(No Model.)

# E. M. WHITE.

## CHIMNEY FOR INCANDESCENT GAS BURNERS.

No. 589,323. Patented Aug. 31, 1897.

FIG. 2.

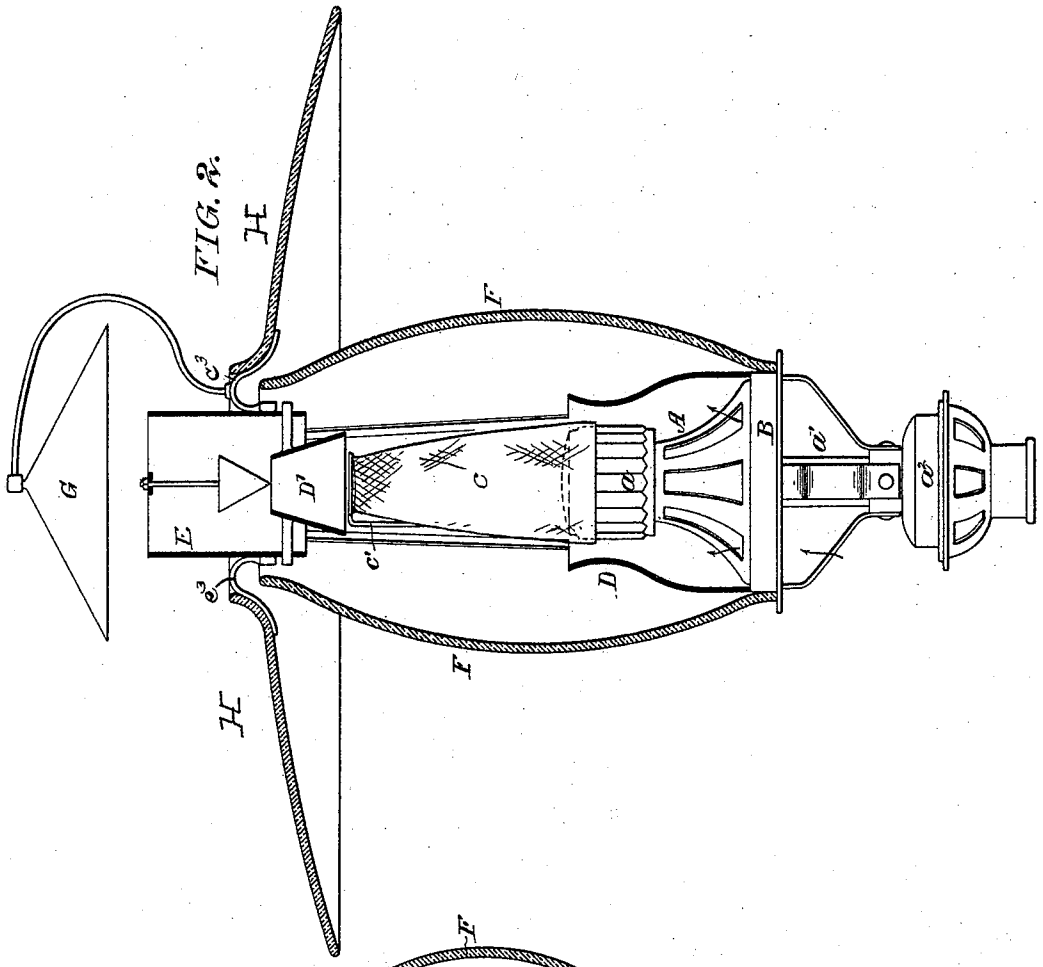
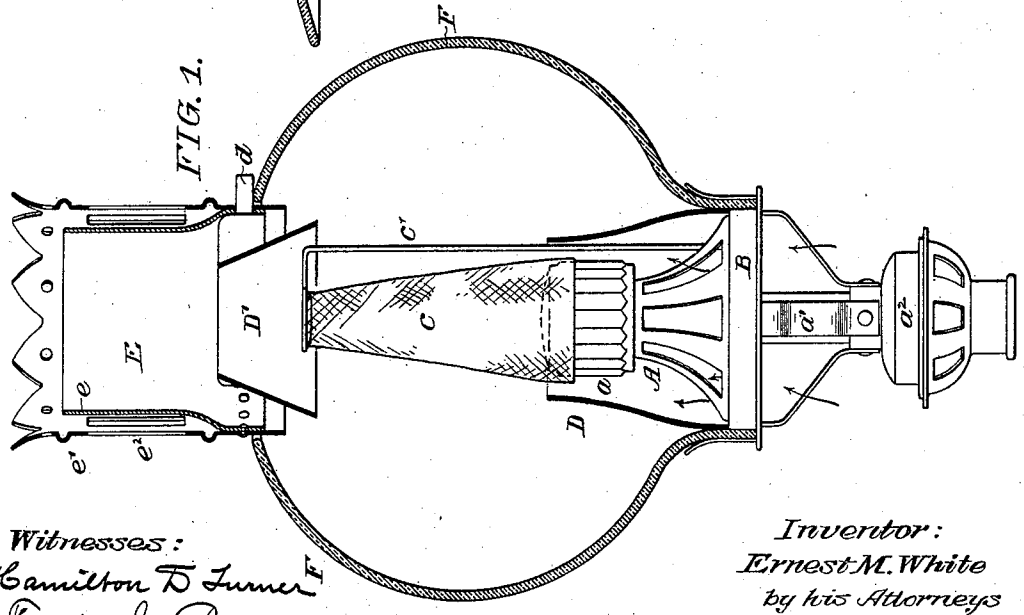



FIG. 1.




