F. L. HURLEY.

GAGE COCK.

APPLICATION FILED APR. 18, 1916.

1,199,894. Patented Oct. 3, 1916.

Fig. 1.

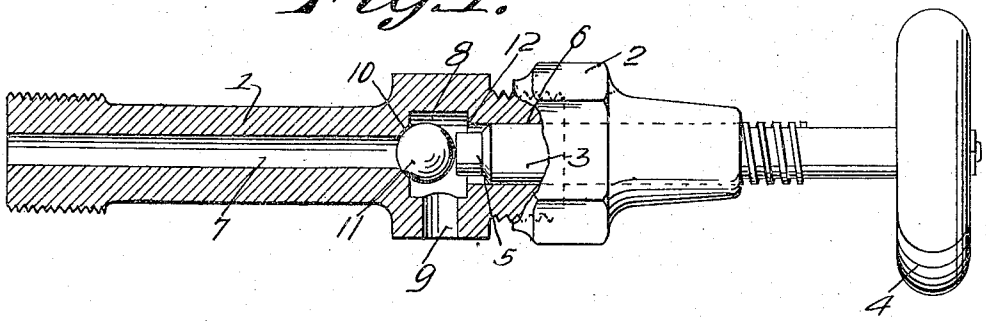


Fig. 2.

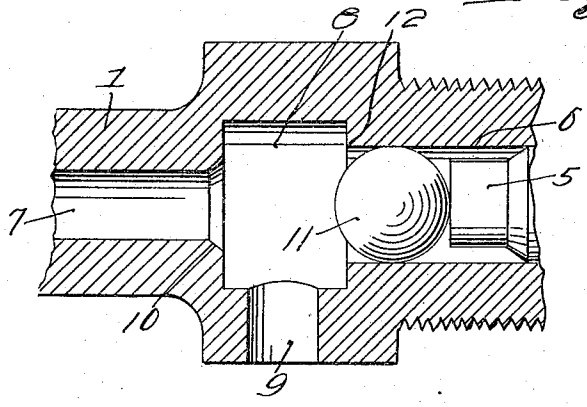
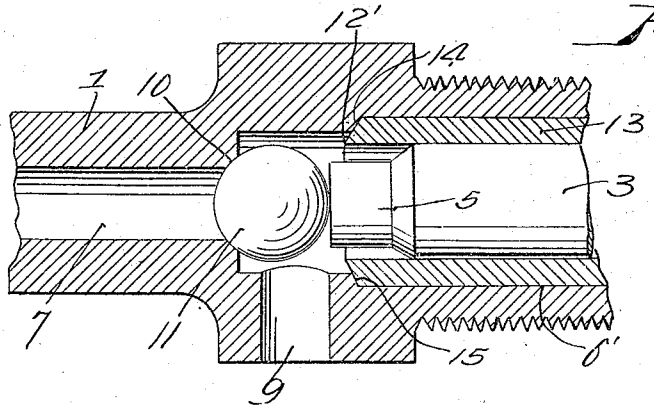


Fig. 3.



Witnesses

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GAGE-COCK.

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To all whom it may concern:

Be it known that I, FRANCIS L. HURLEY, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented a new and useful Gage-Cock, of which the following is a specification.

The present invention appertains to gage cocks, and aims to provide a gage cock of simple and inexpensive construction provided with a ball valve, and simple and efficacious means for cutting or scraping the ball valve when it is unseated, to clean the same, and prevent the accumulation of sediment or foreign matter thereon.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a longitudinal section of the improved gage cock, portions being shown in elevation. Fig. 2 is an enlarged sectional detail illustrating the valve and accompanying parts. Fig. 3 is an enlarged sectional detail showing a modification.

The gage cock embodies a barrel or tubular casing 1 constructed of suitable metal, and having threaded or otherwise engaged upon its outer end a bonnet or cap 2 within which a spindle 3 is threaded, said spindle having a hand wheel 4 at its outer end in order that the spindle can be conveniently rotated. The inner end of the spindle is preferably reduced, as at 5, and the inner terminal of the spindle slides within a longitudinal bore 6 with which the outer end portion of the barrel 1 is provided.

The barrel 1 is provided with a longitudinal bore 7 extending from its inner end to a chamber 8 provided within the barrel between the bores 6 and 7, said bores being in alinement. The barrel 1 has an outlet aperture 9 extending laterally from the chamber 8, and there is a valve seat 10 at the outer end of the bore 7 facing the chamber 8. A ball valve 11 is movable within the chamber 8 and is seatable against the seat 10, whereby when the spindle 3 is threaded inwardly, it will force the valve against its seat.

The cardinal feature of the invention resides in the fact that the bore 6 is of a diameter the same or just slightly greater than the valve 11, whereby the valve in unseating can move into the bore 6, due to the retraction of the spindle 3, and the chamber 8 is of larger diameter than the bore 6 to provide a shoulder between them, which shoulder in turn provides a sharp cutting edge 12 projecting toward the valve, and past which the valve moves in unseating. This provides for a scraping or cutting action upon the valve, to cut or shear any foreign matter therefrom, whereby to keep the valve clean and smooth in order that it can seat properly at all times. When the spindle 3 is retracted, the valve 11 is forced by the pressure of fluid against and past the cutting edge 12, to provide the scraping action, and the ball will be rotated or whirled by the fluid to enhance the scraping action.

As illustrated in Figs. 1 and 2, the cutting edge is integral with the barrel, and can be of different formations.

A modification is depicted in Fig. 3, wherein the member which provides the cutting edge is removable. Thus, the bore 6′ can be larger in diameter than the chamber 8, to provide an outwardly facing shoulder 14, and a removable bushing 13 can be fitted within the bore 6′ so that its inner end seats against the shoulder 14. The inner end of the bushing 13 can be beveled or otherwise formed to provide the cutting edge 12′ to clean the ball valve 11, the bore of said bushing 13 being of a size to snugly receive the valve when it is unseated. This removable bushing 13 can be used in some instances, if desired, and the bushing 13 may be considered a part of the barrel.

Having thus described the invention, what is claimed as new is:

1. A gage cock comprising a barrel having a pair of bores, a chamber therebetween, an outlet extending from said chamber, a valve seat at the end of one bore, and a cutting edge at the end of the other bore adjacent said chamber, and a ball valve within said chamber seatable against said

seat and movable into the second mentioned bore past the cutting edge to be cleaned thereby.

2. A gage cock comprising a barrel having alining bores, a chamber therebetween of larger diameter than said bores, an outlet leading from said chamber, a valve seat at the end of one bore adjacent said chamber, and a cutting edge at the end of the other bore adjacent said chamber, a ball valve within said chamber seatable against said seat, the second mentioned bore being of a size to snugly receive said valve, said valve being movable past said cutting edge to be cleaned thereby, and means within the second mentioned bore for seating the valve.

3. A gage cock comprising a barrel having a bore, a chamber communicating with it, an outlet extending from said chamber, and a valve seat at the end of said bore, a bushing fitted within the barrel, and a ball valve within said chamber seatable against said seat and movable into the bushing, that end of the bushing adjacent said chamber providing a cutting edge for cleaning the ball.

4. A gage cock comprising a barrel having a bore, a chamber communicating therewith, a shoulder adjacent said chamber, an outlet extending from said chamber, and a valve seat at the end of said bore adjacent said chamber, a bushing fitting within the barrel and having one end seating against said shoulder, a ball valve within said chamber and movable snugly into the bushing, said end of the bushing providing a cutting edge for cleaning the ball, and means movable within the bushing to seat the valve.

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

FRANCIS L. HURLEY.

Witnesses:
T. B. PAYNE,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."