

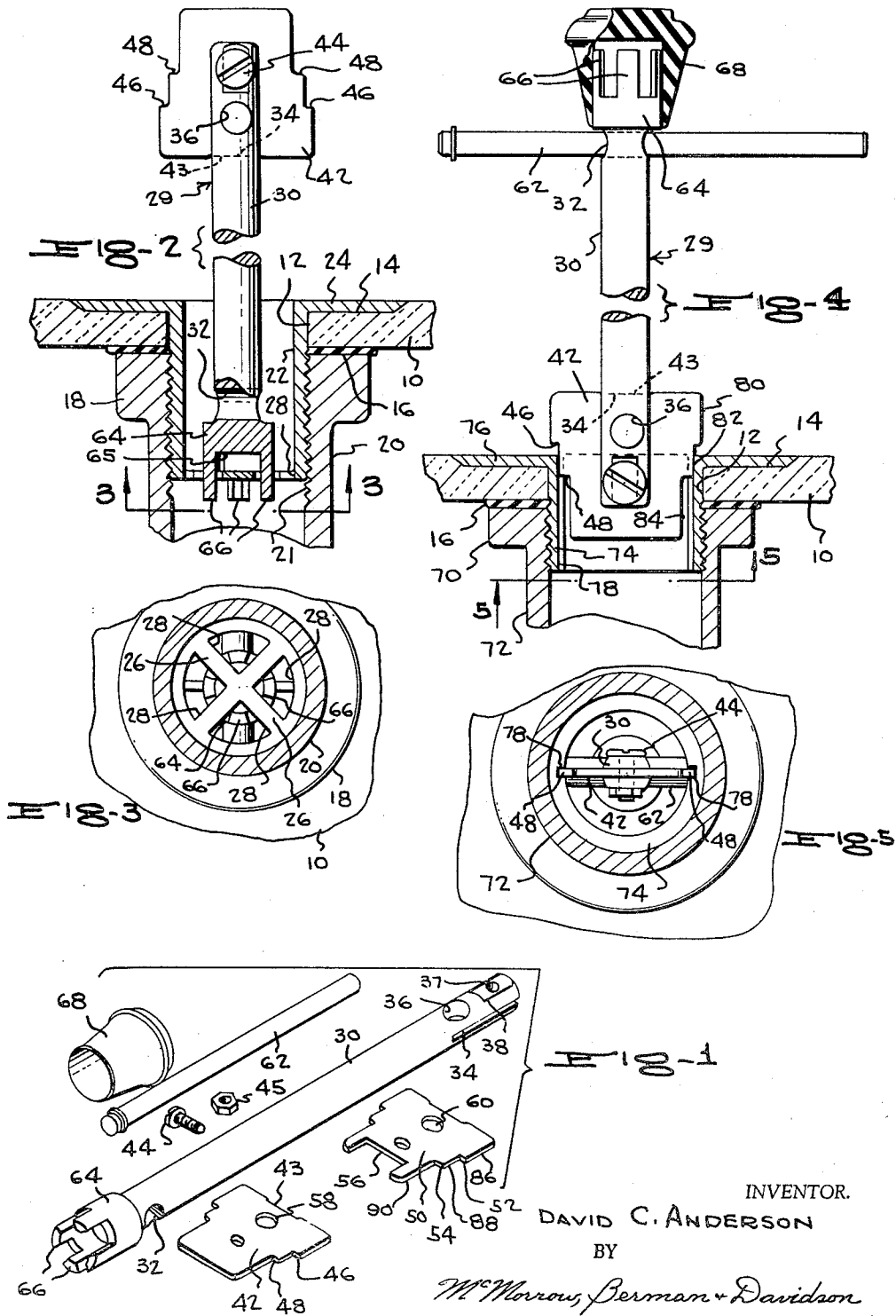
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WRENCH FOR PLUMBING FIXTURES

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WRENCH FOR PLUMBING FIXTURES

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1 Claim. (Cl. 81—71)

This invention, a spanner-type wrench for turning such plumbing fixtures as bathtub and sink wastes, tray plugs, and sink strainers, has among the important objects thereof the following:

To permit application of the wrench to fixtures of the type specified above, falling within a wide range of sizes and makes;

To facilitate application, use, and removal of the wrench;

To prevent marring of or other damage to the fixtures;

To permit free interchange of parts, whereby to increase the versatility of the wrench; and

To accomplish the several desirable results indicated above in a wrench that is simple, compact, relatively inexpensive, and rugged.

Other objects will appear from the following description, the claim appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is an exploded perspective view of the wrench;

Figure 2 is a view of the wrench partly in side elevation and partly in longitudinal section, portions being broken away, in use during the turning of one type of fixture, adjacent portions of the plumbing assembly being shown in vertical section;

Figure 3 is a transverse sectional view, substantially on line 3—3 of Figure 2;

Figure 4 is a view like Figure 2 showing the wrench applied to a different type of fixture; and

Figure 5 is a transverse section on line 5—5 of Figure 4.

