

F. H. McGEORGE.
Gas-Burner.

No. 163,600.

Patented May 25, 1875.

Fig 1.

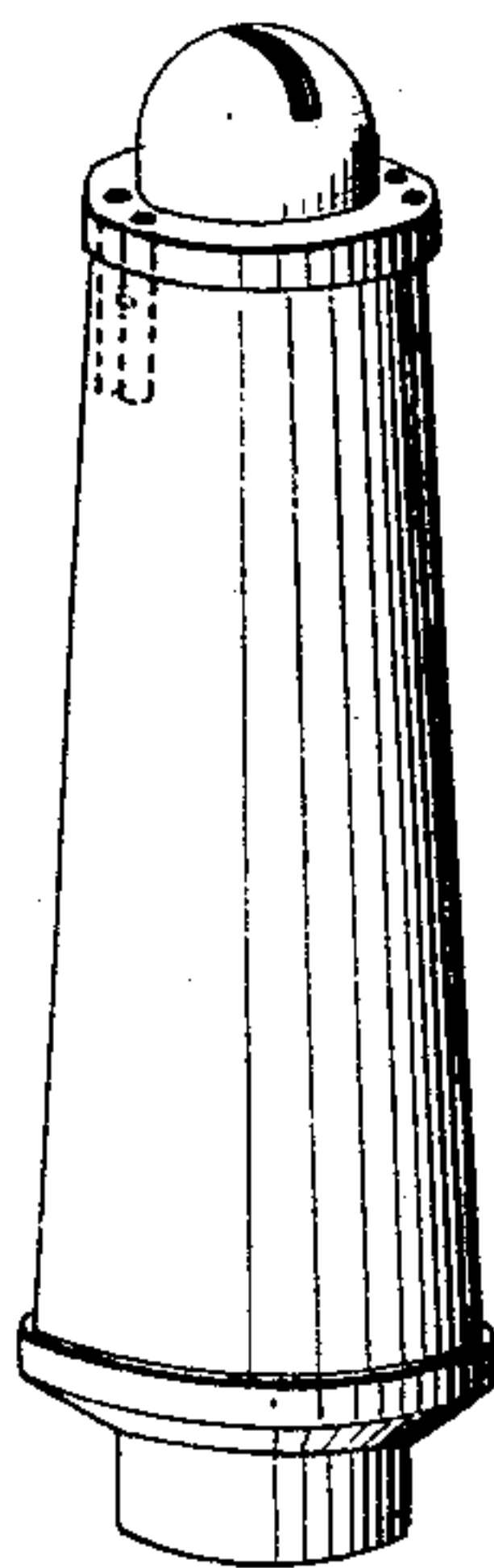


Fig 2.

