N. Puckett.

Steam-Boiler Water-Feeder,

No. 26,374, Patented Dec. 6, 1859.

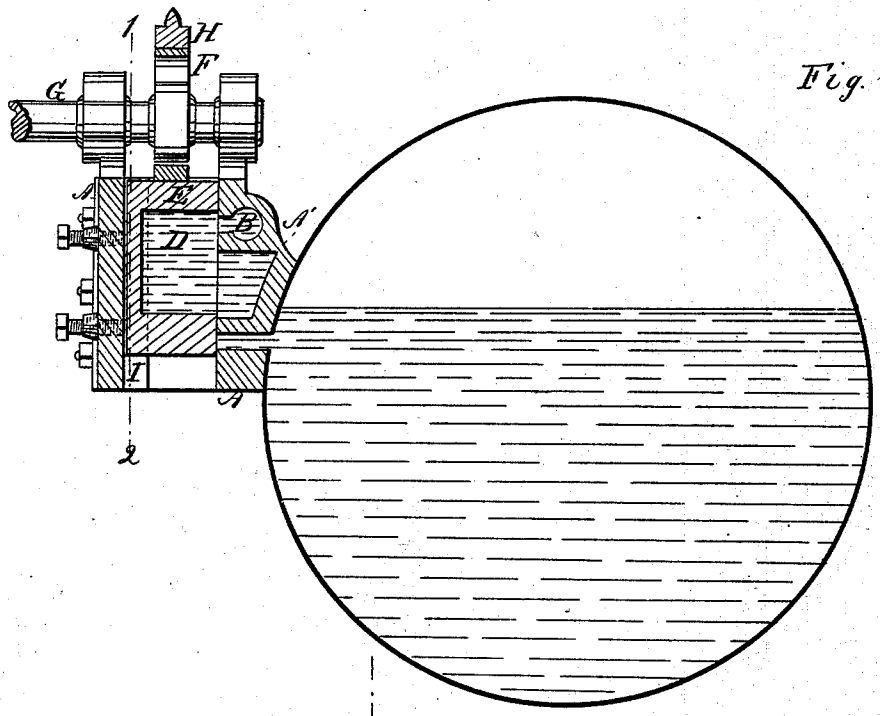

Fig. 1.

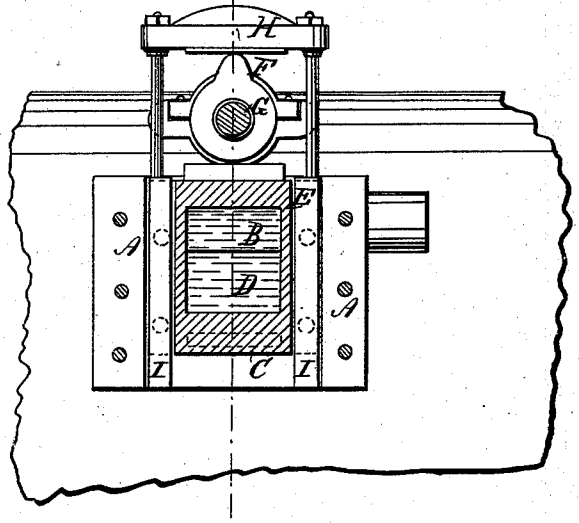

Fig. 2.

Witnesses;
Harmon D Stanley
Moses Puckett

Inventor;
Nathan Puckett

UNITED STATES PATENT OFFICE.

NATHAN PUCKETT, OF DEMING, INDIANA.

BOILER-FEEDING APPARATUS.

Specification of Letters Patent No. 26,374, dated December 6, 1859.

To all whom it may concern:

Be it known that I, NATHAN PUCKETT, of Deming, in the county of Hamilton and State of Indiana, have invented a new and useful Improvement in Boiler-Feeders; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1, is a vertical transverse section through a steam boiler, with the improved feeder attached to its side. Fig. 2, is a vertical longitudinal section through the feeder at the dotted line 1, 2, of Fig. 1.

Similar letters in the figures refer to corresponding parts.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

The valve chest A, is made of a rectangular form open above and below, with a recess A′, formed in the surface against which the face of the valve bears, for increasing the quantity of water conveyed by it. Near the upper end of this chest, and on the ground interior valve surface, is made an oblong opening B, which is situated a short distance above the high water line in the boiler, and communicates through a feed pipe with any suitable formed heater arranged at the proper elevation to cause the water from it to fill the chamber of the valve. Another oblong opening C, corresponding with the opening B, is made near the lower end of the valve chest, which opening communicates with the boiler a short distance above the low water line, and this opening C, and the before mentioned feed opening B, are made to alternately communicate with a chamber or space D, formed in the face of the valve E, which chamber or space communicates with the space or recess A′, at all times, but with only one of the openings B, C, at a time, on account of the difference in the height of the chamber D, with the distance apart of said openings B, C.

The valve E, receives its up and down motion by means of a cam or protuberance F, on the periphery of a hub secured on a horizontal revolving shaft G, turning in suitable boxes secured to the top of the valve chest, which cam or protuberance F, is caused to alternately operate during its revolutions, upon the lower surface of a cross head H, secured by rods at either end to the valve, and the upper surface of a block on the upper end of the said valve E. This up and down motion may however be given the valve by any other equivalent and suitable device.

The valve E, is provided with the usual gibs I, and set screws, for keeping its face firmly against the bearing surface of the valve chest A, and when it reaches its highest point its chamber D, is in full communication with the aperture B, leading to the supply or feed pipe of the heater, which from its superior height fills said chamber D, with water heated to a boiling point, while the lower aperture C, is closed by the body of metal between the chamber, D, and the bottom of the valve E, in which it is formed. Upon the descent of the valve with its chamber D, filled with boiling water the face of the body of metal above closes the aperture B, and the said chamber D, is made to communicate with the water in the boiler, through the aperture C, which of course gives an increased degree of heat to the already highly heated water in the chamber D, to evolve steam which ascends to the top of the same, and allows the water to flow from the chamber D, into the boiler until the surfaces of the water in both are on the same horizontal line. In this manner a constant supply of hot water is furnished the boiler, during the continuance of the operation of the valve E, and the feeder is made self regulating; for should the water rise in the boiler above the high water line, it would be above the top of the chamber D, in the valve when down and consequently the action of the feeder would be suspended. This method of feeding boilers with hot water is not only more economical in fuel, and certain in action than the ordinary system, but it can be operated with much less power.

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

The arrangement of the chamber D, valve E, chest A, and openings B, C, as and for the purpose herein shown and described.

N. PUCKETT.

Witnesses:
A. E. BEACH,
GOODWIN Y. AT LEE.