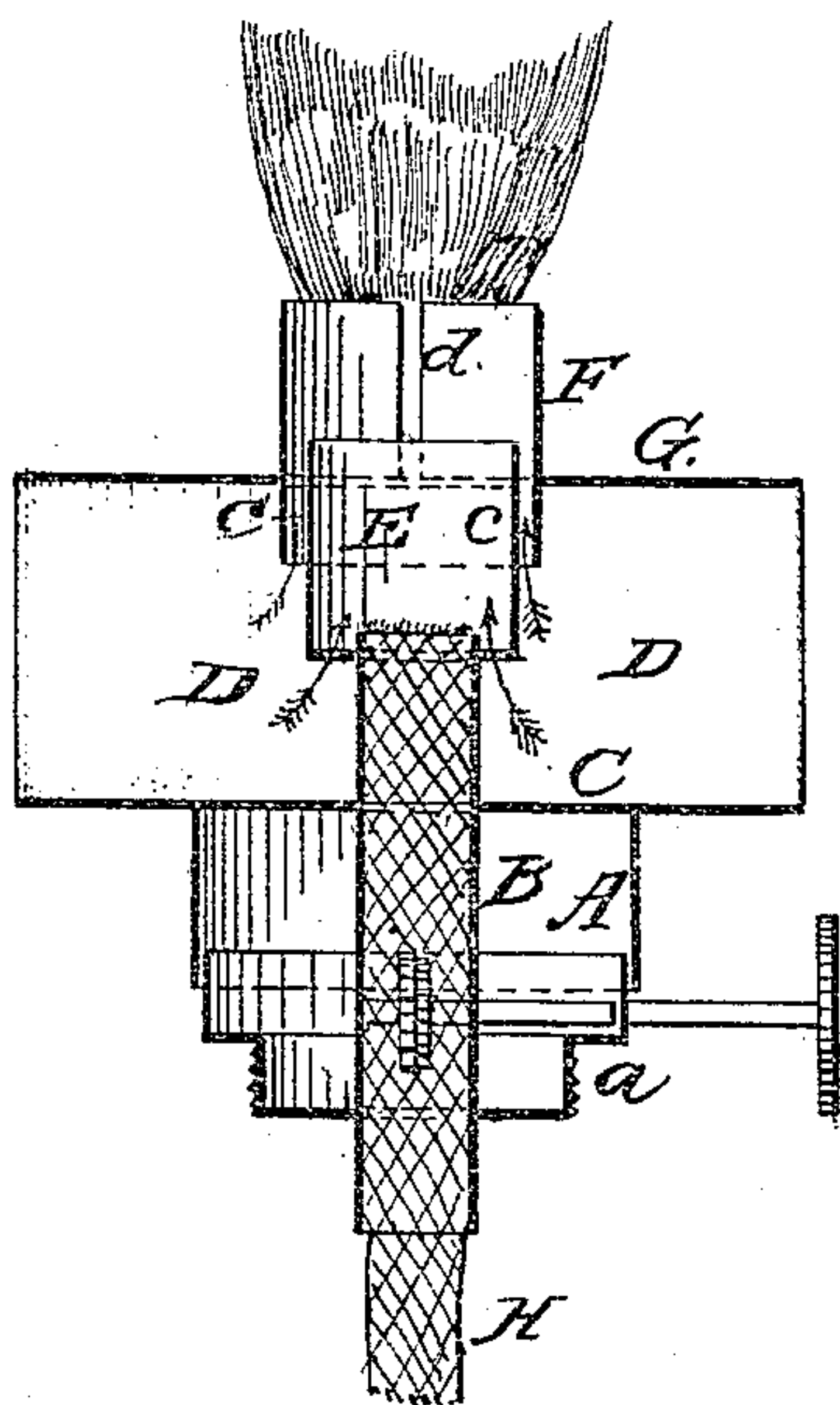


J. O. HARRIS.  
Lamp Burner.

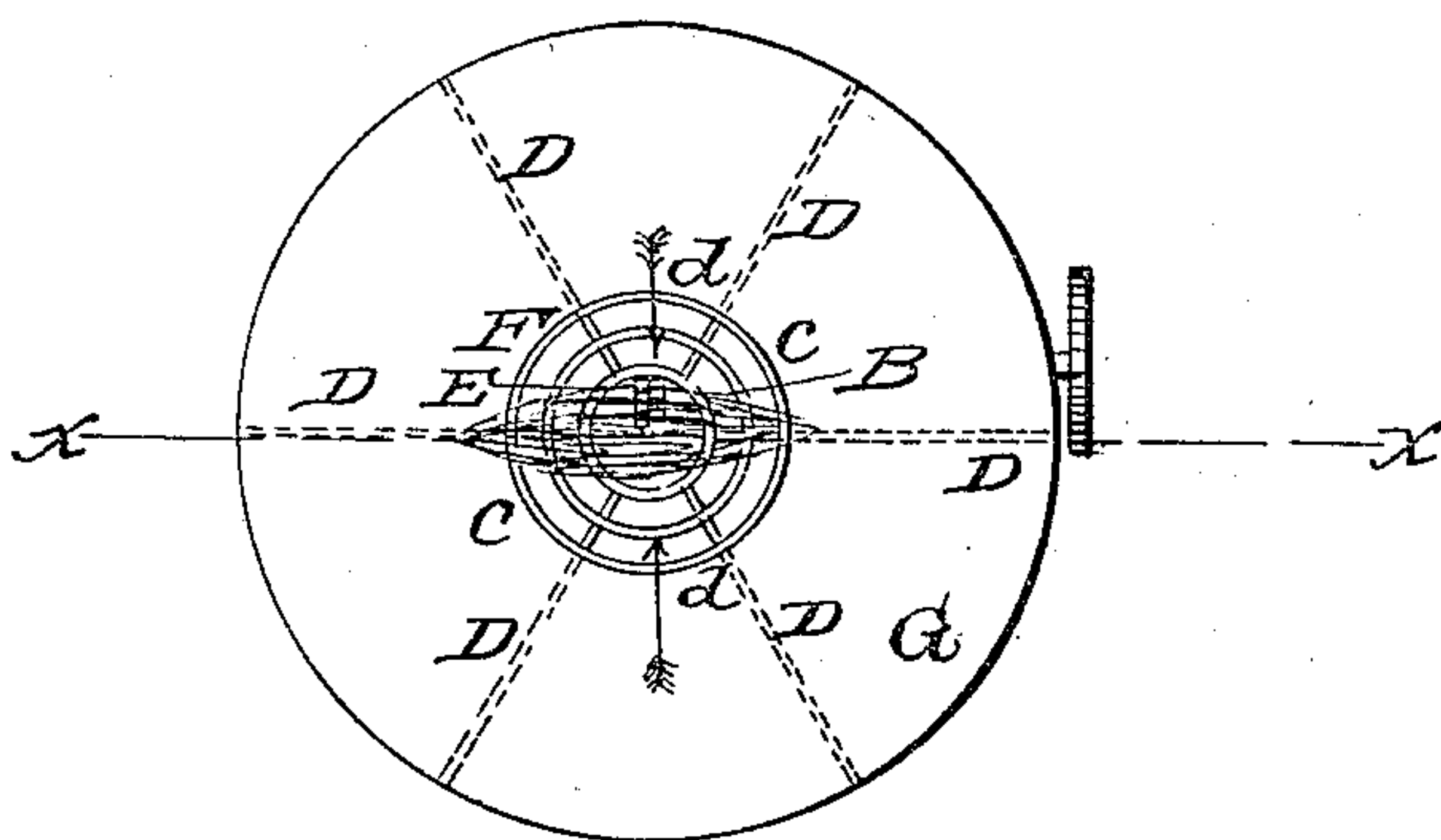
No. 42,765.

Patented May 17, 1864.

*Fig. 1.*



*Fig. 2.*



Witnesses.  
*Wm. J. Dodgley*  
*J. Robertson*

Inventor.  
*John O. Harris*

# UNITED STATES PATENT OFFICE.

JOHN O. HARRIS, OF READING, PENNSYLVANIA.

## IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. 42,765, dated May 17, 1864.

*To all whom it may concern:*

Be it known that I, JOHN O. HARRIS, of Reading, in the county of Berks and State of Pennsylvania, have invented a new and Improved Lamp-Burner; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, *xx*, Fig. 2, indicating the line of section; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improved lamp-burner of that class designed for burning coal-oil and other similar hydrocarbons without the aid of a draft-chimney.

The invention consists in the employment or use of a peculiar combination of concentric jackets, radial wings, and horizontal plates applied to the burner at the upper part of the wick-tube and arranged with one or more horizontal plates and jackets, as hereinafter fully set forth, whereby a brilliant illuminating-flame is produced and one which will burn steadily or uniformly without being liable to be affected by ordinary disturbing causes.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the body of the burner, which is provided with a screw, *a*, to screw into the socket on the lamp, as usual, and B is the wick-tube, which may be of the cylindrical or flat kind, and is permanently secured in the body A, the wick-tube extending some distance above A, as shown in Fig. 1.

C is a horizontal plate of circular form, which is permanently attached to the upper end of the body A, and D represents a series of radial upright plates, which are attached to C and extend from the wick-tube B to the edge or periphery of C. These plates D extend upward a certain distance above the top of the wick-tube B.

E is a jacket of cylindrical or flat form, corresponding to the form of the wick-tube B, but rather greater than the latter in diameter. The jacket E is fitted in notches or recesses made in the inner ends of the plates D, and