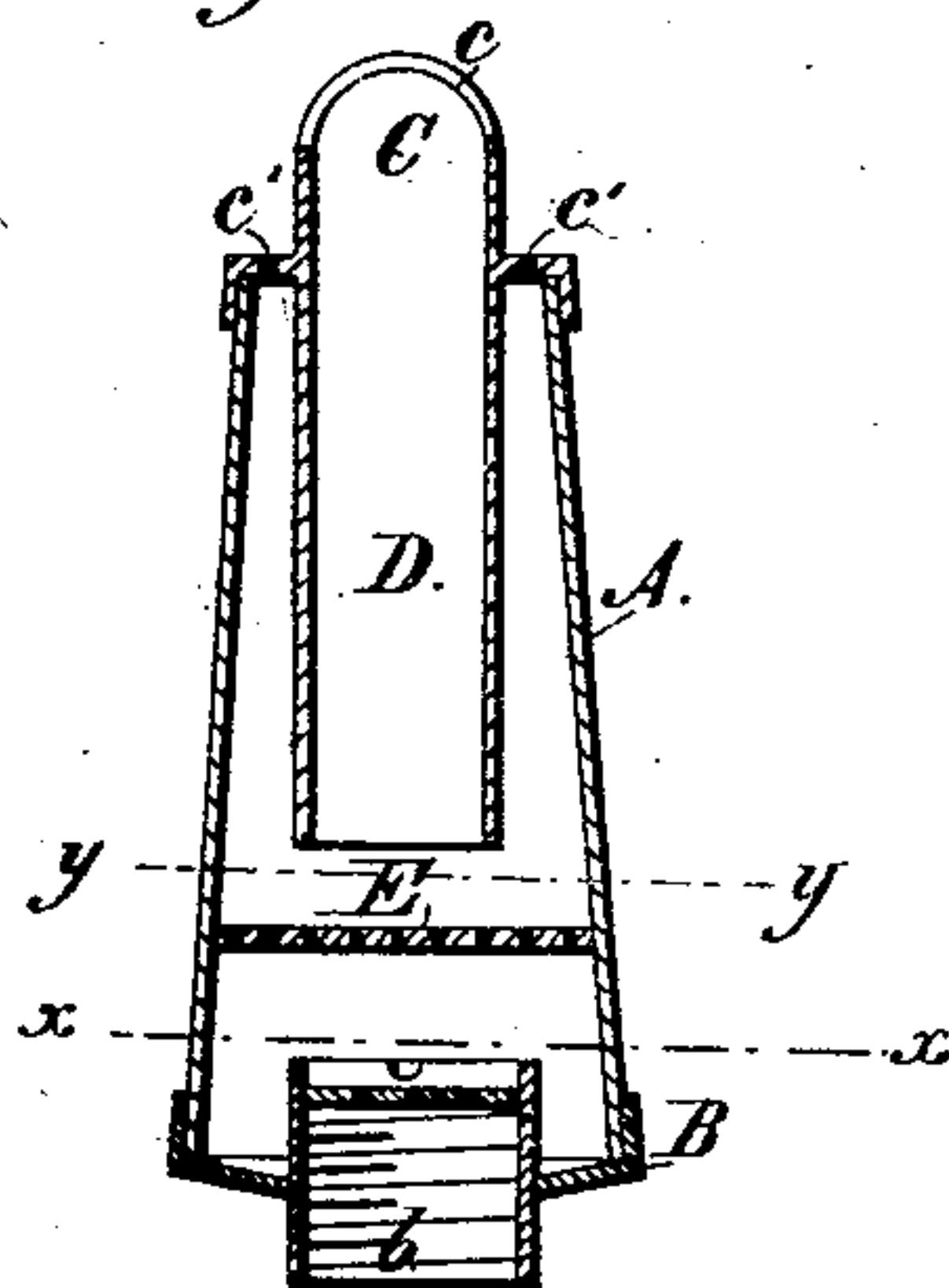


Fig 3.

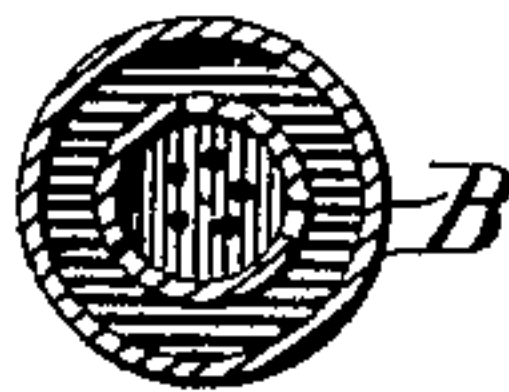


Fig 4.

