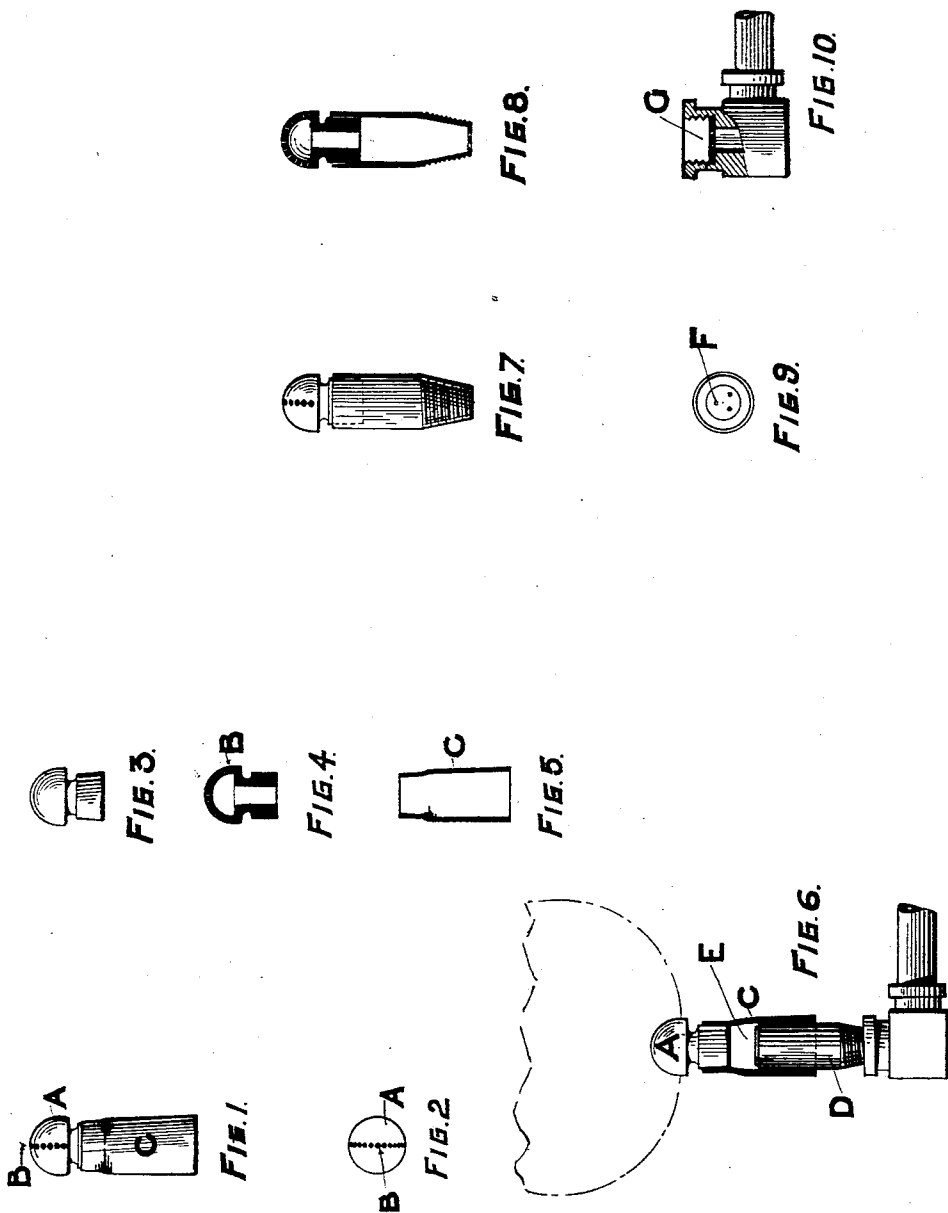


(No Model.)

W. B. WILLIAMS.
GAS BURNER.

No. 580,074.

Patented Apr. 6, 1897.



Witnesses:

E. R. Kalton

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Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM BONNER WILLIAMS, OF LEIGH, ENGLAND.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 580,074, dated April 6, 1897.

Application filed February 20, 1896. Serial No. 580,120. (No model.) Patented in England April 18, 1893, No. 7,831.

To all whom it may concern:

Be it known that I, WILLIAM BONNER WILLIAMS, a subject of the Queen of Great Britain and Ireland, and a resident of Leigh, near Manchester, in the county of Lancaster, England, have invented certain new and useful Improvements in or Relating to Gas-Burners, (for which I have obtained, jointly with one William Dean, a patent in Great Britain and Ireland, No. 7,831, dated April 18, 1893,) of which the following is a specification.

My invention consists of a gas-burner designed to fit onto or over an ordinary "Brays" or similar burner having a semispherical head or "steatite" portion with a number of very fine radiating holes. Such burner (or burner-cover) gives to the gas flame an increased brilliancy, and in proportion to the amount of gas consumed by the ordinary burner for the same size of flame affords an economy of gas.

In order that my said invention shall be the more readily understood and carried into practical effect, I have hereunto annexed a sheet of drawings, and will now proceed to describe the same with the assistance of the various letters of reference marked thereon.

Figure 1 illustrates a side view, and Fig. 2 a plan, of my improved burner attachment. Figs. 3, 4, and 5 illustrate the steatite (or similar) portion and metal tubular portion of the said burner in elevation and section, respectively. Fig. 6 shows its application. Figs. 7, 8, and 9 illustrate elevation, inverted plan, and sectional views of a modification of my invention. Fig. 10 illustrates part of a further modification.

In Figs. 1 to 5, A represents the steatite portion of the burner made of semispherical form or of the section shown in Fig. 4 and with a number of fine holes B radiating outward. This steatite portion fits in the metal tube C, which is by preference of a slight taper and adapted to fit onto an ordinary Brays or similar burner D. (See Fig. 5.) By so fitting over the burner D a small cavity or space E is formed, and as the gas issues through the numerous openings B gives a broad fan-like flame of considerably increased brilliancy over the light given by the burner

alone. The cause of the increased brilliancy is attributable to the gas being heated in the cavity E and hollow tip A prior to its passing through the holes B, and also to the extent to which the gas is spread out by such holes, causing better and more complete combustion.

Although I prefer my invention to be in the form above described, I may make it in the form of a burner proper, as shown in Figs. 6, 7, 8, and 9, the usual gauze or strainer being removed from the burner interior and the lower and inlet end closed up, with the exception of one, two, or more very fine holes F in such closed end, (see Fig. 9,) corresponding to size of light required and the equivalent of the holes in the burner D, Fig. 6.

The closing of the end may be effected by soldering, brazing, casting, or stamping. In lieu of closing the end of the burner in the making of it such end may be closed by a loose-fitting and perforated disk G, fitting into the socket of the gas-bracket, (see Fig. 10,) against which the open or inlet end of the burner may screw. In this way a single burner combines the aforesaid ordinary and supplementary burners in one.

Having thus particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim, and desire to secure by Letters Patent, is—

A gas-burner comprising a semispherical head and a substantially cylindrical body portion integral therewith having a series of fine perforations arranged in a straight line across it for the emission of gas, said perforations being drilled on lines radiating from a common center and at such a distance apart as to form a continuous sheet of flame, some of the said perforations extending substantially at right angles to the axis of the burner, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM BONNER WILLIAMS.

Witnesses:

WALTER GUNN,
EDWIN H. SETTLE.