Sept. 1, 1936. G. T. SOUTHGATE 2,053,210

FLUID FIXTURE

Filed Nov. 19, 1932 2 Sheets-Sheet 1

Fig. 1.

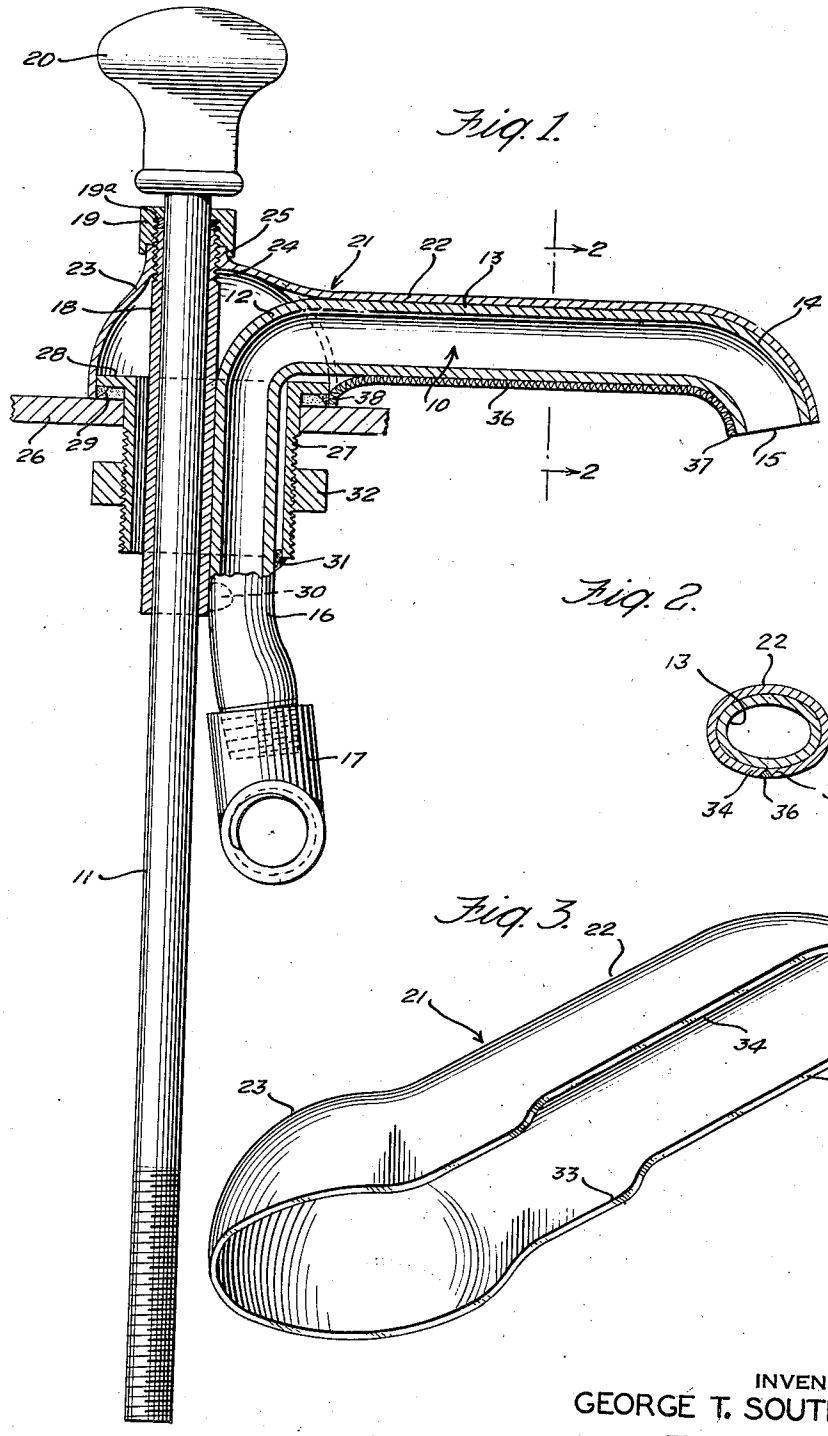


Fig. 2.

Fig. 3.

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Filed Nov. 19, 1932 2 Sheets-Sheet 2

Fig. 4.

