

E. D. McCracken.
GAS RETORT.

No. 105,350.

Patented July 12, 1870.

Fig. 1.

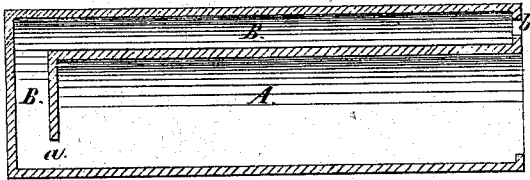
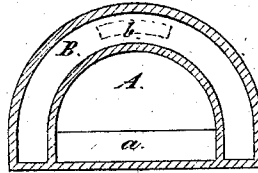


Fig. 2.



Witnesses
Fred. Haynes
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Inventor;
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United States Patent Office.

EDWIN D. McCRACKEN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, HENRY J. NEWTON, HENRY B. KIRKLAND, AND JOSEPH R. HUSSON, OF SAME PLACE.

Letters Patent No. 105,350, dated July 12, 1870.

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, EDWIN D. McCRACKEN, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Retorts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

This invention consists in providing a horizontal gas-retort with a jacket, which extends along, and all over its top and sides, and over its rear end, and which communicates with the lowest part of the interior of the retort, and forms the communication between the retort and the stand-pipe, the object being to insure the decomposition and conversion into permanent gas of the condensible vapors which escape from the retort, and which, in making gas in ordinary retorts, form or are collected with the tar.

Figure 1 in the drawing is a central longitudinal vertical section of a gas-retort, with my improvement.

Figure 2 is a transverse section of the same.

Similar letters of reference indicate corresponding parts in both figures.

The improvement is applicable to retorts of various forms, but a retort of the ordinary D-form represented in the drawing serves as well as any other to illustrate the invention. The retort may be made of cast-iron or of fire-clay.

A is the body of the retort, of ordinary form; and

B is the jacket, extending all along, and over the top and sides, and over the rear end, and communicating with the interior of the retort by means of a nar-

row transverse opening, *a*, extending along the bottom of the rear end.

At the front end of the jacket, in the upper part thereof, is an opening, *b*, with which the stand-pipe for leading off the gas is connected. The retort-head needs only to cover the body of the retort, leaving the opening *b* outside for the connection of the pipe.

The retort thus jacketed may be arranged in the bench or furnace in the usual way, and, as the jacket is directly exposed to the heat, and the heat can only penetrate the sides, top, and rear end of the retort, through the jacket, the latter must be hotter than the body of the retort. The gas generated, and vapors evolved, in the body or inner portion of the retort being, owing to the position of the opening *a*, close to the bottom of the retort, compelled, for the most part, to descend through the body of the coal or material in the retort, are subjected very thoroughly to the heat within that portion of the retort, and thereby thoroughly heated before escaping into the jacket, in which they are further so heated that the tar and other condensible matters are decomposed and converted into permanent gas.

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

The jacket B, covering the top, sides, and rear end of the retort, and communicating with the interior or body thereof, by means of an opening *a*, arranged as herein described.

Witnesses:

FRED. HAYNES,
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