

W. H. Butler,

Steam Pump.

N^o 53,269.

Patented Mar. 20, 1866

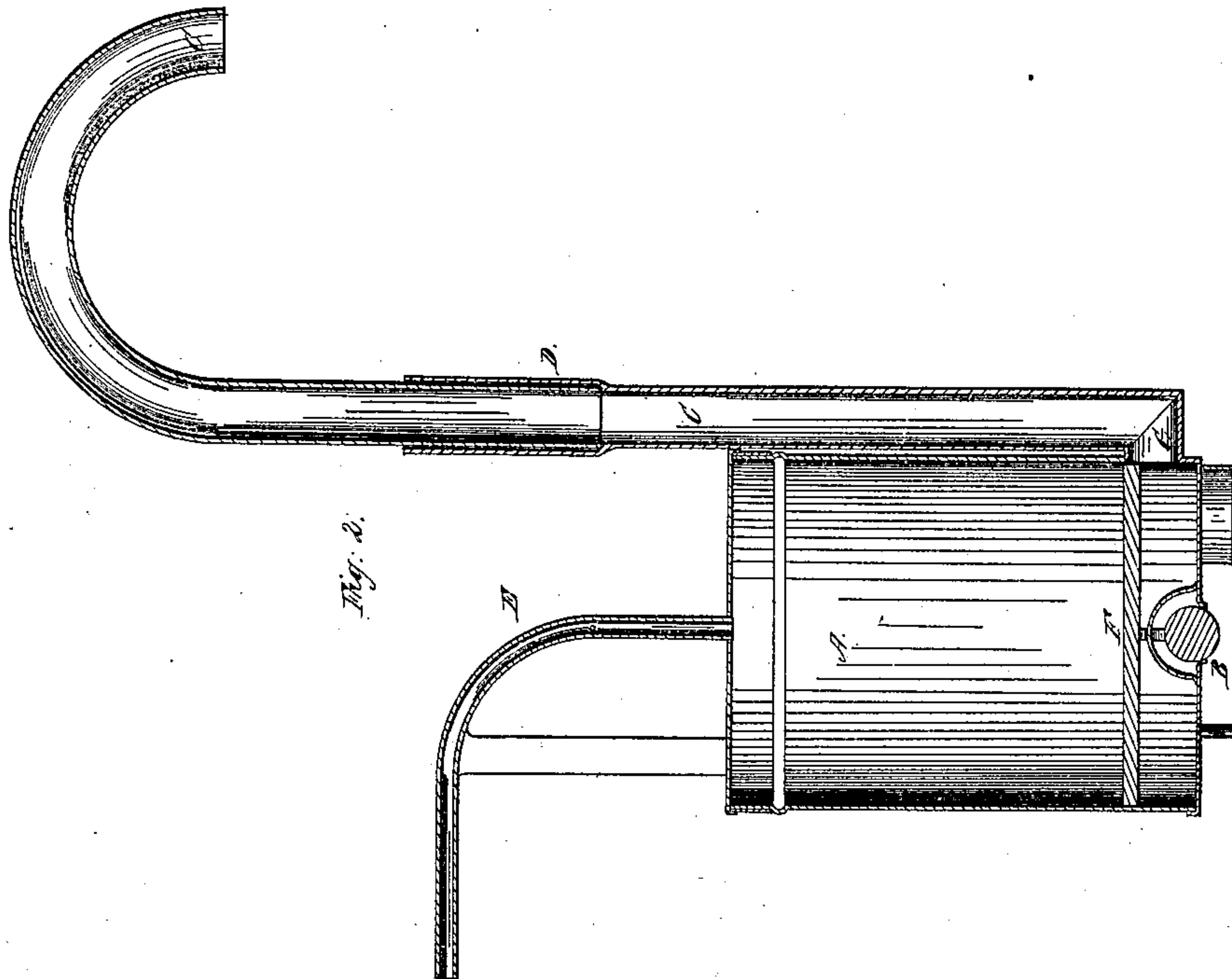


Fig. 2.

