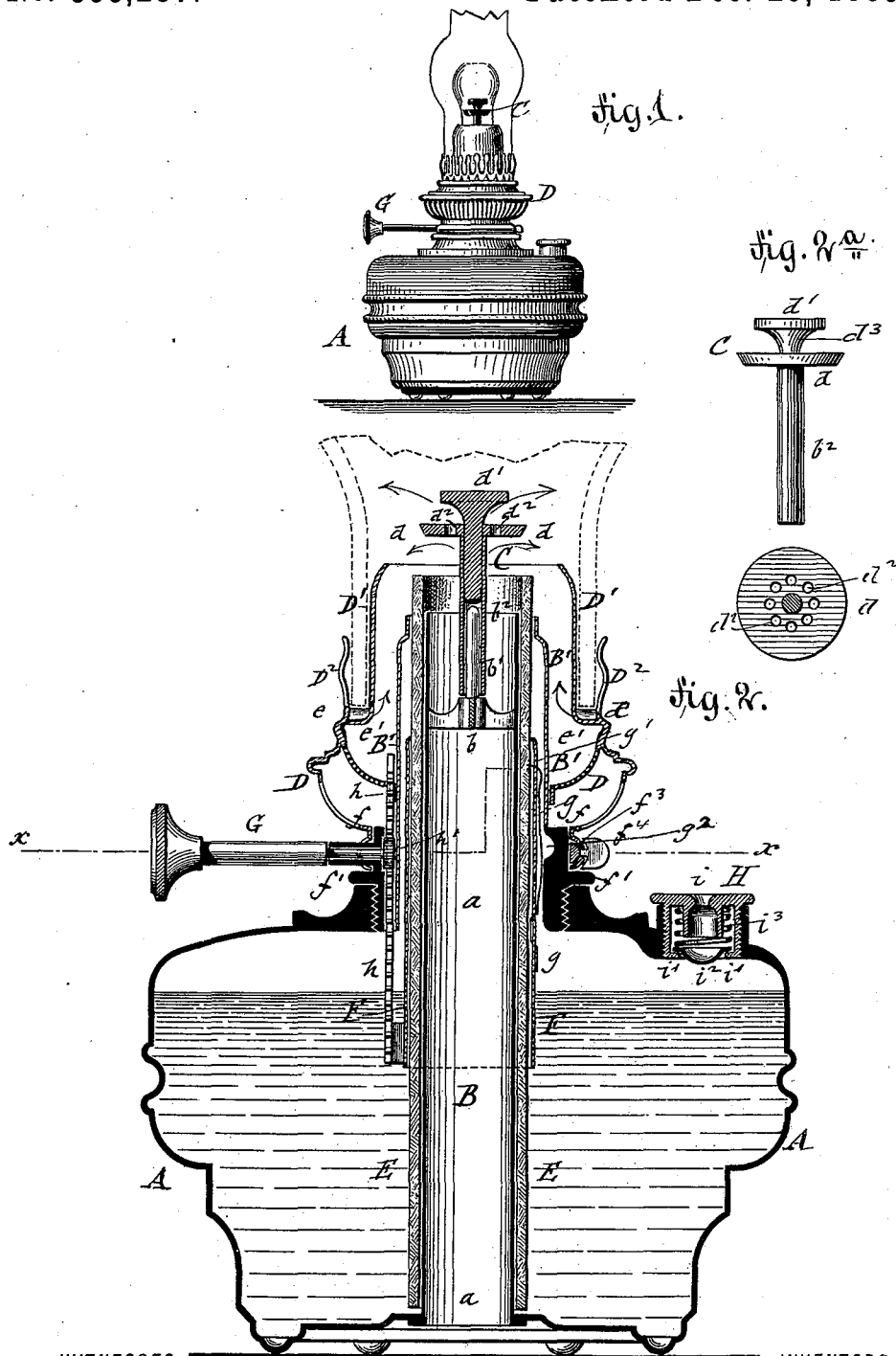


J. LEMPEREUR & L. BERNARD.

LAMP.

