J. S. TOUGH.

2 Sheets—Sheet 1.

Lamp.

No. 2,091.

Patented May 11, 1841.

Fig. 1.

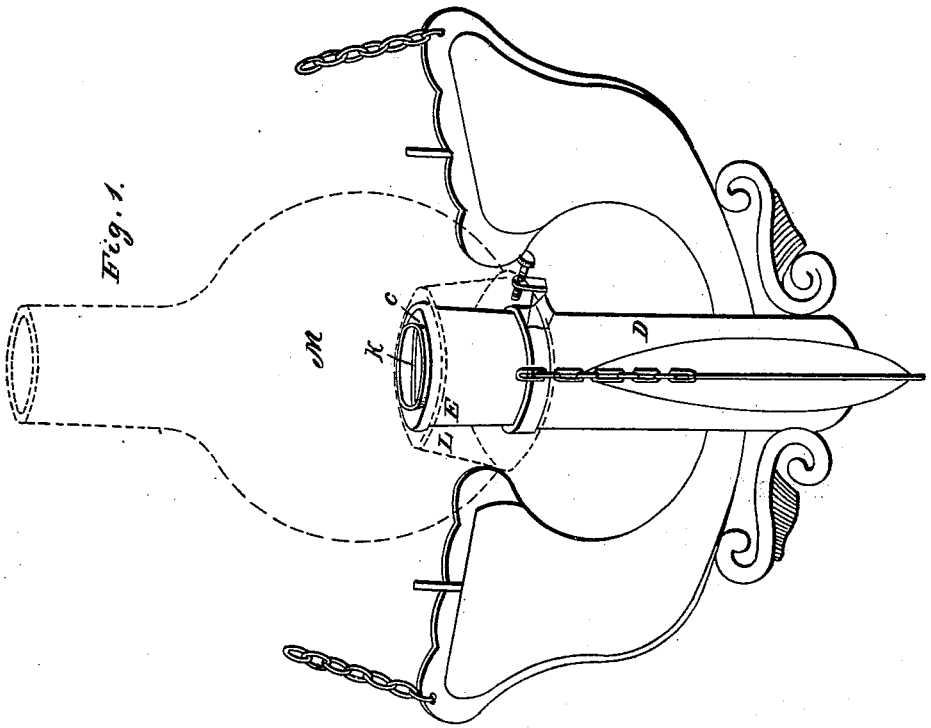

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Fig: 3.

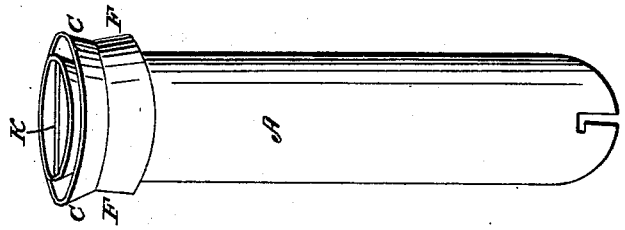
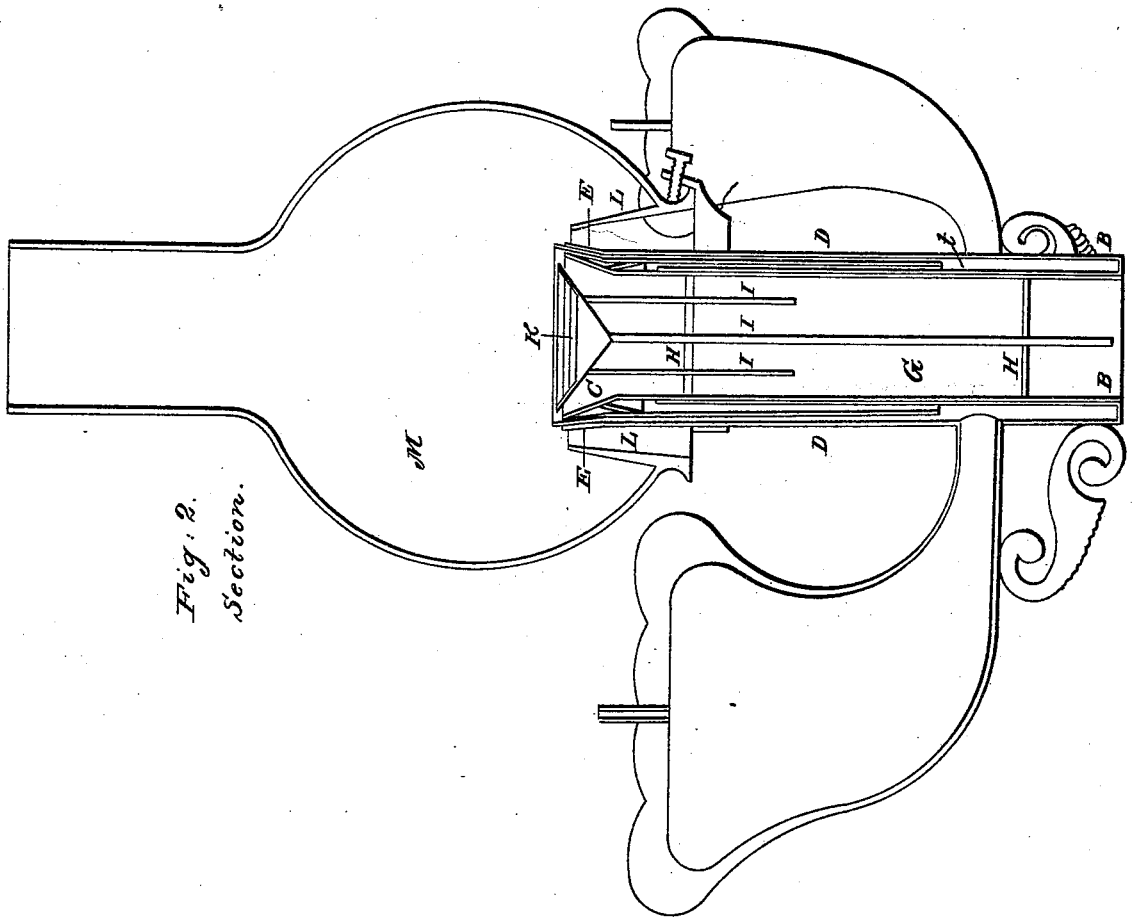


