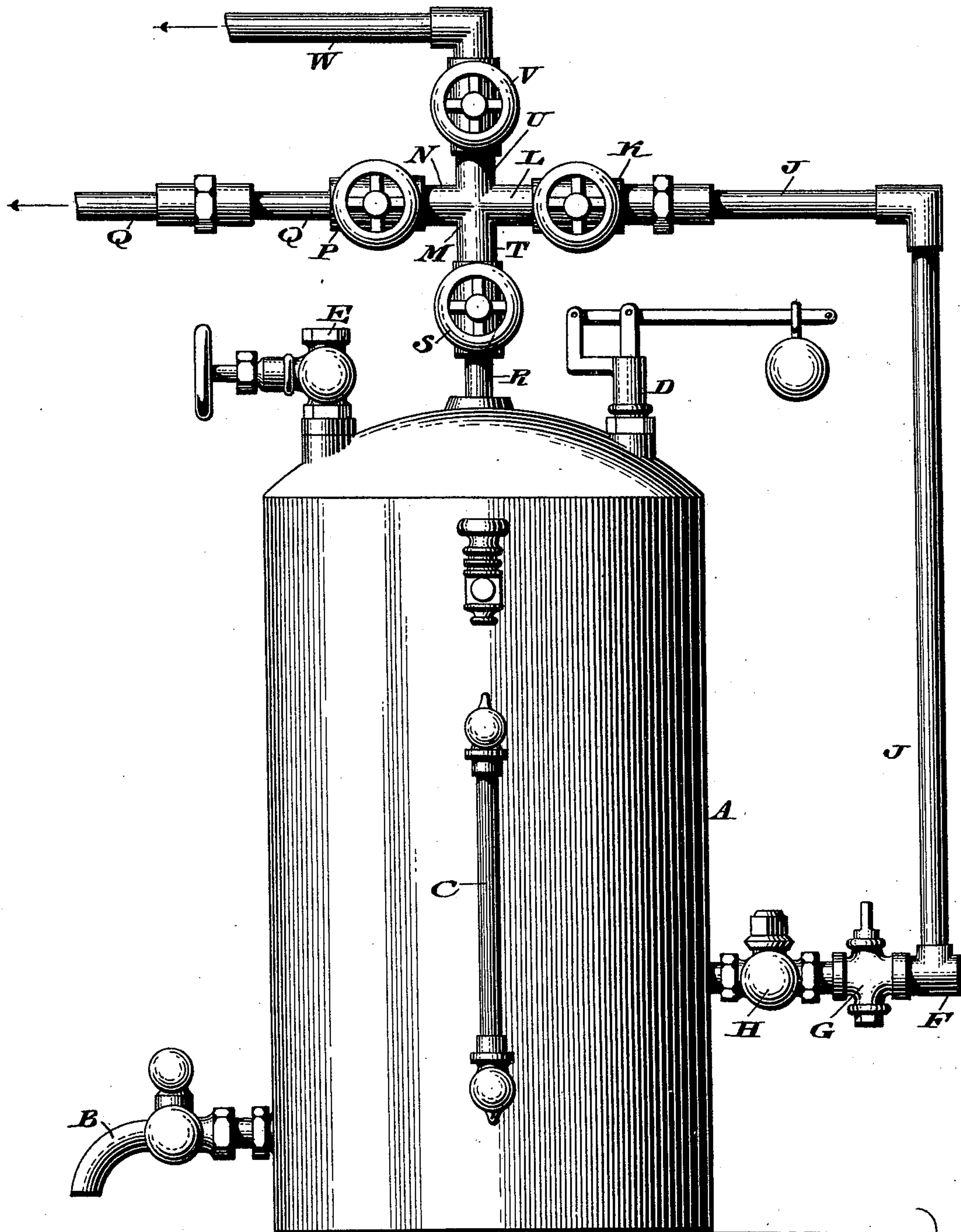


(No Model.)

