

H. LYON.
GAS BURNER.

APPLICATION FILED OCT. 7, 1910.

1,001,967.

Patented Aug. 29, 1911.

Fig. 1

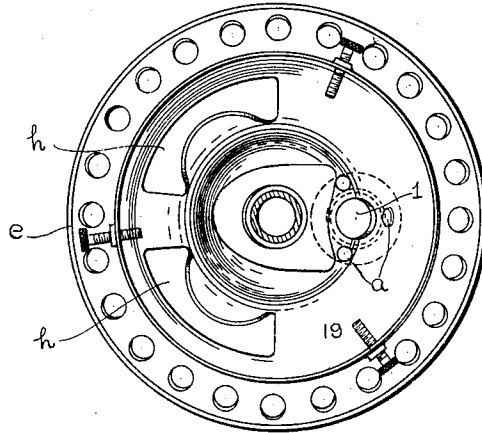


Fig. 2

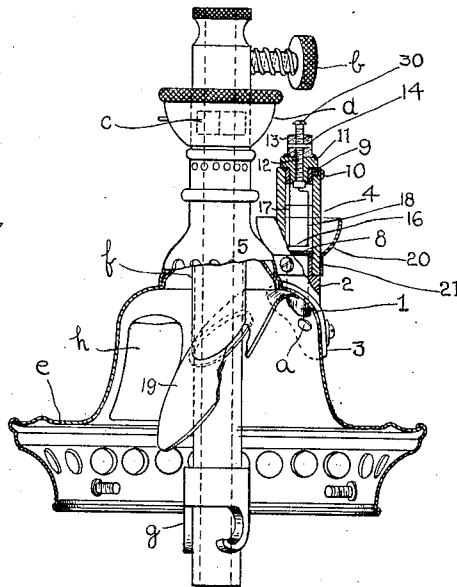
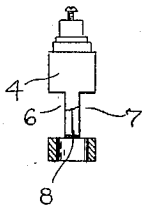


Fig. 3



Witnesses:

Robert M. Sutphen.

Anna R. Kuhn

Inventor:

Howard Lyon
by Delos Holden
His Atty.

UNITED STATES PATENT OFFICE.

HOWARD LYON, OF GLOUCESTER CITY, NEW JERSEY, ASSIGNOR TO WELSBACH LIGHT COMPANY, A CORPORATION OF NEW JERSEY.

GAS-BURNER.

1,001,967.

Specification of Letters Patent.

Patented Aug. 29, 1911.

Application filed October 7, 1910. Serial No. 585,773.

To all whom it may concern:

Be it known that I, HOWARD LYON, a citizen of the United States, and a resident of Gloucester City, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Gas-Burners, of which the following is a description.

My invention relates to incandescent mantle gas burners of the inverted type and provided with an electric ignition filament supported preferably in an ignition chamber carried by a canopy above the burner head and communicating with an aperture in said canopy, as disclosed and claimed in my applications Serial No. 541,600, filed February 2, 1910, and No. 566,408, filed June 11, 1910.

The present invention has for its object the provision of means for directing the flow of gas from the burner head into the igniter whereby the time required for ignition is lessened, and also means for protecting the ignition filament against currents of air occurring outside of the lamp and which tend to retard or prevent ignition.

In order that the invention may be more clearly understood, reference is hereby made to the accompanying drawing in which—

Figure 1 is a bottom plan view of a gas burner embodying my invention, Fig. 2 is a side elevation thereof, partly in section, and Fig. 3 is an elevation of the igniter viewed at right angles to Fig. 2 and partly in section.

The gas burner shown comprises a Bunsen tube *f* provided with the usual gas check *b*, air inlets *c*, flash diaphragm *d*, globe holder *e*, and mantle holder *g*. The globe holder *e* is in the form of a canopy or inverted funnel having large openings *h* for discharging the heated products of combustion. Near the center of the globe holder and at substantially the highest point is an opening 1 above which is mounted a nipple 2 having a flange 3 which is secured by rivets *a* to the canopy *e*, the bore of said nipple registering with said opening. Upon the nipple 2 is mounted a vertical tube 4 secured by a set screw 5. The walls of the tube 4 are cut away intermediate its ends forming two large rectangular openings 6 and 7. At the bottom of these openings is a baffle plate 8 extending across the bore of the tube and composed preferably of some non-oxidizing substance such as Monel metal which does

not scale and is well adapted for the purpose, its composition being approximately 74 to 75% nickel, 24 to 25% copper, 1 to 2% iron.

