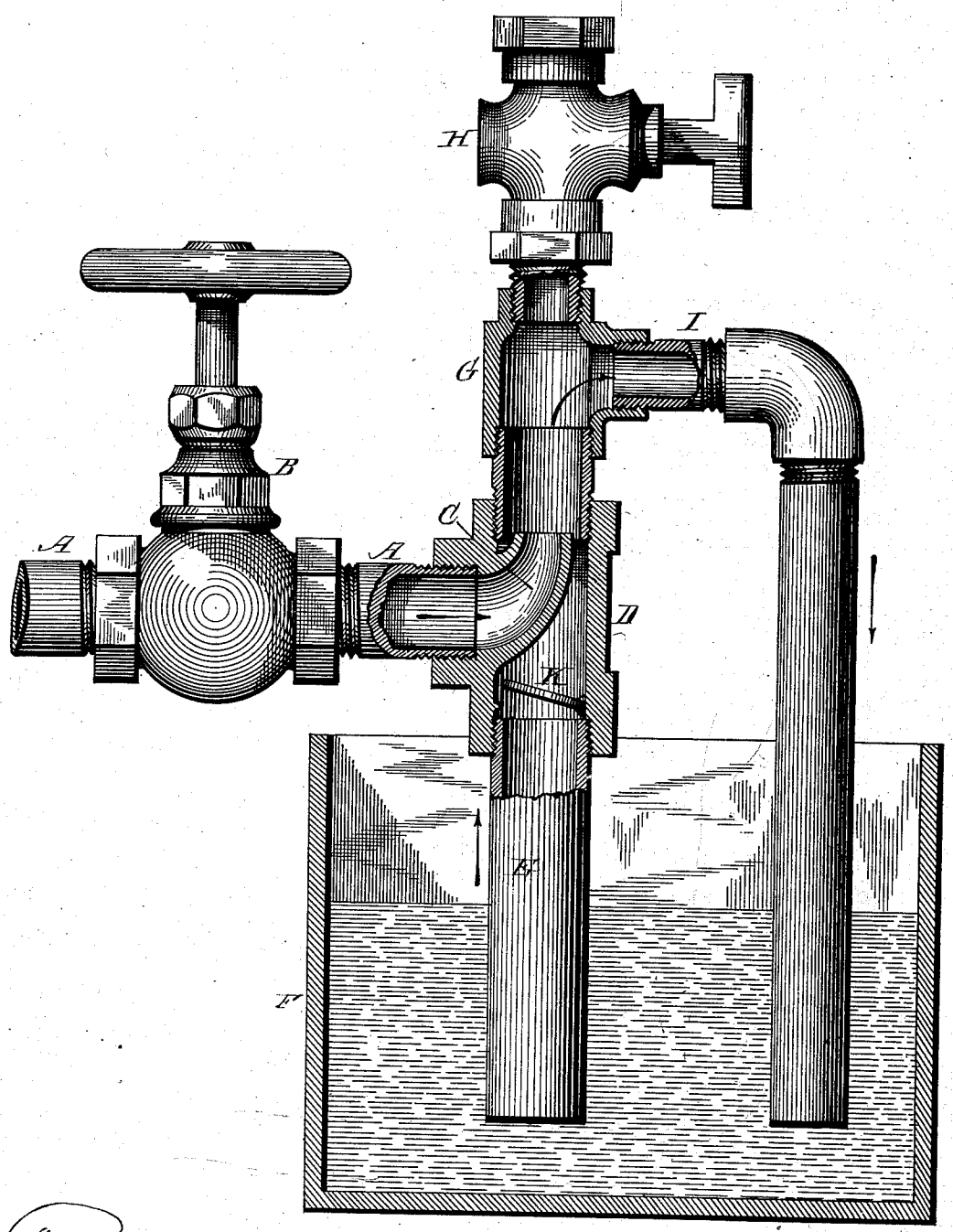
(No Model.)

T. FOULDS.

INJECTOR CONDENSER.

No. 317,110. Patented May 5, 1885.



WITNESSES
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UNITED STATES PATENT OFFICE.

THOMAS FOULDS, OF TREVORTON, PENNSYLVANIA.

INJECTOR-CONDENSER.

SPECIFICATION forming part of Letters Patent No. 317,110, dated May 5, 1885.

Application filed February 17, 1885. (No model.)

To all whom it may concern:

Be it known that I, THOMAS FOULDS, a citizen of the United States, residing at Trevorton, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Injector-Condensers for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

The present invention has relation to that class of injector-condensers in which the exhaust-steam from the engine is condensed by mingling with a circulating body of water that is put in motion by the exhaust-steam; and it consists in certain novel combination and arrangement of parts, which will be hereinafter described, and specifically pointed out in the claim.

The figure of the drawing represents my device partly in section, in which A is the exhaust-pipe leading from the engine, it being provided with a stop-valve, B.

C is an exhaust-nozzle screwed onto the end of the exhaust-pipe, having its end of a reduced area, said nozzle being formed integral with the coupling D, and is curved so that it will discharge the exhaust-steam in line with the axis of the coupling.

To the bottom of the coupling D is screwed the supply-pipe E, which is of sufficient length to descend nearly to the bottom of the water-tank F.

To the top of the coupling D is secured the T-coupling G, the upper orifice thereof being supplied with the starting-cock H, and the side orifice having the discharge-pipe I attached to it, which leads back into the tank, the pipe terminating in the tank about the same distance from the bottom as pipe E, the coupling D being provided with a check-valve, K, which is at a point below the exhaust-nozzle.

The operation is as follows: The valve B and stop-cock H being open, the steam from the engine is permitted to exhaust freely into the open air until the water by the pressure of the atmosphere rises in pipe E above the nozzle of the exhaust-pipe. The stop-cock is then closed and the water made to return by the discharge-pipe I to the tank. The column of water in both pipes being equal, the exhaust-steam meets with no resistance, as is the case when the exhaust-pipe is submerged.

The stop-valve B between the condenser and engine can be used to regulate the flow of exhaust-steam.

The check-valve K prevents the water from returning to the tank when the pipe is once charged and the engine has stopped, so that when it starts again it will not be necessary to open the cock H.

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

In a jet-condenser, the combination of the tank with the supply-pipe provided with exhaust-nozzle, and the discharge-pipe, the supply and discharge pipes being of equal length, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS FOULDS.

Witnesses:
THOMAS CALDWELL,
ABRAHAM ALLYAIER.