Fig: 2. Section.



UNITED STATES PATENT OFFICE.

JOHN S. TOUGH, OF BALTIMORE, MARYLAND.

ARGAND LAMP.

Specification of Letters Patent No. 2,091, dated May 11, 1841.

To all whom it may concern:

Be it known that I, JOHN S. TOUGH, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Argand Lamps for Burning Spirits of Turpentine and other Inflammable Liquids, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

The reservoirs and burner are made in the usual manner of Argand's lamp, except the outer cylinder of the latter which is made about an inch higher than the inner cylinder and slightly flaring outward.

The principal improvements are in the construction and arrangement of a sliding cylinder which fits the inner cylinder of the Argand's burner having its upper end enlarged so as to fit the space between the inner and outer cylinders of the burner, being flared outward so as to press the wick against the inside of the outer cylinder which is also made slightly flaring outward, as before mentioned, provided with a funnel shaped button or inverted conical regulator which slides up and down for concentrating the air around the flame and increasing its intensity and a glass globe with a circular rim inside the same made in the form of a hollow frustrum of a cone rising inward from the lower or horizontal rim of the globe for contracting the space and impinging the column of air around the flame, the slope of said flange extending downward from the flame outside the wick while the slope of the button extends also down from the flame but inside the circle of the wick.

Figure 1 is a perspective view. Fig. 2 is a vertical section. Fig. 3 is a perspective view of the adjustable cylinder and funnel shaped regulator.

Similar letters refer to similar parts in the figures.

The additional or third cylinder A is made rather smaller than the inside cylinder B of the burner in which it is made to fit so as to be withdrawn easily when required for the insertion of the wick or for any other purpose and of the same diameter throughout, except the upper inch of its length *c* which flares outward and upward until it is of the diameter of the inside of the outer cylinder D of the burner at its flared part E, less the thickness of the wick, which it is designed to press equally and gently against the outside or flared part of the cylinder of the burner. From the smaller diameter of the flared part there is made to flare downward into the space containing the inflammable fluid, but not so far as to touch the wick a circular rim F for conducting the fluid or whatever is burned in the lamp which is pressed from the wick by the upper flared part down into the lamp and thus preventing it from escaping through the opening G in the center of the burner. The lower end is notched like the bayonet of a musket for securing it to a pin on the inside of the inner cylinder of the Argand's burner.

Across the inside of the regulating cylinder are fixed cross bars H perforated for two, three or more stems I to slide vertically to which stems is fixed the funnel shaped or inverted cone regulator K to be raised or lowered at pleasure for regulating the draft by the middle stem which is made the longest for that purpose.

The flared rim L of the globe M flares in a contrary direction to that of the funnel shaped regulator, the former flaring from the light downward toward the rim of the globe, the latter flaring downward from the light toward the center of the lamp. By this arrangement the air that supplies the lamp from the outside is directed to the flame by the flared glass rim while that which passes up through the center of the lamp is directed to the flame by the funnel shaped regulator or inverted cone: this contraction of the chimney around the flame by means of the funnel shaped regulator and flared glass rim concentrates or impinges the air around the flame so effectually and to such a degree as to cause the smoke to be entirely consumed, the combustion being vivid and the light intense; and the light is not so liable to be extinguished by a sudden gust of wind or air striking against its sloped sides and thus directed upward in an inclined direction instead of being directed horizontally against the wick by striking against a flat plate.

The wick is made and inserted in the usual way. The globe is secured by screws in the usual manner. By this arrangement an additional chimney will not be necessary

and the light will be made to burn brilliantly at the center of the globe instead of feebly at the bottom thereof.

I do not mean to claim a combination of the conical rim and regulating button but

What I claim as my invention and which I desire to secure by Letters Patent is—

The combination of the conical rim at the bottom of the globe with the inverted cone regulator or button and adjustable cylinder adapted to and combined with the wick case as set forth.

JOHN S. TOUGH.

Witnesses:
GEO. CHAPMAN,
JNO. HAMMER.