

JAMES H. SMITH.

Improvement in Gas-Retorts.

No. 114,872.

Patented May 16, 1871.

Fig. 1.

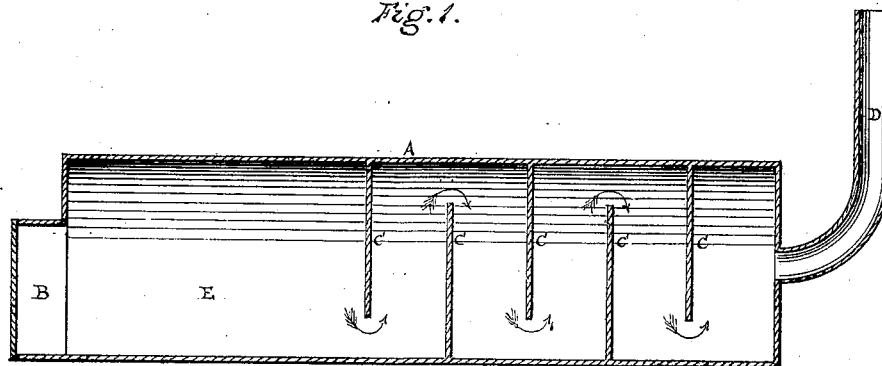
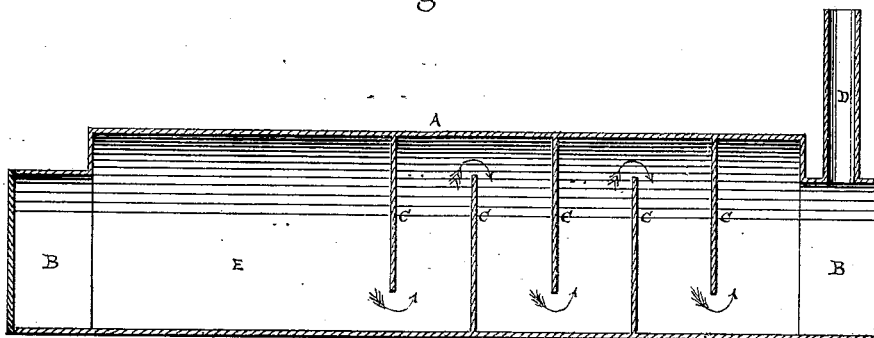


Fig. 2.



Witnesses.

H. W. Howard
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United States Patent Office.

JAMES H. SMITH, OF NEWARK, OHIO.

Letters Patent No. 114,872, dated May 16, 1871.

IMPROVEMENT IN GAS-RETORTS.

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, JAMES H. SMITH, of Newark, in the county of Licking and State of Ohio, have invented a new and useful Improvement in Gas-Retorts; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a longitudinal vertical central section of an ordinary retort having my improvement applied.

Figure 2 is a similar section of a through-retort with the same improvement.

The same letter marks the same part in both figures.

The nature of my invention consists in so constructing the retort that the gas resulting from the distillation of the coal or other gas-generating material shall escape from the opposite end of the retort from that at which the charge is introduced, and shall, in its passage to the outlet, encounter the surfaces of plates so placed that the vapors and gaseous products must pass alternately under and over them, the object being to subject the vapors to such a heat as to secure the production of a fixed gas, which will not be condensed in the hydraulic-main and washed out.

In the ordinary manufacture of gas in the common retort, when the connection of the mouth-piece of the retort with the hydraulic-main is on the front or feed end of the retort, a large portion of the vapors and gaseous products driven from the coal is not brought into contact with a surface sufficiently heated to produce a fixed gas, and passes into the hydraulic-main

in a condition to be condensed and washed out in the tar, oil, &c.

In the drawing—

A marks the body of the retort;

B, the mouth-piece;

C C, &c., the interposing plates;

D, the stand-pipe; and

E, the front or feed end of the retort.

The plates C are affixed to the walls of the retort, near its rear end, and extend alternately from the top to near the bottom of the retort, and from the bottom to near the top of the same, in the manner clearly shown in the drawing, so that all the vapors generated in the front chamber E will be obliged to pass over both surfaces of these heated plates before escaping into the stand-pipe and being delivered to the hydraulic-main.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

The combination, with a gas-retort, of any desired number of plates, C, attached alternately, and by any convenient means, to the top and bottom of the retort, near its rear or outlet end, substantially in the manner and for the purpose described.

The above specification of my said invention signed and witnessed at Newark this 30th day of January, A. D. 1871.

Witnesses:

JAS. H. SMITH.

LUTHER J. JOHNSON,

CHAS. W. JOHNSON.