

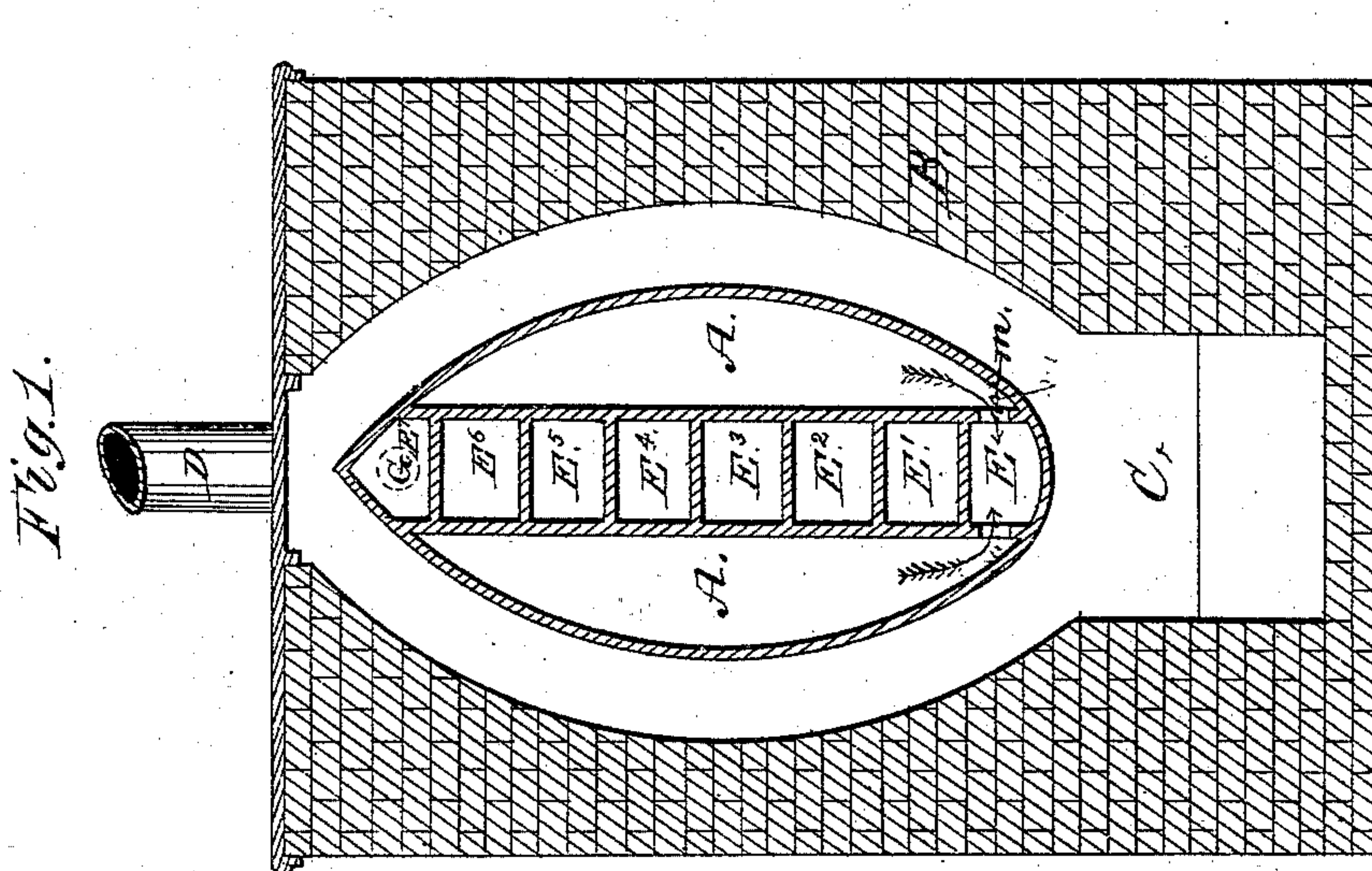
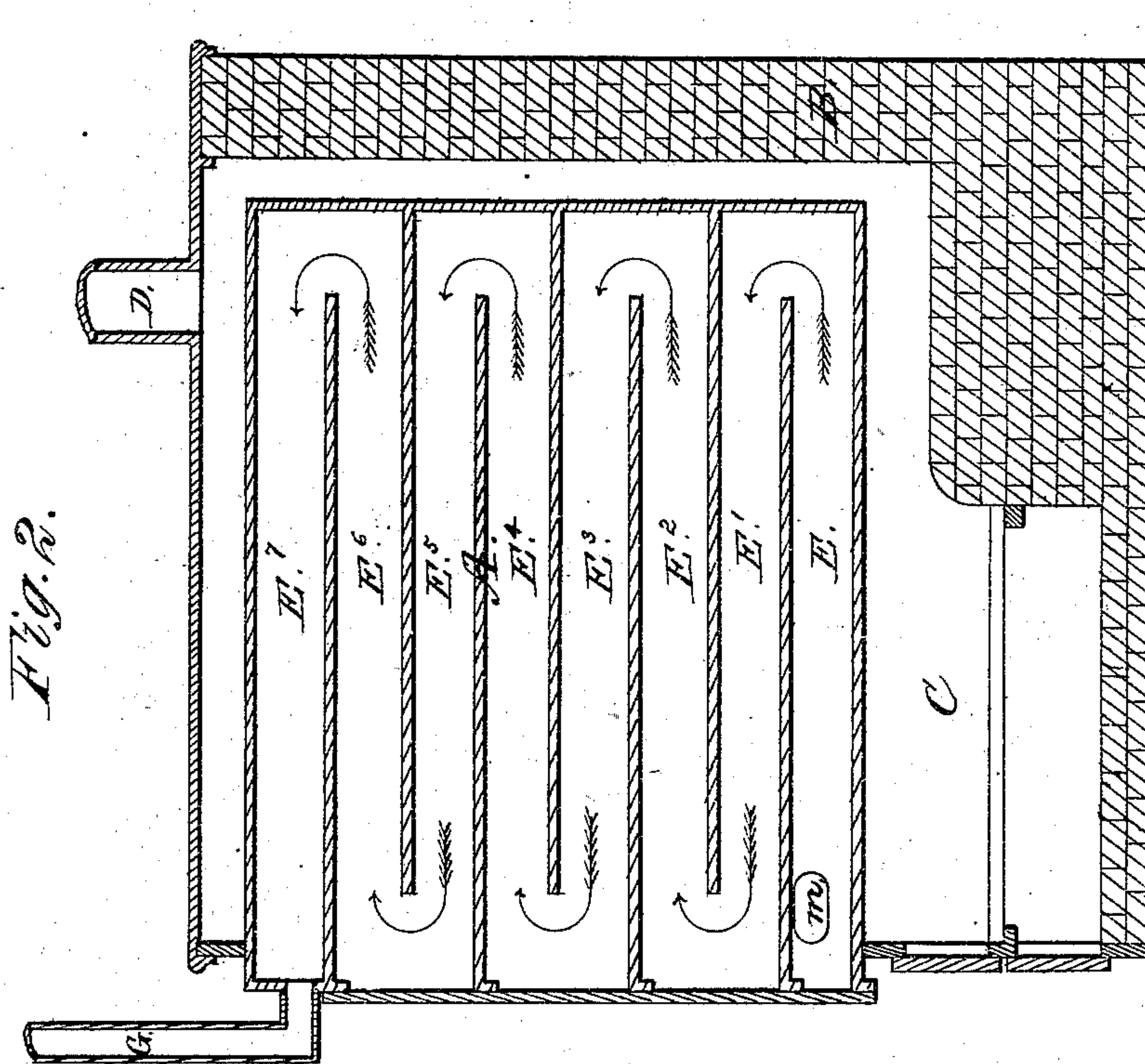
M. LEVY.

