

JONES & COLLINS.

Aero Gas Burner.

No. 56,949.

Patented Aug. 7, 1866.

Fig. 1

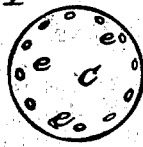


Fig. 2

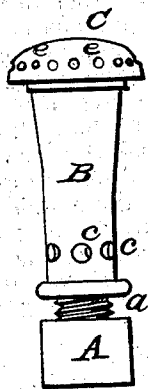
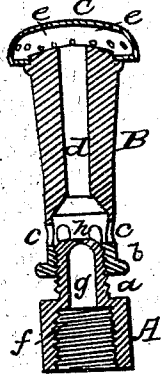


Fig. 3



Witnesses

Samuel W. Piper  
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Inventors:

W. Jones and M. Collins

In his atty  
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# UNITED STATES PATENT OFFICE.

WM. JONES AND M. H. COLLINS, OF CHELSEA, MASSACHUSETTS.

## IMPROVED AERO-GAS BURNER.

Specification forming part of Letters Patent No. 56,949, dated August 7, 1866.

*To all whom it may concern:*

Be it known that we, WILLIAM JONES and MICHAEL HENRY COLLINS, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented an Improved Aero-Gas Burner; and we do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a vertical section, of it.

The base part A of the burner we construct as a separate piece with reference to the body portion B, and connect the two by means of a male screw, *a*, and a female screw, *b*. Extending from the female screw in radial directions is a series of air-inlets, *c c*.

A discharge-passage, *d*, leads up through the body B and into a hollow dome or deflecting-cap, C, provided with a series of eduction passages or holes, *e e e*, leading out of it near its base.

The lower part A of the burner is made with or has a female screw, *f*, formed in it for the purpose of enabling it to be screwed upon a gas pipe or conduit. From the space within the screw *f* a passage, *g*, extends upward, and terminates in a smaller passage or hole, *k*, leading out of the top of the screw *a*.

The hole *h* is made so as to determine the amount of gas which, under ordinary pressure, is to be admitted into the passage *d*.

By removing the cap C, which simply fits on the top of the part B as the cover of a box is adapted to the body of such box, the ignited column of gas and air may be burned on the top of the part B; but when the cap C is in place on the part B the aero-gas column will be driven against the central part of the reflecting dome C, and by it will be deflected to and be caused to flow out of the several orifices *e*, where it may be inflamed. By such means the combustion will be spread and divided into numerous jets.

The air to mingle with the stream of gas,

when passing into the passage *d*, will enter the holes *c c*, and pass into the space over the screw *a*, and from thence it will rush into the said passage *d*, when it will commingle with the gas and may be burned with it at the place or points of their discharge.

By revolving the part B on the screw *a* we can entirely close the orifices *c c*, or we can open them more or less, so as to gauge or determine the amount of air which it may be desirable at any time to admit into the passage *d*. The air and gas so mixed will burn with a blue flame and give out much more heat than can be obtained from the gas alone.

By screwing down the part B, so as to entirely cover the air-inlets, no air will enter the burner, and consequently the gas alone will be inflamed on its top. Thus we are enabled to employ the burner for the purposes of illumination as well as those of heat.

We do not claim as our invention an aero-gas burner made with inlets for admitting air to the gas after its introduction into such burner.

We claim—

1. The improved aero-gas burner—that is, on as made with or having a means of closing and more or less opening its air inlet or inlets as specified.
2. The combination of the removable deflecting dome or cap C, made with eduction-orifices in it and near its base or lower part with the aero-gas burner, as specified.
3. The peculiar mode, as described, in which to construct the aero-gas burner—viz., by uniting its two parts A B by screws *a b*, and arranging the air-inlet holes of the upper part A, with respect to such screws, in a manner as specified.

WM. JONES.  
M. H. COLLINS.

Witnesses:

R. H. EDDY,  
F. P. HALE, Jr.