

J. REGESTER & W. H. BOWEN.
Stop-Cocks.

No. 142,350.

Patented September 2, 1873.

Fig. 1

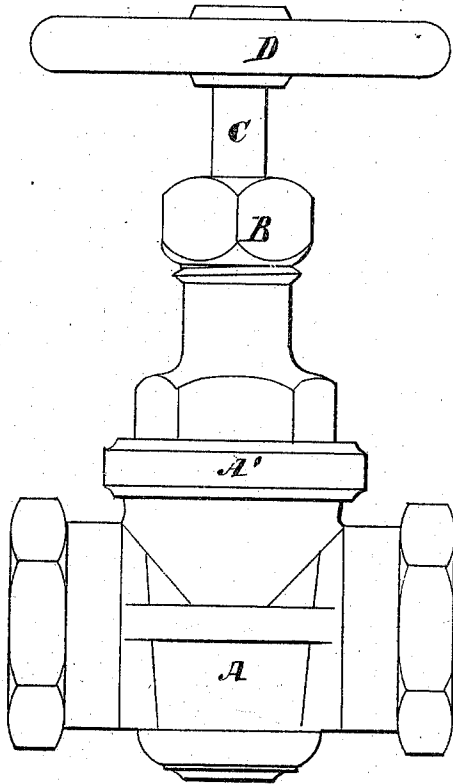


Fig. 2

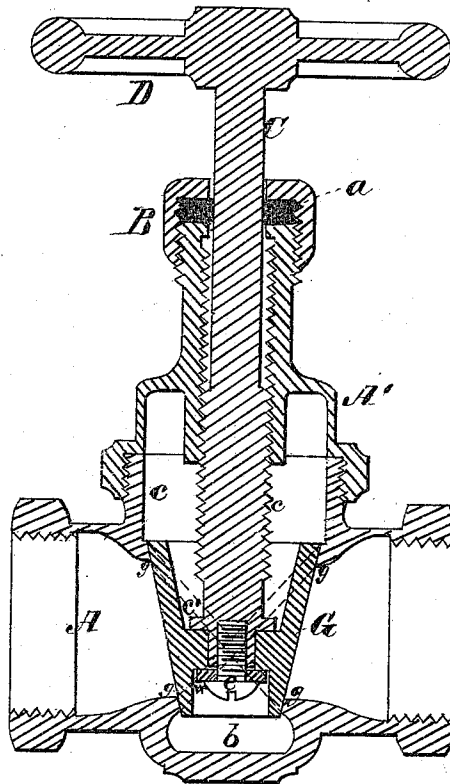


Fig. 3

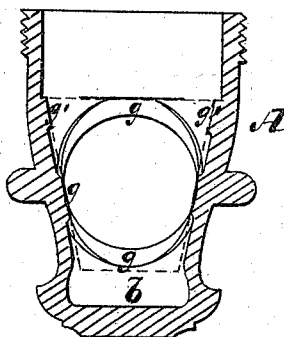
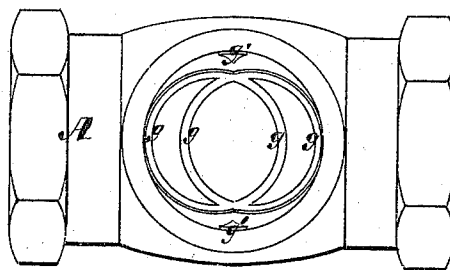


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

JOSHUA REGESTER AND WILLIAM H. BOWEN, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN STOP-COCKS.

Specification forming part of Letters Patent No. **142,350**, dated September 2, 1873; application filed April 11, 1873.

To all whom it may concern:

Be it known that we, JOSHUA REGESTER and WILLIAM H. BOWEN, of the city and county of Baltimore, in the State of Maryland, have invented an Improved Stop-Cock; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is an external view of the improved stop-cock. Fig. 2 is a diametrical section through the same, showing the valve shut. Fig. 3 is a transverse section through the body of the cock, showing the valve-seats. Fig. 4 is a top view of the body of the cock, also showing the valve-seats.

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

Our invention relates to the well-known conical-valve stop-cock; and our improvements in the same consist, first, in forming the passage through the cock with continuous raised rib-bearings for the conical valve, and with gravel or sand chambers between said rib-bearings, whereby the conical valve will always make a perfectly tight joint all around the valve, and every part of its circumference wear away uniformly, and thus the valve caused to maintain its circular form from top to bottom, instead of wearing in ridges, and whereby, further, much friction is avoided, and any sand, grit, or refuse which gets in between the valve and its bearings is readily forced by the valve into the chambers formed by the raised rib seats or bearings; second, in the combination of auxiliary raised seats with the raised oblique elliptical seats and conical valve of the cock, whereby the valve is more certainly crowded home and fitted snugly upon the elliptical seats, as will be hereinafter explained.

In the accompanying drawings, A represents the tubular body of the cock, and A' represents a tubular cap, which is screwed onto the body A, so that the axis of the latter and the cap are exactly at right angles to each other, as shown in Figs. 1 and 2. C represents a valve-stem having a hand-wheel on one end, which stem is tapped through the cap A', and suitably packed at *a*, which packing is confined on the cap A' by means of a nut, B.

The valve G is the frustum of a cone, and is chambered at both ends, and attached to the lower end of the stem C by means of a

screw, *e*, a washer, *w*, and a collar, *c'*. This allows the valve G to turn freely around its stem, and thus present different points of impingement on its seats. Were this valve rigidly secured to its stem the same points of bearing on its seats would be maintained, which would cause the valve to wear unequally and leak.

The valve-seats *g g* represent two ellipses intersecting each other obliquely, as shown in Figs. 2, 3, and 4. The valve-seats *g' g'*, which are diametrically opposite each other, are arranged over the intersections of the oblique seats *g g*, and designed to afford bearings for the valve at said points, so that the valve will always crowd itself home and fit snugly on the seats *g g*. These valve-seats are slightly raised from the inner surface of the body A, so as to present narrow ribs, as shown in Figs. 2, 3, and 4, which will nicely accommodate themselves to the conical surface of the valve, and keep clear of any obstructing matter. Below the valve G is a chamber, *b*, and above the valve is a chamber, *c*. The lower chamber, *b*, allows the valve to be brought down to its seat, and to descend as the seat and valve wear away. The chamber *b* also prevents any slight obstruction interfering with the working of the valve. The upper chamber, *c*, allows the valve G to be raised out of the passage-way through the body A of the cock when it is desired to fully open said passage-way.

Instead of a hand-wheel and screw-stem, a lever and threadless stem may be employed; but for steam-cocks and all heavy cocks we prefer to use the screw-stem, substantially as shown.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The conical valve of the cock A, in combination with the raised oblique elliptical seats *g g* and the chambers formed by said seats, substantially as and for the purpose described.

2. The combination, with the conical valve G and oblique elliptical raised seats *g g*, of the auxiliary raised seats *g' g'*, substantially as and for the purpose described.

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