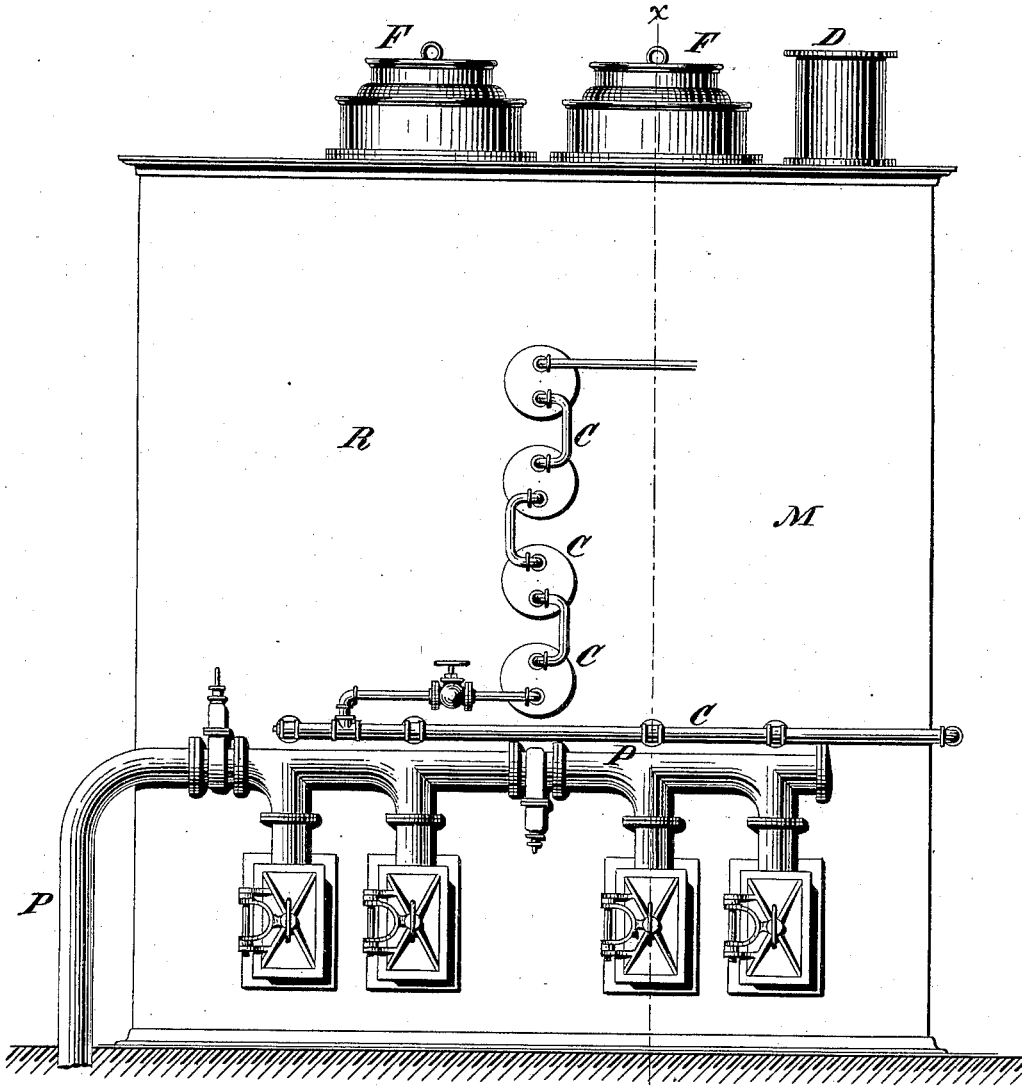


E. J. JERZMANOWSKI.
Gas-Generating Apparatus.

No. 212,942

Patented Mar. 4, 1879.

Figure 1.



Witnesses:

Geo. H. Miatt
J. H. Sullivan

Inventor:

