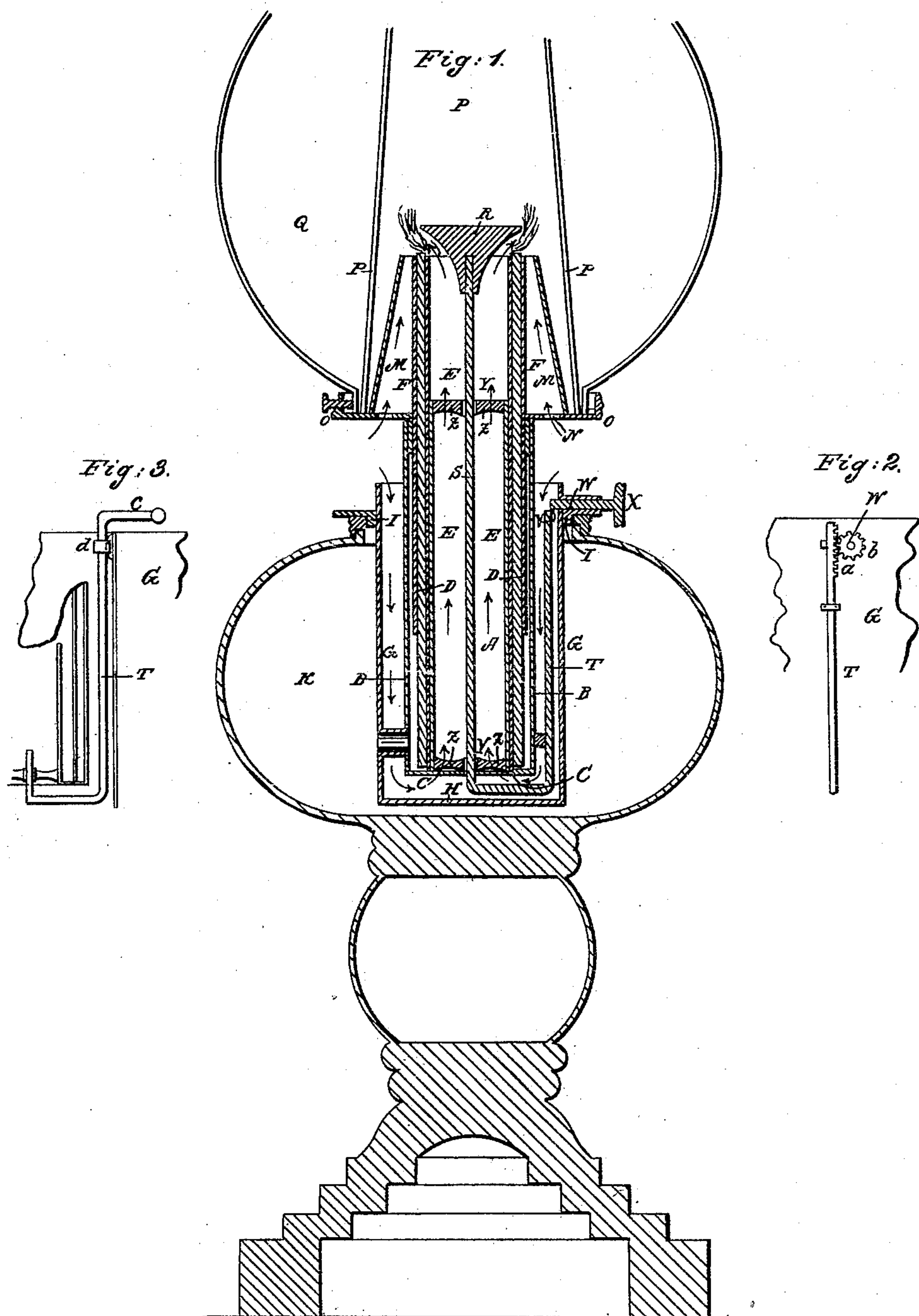


E. B. HORN,

Lamp.

No. 2,413.

Patented Jan'y 8, 1842.





# UNITED STATES PATENT OFFICE.

EDWIN B. HORN, OF BOSTON, MASSACHUSETTS.

## CONSTRUCTION OF LAMPS.

Specification of Letters Patent No. 2,413, dated January 8, 1842.

*To all whom it may concern:*

Be it known that I, EDWIN B. HORN, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and  
5 useful Improvements in Lamps, of which the following is a full and exact description, reference being therein had to the accompanying drawings, which, combined herewith, form my specification.

