

No. 614,636.

Patented Nov. 22, 1898.

J. A. VINCENT.
BURNER FOR ACETYLENE GAS, &c.

(Application filed Mar. 29, 1898.)

(No Model.)

FIG. 1.

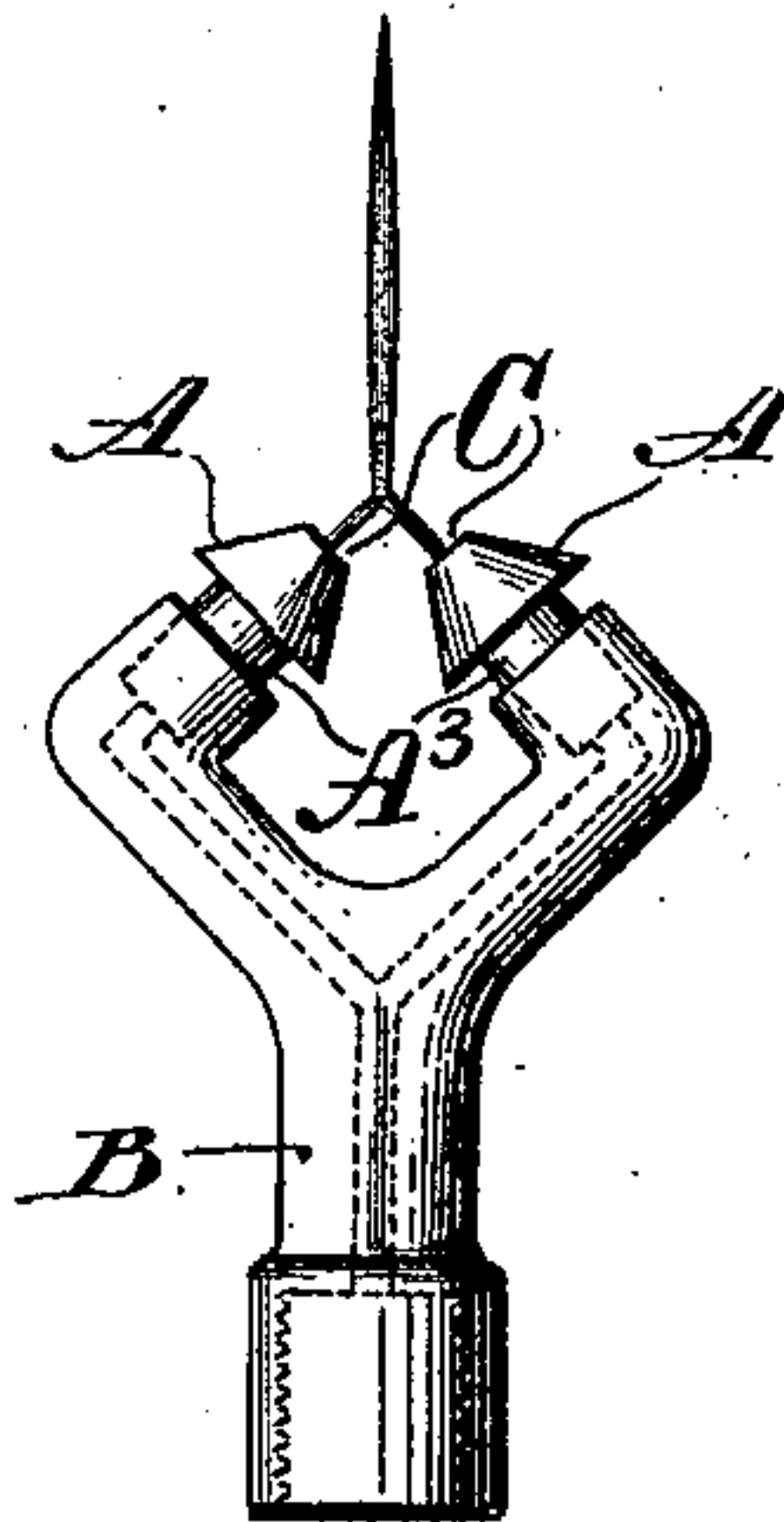


FIG. 2.

