

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

No. 214,414.

Patented April 15, 1879.

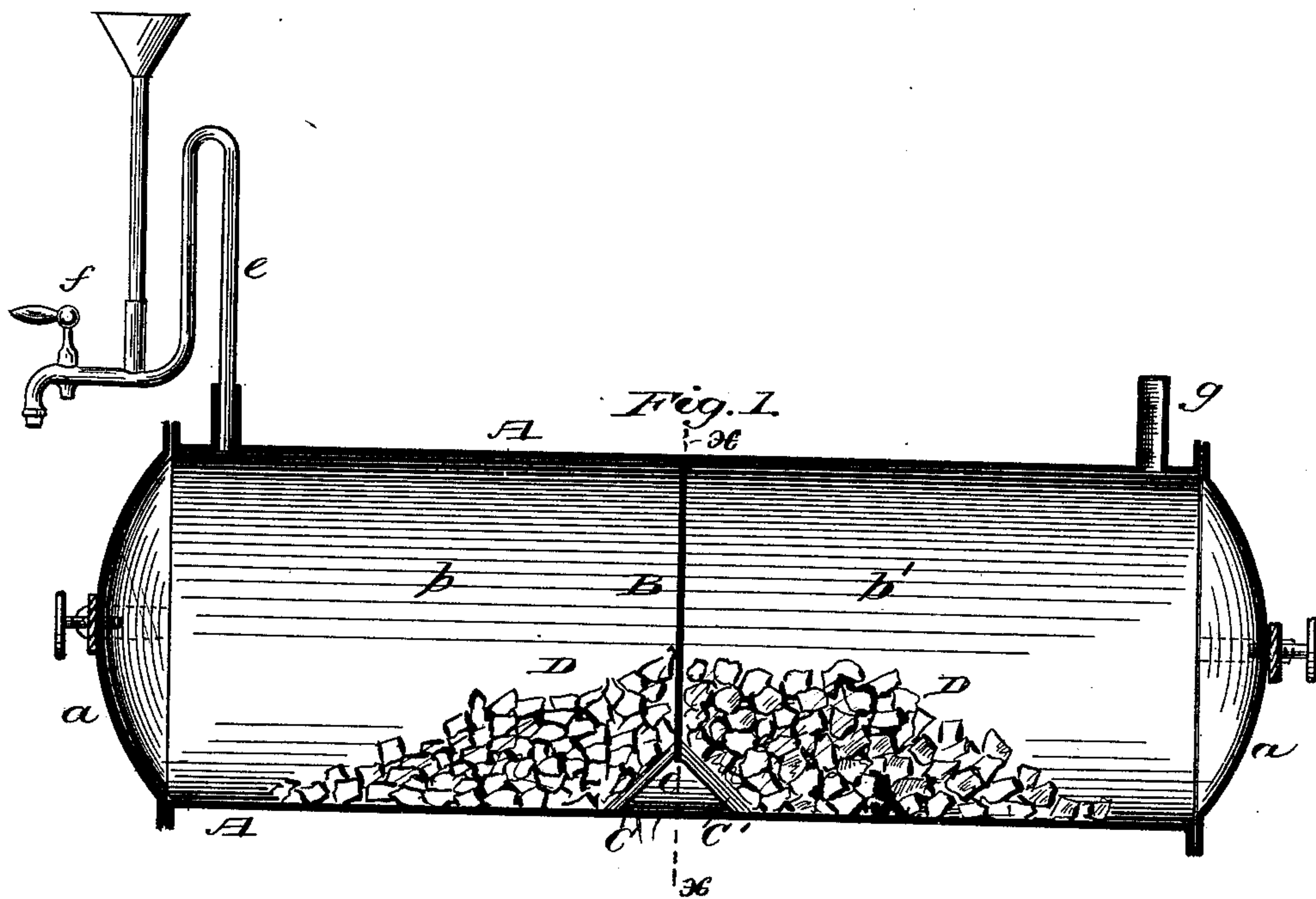
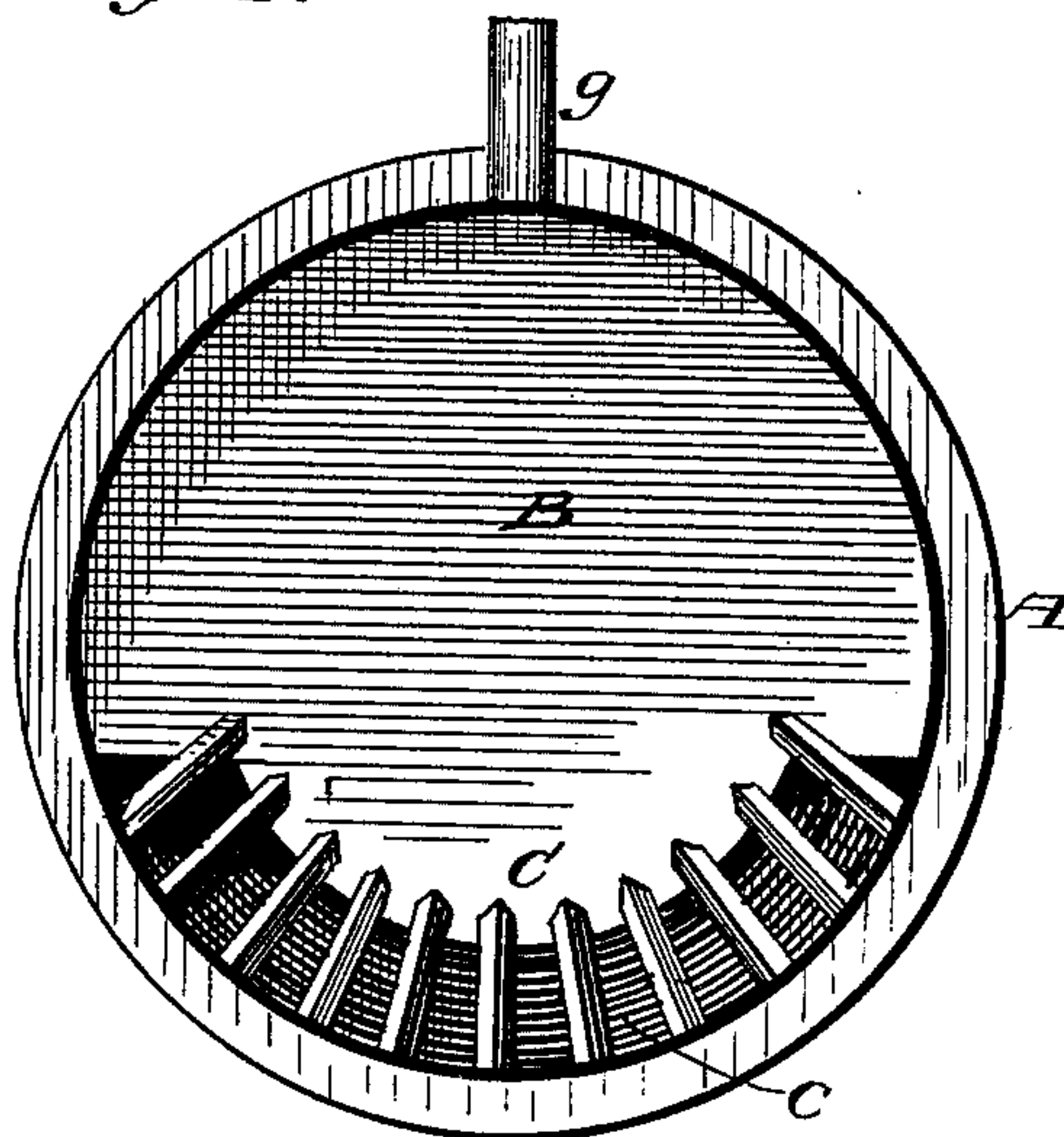


