G. L. SMITH.

Lamp Burner.

No. 104,366. Patented June 14, 1870.

Fig. 1

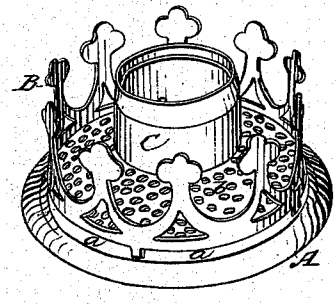
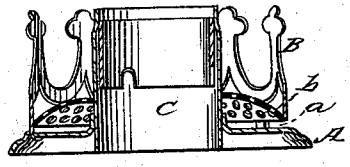


Fig. 2



Witnesses:

W. Bailey

Wm. H. McCabe

Inventor:

George L. Smith

by Poore & Co.

United States Patent Office.

GEORGE L. SMITH, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO BRIDGEPORT BRASS COMPANY, OF SAME PLACE.

Letters Patent No. 104,366, *dated June* 14, 1870.

IMPROVEMENT IN LAMP-BURNERS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, GEORGE L. SMITH, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a specification.

My invention relates to Argand or other like annular or round wick-burners, and particularly to that class of such burners in which the air which supplies the central draught enters at the top of the lamp or burner, passes down through the lamp around the wick-tube, and then ascends through the central space in the wick in the wick-tube. There is also an exterior draught or current of air which passes up through the burner to the exterior of the flame without passing down through the lamp. In order to produce these two currents, a horizontal partition-plate has been used to divide the air entering the burner, so that one portion shall pass up above the partition, constituting the exterior current, and the other shall enter the lamp below the partition, to supply the inner or central draught. It is my object to construct a burner of this kind, so that it shall be simple and inexpensive, and, at the same time, be more reduced in size, and more ornamental in appearance, than has heretofore been the case.

My invention has reference to the construction of that portion of the burner which carries the chimney, and which is intended to be slipped on and off the wick-tube. It is through this portion of the burner, which carries the chimney-gallery or holder and the partition or air-dividing plate, that the exterior draught enters; and

My invention consists in the combination, with the chimney-gallery or holder and the partition-plate, so arranged that air-passages or spaces are left between said plate and holder, of a perforated diaphragm, placed over the partition-plate, and extending between the holder or gallery and the wick-tube, so as to form a seat or rest for the base of the chimney, and so that the air entering the burner shall pass through the perforated bottom, and ascend in small streams, diffused throughout the whole space included between the wick-tube and the chimney when the latter is in position.

The burner thus made is compact, can be manufactured at a small expense, and is exceedingly neat in appearance, while the arrangement of the perforated diaphragm is such as to introduce the air under the best conditions to produce a brilliant illuminating-flame.

To enable those skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect by reference to the accompany drawing, in which—

Figure 1 is a perspective view of so much of an argand-burner of the kind above referred to as is necessary to illustrate my invention.

Figure 2 represents a vertical central section of the same.

A represents the partition-plate, which divides the air entering the burner into two currents, the one passing beneath the plate, down into the lamp, and up through the central draught-passages, as above described, the other passing above the plate, through the openings *a*, between the gallery or chimney-holder and springs B and the partition-plate, and up into the burner, around the wick-tube and flame.

The sleeve C, to which the partition-plate A is made fast, is intended to slip over upon the wick-tube, in the usual manner.

In order to divide the air into small streams, and diffuse it throughout the space included between the wick-tube and chimney when the latter is in position, I employ a finely-perforated diaphragm, *b*, which is placed above the partition-plate, as shown in the drawings, so that the exterior current must pass through it before entering the burner.

The form of the diaphragm, in this instance, is concavo-convex; but it may also be flat or corrugated, or of other suitable form.

It is quite necessary, in burners of this class, that the exterior draught should be properly regulated and steadied, and the diaphragm is a most effective device for this purpose. It admits of the burner being made cheaply and easily, it dispenses with the use of cones or like devices for directing the air, and it serves to diffuse air throughout the burner.

Having now described my invention, and the manner in which the same is or may be carried into effect—

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

In an Argand-burner, substantially such as described, the combination, with the partition-plate, dividing the air which enters the burner into the inner and outer currents, and a chimney-gallery or holder placed over or above said plate, as set forth, of a foraminous diaphragm, arranged to support the chimney, so that the air passing between the chimney and wick-tube shall be diffused throughout the space included between said chimney and tube, substantially as and for the purposes specified.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

GEO. L. SMITH.

Witnesses:

F. MCGRATH,

C. H. HEWETT.