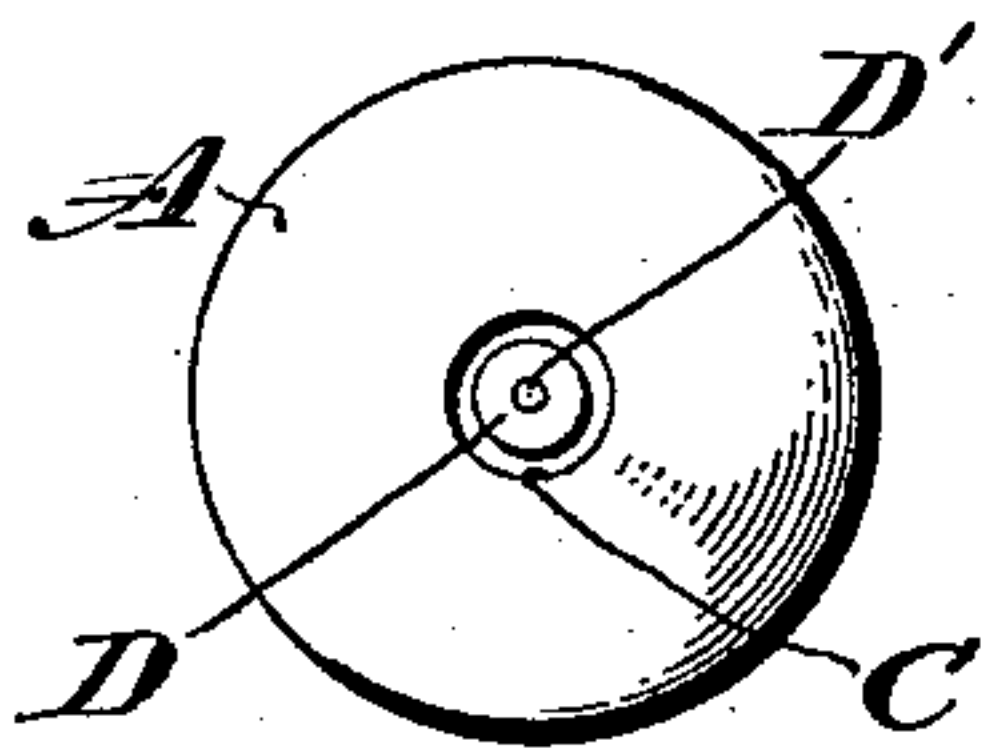


FIG. 3.