Fig. 2.



Witnesses
Ed. G. Dietrich
R. L. Lorrain

Inventor
Albert W. M. Maass.
by Louis Bagge & Co.
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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. **214,414**, dated April 15, 1879; application filed December 28, 1878.

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 Retorts for the Manufacture of Illuminating-Gas; 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.

This invention relates more particularly to the process of manufacturing gas for illuminating and heating purposes from rosin, petroleum, heavy oils, or similar matter, which is introduced into the retort in a fluid state, and the vapors of which require decarbonization before they will be fit for use as illuminating-gas; and it consists in an improvement upon the retort for which Letters Patent of the United States No. 193,979 were granted to me on the 7th day of August, 1877—namely, the arrangement of flaring or diverging grates on opposite sides of the diaphragm or partition within the retort, substantially as hereinafter more fully set forth.

In the annexed drawings, forming a part of this specification, Figure 1 is a longitudinal section of my improved retort, and Fig. 2 is a vertical cross-section on the line indicated by *x x* in Fig. 1.

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

A is the retort, which is provided with a removable head, *a a*, at each end, as usual. Inserted permanently midway in the retort is a vertical diaphragm, B, which divides the retort into two equal chambers or sections, *b b'*, communicating with each other through a segmental slot or recess, *c*, made in the under side of plate B. Secured upon the lower part, on each side of this plate, is a grate, C C', arranged in an inclined or flaring position, as shown in Fig. 1, so as to form a triangular space, *d*, of which the lower rim of plate B forms the apex.

Each of the chambers *b b'* is charged with fragments of brick, coke, or other similar substance, D, which will stand a high degree of heat without melting or vaporizing, which are piled in each section, as shown in the draw-

ings, impinging on each side against the partition-plate or diaphragm B, but leaving an open space on each side of the opening *c* in diaphragm B, on account of the outward-projecting grates C C'.

The rosin, petroleum, or other oily or fatty substance, being first liquefied and the retort heated to a cherry heat, is introduced into the chamber *b* through a suitably-constructed siphon, *e*, by turning a cock, *f*, to regulate the flow. The liquid, falling upon the glowing brick, coke, or other substance, D, deposited in said chamber, is instantly vaporized, and, filling chamber *b*, seeks egress through the opening *c* in the partition B into the adjoining chamber *b'*, where it has to pass through the interstices between the glowing brick or other substance placed on that side of the partition, along the bottom of the retort, in a line with the orifice in plate B, before reaching the outlet *g*, leading to the gasometer.

By this process the vapor is uniformly superheated and thoroughly decarbonized and purified, thus dispensing with washers and purifiers, the gas passing directly from the outlet in the retort into the holder, pure and ready for immediate use.

The flaring grates C C' will prevent choking up of the narrow segmental passage under plate B by particles of brick or coke that have become disintegrated by the heat, leaving a clear channel or passage-way from the vaporizing-chamber *b* to the superheating and purifying chamber *b'*.

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

In gas-retorts, the flaring grates C C', arranged one upon each side of the narrow opening or passage-way *c* in the centrally-disposed vertical diaphragm B of the retort A, substantially as and for the purpose herein shown and described.

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:

A. H. SMITH,

B. B. SMITH.