G. W. EDGE.

Gas Retort.

No. 49,989 Patented Sept. 19, 1865.

Fig. 2.

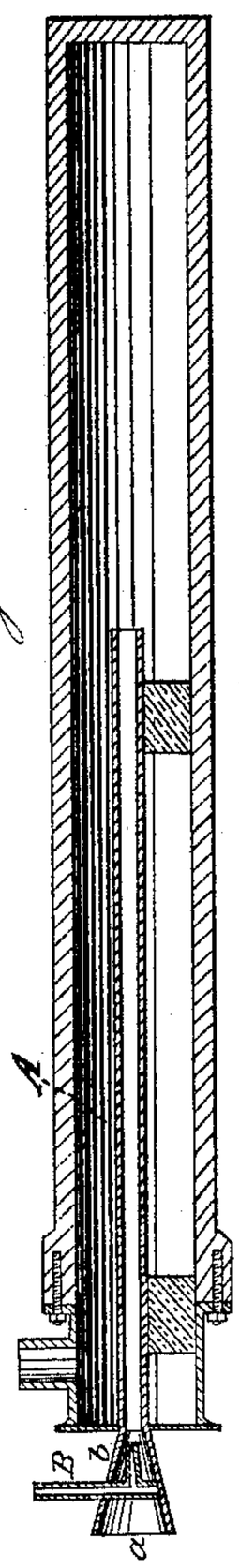


Fig. 3.

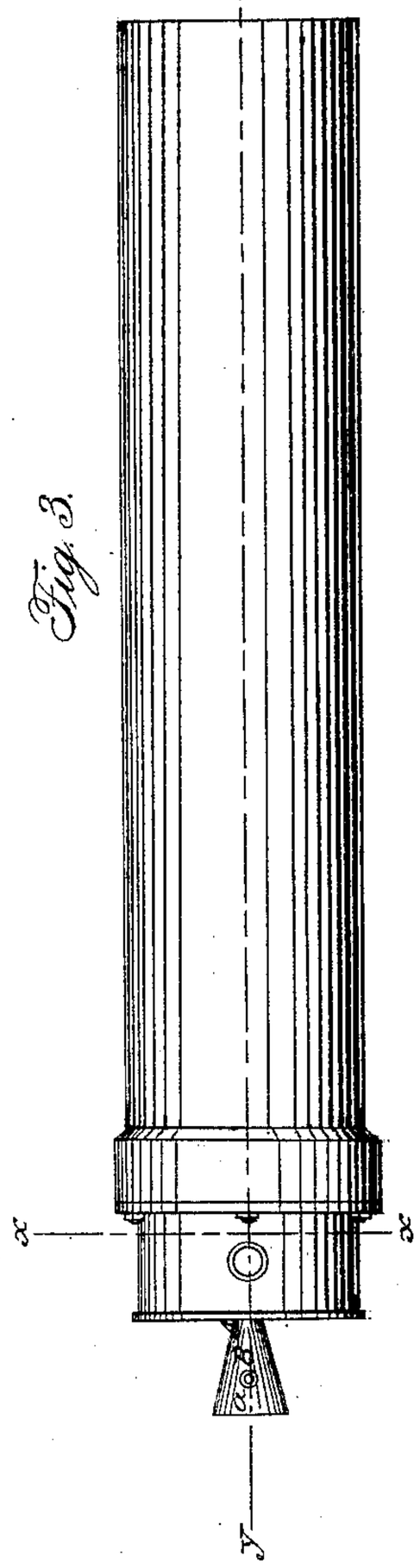
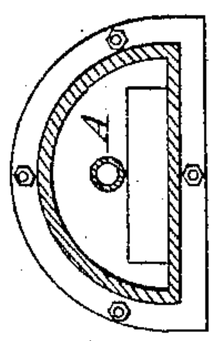


Fig. 1.



Witnesses:

E. L. Topliff

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Inventor:

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By Munn & Co

attys

UNITED STATES PATENT OFFICE.

GEORGE W. EDGE, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN DECARBONIZING CLAY RETORTS.

Specification forming part of Letters Patent No. **49,989**, dated September 19, 1865.

To all whom it may concern:

Be it known that I, G. W. EDGE, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Decarbonizing Retorts; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a transverse vertical section of this invention, taken in the plane indicated by the line *x x*, Fig. 2. Fig. 2 is a longitudinal vertical section of the same, the line *y y*, Fig. 3, indicating the plane of section. Fig. 3 is a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention consists in the employment of a current of air mixed with steam for the purpose of decarbonizing retorts, particularly clay retorts, such as generally used for manufacturing illuminating-gas and for other purposes. Such retorts are liable to absorb a quantity of carbon, and a large quantity of carbon or soot adheres to their inner surface, particularly toward the back. If this soot or carbon is not removed, the retort is liable to crack, and it becomes useless after a short time.

The device or apparatus which I use for the purpose of decarbonizing retorts is a simple steam-blower. It consists of an air-pipe, A, with a funnel-shaped mouth-piece, *a*, and a steam-pipe, B, which extends transversely through the funnel-shaped mouth-piece, and from which a nozzle, *b*, extends in the direction of the axis of the air-pipe, as clearly shown in Fig. 1 of the drawings. The air-pipe A passes through a suitable hole in the head of the retort; or a supplementary head may be provided, which can be attached to the mouth of the retort in place of the regular head, and if steam is injected through the pipe B, the current issuing from the nozzle *b* causes a draft in the air-pipe, and a mixture of steam and air rushes into the retort. In its passage through the pipe A this mixture is highly heated, and when it comes in contact with the carbon or soot adhering to the inner surface of the retort it decomposes the same, so that it passes off in the form of gas, and the retort is cleaned and rendered as good as new.

The air-pipe A, in its course through the retort, can be supported simply by placing bricks under the same at suitable intervals, and it is intended to be made in sections, so that it can be lengthened or shortened according to the spot where the mixture of steam and air is to take action. I do not wish to confine myself, however, to any particular apparatus for the purpose of producing the mixture of air and steam, but reserve the right to change the same as circumstances may make desirable.

I claim as new and desire to secure by Letters Patent—

The use of a mixture of steam and air produced by means substantially such as herein described, or any other equivalent means, and injected into a retort for the purpose of decarbonization, as set forth.

The above specification of my invention signed by me this 14th day of August, 1865.

GEO. W. EDGE.

Witnesses:

M. M. LIVINGSTON,

C. L. TOPLIFF.