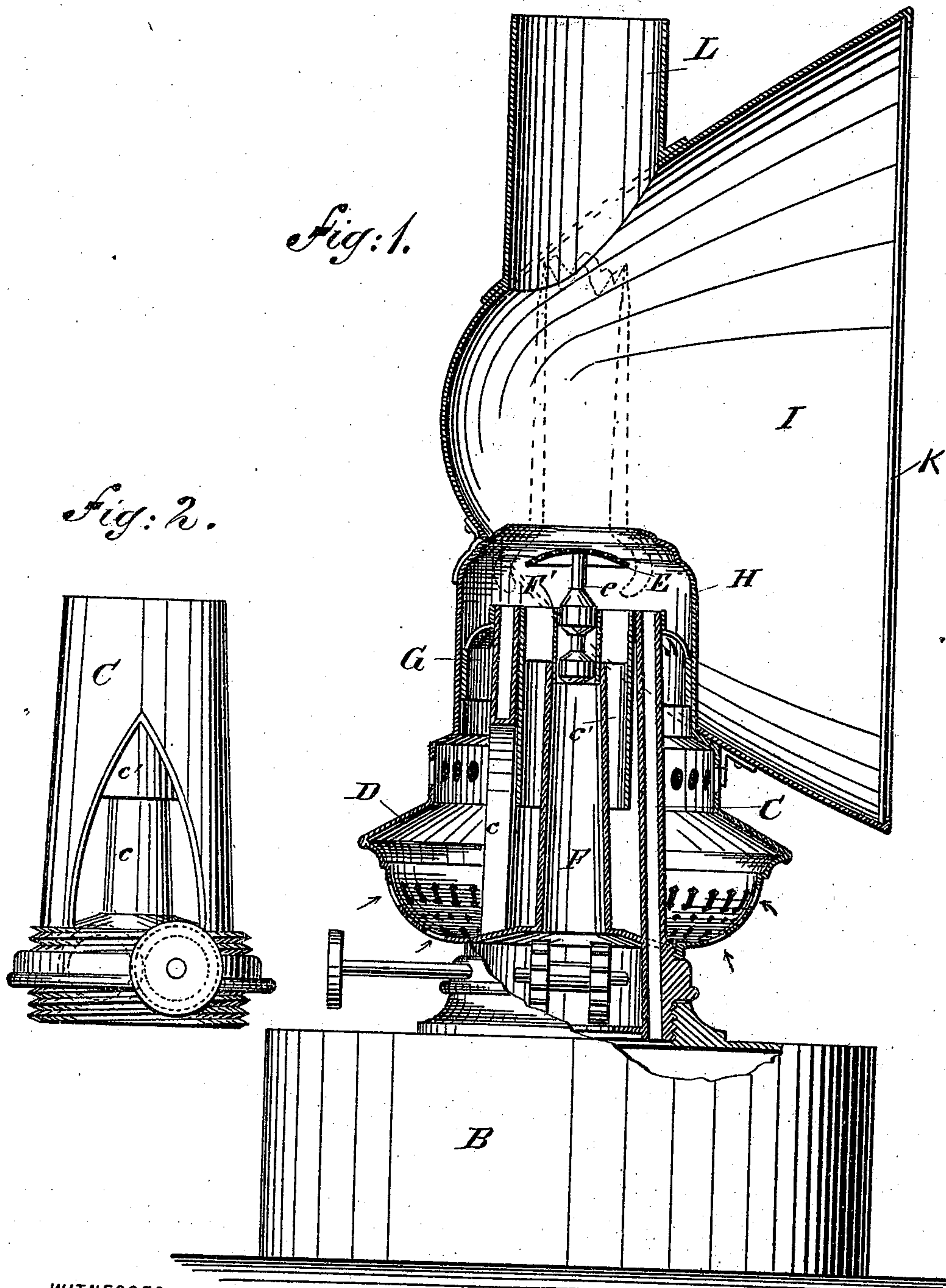


(No Model.)

J. B. COLT.  
LAMP BURNER.

No. 502,704.

Patented Aug. 8, 1893.



WITNESSES:

*Harold Dimmes*

*Walter J. Ward.*

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BY *Wm. Thompson*

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# UNITED STATES PATENT OFFICE.

JAMES B. COLT, OF NEW YORK, N. Y.

## LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 502,704, dated August 8, 1893.

Application filed March 11, 1891. Serial No. 384,676. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. COLT, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

My invention relates to illuminating lamps, particularly to center draft lamps and consists of a lamp burner, constructed, arranged and combined, in the manner herein shown, described, and claimed.

