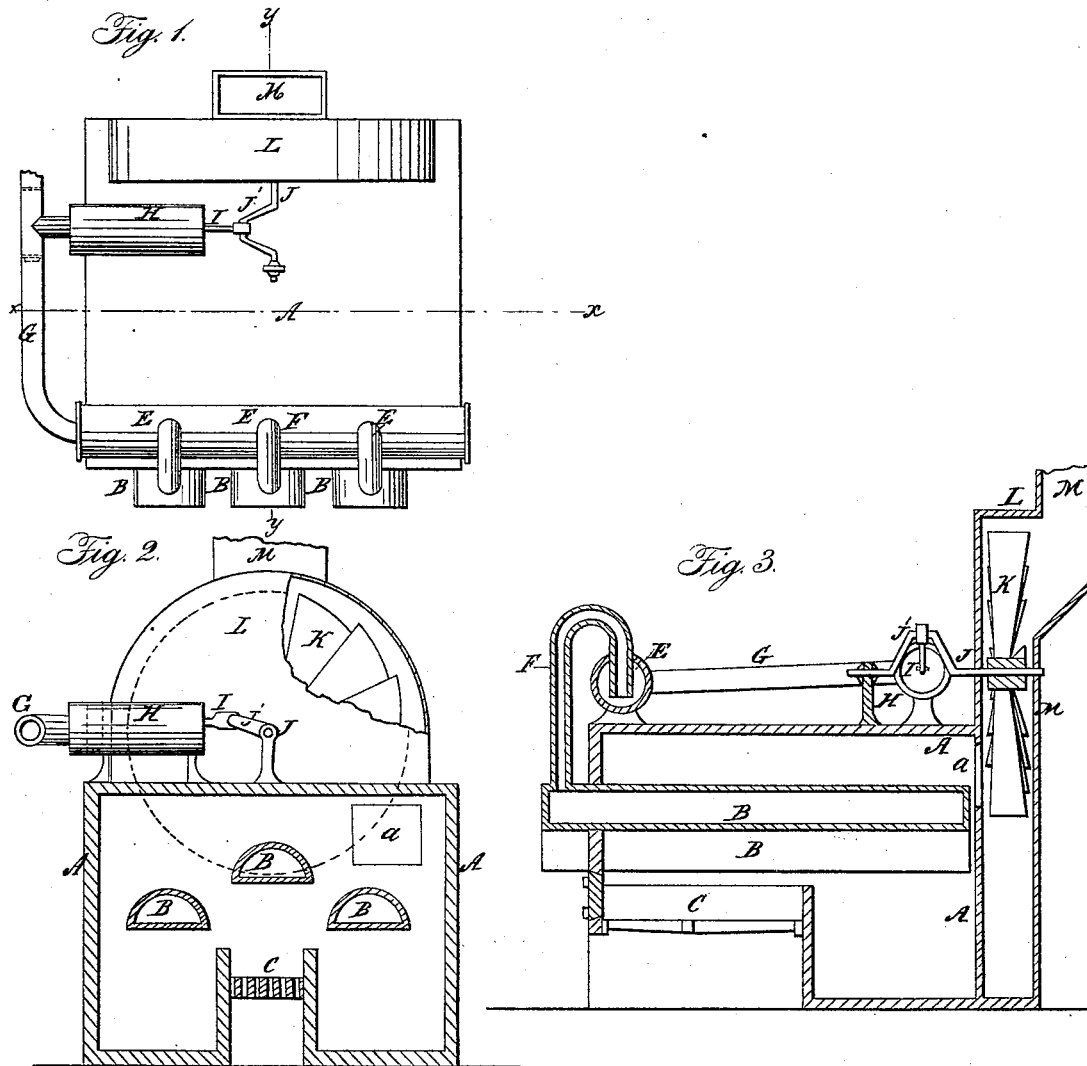


J. BAGOT.
Gas Purifier.

No. 50,548.

Patented Oct. 24, 1865.



Witnesses:

L. H. Collins
J. W. Coombs

Inventor:

Joseph Bagot

UNITED STATES PATENT OFFICE.

JOSEPH BAGOT, OF NEW YORK, N. Y.

IMPROVED APPARATUS FOR GENERATING GAS.

Specification forming part of Letters Patent No. 50,548, dated October 24, 1865.

To all whom it may concern:

Be it known that I, JOSEPH BAGOT, of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for Generating Illuminating-Gas; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan of a bench of gas-retorts with my invention applied. Fig. 2 is a transverse vertical section of the same in the plane indicated by the line *x x* in Fig. 1. Fig. 3 is a transverse vertical section in the plane indicated by the line *y y* in Fig. 1.

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

The object of this invention is to drive the exhausters used in connection with gas-generating apparatus in an economical manner; and to this end it consists in obtaining the necessary motive power to drive such exhausters from the escaping waste heat of the retort-furnaces. This I propose to effect in various ways—for instance, by using the said heat to heat a steam-boiler for supplying steam to a small steam-engine in connection with the exhauster, or by making the escaping hot gaseous products of combustion and heated air from the said furnace drive a hot-air engine in similar connection; but the simplest method, and that which I have represented in the drawings, is by causing all the said gaseous products and heated air to pass through and drive a wheel with oblique arms, vanes, or blades of similar character to the sails of a windmill; and I will now proceed to describe my invention with reference to the drawings.

A is the retort-setting; B B are the retorts, and C is the furnace. E E are the pipes leading from the retorts to the hydraulic main F, and G is the main pipe through which the gas

passes from the hydraulic main to the purifiers. All these parts are or may be similar to the corresponding parts of gas-generating apparatus in common use.

H is the gas-exhauster, which may be of any known or suitable kind, but which is represented as consisting of a reciprocating pump. It is arranged on the top of the retort bench or setting A, and its piston-rod I is connected with a crank, J', on a shaft, J, which is arranged in suitable bearings, and which has firmly secured to it a wheel, K, having oblique-faced arms, vanes, or blades resembling the sails of a windmill; or, in other words, this wheel may be said to be similar to the driving-wheel of a smoke-jack. This wheel is situated within a casing, L, with which the only outlet, *a*, from the furnace is in free communication, and which is situated at the base of the chimney-stack M, which is the only outlet from the said casing. The wheel K, its casing L, the outlet *a* of the furnace, and the chimney M are relatively so arranged that all the hot gaseous products of combustion and uncombined heated air escaping from the furnace and ascending by their heat with what is termed a "natural draft" pass between the arms, vanes, or blades of the said wheel on their way to the chimney in such manner that they produce the revolution of the said wheel and of the crank-shaft, and so give motion to the exhauster, which is therefore driven by the waste-heat from the furnace.

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

Obtaining the necessary motive power to drive the exhausters of gas-generating apparatus for the escaping waste heat of the retort-furnaces, substantially as herein described.

JOSEPH BAGOT.

Witnesses:

HENRY T. BROWN,
J. W. COOMBS.