

{No Model.}

C. W. BUFFINGTON.  
GAS BURNER.

No. 565,878.

Patented Aug. 18, 1896.

FIG. 1.

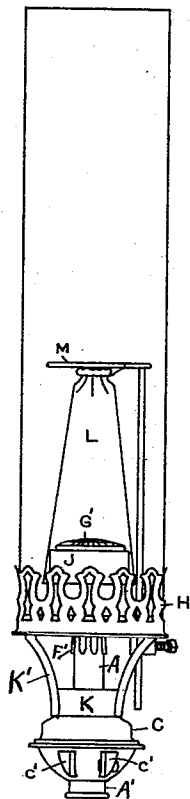


FIG. 3.

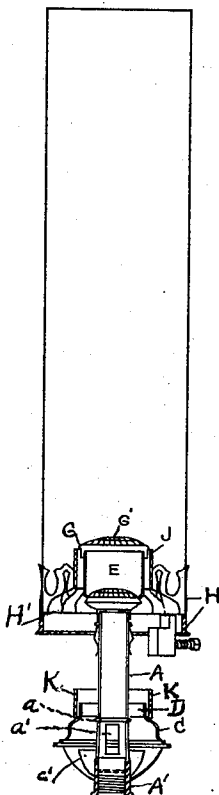


FIG. 2.

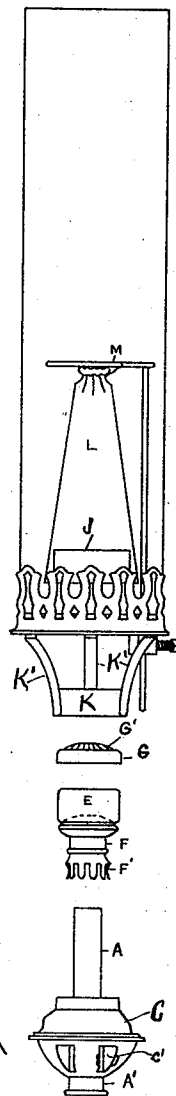


FIG. 4.

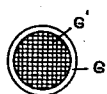


FIG. 5.

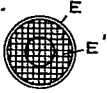


FIG. 6.

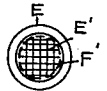


FIG. 7.

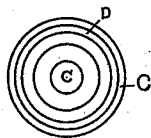


FIG. 10.

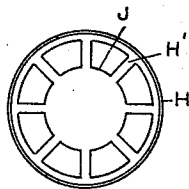


FIG. 8.

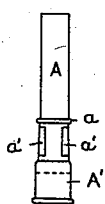
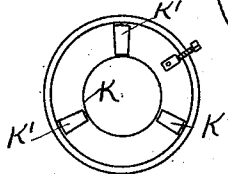


FIG. 11.



WITNESSES:

C. B. Dare.  
E. E. Osborne.

FIG. 9.



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Charles W. Buffington,  
BY  
J. A. Osborne & Co.,  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES W. BUFFINGTON, OF CLEVELAND, OHIO.

## GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 565,878, dated August 18, 1896.

Application filed October 19, 1895. Serial No. 566,275. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. BUFFINGTON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Gas-Burners, of which the following, with the accompanying drawings, is a specification.

My invention relates to what is known as the "Welsbach" system of gas-burners for incandescent illumination.

The object of my invention is to so improve the construction of such burners that easy access is afforded to the burner-sieves for cleaning and other purposes without disturbing the incandescent mantle or exposing it to accidental injury.

With this object in view my invention consists in the details of construction and combination of parts described herein and defined in the claims.

In the drawings, Figure 1 is an elevation of a Welsbach incandescent gas-burner embodying my invention. Fig. 2 is a descriptive figure illustrating the separation of the parts of the burner as provided by my invention for cleaning the sieves. Fig. 3 is a central vertical section of Fig. 1, the mantle and its supporting-frame not being shown. Fig. 4 is a view of the top of the burner-head. Fig. 5 is a plan of the burner-head with the top removed. Fig. 6 is a view of the bottom of the burner-head. Fig. 7 is a view of the top of the air-receiving chamber. Fig. 8 is an elevation of the burner-tube, and Fig. 9 shows the lower end of the burner-tube. Fig. 10 illustrates the upper side, and Fig. 11 shows the lower side, of the gallery.