RETORTS FOR MANUFACTURE OF GAS FROM WOOD.

No. 982.

Patented April 9, 1861.

No. 31,986.



Witnesses:

Henry E. Fowler
Julian Keen

Inventor:

M. Levy

UNITED STATES PATENT OFFICE.

MARK LEVY, OF NEW YORK, N. Y.

IMPROVEMENT IN RETORTS FOR THE MANUFACTURE OF GAS FROM WOOD.

Specification forming part of Letters Patent No. **31,986**, dated April 9, 1861.

To all whom it may concern:

Be it known that I, MARK LEVY, of New York, in the county and State of New York, have invented a new and Improved Retort for Illuminating Gas from Wood or Similar Vegetable Material; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure I represents a vertical cross-section of the retort and oven. Fig. II shows a vertical longitudinal section of the same.

Similar letters designate the same parts.

The nature of my invention consists in the construction of a retort in combination with unremovable reheating-flues, whereby a large surface is exposed to the heat, combined with great strength and durability, at the same time accomplishing a more perfect and complete combination of the gaseous matters.

In the accompanying drawings, A is the retort formed in the elliptical shape in cross-section and of any length desired, and placed on its ends with its longest axis perpendicular. This retort is set in brick-work B of any suitable arrangement over a furnace C. The smoke or gases from this furnace escape through the flue D.

The elliptic retort is divided by a series of flues E E' E², &c., into two parts. G is a pipe connected with the top flue E' to lead the generated gases away from the retort to be purified.

The retort A is filled on both sides with wood or similar vegetable substances, from which the illuminating-gas is to be generated. The generated gases pass then through the openings *m*, forming a communication between both parts or sides of the retort and the central flues into said flues and circulate back and forth through these flues E E' E² E³, &c., and are finally led away to be purified by the pipe G. The shape or form of the retort being high and narrow, exposes a large extent of heating-surface and insures great durability. The lowest flue E, being directly exposed to the fire, will partially convert the produced tar and pyroligneous acid into gases, mixing the same with the other generated gas and increase thereby its illuminating power, while the remaining flues obtain only their heat from the surrounding retort, and can consequently never become overheated, so as to be detrimental to the generated gases passing through the same.

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

The arrangement and use of the elliptic-shaped retort A, with the central unremovable reheating-flues E E' E², &c., dividing said retort into two parts, constructed and combined together in the manner and for the purpose substantially as described.

MARK LEVY.

Witnesses:

HENRY E. RAEDER,
JULIAN KEEN.