

(No Model.)

G. L. ENGELKING.

GAGE COCK AND LOW WATER DETECTOR.

No. 275,175.

Patented Apr. 3, 1883.

Fig. 1.

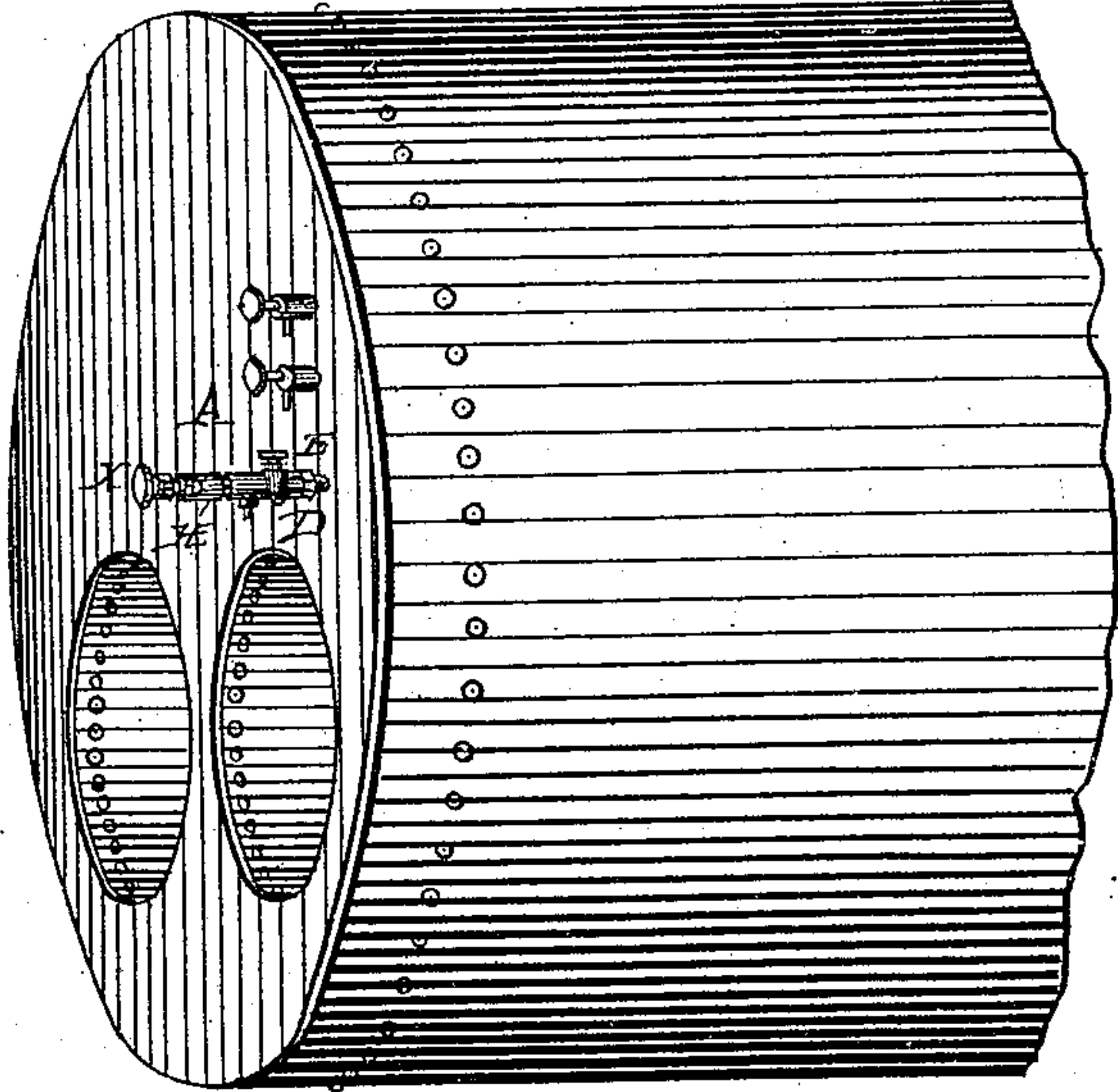


Fig. 2.