10 In the same I have set forth the principles of my invention, by which it may be distinguished from others of a like character, together with such parts or combinations of the same as I claim and for  
15 which I solicit an exclusive property for fourteen years to be secured to me by Letters Patent.

Of the drawings herewith presented Figure 1, represents a vertical and central section of a lamp having my improvements. It is of the class usually denominated Argand lamps, and in it A is the inner or air tube which conveys the air to the interior of the flame.

25 B is the exterior casing or tube which usually surrounds the same and which is connected to the tube A at their lower ends by a bottom piece C, C, so as to form when so combined together, a chamber for containing the wick D, D, and wick tubes E, E, F, F. These tubes so arranged, are introduced and supported in any convenient manner in a cylindrical box or casing G, G, having a close bottom H, fitted to  
35 its lower end and being open at top, the bottom C, C, of the tubes A, and B, being somewhat elevated above the bottom H of the box G, G, as seen in the drawings. The box or tube G G has a screw I, I,  
40 affixed upon or near its upper end, by which it is screwed into the top of the reservoir K of a lamp, the box G extending down into the reservoir nearly or quite to the bottom of it. A small tube L, soldered  
45 into the tubes B and G at a short distance above the bottom of the former tube admits the oil, in the reservoir K, to flow through it into the wick chamber.

From the above it will be seen that the  
50 current of air, which is supplied to the interior of the flame passes into the tube G, through its opening or upper end; from thence it descends between the tubes B and G; thence under the bottom C C of the wick chamber, and turns upward into the  
55 air tube A, through which it ascends to

the flame—its course being denoted by the arrows. The external current of air, which impinges on the flame, passes into a cone M M through any number of openings N, N, formed through a shelf O, O, resting  
60 and fixed upon the top of the tube B, B.

The cone M, M, chimney P P, and globe shade are supported as seen in the drawing upon the shelf O, O, on which they are to  
65 be confined by screws in any convenient manner.

The bottom R, which spreads the flame, is placed upon the top of a rod S, the said rod being suitably supported in and extending downward through the center of  
70 the tube A, beneath the bottom C, C, of which, it is bent horizontally until it reaches very nearly to the inner side of the box G as seen in the drawing. It is there jointed  
75 to an upright rod T, or extends upward between the tubes B and G and has its upper end connected with a small crank V, fixed on the extremity of a horizontal arbor W, the said arbor having a milled  
80 head X or other similar contrivance on its other extremity (by which it may be revolved), and being suitably supported in bearings applied either to the top of the tube G, or that of the milled cap of  
85 the screw I as exhibited by the figure.

The button rod S passes and moves through small tubes Y, Y, arranged in the center of the tube A and supported in position by arms Z, Z, extending and fastened  
90 to the inner circumference of the tube A. Thus it will be seen that by applying the fingers to the milled head X and turning the shaft W, the button may be raised or depressed at pleasure.  
95

There are various methods of elevating the rod S. The connecting rod T may be firmly attached at its lower end to the rod S, so as to be in fact a continuation of said rod—and it may have a small toothed  
100 rack *a*, Fig. 2, formed on its side at its upper end, which shall engage with a small cogged pinion *b*, placed upon the extremity of the arbor W, so that on revolving said shaft, the rod may be raised or lowered;  
105 or instead of being so arranged or elevated by the arbor, its upper end may pass out the top of the tube G, and thence be bent at right angles outward or beyond the top of the tube as denoted at *c*, Fig. 3. If the  
110 rod is supported in a suitable guide *d*, connected to the interior of the tube G, by the



application of the fingers to its bent top *c*, it may be raised as before, thus elevating the button.

Having thus described my improvements I shall claim—

1. Surrounding the wick chamber by the outer tube or casing which intervenes between it and the reservoir, said tube or casing being constructed so much larger in its interior diameter, than the external diameter of the outer tube of the wick chamber, as to form a space between the two, through which the air descends and passes into the inner tube of the burner to act upon the interior surface of the flame.

2. Also, bending the button rod under the wick chamber and continuing it upward,

between the same and the external casing or tube and combining said button rod, so arranged, with a crank upon the end of a small horizontal arbor, the same being for the purpose of elevating or depressing said rod and button; the whole of the above parts being constructed and arranged substantially as herein above set forth.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature this twenty-eighth day of October in the year eighteen hundred and forty-one.

EDWIN B. HORN.

Witnesses:

CALEB EDDY,

EZRA LINCOLN, Jr.