

W. SMITH.  
Gas-Retort.

No. 163,818.

Patented May 25, 1875.

Fig 1

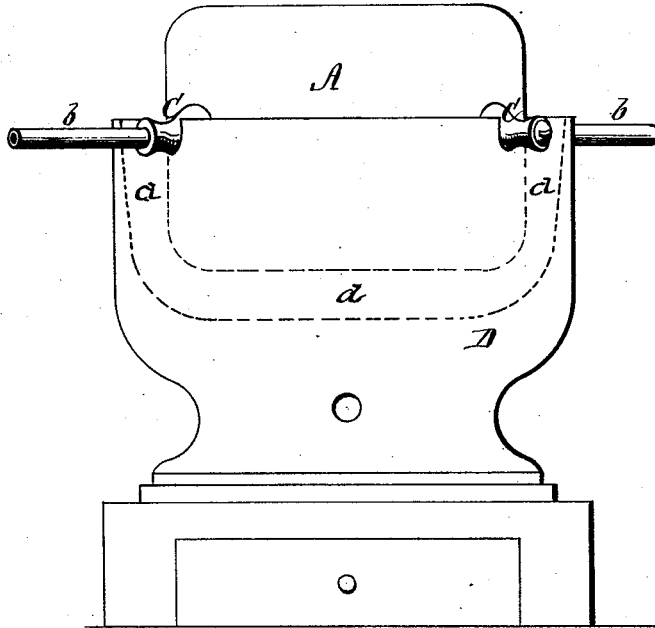
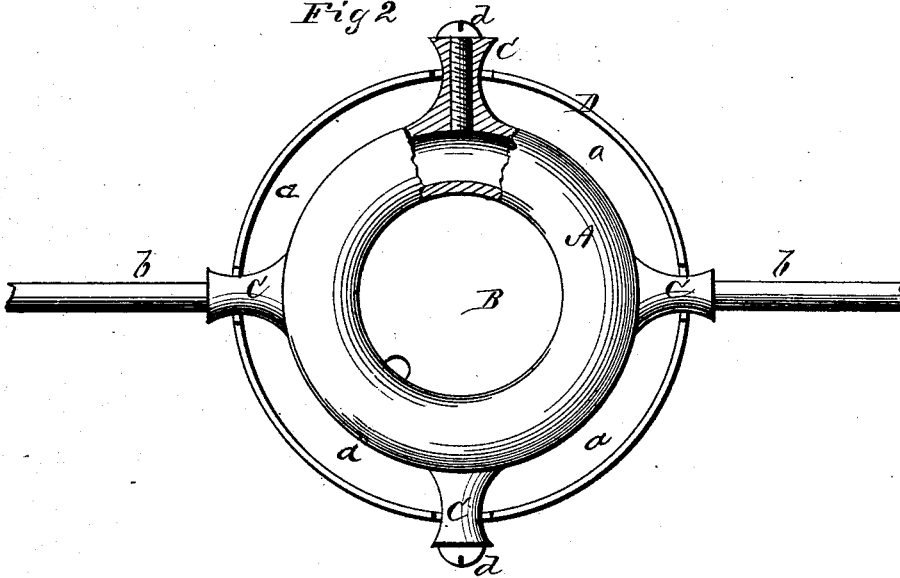


Fig 2



WITNESSES  
Frank L. Ourand  
c. L. Evers

By

INVENTOR  
William Smith  
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# UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO R. H. SMITH AND JOSHUA GOLDTHORP, OF SAME PLACE.

## IMPROVEMENT IN GAS-RETORTS.

Specification forming part of Letters Patent No. 163,818, dated May 25, 1875; application filed March 17, 1875.

*To all whom it may concern:*

Be it known that I, WILLIAM SMITH, of Pittsburg, in the county of Allegheny and in the State of Pennsylvania, have invented certain new and useful Improvements in Retorts for the Manufacture of Illuminating-Gas; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a retort for the manufacture of illuminating-gas, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of my retort placed in position on an ordinary round stove. Fig. 2 is a plan view of the same.

A represents the retort, cast or made in one solid piece—that is to say, without joints—and is provided with a central opening, B, for the flame or fire. This central aperture may be of any desired shape to suit the fire-place or furnace into which it is put, and the section of the body of the retort may be circular, oval, square, or any other suitable form. The retort A is provided with hollow projecting bosses C C, which answer the following purposes: They serve as supports for the core, which forms the interior when the retort is made of iron, and admit of the escape of the gases generated by the process of casting. When completed, they serve for the introduction of the material from which the illuminating-gas is made, and for the escape of the same on its way to the gas-holder. They also serve as supports for holding the retort in its place in the furnace. Two or more of these

bosses may be formed with the retort A, and the fire-pot of the furnace D is formed with suitable notches, as shown, within which the bosses are rested, and form a bearing to support the same.

In Figs. 1 and 2 I have shown a retort with four bosses in position in the bottom part of any ordinary round stove, D, the bosses serving as supports, and showing apertures or spaces *a* for the passage of the flame between the body of the stove and the retort. *bb* represent the inlet and outlet tubes inserted in two of the bosses, the other two being closed by means of screw-plugs *d d*.

These retorts may be made of any suitable material, such as clay, iron, copper, &c., and the bosses may be placed at any point of the outside diameter of the retort that may be deemed desirable, either above or below the center, or even on the extreme edge of the retort. A retort constructed in this manner forms a perfectly safe portable gas-generator, and can be used on cars and boats where retorts with fluid metallic seals would be inadmissible.

I do not broadly claim a circular retort having center opening, and suspended within a fire-box, as I am aware such is not new.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with a fire-box, D, having notches at its top, the circular retort A, having two or more hollow projecting bosses, C, resting in the notches in the stove or fire-box, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of February, 1875.

WILLIAM SMITH.

Witnesses:

J. B. GEYSER,  
JOHN NICHOLS.