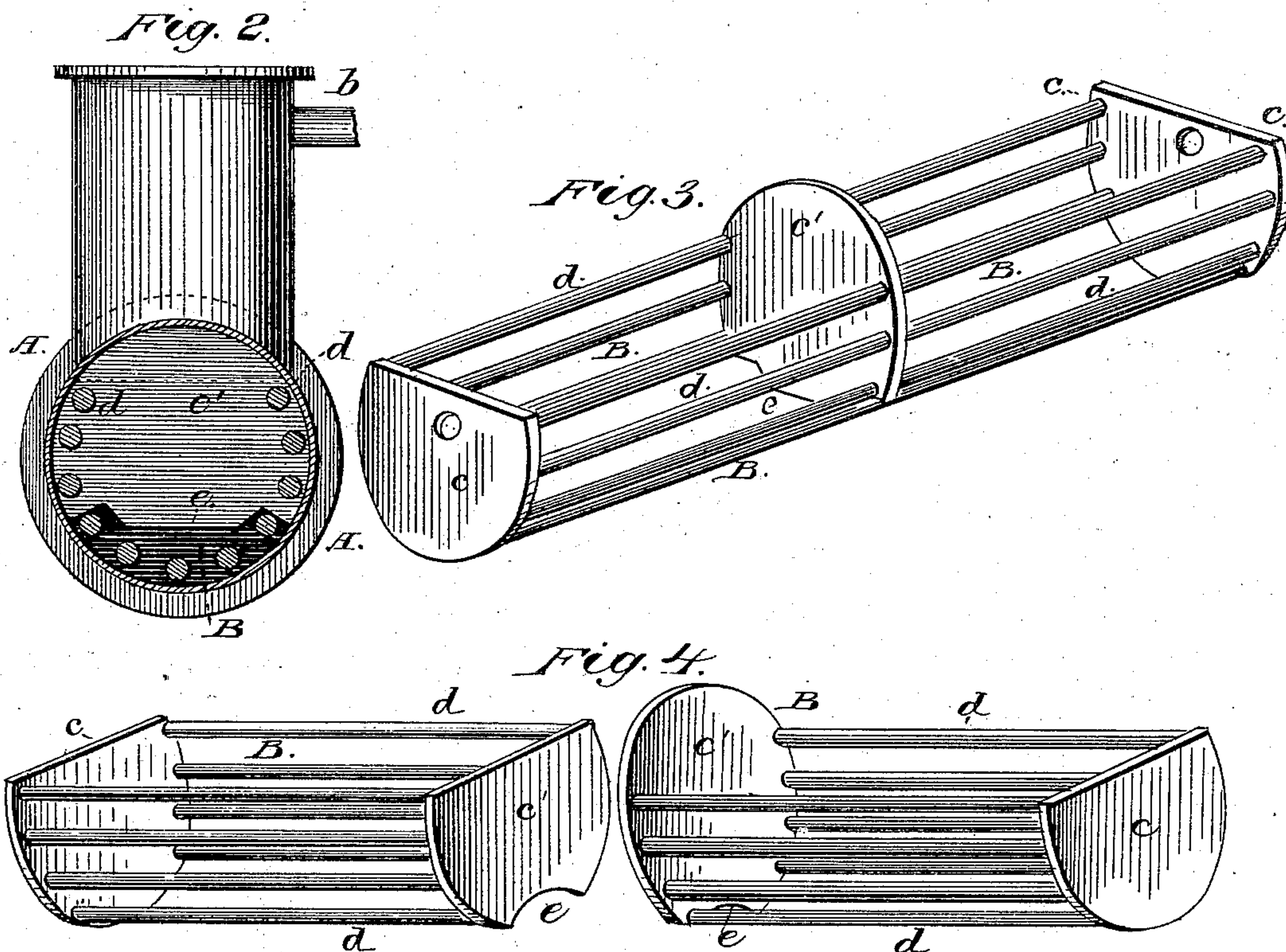
