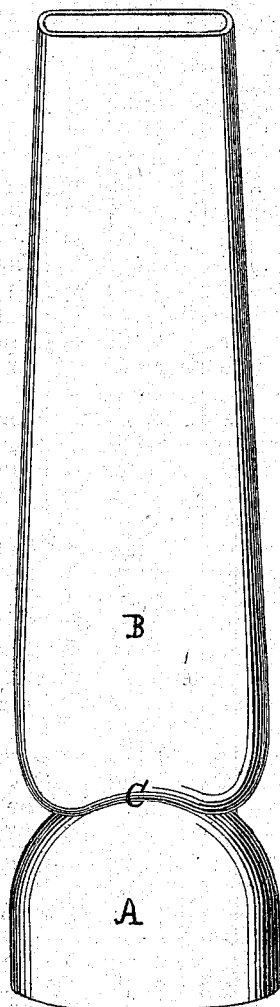


SAMUEL W. FOWLER.  
Improvement in Lamp Chimneys.

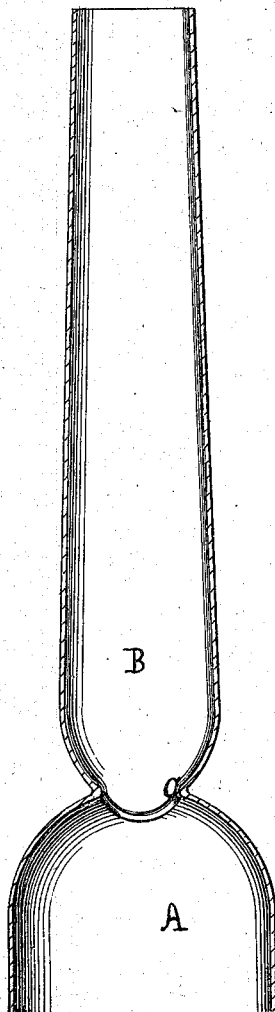
No. 115,458.

Patented May 30, 1871.

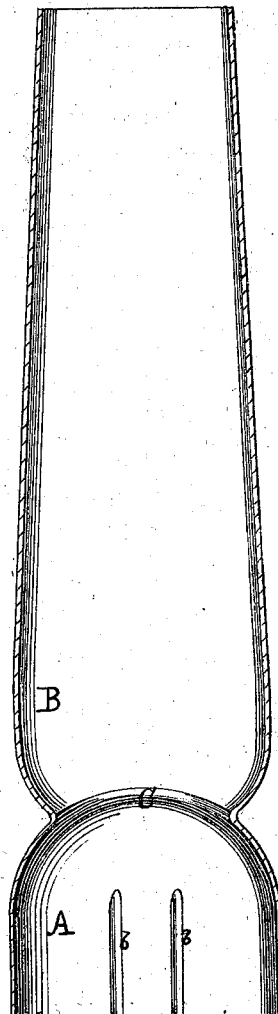
*Fig. 1.*



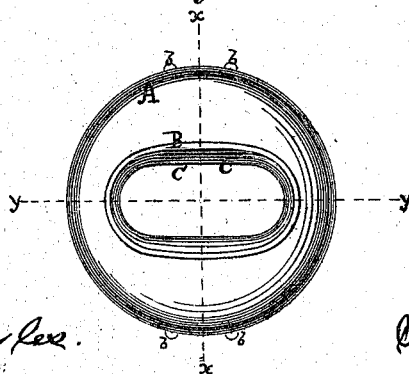
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*

*Jno. C. Sayer.*  
*Wm. H. Wmpton*

*Inventor:*

*Samuel W. Fowler*

# UNITED STATES PATENT OFFICE.

SAMUEL W. FOWLER, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN LAMP-CHIMNEYS.

Specification forming part of Letters Patent No. 115,458, dated May 30, 1871.

*To all whom it may concern:*

Be it known that I, SAMUEL W. FOWLER, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Lamp-Chimney; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification.

My invention consists in the new article of manufacture of a lamp-chimney, constructed with a circular base, an oval or elliptical flue having straight sides and a contracted neck, the latter provided with an oval or elliptical opening through it, the area of which opening is less than the area of the opening at the top of the flue, by which construction I produce a chimney adapted for use with any ordinary kerosene-burner, and one which possesses all of the indestructible or salamandrine qualities of the student's-lamp chimney, so well and favorably known in the market.

In the accompanying drawing, Figure 1 is a side elevation of my improved lamp-chimney. Fig. 2 is a vertical central section thereof taken on the plane of the line *x x*, Fig. 4, which line is the conjugate axis of the chimney. Fig. 3 is also a vertical central section thereof, taken on the plane of the line *y y*, Fig. 4, which line is the transverse axis of the chimney. Fig. 4 is a plan view, as seen when looking into or down upon the top of the chimney.

A designates the base of the chimney, which is circular in form and adapted to the style of burner with which it is to be used. I have illustrated it as adapted for use with a burner of the class termed "sun-burners," but, of course, the construction of the base is to be modified so as to fit the style of burner with which it is to be used. B designates the flue of the chimney, which is the term I apply to that part of the chimney above the contracted part or neck. This flue is elliptical or oval in cross-section, and the said flue is constructed with straight sides, as distinguished from globe-chimneys, but the sides are not necessarily parallel, but may be so. I, however, preferably make the flue tapering, the sides converging or approaching each other as they

near the upper terminus of the flue. C designates the contracted part or neck of the chimney, and this neck is provided with an oval or elliptical opening, *a*, through it. The area of this opening through the neck is less than the area of the opening at the top of the chimney, and, of course, of lesser area than the opening at the bottom of the chimney.

By this construction the heat of the flame first reaches the contracted part or neck C, and from this part the chimney expands in both directions, more rapidly in an upward direction; and inasmuch as no part of the chimney above the neck overhangs the flame so as to be reached by direct rays of heat, the expansion of the chimney progresses from a given part through the whole chimney, and to this freedom of the chimney (by reason of its construction) from unequal expansion and contraction I attribute its remarkable qualities.

In order to enable a person to quickly place the chimney in a proper position on the burner, so that the wick-tube shall be parallel with the opening in the neck and not cross-wise, I provide one or both sides of the base of the chimney with depressions or with ribs, into or against which a suitable projection in the burner rests or abuts; for instance, an upwardly-projecting arm on a sun-burner would spring in between the ribs *b b*, and not only indicate a proper adjustment, but keep the chimney from working round when adjusted.

From the foregoing description it will be observed that, while I retain the circular form of the base part of the student's-lamp chimney, I construct the flue and the opening in the contracted neck of an oval or elliptical form, thereby producing a chimney made and adapted for use with the ordinary kerosene-lamp burners, which have flat wick-tubes, and by reason of this construction I am enabled to place in the hands of the public a chimney capable of being used with any ordinary kerosene-burner, possessing all of the qualities of the student's-lamp chimney, which latter has a world-wide reputation for durability and salamandrine qualities.

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

The new article of manufacture of a lamp-chimney, constructed with a circular base, a contracted neck, an oval or elliptical flue, when said flue is provided with straight sides and when the opening through the neck is of

less area than the opening at the top of the chimney, or at any point along the flue, substantially as herein specified.

SAMUEL W. FOWLER.

Witnesses:

JNO. E. SAYLES,

M. M. LIVINGSTON.