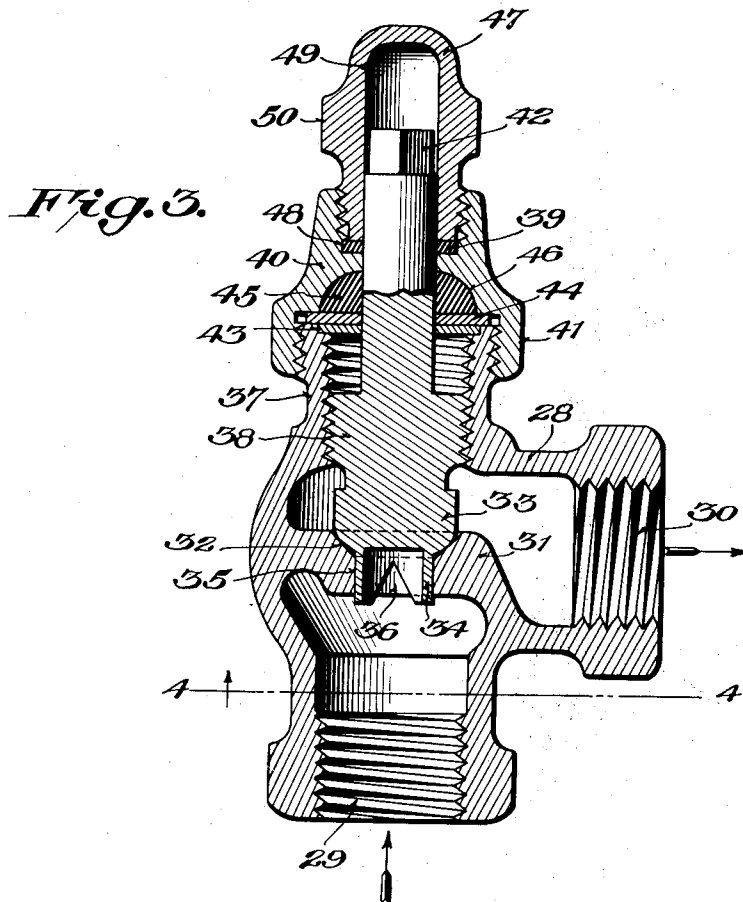
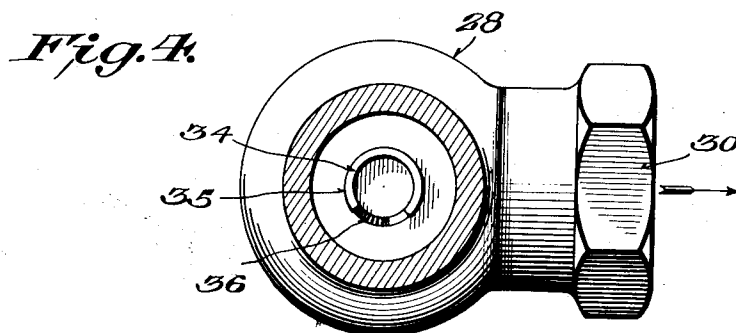


P. MUELLER.
 CAPPED STOPCOCK.
 APPLICATION FILED MAR. 29, 1920.

1,406,060.

Patented Feb. 7, 1922.
 2 SHEETS—SHEET 2.



Witness

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UNITED STATES PATENT OFFICE.

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CAPPED STOPCOCK.

1,406,060.

Specification of Letters Patent.

Patented Feb. 7, 1922.

Application filed March 29, 1920. Serial No. 369,520.

To all whom it may concern:

Be it known that I, PHILIP MUELLER, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented new and useful Improvements in Capped Stopcocks, of which the following is a specification.

The present invention relates to stop cocks for basin supply and other fittings where it is desired to provide an effectual stop by which the water or other fluid passage may be cut off, and the present construction is designed to provide a capped stop cock which cannot be tampered with by unauthorized persons; which will harmonize with the rest of the fitting so far as make up and appearance is concerned; and which is readily accessible for adjustment or repair without the necessity of taking down the line in which it is installed.

In the present construction I have shown it as embodied in a combined regulating and stop cock, but it will be understood that it may be used with a plain stop cock or valve, the regulating feature of the present disclosure not being claimed herein.

In the drawings:

Figure 1 is a longitudinal sectional view of a straight fitting having applied thereto my improved stop cock.

Figure 2 is a view in bottom plan of the stop valve, which, as stated, is of the regulating type.

Figure 3 is a central sectional view of an L fitting having a stop valve applied thereto.

Figure 4 is a bottom view substantially on the line 4-4 of Fig. 3, looking in the direction of the arrow.

Referring to the drawings by numbers, like numbers indicating like parts in the several views, and having reference first to Figures 1 and 2, 10 indicates the fitting, having an inlet 11 and an outlet 12, which are separated by the diaphragm 13', having the valve seat 14, and the valve 15, said valve having a cylindrical extension 16 fitting in a chamber 17 formed in the relatively thick diaphragm or web, which cylindrical extension has the centrally disposed recess 18 with a substantially V-shaped opening 19 in the side wall of the extension 16 to form a stream regulating valve.

The stem 20 of the valve 15 is threaded throughout the major portion of its length

and squared or otherwise formed at its extreme end to receive any suitable valve operating wrench or tool for the purpose of adjusting the valve. The said stem 20 is threaded into a plug 21, which is threaded into the wall of the coupling 10 as shown, a packing 22 being provided which lies within a recess in the fitting 10 and below a suitable compressing shoulder on the plug 21, which fits closely the recess in the fitting so that when the plug 21 is set up, the packing will be compressed and a tight joint formed between the plug and the fitting. The plug 21 is preferably hexagonal or other suitable shape at 23 to give a wrench or tool receiving surface for setting up the plug 21, and also for holding it against accidental displacement during removal of the cap, presently to be described, to give access to the valve stem.