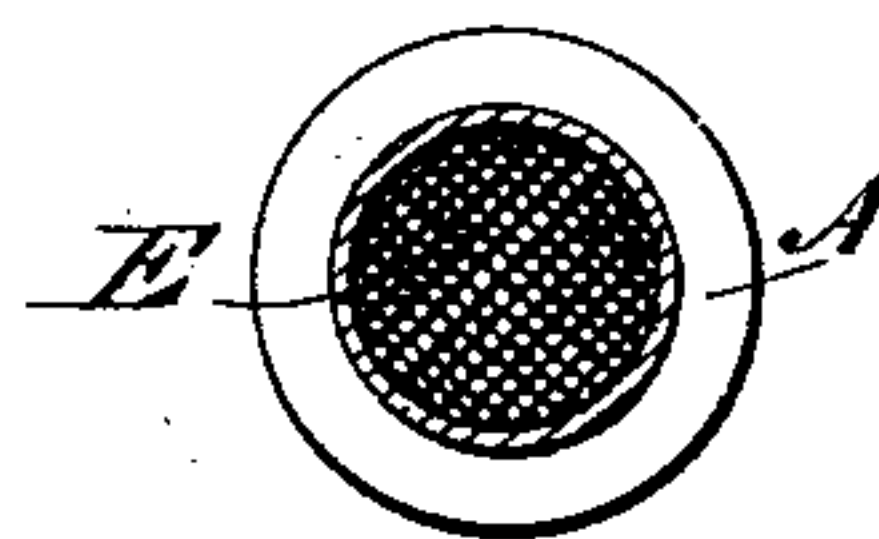
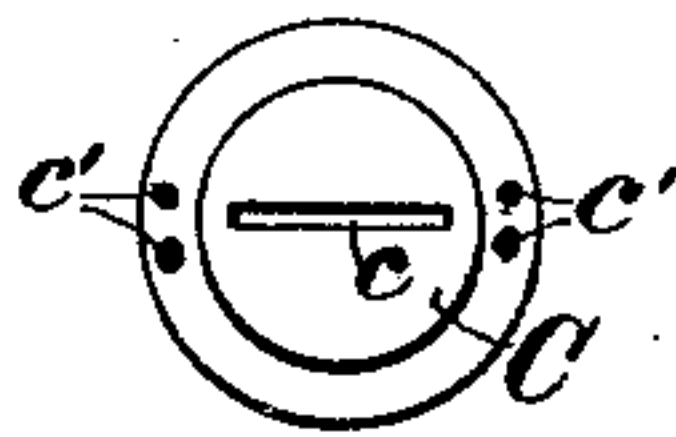


Fig 5.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK H. McGEORGE, OF CORNING, NEW YORK.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **163,600**, dated May 25, 1875; application filed March 30, 1875.

To all whom it may concern:

Be it known that I, FRANK H. McGEORGE, of Corning, in the county of Steuben and State of New York, have invented a new and useful Improvement in Gas-Burners; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of this invention is to heat and rarefy the gas in its passage through the burner to the flame opening, for the purpose of obtaining a clearer and brighter light, by effecting a more perfect combustion of the gas, and consuming the obnoxious products usually given off.

This invention consists in the combination of the shell of a burner, having certain side openings, with an internal heating-tube.

In the drawings, Figure 1 represents a perspective view of my improved burner; Fig. 2, a central sectional elevation of the same; Fig. 3, a cross-section on line *x x*, Fig. 2; Fig. 4, a cross-section on line *y y*, Fig. 2; Fig. 5, a plan view of the burner.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents the shell of the burner, constructed generally of any proper form and size. B represents the base-piece, provided with the threaded sleeve *b*. C represents the top piece, provided with the usual slit or flame-opening *c*, as shown, and the small side openings *c' c'*, as shown. D represents a metallic conductor, made of any suitable material, but preferably of a metal tube or cylinder, depend-

ing from the top of the burner into the main chamber, as shown. E represents a perforated diaphragm, which may be employed, if desired, to check and separate the inflowing stream of gas, in order that its particles may be more perfectly heated.

If desired, two of these diaphragms may be employed, as shown, to form an intermediate chamber, in which asbestos may be placed for the purpose of giving steadiness to the flame.

If desired, also, the side openings may have small tubes depending therefrom into the main chamber, as shown in dotted lines, Fig. 1.

The operation will be readily understood from the foregoing description.

The gas entering the burner is first finely subdivided, and then highly heated by contact with the hot metal conductor before issuing from the flame-opening, the conductor deriving its heat mainly from the gas flames issuing from the side openings.

By this means the gas is greatly rarefied, so that in burning a more perfect combustion is effected, and the obnoxious gases usually given off are consumed, an increased amount of purer, clearer light being consequently obtained from a given amount of gas.

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

The combination of the shell, having the small side openings, with the internal heating-tube, as described.

FRANK H. McGEORGE.

Witnesses:

F. A. WILLIAMS,
GEO. HITCHCOCK.