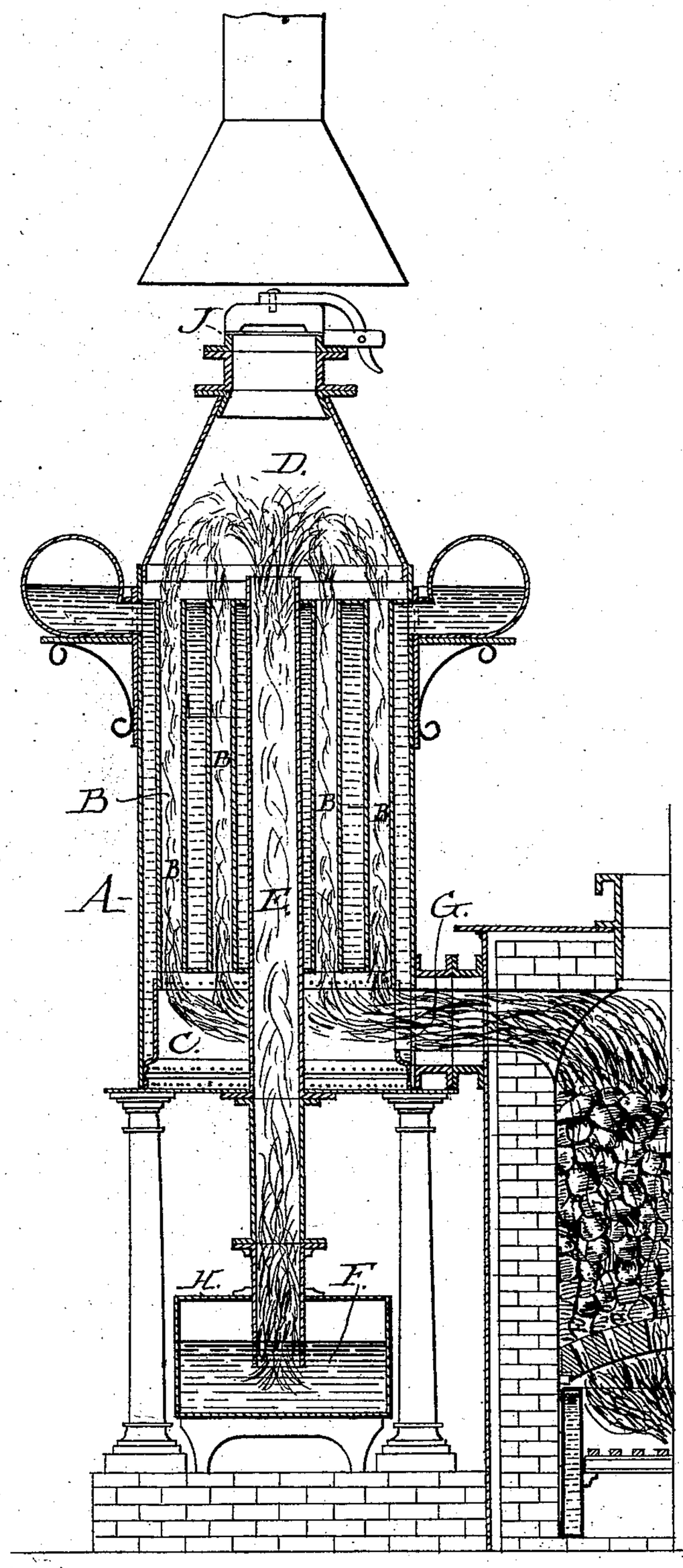
(No Model.)

J. HANLON, J. E. LEADLEY & S. GIBBS.

STEAM BOILER FOR GAS GENERATORS.

No. 273,522. Patented Mar. 6, 1883.



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UNITED STATES PATENT OFFICE.

JOHN HANLON, OF NEW YORK, N. Y., JAMES E. LEADLEY, OF CAMDEN, AND SILAS GIBBS, OF WARREN COUNTY, N. J., ASSIGNORS TO THE UNITED GAS IMPROVEMENT COMPANY, OF PHILADELPHIA, PA.

STEAM-BOILER FOR GAS-GENERATORS.

SPECIFICATION forming part of Letters Patent No. 273,522, dated March 6, 1883.

Application filed December 22, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN HANLON, of the city and State of New York, JAMES E. LEADLEY, of Camden, New Jersey, and SILAS GIBBS, of Warren county, New Jersey, have invented a new and useful Improvement in Steam-Boilers for Gas-Generators, of which the following is a clear, full, and exact description, reference being had to the accompanying drawing, in which the figure is a section of a vertical steam-boiler with our improvements attached.

Our invention has reference more particularly to a vertical steam-boiler adapted to be used in the manufacture of gas, and which receives its heat from the generator, as set forth in our application for a patent on a gas apparatus filed of even date herewith, reference being made therein to this application; and it consists in the peculiar construction of the boiler, as hereinafter explained and claimed.

To enable others skilled in the art to make and use our invention, we will proceed to describe the exact manner in which we have carried it out.

In the drawing, A represents a vertical steam-boiler provided with the flues B, extending from the chamber C up into the upper part, D, of the boiler. From this upper portion, D, we provide a central flue, E, extending entirely through the boiler and passing below the water-seal F, as shown. The top of the boiler is provided with a valve or cap, J, which can be readily raised or lowered at pleasure. The waste heat and gases from the gas-generator enter under the boiler through the passage G while the blast is applied, and passing up through the flues B heat up the boiler, and finally escape through the top of the boiler, the cap being raised to permit such escape. When the blast is shut off from the apparatus and the generation of the gas begins, the hot gases enter the boiler and pass through the flues B to the upper portion, D, whence they escape downward through the central flue, E, thus compensating, by heating up the central flue, for the loss of the heat resulting from shutting off the blast. By this means we are enabled to keep one boiler under a comparatively regular heat during the periodical changes in the apparatus, consequent upon well-known manner of manufacturing gas. The central tube, E, passes entirely below the boiler into a water-seal within the chamber H, in which the gas enters and from which it passes to proper receptacles prepared for the purpose.

We are aware that it is not broadly new to heat a boiler by the waste heat from a gas-generator, nor do we claim such as our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The vertical boiler A, provided with an adjustable cap, J, and the flues B, and central flue, E, in combination with the chamber H and water-seal F, all constructed to operate substantially as and for the purpose set forth.

JOHN HANLON.
JAS. E. LEADLEY.
SILAS GIBBS.

Witnesses:
EDWARD C. LEE,
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Witnesses to John Hanlon's signature:
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