

(No Model.)

F. RHIND.  
ARGAND LAMP.

No. 416,237.

Patented Dec. 3, 1889.

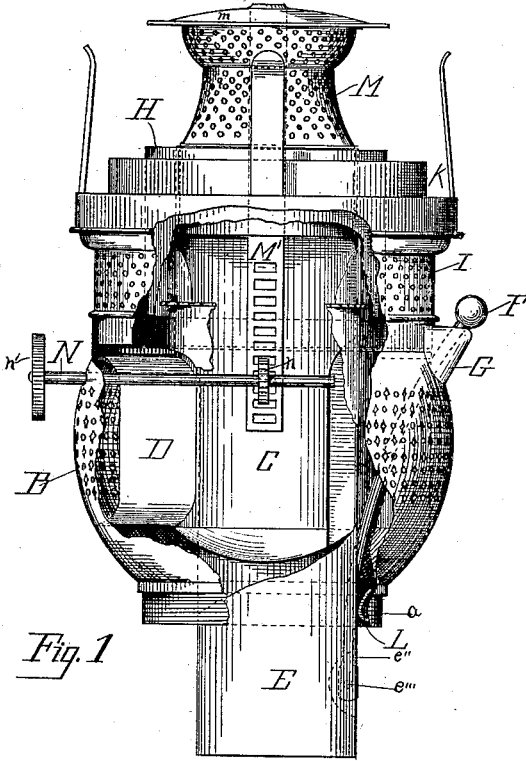


Fig. 1

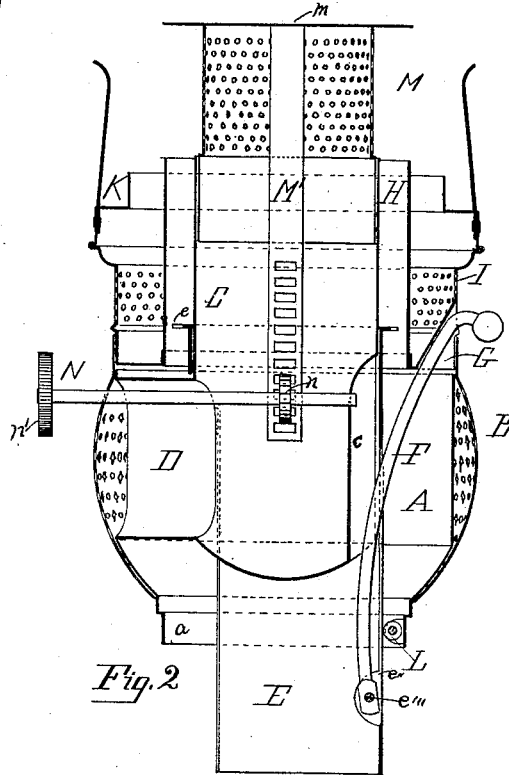


Fig. 2

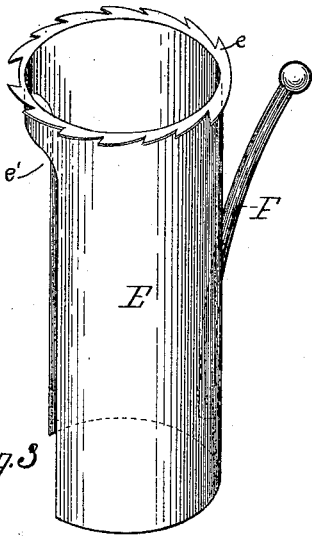


Fig. 3

WITNESSES  
 E. P. Hawley  
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 INVENTOR

PER Geo. Cooper atty.

# UNITED STATES PATENT OFFICE.

FRANK RHIND, OF MERIDEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO  
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## ARGAND LAMP.

SPECIFICATION forming part of Letters Patent No. 416,237, dated December 3, 1889.

Application filed May 4, 1889. Serial No. 309,566. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Meriden, New Haven county, Connecticut, have  
5 invented an Improvement in Argand Lamps, of which the following is a specification.

My invention relates to Argand lamps and in part to burners which are integrally detachable from the lamp. It is intended chiefly  
10 to simplify and improve the wick-adjusting mechanism of said lamps.

In the accompanying drawings, Figure 1 is an elevation of an Argand burner embodying my improvements, partly broken away to  
15 show the interior construction. Fig. 2 is a vertical section showing a modification. Fig. 3 represents in perspective the wick-adjusting device detached from the burner.

The same letters refer to corresponding  
20 parts in the several views.

A designates a burner-body; *a*, a screw-thread at the lower end of the burner-body A; B, a foraminous skirt; C, an inner wick-tube; *c*, a groove or recess in the tube C; D,  
25 a horizontal tube connecting the body A and tube C; E, a wick-adjusting sleeve; *e*, teeth on the sleeve E; *e' e''*, notches in the sleeve E; *e'''*, a pivot in the sleeve E; F, a draw-bar; G, a recess adapted to receive the draw-  
30 bar F; H, an outer wick-tube; I, a detachable foraminous portion; K, a chimney-gallery; L, a stud or idler on the body A; M, a foraminous inner air-distributor; *m*, a button or cap on the distributor M; *M'*, a rack; N, a shaft; *n*, a cog or pinion; *n'*, a thumb-piece  
35 or button.

