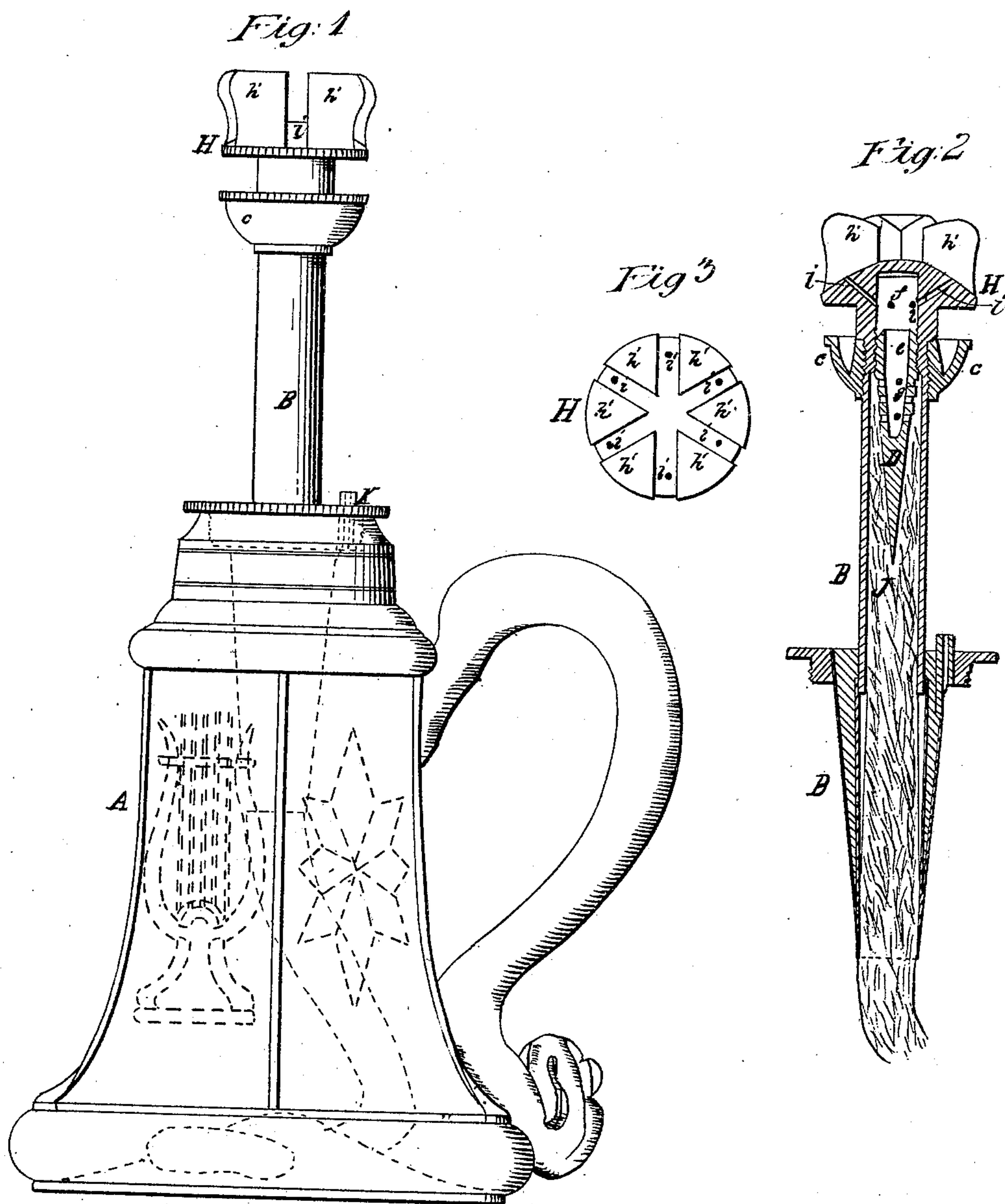


L. SHORT.  
GAS LAMP.

No. 31,282.

Patented Jan. 29, 1861.



Witnesses

W. H. Forbush  
E. M. Davis

Inventor

Levi Short

# UNITED STATES PATENT OFFICE.

LEVI SHORT, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF AND CHARLES S. PIERCE,  
OF SAME PLACE.

## VAPOR-LAMP.

Specification of Letters Patent No. 31,282, dated January 29, 1861.

*To all whom it may concern:*

Be it known that I, LEVI SHORT, of the city of Buffalo and State of New York, (assignor to myself and CHARLES S. PIERCE, of the same place,) have invented new and useful Improvements in Gas-Lamps; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon.

Figure I. is an elevation of a lamp with my improvements in connection therewith. Fig. II is a longitudinal section of my improvements. Fig. III is a plan of the burner and heaters.

Letters of like name and kind refer to like parts in each of the figures.

A, refers to the body of an ordinary lamp.

B, represents a wick tube of ordinary construction, which screws into the top of the lamp in a common manner.

C, represents a cup which screws on to the top of the wick tube to receive a small portion of alcohol for the purpose of lighting the lamp.

D, is a metallic cone—the base of which screws into the burner—its pointed end projecting downward into the wick J. A gas chamber is formed in the base of the cone as shown at *e*. A chamber is also formed in the burner, as shown at *f*, so that when the cone is screwed into the burner, the two chambers form one large gas chamber, *e, f*. The cone is perforated, as shown at *g*, in order to admit the vapor to pass from the first chamber, or wick tube into the second or gas chamber *e, f*, where the vapor is converted into pure illuminating gas.

H, represents the burner, made of one piece of metal, which also includes the heaters *h'*. The heaters (*h'*) project upwardly from the roof of the burner, and are rendered wedge form by reason of the spaces between them as represented. Small openings or jet holes *i*, are made through the roof between the heaters, which lead into

the gas chamber. The gas which is formed in the chamber, escapes through these jet-holes and is consumed—the blue flame of which is between the heaters, for heating 50 while the white flame rises entirely above the heaters, and is wholly unobstructed for purposes of light. The arrangement and combination of these several parts is fully shown in Fig. II. 55

K, is an ordinary air or ventilating tube.

Operation: The several parts of my improved gas lamp, being constructed and put together as described and the lamp being filled with burning fluid, a small quantity 60 of alcohol is put into the cup (*c*) which is to be lighted. The burning of the alcohol will produce sufficient heat, to generate gas from the fluid in the lamp, which gas, as soon as formed in the gas chamber emerges 65 therefrom, through the apertures *i*, and is ignited by the flame of alcohol. The small quantity of alcohol is soon consumed while the gas continues to burn freely, and produces sufficient heat for converting the fluid 70 first into vapor and then into gas. The lower or blue portion of the flame being in close proximity to the heaters, the burner, cone and gas chamber, thereby become intensely heated, and consequently a pure 75 quality of gas is produced in the chamber *e, f*. The white or illuminating portion of the flame, rises above the heaters and is entirely unobstructed for purposes of light.

What I claim as my invention and desire 80 to secure by Letters Patent is—

The heaters *h'*, formed on the roof of the burner, so that the jet of gas shall be between them, thereby securing the blue portion of the flame for heating and the 85 white portion thereof for light, substantially as set forth.

LEVI SHORT.

Witnesses:

E. M. DAVIS,  
W. H. FORBUSH.