The plug 21 is recessed and interiorly screw threaded as shown in Fig. 1, and is counterbored to form a packing seat to receive a packing 24, and within said recessed plug is mounted the cap 25, which is in threaded engagement with the inner wall of the plug 21, and the lower end of which engages the packing 24 so as to give a tight joint between the cap and the plug. The cap 25 is of sufficient length to provide a stem receiving chamber 26 which will permit the valve and valve stem to be moved through its range of adjustment from full open to full closed, and is provided at 27 with a hexagonally or other suitably shaped surface to receive a wrench or other tool by which the cap may be set up in or loosened from the plug 21.

In Fig. 3, the L fitting 28 has the inlet 29, and the outlet 30, with the dividing diaphragm or web 31 between them. Said web has the valve seat 32 and the valve 33 adapted to engage that seat, said valve 33 having the hollow or recessed extension 34 extending into the chamber 35 in the web or diaphragm 31, the wall of this hollow extension being cut away at 36 to provide a substantially V-shaped opening by means of which, in the manner heretofore described, the flow through the valve may be regulated.

The fitting 28 has an internally threaded extension 37, within and in threaded engagement with which is an enlarged section 38 of the valve body from which the valve stem 39 extends upwardly through a packed

fitting cap 40, which is screw threaded to the outside of the extension 37, and has a hexagonally or other suitably formed portion 41 to receive a wrench or other suitable tool for setting up or taking off the cap, and the upper end 42 of the valve stem is square, hexagonal, or otherwise suitably formed to receive a wrench or tool for adjusting the valve relative to its seat for regulation or for closing it to cut off flow entirely.

The valve stem is packed to prevent leakage by means of a brass or other suitable metal washer 43, mounted in a counterbore in the end of the extension 37, with a washer 44 of fiber or other suitable material overlying the first named washer 43, and the end of the extension 37, as shown in Fig. 3, and within a recess formed in the extension cap 40. Above the washer 44 and within a recess 45, the walls of which preferably converge upwardly and inwardly toward the stem, is placed a packing 46 of any suitable material, but preferably material which will be susceptible of being tightly compressed under pressure when the parts are assembled so that it will hug closely the stem 39 and form a sealed joint together with the washers 43 and 44.

The extension cap 40 is recessed and internally threaded to receive a cap 47, which cap fits closely the stem 39 of the valve and seats upon a packing 48 within the recess in the top of the cap 40. The cap 47 is of sufficient length to give a stem receiving chamber 49, which will permit adjustment of the stem and valve through its entire range of movement, and at 50 the cap is provided with a hexagonally or other suitably formed surface to receive a wrench or tool for setting it up or removing it from its seat.

With the construction shown, a cut off or stop cock is provided which may be readily applied to fittings of different types and an efficient means of interrupting flow through the fitting provided, all danger of leakage being eliminated, and the construction is such that the stem cap may be removed for adjustment or closing of the valve without danger of loosening the valve supporting plug from the fitting, which trouble has been found with certain cut off or stop valves now known to me.

This last named result is secured without sacrificing compactness of construction and assembly, by mounting the stem covering cap in the stem carrying plug, for by so doing the plug may be provided with a wrench receiving surface, and when the cap is removed the plug may be held by a second

wrench, and danger of starting the plug from its seat in removing the cap is eliminated. It will be understood that in fittings of this type, the cap is set up with a considerable force, as by means of a wrench, so that unauthorized or mischievous persons may not readily unscrew it, and tamper with the valve, and one difficulty has been with devices heretofore known to me that upon attempting to turn off the cap the plug would be started from its seat and leakage occur.

This has resulted where the cap has been threaded over the plug instead of within it, as in the present invention, and obviously where the cap is threaded outside of the plug no wrench receiving surface to maintain the plug in fixed position could be provided unless the plug were unduly lengthened so as to give not only an exterior threaded area to receive the cap, but also a tool or wrench receiving area to receive the wrench, and this would be not only expensive but would result in a cumbersome and unsightly fitting. By the simple expedient of arranging the plug and the cap as herein shown, I secure a structure in which danger of loosening the plug is entirely eliminated and yet without sacrificing the compactness of the fitting.

It will be understood that this disclosure is merely illustrative and that such mechanical variations and expedients as are obvious equivalents so far as function and result are concerned, are to be regarded as within the range of my invention.

I claim:

1. The combination with a fitting having an orifice in its wall, of a shouldered recess, surrounding said orifice, a packing in said recess, a plug having its end threaded in said orifice and its body seated in said recess, said body having a threaded chamber thereon, a valve in said fitting having a stem projecting through and threaded in said body, and a closure cap threaded to said body to enclose said stem.

2. The combination with a fitting having an orifice in its wall, of a shouldered recess surrounding said orifice, a packing in said recess, a plug having its end threaded in said orifice and its body seated in said recess said body having an interiorly threaded chamber and a counterbored recess at its bottom, a packing in said recess, a valve in said fitting, a valve stem projecting through and threaded in said body, and a chambered closure cap threaded in said body and engaging said counterbored recess to enclose said stem.

In testimony whereof I have hereunto set my hand.

PHILIP MUELLER.