

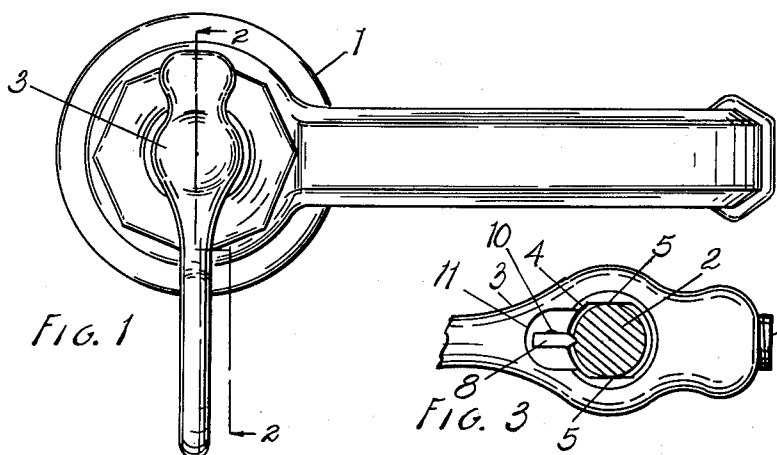
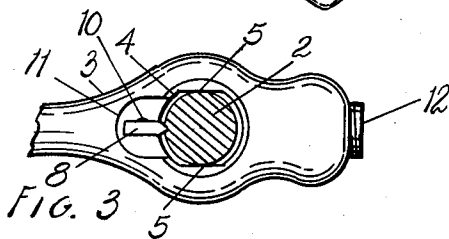
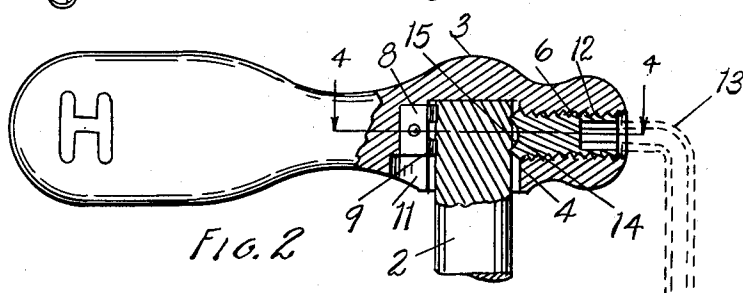
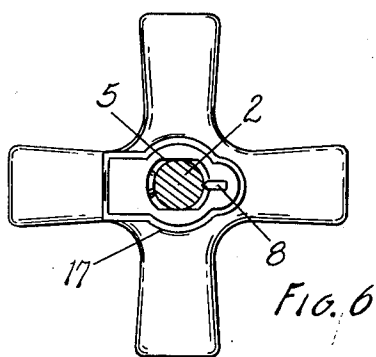
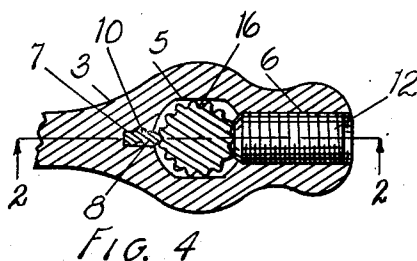
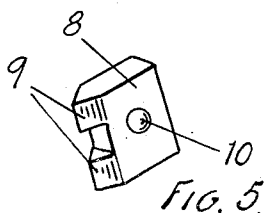
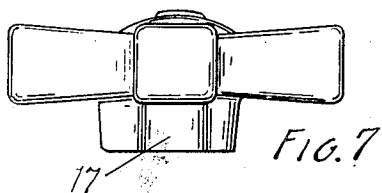
Aug. 19, 1952

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2,607,616

HANDLE FOR VALVE STEMS AND THE LIKE

Filed May 20, 1946



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UNITED STATES PATENT OFFICE

2,607,616

HANDLE FOR VALVE STEMS AND THE LIKE

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Application May 20, 1946, Serial No. 670,991

4 Claims. (Cl. 287-53)

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This invention relates to improvements in handles for valve stems and the like.

The main objects of this invention are:

First, to provide a handle for valve stems or the like which is adapted to be fixedly secured to the stem in any desired position relative thereto and which may be effectively engaged with serrated stems or with round stems having a smooth periphery.

Second, to provide a handle for valve stems and the like having these advantages which when attached presents a finished appearance, and may be attached by an unskilled person.

Objects relating to details and economies of the invention will definitely appear from the description to follow. The invention is pointed out in the claims.

A structure which embodies the features of the invention is clearly illustrated in the accompanying drawing in which:

Fig. 1 is a top view of a faucet embodying my invention.

