Nov. 12, 1929. E. L. DELANY 1,735,604

HANDLE

Filed March 7, 1927 2 Sheets-Sheet 1

Fig. 1.

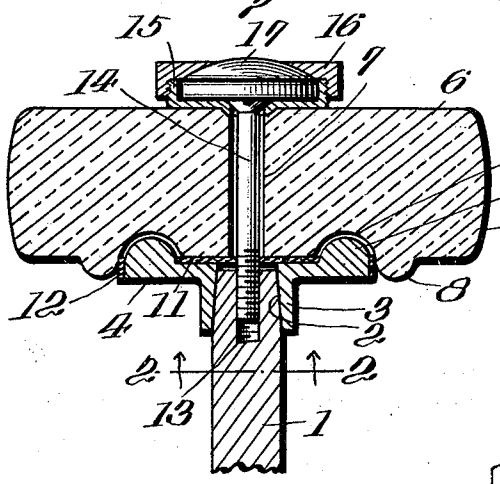


Fig. 2.

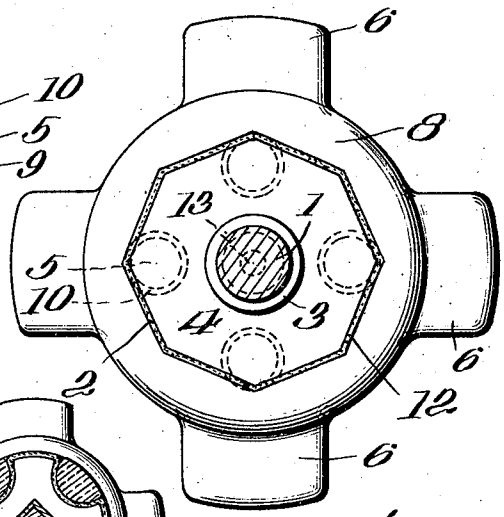


Fig. 3.

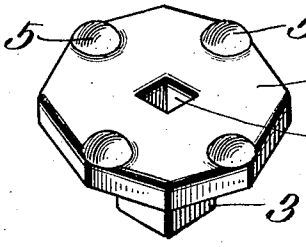


Fig. 5.

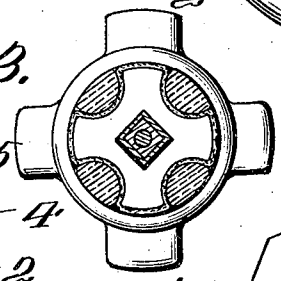


Fig. 7.

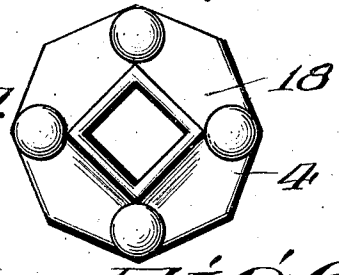


Fig. 4.

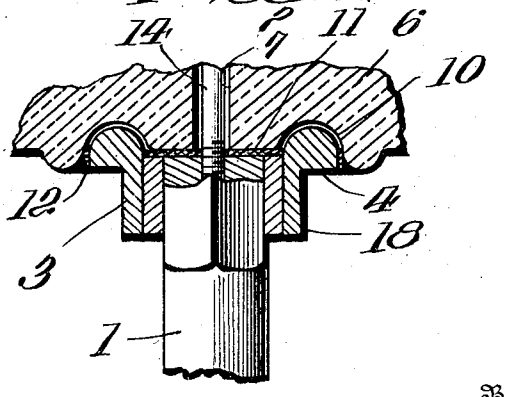
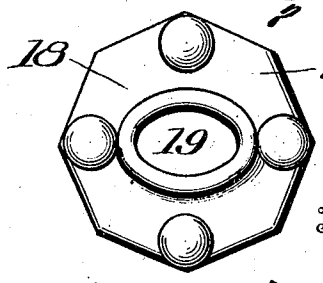


Fig. 6.



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Nov. 12, 1929. E. L. DELANY 1,735,604

HANDLE

Filed March 7, 1927 2 Sheets-Sheet 2

Fig. 8.

