April 26, 1949. C. P. WAGNER 2,468,315

SINK FIXTURE

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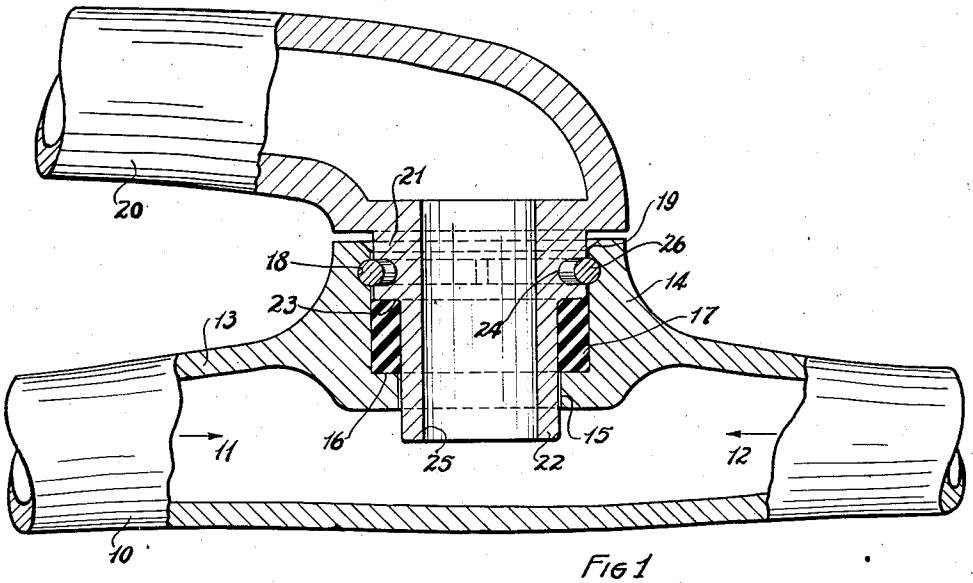


FIG 1

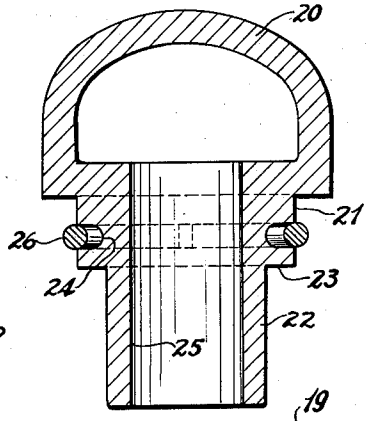


FIG 2

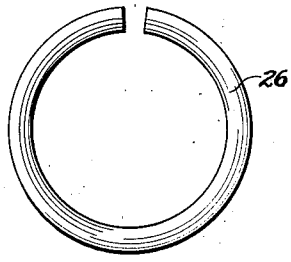


FIG 4

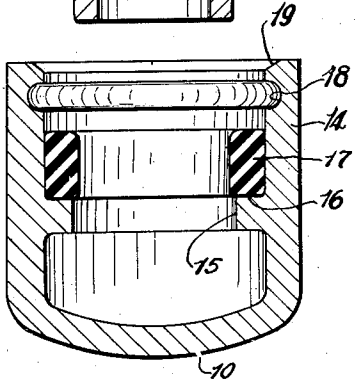


FIG 3

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SINK FIXTURE

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3 Claims. (Cl. 285—97.3)

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This invention relates to improvements in sink fixtures, and has to do primarily with means for mounting a swinging spout in such a fixture.

One of the objects of the invention is the provision of such mounting means adapted for assembly without the use of tools.

Another object is the provision of such a mounting which is devoid of any visible fastening, and therefore presents a clean and attractive appearance.

Still another object is the provision of a mounting embodying both a snap ring and a gasket, the arrangement of parts being such that when the snap ring is forced into place for retaining the swinging spout in the body of the fixture, it causes pressure to be exerted on the resilient gasket for compressing the latter to effect good sealing contact with the relatively rotatable parts, and enabling the gasket to take up any looseness lengthwise of the joint which might otherwise be present.

Other objects and features of novelty will appear as I proceed with the description of that embodiment of the invention which, for the purposes of the present application, I have illustrated in the accompanying drawing, in which

Fig. 1 is a fragmental elevational view, partly in vertical section, of a sink fixture embodying the invention.

Fig. 2 is a sectional view at right angles to the section of Fig. 1, showing the spout only.

Fig. 3 is a sectional view in the same plane with that of Fig. 2, showing only the body of the fixture, and

Figure 4 is a detail view of a spring ring employed in connection with the invention.