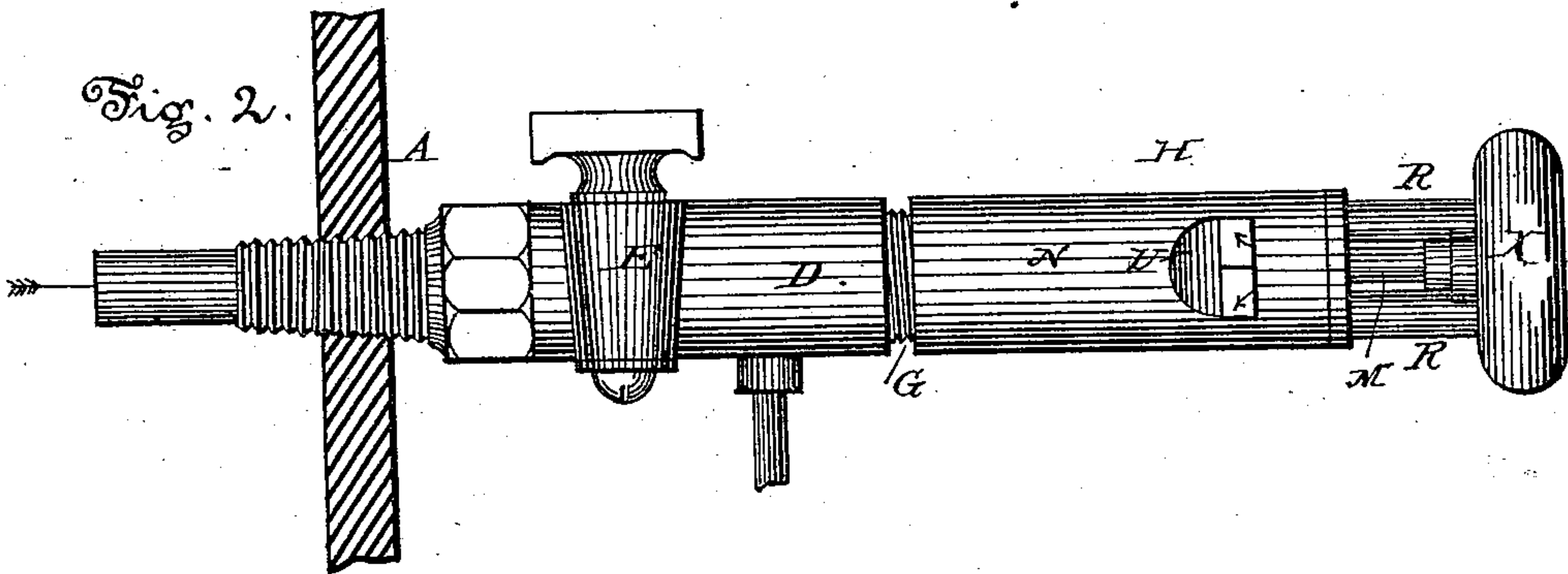
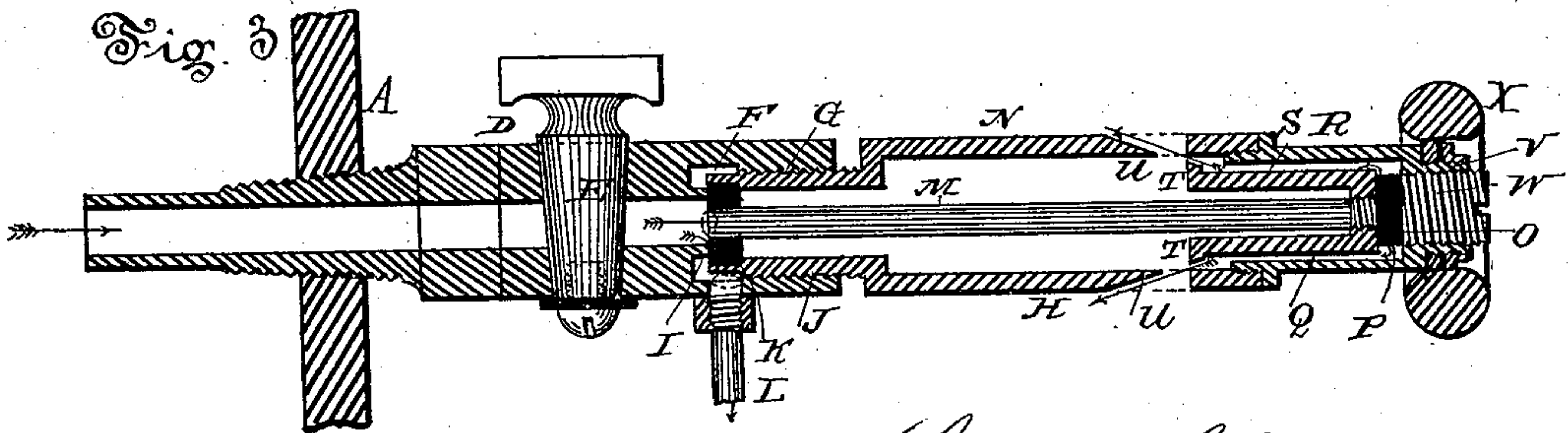


Fig. 3.