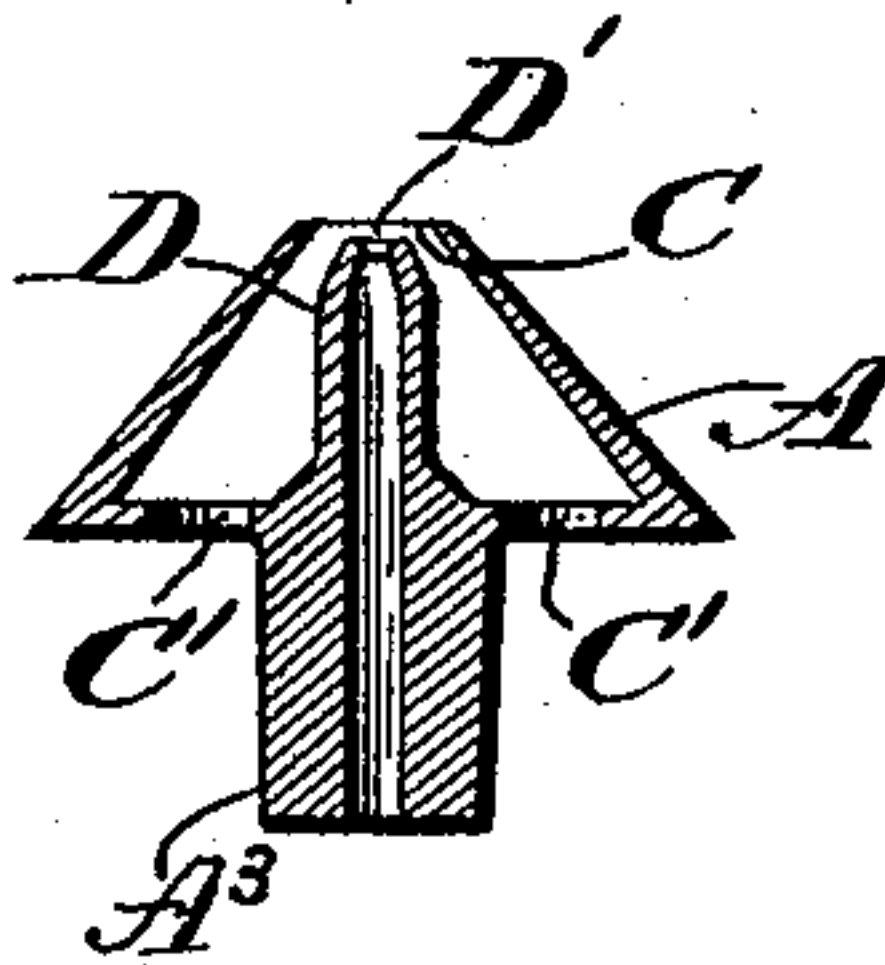


FIG. 4.

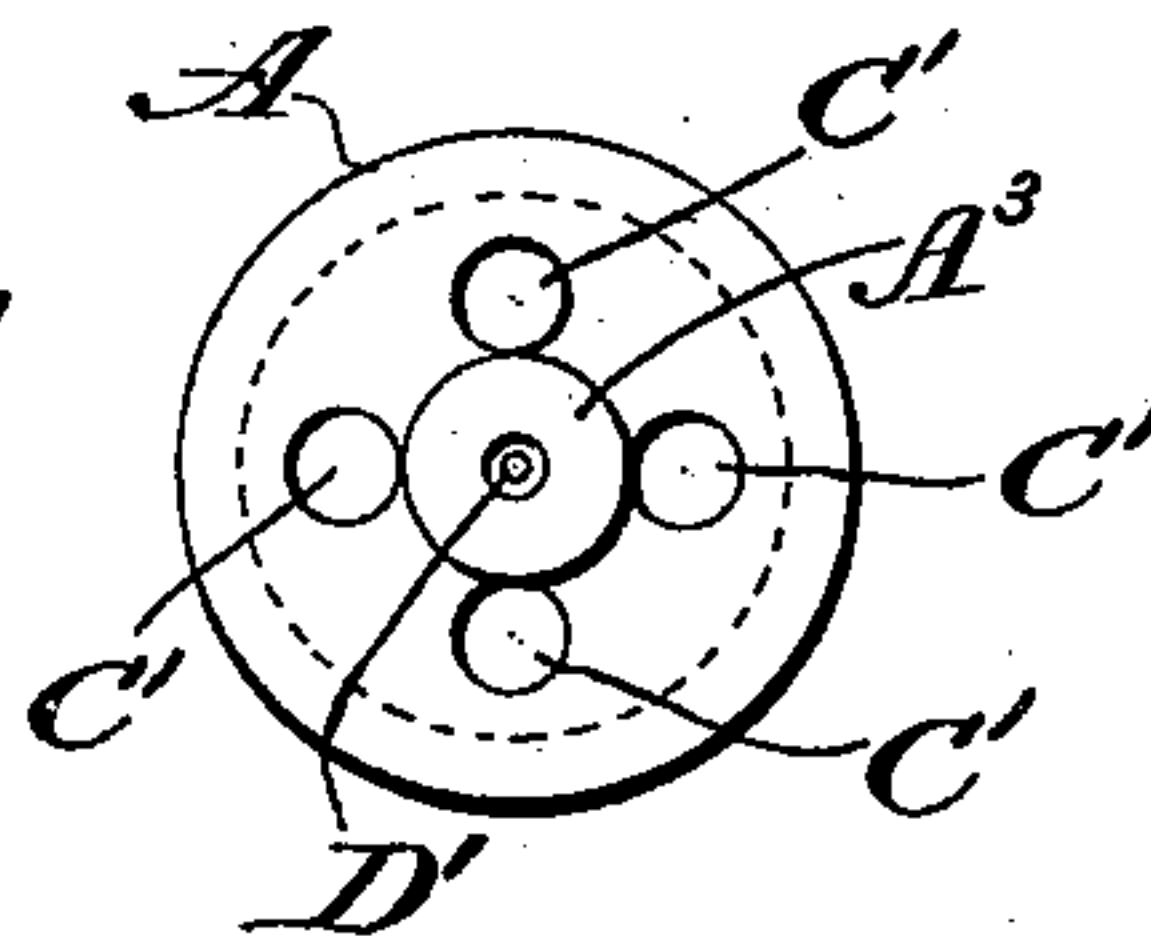


FIG. 5.

