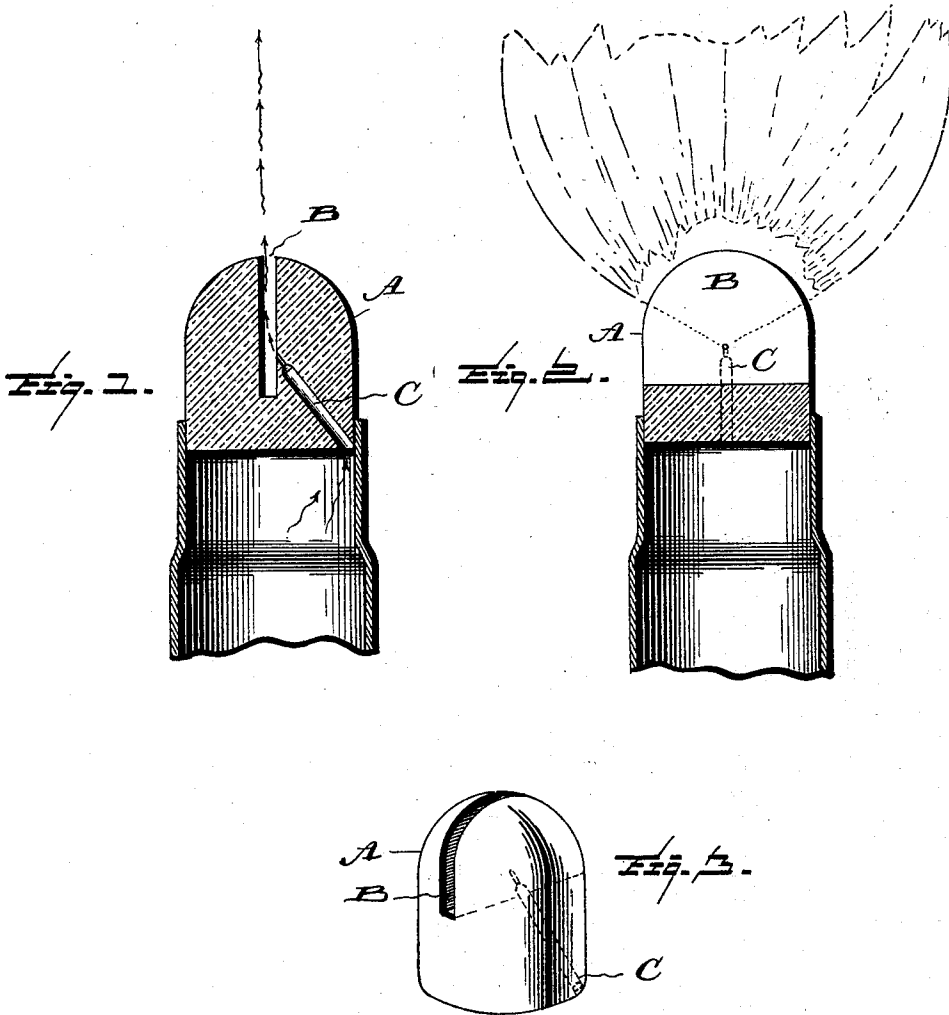


(No Model.)

E. J. DOLAN.  
GAS BURNER.

No. 596,578.

Patented Jan. 4, 1898.



Witnesses:  
L. C. Mills.  
J. M. Puffer.

Inventor:  
Edward J. Dolan,  
by Franklin H. Hough  
Att'y.

# UNITED STATES PATENT OFFICE.

EDWARD J. DOLAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY  
MESNE ASSIGNMENTS, TO THE ACETYLENE HOUSE LIGHTING COM-  
PANY, OF WEST VIRGINIA.

## GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 596,578, dated January 4, 1898.

Application filed April 3, 1897. Serial No. 630,622. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD J. DOLAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in acetylene-gas burners; and it relates more particularly to that class of burners which are designed to produce a flat, uniform, and smokeless blaze.

The invention has for its object the provision of a burner of the character described wherein a vertical slot is provided and an inclined inlet passage or duct connecting with the said slot. The gas being thus admitted to the slot through the inlet-duct is forced against one of the vertical side walls of the slot, thus forming a flat column of gas which, as the slot is of a width sufficient to permit the taking up of oxygen from the air before the column of gas reaches the point at which the gas is ignited, will serve to produce a flat, uniform, and smokeless blaze.

To this end and to such others as the invention may pertain the same consists in the novel construction of the burner, all as hereinafter described and shown in the accompanying drawings and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which drawings—

Figure 1 is a central vertical section taken at right angles to the slot. Fig. 2 is a like view taken in the direction of the slot, and Fig. 3 is a perspective view of the burner.

Reference now being had to the details of the drawings by letter, A designates the burner-tip, which may be made of lava, metal, or any other substance adapted to the purpose. The

general external appearance of this burner is similar to burners of ordinary construction, such as are in common use. It is preferably provided with a vertical slot B of considerably greater width and depth than is the slot in ordinary burners.

C is an exceedingly small inlet passage or duct through which the gas is supplied to the slot B. This duct C leads from the lower end of the burner-tip A and passes through one of the side walls of the slot B at an angle, preferably, of about forty-five degrees. The point at which the inclined duct C enters the slot, as will be observed upon reference to Fig. 1 of the drawings, is considerably above the bottom of the slot, thus providing an air-space within the slot below the point at which the gas-duct enters the same.

In operation the gas is forced under pressure through the duct C into the slot B, where it comes into contact with air contained within the slot, and contacting with the flat vertical wall of the slot opposite the side at which the gas enters the column of gas is flattened, and this flattened column, following upward along the vertical face of the wall of the slot, passes out of the slot, where it is ignited and a flat, uniform, and smokeless blaze is produced.

I am aware that acetylene-gas burners have been devised for producing flat and smokeless flames, but in burners of this character this result has generally been accomplished by forcing two jets or columns of gas together through gas passages or ducts inclined in opposite directions. By the construction which I have shown and described in this application it will be observed that a flat and uniform flame is produced with a single inclined gas-duct. The minute duct or gas-passage through which the gas is supplied to the slot in the burner-tip being located at a considerable distance below the point at which the gas is ignited will be kept free from obstruction by the accumulation of carbon, which if the blaze were seated at the duct would result in the clogging of the passage.

I do not in this application claim a gas-burner in which two inclined jets of gas are utilized to form a sheet of gas in a transverse

slot in the body of the burner, having made application for that invention on the 5th day of April, 1897, Serial No. 630,795.

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

10 A gas-burner tip provided with a transverse slot, and an inclined gas inlet or duct passing through one of the side walls of the slot at a point above the bottom of the slot and below

its upper surface, thereby forming a flat sheet of gas by the action of the slot and before the escape of the gas to the atmosphere, substantially as described.

15 In testimony whereof I affix my signature in presence of two witnesses.

EDWARD J. DOLAN.

Witnesses:

A. L. HOUGH,  
J. M. PFEIFFER.