

A. W. MORTON.  
Atmospheric Gas-Burner.

No. 220,490.

Patented Oct. 14, 1879.

Fig. 1.

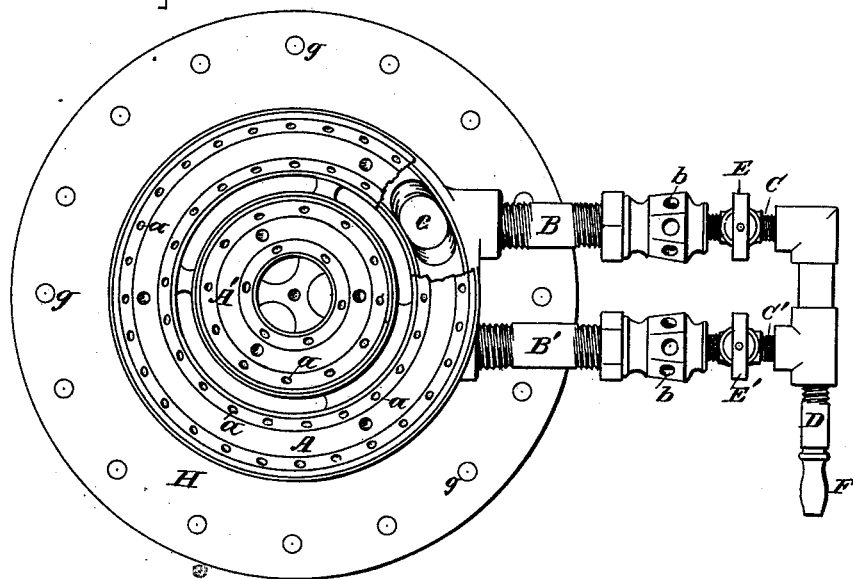


Fig. 2.

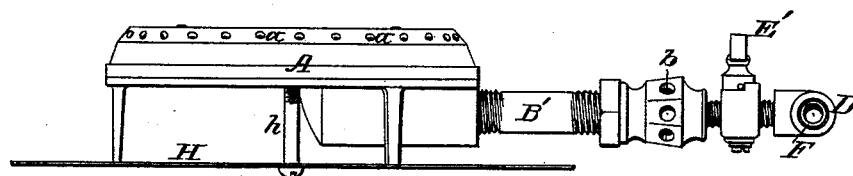
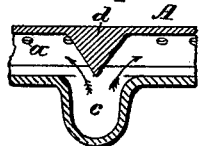


Fig. 3.



ATTEST=

*Charles Brown*  
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INVENTOR=

*Albanus W. Morton*  
*by his Attorneys:*  
*Burke, Fraser & Connetts.*

# UNITED STATES PATENT OFFICE.

ALBANUS W. MORTON, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO GEORGE A. BUSH, OF RAHWAY, NEW JERSEY.

## IMPROVEMENT IN ATMOSPHERIC-GAS BURNERS.

Specification forming part of Letters Patent No. 220,490, dated October 14, 1879; application filed June 24, 1879.

*To all whom it may concern:*

Be it known that I, ALBANUS W. MORTON, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Atmospheric-Gas Burners for Culinary and Heating Purposes, of which the following is a specification.

My invention relates to that class of burners in which an entering current of carbureted hydrogen or coal gas is mixed or commingled before reaching the burning-point with a certain proportion of air; and it consists in certain novel features of construction, which are fully hereinafter set forth.

In the drawings, Figure 1 is a plan of my improved burner, and Fig. 2 is a side elevation of the same. Fig. 3 is a detail sectional view of a burner-ring, taken at the gas-inlet.

I generally construct the burners in a circular form; but for some purposes they may be elongated.

In the present construction, A A' are outer and inner circular burner-rings, (two or more,) made hollow and provided with jet-perforations *a a*, for the escape of the gases to be burned. These rings are arranged concentrically, and are supplied with inlet-pipes B B', one arranged to tap the inner and the other the outer ring, as shown.

The tubes or pipes B B' are provided with air-inlets *b b*, and are tapped at their extremities by branches C C' from a gas-pipe, D, common to both.

E E' are stop-cocks in the branches, arranged to cut off the currents of gas, and F is a nipple by which a gas hose or tube may be attached.

Each burner-ring is thus arranged to be used independently of or together with the other, at the will of the operator. If the ring A only is to be employed, the cock E' is turned to cut off the gas from the ring A', and vice versa.

When the combined air and gas is admitted to the hollow of the burner-ring, the tendency is to supply the gases more freely to the jets nearest the inlet, and cause them to burn higher than those at more remote points, and this tendency is most marked in burners hav-

ing elongated instead of ring tubes. To obviate this, and to equalize the jets throughout the rings or jet-tubes, I flare the opening *c* where the tube B opens into the cavity of the burner-ring from below, and arrange over this opening a deflector, *d*, which serves to reflect the entering current of gases and direct the same into the bore of the burner tube or ring. When of V shape and arranged as in Fig. 3, it acts to split the incoming stream and cause the branches of the same to pass into the bore of the burner in opposite directions. The force of the stream of gases is thus slightly checked, the direction of their flow is entirely changed, and their pressure within the burner is equalized, so that the jet-flames are rendered of uniform size.

I prefer to provide both burners or burner-rings with this deflector.

As these burners are usually constructed, the heat-rays that are directed downward are absorbed by non-reflecting surfaces below the burner. I utilize these rays, in the main, by employing a horizontal reflector, H, arranged below the burner, and interposed between it and any dark non-reflective surface upon which the burner or stove may set.

Although not shown in the drawings, I may employ a shell or casing for the burner, and provide it with suitable bars to support the article to be cooked or heated. This shell may conform to the shape of the burner in plan, and the reflector H may form a bottom therefor, being perforated, as at *g g*, to permit the passage of air.

The burner may be provided with legs or supports, and the reflector may be attached to it by a central screw, *h*, as shown.

I am aware that concentric ring-jet burners having their annular cavities arranged to terminate in a pendent cone, the apex of which is tapped by the gas-inlet pipe, have been employed, and I make no claim to this. Such a construction is not well adapted, however, for flat horizontally-arranged burners like mine, as so much space is required to form the cone below. Such a construction is also quite costly.

I claim—

As an atmospheric-gas burner, the combination of the burner-tube, the gas-inlet opening *c*, and the V-shaped deflector *d*, arranged in the burner-tube opposite the opening *c*, and adapted to split the incoming stream of gas and direct it partly to one side and partly to the other, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ALBANUS W. MORTON.

Witnesses:

HENRY CONNETT,  
ARTHUR C. FRASER.