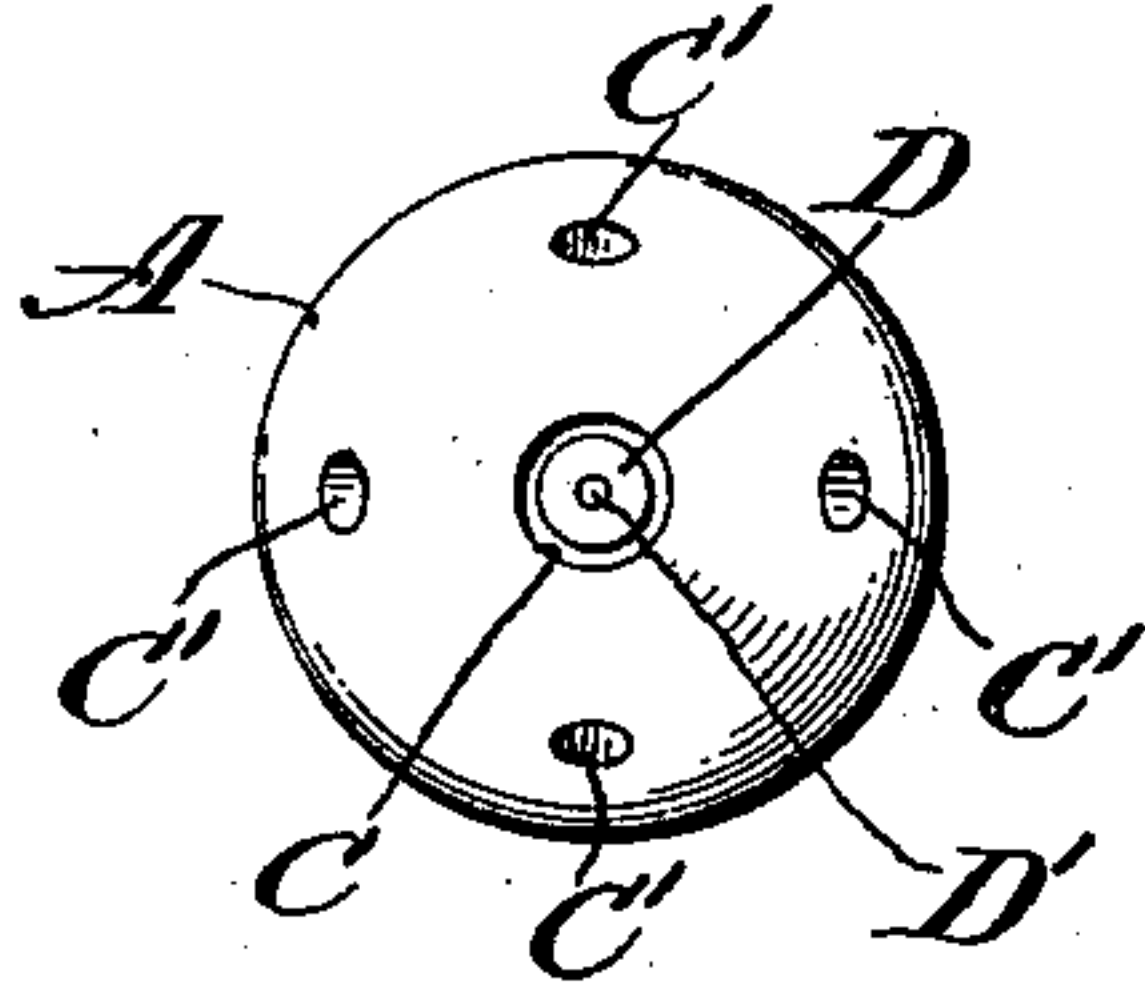


FIG. 6.

