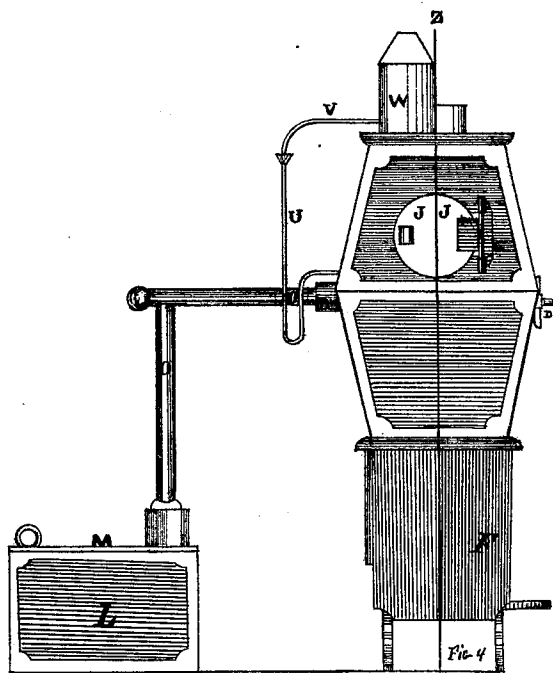
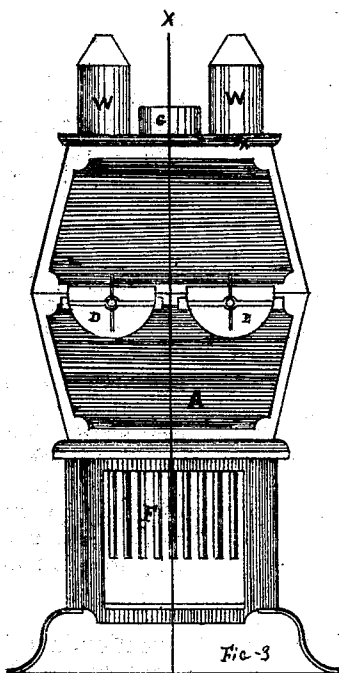
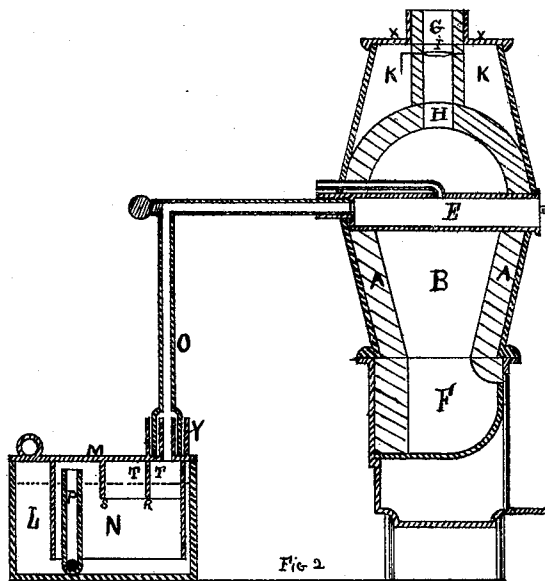
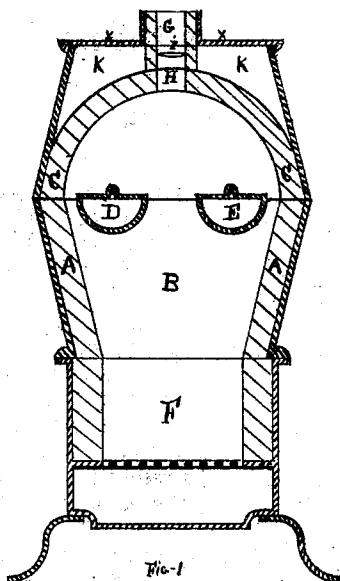


JOHN H. SPANG.
Improvement in Apparatus for the Manufacture
of Illuminating Gas.

No. 126,587.

Patented May 7, 1872.



WITNESSES
James H. Needles
J. C. Helms

INVENTOR *John H. Spang*

UNITED STATES PATENT OFFICE.

JOHN H. SPANG, OF DAYTON, OHIO.

IMPROVEMENT IN APPARATUS FOR THE MANUFACTURE OF ILLUMINATING-GAS.

Specification forming part of Letters Patent No. 126,587, dated May 7, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JOHN H. SPANG, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Gas Apparatus, of which the following is a specification:

Object of the Invention.

The object of my invention is to procure a portable apparatus for the production of illuminating-gas from oil, coal, or other suitable material; to so construct said apparatus that thick and heavy walls will not be necessary to prevent excessive radiation of heat from that employed for carrying on the process; which will overcome the chief difficulty manifested in constructing a portable apparatus for the above purpose.

Nature of the Invention.

The nature of my invention consists in connecting with a fire-furnace a cone (constructed of iron and lined with tiling or fire-brick) for conducting the heat produced therein to retorts placed at the upper or larger part thereof, which is covered with an arch, between which and a metallic casing is an air-chamber, through which the heat from the arch must radiate before reaching the outer casing. By this means a very good non-conductor is obtained at this point with but little weight of material, while at the sides, between the furnace and the arch, thin walls only are necessary to prevent radiation, as, on account of their peculiar construction, the heat is mostly reflected in the direction of the retorts and arch. The second part of my invention consists in constructing a hydraulic main and connections between it and the retorts and outlet to purifier or gas-holder, so that they may be easily adjusted and managed, as hereafter described.

Description of the Accompanying Drawing.

Figure 1 is a vertical section through the line Z Z. Fig. 2 is a vertical section through the line X X. Fig. 3 is a front elevation. Fig. 4 is a side elevation.

A A are the walls of cone B, which connect at the top with arch C. D and E are retorts situated underneath arch C in cone B,

through which the heat from furnace F passes on its way to the smoke-pipe G through flue H, which is regulated by a damper, I. J J are doors for giving access to chamber K. L is the hydraulic main, the top M of which is provided at the bottom with a bottomless chamber, N, which dips into water and forms a connection between the inlet-pipe O, which enters at the top, and outlet-pipe P, which enters at the bottom and extends up above the level of the water in chamber N. The gas is conducted from the retort through pipe O, which is connected at the back end thereof by means of a socket, and to the top of the hydraulic main by an annular chamber, Y, filled with water, into which it dips, surrounding the passage thereto. R and S are partitions, situated between O and P in chamber N, being employed instead of a single seal for the end of pipe O for the purpose of bringing the passing gas into contact with more water-surface for cleansing the same. T is a partition for dividing this passage from that of other retorts used in the same apparatus. U U are pipes for conducting oil (fed through pipes V V) into the retorts from can W, which, for convenience, and also to absorb caloric, are placed upon the top of casing X, though, when other material is employed for gas-making, said pipes and cans may be dispensed with.

It will be seen in Fig. 4 of my drawing that the chamber N is somewhat smaller than the hydraulic main. This permits of sliding back the top M to draw the end of pipe from the retort-socket, and then, by lifting the other end of said pipe from the annular chamber Y, the top M may be removed, which gives access to the interior of the hydraulic main.

Claim.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The apparatus for manufacturing illuminating-gas, consisting of the furnace F, conical chamber B, retorts D E, arch C, and confined air-chambers K, as and for the purposes set forth.

JOHN H. SPANG.

Witnesses:

JAMES H. NEEDLES,
J. P. HELMS.