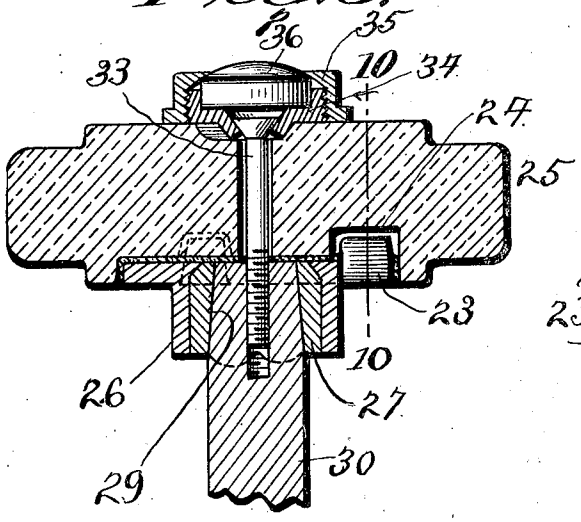


Fig. 11.

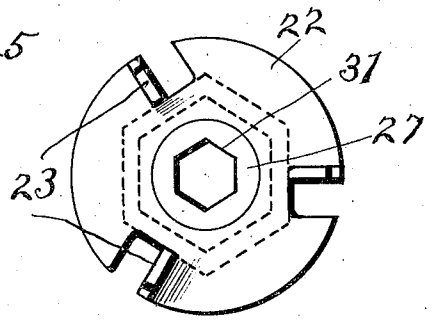


Fig. 9.

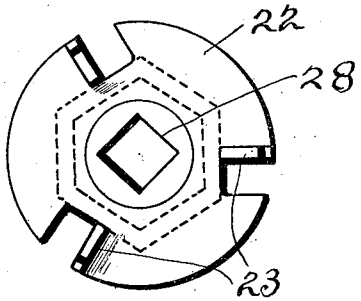
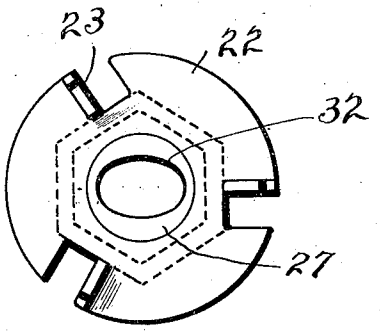


Fig. 12.



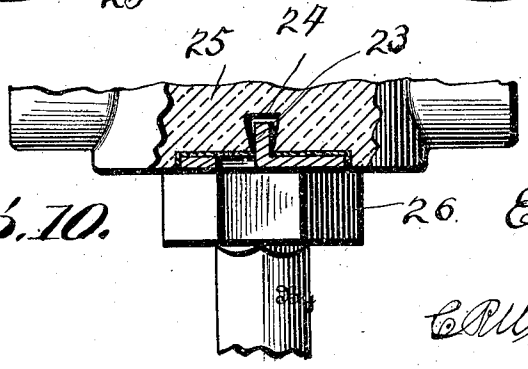


Fig. 10.

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Patented Nov. 12, 1929 1,735,604

UNITED STATES PATENT OFFICE

EDWARD L. DELANY, OF BROOKLYN, NEW YORK

HANDLE

Application filed March 7, 1927. Serial No. 173,543.

My invention relates to improvements in handles.

The object of my invention is to provide means for attaching a porcelain, glass or like handle to a metal operating member, whereby the heat from the operating member is not transmitted to the porcelain or glass handle.

Another object of my invention is to provide means whereby the glass or porcelain handle may be readily attached to operating members of different sizes and shapes, and which can be readily removed should the handle become broken and a new one placed thereon, all the parts capable of being reused.

A further object of my invention is to provide a simple, cheap and effective handle attaching means having certain details of structure and combination of parts hereinafter more fully set forth.

In the accompanying drawings:—

Figure 1 is a vertical sectional view of my improved handle attached to a metal operating member.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a perspective view of the member for locking the handle to the operating member.

Figure 4 is a vertical sectional view similar to Figure 1 showing an auxiliary washer employed in conjunction with the locking member, whereby the attaching means are capable of use on operating members of different sizes and shapes.

Figure 5 is a plan view of a modified form of locking member shown in Figure 4.

Figure 6 is a still further modified form of locking member.

Figure 7 is a transverse sectional view of a still further modified form of locking member in which the handle is provided with projections entering recesses in the flange 4.

Figure 8 is a vertical transverse sectional view showing lugs struck up from the metal of the attaching plate.

Figure 9 is a top plan view of the attaching plate.

