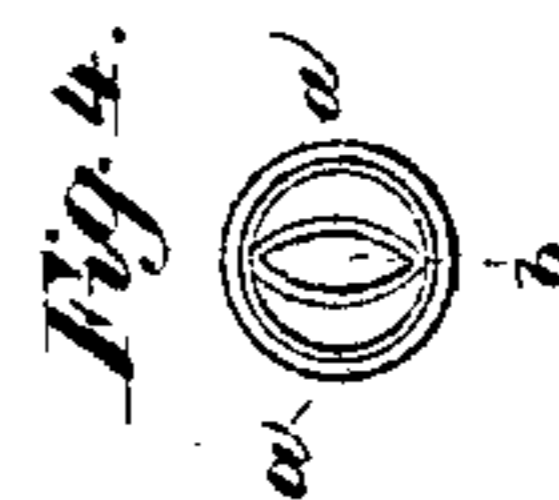
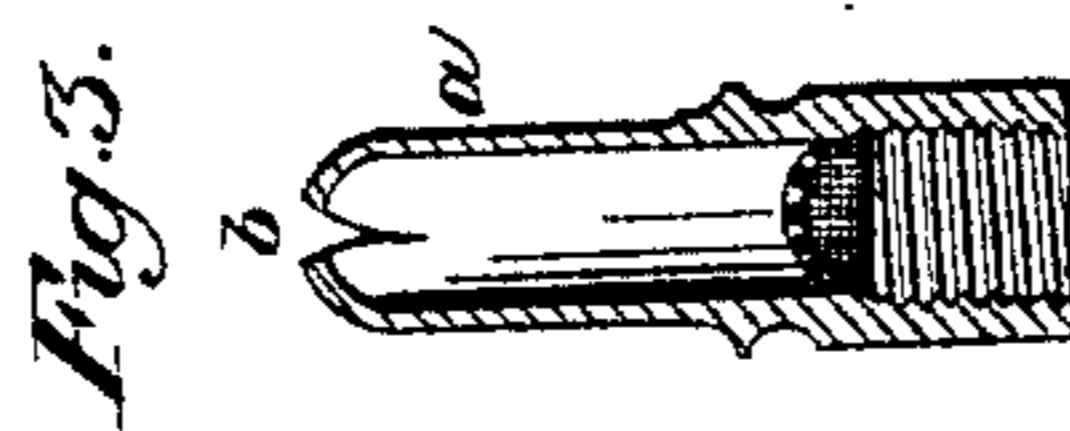