A conventional tub 10 has a drain aperture 12 surrounded by a shallow, annular depression 14. A flat, annular gasket 16 extending about aperture 12 is sealably engaged against the under side of tub 10 by the end flange or collar 18 of a drain pipe 20, having internal threads 21 engaging external threads on a cylindrical, constant diameter bathtub waste or related plumbing fitting 22, engaged in aperture 12 and formed at its upper end with an outwardly directed, planiform, wide, comparatively thin support flange 24 snugly fitted in and complementing depression 14. At its inner end, fitting 22 is formed integrally with an end wall in the form of a pair of diametrically extending arms 26 crossing at right angles to each other, defining four segmentally shaped, approximately triangular openings 28 uniformly, angularly spaced about the end wall.

The wrench 29 includes an elongated torsion bar or shank 30 having a solid, constant diameter, circular cross section and formed at one end with a large diameter, diametrically extending bore 32 opening upon opposite sides of the bar. At its opposite end, bar 30 has a longitudinal slot 34 lying diametrically of the bar and opening upon the adjacent extremity thereof. Extending perpendicularly to the plane of the slot and intersecting the slot adjacent the inner end thereof, is a large diameter opening 36. Extending parallel to opening 36 and intersecting the slot adjacent the open, outer end thereof,

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is a smaller bore 37, opening at its opposite ends upon diametrically opposed, flat surfaces 38 of the bar 30.

A flat spanner plate 42 having a squarely cut off inner end edge, formed medially between opposite sides of the plate with a shallow recess 43, is engageable removably in slot 34, with the outer end of the plate projecting beyond the adjacent extremity of bar 30 and with recess 43 receiving the inner end wall of slot 34 (Figures 2 and 4) to prevent rocking of the plate about the axis of a connecting bolt 44 extending through bore 37, the head of the bolt engaging against one flat surface 38, a nut 45 that is applied to the bolt engaging against the other flat surface 38.

Plate 42 is reduced progressively in width in a direction from its inner to its outer end, through the provision of a plurality of steps 46, 48 symmetrically arranged at opposite sides of the longitudinal median of the plate.

The second plate 50 may be used interchangeably with plate 42. This has steps 54, 54, and a deep, wide recess 56 at the outer, narrower end of the plate. Large openings 58, 60 of the respective plates register with opening 36 of the bar 30, to permit extension of an elongated crossbar 62 through the registering openings, forming a handle to facilitate turning of bar 30.

At its other end, bar 30 is integrally connected to a head 64 of circular cross section, slightly greater in diameter than bar 30, having an axial, outwardly opening recess 65 and uniformly, angularly spaced, parallel fingers 66 of a cross section and spacing adapted to permit their insertion through openings 28 (see Figures 2 and 3).

In turning a fixture 22, the wrench is disposed as in Figure 2 and handle 62 may be inserted through opening 36.

In Figure 4 a different fixture is shown. Drain pipe 72 has flange 70, and is internally threaded to receive an externally threaded, cylindrical waste or fitting 74 having no inner end wall, but formed with a support flange 76, and with internal, diametrically opposed, longitudinally extending, narrow grooves 78. The provision of steps 46, 48 in plate 42 defines a wide inner end portion 80, an intermediate portion 82 of slightly smaller width, and an outer end portion 84 of a still smaller width. In Figure 4, the inner diameter of fitting 74 and the depth of grooves 78 is such that portion 82 is receivable in the grooves. Other makes of fittings may receive portions 80 or 84, as the case may be. Still other makes may make advisable the use of plate 50 instead of plate 42, having an inner end portion 86, an intermediate portion 88, and an outer end portion 90 of different widths. Recess 56 adapts plate 50 for the turning of basket sink strainers.

Removably applicable to head 64, when the wrench is being used as in Figure 4, is a rubber, axially recessed protector or tip 68.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor changes in construction that may be permitted within the scope of the appended claim.

What is claimed is:

A wrench comprising an elongated torsion bar having first and second ends, said bar being formed with a diametrical slot opening to said first end and having a closed end, said slot defining spaced side arms, said arms having a first pair of aligned diametrical bores extending therethrough, said arms having a second pair of

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aligned diametrical bores extending through said arms at a point between said first bores and the closed end of the slot, a spanner plate removably engaged in said slot, said plate being wider than the torsion bar and longer than said slot, said spanner plate having an inner edge and an outer edge, said inner edge bearing against the closed end of the slot, said spanner plate having slot-engaging side edges extending beyond opposite sides of the torsion bar, said spanner plate having a first opening intermediate its ends and registered with said first bores, and a removable pin engaged through said first bores and said first plate opening, said spanner plate having a second opening located between said first opening and the inner edge of the spanner plate, said second opening being in registry with said second bores, and a handle

crossbar removably engaged through said second bores and through the second plate opening.

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