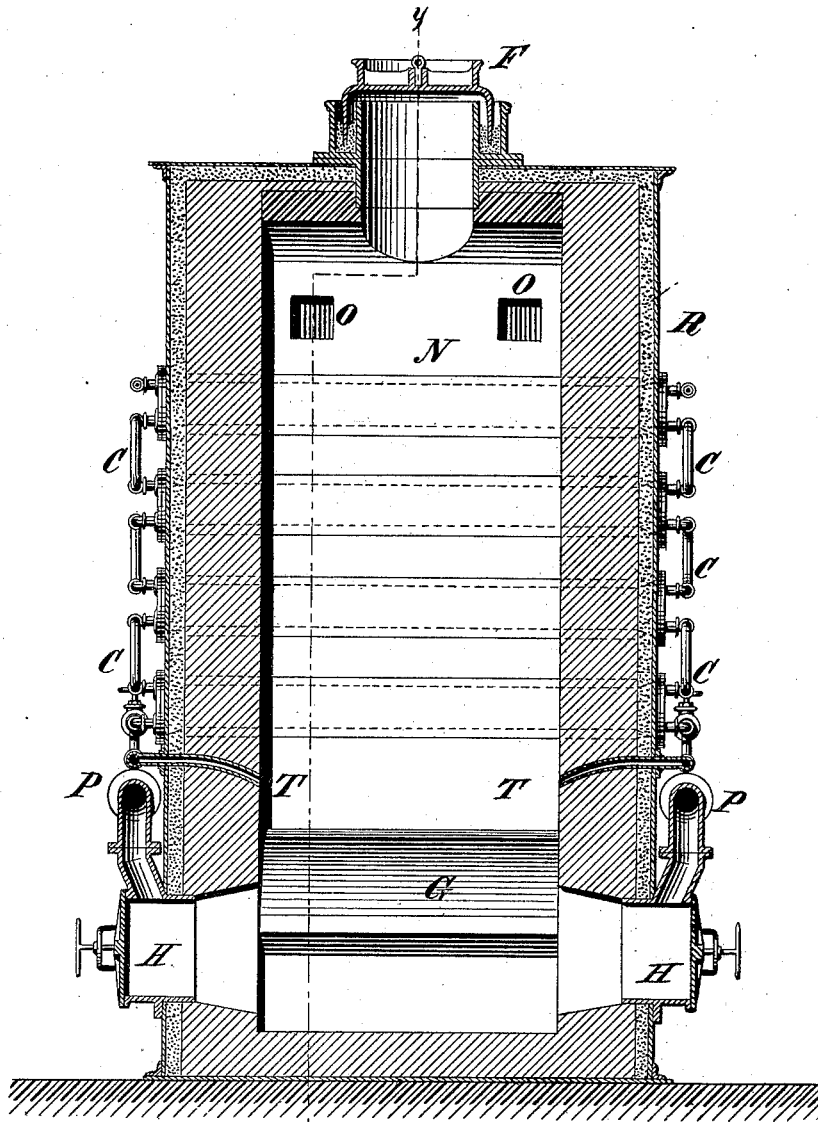
Erazm J. Jerzmanowski
By his Attorney,
J. N. Dickerson

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Figure 2.



Witnesses:

Geo. W. Miatt
S. H. Sullivan

Inventor:

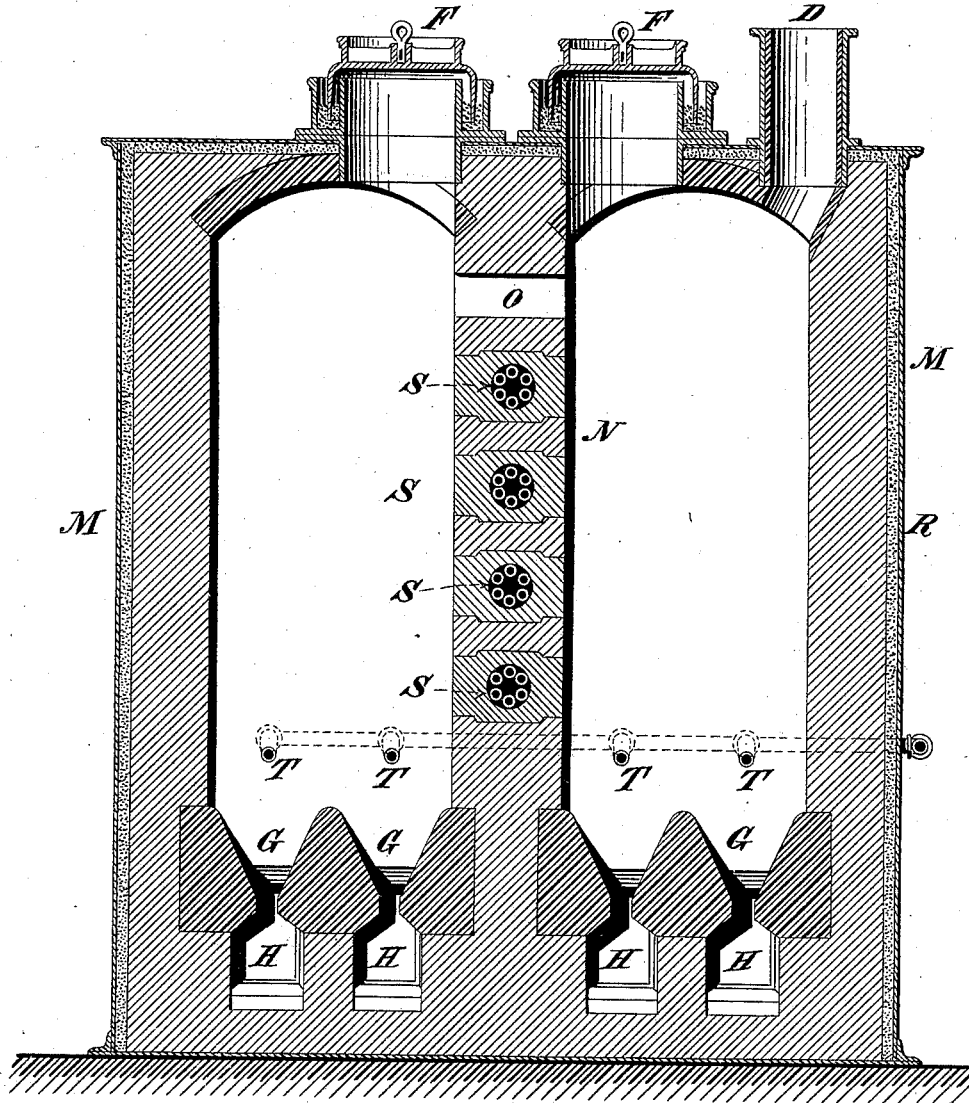
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Figure 3.



