M. L. CALLENDER.

Lamp Burner.

No. 32,118. Patented April 23, 1861.

Fig. 1.

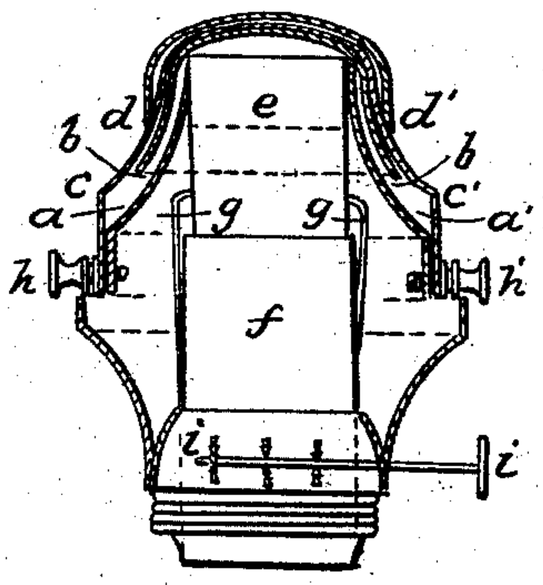


Fig. 2.

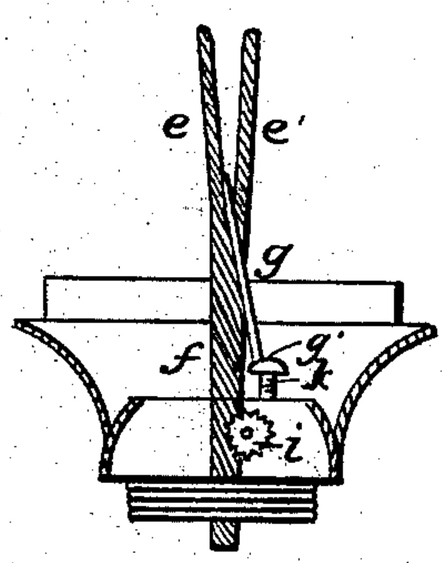


Fig. 3

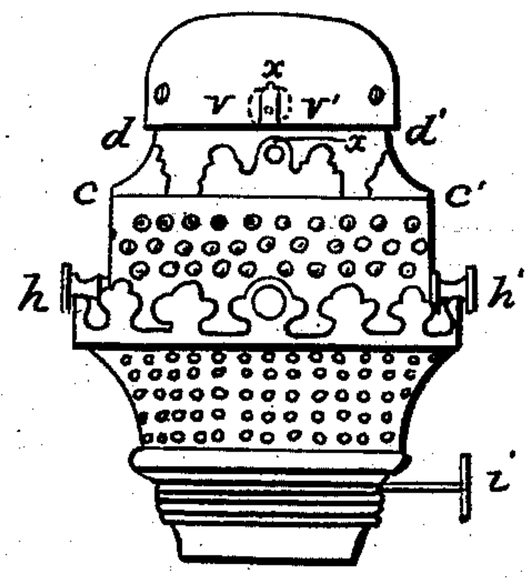


Fig. 4.

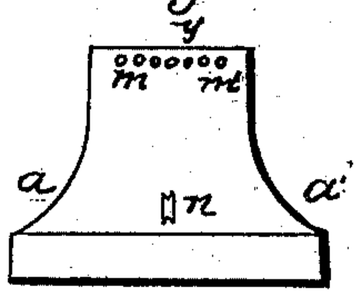


Fig. 5.

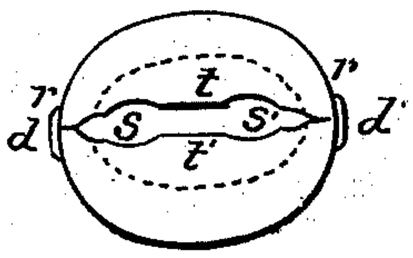
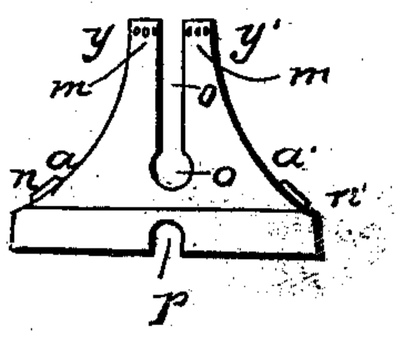


Fig. 6.



Witnesses:

O. B. Gray.

Ethan Allen

Inventor:

Milli L. Callender.

UNITED STATES PATENT OFFICE.

MILLS L. CALLENDER, OF NEW YORK, N. Y.

LAMP.

Specification of Letters Patent No. 32,118, dated April 23, 1861.