The object of my invention is to produce a bright and steady cylindrical flame by means of a disk or deflector in the center of the burner and yet avoid the shadow and other bad effects due to a button placed in the midst of the flame.

When lamps of the latter construction are used in magic lanterns, an image or a shadow of the central button is thrown upon the screen rendering such forms of lamps objectionable, though, owing to the complete combustion produced in them, they are in many respects peculiarly adapted for such work. By my invention, however, I completely do away with this objection, and I accomplish my purpose by means of a deflecting or distributing disk, placed below the upper edge of an opaque deflection cone, as illustrated in the accompanying drawings wherein—

Figure 1. is a side elevation partly in section of a complete lamp, and Fig. 2. is an elevation of the lamp burner proper.

Like letters of reference designate like parts.

B is the lamp reservoir of any desired form, and C the wick chamber, preferably of circular form, surrounded by the usual, or any desirable, air-distributing chamber D. The air enters the central chamber from the opening c through the side of the wick chamber and passes up through the vertical tube c' to the upper end of the wick chamber. In the center chamber is placed a holder of any desired form, for my central deflector E. I prefer to make this as shown in the form of a central tube or tubes F, F', in the upper ends of which is held the pin, or other support, e, of my cen-

tral deflector. My deflector disk is preferably perforated. When in position, its periphery is somewhat above the top of the wick chamber. About the outside of the upper end of the wick chamber is the usual grated distributing cone G, through which the outer draft rises. Around this, and extending above my deflector disk, I place an opaque deflecting cone H, which curves in, toward, and above, the disk.

I inclose my burner, when in use for magic lanterns, in the paraboloidal case I with a glass front K. Thus I obtain both a reflector and a combustion chamber in a single metallic piece. A similar form of combustion chamber I have shown in my prior patents, and therefore I do not lay claim herein to the same; but I find that with my new form of concentrating burner it serves in a new relation since, in throwing parallel rays, an absolute shadow (so far as the reflector is concerned) would be thrown forward with any other form of deflecting disk, while with any other system of flame deflection, no satisfactory condensation of focus is attained. I consider this combination, therefore, of peculiar advantage in the mutual co-action of the several parts. My chimney L rises from, and in continuation of, the combustion chamber thus leaving the flame, between the burner and the roof of the case, uninclosed by a chimney. When my lamp is burning, the central column of air rises from the central passage to the flame. Here it is deflected by the disk toward the cone H and meets the current rising from the outer distributor G, whereby the flame is spread and the combustion is facilitated. The flame, with the two columns of air, deflected first outward by the disk E, and then condensed by the cone H, rises from the top of the opaque cone toward the chimney as a bright steady cylinder, somewhat as indicated in the drawings in dotted lines. The perforations in the central deflector serve to allow more air to pass up from the center and prevent the vibration that is sometimes caused by the rarefaction in the space just above the center of the disk. This feature is not however essential.

My burner differs from a burner having two deflectors in the same plane, because in



the latter there is neither expansion to give combustion nor condensation to give intensity, for the deflecting tendencies neutralize each other and only great steadiness results.

5 My invention differs also from burners having glass chimneys provided with a spherical portion and a button or deflector for increasing the size of the flame within such spherical portion. Expansion and not condensation is the result desired on such forms, and

10 the flame cannot be raised into the cylindrical portion of the chimney without smoking. The flame produced is a soft sphere or rather lower hemisphere of light upon a short col-

15 umn, whereas my flame is expanded at the very moment it leaves the wick, in order to receive the greatest amount of oxygen and then condensed to burn and give forth light after passing the top of the opaque cone. The

20 only visible portion of the flame is therefore the cylinder projecting from the cone.

It is obvious that my invention may be used and applied to a great variety of burners, but,

Having described one form of my invention 25 and how it may be used, I claim, broadly—

1. In combination, an Argand or central draft burner, a central button supported above the wick thereof, for projecting the flame beyond the annular wick, and an opaque de- 30 flector extending above the said button and over the said wick, substantially as set forth.

2. The combination of an Argand lamp burner provided with a central deflecting disk or button for expanding the flame immedi- 35 ately above the wick, and provided with an opaque deflecting cone or screen extending above the button and over the wick, and a paraboloidal reflector provided with a transparent front and forming a combustion cham- 40 ber for the said burner, substantially as, and for the purposes set forth.

In testimony whereof I hereunto set my hand.

JAMES B. COLT.

Witnesses:

G. M. PLYMPTON,  
HAROLD BINNEY.