J. KEANE.  
STEAM BOILER OR GENERATOR.

No. 582,790.

Patented May 18, 1897.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES KEANE, OF PHILADELPHIA, PENNSYLVANIA.

## STEAM BOILER OR GENERATOR.

SPECIFICATION forming part of Letters Patent No. 582,790, dated May 18, 1897.

Application filed January 11, 1897. Serial No. 618,685. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES KEANE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Steam Boilers or Generators, which improvement is fully set forth in the following specification and accompanying drawing.

My invention relates to a novel construction of steam-boiler and devices for conveying feed-water to and for conducting steam, hot water, or fresh water away from the same; and it consists in the novel combination of devices hereinafter referred to, and specifically pointed out in the claims.

The figure represents a side elevation of an apparatus embodying my invention.

Referring to the drawing, A designates a steam-boiler, which may be of the fire-tube or other type and is provided with a blow-off B, a water-gage C, safety-valve D, and steam-outlet E, of the usual construction.

F designates a T or portion of the feed-pipe into which the feed-water is first introduced, said T conducting the feed-water to the cock or valve G and thence through the check-valve H to the interior of the boiler A.

J designates a branch communicating with the T or feed-pipe F and extending upwardly and laterally to the valve K, the latter discharging into the member or branch L of the cross or fitting M, which latter has the member N in substantial alinement with the member L, said member N discharging into the valve P, which latter has an outlet-pipe Q attached thereto.

R designates an outlet-pipe leading from the upper portion of the boiler into the valve S, which latter discharges into the member T of the cross M, the latter having a member U, extending in substantial alinement with said member T, said member U discharging into the valve V, which has an outlet-pipe W attached thereto.

The operation is as follows: When it is desired to feed the boiler, the cock G is opened and the valves K and S are closed, and steam having generated to the desired pressure the same can be conveyed from the boiler through the pipe R to the outlets Q or W by the

proper manipulation of the valves P, S, and V, as will be evident. Should it be desired to feed the boiler from the top, the cock G is closed and also the valves P and V, the valves K and S being open. The outlet E may also be the feed. If it should be desired to use steam issuing from the pipes Q or W for the purpose of cleaning pipes or for any similar or analogous object, the valve K is closed and the valve S opened, the valve V or P being opened or closed according as it is desired to use the pipe Q or W. When it is desired to use fresh water for cleaning, the cock G is closed and the valves S and K opened, and if it is desired to conduct fresh water to the pipe Q the valve P is opened and the valves V and S closed, or if it is desired to conduct water through the pipe W the valve P is closed and the valve V opened. If it is desired to employ a mixture of steam and water to effect the cleaning, the cock G is closed and the valve K opened. If the valve V is closed and the valve S opened, the mixture of steam and water will be conducted through the pipe Q, the valve P being opened, and if it is desired to conduct the mixture of steam and water to the outlet W the valve P is closed and the valves K, S, and V are opened.

It will thus be seen that by my novel arrangement of cocks and pipes I am enabled to feed the boiler at the top or bottom and to also permit the discharge of fresh water alone or the discharge of fresh water and steam combined.

It will further be evident that changes may be made by those skilled in the art which will come within the scope of my invention, and I therefore reserve to myself the right to make such changes as will come within the spirit of my invention.

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

1. The combination of a steam-boiler with a feed-pipe having a cock and check-valve therein, a fitting having the branches N, L, T, valves K, S, connected to said fittings a branch J leading from said feed-pipe to the valve K, a steam-outlet pipe leading from the boiler to the valve S, and an outlet-pipe Q leading from said branch N.

2. In a steam-boiler of the character described, an inlet-pipe F provided with a cock G and a check-valve H, the pipe J leading from said inlet-pipe to the valve K, a cross  
5 M provided with the members or branches L, N, U, T, the outlet-pipe R leading to the valve S which discharges into the branch T, and the outlet-pipes Q and W leading from the branches N and U, and having valves V and P therein.

JAMES KEANE.

Witnesses:

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