No. 333,237.

Patented Dec. 29, 1885.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

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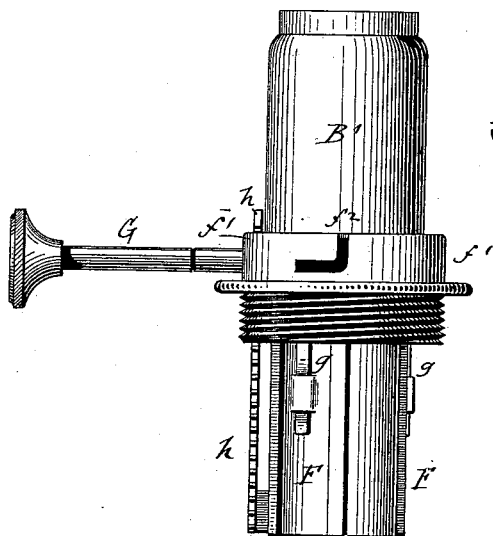


Fig. 3.

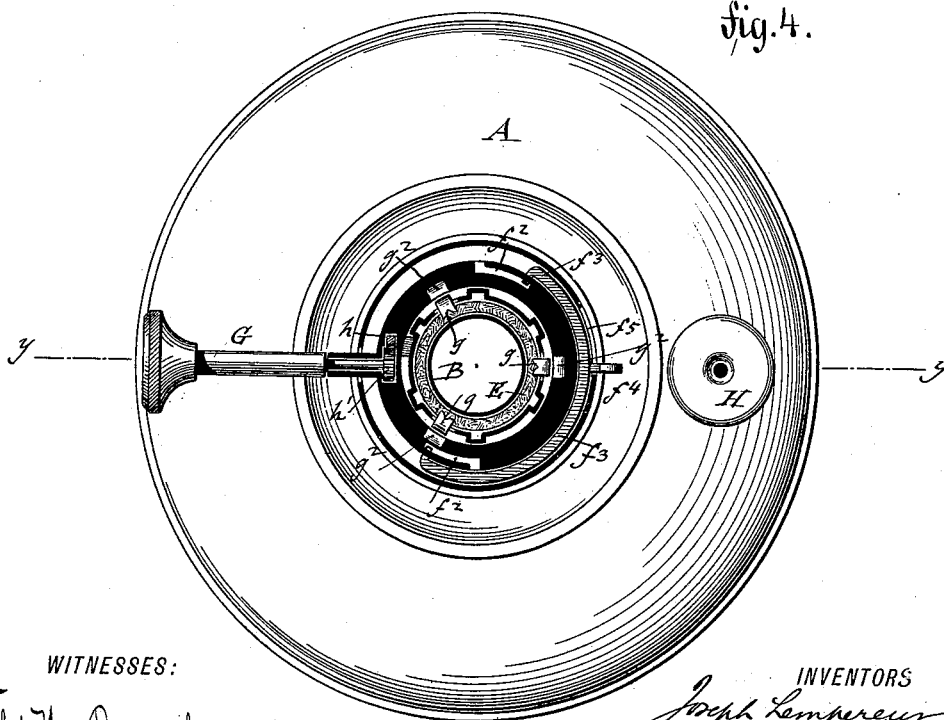


Fig. 4.

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# UNITED STATES PATENT OFFICE.

JOSEPH LEMPEREUR AND LAMBERT BERNARD, OF LIEGE, BELGIUM.

## LAMP.

SPECIFICATION forming part of Letters Patent No. 333,237, dated December 29, 1885.

Application filed October 9, 1885. Serial No. 179,380. (No model.) Patented in Belgium December 20, 1883.

*To all whom it may concern:*

Be it known that we, JOSEPH LEMPEREUR and LAMBERT BERNARD, of Liege, in the Kingdom of Belgium, have invented certain  
5 new and useful Improvements in Lamp-Burners, of which the following is a specification.

