J. G. WEBB.

Lamp.

No. 13,674. Patented Oct. 9, 1855.

Fig. 1.

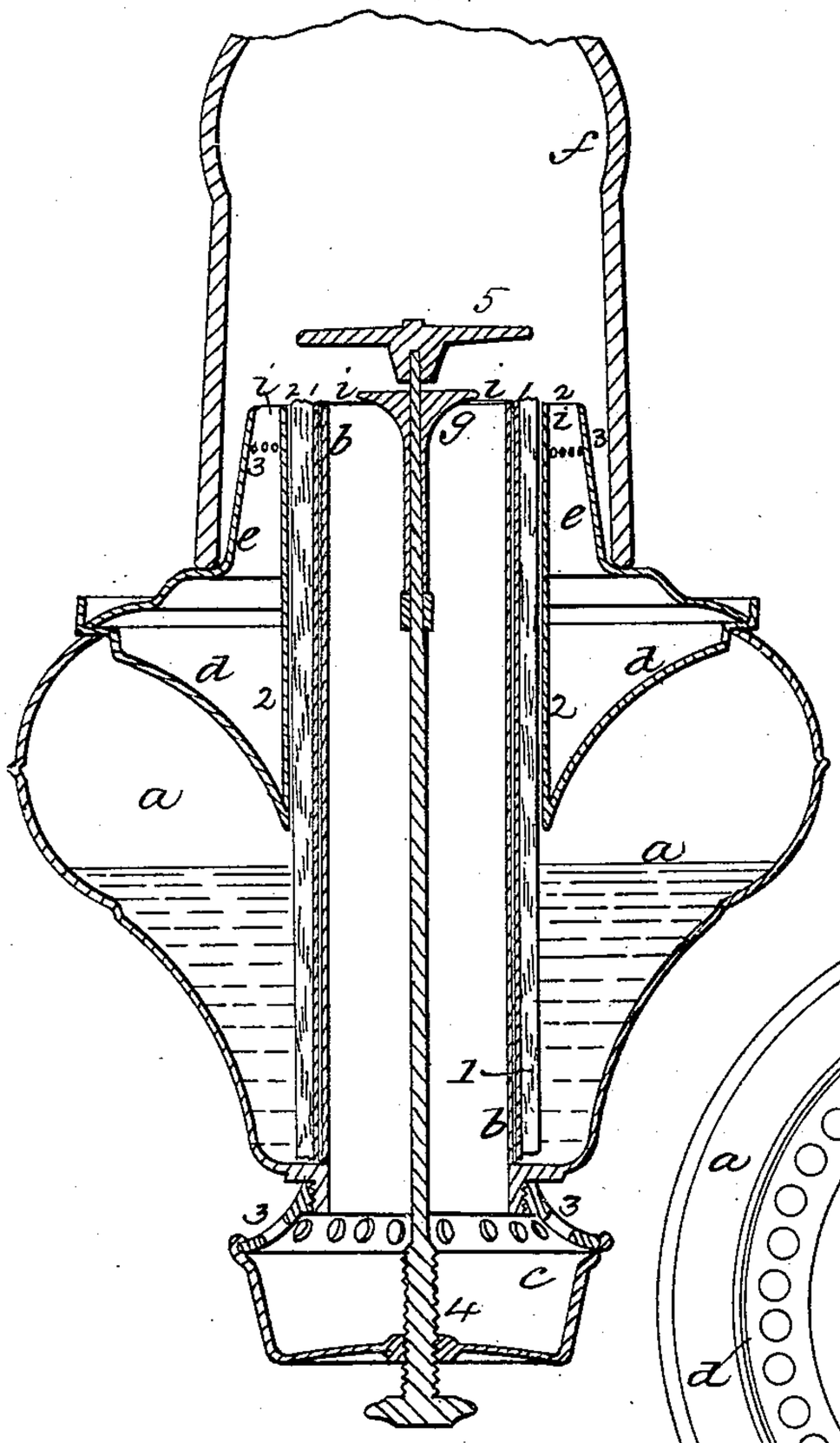
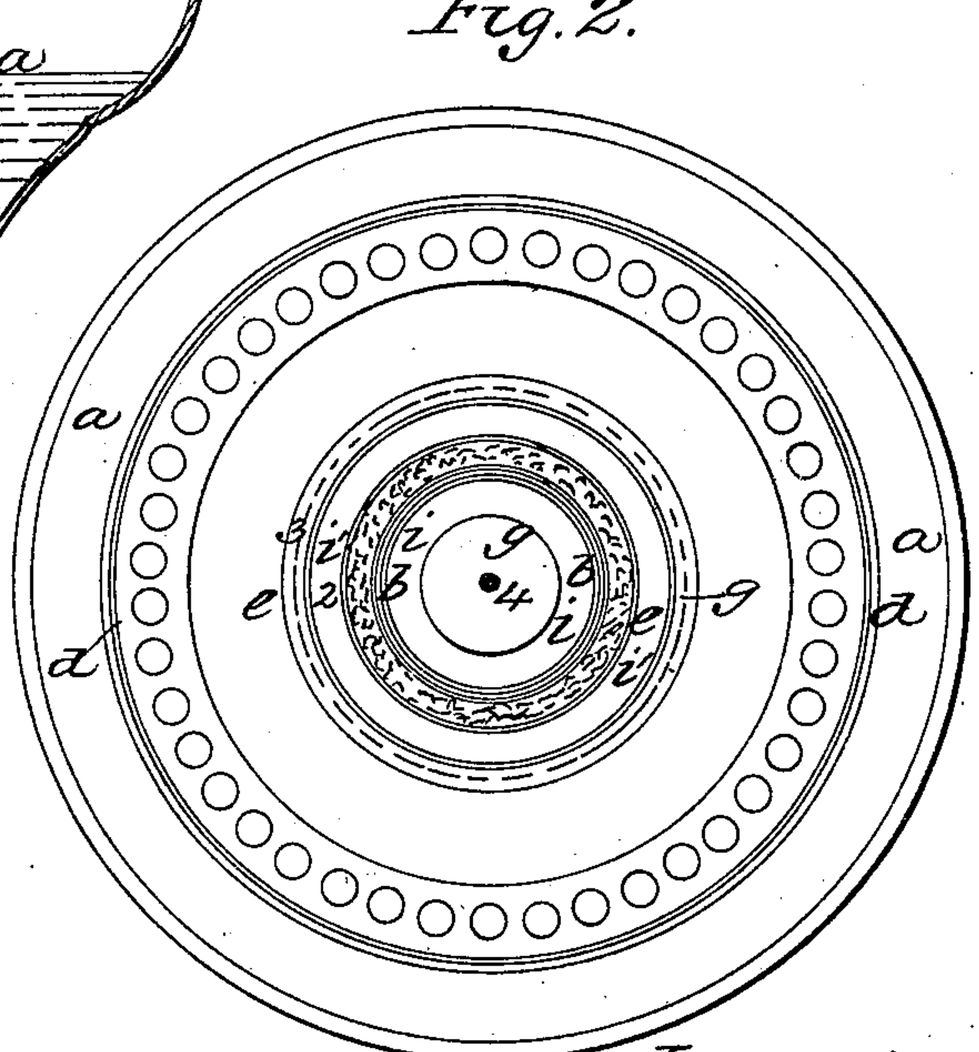