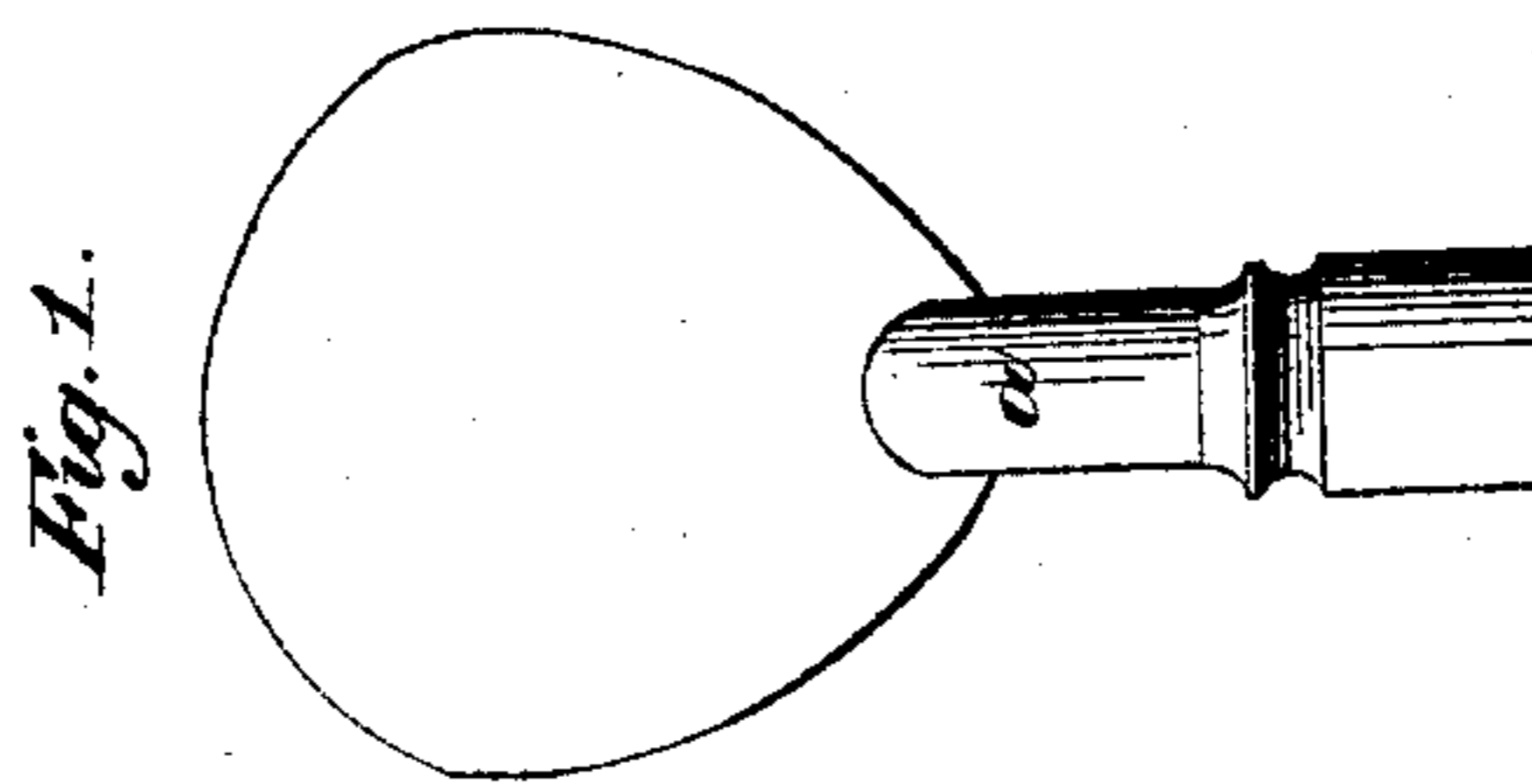
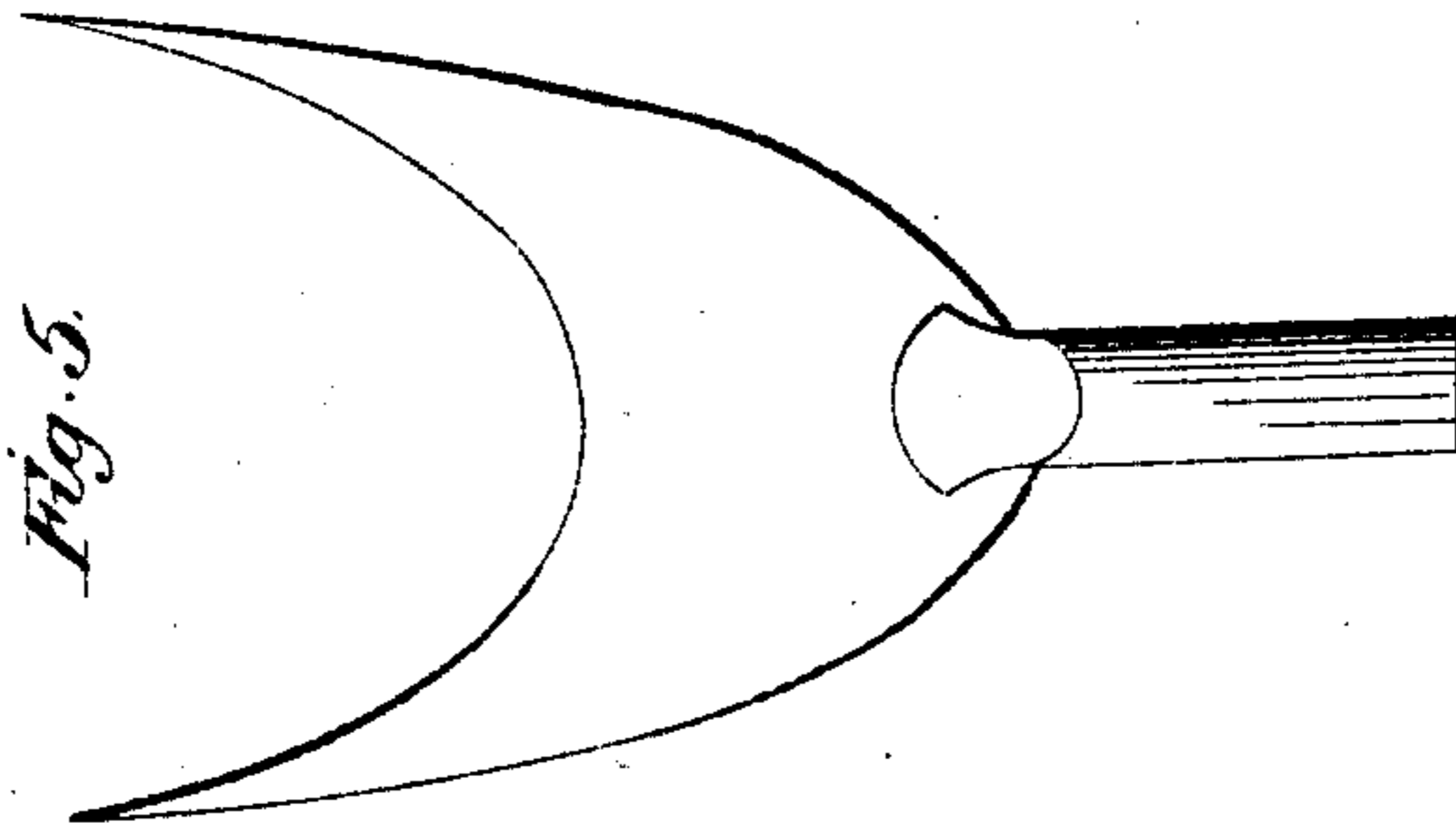


