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J. J. TOOLAN

2,201,065

FAUCET ADAPTER

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Fig. 1.

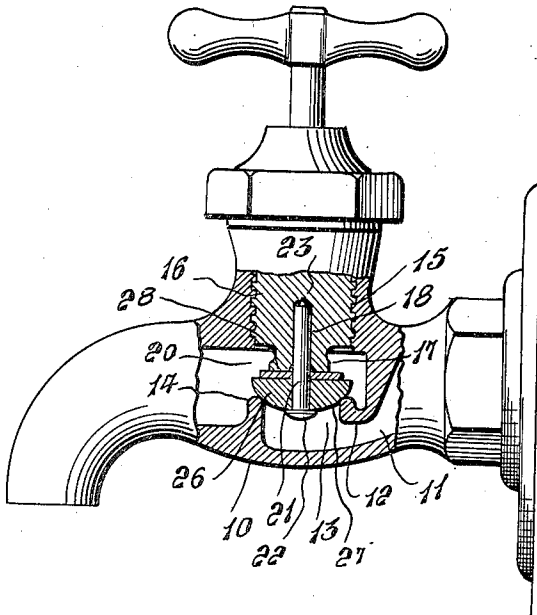


Fig. 3.

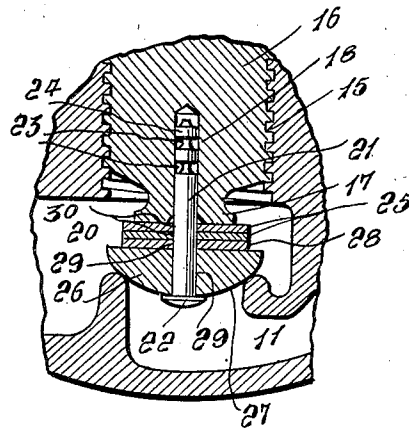


Fig. 4.

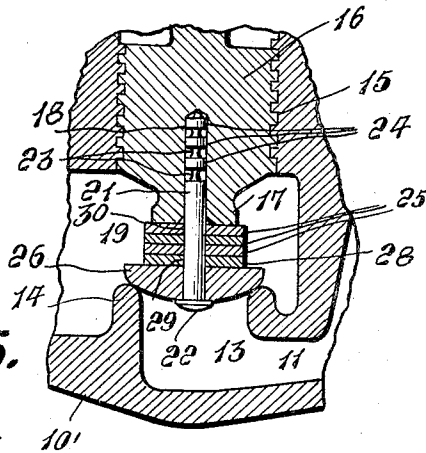


Fig. 2.

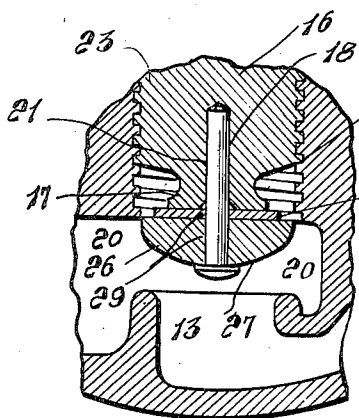


Fig. 5.

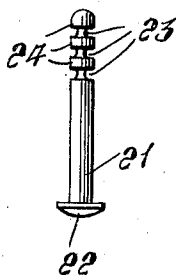


Fig. 7.

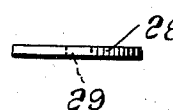


Fig. 8.

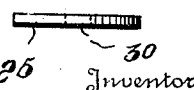
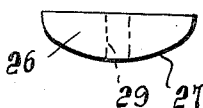


Fig. 6.



J. J. Toolan

L. F. Randwyck

Attorney

UNITED STATES PATENT OFFICE

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FAUCET ADAPTER

James J. Toolan, Schenectady, N. Y.

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3 Claims. (Cl. 251-44)

This invention relates to an adapter for conventional faucets of various sizes.

At the present, conventional water faucets are made in various sizes so that the space between the valve seat of the faucet and the threaded bore, in which is mounted the valve stem, varies considerably. As a result thereof, in very large faucets where this space is great it is necessary to screw the valve stem down through the threaded bore until only two or three of its threads are in engagement before the valve will seat. This causes an unsteady connection for the valve stem resulting in play so that the valve will not seat squarely, and continued use causes excessive wear on the engaging threads increasing the play until the valve head wobbles and sways as it moves downwardly thus preventing it from seating squarely, which not only causes a leaky faucet but results in a knocking sound as the valve is opened and closed, and in addition, substantially decreases the life of the faucet.

It is an object of this invention to provide an adapter to be used to connect the faucet valve and valve stem, to firmly connect the parts, and to adapt the valve and valve stem to faucet casings of any size so that the valve may seat while all of the threads of the valve stem are engaging the threaded bore of the valve casing to prevent wear and to insure a proper seating of the valve to thereby eliminate leakage and noise.

