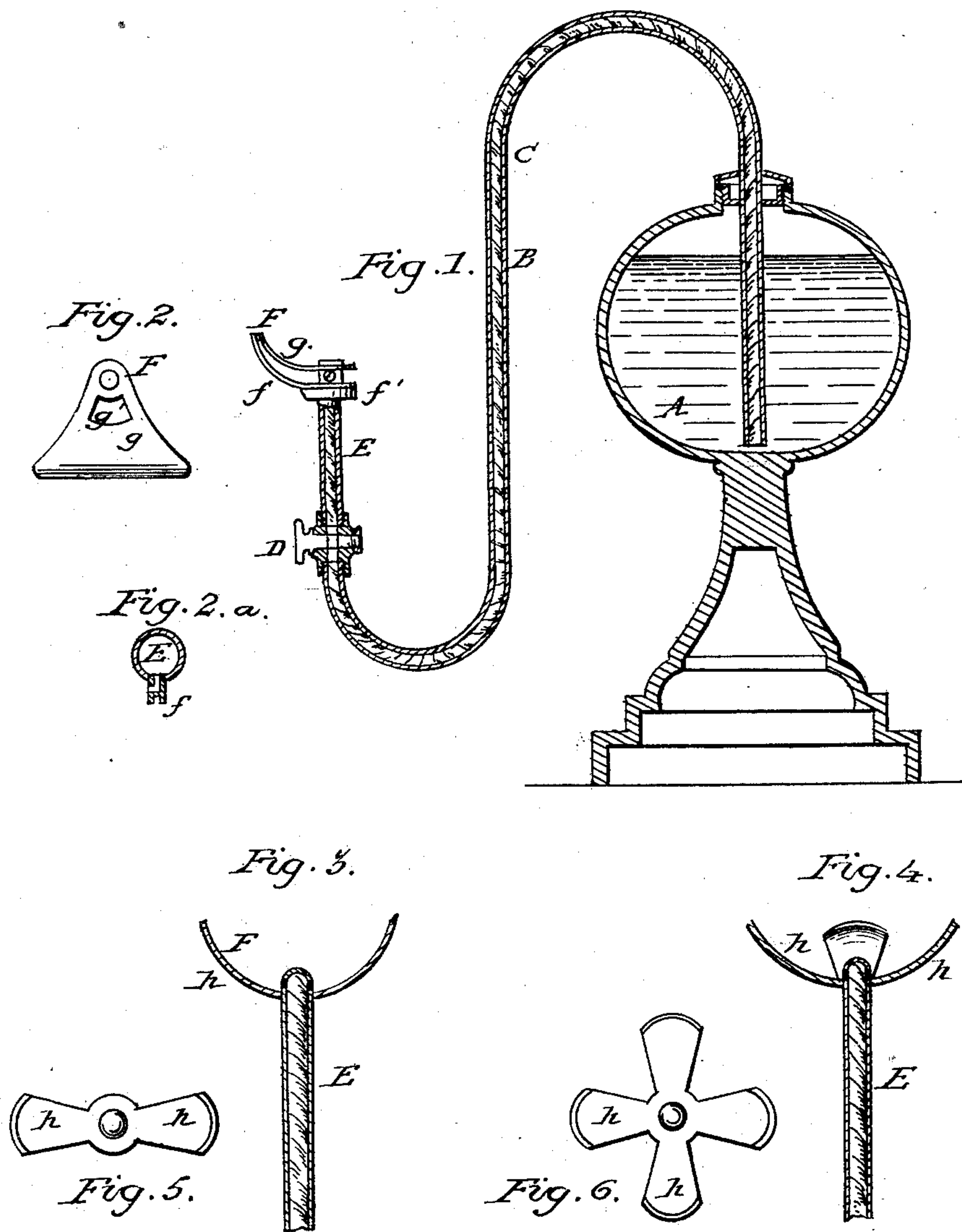


I. COOK.
Vapor Burner.

No. 94,716.

Patented Sept. 14, 1869.



Witnesses:
William W. Keith
Robert Burns

Inventor:
I. Cook by his atty.
H. H. H.

UNITED STATES PATENT OFFICE.

ISAAC COOK, OF ST. LOUIS, MISSOURI, ASSIGNOR TO HIMSELF AND HENRY S. HALL, OF SAME PLACE.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. 94,716, dated September 14, 1869.

To all whom it may concern :

Be it known that I, ISAAC COOK, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Lamps and Burners; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates more especially to the form of the burner for consuming the oil.

To enable those herein skilled to make and use my said improvement, I will now more fully describe the same, referring to the accompanying Figure 1 as a sectional elevation of a lamp and burner; to Figs. 2 and 2^a, as plans of the burner; and to Figs. 3 and 5, 4 and 6, as sections and plans of two and four winged burners, respectively.

My said lamp and burners will be used principally for burning light oils, such as gasoline; but the construction thereof does not limit the same hereto.

The lamp stand and reservoir A are formed as usual; the burner-pipe B, however, is curved as a siphon, and has a wick, C, within, so as to draw the oil up and feed the same to the burner. The stop cock D is at some distance below the burner, there being a stem, E, above it, said stem containing a proper packing, such as cotton fiber. On said stem is the burner F. Said burner has a lower plate, *f*, secured properly to the stem E. Immediately above said plate there is a nipple, *f'*, which is screwed into the stem E, and has a kerf, so that the nipple may be turned by a knife-blade or screw-driver. Said nipple has a small perforation, and communicates interiorly with the interior of the stem E, so that the gas or fluid drawn up will pass

out at the perforated nipple and strike the plate *f*. This plate being somewhat heated, the fluid and gas are in proper form for ignition and combustion. By turning the nipple *f'* the impinging fluid and gas stream will be properly directed upon the plate *f*. In order to gain a more vivid light, as well as steady the flame, I prefer to regulate the supply of air by a second or cover plate, *g*. The relative form of the plates *f* and *g* appears from Figs. 1 and 2. I find it advantageous to make an orifice, *g'*, in the plate *g*, as indicated in Fig. 2.

Whenever it is inconvenient to use a broad plate, *f*, for receiving the gas and fluid jet, especially as in burners placed overhead, then I use the burner forms shown in Figs. 3, 5, 4, and 6. The same have wings *h*, connecting with the stem E, and toward each wing there is a minute perforation arranged to deliver the gas and fluid jet, as required. The wings thus arranged have the form indicated in said figures, being curved to properly receive the gas and fluid jet, and direct the gas jet formed to nearly a vertical direction, and at the same time allow the surrounding air to pass to the gas jet and cause proper combustion.

Having thus fully described my invention, what I claim is—

1. The stem E and adjustable nipple *f'*, when combined with the plates *f* and *g*, substantially as set forth.

2. The cover-plate *g*, when perforated at *g'*, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of witnesses.

ISAAC COOK.

Witnesses:

GEO. P. HERTHEL, Jr.,

WILLIAM W. HERTHEL.