The example of my invention illustrated in Figs. 1 and 3 of the drawings is constructed and operated as follows: The burner-body A is substantially a cylindrical shell  
40 contracted at its lower end and provided with a screw-thread *a*, adapted to engage with the collar of the lamp. Surrounding the body A and connected thereto at its upper and lower  
45 ends is the foraminous skirt B. Concentric with the body A is the inner wick-tube C, connected therewith by means of the horizontal tube D. The sides of the body A and of the tube C are cut away within the space  
50 inclosed by the tube D, so that the tube D

forms an air port or passage to the inner wick-tube C. In the tube C is formed the longitudinal re-entering groove or recess *c*, extending to the lower end of the tube. The wick-sleeve E is a tube of an interior diameter slightly greater than the exterior diameter  
55 of the wick-tube C, and so as to move easily on said wick-tube. It is notched or cut away at *e'* to pass by the port-tube D. It is provided at its upper end with two or more pairs  
60 of hooked teeth *e*, inclined toward that side of the sleeve which is above the port-tube D. The wick intended to be used is a flat one of sufficient width to enwrap the sleeve E. The edges of the wick are placed next the slot *e'*,  
65 so that the wick also passes freely by the port-tube D. The hooked teeth *e* prevent the edges of the wick from separating. By providing two or more pairs of hooked teeth *e* the strain on the selvages of the wick is reduced and tearing is prevented. Opposite  
70 the notch *e'* in the wick-sleeve E is cut the notch *e''*. At the lower end of the notch or slot *e''*, I place the pivot *e'''*, on which the draw-bar F is secured. By placing the pivot *e'''* within the periphery of the sleeve E and cutting the notch or slot *e''* above the pivot  
75 the lower end of the sleeve E and draw-bar F may pass downward through the collar portion *a* of the burner-body A. To accommodate the lower end of the draw-bar F and to permit its vertical movement are the objects of the longitudinal groove or recess *c* in the wick-tube C. I have here shown the recess  
80 G, through which the upper end of the draw-bar passes, as formed in the upper flange of the foraminous skirt B; but, if desired, it may be made in the detachable portion I, as shown in Fig. 2 of the drawings. The object  
85 in either case is to permit the integral removal of the wick-adjusting sleeve and draw-bar. To secure the vertical alignment of the sleeve E and wick-tube C, I provide a stud L, secured to the body A opposite the port-tube D and adapted to bear against the sleeve E.  
90 It is obvious that the wick must be slit to pass over either the draw-bar F or lug L. By arranging these both opposite the port-tube D one slit in the wick is sufficient. There is no other particular advantage in placing the  
100

draw-bar F and groove *c* opposite the port-tube D, and, if preferred, these may be placed in any other position relative to the tube D in the wick-tube C. I have spoken of the foraminous skirt B as connected to the body A at its upper and lower ends. In practice I extend the upper edge of the skirt B above the body A, thereby forming a seat for the detachable foraminous portion I. By thus joining the upper edge of the body A to the skirt B an ample space is secured for the wick between the body A and inner tube C, and the accumulation of wick-char or of any foreign substance between the body and skirt is prevented.

In Fig. 2 of the drawings I have shown a burner similar in structure and function to that described, except that the notch or recess G, intended to receive the draw-bar F, is here made in the detachable foraminous portion I instead of in the skirt B; that the stud L is replaced by an idler having the same office, and that the foraminous inner air-distributor M is here shown as a cylinder surmounted, as before, by the cap *m*.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is as follows:

1. In an Argand lamp, the combination, with a vertically-movable wick-adjusting sleeve, of two or more pairs of oppositely-inclined hooked teeth, substantially as described.

2. In an Argand lamp, the combination of an inner wick-tube provided with a re-entering groove or recess, a wick-adjusting sleeve formed with a longitudinal slot, and a draw-bar pivoted to said sleeve within its periphery, substantially as described.

3. In an Argand burner provided with an air-port above the top of the fount to supply air to the interior of the flame, an integrally-removable wick-adjusting mechanism consisting of a sleeve surrounding the inner

wick-tube and partially cut away to permit it to pass downward on both sides of said port, and a draw-bar attached at one end to said sleeve and with its free end passing out of said burner and adapted to be grasped by the hand of the operator, substantially as described.

4. In the wick-adjusting mechanism of an Argand lamp, the combination of a sleeve provided with a longitudinal slot, a pivot or hinge within the periphery of said sleeve near the lower end of said slot, and a draw-bar secured to said hinge or pivot and adapted to move within said slot, substantially as described.

5. In an Argand lamp-burner, the combination of an inner wick-tube, an air-port connected with said wick-tube, a wick-adjusting sleeve adapted to vertical motion on said wick-tube and partially cut away to permit it to pass downward on both sides of said port-tube, and a stud or idler adapted to bear against said sleeve on the side substantially opposite said port-tube, substantially as described.

6. In an Argand burner, the combination of an inner wick-tube, a burner-body rigidly connected with said inner tube, a foraminous skirt surrounding said burner-body and rigidly secured thereto at or near both its lower and upper ends, an outer wick-tube, a flange on said outer tube provided with means for detachably securing said outer tube within said burner-body or foraminous skirt at or near their upper line of juncture, said parts being so arranged as to leave a clear annular space between said inner wick-tube and said body and skirt when said detachable portion is removed, substantially as described.

FRANK RHIND.

Witnesses:

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