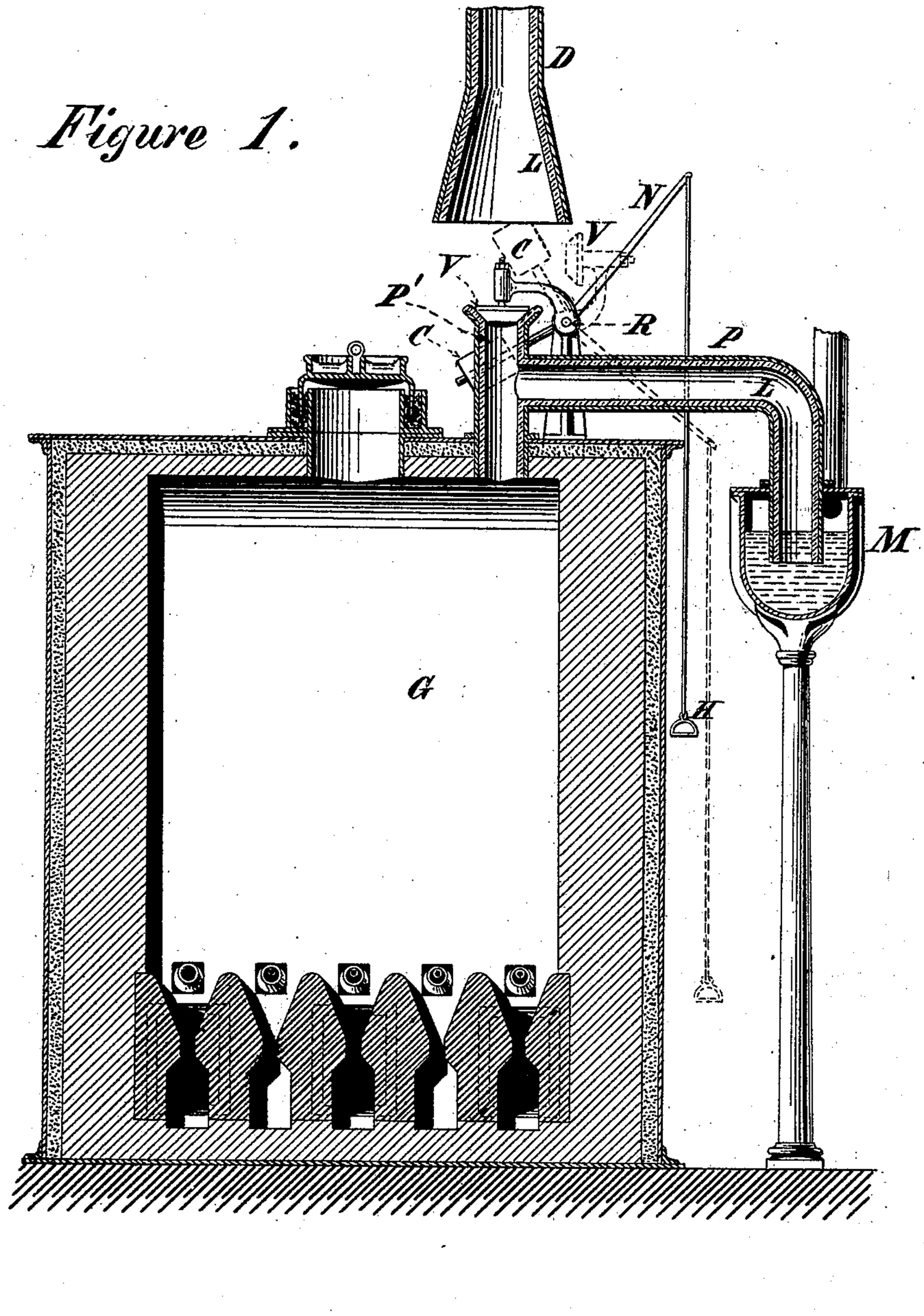
T. F. ROWLAND.

Gas-Generator.

No. 211,592. Patented Jan. 21, 1879.

*Figure 1.*




Witnesses:

Geo. H. Miatt

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# UNITED STATES PATENT OFFICE.

THOMAS F. ROWLAND, OF NEW YORK, N. Y.

## IMPROVEMENT IN GAS-GENERATORS.

Specification forming part of Letters Patent No. **211,592**, dated January 21, 1879; application filed May 29, 1878.

*To all whom it may concern:*

Be it known that I, THOMAS F. ROWLAND, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Generators, of which the following is a full, true, and exact description, reference being had to the accompanying drawing.

The object of my invention is to produce an improved gas-generator especially adapted to the production of water-gas, in which process currents of gas are heated to a very high temperature, and prove very destructive to the containing and controlling mechanism. These highly-heated currents of gas are especially destructive to the pipes which pass them, and to the valves which control their passage. The temperature of the currents of gas is at its highest point between the generator and the hydraulic main, for after the gas has passed through the water its temperature falls, and it is easily controlled by ordinary apparatus; but it has been found by experience that the currents of gas, which are often so hot as to cause the containing iron pipes to become luminous, will destroy these pipes in a very short time. I have, therefore, found it advantageous to line the containing pipes between the gas-generator and the hydraulic main with some refractory earthen substance, such as porcelain.

My invention is shown in the drawing.

G represents, generally, the generator, from which passes a pipe, P, communicating with the hydraulic main M. This pipe is, throughout its extent, lined with an earthen lining, L. The purge-valve is shown at V, and is shown open by the dotted lines. It is so arranged upon a curved lever-arm, pivoted at R, that it is drawn, when opened, out of the course of the gas, which escapes through the pipe P′ into the funnel D, which is also lined, as shown. The valve V, which is preferably made of soapstone, is operated by the lever N, controlled by the handle H. It is also provided with a counter-balance, C, whereby it is firmly closed. In the position shown in the figure the currents of heated gas pass through the pipes P′ and P into the hydraulic main M, the valve V preventing their escape upward. When this valve is opened, by depressing the handle H the gases escape directly upward, but do not come in contact with the valve V, which is then in the position shown by the dotted lines. The counter-balance C is situated behind the pipe P′, out of the way of the escaping gas.

I disclaim as of my invention the pivoted valve shown and described.

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

In combination with a gas-generator where gas is produced at a very high temperature, gas-conducting pipes enameled with earthenware, porcelain, or similar refractory material, for the purpose of resisting the action of the heated currents of gas, substantially as described.

THOS. F. ROWLAND.

Witnesses:
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