Fig. 2 is an enlarged fragmentary view partially in vertical section on a line corresponding to line 2-2 of Fig. 1, an Allen wrench for adjusting the threaded set screw type of jaw member being indicated by dotted lines.

Fig. 3 is a fragmentary inverted view with the threaded jaw member in retracted position.

Fig. 4 is a fragmentary view mainly in section on line 4-4 of Fig. 2.

Fig. 5 is a perspective view of the blade-like jaw member.

Fig. 6 is an inverted view of a cross type of handle embodying the invention, a valve stem being shown in section.

Fig. 7 is a side view of the handle of Fig. 6, the stem being broken away.

In the accompanying drawing 1 represents a faucet and 2 a valve stem, the stem being without serrations. The handle 3 is provided with a downwardly opening socket 4, the socket being elongated and having parallel opposed sides 5 spaced approximately the diameter of the stem 2 so as to laterally support the handle on the stem. The lengthwise dimension of the socket is substantially greater than that of the diameter of the stem as illustrated in Figs. 2 and 4. The handle has a threaded bore 6 opening at one end thereof and a slot-like recess 7 diagonally opposite this bore and opening at the other end thereof. The plate-like jaw member 8 is arranged within this recess with its axially spaced V-shaped jaws 9 projecting into the socket.

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The jaw member 8 has a convex lug-like boss 10 struck up centrally therefrom, this boss being in retaining engagement with one wall of the socket. For convenience in assembling the jaw member 8 in the handle, the handle is provided with a recess 11 opening to the lower end of the recess 7.

The screw 12 is desirably of the Allen set-screw type having a wrench receiving recess at its outer end adapted to receive a wrench indicated at 13. It is provided with a concave recess 14 in its inner end which results in a circular jaw 15. This screw, threaded into the handle, clamps the stem against the jaw member 8, the stem being supported laterally relative to the jaw by the side walls of the socket. This provides a very secure clamping engagement of the handle with the stem, both with a smooth stem and with a serrated stem as shown at 16 in Fig. 4. The handle parts are the same as in Figs. 1 to 3. The axis of the screw 12 is disposed centrally of the cup shaped recess 14, and a line extending coincident with the axis of the screw is disposed parallel to and midway the parallel side walls 5 of the socket 4 and in alignment with the plate-like jaw member 8 between the jaws 9 thereof as shown in Figures 2 and 4. This construction facilitates deep penetration of the jaws into a stem of circular section in a direction radially of the stem instead of at an angle to the radius to prevent the handle from shifting angularly sidewise on the stem when the screw 12 is tightened and to prevent a too shallow anchorage of the jaws 9 into the stem, resulting in the handle loosening on the stem. The side wall portions 5 of the elongated socket being parallel to each other instead of a generally circular shape and being of substantial length in the direction of the length of the socket and being spaced from each other a distance approximating the diameter of the stem received by the sockets and closely embracing the opposite sides of said stem throughout the entire range of adjustment of the screw 12 while embedding the jaw 15 thereof and the jaws 9 opposed thereto into the stem, further facilitate deep penetration of the jaws 9 and 15 into the stem in a direction radially of the stem instead of at an angle to the radius to prevent too shallow anchorage of the jaws 9 into the stem, resulting in the handle loosening on the stem.

In the modification shown in Figs. 6 and 7 the invention is adapted to a cross type of handle, and in this type the handle is provided with a box-like enlargement 17 in which the socket is

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formed, the socket and jaw parts being the same as described except that they are formed in this boss or enlargement which results in concealing the screw threaded bore.

I have illustrated and described my invention in highly practical embodiments thereof. While the handle is especially designed for valve stems, it is obviously adapted for use on any similar stem where handles are desired.

Having thus described the invention what is claimed as new and desired to secure by Letters Patent is:

1. A handle for valve stems and the like of circular section, having an elongated inwardly opening socket having opposed parallel side wall portions spaced from each other a distance approximating the diameter of a stem to be received in the socket, the socket being of a length substantially exceeding the diameter of the stem permitting adjustment of the handle relative to the stem longitudinally of the parallel portions of the side walls thereof, said handle having a threaded bore open at its outer end and opening to one end of the socket, said handle having a slot-like recess opening to the other end of the socket diametrically opposite the bore, a plate-like jaw member retainingly seated in said recess and having axially spaced V-shaped jaws projecting from the recess into the socket, and a screw threaded into said bore adapted to clamp the stem between the screw and jaws, the screw having a concaved inner end providing a jaw having an edge of circular shape for engaging the stem, the axis of the screw being disposed centrally of the circle, a line extending coincident with the axis of the screw being disposed parallel to and midway between the parallel side wall portions of the socket and in alignment with the plate-like jaw member intermediate the axially spaced jaws thereof, said side wall portions being disposed parallel to each other for a substantial distance in the direction of the length of said elongated socket and disposed to closely embrace the opposite sides of said stem throughout the entire range of adjustment of said screw, said screw adapted to embed the circularly shaped jaw thereof and the V-shaped jaws opposed thereto into the stem of circular section.

