No. 692,441. Patented Feb. 4, 1902.

A. P. GRIFFIN.

MANTLE HOLDER FOR GAS BURNERS.

(Application filed Aug. 28, 1900.)

(No Model.)

Fig 5

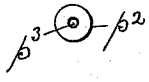


Fig 2

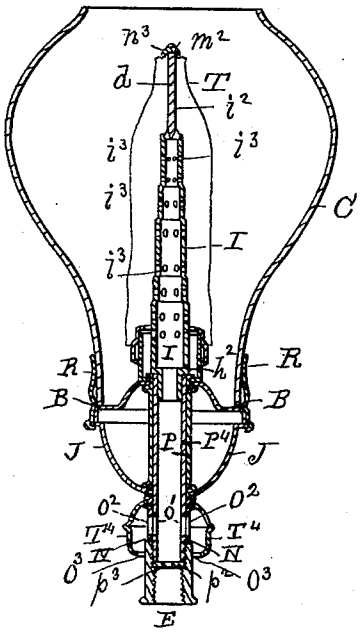


Fig 4

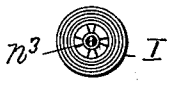


Fig 3

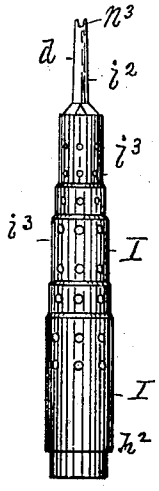
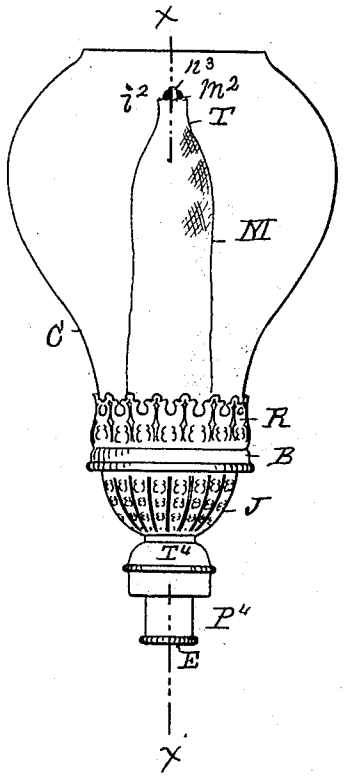


Fig 1



WITNESSES

William A. Swett

Charles S. Brimhall

INVENTOR

Albert P. Griffin

by W. E. Hagan

Atty

UNITED STATES PATENT OFFICE.

ALBERT P. GRIFFIN, OF TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO WILLIAM E. HAGAN, OF TROY, NEW YORK.

MANTLE-HOLDER FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 692,441, dated February 4, 1902.

Application filed August 28, 1900. Serial No. 28,318. (No model.)

To all whom it may concern:

Be it known that I, ALBERT P. GRIFFIN, of the city of Troy, county of Rensselaer, and State of New York, have invented new and useful Improvements in Mantle-Holders for Gas-Burners, of which the following is a specification.

My invention relates to improvements upon the means by which the gas-burner mantles that are made of refractory material which becomes luminous by being heated are suspended within the shade or chimney in which they are used. These mantles are too fragile to stand upon their lower ends for vertical support, and consequently they are usually suspended from a hook on the end of a laterally-extended holder-arm of wire, the body of which latter is projected upwardly from the base on which the chimney or shade is supported and inside of the latter, where the holder-wire is made vertically adjustable. The presence of the wire between the mantle and shade or chimney is objectionable in appearance, and it is as thus located necessarily in a position to be highly heated and oxidized, as well as by expansion to become bent, and thus interfere with the proper dependence of the mantle for obtaining the best results. By the use of my improvement the wire heretofore arranged between the mantle and shade or chimney is dispensed with, and a tube-form gas-burner is extended upwardly high enough within the mantle to have the strand which is stretched across the top of the latter enter a cut-away notch formed in the upper end of the gas-pipe burner upwardly projected within the mantle, on which connection the latter depends, this connection thus differing from that older method in which a wire arranged outside of the mantle, between the latter and the chimney or shade, is used. This tube-form gas-burner upwardly projected inside of the mantle is provided with apertures in its sides, from which the gas previously mixed with air in the supply-pipe of the device passes to burn throughout the length of the burner-pipe and mantle, thus doing away with the dark zone so often occurring at the top and bottom of the mantle.

Accompanying this specification to form a part of it there is a plate of drawings containing five figures illustrating the application of my invention, with the same designation of parts by letter reference used in all of them.

