(No Model.)

J. WAGNER.

STEAM PUMP REGULATOR.

No. 287,069. Patented Oct. 23, 1883.

Fig. 1.

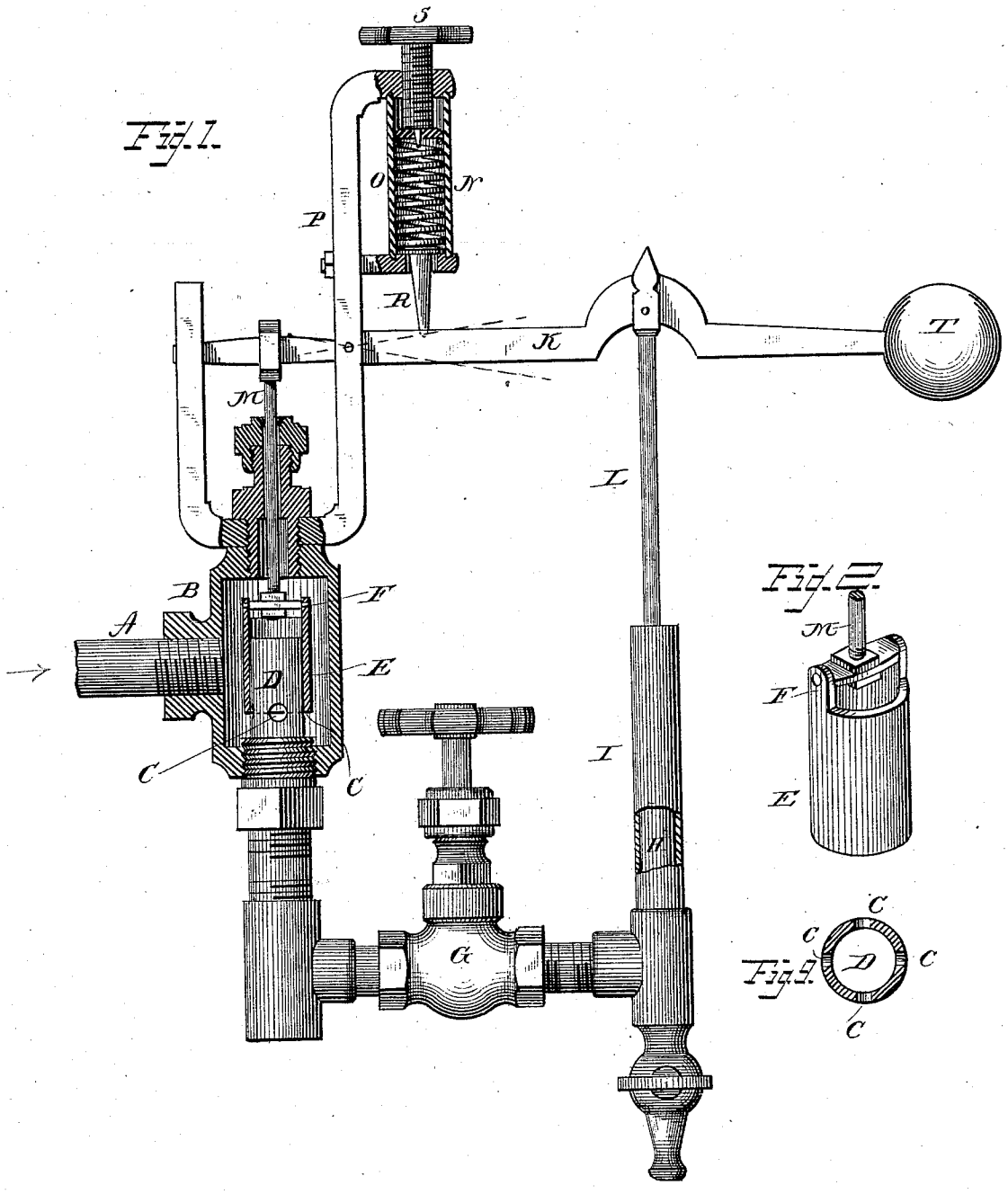


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

JACOB WAGNER, OF PICKERING, MISSOURI.

STEAM-PUMP REGULATOR.

SPECIFICATION forming part of Letters Patent No. 287,069, dated October 23, 1883.

Application filed July 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, JACOB WAGNER, a citizen of the United States, residing at Pickering, in the county of Nodaway and State of Missouri, have invented certain new and useful Improvements in Steam-Pump Regulators; 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.

Figure 1 of the drawings is a side elevation of my invention; Fig. 2, a detail view of the band, and Fig. 3 a cross-section of the steam-pipe through the line of perforations.

This invention relates to certain new and useful improvements in steam-pump regulators, the object thereof being to provide such a device simple in its construction and effective in its operation, to secure a uniform pressure of steam, no matter what may be the resistance of the machinery or the amount in the boiler; and the invention consists in the general construction and arrangement of the several operating parts, as illustrated in the accompanying drawings, and hereinafter more fully described.

In the drawings, A represents a pipe, through which the steam is admitted from a boiler to a reservoir, B, from whence it passes through perforations C into a pipe, D, said perforations being equal in number and equidistant apart to cause an equality of pressure, the pipe D being closed at its top and its upper portion surrounded by a band, E, provided with a bail, F. The steam now passes down the pipe D, on its way to the engine, and when it is desired to regulate the supply a valve, G, is turned, so that the steam may pass through as well as toward said engine. The steam thus passing through the valve G acts upon a plunger, H, to raise the same in its jacket or pipe I, thereby forcing up a lever, K, to which it is connected by a rod, L. As the lever K is forced up it depresses a rod, M, connecting said lever with the bail F upon the band E, thereby forcing said band down to partly inclose the perforations C in the pipe D, so that, if there is a high pressure of steam, the greater said pressure through the valve G upon the plunger H the farther the band E will be closed over the perforations in said pipe D, thus shutting off steam in proportion to the amount of pressure on said plunger.

If there is low pressure of steam, a spring, N, incased in a cylinder, O, acts to force the lever K down, thus raising the band E and enlarging the perforations C in the pipe D, so that the pressure of the steam will remain the same, no matter what the amount may be in the boiler. This spring N is secured between brackets projecting from a standard, P, to which is pivotally connected the lever K, and is secured upon the top of the reservoir B by set-nuts, forming a boxing for the rod M, said spring being provided with a follower, R, which rests upon said lever K, and is controlled by a tension-screw, S, threaded in the upper bracket.

Should the spring N be insufficient to depress the lever, a weight, T, may be secured to the end of said lever to increase the downward pressure; and, indeed, it may be found preferable to always employ this weight.

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

1. The movable band E, having a bail, F, secured to a rod, M, in combination with the pipe D, closed at its top and provided with an even number of perforations equidistant apart, the reservoir B, having secured thereto a bracket, P, and the mechanism for operating said movable band, substantially as shown and described.

2. The lever K, pivotally secured to the standard P, and provided with depending rods L M, the former connecting with the plunger H and the latter with the movable band E, in combination with the spring N, incased between brackets projecting from the standard P, and provided with a follower, R, and tension-screw S, substantially as and for the purpose specified.

3. The reservoir B, provided with an inlet-pipe, A, in combination with the pipe D,

closed at its top and provided with perforations C, the movable band E, valve G, plunger H, rods L M, lever K, having a weight, T, the standard P, provided with projecting brackets, a spring, N, incased between said brackets, follower R, and tension-screw S, all constructed and arranged to operate 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.

his
JACOB × WAGNER.
mark.

Witnesses:
A. G. LUCAS,
J. M. WILFLEY.