2. A handle for valve stems and the like of circular section, having an elongated inwardly opening socket having parallel side walls spaced from each other a distance approximating the diameter of a stem adapted to be received in the socket, said socket being of a length substantially exceeding the diameter of the stem permitting adjustment of the handle relative to the stem longitudinally of the socket, said handle having a threaded bore open at its outer end and opening to one end of the socket, said handle having a slot-like recess opening to the other end of the socket opposite the bore, a plate-like jaw member seated in said recess and having a V-shaped jaw projecting from the recess into the socket, said jaw member having central bosses projecting from the sides thereof and retainingly engaging the walls of the recess when the jaw member is pressed into the recess, and a screw threaded into said bore adapted to clamp the stem between the screw and jaw and completely housed in said bore, the screw having a concaved inner end providing a jaw having an edge of circular shape for engaging the stem and being of such length as to be entirely housed within the bore, the axis of the screw being disposed cen-

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trally of the circle, a line extending coincident with the axis of the screw being disposed parallel to and midway between the parallel side walls and in alignment with said plate-like jaw member, said side walls being disposed parallel to each other for a substantial distance in the direction of the length of the recess and disposed to closely embrace the opposite sides of said stem throughout the entire range of adjustment of said screw, said screw adapted to embed the circularly shaped jaw thereof and the V-shaped jaw opposed thereto into said stem.

3. A handle for valve stems and the like of circular section, having an elongated inwardly opening socket having parallel side walls spaced from each other a distance approximating the diameter of a stem adapted to be received in the socket, said socket being of a length substantially exceeding the diameter of the stem permitting adjustment of the handle relative to the stem longitudinally of the socket, said handle having a threaded bore and opening to one end of the socket, said handle having a slot-like recess opening to the other end of the socket opposite the bore, a plate-like jaw member seated in said recess and having a V-shaped jaw projecting from the recess into the socket, and a screw threaded into said bore to clamp the stem between the screw and jaw, said screw having a jaw at its inner end providing an edge of circular shape for engaging the stem, the axis of the screw being disposed centrally of the circle, a line extending coincident with the axis of the screw being disposed parallel to and midway between said parallel side walls and in alignment with said plate-like jaw member, said side walls being disposed parallel to each other for a substantial distance in the direction of the length of the socket and disposed to closely embrace the opposite sides of said stem throughout the entire range of adjustment of said screw, said screw adapted to embed the jaw thereof and the V-shaped jaw opposed thereto into said stem.

4. A handle for valve stems and the like of circular section, having an elongated inwardly opening socket having opposed parallel side walls extending longitudinally of the socket, said parallel side walls being spaced a distance approximating the diameter of the stem, the socket being of a length substantially exceeding the diameter of the stem to permit adjustment of the handle relative to the stem longitudinally of the parallel side walls, said handle having a threaded bore opening to one end of the socket and at its outer end, there being a slot-like recess opening to the other end of the socket opposite the bore, a plate-like jaw member fixedly seated in said recess and having a jaw projecting into the socket, and a screw threaded into said bore to clamp the stem between the screw and jaw and in supported relation to the sides of the socket, a line extending coincident with the axis of the screw being disposed parallel to and midway between said parallel side walls and in alignment with said plate-like jaw member, said side walls being disposed parallel to each other for a substantial distance in the direction of the length of the socket and disposed to closely embrace the opposite sides of said stem throughout the entire range of adjustment of the screw, said screw adapted to embed said jaw into said stem.

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(References on following page)

2,607,616

5

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
791,548	Fischer -----	June 6, 1905
2,153,950	Whinery -----	Apr. 11, 1939
2,305,099	Morris -----	Dec. 15, 1942

5

Number
2,346,364
2,377,541
2,401,816
2,463,066

10

6

Name	Date
Dowe -----	Apr. 11, 1944
Crampton -----	June 5, 1945
De Gray -----	June 11, 1946
Stuvel -----	Mar. 1, 1949

FOREIGN PATENTS

Number	Country	Date
91,719	Sweden -----	Mar. 10, 1938