WITNESSES:

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INVENTOR,

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UNITED STATES PATENT OFFICE.

GEORGE L. ENGELKING, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR, BY
DIRECT AND MESNE ASSIGNMENTS, TO WILLIAM STARKEY AND GEORGE
E. WILLIAMS, BOTH OF SAME PLACE.

GAGE-COCK AND LOW-WATER DETECTOR.

SPECIFICATION forming part of Letters Patent No. 275,175, dated April 3, 1883.

Application filed January 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. ENGELKING, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain
5 new and useful Improvements in Combined Gage-Cock and Low-Water Detector; and I do hereby declare that the following is a full, clear, and exact description of the invention,
10 which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of the end of
15 a boiler provided with my improved combined gage-cock and low-water detector. Fig. 2 is a side view of the device detached, and Fig. 3 is a longitudinal vertical section of the same.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to combined gage-cocks and low-water detectors; and it consists
25 in the improved construction and combination of parts of a gage-cock provided with a low-water alarm at its outer end, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the boiler-head, and B B the two upper
30 gage-cocks, which may be of any desired construction.

C is the lower gage-cock, which, under normal circumstances, shall emit water when opened. This cock consists of an inner tube,
35 D, which is fastened with its inner screw-threaded portion in the head of the boiler, and provided at the middle with a cock, E, of the usual construction. The outer end of tube D is recessed at F, and the outer portion, G, of this recess is screw-threaded to receive the inner
40 screw-threaded end of the outer portion, H, of the cock containing the alarm. The outer edges, I, of the bore in tube D project into the recess F, forming a seat for the inner recessed screw-threaded end, J, of the outer
45 portion, H, which is provided with a soft-metal seat, K, which bears against the edges I, forming a cock, which may be opened and closed by turning the outer portion of the cock in the same manner as a gage-cock of the usual

construction, the water, which is blown out, 50 passing out by a small pending tube, L. A tube, M, extends through the center of the metal seat K and of the outer casing, N, of the outer portion. This tube bears with its outer end against a plug, O, of metal fusible 55 at a low temperature, which closes an aperture, P, leading into two bent channels, Q, the whole forming a cap, R, screwed into the outer screw-threaded end of casing N. The outer end of tube M is screwed into a cap, S, which forms 60 the inner side of the channels Q, and which is provided with lips T at its inner end, which serve to direct a current of steam when let into channels Q to the lips U of a whistle formed by the outer casing, N. The outer end 65 of cap R forms a short tube, V, having an inner female and outer male screw-thread, into which former a screw-threaded plug, W, is screwed, and upon the latter of which a round handle, X, is secured, by which the outer por- 70 tion, H, is turned.

It will be seen that if the water in the boiler becomes low and stands below the end of the cock the steam will enter tube M, fuse the plug by its heat, and pass out by channels Q, 75 blowing the whistle, thus giving the alarm, while as long time as the water covers the opening to the cock and passes out through tube M it will prevent the plug from fusing. When the plug has been fused another may be 80 inserted by closing the stop-cock E, unscrewing plug W, and inserting a new plug, which again is secured by plug W being screwed against it.

To test the height of water in the boiler the 85 outer portion, H, is screwed out by handle X, admitting of the water being blown out through pipe L.

Having thus described my invention, I claim and desire to secure by Letters Patent of the 90 United States—

1. A combined gage-cock and low-water alarm, consisting of an inner part, forming the seat of the gage-cock, and an outer part, forming the stem and valve in the cock, and pro- 95 vided with a steam-whistle and fusible metal plug, substantially in the manner and for the purpose shown and set forth.

2. In a combined gage-cock and low-water alarm, the combination of the inner portion, D, having valve-seat I, pipe L, and screw-threaded recess G, with the outer portion, H, having
5 inner screw-threaded part, J, provided with soft-metal bearing-surface K, tube M, fusible plug O, and alarm-whistle, and handle X for operating it, as and for the purpose shown and set forth.

10 3. In a combined gage-cock and low-water alarm, the combination of the inner portion, D, having screw-threaded recess G, seat I, and stop-cock E, casing N, provided with two or

more whistle-openings, and having inner screw-threaded end, J, caps R and S, and handle X, 15 tube M, and fusible metal plug O, held in place by screw W, inserted through the end of cap R, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature 20 in presence of two witnesses.

GEORGE L. ENGELKING.

Witnesses:

THOS. LITTLE,
JAS. R. REDMAN.