CORNELL & McDOUGALL.

Gas Burner.

No. 16,176.

Patented Dec. 9, 1856.



# UNITED STATES PATENT OFFICE.

JOB CORNELL AND BARNETT McDOUGALL, OF NEW YORK, N. Y.

## GAS-BURNER.

Specification of Letters Patent No. 16,176, dated December 9, 1856.

*To all whom it may concern:*

Be it known that we, JOB CORNELL, of Brooklyn, in the county of Kings and State of New York, and BARNETT McDOUGALL, of the city, county, and State of New York, have invented a new and useful Improvement in Burners for Benzole and other Hydrocarbon Vapors; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 are side views at right angles to each other of a burner for benzole or other hydro carbon vapor, constructed according to our invention. Fig. 3, is a central section of the same in a plane parallel with Fig. 2. Fig. 4, is a top view of the same. Fig. 5, is a view of the burner heretofore generally used for benzole vapor, shown to illustrate the different effect of our improved burner.

Similar letters of reference indicate corresponding parts in the several figures.

This invention more particularly relates to burners for burning the vapor of benzole or other volatile liquid hydro carbons. The burner generally heretofore used for what is known as benzole gas, consists of a metal tube slit at one end and having the two sides of the slit compressed together near enough to make a parallel opening of the same character as the opening of what is known as the bat's-wing burner for coal gas, but wider. This burner produces a flickering flame with two long horns of the form shown in Fig. 5, in red outline.

Our invention consists in giving the slit a

greater width toward the center and bringing it to or nearly to a point at each end so as to throw a thick volume of gas toward the center and reduce the quantity toward the extremities of the slit by which means we are enabled to produce a steady flame without horns and of far greater brilliancy.

Our improved burner represented in Figs. 1, 2, 3 and 4, is generally made of cast iron, though it may be made of other metal.

It consists of a thin shell *a, a*, with a hemispherical tip. The slit *b*, is cut so that it presents an angular form when viewed sidewise as in Figs. 2 and 3, and an elliptical form when viewed endwise as in Fig. 4. We prefer to enlarge it from the extremities in such a manner that the sides of the slit when seen sidewise as in Figs. 2 and 3, present a convex form as shown in those figures, for we find by experiment that this form produces a better result than when cut quite straight. The light produced by this burner nearly resembles the form shown in Fig. 1, which it will be seen is very different to that shown in Fig. 5.

What we claim as our invention, and desire to secure by Letters Patent, is,

Increasing the width of the slit of the burner toward the center and bringing it to a sharp point or nearly so at the extremities in the manner substantially as represented in Figs. 2, 3 and 4, and herein fully described.

JOB CORNELL.  
B. McDOUGALL.

Witnesses:

W. TUSCH,  
JAMES F. BUCKLEY.