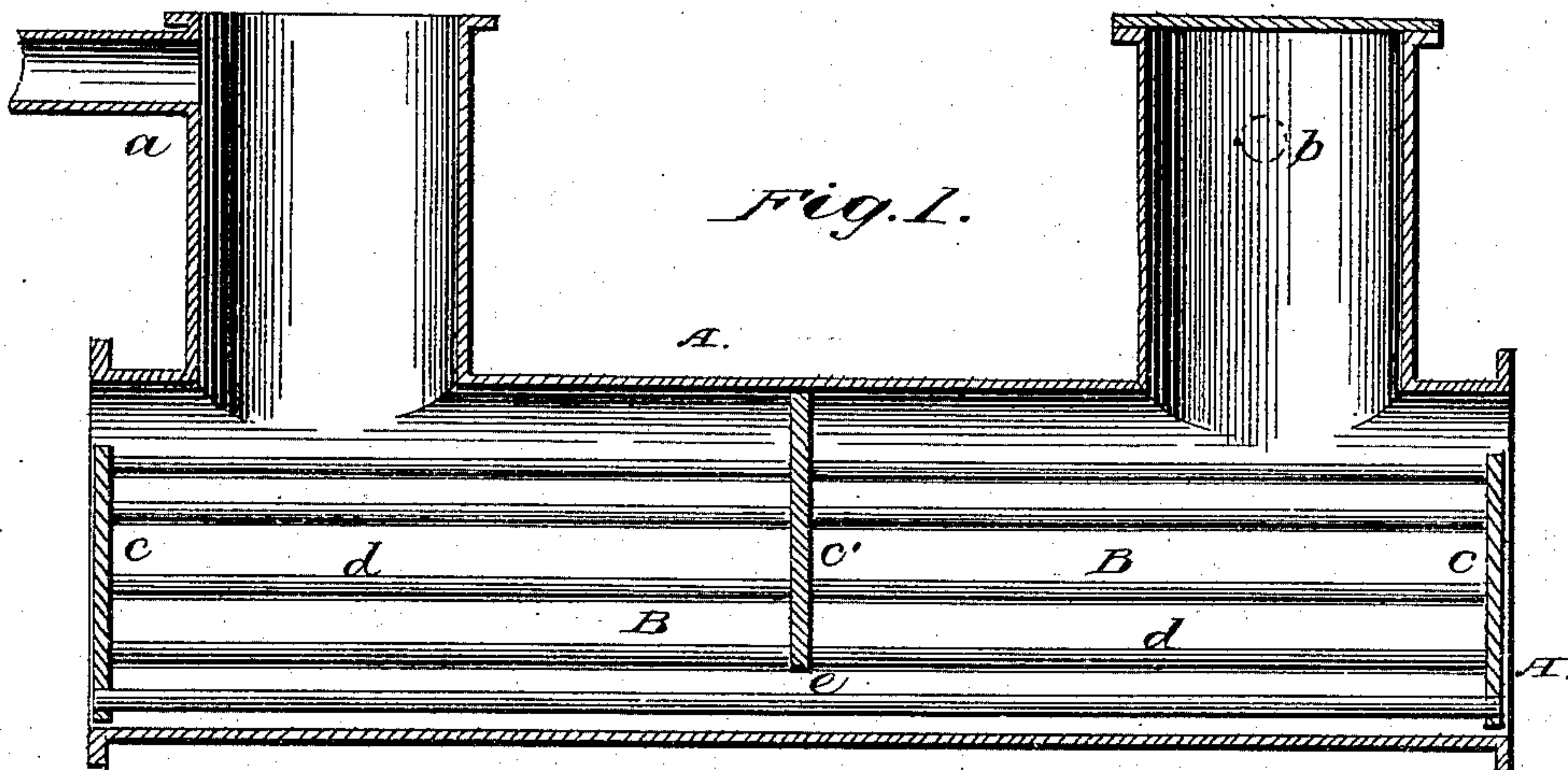