The upper end of the tube 4 is closed by a plug composed of a metal sleeve 9 secured by a set screw 10, and an insulating bushing 11 set therein and through which passes a headed conducting bolt 12 secured by a nut 13. This nut has a passage 14 for receiving a conducting wire 15 and a set screw 30 for securing the same. A very fine wire 16 of platinum or platinum alloy is secured at its ends to the supporting conductors 17 and 18, one of which is soldered to the head of the bolt 12 and the other to the sleeve 9. The wire 16 is straight, or may be formed with a partial spiral at the center as disclosed in my application Serial No. 585,772, filed October 7, 1910, and extends horizontally across the axis of the tube 4 and parallel to the edges of the baffle plate 8, and to the planes of the openings 6 and 7.

Upon the Bunsen tube *f* is mounted a spoon shaped deflector 19 which extends entirely across the central portion or axis of the lamp in an inclined position as shown, the lower end being below the level of the openings *h* and the other end adjacent the aperture 1. This deflector causes an inflammable mixture to pass through the aperture 1 into the ignition chamber formed by the tube 4, within a very short time after the gas is turned on. A hemispherical shield or guard 20 having a securing flange 21 incloses the tube 4 in such position as to completely protect the filament from air currents outside of the lamp and which by unduly cooling the ignition filament and diluting the gas mixture surrounding the same tend to retard or prevent ignition. The shield 20 is secured by the set screw 5.

Having now described my invention, what I claim is:

1. In a gas burner, a downwardly extending supply pipe, a canopy surrounding the same and having an aperture eccentric thereto, an ignition chamber communicating with said aperture, a filament within said chamber, a baffle between the filament and said aperture and a deflector within the canopy for deflecting the ascending gas to said aperture.

2. In a gas burner, a downwardly extending supply pipe, a canopy surrounding the

same and having an aperture eccentric thereto, an ignition chamber communicating with said aperture, a filament within said chamber, a baffle between the filament and said aperture and a deflector carried by said pipe within the canopy for deflecting the ascending gas to said aperture.

3. In a gas burner, a downwardly extending supply pipe, a canopy surrounding the same and having an aperture eccentric thereto, an ignition chamber communicating with said aperture, a filament within said chamber, a baffle between the filament and said aperture and an inclined deflector carried by said pipe within the canopy for deflecting the ascending gas to said aperture.

4. In a gas burner, a supply pipe, a canopy surrounding the same and having an aperture eccentric thereto, an igniter communicating with said aperture, and an inclined spoon shaped deflector within the canopy for deflecting the ascending gas.

5. In a gas burner, a supply pipe, a canopy surrounding the same and having one or more large openings for permitting the escape of products of combustion and a relatively small aperture, an igniter communicating with said small aperture, and a deflector within the canopy for deflecting the ascending gas to said aperture, said deflector extending from a point below said large opening to a point adjacent said small aperture.

6. In a gas burner, a supply pipe, a canopy surrounding the same and having one or more large openings for permitting the escape of products of combustion and a relatively small aperture arranged on the opposite side of said canopy from said large openings, an igniter communicating with said small aperture and a deflector within the canopy so arranged as to deflect the as-

cending gas away from said large openings and toward said small aperture.

7. In a gas lamp, a supply pipe, a canopy surrounding the same and having an aperture, an ignition chamber communicating with said aperture and having one or more windows opening directly to the atmosphere, a filament adjacent said window, and a shield outside of said chamber so placed as to protect the filament against currents of air from the outside.

8. In a gas lamp, a supply pipe, a canopy surrounding the same and having an aperture, an ignition chamber communicating with said aperture and having a window opening directly to the atmosphere, a baffle, a filament above said baffle and adjacent said window, and a shield outside of said window.

9. In a gas lamp, a supply pipe, a canopy surrounding the same and having an aperture eccentric thereto, a tubular ignition chamber communicating with said aperture and having a window opening directly to the atmosphere, a filament therein, and a shield surrounding said igniter adjacent said window.

10. In a gas lamp, a burner head, an ignition chamber in the path of the gas issuing therefrom, and having a window opening into the atmosphere, a filament within said ignition chamber adjacent said window, and a shield outside of said window for protecting said filament against atmospheric air currents.

This specification signed and witnessed this 5th day of October, 1910.

HOWARD LYON.

Witnesses:

JOSEPH H. JOHNSON,
A. G. HENSEL, JR.