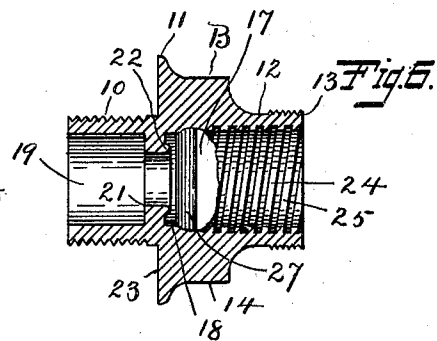
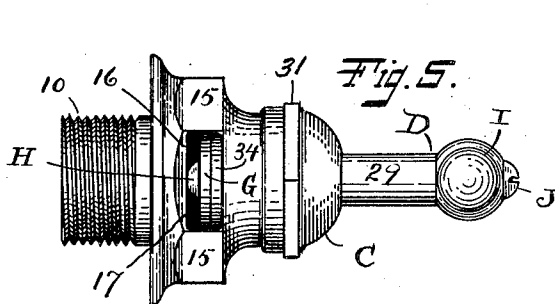
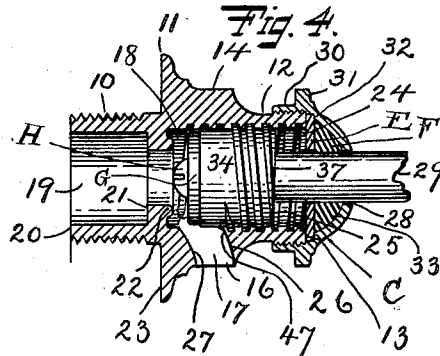
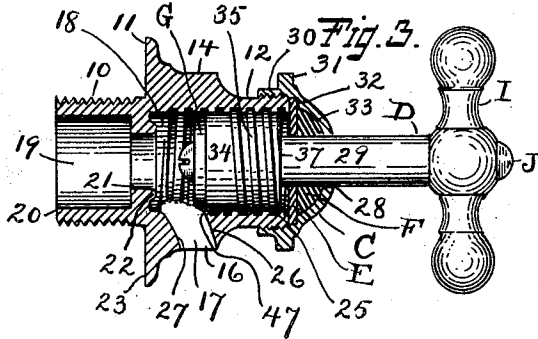
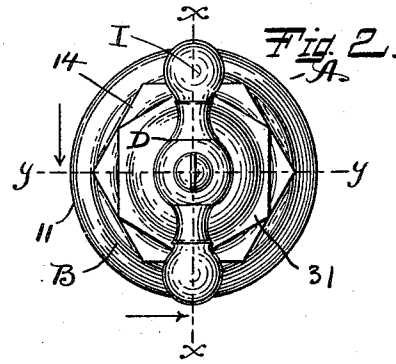
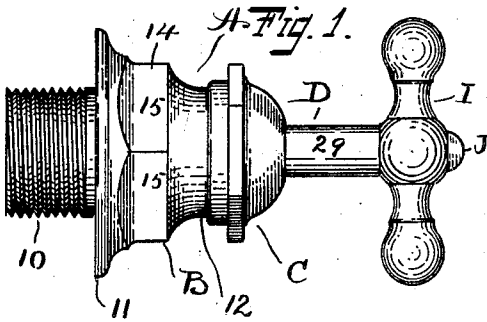


T. F. FLANNERY.
STUB COCK.
APPLICATION FILED SEPT. 18, 1911.

1,057,337.

Patented Mar. 25, 1913.



Witnesses:-

S. H. Clark.
N. L. Lockwood.

Inventor

Thomas F. Flannery.

By Louis M. Schmidt.
Atty.

UNITED STATES PATENT OFFICE.

THOMAS F. FLANNERY, OF NEW BRITAIN, CONNECTICUT.

STUB-COCK.

1,057,337.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed September 18, 1911. Serial No. 649,941.

To all whom it may concern:

Be it known that I, THOMAS F. FLANNERY, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Stub-Cocks, of which the following is a specification.

My invention relates to improvements in stub-cocks, and particularly the type suitable for use with set tubs; and the objects of my improvements are simplicity and economy in construction and convenience and efficiency in use.