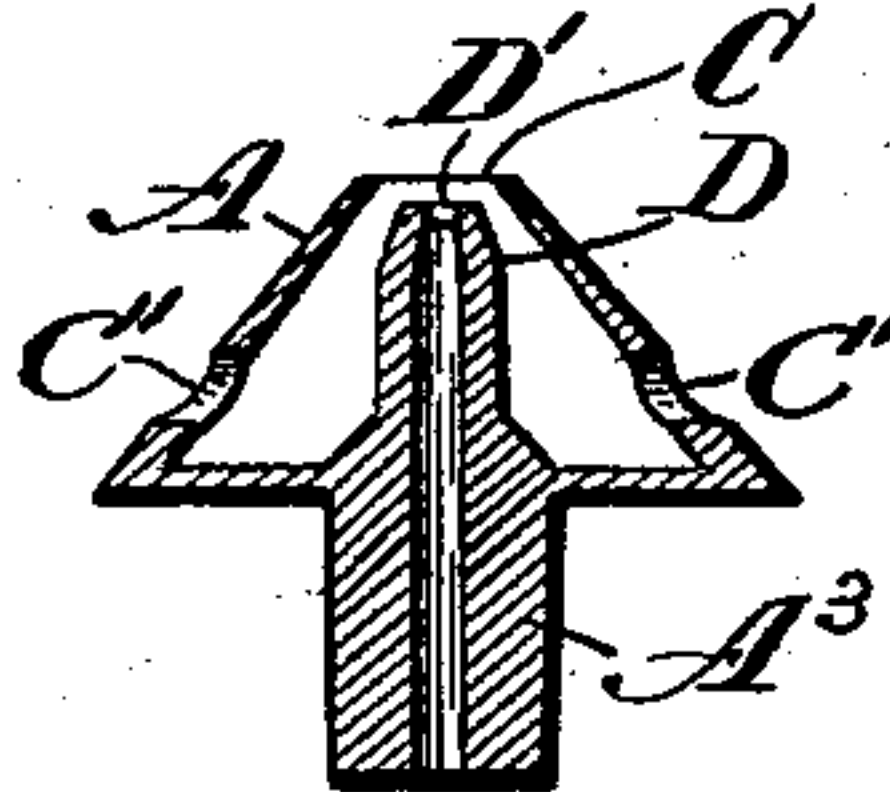
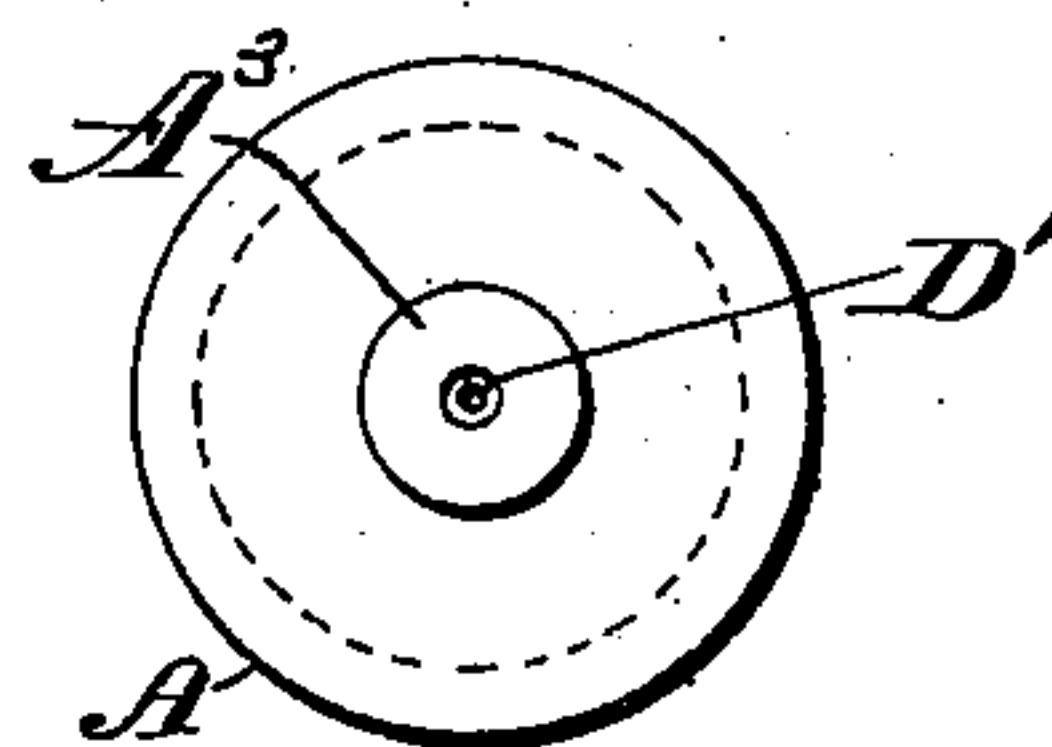


FIG. 7.



