Rigby & Palmer,

Gas Retort.

No. 103929. Patented June 7. 1870.

Fig. 1.

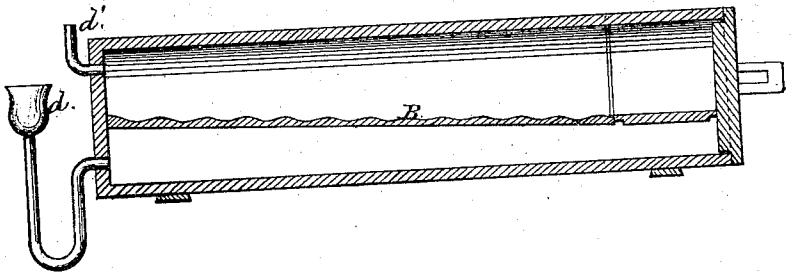


Fig. 2.

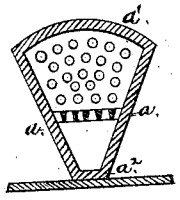


Fig. 3.

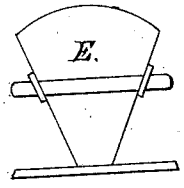
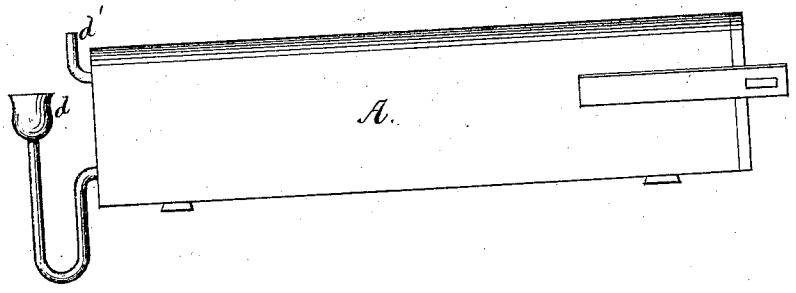


Fig. 4.



Witnesses;
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H. W. Bradley atty

United States Patent Office.

JAMES RIGBY AND PHILIP A. PALMER, OF MARIETTA, OHIO.

Letters Patent No. 103,929, *dated June* 7, 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 we, JAMES RIGBY and PHILIP A. PALMER, of Marietta, in the county of Washington and State of Ohio, have invented a new and useful Improvement in Gas-Retorts; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention relates to that class of gas-retorts which is especially designed for use in connection with oils, rosin, paraffine, &c.

It also consists in certain details of construction, which will be fully described hereinafter.

In the drawing—

Figure 1 represents a side sectional elevation;

Figure 2, a transverse sectional elevation;

Figure 3, an end elevation; and

Figure 4 a side elevation.

To enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe fully its construction and operation.

A represents the retort, which is constructed with the sides *a a* and top and bottom a^1 a^2. It will be observed that the bottom a^2 is much narrower than the top a^1, by which means a triangular or V-shaped form is given to its cross-section.

B represents a corrugated plate, which extends longitudinally nearly the entire length of the retort, and is located a little below the longitudinal center line, as shown in fig. 1. This plate is also inclined in a downward direction from the front to the rear of the retort.

d represents the receiver, by means of which the oil or other material from which this gas is to be manufactured is introduced into the retort.

d' represents the pipe by means of which the manufactured gas is conveyed to the holder.

E represents a removable plate which covers the rear end of the retort, and is secured thereto in any suitable manner, the end being made open, for the purpose of making the entrance of the retort easily accessible, when desired, for inspection and cleaning boxes. If desired, the end may be cast solid, with the exception of two small holes, one at the bottom of the retort and the other on a level with the outlet at the back of the retort. These are closed by means of screw-plugs.

The operation is as follows:

The oil or other material from which the gas is to be manufactured is poured into the receiver, and is thus introduced into the retort. The gas is manufactured in chamber *c*, and collects in chamber *b*, and is delivered through the pipe *d'*. If the oil should chance to arise in vapor, it falls on a corrugated plate, and is there generated in gas, thus preventing the accumulation of crude oil. The peculiar shape of the retort causes the oil or other material to lie in a compact mass, and the heat, consequently, is readily applied thereto in a concentrated manner. A great saving of fuel is necessarily effected, and an increased production of gas, also, is obtained from the process.

We do not limit ourselves to the employment of any special material in our retort, but shall employ any substances that are adapted for our purpose.

Having thus fully described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

The retort described, having the walls *a a* a^1 a^2, plate B, receiver *d*, pipe *d'*, when combined as described, for the purpose set forth.

This specification signed and witnessed this 14th day of April, 1870.

JAMES RIGBY.
PHILIP A. PALMER.

Witnesses:
SAMUEL HILL,
STEPHEN NEWTON.