In the accompanying drawing, Figure 1 is a side elevation of my stub cock. Fig. 2 is an end view of the same. Fig. 3 is a sectional view of the same on the line $x x$ of Fig. 2. Fig. 4 is a similar view of the same with the valve partly closed. Fig. 5 is a bottom view of the same. Fig. 6 is a sectional view of the body on the line $y y$ of Fig. 2.

A is my improved stub cock and comprises a body member B, and a cap therefor, C, which combine to house the valve end of a valve member D. The said body member B comprises on the exterior and at the rear end a cylindrical neck or nipple 10, which may be threaded or finished in some special manner to provide means for attachment to the pipe system of the tub, and adjacent the said neck is an enlarged annular flange 11 constituting a base suitable for bearing against the face of the wall of the tub. At the front end the said body member B is also in the form of a neck or head 12 that is threaded on the exterior and has the extreme front end 13 finished off suitably for a packing washer seat. Intermediate the said ends 10 and 12 and adjacent the said base 11 the said body member B is provided with a polygonal wrench-receiving portion or wrench body 14, which may be hexagonal in formation as shown and has flat sides 15. One of the sides 15 of the said wrench body 14 is partly cut out to form a mouth 16 for a discharge outlet 17 leading from the interior 18 of the body member B. As shown the said mouth 16 of the outlet 17 corresponds generally in shape to the said side 15 and is of slightly less area than the same, being of an elongated rectangular shape. In other words there is enough left of the side 15 to leave walls sufficient to provide the proper outline of the side of the wrench

body 14 and otherwise the space of the said side wall 15 is utilized for the mouth or opening 16.

The interior 18 of the body member B comprises an axial bore, which at the rear or nipple end 10 is suitable for a water inlet 19. The said inlet 19 extends forwardly from the extreme rear end 20 and is limited by an annular wall 21. The said wall 21 comprises at the front end a valve seat 22, which may as shown be in the form of a ring having a convex formation. The length of the said inlet 19 and thickness of the wall 21 and valve seat 22 are such that the said valve seat 22 will be located approximately in the plane of the rear face 23 of the base 11 and an appreciable distance rearwardly from the mouth 16 of the outlet 17. The portion 24 of the said interior 18 forward of the said valve seat 22 has a cylindrical formation throughout its length and is of slightly larger diameter than the valve seat 22 and is provided for essentially the entire length with a screw thread 25. The side wall of the said body member B is pierced by the said outlet 17 which extends from adjacent the said valve seat 22 to the said mouth 16 and is accordingly generally inclined forwardly and may be slightly curved as shown. The general shape and cross-section of the mouth 16 is maintained throughout the length of the outlet or channel 17 within the body member B, and the front side 26 of the channel 17 is generally parallel and concentric with the rear side 27 of the same. Accordingly, the said front side 26 meets the side of the cylindrical portion 24 at an angle, as shown at 47. The said cap C comprises a dome-shaped structure of ordinary type, provided with a hole 28 in the apex of the front wall that is a fit for the shank 29 of the valve member D, and at the rear end has a cylindrical flange 30 that is interiorly threaded to correspond with the threaded exterior portion of the head 12. On the outside a portion of the said flange is hexagonal, as shown at 31 to engage a wrench. Intermediate the ends of the cap C and on the interior thereof is a seat 32 suitable for engaging a packing washer E and a dome-shaped housing 33 for a packing piece F. The packing washer E is made of some firm material, such as fiber, and the packing piece F is made of flexible rubber, and both of these have axial holes that fit the said shank 29. The said valve

member D comprises at one end a valve plug 34 that is cylindrical in formation and is a close fit for the said cylindrical portion 24 of the interior 18 of the valve body member B and is provided on the exterior with a screw thread 35 that is an operative fit for the screw thread 25 of the cylindrical portion 24.

The extreme inner end 36 of the valve plug 34 is finished off to receive a valve proper G, which as shown is a washer, secured to the plug 34 by a screw H and is suitable for engaging with the valve seat 22. The shank 29 extends axially forward from the said plug 34 and is provided at the front end with a handle I that is removably secured to the shank 29 by a screw J.