Figure 10 is a transverse vertical sectional view taken on the line 10—10 of Figure 8.

Figure 11 is a top plan view similar to Figure 9, showing a hexagonal opening.

Figure 12 is a view similar to Figure 11 showing an oval opening.

My invention is designed more particularly for attaching a porcelain or glass operating handle to a valve stem and while I have shown and described the same for this purpose it will be understood that the same can be used wherever it is desired to attach a porcelain or glass handle to a metal operating member subject to heat.

In the art of bath valves and fixtures it has been found that where the porcelain and glass handle comes in direct contact with the metal valve stem the heat is transmitted directly from the valve stem to the porcelain or glass handle and the expansion and contraction of the porcelain and metal is so vastly different that the handle breaks by this difference of expansion. This is particularly true when used on hot water spigots, and where the porcelain handle is heated to a high degree, and then subjected to rapid cooling and chilling action. In valves of this character where there is a tight fit between the valve stem and the porcelain handle, and the metal stem directly engages the porcelain handle, it has been found that the chilling of the porcelain handle by the hand or by a few drops of cold water thereon the handle will crack and break and operators of such valves have more or less injured their hands by the breaking of the handle. This invention entirely eliminates all of these defects and has a marked advantage over the porcelain handles now in use.

Referring now to the drawings, 1 represents the valve stem and for the purpose of a full illustration of applicant's invention it will be stated that this valve stem leads to the hot water spigot, therefore, it is subject to considerable heat. The valve stem 1 is made of metal as is readily understood, and the heat from the valve is transmitted through the stem to its upper end. The upper end of the valve stem is preferably of a square form and slightly tapering as indi-

cated at 2, to allow for the attachment of the handle to prevent rotation thereon. While I have shown this portion 2 of a square form it will be understood that the same could be of any angular form or could be made oval as will be hereinafter more fully described. Fitting around the tapered portion of the valve stem 1 is a sleeve 3 having an interior bore of a shape to closely fit the taper of the valve stem as clearly shown in Figure 1 of the drawings. The upper face of the flange 4 is provided with a series of upwardly extending lugs 5, which as shown in the drawings, are preferably of a semi-circular form. The porcelain handle 6 may be of any shape desired, but preferably of the form shown in Figure 2 of the drawings. The porcelain handle 6 is provided with a central opening 7 therethrough, and its lower face is provided with a flange 8 spaced a distance from the outer edge 9 of the handle. The flange 8 forms a depresison in the lower face of the handle, and said depression is of an octagon form to correspond with the flange 4 carried by the sleeve 3, and is of a diameter slightly greater than that of the flange 4.

The porcelain handle 6 is provided with a number of semi-circular depressions 10 corresponding with the lugs 5 carried by the flange 4. Placed upon the upper face of the flange 4 is an asbestos washer 11, which has its outer edge turned downwardly around the edge of the flange 4 as indicated at 12. This asbestos washer 11 is provided with a series of openings through which the lugs 5 extend, as clearly shown in Figure 1 of the drawings.

The upper end of the valve stem is provided with internally threaded openings 13, into which is screwed the locking bolt 14, which passes downwardly through the central opening 7, carried by the handle and secures the handle on the valve stem. It will be noted that the bolt 14 is of a diameter considerably less than the central opening 7, so that it does not engage the walls of the opening in the porcelain handle, therefore the heat from the valve stem can not be transmitted to the handle. The bolt 14 clamps a cup shaped member 15 to the outer face of the handle 6, and said cup shaped member 15 is externally threaded and upon which is screwed the member 16 which clamps the porcelain member 17 in position as shown in Figure 1 of the drawings. The member 17 has designations thereon to indicate whether or not it is the hot or cold water spigot.

In the modification shown in Figure 4 of the drawings, I have employed an auxiliary sleeve 18 which is adapted to fit the valve stem 1, and the interior of the sleeve 3. The auxiliary sleeve 18 is designed more particularly for repairing or replacing the handle on the valve stem, whereby the device is capable of being attached to valve stems of different sizes and shapes. It being understood that a plumber when repairing or replacing the handle will have a large number of members 18 of different sizes and shapes, and therefore applicant's handle can be attached to valve stems of varied sizes and shapes.

In the modification shown in Figure 6 of the drawings the opening 19 is of an oval form to fit a valve stem of corresponding shape.