Witnesses:
Hamilton D. Turner
Fred C. Benner

Inventor:
Ernest M. White
by his Attorneys
Howson & Howson

# UNITED STATES PATENT OFFICE.

ERNEST M. WHITE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THOMAS WHITE, OF SAME PLACE.

## CHIMNEY FOR INCANDESCENT GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 589,323, dated August 31, 1897.

Application filed December 2, 1895. Serial No. 570,785. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST M. WHITE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Chimneys for Incandescent Gas-Burners, of which the following is a specification.

The object of my invention is to construct a chimney for an incandescent gas-lamp, such as the "Welsbach," so that a strong current of air will be maintained within the chimney, thus increasing the illuminating power of the lamp.

My invention is based upon the broad subject-matter disclosed in my application, Serial Number 619,086, filed January 13, 1897, in which a two-part chimney is described and claimed, and I therefore do not claim, broadly, the two-part chimney for creating a double draft in this application, as such construction forms the subject-matter of my said pending application, the invention herein claimed being limited to a modification specifically different from that described and claimed in said application.

In the accompanying drawings, Figure 1 is a sectional elevation of a lamp having my improved chimney. Fig. 2 is a sectional elevation showing a slightly different arrangement of parts.

A is the burner of the ordinary Welsbach incandescent lamp, consisting of the crown *a*, air-and-gas-mixing tube *a'*, the air-valve $a^2$, and the chimney-holder B.

As shown in Fig. 1, resting on the chimney-holder and surrounding the upper portion of the burner and the lower portion of the mantle is a tubular casing D, contracted at the upper end, so that the air passing up through the chimney-holder will be directed toward the mantle *c*, which is suspended from a rod *c'* in the ordinary manner.

In order to confine the current of air, I place above the mantle a conical hood D', having arms *d*, which pass through the shell of the upper flue E and rest upon the globe F, carried by the holder B. The tubular casing D and the conical hood D' form a two-part chimney, separated at the center opposite the mantle, so that while the air-currents are confined to the mantle by means of the two-part chimney the light is not interfered with and a solid glass chimney is dispensed with.

The flue E is somewhat larger than the conical hood D', so as to form an air-space on the outside of the hood to draw air from the space within the globe F. I preferably make the flue larger at the base than at the top, as indicated, so as to increase the draft, and as the inner casing *e* of this hood will become very hot I place on the outside an ornamental shell *e'*, having a series of openings $e^2$, which allow air to pass into contact with the inner shell, and thus tend to keep it cool to a certain extent. At the same time the outer shell will not tarnish and the lamp will not be disfigured.

By the arrangement described I am enabled to considerably increase the draft, and thus add to the illuminating power of the lamp, and as the chimney is made in two parts and preferably of metal the mantle will not be destroyed as readily as in lamps in which the chimney is continuous and of glass. The globe being some distance from the mantle will not be affected by the heat.

In Fig. 2 I have shown the lower portion D flared at the top and the upper portion or flue E of the chimney supported from the lower portion by rods, and above the conical hood I arrange an inverted cone which will divert the currents as they pass up through the hood, so that they will mix with the air passing on the outside the said hood. I also provide a mica or metallic disk G as a protector for the ceiling.

In Fig. 1 the globe supports the entire mechanism above the lamp, while in Fig. 2 the mechanism is supported by the sectional chimney or flue, which has brackets $e^3$, which support the reflecter H, the globe being independent of the chimney.

I claim as my invention—

1. The combination of the burner, its mantle, the sleeve inclosing the burner and contracted at its upper end, a conical hood directly above the mantle, a flue extending to

a point below the upper portion of the hood and a globe inclosing the burner and mantle, substantially as described.

2. The combination of the burner, a mantle suspended above the burner, a two-part chimney separated at the center opposite the mantle, the lower portion of the chimney being contracted at its upper end and the upper portion of the chimney being in the form of a cone, with a flue into which the upper end of the chimney extends and a globe inclosing the mantle and burner, substantially as described.

3. The combination of a burner, a mantle mounted above the burner, a sleeve inclosing the burner and contracted at its upper end, a globe, a flue mounted above the burner and a conical hood having arms extending through the walls of the flue, substantially as described.

4. The combination of the burner, a mantle mounted above the same, a sleeve inclosing the burner, a flue above the mantle, a globe extending from the burner to the flue, brackets on the flue for supporting the reflector, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERNEST M. WHITE.

Witnesses:
WILL. A. BARR,
JOS. H. KLEIN.