This invention relates to an improved lamp-burner, by which a perfect combustion of the oil and a clear and white flame are obtained;  
10 and the invention consists, first, of a deflector having a lower perforated disk and a button above the same; secondly, of an improved device for locking the gallery and the outer wick-tube to the collar of the bowl, as will be  
15 described more fully hereinafter, and finally be pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved lamp-burner shown as applied to a lamp-bowl.  
20 Fig. 2 is a vertical transverse section on line *yy*, Fig. 1, of the burner and bowl, drawn on a larger scale. Fig. 2<sup>a</sup> are detail views of the deflector. Fig. 3 is a side elevation of the wick-tube detached; and Fig. 4, a horizontal  
25 section on line *xx*, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the bowl, which is provided with a central draft-opening, *a*, and an inner wick-tube, B, that  
30 is permanently secured to the bottom of the bowl. The bowl has to be supported in such a manner on the table or other support that the air can pass freely along the bottom of the bowl to the central draft-opening and inner  
35 wick-tube, B, of the same.

At the upper part of the fixed wick-tube B is supported by radial arms a central socket, *b*, that carries a vertical central pin, *b'*, to which  
40 is applied the tubular shank, *b''*, of a deflector, C, which consists of a lower disk, *d*, having perforations *d''*, and of an upper disk-shaped button, *d'*, of a smaller diameter than the lower disk, *d*, which button is connected by an out-  
45 wardly-curved shank, *d'''*, with the disk *d*. The current of air that is drawn up through the inner wick-tube, B, of the bowl A is divided by the deflector into two currents, one being deflected toward the base of the flame,  
50 while the other is passed through the holes of the disk *d*, heated in its passage through said

holes, and deflected by the curved surface of the shank of the disk in upward direction toward the upper part of the flame, as indicated by arrows in Fig. 2. This produces the  
55 perfect combustion of the gases at the base and upper part of the flame, so that a clear white flame is obtained. The chimney is made bulging above the deflector, so that a flame  
60 in the shape of a tulip is obtained, as shown in Fig. 1. The flame is contracted again somewhat at the upper end, so as not to strike the chimney directly, and renders it thereby less liable to cracking. The chimney is supported by  
65 a gallery, D<sup>2</sup>, on raised rests *e* of the basket D, so that the air can pass around the lower part of the chimney and through holes *e'* intermediately between the rests *e* to the inside of the dome D'. The lower part of the basket is per-  
70 forated, so as to supply the required quantity of air to be drawn into the dome D', and thence to the outer surface of the flame.

The basket D is provided at its base with a ring-shaped collar, *f*, that fits around a collar, *f'*, of the outer wick-tube, B', said collar  
75 *f* being provided on its interior with a groove, *f''*. The collar *f'* of the lamp is provided at diametrically-opposite points with L-shaped slots *f''*, which are engaged by inwardly-bent  
80 end lugs of a semicircular bail, *f'''*, which slides in the groove *f''* of the collar *f*, between said collar and the collar *f'*. The bail *f'''* is provided with a fixed button, *f''''*, the shank of which is guided in a slot, *f'''''*, of the collar *f* at  
85 the base of the basket D. By taking hold of the button *f''''* and moving it in one direction the bail *f'''* is moved to one side in the collar *f*, so that its end lugs clear the slots *f''* of the collar *f'* of the wick-tube B', and that the basket D may be detached from the wick-tube B',  
90 together with the chimney; and without requiring the removal of the latter. By placing the collar *f* of the basket D in position on the collar *f'* of the outer wick-tube, B', inserting the end lugs of the bail *f'''* into the upwardly-extending ends of the L-shaped slots *f''*, and  
95 moving the button *f''''* and bail *f'''* sidewise, the end lugs of the bail engage the horizontal portions of the slots *f''*, and lock thereby the basket D rigidly to the outer wick-tube, B', as  
100 shown in Fig. 4.