In the modification shown in Figure 7 the handle 6 is provided with downwardly extending lugs formed integral therewith and entering recess 21 in the flange 4.

In the modification shown in Figure 8, instead of having the sleeve 3 and the flange 4 of cast metal, the same are stamped from sheet metal, as fully shown in Figure 9 of the drawings. In this form the flange 22 has the ears 23 stamped out of the metal of the flange and turned upwardly, and entering recesses 24 in the handle 25. The tubular portion 26 of the attaching plate has an interior bore of the same shape as that of the exterior face of the bushing 27. The bushing 27 as shown is provided with a square tapering opening 28 adapted to fit the taper 29 of the valve stem 30.

In the modification shown in Figure 11, the bushing 27 has a hexagonal opening therein to fit a correspondingly shaped valve stem.

In Figure 12 the bushing 27 has an oval opening 32 to fit a correspondingly shaped opening. In Figure 8 of the drawings the attaching screw or bolt 33 passes through the handle 25 and clamps the saucer shaped member 34 to the handle and likewise secures the attaching plate to the handle with the lugs 23 in the recesses 24, the same as that shown in Figure 1 of the drawings. The saucer shaped member 34 is externally threaded and upon which is screwed a cap 35 which clamps the porcelain member 36 in the saucer shaped member for holding it therein. This member 36 has designated thereon indications whether or not it is the hot or cold water spigot.

Having thus fully described my invention what I claim is:—

1. A handle of the character described comprising an operating stem, a bushing surrounding the valve stem and held against rotation thereon, a stamped attaching plate surrounding the bushing and held against rotation thereon, a handle having interlocking means with the attaching plate, and means for clamping the handle on the attaching plate.

2. A handle of the character described comprising an operating stem, a bushing having an interior bore to correspond with that of the operating stem to prevent rotation of the bushing on the stem, an attaching plate fitting on the bushing and held against rotation thereon, a handle resting against the attaching plate and having interlocking means therewith, and an attaching bolt passing through the handle and spaced there-

from and screwed into the valve stem for clamping the handle to the attaching plate.

3. A handle of the character described comprising an operating stem, an attaching plate removably carried by the valve stem and held against rotation thereon, a handle resting against the attaching plate and having interlocking means therewith, a heat insulating packing arranged between the handle and the attaching plate, and means passing through the handle and spaced therefrom and secured to the valve stem for clamping the same to the attaching plate.

4. A handle of the character described comprising an operating stem, an attaching plate removably carried by the valve stem and held against rotation thereon, a handle fitting against the attaching plate and interlocking therewith, a heat insulating gasket between the plate and the handle, a bolt passing through the handle and spaced therefrom and screwed into the valve stem, and a cup shaped member carried by the bolt and adapted to support a designating plate.

5. A handle of the character described comprising an operating stem, an attaching plate removably secured on the valve stem and held against rotation thereon, a handle having interlocking means with the stem, a cup shaped member resting against the outer face of the handle, a securing bolt holding the cup shaped member to the handle and spaced therefrom and screwed into the upper end of the stem, a designating plate with the cup shaped member, and a securing ring secured to the cup shaped member and holding the designating plate therein.

6. A handle of the character described comprising an operating stem, an attaching plate removably secured on the valve stem and held against rotation thereon, ears struck up from said attaching plate, and a composition handle having recesses to receive said ears, and an attaching bolt passing through the handle and spaced therefrom and screwed into the operating stem.

7. A handle of the character described comprising an operating stem, a stamped attaching plate removably secured on the stem and held against rotation thereon, a composition handle interlocking with the attaching plate, and an attaching bolt passing through the handle and spaced therefrom and screwed into the operating stem.

8. A handle of the character described comprising an operating stem, a stamped attaching plate removably secured on the stem and held against rotation thereon, and outwardly extending ears stamped from the metal of said plate, a composition handle having recesses to receive said ears, and an attaching bolt passing through the handle and spaced therefrom and screwed into the valve stem.

9. A handle of the character described comprising an operating stem, a broad flat attaching plate removably secured on the stem and held against rotation thereon, and having projections adjacent its outer periphery and removed from the valve stem, and a composition handle having recesses interlocking with the projections carried by the plate, and an attaching bolt passing through the handle and spaced therefrom, and screwed into the valve stem.

In testimony whereof, I have signed this specification.

EDWARD L. DELANY.