To all whom it may concern:

Be it known that I, MILLS L. CALLENDER, of the city, county, and State of New York, have made certain Improvements in Hydrocarbon-Burners; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure I is a transverse sectional view of the burner. Fig. II is a transverse sectional view of a portion of the burner, showing the bifurcated wick tube *f* and its arms *e e'*; the ratchet wheel *i*, the lever *g*, and the screw *k*. Fig. III is a perspective view of the burner. Fig. IV is a perspective view of a portion of the burner, showing the bifurcated shield *a a'*, with the air holes *m m'*. Fig. V is a view of the top of the burner showing the cap *d d'*, and the shape of the mouth *s s;* and the hinges *r r*. Fig. VI is a perspective view of a part of the burner, showing the bifurcated shield *a a'* with its arms *y y';* and the space *o o'* between said arms.

The nature of my invention consists in so combining the various parts of the burner that while the interior of the flame is supplied with a current of heated air to give a perfect combustion, the exterior surfaces of the flame are supplied with currents of cool air to give brilliancy to the light; and in the employment of a bifurcated wick tube, by which two wicks can be simultaneously raised or depressed by the action of one ratchet wheel.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The wick tube *f* (as shown in Fig. II of the accompanying drawings) is provided with the two arms *e e'*, between which a space is left for the admission of air to the flame as it burns from the two wicks. The two wicks are placed in the wick tube *f* and forced up through said wick tube *f*, by the action of the ratchet wheel *i i'*, the one being forced through the arm *e'* to the right; and the other wick being forced up through the arm *e* to the left; and both wicks can be simultaneously elevated and depressed by the action of the ratchet wheel *i i'*. The arms *e e'* are elastic and capable of being forced apart and drawn together for the purpose of increasing or diminishing the breadth of the space between the arms *e e'*. The lever *g g'* passes between the arms *e e'*, and serves as a wedge, which being forced down by the action of the screw *k*, opens the arms *e e';* and when said lever *g g'* is released by unscrewing the screw *k*, the two arms *e e'* are drawn together by their elasticity.

The burner (of which Fig. I of the accompanying drawings is a sectional view) is provided with the bifurcated shield *a a'*, which surrounds the wick tube *f* and its arms *e e';* and which prevents the air from passing freely between the top of the bifurcated shield *a a'* and the outer surfaces of the arms *e e'* of the wick tube *f*, while it allows free ingress to the air through the space *o o'*, left between the arms *y y'* of the bifurcated shield *a a'* (as shown in Fig. VI of the accompanying drawings) to the space left between the arms *e e'* of the wick tube *f* (as shown in Fig. II of the accompanying drawings). The small holes *m m'* (as shown in Figs. IV and VI of the accompanying drawings) at the tops of the arms *y y'* of the bifurcated shield *a a'* admit air to the flame above the tops of the arms *e e'* of the wick tube *f*.

The cap *b b'* (as shown in Fig. I of the accompanying drawings) is placed between the shield *a a'* and the deflector *c c'* for the purpose of dividing the current of air as it passes to the flame and preventing the air from becoming heated. The deflector *c c'* is secured to the burner by the set screws *h h'* and as the set screws *h h'* work in slots in the deflector *c c';* the said deflector is capable of being elevated or depressed to a greater or lesser distance above the cap *b b*, to increase or diminish the draft. The deflector *c c'* serves also to diminish or increase the flame by simply turning the top of said deflector half around either to the right or left to diminish the flame, and back to restore the flame to its original size. The deflector *c c'* is surmounted by the hinged cap *d d'* which can be raised to increase the draft, or lowered to check the draft by means of the set screw *v v'* working in the slot *x* (as shown in Fig. III of the accompanying drawings.)

The mouth *s s'* of the cap *d d'* (as shown in Fig. V of the accompanying drawings) serves to modify the shape of the flame by means of the lips *t t* which protrude in the center and force the flame to the right and left, thus extending the flame to a greater

breadth than it would otherwise attain. By means of the hinges *r r'* the mouth *s s* of the cap *d d'* can be opened or closed to modify the shape of the flame and to increase or diminish the draft.

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

1. The bifurcated wick tube *f* and its arms *e e'* by which two wicks can be elevated or depressed simultaneously.

2. The combination of the cap *b b'*, the deflector *c c'*, and the cap *d d'*, with the bifurcated wick tube *f* and its arms *e e'*, and the bifurcated shield *a a'* with its arms *y y'* for supplying the interior of the flame with a current of heated air; and the outer surfaces of the flame with currents of cool air, for the purpose and in the manner above specified.

MILLS L. CALLENDER.

Witnesses:

O. B. GRAY,

ELBERT PERCE.