WITNESSES:

W. B. JACKSON
Samuel Reed,

INVENTOR.

Joseph A. Vincent
by
Augustus S. Strongton
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH A. VINCENT, OF PHILADELPHIA, PENNSYLVANIA.

BURNER FOR ACETYLENE GAS, &c.

SPECIFICATION forming part of Letters Patent No. 614,636, dated November 22, 1898.

Application filed March 29, 1898. Serial No. 675,540. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. VINCENT, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Burners for Acetylene Gas and the Like, of which the following is a specification.

The object of my invention is to prevent deposition of carbon upon and consequent clogging of burners used in connection with acetylene gas and the like.

To this end my invention, stated in general terms, comprises a burner in which the jet-tube projects into a nozzle or like device, through which air passes in order to cool the gas-passage, and thus prevent deleterious deposition of carbon.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is an elevational view showing upon a scale slightly larger than actual size twin burners embodying features of my invention. Figs. 2, 3, and 4 are respectively a plan, a central section, and a plan of the under side drawn upon an enlarged scale and illustrating a burner embodying features of my invention; and Figs. 5, 6, and 7 are similar views illustrating a burner embodying a modification of my invention.

In the drawings, D is the jet-tube, provided with a comparatively small aperture D', through which gas is discharged. This jet-tube D projects into an air nozzle, hood, or chamber A, open at its top, as at C, and provided at or near its base with air-inlets. As shown in Figs. 3 and 4, the air-inlets are designated C' and comprise holes drilled or otherwise formed in the base or skirt, which connects the part A with the rest of the burner. As shown in Figs. 5 and 6, these air-inlets C' are formed in the curved wall of the part A. In either case air is admitted into the nozzle or part A and passes upward around the jet-tube D, thus cooling its wall, and consequently preventing deposition of carbon or other matter. This air escaping through the opening C surrounds the flame, and to that extent supplies oxygen to it.

The described flow of air is promoted by causing the jet-tube D to project into but not quite through the part A, so that the top of the part A is slightly higher than the top of the jet-tube D.

Obviously the described burner may be made in one piece and constructed of lava or other suitable material, or it may be made in two pieces, and it may be provided with a suitable shank, as A³, for attachment to any fixture—such, for example, as B. It will be noted that the external diameter of the jet-tube is considerably smaller than the external diameter of the shank A³, so that the wall of the jet-tube D is comparatively thin, and thus readily cooled by the passage of air around it and through the part A.

In use gas traverses the fixture and also the passage through the shank A³ and jet-tube D, and escaping at the orifice D' supplies a flame of gas unmixed with air. A current of air is induced through the part A, and thus air surrounds the jet-tube D and cools the burner and prevents deposition of carbon and other matter from the gas, and the air escaping from the top of the part D surrounds the flame and supplies it to a certain extent with oxygen.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in details without departing from the spirit thereof. Hence I do not limit myself to the precise construction and arrangement of parts hereinabove set forth, and illustrated in the accompanying drawings; but,

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A burner for acetylene and the like comprising an air nozzle, hood or chamber having an unobstructed circular outlet and having air-inlets near its base portion, and a jet-tube having a single outlet-orifice at its end and clearing the interior side wall of and projecting into said nozzle, hood or chamber and forming an annular unobstructed passage through which air freely ascends and across which heat is not conducted, substantially as described.

2. A burner for acetylene and the like comprising a shank provided with a conical air

nozzle, hood or chamber having an unob-
structed circular outlet and having air-inlets
near its base, a tubular shank projecting
from the base of said chamber, a jet-tube of
5 less external diameter than the shank and
having comparatively thin side walls which
project into and are independent of the side
walls of said chamber, whereby the jet-tube

is completely isolated from the side walls of
the chamber and maintained comparatively 10
cool by the passage of air, substantially as
described.

JOSEPH A. VINCENT.

Witnesses:

C. M. GILLIGAN,
W. F. JACKSON.