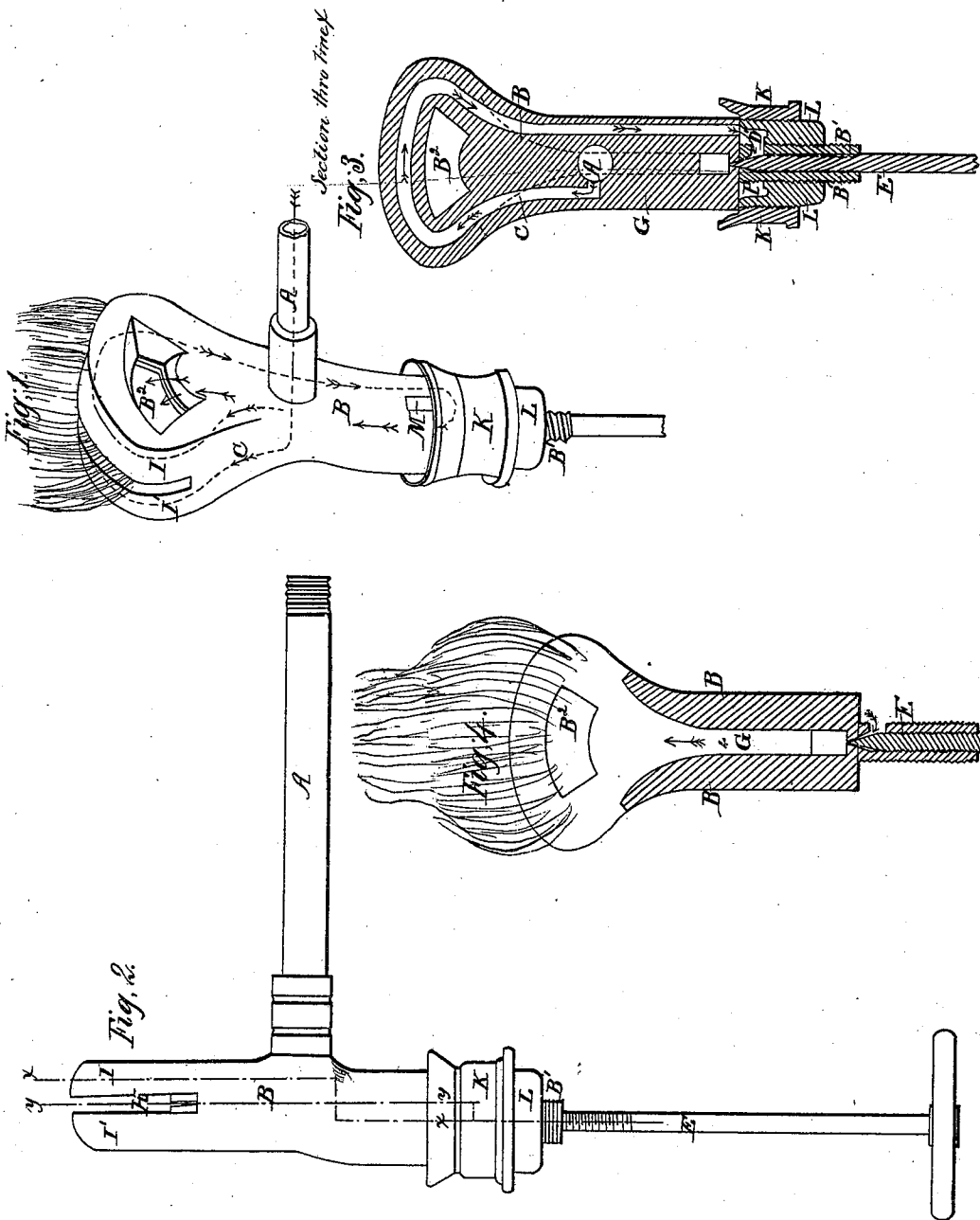


J. S. HULL.
 GENERATOR FOR VAPOR LAMPS.

No. 64,769.

Patented May 14, 1867.



Witnesses.
 C. C. Campen.
 L. A. Murphy.

Inventor.
 J. S. Hull.
 By W. Colver & Co.
 his Atty.

United States Patent Office.

JOHN S. HULL, OF CINCINNATI, OHIO.

Letters Patent No. 64,769, dated May 14, 1867.

IMPROVED GENERATOR FOR VAPOR-LAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN S. HULL, of Cincinnati, in the county of Hamilton, and State of Ohio, have invented a new and useful improvement in Gas-Generating Apparatus for generating gas from hydrocarbon oils; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, made part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a side elevation.

Figure 3, a vertical section on the line *x x*, fig. 2; and

Figure 4 a similar section on the line *y y*, fig. 2.

The same letters throughout refer to identical parts.

A is the induction tube through which the oil is carried from a reservoir and admitted into the chamber B. On entering the chamber the tube is bifurcated, and the oil carried upwards through the tubes indicated in red lines in fig. 1, and marked C and C', through the lips I I', which, being in direct contact with the flame, are heated to a very high degree. The oil is here vaporized, and the gas passes downwards with the continuation of the same tubes into the receiving-chamber D. This chamber is formed in the boss L, which is placed upon the stem B¹ of the chamber B. The boss may be attached either by a screw, as shown, or by soldering. From the receiving-chamber D the gas passes through an opening, D', into the internal chamber formed in centre of the stem B¹. A needle-pointed valve, E, passes by a screw, forming an air-tight joint, through the stem B¹, and while it prevents the escape of gas downwards it regulates perfectly the flow of gas upwards into the internal chamber G, from which it passes through the narrow opening H between the lips I I'. An opening, B², admits the atmosphere to the flame, which burns above the opening H and between the lips I I', extending at the same time above them. At M there is an opening through the walls of the chamber into the tubular chamber G for the purpose of aerating the gas flowing from the receiving-chamber D. The quantity of atmospheric air required depends upon the character of the oil and the purpose for which the combustion is desired. If heavy oil is used more air is required than when the thin or light oils, such as benzine, &c., are used. So, also, if the combustion is designed for the purpose of generating heat, air is required to be mingled with the gas, but where the apparatus is employed for purposes of illumination no air should be admitted below, the effect of the admixture of air being to make a blue flame of great heat. To adjust the quantity of air according to these various requirements I employ an adjustable collar, K, working upon a thread cut on the surface of the boss L. This collar fits snugly to the chamber B, and as it is turned up or down regulates the flow of air through the opening M, over which it may be carried entirely. As will appear from the foregoing description this apparatus may be used for purposes of heating as well as illumination.

What I claim as my invention, and seek to secure by Letters Patent, is—

1. The chamber B of a gas generator when constructed with lips I I' projecting above the point of ignition and in immediate contact with the flame, the oil being conducted through them in tubes C and C', substantially as set forth.

2. In combination with the opening M, through the chamber B, connecting with the internal chamber G, I claim the adjustable collar K for regulating the supply of atmospheric air, substantially as and for the purpose set forth.

3. I claim the chamber B when constructed with pipes C C', lips I and I', and openings B² and M, arranged substantially as and for the purpose set forth.

4. I claim the receiving-chamber D, formed in the boss L, with its induction and eduction openings when the flow of gas through the same is regulated by a valve, E, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. HULL.

Witnesses:

B. MASON,

L. A. MURPHY.