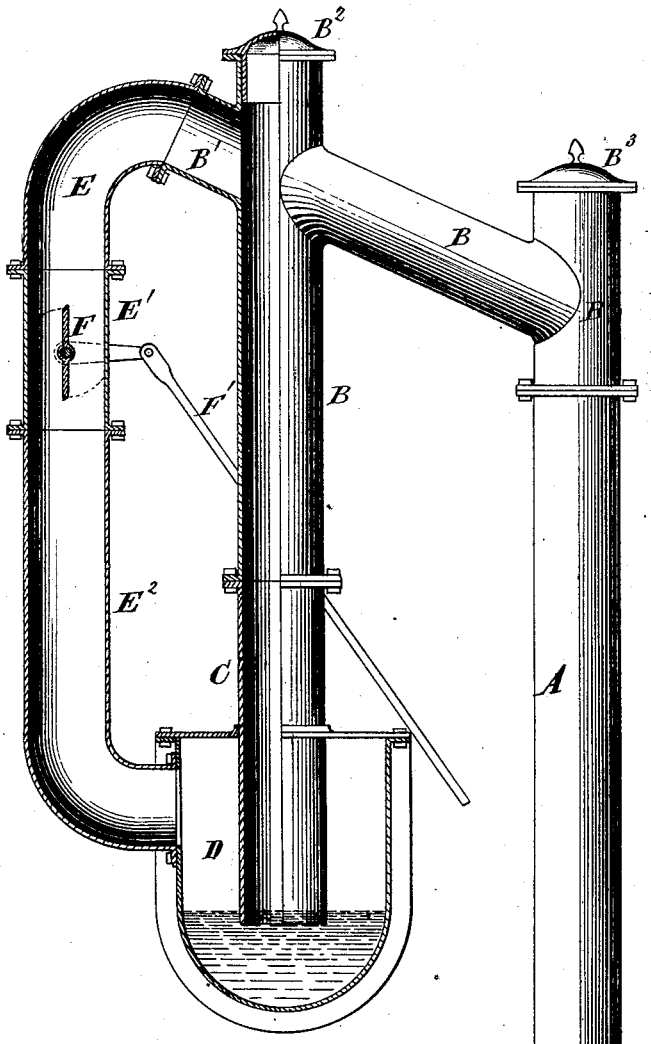
J. D. CATHELL.

Gas-Apparatus.

No. 162,625. Patented April 27, 1875.



Witnesses.
A. Ruppert.
D. McCourt

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Inventor.
per Edw. J. Eils
his Atty

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UNITED STATES PATENT OFFICE.

JONATHAN D. CATHELL, OF GEORGETOWN, DISTRICT OF COLUMBIA.

IMPROVEMENT IN GAS APPARATUS.

Specification forming part of Letters Patent No. **162,625**, dated April 27, 1875; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, JONATHAN D. CATHELL, of Georgetown, in the District of Columbia, have invented a certain Improvement in Apparatus for the Manufacture of Illuminating-Gas, of which the following is a specification:

This invention, having reference to the manner of conducting the gas from the retort into the hydraulic main, relates to that class of apparatus in which two channels are provided for this purpose: first, the ordinary stationary dip-pipe, sealed at its lower end by the liquid contents of the main; and secondly, a branch pipe, controlled by a valve or cock, for admitting the gas directly into the upper part of the main, without passing through the liquid therein, the end sought by the use of the branch pipe being an increase in the quality and production of the gas, by providing for its unobstructed flow from the retort into the hydraulic main. The methods of construction heretofore proposed for applying the branch pipe necessitated a reconstruction of some portions of the connections between the retort and hydraulic main, as well as the substitution of one or more new pipes for such as are now in almost universal use in such apparatus. Thus to apply such a branch pipe was not only connected with considerable expense, but it would also interrupt the use of the apparatus for a length of time which could illy be spared where the works were of a limited character. The object of my invention is to overcome these objections, by providing a branch pipe which can be attached without disturbing the connections between the retort and the main, and the application of which will require scarcely any suspension in the operation of the apparatus.

In the annexed drawing, illustrating my invention, partly in section and partly in elevation, A refers to the stand-pipe of the retort, (not shown;) B, to the bridge; C, to the dip-pipe; and D, to the hydraulic main. The bridge in almost universal use in gas-works is constructed, as I have illustrated it, with a short nozzle, B^1, to admit of the introduction of a swab for cleaning its inclined portion, the nozzle, like the nozzles B^2 and B^3, also provided for cleaning purposes, being ordinarily closed by a cap or plug. I take advantage of the existence of this nozzle B^1 in the application of my branch pipe, which I preferably construct in three sections, namely, the section E, attached to the nozzle B^1; section E^1, containing the valve F; and section E^2, connected to and opening into the upper portion of the main on the side thereof. It will be seen that it is only necessary to cut an aperture in the side of the main in order to apply my branch pipe, all the connections remaining undisturbed. The valve F may be an ordinary throttle-valve, as shown, operated by a rod, F^1. It is kept open during the production of gas in the retort, and closed when the retort is to be recharged. Should the attendant neglect to open the valve when the retort is again put in operation, the gas can still find an exit through the dip-pipe, so that no effects damaging to the apparatus will result from such neglect.

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

The combination, with the dip-pipe C and bridge B, having nozzle B^1, of the branch pipe, leading from said nozzle to the upper portion of the main D, and controlled by a valve, F, substantially as and for the purpose specified.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

J. D. CATHELL.

Witnesses:

B. EDW. J. EILS,

D. P. COWL.