The burner-tube A is the well-known form of Bunsen burner, consisting of a straight tube provided with an internally-threaded attaching thimble A' at its lower end for securing the burner to a gas-supply pipe, an annular bead *a* above the thimble for supporting the air-chamber C with its superimposed weight, and the radial air-ports *a'*. The lower end of the burner-tube A is closed by a disk B, having perforations *b* for the passage of gas there-through.

The air-receiving chamber C is of the form shown, having an opening vertically through its base-plate and crown-plate to allow the

chamber to be passed over the burner-tube A. The base-plate of the receiving-chamber C is provided with air-inlets *c'*. The hole *c* through the crown-plate is small enough so that the inner edge of the crown-plate will engage the annular bead *a*. The air-chamber and its superimposed weight are supported by this bead, as shown by Fig. 3. An annular engaging band D is rigidly attached to the upper side of the air-chamber.

At the top of the burner-tube A is the burner-head. The burner-head consists of the cup-shaped part E, having the reduced hollow shank F, terminating in the clamp F', and the removable cap-piece G, provided with the sieve G', the cup E having a sieve E' within it. The lower sieve E' is of coarser mesh than the upper sieve G'. The burner-head is held upon the top of the burner-tube A by the clamp F'. This clamp, while it holds the head firmly when in place, permits it to be easily removed from the burner-tube and to be replaced by pulling it off and pushing it on.

The chimney-gallery H supports the chimney I upon its open frame floor H', while the sides of the gallery sustain the chimney laterally. An annular thimble J, attached to the open floor H', projects above it. This thimble is of a diameter that will receive the burner-head. The cap G of the burner-head projects a little above the thimble J. The gallery is supported from the air-chamber by a bracket, which consists of the annular base K and the braces K'. The annular base K fits over, but is removable from, the annular band D and rests upon the upper plate of the air-chamber. The braces K' are rigidly attached to the base K and to the gallery H.

A mantle L is suspended over the burner-head within the chimney by means of the vertically-adjustable support M.

Heretofore when it was desired to clean the sieves of the burner-head it has been necessary to remove the chimney and the mantle from the burner to gain access to the burner-head, and the burner-head has been difficult to clean even after the chimney and the mantle were removed, because it was irremovably fixed within the thimble or band J of the gallery. The mantles used in these incandescent gas-burners are made of a very delicate fabric or textile treated chemically and are so

frail that often the slightest touch breaks and injures them. This has been a source of great annoyance, inconvenience, and expense to users of these burners.

- 5 By my improvement it is not necessary to remove either the chimney or the mantle from the gallery. The gallery is separable from the other parts of the burner, carrying with it the chimney with the inclosed mantle in  
10 position, and the burner-head is exposed free of any environment. The mantle is subjected to no handling, and the chimney being over it constantly protects the mantle from all external injury, and, further, as the burner-  
15 head is removable from the burner-tube and the cap G is removable from the lower part of the head it will be seen that both sieves can be easily cleaned. The parts of the burner as separated for cleaning or other purposes  
20 are shown by Fig. 2.

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

1. The combination, in an incandescent gas-burner, of a burner-tube, an air-chamber fitted over the burner-tube, a burner-head  
25 removably secured upon the upper end of the burner-tube, and a chimney-gallery removably supported above the air-chamber, substantially as described.

2. The combination, in an incandescent  
30 gas-burner, of a burner-tube, an air-chamber fitted over the burner-tube, a burner-head removably secured to the upper end of the burner-tube and being provided with a removable cap having a sieve therein, and a  
35 chimney-gallery removably supported above the air-chamber, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 15th day of October, 1895.

CHARLES W. BUFFINGTON.

Witnesses:

J. A. OSBORNE,  
M. C. HOOPER.