C. H. Ford,

Steam-Boiler Water-Feeder,

No. 52,113. Patented Jan. 16, 1866.

Fig. 2.

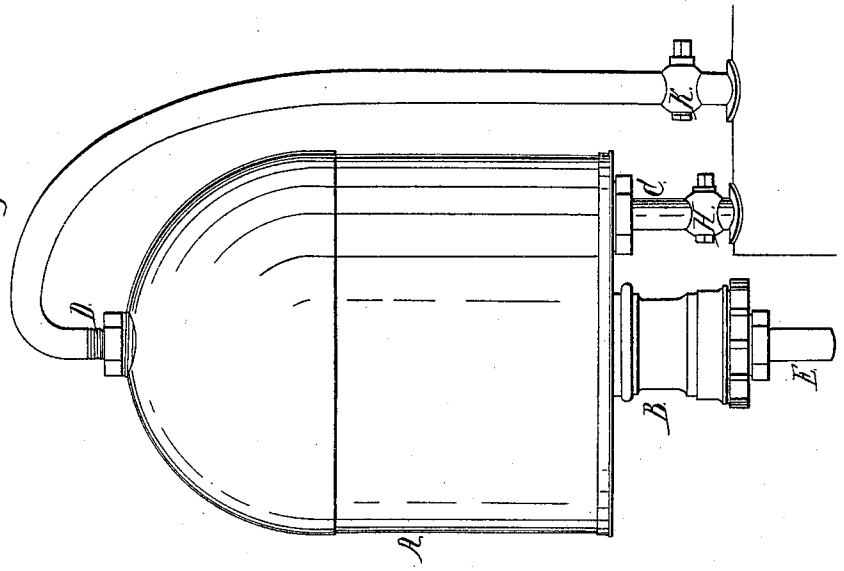
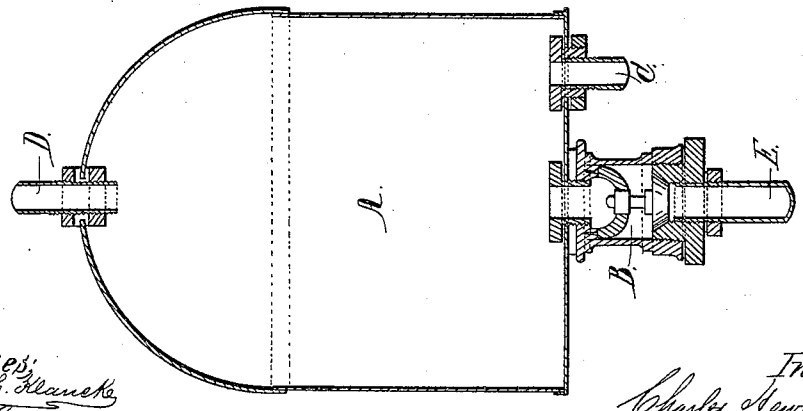


Fig. 1.



Witnesses;
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UNITED STATES PATENT OFFICE.

CHARLES HENRY FORD, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF, HAYWARD HUTCHINSON, JESSE L. HUTCHINSON, AND ELIAS S. HUTCHINSON, OF SAME PLACE.

IMPROVEMENT IN FEED APPARATUS FOR STEAM-GENERATORS.

Specification forming part of Letters Patent No. **52,113**, dated January 16, 1866.

To all whom it may concern:

Be it known that I, CHARLES HENRY FORD, of the city and county of Baltimore, and State of Maryland, have made a new and useful Improvement in Feed-Water Apparatus for Steam-Boilers; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, sufficient to enable one skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a central vertical section. Fig. 2 is an elevation.

The improvement consists of a tight chamber or vessel connected by a valved pipe with a water-supply and by two other pipes with the steam-boiler in such a manner that by the condensation of steam in said chamber water shall be raised and enter thereinto, being subsequently allowed by gravity to find its way into the boiler, when, by the upper and lower steam-pipes, the vessel is placed in communication therewith.

In the drawings, A is a chamber or vessel, which, by the valve-chamber and pipe E, connects with a well, cistern, or other supply. C is a pipe which proceeds to the boiler, and D is a pipe which proceeds from the boiler, and is connected to the chamber at or near its summit, preferably.

The mode of operation is as follows: Steam being admitted into the chamber A by either of the pipes D or C, the communication is then cut off by the closure of the said pipes in any effective and suitable manner. (Shown as two cocks, H K, in the pipes C D, respectively. See Fig. 2.) As the sides of the vessel A become cooled the steam therein becomes condensed, and by the production of a partial vacuum the valve in the chamber B is raised, and water through the pipe E enters the chamber until an equilibrium is established. Steam is then admitted by pipes D and C to the chamber A, and, as the pressure above and below the water is equal, it will by gravitation find its way down the pipe C into the boiler.

The necessary opening and closing of the pipes D C are performed by any appropriate means, such as valves or cocks H K, Fig. 2, which are operated by the moving of the parts of the machinery, or by any automatic device which produces an intermittent action, or by a device brought into play by the lowering of the water in the boiler itself.

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

The arrangement, with the vessel A, of the valved water-pipe E and the steam-pipes D C, proceeding from and to the boiler, and provided with suitable valves, the whole substantially as described and represented, and for the purpose set forth.

CHARLES HENRY FORD.

Witnesses:

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