Fig. 2.



Witnesses:

Samuel W. Sewell

Thomas G. Hawley

Inventor:

John G. Webb,

UNITED STATES PATENT OFFICE.

JOHN G. WEBB, OF BROOKLYN, NEW YORK.

ARGAND LAMP.

Specification of Letters Patent No. 13,674, dated October 9, 1855.

To all whom it may concern:

Be it known that I, JOHN G. WEBB, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful Improvements in Argand Burners or Lamps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1, is a plan of an Argand burner and lamp with the button removed, and Fig. 2, is a vertical section of the same.

The like marks of reference denote the same parts.

The nature of the said invention consists in so regulating the force and direction of the draft, by means of two buttons combined with the internal and external air spaces, that the combustion shall be more uniform and perfect in consequence of the uniformity and equality of internal and external draft. In the ordinary Argand burner the amount of draft admitted through the air tube has been regulated by the number and size of holes in the oil cup or by a disk or plate in said air tube, while the button made use of acts simply as a deflector to throw the draft onto the flame.

My invention as distinguished from others consists in applying a disk or button at the top of or slightly above the air tube in combination with the ordinary button and with the external draft, so that the opening between the air tube and the said deflector or button is as near as may be the same width as the external draft between the cone or deflector and the wick, by which means the air is compressed or thrown onto the base of the flame at opposite and equal angles and with uniform force on each side of the flame, rendering the combustion more uniform and perfect and avoiding all the whirl and eddy consequent upon the rush of air up the air tube when only regulated by the button and the holes of the oil cup, and causing a better and more perfect combustion particularly of rosin oil or similar articles wherein an excess of carbon exists, for the air is first brought onto the base of the flame by the interior deflector and exterior cone, and then the button and glass chimney act in concert to cause the air to impinge on the flame near the top thereof, and the nearer the external and internal drafts correspond in width in consequence of the perfection of workmanship on the lamp, the more perfect I have practically found the combustion to be, and the larger the air tube the more advantageous it will be to make use of my invention, and experiments have demonstrated that burners say two inches in diameter, used without my invention with rosin oil, &c., will have a flame that smokes whistles or wavers about; but so soon as my invention is applied the combustion becomes perfect and the light clear and steady.

In the annexed drawing *a*, is a reservoir of any suitable character fitted with or connected to the air tube *b*,—*c*, is the oil or drip cup—1, is the wick and wick tube,—*d*, is the exterior cover plate made dishing and carrying the exterior wick tube 2,—*e*, is the deflector or cone and glass holder, fitted with holes 3, 3, to supply air to the exterior of the flame—*f* is the ordinary glass chimney of any suitable shape. The parts thus far are of any usual or desired construction or arrangement producing the well known Argand burner. 4 is a screw rod carrying the button 5, which may also be of the usual character, *g*, is a conical or tapering deflecting button or plate fitted within the air tube *b*, in such a manner that its edge comes a little above or on the level of the top of the wick tube (1), leaving an opening or space *i* of as nearly as possible, the same width as the space i^1, between the top of the cone or deflector *e*, and the exterior tube 2, whereby the air is forced against the base of the flame with a uniform power and velocity on both sides rendering the light more uniform and acting in connection with the button 5, in the advantageous manner set forth.

It will be evident that the deflecting button *g* might be of any desired shape either tapering or flat, so long as its circular top was at or a little above the level of the top of the wick or burner, or that in cases where the main button 5, required but little motion said deflecting button might be formed with the button 5, or fixed on the rod 4.

I do not limit the use of this invention to any particular character of Argand lamp or burner, or to any particular burning liquid or fluid, but I would remark that with rosin oil the button 5, should be about $\frac{1}{8}$ of

an inch above the top of the wick, with kerosene about $\frac{3}{16}$ths, with camphene about $\frac{1}{4}$th, with spirit gas about $\frac{3}{4}$ths, and with oil from $\frac{1}{2}$ to $1\frac{1}{2}$ inches.

I am fully aware that a button has been used within and below the air tube to check and equalize the amount of draft; and I am also aware that a small button has been used near the top of the air tube to direct the draft onto the base of the flame, but I am not aware that the internal air space (i) and external air space (i^1,) have ever before been equalized in their width and action by means of the button or deflector g, the same acting in combination with the button 5, in the manner and for the purposes specified. Therefore

What I claim and desire to secure by Letters Patent is—

The arrangement of the button 5 and deflector or button g, as herein described and shown, when used in combination with the draft spaces i, and i^1, on each side of the burner or flame, having the relative proportions set forth for the purposes and as specified.

In witness whereof I have hereunto set my signature this eighteenth day of September 1855.

JOHN G. WEBB.

Witnesses:

LEMUEL W. SERRELL,
THOMAS G. HAROLD.