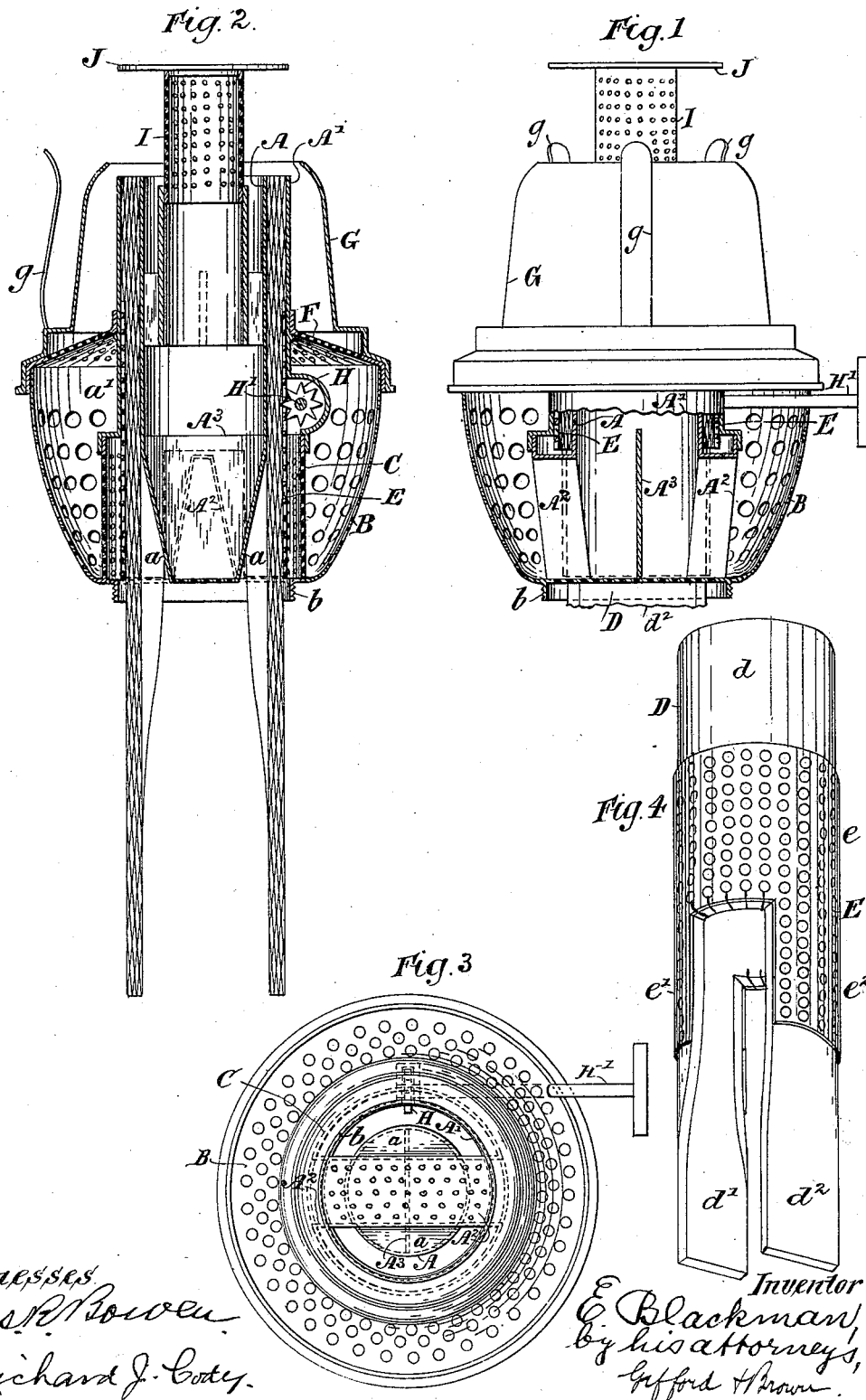


(No Model.)

E. BLACKMAN.
LAMP BURNER.

No. 346,889.

Patented Aug. 10, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

EBENEZER BLACKMAN, OF BROOKLYN, NEW YORK.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 346,889, dated August 10, 1886.

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To all whom it may concern:

Be it known that I, EBENEZER BLACKMAN, of Brooklyn, in Kings county, in the State of New York, have invented a certain new and useful Improvement in Lamp - Burners, of which the following is a specification.

I will describe a lamp-burner embodying my improvement, and then point out the various features in the claims.

In the accompanying drawings, Figure 1 is a partly-sectional side view of a lamp-burner embodying my improvement. Fig. 2 is a vertical section of the same, taken in a plane at right angles to the plane of the section in Fig. 1. Fig. 3 is an inverted plan or bottom view of the burner, and Fig. 4 is a perspective view of the wick and wick-holder detached.

Similar letters of reference designate corresponding parts in all the figures.

A A' designate a wick-tube, which is of annular form, and consists of two cylindrical shells, of sheet metal or tubing, arranged one concentrically within the other. The shell A is flattened at two opposite portions, *a*, and these two portions converge toward each other downwardly. This tube is mounted upon the bottom of a cup-shaped air-distributor, B, and secured thereto. The outer shell, A', of the wick-tube does not extend down to the bottom of the air-distributor B. At the lower edge it has an outwardly-extending flange, A', at whose outer circumference is a downwardly-extending rim. The flange *a'* rests upon the rim, and laps over the upper edge of a perforated cylindrical shell, C, which is erected upon the bottom of the air-distributor B. It will preferably be made of a metal which is a poor conductor of heat. It is concentric with the wick-tube shells A A', but is considerably larger than either.

