point downward.

From the delivery end of the pipe E a tube, m, passes downward through the space N to a point slightly below the lower edge of the cylinder or tube M.

Upon the side of the reservoir A may be secured the hooks R, by which the lamp may be suspended, if desired, forming a wall or bracket lamp, and upon the under side of the pipe E is shown an internally-threaded socket, S, adapted to receive the upper end of the post T, having a threaded base, V, entering the lamp-collar W, the purpose of this latter construction being to afford a means whereby the ordinary lamp-stands may be utilized for sustaining the lamp sought to be protected hereby. The post T may be made vertically-adjustable, if desired, and when so made the base V will be in the form of a sleeve, X, inclosing the post and provided with a set-screw, as shown in Fig. 2.

A reflector, n, as shown by dotted lines, may be applied to the lamp, and an oil-cup, t, may be attached to the lower end of the glass fount D, if thought desirable or found necessary.

The manner of securing the oil-fount D in position may be varied from that illustrated in Fig. 1, if desired, and screw-threads *w x* on the upper exterior portion of the fount and adjoining parts of the band I employed for this purpose, as shown in Fig. 3. When the screw-threads *w x* are made use of, a shoulder, y, will be formed on the fount, and this will support a packing, z, and be covered and protected by the lower edge of the metallic band I, as shown.

The construction of some of the parts of the lamp, and the manner of mounting it, may be such as may be deemed most convenient, according to the purposes to which it is applied

or the circumstances under which it is employed. It may be said concerning the vent P that in its exact form it need not be employed, its only purpose being to admit air into the cylinder M, and any inlet for external air will answer the functions of the particular form of vent shown.

Operation: In supplying oil to the lamp the pipe E will be closed by the cock F and the cap B removed, after which the oil will be poured through the mouth C until the reservoir A is filled nearly up to the end of the tube Q. The cap B will then be replaced, and the passage through the pipe E opened, whereupon the oil will flow through said pipe and tube *m* into the fount D until it rises slightly above the lower edge of the cylinder M and tube *m*, at which time the flow will cease, and the air which has not passed into the top of the reservoir through the tube Q will be compressed in the space N, forming a cushion, which will prevent the ascent of the oil above a given point. The air which passes into the reservoir A through the tube Q supplies the vacuum therein, and permits the flow of oil through the pipe E. The oil having been supplied, as above set forth, the lamp may be lighted at once, or the cock F may be again turned to close the pipe E, the cap B removed, and additional oil poured into the reservoir to take the place of that which previously passed into the fount D. After this is done the cap will be replaced and the pipe E opened, whereupon the lamp will be in condition for use. The oil being thus supplied to a given height in the fount D, it is essential that it be regularly maintained without material variation during the time the light is burning, and this is effectually accomplished in an entirely automatic manner by the arrangement of devices shown. As soon as the oil has been consumed until it passes but very slightly below the edge of the cylinder M, the air immediately rushes from within the cylinder into the space N, displacing a part of the air previously therein, and causing such portion to pass through the tube Q into the reservoir A, whereupon a proportionate quantity of oil will flow through the pipe E into the fount D until the oil in the fount again rises above the edge of the cylinder N and checks the passage of air into the space N. The passage of air into the space N, tube Q, and reservoir A, and that of the oil from the reservoir into the fount D is but of momentary duration and has no material effect on the flame.

The operation of feeding the oil to the fount and maintaining it therein at a given height is simple and automatic, and my tests have demonstrated that it is entirely safe and reliable. It should be noted that the atmospheric pressure within the cylinder M acts directly upon the surface of oil in the fount D and supports the column of oil in the reservoir A, and

that after the oil has once risen above the lower edge of the cylinder M no further oil can pass into the fount until the air can find a passage into the chamber N.

In the drawings the lamp which is the subject of this application is shown mounted upon the ordinary lamp-stand, for the purpose of illustrating how said stands may be utilized by simply removing their burners; but the lamp may be mounted on any stand desired without departing from the spirit of the invention.

I hereby disclaim the lamps shown and described in United States Letters Patent No. 226,211, of April 6, 1880; No. 89,580, of May 4, 1869; No. 217,502, of July 15, 1879, and No. 311,972, of February 10, 1885, and in English Patent No. 17,050 of 1884. In these patents is shown an elevated oil-reservoir connected with an oil-burner fount by means of an air-pipe and an oil-conveying pipe having a cock or valve; but in none of these patents is shown the burner-fount in which is provided the cylinder M, air-space N, the tube *m*, and tube Q, arranged as claimed herein; and these elements I consider essential in the production of a lamp fed from an elevated reservoir, since they insure regularity in the feeding of the oil and prevent any liability of the oil rising into the lamp-burner or overflowing the fount.

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

1. A lamp consisting of an oil-reservoir having a removable air-tight cap, an oil-fount connected with the reservoir by a pipe having a cock, a lamp-burner applied to said fount, a cylinder projecting downward into the fount and forming an air-space between itself and the fount, a tube leading from said pipe to a point below said cylinder, an air-tube passing from the upper portion of said air-space to the upper interior part of the oil-reservoir, and a vent for the passage of air into the said downwardly-projecting cylinder, substantially as and for the purpose set forth.

2. A lamp consisting of an oil-reservoir having a removable air-tight cap, an oil-fount suspended from a band, I, and connected with the reservoir by a pipe, E, having a cock, F, a lamp-burner screwed into the upper end of the band I, the cylinder M, entering the fount D and forming the air-space N, the tube *m*, the tube Q, extending from the space N to the interior of the reservoir, and the vent P, passing through the cylinder and band, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 25th day of November, A. D. 1885.

ELIAS B. REQUA.

Witnesses:

CHARLES C. GILL,
EDWARD WOLFF.