

A. VOLTAIR & C. E. BALL.  
Argand-Burner.

No. 168,946.

Patented Oct. 19, 1875.

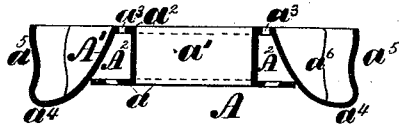


Fig. 5.

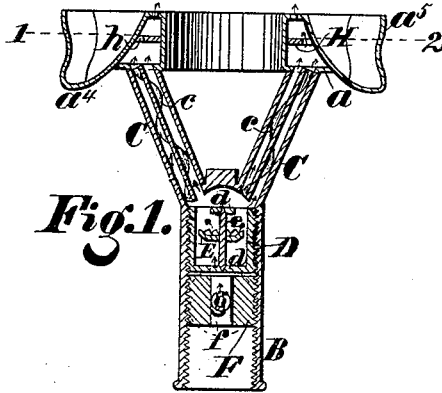


Fig. 1.

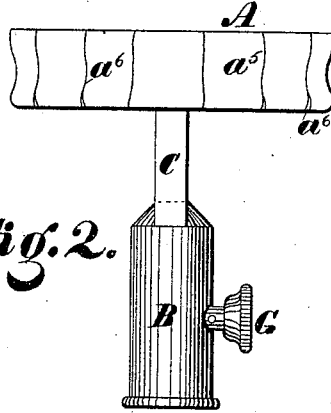


Fig. 2.

Fig. 3.

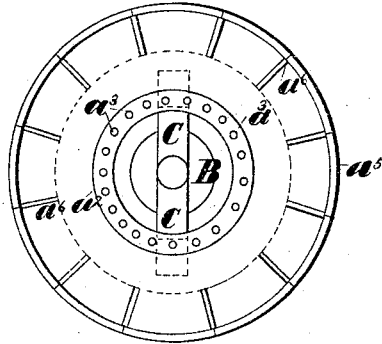
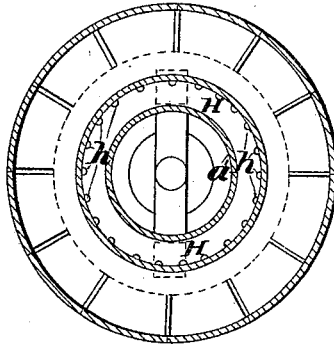


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

ALEXANDER VOLTAIR, OF NEW YORK, N. Y., AND CHARLES E. BALL, OF PHILADELPHIA, ASSIGNORS TO JAMES W. CARSON, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN ARGAND BURNERS.

Specification forming part of Letters Patent No. 168,946, dated October 19, 1875; application filed September 22, 1875.

*To all whom it may concern:*

Be it known that we, ALEXANDER VOLTAIR, of the city, county, and State of New York, and CHARLES E. BALL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Argand Burners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a vertical section of my invention. Fig. 2 is an elevation. Fig. 3 is a plan. Fig. 4 is a section on the line 1 and 2. Fig. 5 is a section showing the Argand burner and chimney-holder formed of one piece of metal.

Our improvements have for their object to provide, first, an Argand burner and chimney-holder formed or struck from one piece of metal; and, second, means for dividing and deflecting the gas-current so that it will issue evenly and without blowing from the holes in the burners.

Referring to the accompanying drawing, A represents a shell of sheet metal having an annular flange, *a*, from which rises the vertical ring or band *a*<sup>1</sup>. The shell A is also bent over to form a second horizontal flange or tip, *a*<sup>2</sup>, perforated, as shown at *a*<sup>3</sup>, for the emission of gas. From the tip *a*<sup>2</sup> the shell A bends downwardly, making a skirt, A<sup>1</sup>, to meet the flange *a*, thus forming a chamber, A<sup>2</sup>, between the flange *a* and tip *a*<sup>2</sup>, continuing to the point *a*<sup>4</sup>, where it curves upwardly, forming a balcony and chimney-holding rim, *a*<sup>5</sup>. The balcony and rim *a*<sup>5</sup> are slit, as shown at *a*<sup>6</sup>, forming elastic fingers, permitting the easy introduction and withdrawal of the chimney, but holding it firmly when in position for use.

The foregoing is a description of the burner and shade-holder formed in one piece, it being understood, of course, that the flange *a* and shell A, or the shade-holder portion of the latter, are soldered, brazed, or otherwise fast-

ened together at their point of junction, so as to form a tight joint.

I shall now proceed to describe the construction of the devices by which the gas-current is broken up and distributed.

B represents a threaded tube to be screwed on the fixture. From this tube proceed two arms, C C, bored to form communication with the chamber A<sup>2</sup> in the shell A. D is a threaded thimble inserted in the tube B, having bridges *d d*, which afford bearings for a short vertical shaft, E, on which is fixed a flutter-wheel, E. F is a plug having a central opening, *f*, which may be closed, wholly or in part, by the screw G, which has a transverse aperture, *g*, registering with said opening *f*. The gas from the fixture passes through the openings *f* and *g*, and then between the wings or vanes of the wheel E, by which the force of the current is broken without impeding the flow. In the longitudinal openings in the arms C are spiral blades *c*, causing the gas-currents passing therethrough to be divided in two each, and at the same time preventing said currents from rushing in a direct course into the chamber A<sup>2</sup>. H is an annular collar surrounding the ring *a*<sup>1</sup>, to which it is securely fastened, and extended to meet the shell A on the opposite side of the chamber A<sup>2</sup>. This collar has a serrated or scalloped edge, *h*, or may be perforated for the passage of the gas. The object of this collar is to break the force of the gas-currents, cause their even distribution in the chamber A<sup>2</sup>, and steady and uniform delivery through the openings *a*<sup>3</sup>.

What we claim as our invention is—

1. The shell A, bent or struck to make the flange *a*, ring *a*<sup>1</sup>, tip *a*<sup>2</sup>, and skirt A<sup>1</sup>, containing the chamber A<sup>2</sup>, substantially as shown and described.
2. A burner and chimney-holder formed in one piece, substantially as set forth.
3. The flutter-wheel E, or check and distributor, arranged in the tube B, above the screw G, substantially as shown and described.
4. The spiral blades *c*, located in the arms

C C, and forming in each two spiral channels or passages to divide and deflect the gas-currents, as set forth.

5. The collar H, having openings or passages *h*, and employed to distribute the gas-currents and provide a uniform delivery through the burner-openings *a*<sup>3</sup>, said collar being located in the chamber A<sup>2</sup>, substantially as shown and described.

In testimony that we claim the foregoing we have hereunto set our hands this 14th day of September 1875.

ALEXANDER VOLTAIR.  
CHAS. E. BALL.

Witnesses:

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