the upper end of the wick-tube projects a short distance upward into the jacket E. (See Fig. 1.) Around the jacket E there is placed another jacket, F, which is also fitted in notches or recesses made in the inner ends of the plates D. The jacket F is sufficiently larger in diameter than E to admit of an air-space, *c*, between them, and the jacket F extends down to about the center of E, and projects some distance, rather more than half of its height, above the jacket E. The jacket F is also slotted vertically at two opposite points, as shown at *d d*, and said slots should at least extend down to the level of the top of the jacket E. The plates D are covered with a horizontal plate, G, which has a hole at its center to admit of the jackets E F passing through it, the plate G being a trifle below the upper edge of the jacket E.

The operation is as follows: When the wick H is lighted, the jacket E becomes filled with a bluish flame, owing to imperfect combustion, and the air enters into the lower end of said jacket and mingles with the flame. Air also passes into the lower end of the jacket F and becomes incorporated with the flame, and perfect combustion is obtained at the top of the jacket F. The base of the perfect or illuminating flame is equal in diameter to the jacket F, with the exception of the parts opposite the slots *d d*. The air entering at these points has a tendency to flatten the flame and increase its brilliancy. The plates D prevent a current of air from passing horizontally below the frame and insure a draft up through the jackets E F, as indicated by the arrows. By this arrangement the flame is supplied with a requisite amount of air to insure perfect combustion, and a persistent flame is obtained, or one not liable to be affected by slight disturbing causes.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the wick-tube B, plates C G, wings D D, and jackets E F, arranged and operating substantially as and for the purposes described.

JOHN O. HARRIS.

Witnesses:

THOS. L. J. DOUGLAS,  
J. W. COOMBS.