

W. C. WREN.
GAS-BURNER.

No. 172,065.

Patented Jan. 11, 1876.

Fig. 1

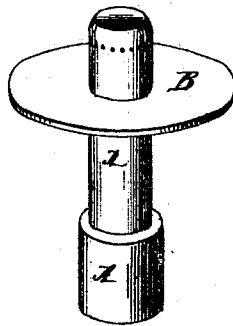


Fig. 2



Witnesses:

John H. Black
Anthony Benet

Inventor:

William C. Wren.

UNITED STATES PATENT OFFICE.

WILLIAM C. WREN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **172,065**, dated January 11, 1876; application filed October 19, 1874.

To all whom it may concern:

Be it known that I, WILLIAM C. WREN, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Gas-Burners, of which the following is a specification:

The object of my invention is to burn the fixed gas, for the production of which Letters Patent were granted to me on the 8th of April, 1873.

In the course of my experiments for utilizing the said gas I found that an effective light could not be produced from the gas with any of the burners employed for other gases. The incapacity of the ordinary burners resulted from two causes: First, the new gas was so rich that when passed from the comparatively large opening of an ordinary burner a highly-carbonized flame, incapable of being fully oxidized, was produced; second, with burners having minute openings the fine streams of gas were deflected by currents of air passing upward close to the burner, and combining with the gas, producing an explosive mixture and a constant series of slight explosions, which impaired the brilliancy of the light. It, therefore, was necessary, in order to obtain an effective light, to cause the gas to issue from the burner in minute streams, and to prevent upward currents of air at the points where the said streams issued, while it was also necessary to preserve the form and dimensions of the burner, that it might be used in connection with the ordinary pipes and brackets employed for fixed gases, which my improved gas was intended to replace. I effect these objects by constructing the burner A of the usual external form shown in the drawing, and with a threaded socket at the base for receiving the threaded nib of a gas-pipe or bracket, and with an unobstructed chamber extending its whole length. The burner, however, instead of being open at the top, as usual in burners for fixed gases, is closed at the end,

and a series of minute radial perforations are drilled in the sides of the burner near its closed upper end, and a short distance below the said openings a thin collar or flange, *b*, projects at right angles from the burner. The minute openings divide the gas into such small streams as will insure the combination with the gas, as it issues, of sufficient air to produce a thorough combustion, and to prevent a deposit of carbon in the form of smoke, while the flange *b* prevents the air from passing upward in such strong currents as to deflect the gas, which, therefore, burns with a steady white flame of great brilliancy.

I am aware that tubes or burners of vapor lamps have been made with horizontal flanges arranged to be heated by the flame issuing from openings above the flanges, for the purpose of transmitting heat to the vapor within the burner; but such burners, owing to the dimensions of the openings and their arrangement, are wholly unserviceable for use in connection with a fixed gas, and could never be confounded with or substituted for burners for fixed gases.

I claim—

1. A burner for fixed gases, having the usual threaded socket at the bottom, an unobstructed chamber extending its whole length, closed at the top, and provided with a series of minute radial perforations, and with a flange or collar below the perforations, as and for the purpose specified.

2. The mode described of burning a fixed gas—that is to say, passing the same through minute horizontal openings arranged above a horizontal flange, as set forth.

In testimony that I claim the foregoing as my own I herewith affix my signature in presence of two witnesses.

WILLIAM C. WREN.

Witnesses:

ANTHONY BARRETT,
JOHN C. MCGUIRE.