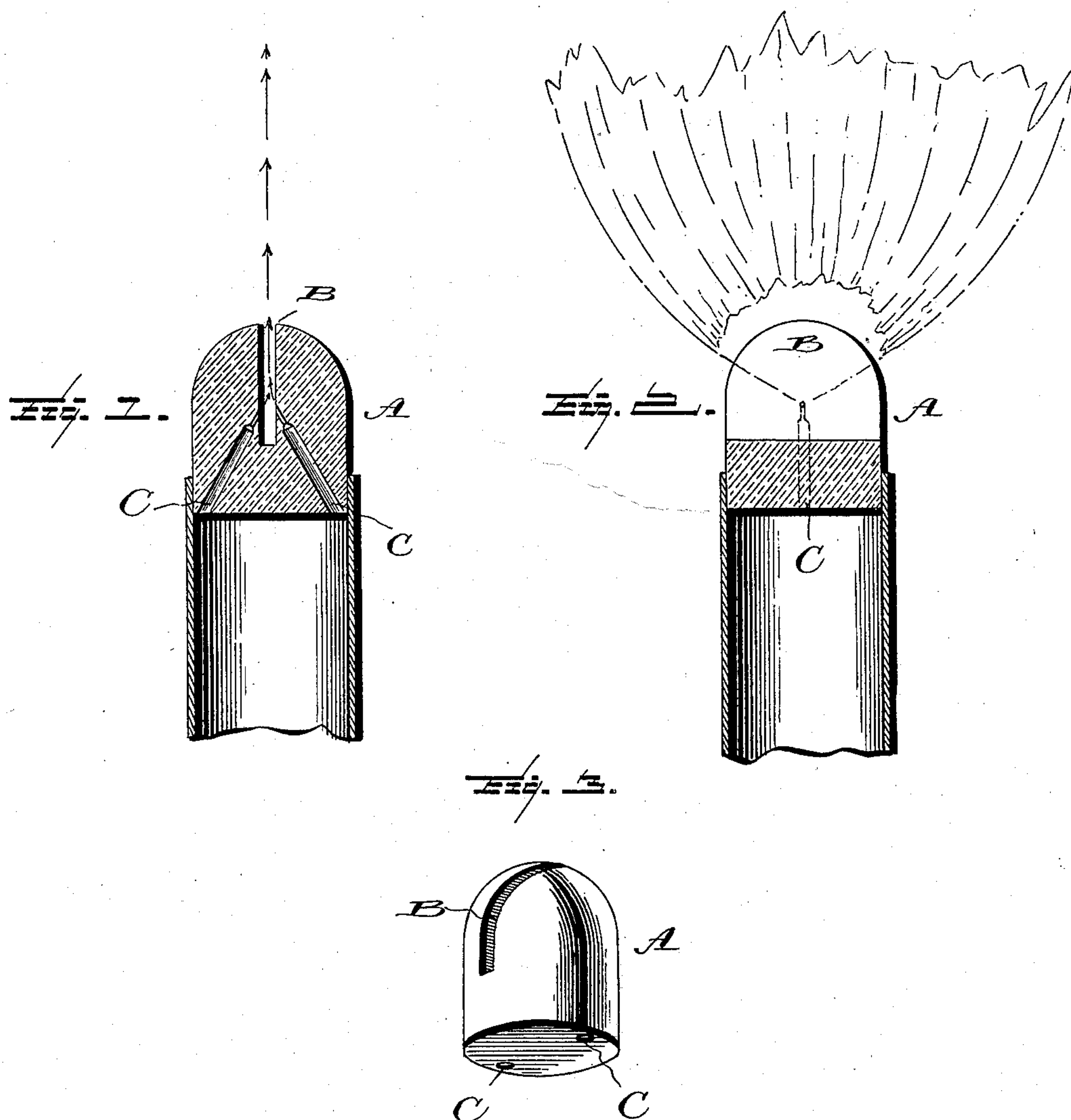


(No Model.)

E. J. DOLAN.
ACETYLENE GAS BURNER.

No. 596,577.

Patented Jan. 4, 1898.



Witnesses
L. C. Mills.
A. L. Hough

Inventor
Edward J. Dolan,
by Franklin H. Hough
Attorney

UNITED STATES PATENT OFFICE.

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

ACETYLENE-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 596,577, dated January 4, 1898.

Application filed April 5, 1897. Serial No. 630,795. (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 Acetylene-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 burners for acetylene gas; and it has more particular reference to that class of gas-burners in the construction of which provision is had for the production of a flat, uniform, and smokeless flame.

In order to produce a perfectly smokeless flame, it has been found that it is necessary that a certain amount of oxygen should be supplied to the gas before it reaches the point at which combustion takes place, and in order to accomplish this burners of various forms have been devised, the principal of which necessitates the employment of two independent burners or tips placed at such angles relative to one another that the streams of gas in passing from the apertures in the burners will impinge at a point midway between and slightly above the tips of the burners, thus forming at the point at which the two columns or currents unite a flat blaze.

The object of the present invention is to simplify and cheapen the construction of this class of gas-burners and to provide a burner in which a single tip is furnished with two inclined gas-passages, which at their upper ends pass through the opposite vertical side walls of a slot of a width sufficient to permit the oxygen to be mingled with the gas within the slot before the flat column of gas formed by the two impinging currents of gas reaches the point at which combustion takes place. The minute openings at the upper ends of the inclined gas ducts or passages being thus remote from the point at which the flame is seated will not become clogged by carbon, which is

deposited at the point at which combustion takes place.

To these ends and to such others as the invention may pertain the same consists in the novel construction of the burner, all as hereinafter described, 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 through a gas-burner embodying my invention, the same being at right angles to the direction of the slot. Fig. 2 is a like view taken through the slot. Fig. 3 is a perspective view of the burner-tip.

Reference now being had to the details of the drawings by letter, A designates the burner-tip, made either of lava or of any other material which may be found to be adapted to the purpose. This tip A is provided with a vertical slot, and upon opposite sides of the said slot the upper ends of two inclined gas ducts or passages pass through the vertical walls of the slot. The points at which these gas-openings are provided in the side walls of the slot are upon the same horizontal plane, which is considerably above the bottom of the slot, thus affording a space within which oxygen may be taken up by the gas as the two inclined currents unite within the slot.

The exceeding richness of acetylene gas and the great pressure under which it is supplied to the burner necessitate that the gas-ducts through which the gas is forced should be exceedingly small, and in case the blaze was seated at the tips of the gas-ducts great difficulty would be experienced in keeping the openings free from obstruction. In my burner, however, as the blaze is seated at a point remote from the gas-inlet ducts and as they are inclined at such an angle as would preclude the possibility of the ducts being obstructed by the products of combustion which might drop down into the slot, I have found from practical experiment that the ducts will at all times continue free from obstruction. The blaze or flame produced by

the burner herein described is found to be at all times uniform and smokeless.

I do not in this application claim a burner in which an inclined duct causes the gas to be
5 forced within a slot against an opposite wall of the same, having made application for that invention on the 3d day of April, 1897, Serial No. 630,622.

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

A gas-burner consisting of a tip which has

in it a transverse slot, and two gas ducts or passages formed in the wall thereof and inclined toward each other in a vertical plane
15 at right angles to the slot, and together adapted to form a flat sheet or column of gas within the slot, substantially as described.

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

EDWARD J. DOLAN.

Witnesses:

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