In the drawing a fragment of the central part of the body of a sink fixture is shown at 10, having hot and cold water intakes 11 and 12. In the middle of the upper wall 13 the body of the fixture comprises an upwardly opening cup 14, through the bottom of which there is an axial opening 15. An annular ledge 16 is thus provided at the bottom of the cup 14. This ledge is utilized for the support of a resilient gasket or packing ring 17 which, in its original uncompressed condition, extends radially inward slightly further than the wall of opening 15, as indicated in Fig. 3. The cup 14 somewhat above the level of gasket 17 has a groove 18 cut therein, and the upper internal edge of the cup is preferably beveled, as indicated at 19.

20 is a spout which is adapted to swing through a limited arc. It is provided with a depending trunnion having an upper relatively large diam-

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eter portion 21 and a lower small diameter portion 22, with an annular shoulder 23 at their juncture. In the large diameter portion there is formed an annular groove 24 that has a depth approximately twice its width. The smaller portion 22 of the trunnion has a rotary fit in the opening 15, and is of slightly greater diameter than the natural internal diameter of gasket 17, so that when the trunnion is forced down into its assembled position it compresses the gasket 17 radially and tends to expand it lengthwise of the joint. The bore 25 of the trunnion is open at all times and serves as a connecting water passage between the intakes 11 and 12 and the interior of spout 20.

A split spring ring 26, preferably of circular cross-section, may be expanded sufficiently to enable it to be forced over the large diameter portion 21 of the trunion and into the groove 24. Its cross-sectional size is such as to cause it to fit snugly within the side walls of that groove. In the assembled condition of the fixture approximately one-half of the cross-section of the ring stands within the groove and the other half projects therefrom. The groove is deep enough however to accommodate the full cross-section of the ring when the latter is compressed during the act of mounting the spout in the body. Groove 18 in the body however is just deep enough to accommodate half or approximately half of the cross-section of the ring. The width of groove 18 is of course the same as that of groove 24, and the two grooves match up or register in the assembled condition of the fixture.

In assembling the parts the workman first places gasket 17 in the body 14, causing the gasket to engage shoulder 16. Then the ring 26 is mounted in groove 24 of the spout, after which the trunnion 21, 22 is pushed part way down into the cup 14, that is until the ring 26 engages the beveled edge 19 at the rim of the cup. In getting the trunnion into this position the small diameter portion 22 will have been pushed through the gasket 17 and at least part way through the opening 15 at the bottom of the cup. Bevel 19 tends to center the ring 26. The operator then strikes a light blow with his hand against the top of the spout in line with the trunnion, which causes the ring 26 to be cammed inwardly into the deep groove 24 so as to pass the interior wall of the cup above groove 18 and down into register with the latter groove, whereupon the ring snaps outward again into the position illustrated in Fig. 1. By this action the gasket 17 which has already been compressed radially is also com-

pressed lengthwise of the joint, and when the spring ring snaps into position to lock the spout to the body it serves also to hold the gasket 17 in its compressed condition, effectively sealing the rotary joint against leakage. The mounting of the spout is thus effected very quickly and easily without the use of tools, and a fixture of neat appearance without visible fastenings results. When the trunnion is oscillated back and forth its action is smooth, since the resilient gasket 17, acting upwardly against shoulder 23, takes up whatever slight looseness lengthwise of the joint might otherwise develop because of manufacturing tolerances or because of wear.

While I have described the cup 14 as formed in the upper wall of body 10 and opening upwardly, it will be obvious that it could equally well be made a part of the lower wall, opening downwardly. In other words the fixture would be equally effective if the structure shown in the drawing were inverted, and the claims should be so construed.

Having thus described my invention, I claim:

1. In a plumbing fixture, a body having a water intake, one wall of said body comprising a cup with an axial opening through the bottom thereof, a swing spout provided with a hollow trunnion extending into said cup, said trunnion having an annular groove, a split spring ring in said groove adapted to be contracted to an outer diameter no greater than the diameter of said trunnion, said cup having an annular internal groove of a depth approximately half of the radial thickness of said ring, a soft rubber annular gasket in the bottom of said cup, and a constricted end on said trunnion adapted to compress said gasket when the parts are assembled and when said spring ring is permitted to expand into said cup groove.

2. In a plumbing fixture, a body having a water intake, the upper wall of said body comprising a cup with an axial opening through the bottom thereof, a swing spout provided with a depending hollow trunnion extending into said cup, said trunnion having an upper large diameter portion with a rotating fit in said cup and a small diameter portion therebelow, a split spring ring, the large diameter portion of said trunnion having an annular groove of a depth equal to the radial thickness of said ring, said ring being adapted to be contracted to an outer diameter no greater than the internal diameter of said cup, said cup having an annular internal groove of a depth approximately half the radial thickness of said ring, a soft rubber annular gasket in the bottom of said cup adapted to be engaged from above by the annular shoulder between said large and small diameter portions of said trunnion and from the inside by said small diameter portion, whereby said gasket is compressed in two directions when the parts are assembled and said spring ring is permitted to snap into said internal groove.

3. A fixture as defined in claim 2, wherein said small diameter portion has a rotating fit within the opening at the bottom of said cup.

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