To facilitate the raising and lowering of the

wick E, a wick-carrying tube, F, is arranged in the outer wick-tube, B', the tube being provided, preferably, with three springs, *g*, that are attached at the lower end to the tube F and bent inwardly at the free upper ends. The bent upper ends of the spring *g* pass through slots *g'* of the tube F and are toothed, so as to engage the wick, as shown in Fig. 4. The lower end of the wick-carrying tube F is attached to a vertical rack, *h*, that is guided in a recess of the collar *f'* of the outer wick-tube, B'. The rack *h* is raised or lowered by a pinion, *h'*, of a shaft, G, that turns in bearings of the collar *f'* of the outer wick-tube, and serves to set the wick higher or lower by raising or lowering the rack and the wick-carrying tube. The springs *g* are held in engagement with the wick by the outer wick-tube, B'. When the wick-carrying tube F is lowered until the upper ends of the springs *g* are in line with radial recesses *g''* at the inside of the collar *f'* of the wick-tube B', the upper ends of the springs *g* spring outwardly into the recesses *g''*, so as to release the wick when it is desired to readjust the same in the wick-carrying tube or insert a new wick. By raising the wick-carrying tube F again by turning the handle of the shaft G the upper bent ends of the springs *g* are raised above the radial recesses *g''*, and are pressed by contact with the outer wick-tube, B', into the wick, so as to re-engage the same, as shown in Fig. 2. The bowl A is provided with an opening for filling the same, said opening being closed by a screw-plug, H, which has a vent-hole, *i*, and a shoulder, *i'*, at the lower part. The shoulder *i'* forms a seat for a valve, *i''*, which is pressed by a spiral spring, *i'''*, against the shoulder *i'*. When the pressure of the gases overcomes the tension of the spiral spring *i'''*, the valve *i''* is lifted, so that the gases in the bowl can escape, whereby danger of explosion is avoided.

Our improved lamp-burner has the following advantages: Perfect combustion of the oil and a clear and white flame, convenient and reliable locking of the basket to the outer wick-tube without removing the chimney, and the convenient and reliable inserting and readjustment of the wick in the wick-tube.

Having thus described our invention, we

claim as new and desire to secure by Letters Patent—

1. The combination, with an Argand burner, of a deflector comprising a lower disk having perforations and a smaller disk-shaped button above the lower disk, substantially as described.

2. The combination, with an Argand burner, of a deflector comprising a lower disk having perforations, an upper smaller disk or button, and an intermediate outwardly-flaring shank, substantially as described.

3. The combination of an outer wick-tube provided with a collar having L-shaped slots, a basket provided with a base-collar fitting over the wick-tube collar, and having a slot and an interior groove, a semicircular locking-bail sliding in said groove, and provided with a button the shank of which is guided in the slot of said basket-collar, and with bent end lugs for locking the basket to the slotted collar of the wick-tube, substantially as described.

4. The combination, with an Argand burner, of the outer wick-tube having a collar provided with radial recesses at the inside, a wick-carrying tube having springs with inwardly-bent and toothed upper ends passing through slots of the wick-carrying tube, a vertical rack attached to the lower end of the wick-carrying tube, and a pinion-shaft for operating the wick-carrying tube, substantially as described.

5. The combination, with an Argand burner, of a lamp-bowl having a cylindrical passage and fixed wick-tube, an outer wick-tube having a collar with radial recesses at its inner side, a wick-carrying tube having slots near its upper end, wick-holding springs attached at their lower ends to the wick-carrying tube, and having bent and serrated upper ends, a rack attached to the lower end of the wick-carrying tube, and a shaft having a pinion meshing with said rack, substantially as described.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

JOSEPH LEMPEREUR.  
LAMBERT BERNARD.

Witnesses:

H. GABRIEL,  
F. LEPAFFE.