Of the illustrations, Figure 1 is a side elevation of a gas-burner attachment and shade containing my improved method of suspending the mantle and for supplying the gas to be burned therein. Fig. 2 is a section taken on the line $x\ x$ of Fig. 1. Fig. 3 is a side elevation of the tube-form gas-burner which supplies the gas and on the top of which burner the mantle is suspended, the tube-form burner being shown in this figure as detached from the other parts. Fig. 4 shows as detached and in plan view a diaphragm-plate which when in position is arranged in the gas-supply pipe, illustrating the aperture through which the gas and air enter to pass to the burner. Fig. 5 is a top view of the gas-burner tube.

The several parts of the apparatus thus illustrated are designated by letter reference, and the function of the parts is described as follows:

The letter M designates the mantle, which is made of refractory material which becomes luminous when heated.

The letter T designates the top of the mantle, which is made to taper inwardly as extended upwardly, and at what is its upper end when in position it is provided with a strand m^2, which is stretched across the top of the mantle from side to side.

The letter B designates the ring-form base or platform in which the lower end of the chimney or shade rests for a support.

The letter R designates the open-work and upwardly-projected slotted rim within which the shade or chimney is sprung into place in position on the base B.

The letter J designates an open-work curtain having a cup form and arranged below the shade or chimney-base support, where it is drawn inwardly to encircle the pipe P and whereat the latter terminates.

The letter P^1 designates another pipe which is arranged to pass upwardly through the pipe P to terminate at the upper end of the latter and to extend downwardly through and

beyond it. This pipe P^4 is adapted to supply a mixture of gas and air to the tube-form burner-pipe I, as will be detailed hereinafter.

The letter p^2 designates a diaphragm-plate that is provided with a gas-passage p^3, arranged in the gas-supply pipe P^4 below where air is admitted to commingle with the gas.

The letters O′ designate slot-form passages that are vertically and oppositely formed in the pipe P^4, and the letter N designates a sleeve arranged to encircle and make a sliding engagement around and with the pipe P^4, where opposite the slots O′, formed in the latter.

The letters O^2 designate vertically-arranged and slot-form passages formed in the sleeve N to register with the slot-form passages O′ of the pipe P^4. To operate this sleeve to turn on the pipe P^4, so as to admit air thereto to mix with the gas entering at E to pass through the diaphragm p^2, this sleeve has exteriorly formed thereon the inverted cup T^4, which is open at the bottom, as designated at O^3, for the admission of air to pass through the slots of the sleeve N and the pipe P^4 when operated by the cup T^4 to have these passages register, and by which cup and sleeve the measure of air thus admitted may be regulated.

All of the before-named parts, with the exception of the tube-form burner I, are old and well-known parts of gas-burners.

The tube-form gas-burner I is formed to taper inwardly as extended upwardly to its top i^2, which is closed by a plug d and has formed therein at its upper end the notch n^3, and throughout its length this burner-pipe is provided with laterally-opening-out gas-passages i^3, by which the mixture of gas and air entering it from the pipe P^4 may be burned within the mantle M. This mantle is passed down over the burner-pipe I, with the strand m^2 of the mantle entered within the notch n^3, and on which connection the mantle depends. The lower end of the tube-form burner I may connect with the pipe P^4 by any well-known means. As herein shown the burner-pipe has formed on its lower end a shoulder h^2, so as to have the lower end of the burner-pipe entered within the pipe P^4, with the shoulder h^2 resting upon the upper ends of the pipes P and P^4, as shown at Fig. 2. With the burner-pipe as thus constructed to hold the mantle and supply gas and air thereto the mantle is furnished with a holder connection that is in the main out of sight and by which the burner supplies burning gas throughout the whole length of the mantle, and there is no dark zone in the latter, but it is luminous throughout.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with a lamp chimney or shade a tapering burner provided with longitudinal passages having lateral openings throughout its length, and having a closed top provided with a notch, whereby a mantle may be suspended between the latter and the shade or chimney to encircle said burner, means for supporting said burner and shade or chimney, and means substantially as described whereby a supply of gas and air may be supplied to said burner to be burned between the latter, and the mantle, substantially as and for the purposes set forth.

2. The combination with the shade or chimney C, having the support B, of the upwardly-extended and inwardly-tapering tube-form burner I, provided with side apertures i^3, and having a closed top provided with a notch n^3; substantially as, and for the purposes set forth.

Signed at the city of Troy, New York, this 8th day of June, 1900, and in the presence of the two witnesses whose names are hereto written.

ALBERT P. GRIFFIN.

Witnesses:
CHARLES S. BRINTNALL,
WILLIAM A. SWEET.