Practically all conventional valve stems are provided with bores, opening downwardly, of substantially the same length. It is a particular object of this invention to provide connecting means between the valve and stem comprising a pin adapted to extend through the valve head and upwardly into the stem bore substantially its entire length to form a firm connection and constructed so that its length may be varied depending upon the number of spacing members mounted between the valve head and stem, and so that regardless of the number of such spacing members used the pin will extend substantially the same length into the stem bore without under any circumstances leaving a portion of the shank of said pin exposed.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, which illustrates a preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view partly in section of a faucet showing the adapter associated therewith,

Figure 2 is an enlarged fragmentary sectional

view showing the valve, as seen in Figure 1, in a retracted position,

Figure 3 is a view similar to Figure 2 showing the valve in a closed position and provided with two spacing members,

Figure 4 is a view similar to Figure 3 showing a valve casing of a different interior construction having a greater space between the valve seat and valve stem bore, and with a plurality of spacing members mounted between the valve and valve stem to space the valve to seat it while all of the threads of the stem are in engagement,

Figure 5 is an elevational view of the adapter pin,

Figure 6 is a similar view of the valve head,

Figure 7 is a similar view of the backing plate for the valve head, and

Figure 8 is a similar view of one of the spacing members.

Referring more particularly to the drawing, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally a conventional faucet casing provided with the passage 11, divided intermediate of its ends by the diaphragm 12 having the communicating opening 13 and the upset annular flange 14 surrounding said opening and forming a valve seat. The upper end of the valve casing 10 is provided with an internally threaded bore 15 in which is mounted the externally threaded valve stem 16 having a reduced depending neck 17 and a longitudinal bore 18 extending from the intermediate portion of said stem downwardly to open outwardly of the neck 17. The heretofore described parts as illustrated in Figures 1 to 4 are of conventional construction and shown merely to illustrate the application of the invention. The construction of the casing 10' as illustrated in Figure 4 differs from the casing 10 as illustrated in Figures 1 to 3, only in that it is larger and the space 19 between bore 15 and the valve seat 14 is substantially greater than the corresponding space 20 of casing 10, as seen in Figures 1, 2 and 3.

This invention, includes the pin 21 having the head 22, and the reduced portions 23 adjacent the free end of its shank and disposed in equally spaced relationship relatively to each other thereby forming the spaced portions 24 each of which is substantially of the same thickness as the spacing plate or washer 25, as seen in Figure 8.

The valve head or washer 26, which is preferably formed of vulcanized fiber turned on the grain, is provided with a convexed or rounded lower portion 27 and a flat upper face on which is

mounted the reinforcing plate 28, the valve 26 and plate 28 being provided with the aligned openings 29 through which the pin 21 is adapted to be inserted so that the head 22 engages against the convex underside 27 thereof.

In Figures 1 and 2, the pin 21 is shown extending through the valve 26 and the member 28 and upwardly into the bore 18, and in order to prevent member 28 from being spaced from the neck 17 the pin 21 is broken off at its inner reduced portion 23 to eliminate the portions 24 so that the pin 21 will extend upwardly into the bore 18 substantially its entire length, preferably leaving a slight clearance at the upper end, as seen in Figures 1 and 2. It will thus be seen that all three of the portions 24 must be broken off when the space 20 is very small so that none of the spacing members 25 need be used. In Figure 3, two of the spacing members 25, which are provided with the bores 30 are mounted on the pin 21 between the neck 17 and the reinforcing member 28 to space the washer 26 from the stem 16, and since two of the spacing members 25 are being used the pin 21 is broken off at the outer reduced portion 23 leaving two of the spaced portions 24 so that the pin 21 still extends substantially the length of the bore 18 to provide a firm connection. The two spacing members 25 are inserted either because the space 20 in Figure 3 is greater than in Figure 2 or to raise the stem 16 in the bore 15. In Figure 4, the casing 10' is provided with the space 19 which is substantially greater than the space 20, of Figures 1, 2 and 3, and in order to have the valve 26 engage the seat 14 while all of the threads of the stem 16 are engaging the threads of the bore 15, three of the spacing members 25 must be employed, in order to have the pin 21 extend upwardly, substantially the entire length of the bore 18 none of the portions 24 are broken off, so that as a result thereof a firm connection is maintained between the pin 21 and the bore 18 while substantially spacing the valve 26 from the neck 17.

Obviously, the size of the pin 21 and the number of the portions 23 and 24 may be varied, as well as the thickness of the portions 24 and of the spacing members 25, since the drawing is only intended to illustrate a preferred form of

the invention, and since the bores 18 of different stems 16 will vary to some extent the pin 21 will not in every case extend to substantially the upper end of every bore 18. As a result, in some cases one of the portions 24 may be retained even though no spacing members 25 are being used and the number of portions 24 may not always vary exactly with the number of spacing members 25.

Various other modifications and changes may obviously be made and are contemplated, and the right is reserved to make such variations and changes as do not depart from the spirit and scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A device of the class described comprising a pin having a head at one end thereof, said pin being provided adjacent its opposite end with a plurality of spaced annular grooves forming a plurality of spaced frangible collars, said pin being adapted to connect a faucet valve head and stem, and a plurality of washers carried by the pin for spacing the valve head and stem, the thickness of said washers being substantially equal to the thickness of the collars, and the number of washers and collars used varying proportionately.

2. In an attachment for faucet valves, a pin adapted to connect a faucet valve stem and valve head and to extend inwardly of said stem substantially the length of its bore, a head on the exposed end of the pin, the shank of said pin being formed of a plurality of spaced frangible portions, and a plurality of spacing members removably mounted on said pin, each being equal in thickness to one of said frangible portions.

3. A connector of the class described comprising a headed pin having a shank end formed of a plurality of equally spaced frangible portions, and a plurality of spacing members removably mounted on said pin, each of said members being of substantially the same thickness as each of the spaces between said frangible portions, the number of said spacing members and portions varying proportionately so that the length of the exposed end of said pin will remain constant.

JAMES J. TOOLAN.