D designates the wick. It consists of a cylindric upper portion, *d*, and two strips, *d'* *d''*, extending therefrom. It is secured in a holder, E, consisting of a cylindric upper portion, *e*, and strips *e'* *e''*, extending downwardly therefrom. This holder is perforated longitudinally with rows of holes. It may be made of any suitable sheet metal, preferably one which is a poor conductor of heat. The wick is secured to it by sewing or otherwise, so that the two are intimately connected together. The cy-

lindric portions of the wick and wick-holder fit between the shells A A' of the wick-tube, and the strips of the wick and wick-holder extend down through the space between the shell A of the wick-tube and shell C, that supports the shell A' of the wick-tube.

There is considerable space outside of the lower portion of the wick and wick-holder, owing to the shell C being of greater size than the outer shell, A', of the wick-tube. By reason of the convergence of the portions *a* of the inner shell of the wick-tube a considerable space is afforded inward of the lower portion of the wick and wick-holder. This results in keeping the burner cool.

Cross-passages A² are made of sheet metal between the inner shell, A, of the wick-tube and the shell C.

Air entering the air-distributor B passes upwardly to the outside of a flame emanating from the wick, and air also passes through the passages A² to the space encircled by the inner shell, A, of the wick-tube, and thence to the inner surface of the flame.

A plate or diaphragm, A³, extends upwardly into the shell A of the wick-tube opposite the cross-passages A². It prevents air from blowing across from one of these passages A² to the other.

The outer shell, A', of the wick-tube has an air-distributor, F, affixed to it. This air-distributor consists of a perforated plate of sheet metal, whose outer circumference is bent downwardly to fit over the upper edge of the air-distributor B.

The outer shell, A', of the wick-tube is merely supported by the bearing which it has at the lower edge upon the shell C, and by the bearing which the air-distributor F has upon the air-distributor B. It may therefore be lifted off at any time to facilitate the insertion of the wick and wick-holder, or for any other reason.

A conoidal deflector, G, is supported upon the air-distributor F. It is made of sheet metal, and is so formed at the lower portion as to constitute a gallery upon which a chimney may rest, arms *g* being provided to retain the chimney in position.

A ratchet or star wheel, H, mounted upon a shaft, H', journaled in an extension from the

outer shell, A', of the wick-tube, engages with perforations of the wick-holder E. When rotated by a hand-piece, with which the shaft is provided, this wheel will adjust the wick-holder, and consequently the wick, upwardly or downwardly.

I designates a perforated sheet-metal tube extending above the wick-tube and closed at the top, preferably by a deflector or button, J, extending not only over but beyond it. It is supported by the inner wall, A, of the wick-tube.

The air-distributor B has at the bottom an externally-screw-threaded boss or neck, b, whereby the burner may be secured to the collar of an oil reservoir or fount.

It will be observed that the ratchet-wheel H and its shaft H' are arranged in quite an elevated position, much nearer the top of the wick-tube than usual. This is advantageous, because it provides for adjusting the wick and wick-holder the required distance without ever adjusting the wick-holder into such position that any part of it will extend below the bottom of the air-distributor B. This is advantageous, because when the wick-holder has not to be adjusted into such position that any part of it will extend below the burner the boss or neck b of the burner may be made of smaller diameter than the wick-holder, so as to adapt it to fit in a reservoir or fount collar of small size. The wick will not interfere with the making of the boss or neck b smaller in diameter than the holder, because it is so flexible that it can be bent to pass through a small passage-way.

The wick-holder E may have only one of the strips e' or e". Then it will in effect be a cylindric piece and a rack extending therefrom. The shell C is in effect part of the wick-tube.

By perforating the bottom of the air-distributor B below the inner shell of the wick-tube and securing the tube I in a detachable manner within the inner shell of the wick-tube, I provide for removing the said tube I and filling the lamp reservoir or fount by pouring oil down through the inner shell of the wick-tube. Air may also descend through the perforated bottom, and ascend through the same into the inner shell of the wick-tube.

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

1. In an Argand burner, the combination, with an air-distributor, as B, of an annular

wick-tube composed of a cylindric shell, as A, secured to the said air-distributor, and an outer cylindric shell, as A', of a perforated shell, C, within the air-distributor B, larger in diameter than the outer shell, A', of the wick-tube, and forming the lower part of the outer wall of the wick-tube, substantially as specified.

2. In an Argand burner, the combination, with an air-distributor, as B, of an annular wick-tube composed of a cylindric shell, as A, secured to the said distributor, and an outer cylindric shell, as A', of a stationary perforated shell, C, within the air-distributor B, forming the lower part of the outer shell of the wick-tube, and being larger in diameter than the outer shell, A', of the wick-tube, said outer wick-tube shell, A', being detachably supported upon the shell C, substantially as specified.

3. The combination, with an air-distributor, as B, of an annular wick-tube composed of a shell, as A, mounted upon said air-distributor, and a shell, A', a perforated shell, C, within the distributor B, mounted upon said air-distributor and supporting the said shell A', and an air-distributor, F, secured to the shell A' of the wick-tube and resting upon the air-distributor B, and the deflector G, substantially as specified.

4. In a lamp-burner, the combination, with an annular wick-tube comprising an inner and an outer shell, and provided near its lower end with a passage whereby air may enter the space encircled by the inner shell, of an air-distributor surrounding the lower portion of the wick-tube and supporting the same, the bottom of said air-distributor being provided with an opening extending through the base of the burner within the inner shell of the wick-tube, and a perforated diaphragm between said opening and the tip of the wick-tube, substantially as specified.

5. In an Argand burner, the combination, with an annular wick-tube comprising an inner and an outer shell, of an air-distributor surrounding the lower portion of the wick-tube and supporting the same, the bottom of said distributor being provided with an opening within the inner shell of the wick-tube, and a perforated diaphragm between said opening and the tip of the wick-tube, substantially as specified.

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