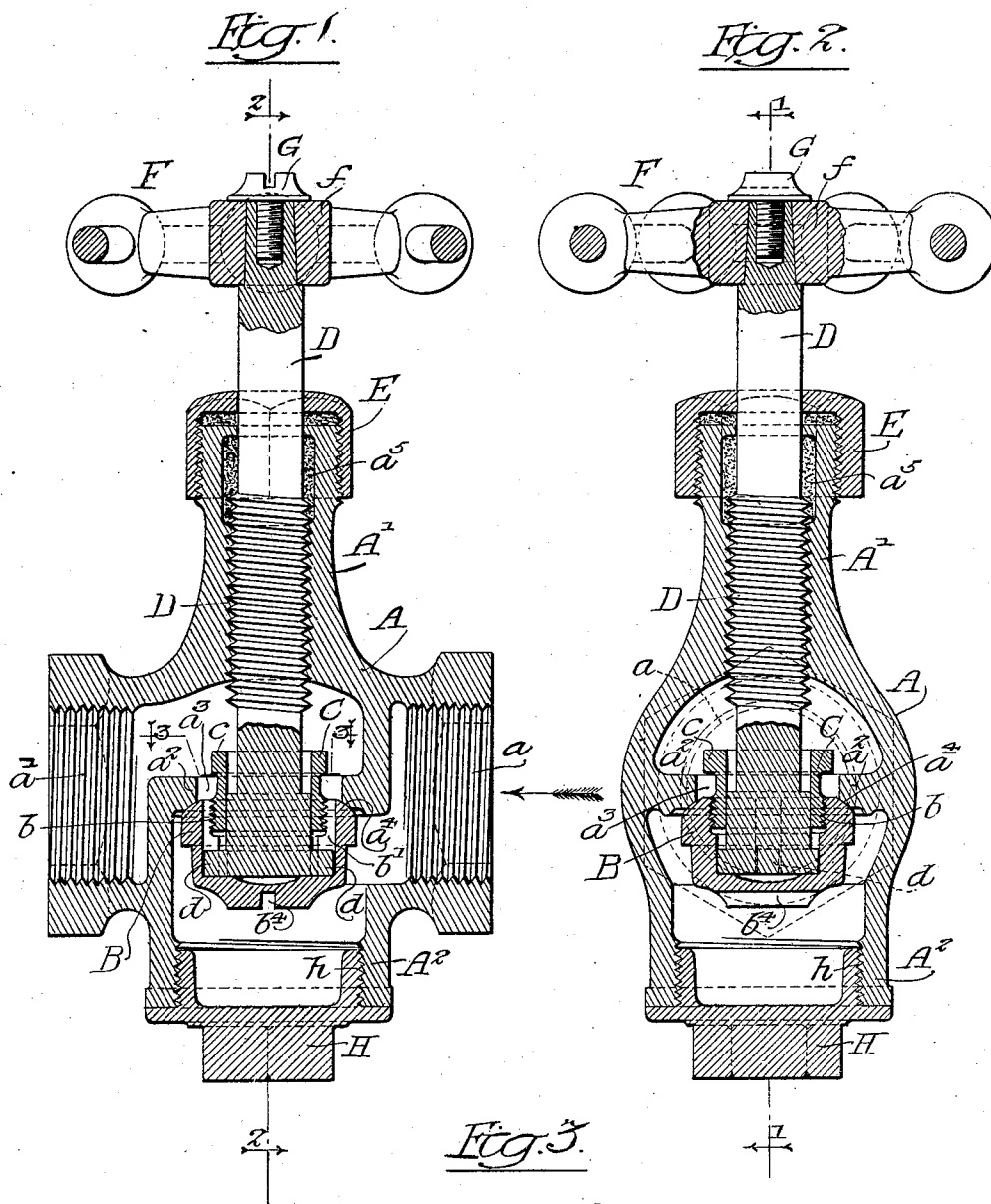


H. GIBBS.
VALVE.

APPLICATION FILED JUNE 11, 1908.

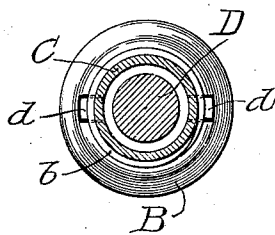
937,931.

Patented Oct. 26, 1909.



Witnesses:-

John H. Whitehead
Frank W. Jones



Inventor:-

Henry Gibbs
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UNITED STATES PATENT OFFICE.

HENRY GIBBS, OF CHICAGO, ILLINOIS.

VALVE.

937,931.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed June 11, 1908. Serial No. 437,806.

To all whom it may concern:

Be it known that I, HENRY GIBBS, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Valves, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention has primarily for its object to provide an improved construction of valve of that type in which provision is made for a grinding action of the valve against its seat, in order to prevent the accumulation of foreign matter, scale, rust or the like, upon the wearing face of the valve or its seat.