Witnesses:

Geo. H. Miatt
S. H. Bullwag

Inventor:

Erazm J. Jerzmanowski
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E. W. Duckerson

UNITED STATES PATENT OFFICE.

ERAZM J. JERZMANOWSKI, OF NEW YORK, N. Y., ASSIGNOR TO E. STERN,
OF NEW YORK.

IMPROVEMENT IN GAS-GENERATING APPARATUS.

Specification forming part of Letters Patent No. **212,942**, dated March 4, 1879; application filed August 1, 1878.

To all whom it may concern:

Be it known that I, ERAZM J. JERZMANOWSKI, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Generating Apparatus, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

My invention has reference to a new and improved generator, by means of which a larger amount of gas is produced than from those previously in use, and of better quality. In it, also, the superheaters are so arranged as to be in the hottest portion of the fire, so that the steam which is therein superheated reaches a high temperature. My tuyeres are also arranged in a new method, so as to clean the grate-bars and prevent the solidification which formerly resulted.

My invention will be clearly understood from the accompanying drawings, in which—

Figure 1 represents an outside perspective view; Fig. 2, a cross-section through Fig. 1 on the line *xx*; Fig. 3, a cross-section through Fig. 2 on the line *yy*.

In the manufacture of water-gas steam of high temperature is used, and it is important to thoroughly superheat it; and I have arranged my superheating apparatus in the partition between two gas-generators, so as to obtain this result.

My improved gas-generator consists of two chambers, contained within the outer casing, M, and separated by the partition N, containing superheaters S. Each chamber is provided with a separate supply-aperture and sand-seal, F. One delivery-pipe, D, serves for both chambers.

The partition N is pierced with one or more openings, O, for the passage of the gas. The steam passing from the superheaters by pipes C is delivered into the apparatus by tuyeres T. These tuyeres deliver above the conical grate-bars G, which I have previously patented, preferably made of fire-brick. The downward rush of the steam upon the surface of these bars scours them and prevents any accumulation upon them.

Air is supplied by the pipe P to the apparatus. This pipe delivers into the chambers H, which serve for the withdrawal of ashes from the apparatus, and are provided with tight covers.

Previous to my invention air has been customarily injected above the surface of the grate-bars, and, striking against any slag or cinder which might fall from the coal, has been apt to melt it, and this falling against the grate-bars below formed clinkers very difficult of removal.

By means of my improvement the air is delivered from beneath the bars and passes freely upward.

The steam is not concentrated on one point, as was previously the case. The steam-tuyeres T might deliver beneath the grate-bars G into the chamber H; but I prefer them in the present situation. The air delivered to the chambers H is, of course, forced in by blower or similar forcing mechanism through the pipes P.

I find that by dividing the generator into two portions a better result is obtained from the fuel. It is more easily handled, and the flow of the steam through it is more easily divided, so that a greater volume of gas is produced from the same weight of coal.

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

1. A gas-generator provided with an interior partition, dividing it into two chambers, which partition contains superheating-passages, substantially as and for the purposes described.

2. In combination with the conical grate-bars G, the pipes P, delivering into the air-chambers H, and steam-pipes T, directed against the upper surfaces of the grate-bars, for the purpose of cleaning such surfaces, substantially as described.

ERAZM J. JERZMANOWSKI.

Witnesses:

S. F. SULLIVAN,
WM. J. SAWYER.