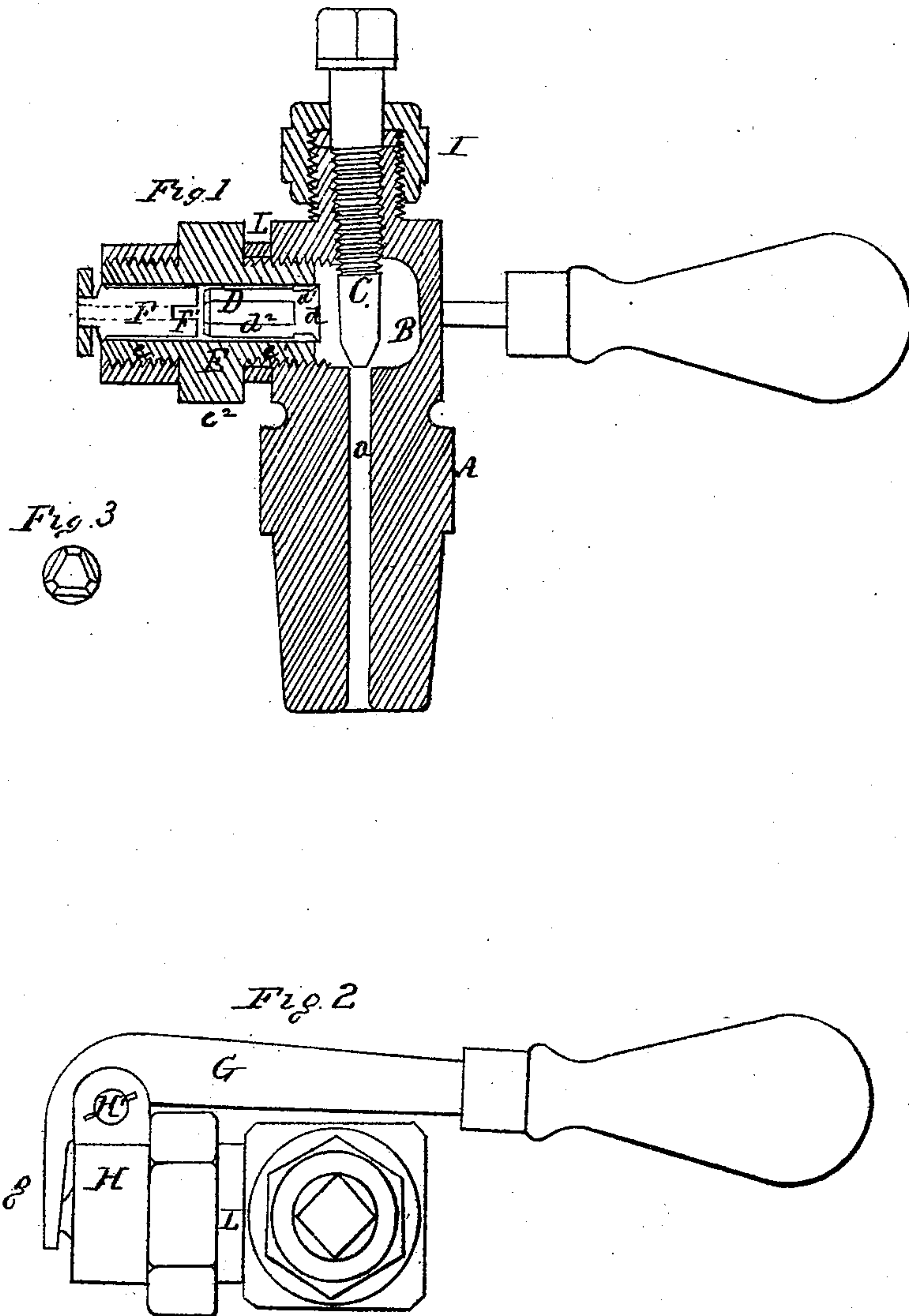


J. F. BELLEMERE & F. R. FLEER.  
Gage-Cocks.

No. 141,104.

Patented July 22, 1873.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN GAGE-COCKS.

Specification forming part of Letters Patent No. **141,104**, dated July 22, 1873; application filed April 22, 1873.

*To all whom it may concern:*

Be it known that we, JOHN F. BELLEMERE and FRANK R. FLEER, of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Gage-Cocks; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Referring to the drawings, Figure 1 is a central longitudinal section of our invention. Fig. 2 is an end view, and Fig. 3 a detail view.

This invention has relation to gage-cocks; and consists in the provision of a reversible seat for the escape-valve, and in the novel construction and arrangement of the latter and the plug in connection with which it operates to permit or prevent the escape of steam, as hereinafter described.

Referring to the accompanying drawing, which illustrates our invention, A is the body or plug, designed to be screwed into the boiler, having a core for the passage of the steam or water at *a*. B is a valve-chamber, and C a screw-plug passing through the same, this plug being designed to close communication, when necessary, between the boiler and valve-chamber. E represents the seat for the valve. This seat is formed with threaded projections *e e*<sup>1</sup> at each end, between which is the annular ridge or flange *e*<sup>2</sup>. The projections or necks *e e*<sup>1</sup> are similar in every respect, so that their relative positions may be reversed when necessary, as hereinafter set forth. D is the valve resting in the seat E. The valve, though formed in one piece, is composed of three parts—namely, the head *d*, which tapers, as shown, to meet the neck *d*<sup>1</sup>, which is rounded and of less diameter than the opening in the seat, and the body *d*<sup>2</sup>, which is nearly triangular in shape, as shown in Fig. 3. The valve D rests upon a hollow plug, F, which is sustained in place, as shown, by the short arm *g* of the lever G, which is fulcrumed at H' to screw-collar H. L designates a collar to prevent the seat E from being screwed too far into the body of the cock. The plug F has a transverse channel, F', cut in its inner end, and communicating with the hollow core of the former. The object of this channel is

or channels at the sides of the valve D and the core of said plug. I is a nut for holding packing for the screw-plug C.

The operation of this gage-cock is as follows: The lever being in the position shown in Fig. 2, the valve is held down by its own gravity and by the pressure from the boiler. On drawing back the lever its short arm will be raised at its inner end, thus elevating the valve and permitting the escape of steam or water through the valve and hollow plug.

Should the valve or seat become disarranged or leaky, the screw-plug C is turned until communication with the boiler is closed. The seat then may be unscrewed, and, should the defect be found to exist therein at the point where the head of the valve impinges, the valve may be withdrawn and the seat reversed.

The advantages of the foregoing construction are, briefly, as follows: The gage-cock, being very simple, may be easily and cheaply manufactured, and will seldom need repairing. Should the valve or seat become defective they may be repaired while the engine is actually in motion, the screw-plug operating to cut off communication. Without this, or an equivalent, the fire would have to be withdrawn, as is frequently done, before the necessary repairing could be attended to. The defect, if any exist, will probably be found in the seat, which may be reversed in a few moments, thus saving the expense and delay incurred in putting out the fires and postponing repair until the pressure has been withdrawn.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, with a gage-cock, of the seat E, constructed substantially as described, so that it may be reversed, for the purpose set forth.

2. In a gage-cock, the valve D, having the collar *d*, neck *d*<sup>1</sup>, and flat sides *d*<sup>2</sup>, in combination with the hollow plug F having a transverse channel in its inner end, substantially as and for the purpose specified.

In testimony that we claim the foregoing we have hereunto set our hands this 17th day of April, 1873.

JOHN F. BELLEMERE.

Witnesses: FRANK R. FLEER.

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