The invention consists in the features of novelty hereinafter described, illustrated in the accompanying drawing, and particularly pointed out in the claim at the end of this specification.

Figure 1 is a view in vertical section of a valve embodying my invention. Fig. 2 is a view in vertical section on line 2—2 of Fig. 1. Fig. 3 is a detail view in horizontal section on line 3—3 of Fig. 1.

My invention is shown embodied in a globe-valve and comprises a casing A having the usual inlet port a and outlet port a' . Across the interior of the casing A extends the diaphragm a^2 having an opening a^3 therein for the passage of fluid through the casing. Upon the under side of the diaphragm a^2 and around the opening a^3 is formed the valve seat a^4 adapted to receive the valve B.

As shown, the valve B is chambered and has the upper portion of its interior wall formed with screw threads b adapted to receive the threaded lower portion of a collar C. This collar C loosely encircles the valve stem D, over the upper end of which the collar will be slipped. The lower end of the valve stem D is formed with laterally projecting lugs d that enter vertical grooves b^1 formed in the wall of the chambered valve B. The upper end of the collar C is preferably of polygonal outline to permit the collar to be readily screwed into the upper end of the chambered valve B. When the valve B has been set over the lower end of the valve stem D with the lugs

d extending into the vertical grooves b^1 , 55 and the collar C has been screwed to position as shown, the lower end of the collar C will be at a slight distance above the lugs d of the valve stem, consequently the valve B will be free to move longitudinally of the valve stem to a limited extent, but will at all times be keyed to the valve stem, so as to rotate therewith. 60

The valve casing A has an upwardly extending neck A' that is interiorly screw threaded to receive the correspondingly threaded portion of the valve stem D, and the upper part of the neck A' is chambered, as at a^5 to receive suitable stuffing to guard against leakage at such point. Around the valve stem D and over the upper end of the neck A' of the casing sets a cap E that is intermediately threaded to engage the correspondingly threaded upper end of the neck A'. The upper end of the valve stem D has a reduced portion of polygonal outline over which is set a hub f of the hand wheel F, and a retaining screw G enters the threaded upper end of the valve stem, the broad head of the screw G serving to hold the hand wheel in place upon the valve stem. 70 80

As shown, the lower part of the valve casing is provided with an extension A² that is interiorly threaded to receive the threaded portion h of a plug H, the outer part of this plug H being preferably of polygonal outline to enable the plug to be readily engaged by the wrench. 85

From the foregoing description it will be seen that when the valve B has been placed upon the lower end of the valve stem D, the valve B will have freedom of movement longitudinally of the valve stem to a limited extent, while being keyed to rotate at all times with said stem. When the stem is turned to draw the valve B toward the valve seat a^4 , the pressure of fluid upon the under side of the valve B will cause the valve to close against the seat before the lugs d (in the upward movement of the valve stem) reach the lower end of the collar C. It will therefore be seen that during the last portion of the closing upward movement of the valve stem, the valve B will be rotated by the stem, and as the valve B will at such time be in engagement with the seat a^4 , a grinding of the valve and its seat will be effected. This grinding of the valve B against the seat a^4 90 95 100 105

will effectively serve to prevent the accumulation of scale, rust, sediment, or the like between the valve and its seat, and hence, will insure an accurate seating of the valve.

5 When the valve stem D is turned to open the valve, the valve B will be rotated by the stem D, but will remain against the seat a^4 (because of the fluid pressure beneath it), until
10 the lower end of the valve stem contacts with the bottom of the chamber of the valve B, after which the valve B will be forced away from the seat a^4 .

My present invention provides an exceedingly simple and effective construction of
15 self-grinding valve and one which does not require the presence of springs, which in devices of this kind are highly objectionable. In case it is desired to grind the valve and the valve seat more extensively than would be
20 accomplished in the ordinary operation of the valve stem, the plug H can be removed and by inserting a screw driver or like tool in the notch b^4 at the base of the valve B, the valve

can be rotated back and forth while being forcibly pressed against the valve seat a^4 . 25

Having thus described my invention what I claim as new, is:—

A valve of the character described, comprising a casing having a threaded opening for the valve stem and having inlet and outlet ports and an intermediate valve seat, a
30 chambered valve having one or more channels formed interiorly thereof, a valve stem passing through the valve seat and having one or more projections engaging the chan- 35
nels in said valve in manner permitting the valve to move lengthwise of the stem to a limited extent, and a collar encircling said
valve stem and having its lower end exteriorly screw-threaded to engage the in- 40
teriorly threaded upper portion of the valve.

HENRY GIBBS.

Witnesses:

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