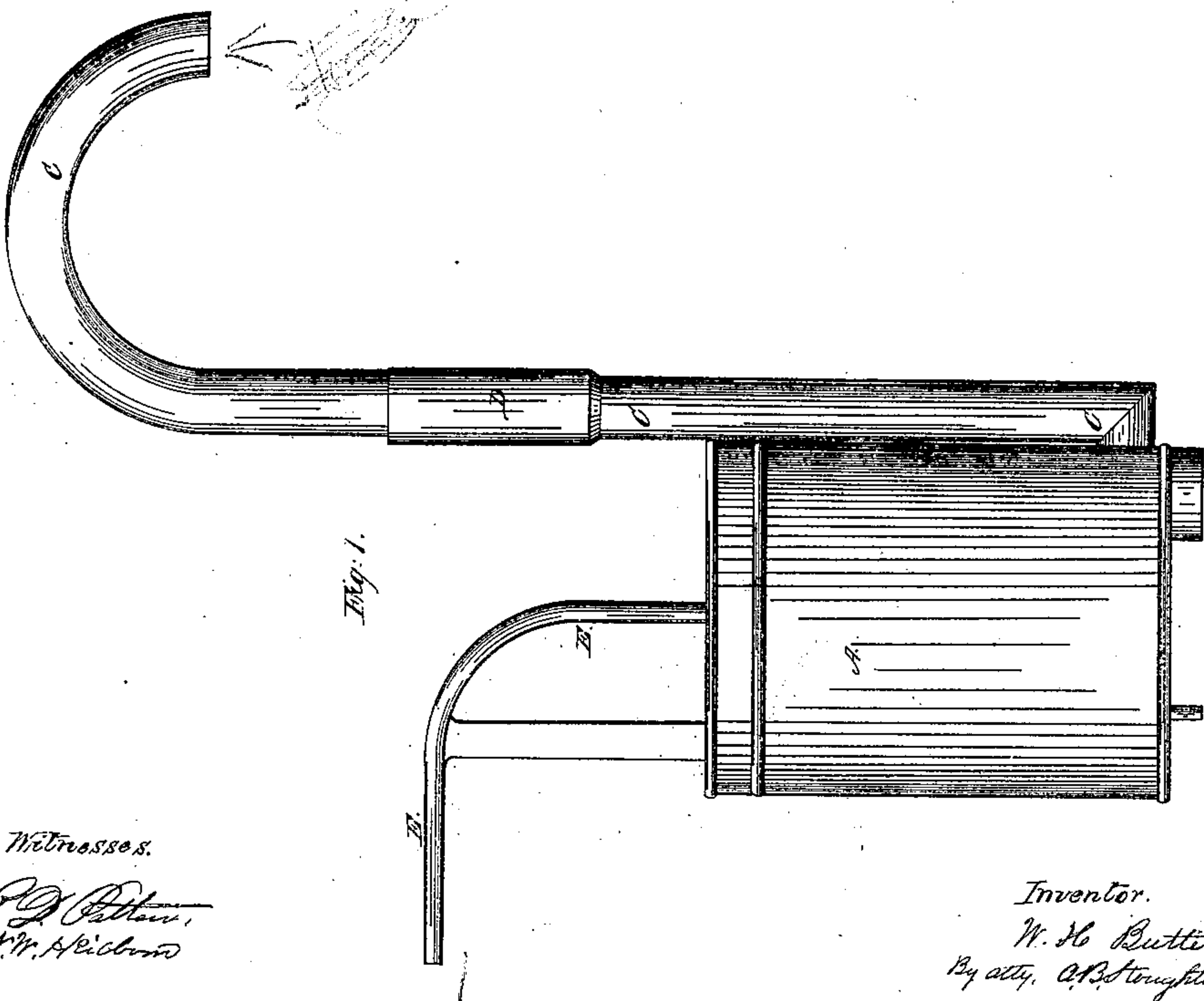


Fig. 1.

Witnesses.

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UNITED STATES PATENT OFFICE.

W. H. BUTLER, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN STEAM-PUMPS FOR RAILROAD-STATIONS.

Specification forming part of Letters Patent No. 53,269, dated March 20, 1866.

To all whom it may concern:

Be it known that I, W. H. BUTLER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Raising Water from Wells for Railroad-Locomotives; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an external view, and Fig. 2 a vertical section, taken through an apparatus designed for the purpose.

My invention consists in an apparatus connected with a well or reservoir of water at a low level, by which and through the steam connected with the boiler of a locomotive the water therefrom may be raised to the tender or to a tank, from which the tender may be supplied with water.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a tank or vessel of any suitable shape or capacity, which is sunk in a well below the surface of the water therein and furnished with a valve, B, at its lower end, which opens inward to admit water into the tank or vessel when there is no pressure therein, and which closes whenever pressure is applied inside of the tank to elevate the water contained in it.

From near the bottom of the tank or vessel a pipe, C, starts, which rises upward and extends to a point over which the tender of the locomotive stands when at a station, said pipe having a turning joint in it, as at D, to adjust it to the delivery-point; or a hose may be connected to the pipe, so as to carry the water to the tender or to a stationary tank or reservoir, whence it may be taken to the tender.

A flexible pipe or hose, E, is connected to the tank or vessel A at its top, which pipe or hose is to be connected with the boiler or steam-chamber of the boiler of a locomotive as it stands upon the track to admit steam into the

top of said tank, and within the tank or vessel there is a float, F, against which the steam acts to drive or force said piston-head against the column of water in the tank, and thus drive or force it out through the pipe C to the tender or tank where it is required.

The advantage of the float F is that it causes a uniform pressure upon the column of water, and also prevents sudden condensation of the steam, which would take place if the steam were brought in immediate contact with the water; and to prevent condensation from the natural temperature of the water surrounding the tank it may be covered both inside and outside with some non-conducting material, as asphaltum, rubber, prepared paper, or felt that may be water-proof.

When the water has been driven out of the tank and the floating piston-head F is down near the bottom and the pipe E disconnected from the boiler, so as to remove the pressure of the steam within the tank, the valve B opens by the external pressure of the water, and the tank immediately fills, the piston-head rising upon top of the inflowing water, and the apparatus is ready for another similar operation. Thus the water necessary for supplying the tenders of the locomotives may be raised up and furnished by the steam from the locomotive-boiler while the locomotive is standing at the station, and with but trifling expense, as the excess of steam is or may be only used in the operation.

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

The arrangement of the floating follower F with the tank A and with reference to the inlet-pipe E, exit-pipe C, and valve B, whereby to supply locomotive-tenders with water at railroad-stations, as herein set forth.

W. H. BUTLER.

Witnesses:

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J. B. SECOR.