A. W. M. MAASS.  
Gas-Retort.

No. 219,489.

Patented Sept. 9, 1879.



Witnesses  
Ed. G. Dietrich  
Jno. A. Madigan

Inventor  
Albert W. M. Maass  
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# UNITED STATES PATENT OFFICE.

ALBERT W. M. MAASS, OF MERIDIAN, MISSISSIPPI.

## IMPROVEMENT IN GAS-RETORTS.

Specification forming part of Letters Patent No. **219,489**, dated September 9, 1879; application filed April 5, 1879.

### *To all whom it may concern:*

Be it known that I, ALBERT W. M. MAASS, of Meridian, in the county of Lauderdale and State of Mississippi, have invented certain new and useful Improvements in Gas-Retorts; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to the manufacture of gas for illuminating purposes from rosin, petroleum, hydrocarbons, or fatty matter suitable for the purpose; and consists in the combination, with a retort adapted to this purpose, of one or more removable cribs provided with end pieces and a central diaphragm fitting closely the inner surface of the retort, except at its lower edge, where it is cut away so as to form an opening, providing for the passage of the gas from one compartment of the retort to the other, as hereinafter described, and particularly pointed out in the claim.

In order to obtain the best results in the manufacture of illuminating-gas from hydrocarbons or fatty matter, the vapors should be submitted to a superheating process, by means of which they are purified, so that the gas is fit for immediate use. This has been accomplished by placing fragments of brick, coke, or similar substance in the retort, which are heated to a cherry-red, and the vapor compelled to pass through this glowing mass. In course of time these brick or coke fragments become disintegrated by the heat and require renewal, which is not easily effected, as the retorts are often of considerable length and difficult to get at; and hence my improvement consists in the combination, with the retort, which may be of any suitable size and construction, of a removable basket or crib for containing the brick fragments or other superheating substance, and which may be readily withdrawn from and reinserted into the retort.

In the drawings hereto annexed, Figure 1 is a longitudinal section of a retort embodying my improvement. Fig. 2 is a vertical section on line *x x* in Fig. 1. Fig. 3 is a perspective view of the crib detached from the retort; and

Fig. 4 represents a modified construction of the said crib.

Similar letters of reference indicate corresponding parts in all the figures.

A is the retort, which is provided with a pipe, *a*, at one end, through which the melted rosin or hydrocarbons are fed, in the usual manner. At the other end of the retort is a suitably-located escape-pipe, *b*, which leads to the gasometer. B is the crib, which consists of end pieces *c c*, semicircular in shape, which are united by parallel iron bars or rods *d*, to form a basket or crib of a semi-cylindrical shape, which will fit into the lower part of the retort, as shown in Figs. 1 and 2.

In the middle of the crib is secured vertically a circular diaphragm, *c'*, having a segment cut off at its lower edge. This diaphragm will, when the crib is inserted into the retort, form a closely-fitting partition in the middle, dividing the retort into two chambers, which communicate with each other only through the opening *e* at the bottom of the diaphragm *c'*.

The fragments of brick, or their equivalent, are placed in the crib on each side of the diaphragm *c'*, against which they are piled, so as to form a mound or pile which is highest in its middle on both sides of the diaphragm, and sloping downward to each side toward both ends of the crib. After the fragments have been disposed in the crib in this manner, it is shoved into the retort, which, after being closed and sealed with clay or similar substance, is heated, and the vaporizing and superheating of the gas-producing matter are carried on.

It is obvious that the construction of the crib B may be modified to suit the shape and requirements of the retorts without departing from the spirit of my invention. In very large retorts, used for the manufacture of gas on a large scale, it is desirable to make the crib in two parts or sections, as shown in Fig. 4, which facilitates the handling of the cribs when filled. Again, in small retorts adapted to be inserted into the fire-hole of an ordinary range or furnace the crib must, of course, be made to conform to the shape of the retort.

I am aware that it is not new to construct retorts for gas-making with removable grates or grate-plates, or with an interior retort con-

structed of perforated plates, nor do I claim such construction, broadly; but by the combination, as described, of one or more cribs having a dividing partition or diaphragm with the retort a new and useful result is obtained dependent upon this specific construction and combination.

Having thus described my improvement, I claim and desire to secure by Letters Patent of the United States—

The combination, with a retort for the manufacture of illuminating-gas, of one or more removable cribs, B, provided with ends *c c*

and a central diaphragm, *c'*, fitting closely the inner surface of the retort, except at its lower edge, where it is cut away, providing an opening for the passage of gas from one compartment to the other, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ALBERT WILLIAM MAX MAASS.

Witnesses:

B. F. D. FITCH,

J. SHORT.