The length of the plug 34 is made essentially equal to the distance from the seat 13 to the outlet passage 17 along the cylindrical interior portion 24 of the valve body B.

In assembling my cock, the washer E, packing piece F, and cap C are mounted on the shank 29, the handle I secured thereto, and the plug 34 is screwed into the cylindrical portion 24 until the front 37 thereof is clear of the packing washer seat 13, and then the cap C is screwed in place, securing the packing washer E in position on the seat 13. If the plug 34 is then unscrewed all that is permitted and until the same abuts against the packing washer E, the said plug will fill the said interior portion 24 from the said washer E to the outlet passage 17. In other words, the front end of the interior 18, between the outlet passage 17 and the washer E, constitutes a plug-receiving chamber that is filled by the plug 34 when the valve is fully open. Accordingly, there is no chance in any of the positions of the valve plug for the water to pass around the sides of the same and thereby form eddies, and break up the flow from the outlet. The result is that the stream forced through the outlet 17 and mouth 16 will be solid under all conditions of opening of the valve or cock, and because of the inclined or curved formation of the outlet the stream will be directed away from the wall to which the cock may be attached. Furthermore, the stream-directing means are entirely inclosed within the body of the cock, the hexagonal formation of the wrench body is undisturbed, and one of the sides of the hexagonal wrench body is utilized as the mouth of the outlet.

While means are provided as described for providing a solid and outwardly directed stream, it will be noted that from the exterior no means are disclosed for so doing, and the entire structure is symmetrical from beginning to end so far as the strictly exterior appearance is concerned, and as stated, these features are provided by means that permit access fully and freely of a

wrench to the wrench body. In other words, in the construction provided, the outlet is provided in one of the sides of the wrench body, and in the normal operations of the wrench in engagement with the said body the said mouth may or may not be covered by the said wrench and the operations of the wrench are not affected by the fact that the said outlet is so located in the wrench body as described.

I claim as my invention:—

1. A cock having a body provided with an axial bore, the inner end of the said bore serving as a water inlet, a valve seat adjacent the said water inlet, and the portion of the said bore outwardly from the said valve seat serving as a housing for a valve plug and permitting limited axial movement therein of the said plug, the inner portion of the said housing adjacent the said valve seat serving alternatively as a housing for the said plug when the said valve is in the closed position and as a water chamber when the said plug is moved axially away from the said seat and the valve is in the open position, and the said body symmetrical and provided with a wrench receiving portion, having flat sides, and with an outlet passage extending from the said water chamber through the side wall and having the mouth in one of the said flat sides of the wrench receiving portion and the said mouth essentially co-extensive with the said flat side of the wrench receiving portion.

2. A valve having a valve casing provided with a seat and having a space extending outwardly from the said seat, the said space being cylindrical in formation and of uniform diameter throughout its length and provided with a screw thread extending essentially the entire length thereof, and a valve plug operative in the said space comprising a cylindrical body fitting and filling the cylindrical portion of the said space and provided with a screw thread co-operative with the said first screw thread, the said casing having an exterior wall that is symmetrical in formation relatively to the axis of the said cylindrical space, and the said casing having an outlet passage extending laterally from the said space and terminating in a mouth located in the said exterior wall.

3. In a valve having a plug and a body provided with a bore a portion of which serves alternatively as a housing for the said plug and as a water chamber, and with a symmetrical exterior structure having a wrench body portion having flat sides, and the said plug cylindrical and having a threaded portion on the outer periphery, the said bore also cylindrical and having a thread and an operative fit for the said plug, and the said body provided with an

outlet passing from the said chamber outwardly through the body wall and having the mouth in one of the said flat sides and essentially co-extensive therewith, whereby
5 with a relatively small body and short outlet the said chamber serves as an inward extension of the said outlet and coöperates therewith in giving direction to the stream of water passing therethrough.

THOMAS F. FLANNERY.

Witnesses:

SHEFFIELD H. CLARKE,
ROGER W. EDWARDS.

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