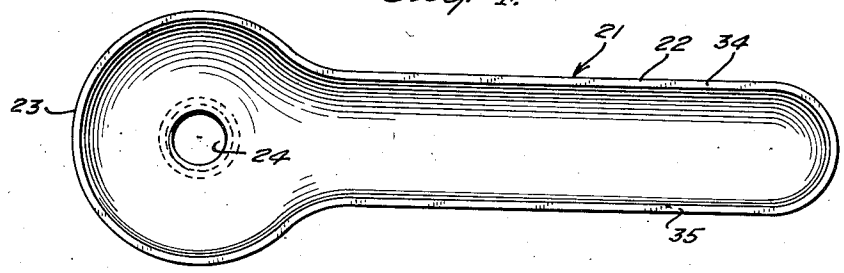
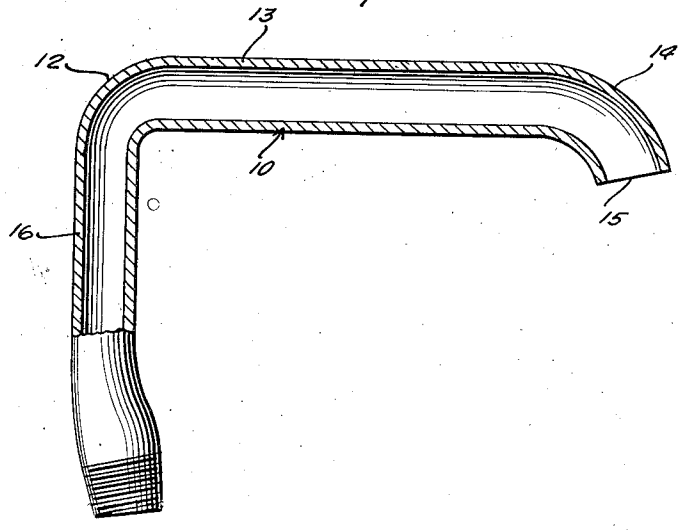


Fig. 5



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FLUID FIXTURE

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Application November 19, 1932, Serial No. 643,396

4 Claims. (Cl. 137—111)

My invention relates to fluid fixtures.

In fluid fixtures it is desirable to provide an outer surface or finish which is durable as to its wearing quality and also neat in appearance. In order to provide such fixtures, it has generally been the practice to form on a fitting a plating of stainless metal such as chromium. Such fixtures have been unsatisfactory because the plating is thin and easily injured, due to the soft base formed by the fitting, which is usually cast of brass or white metal. It has also been proposed to cast fittings entirely of stainless metal such as a chromium alloy, but such methods are impracticable because the cost is prohibitive. Moreover, imperfections such as blowholes in the castings produce unsatisfactory fixtures.

One object of my invention is to provide an improved fluid fixture having an outer surface of metal, such as a stainless alloy, which is strong, durable and not easily injured.

Another object of my invention is to provide an improved fabricated fluid fixture wherein a shell pressed from sheet metal forms the outer surface of the fixture and houses a fitting or fittings constituting the internal part or parts of the fixture.

The above and other objects and novel features of my invention will become apparent from the following description and the accompanying drawings, in which,

Fig. 1 is a sectional view of a completed fluid fixture embodying my invention after a shell is shaped and secured to a fitting comprising a waste-stopper control rod and a fluid-delivery conduit;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1, showing the particular manner of uniting the abutting edges of the shell about the spout portion of the delivery conduit in the fixture illustrated;

Fig. 3 is a perspective view of the shell employed in the fixture shown in Fig 1 after it is stamped from sheet metal;

Fig. 4 is an inverted plan view of this shell showing a threaded opening formed in the hemispherical dome of the shell through which extends the waste-stopper control rod shown in Fig. 1; and

Fig. 5 is a sectional view of the fluid-delivery conduit shown in Fig. 1 after it has been bent to shape so that it will fit in the shell shown in Figs. 3 and 4.

In the description which follows and in the claims, I have employed the term "fitting" broadly to include the enclosed internal part or parts, and the term "fixture" to include the external housing and the internal part or parts constituting the fitting.

Referring to Figs. 1 to 5, inclusive, the fabricated fluid fixture embodying my invention is generally employed on modern type wash basins and includes a fitting comprising a water delivery conduit 10 and a waste-stopper control member or rod 11. The delivery conduit 10 is preferably a seamless tube bent at 12 to form the horizontal spout portion 13, which is of elliptical cross-section and bent downward at its outer end, as indicated at 14, so as to direct the delivery orifice 15 properly over the basin. The vertical downwardly extending portion 16 of the delivery conduit may be threaded at its lower end to receive a connection 17 which in turn is connected to a suitable source of water under pressure. Where the delivery conduit 10 is intended to deliver a tempered mixture of hot and cold water, as is usually the case with this type of fixture, the connection is preferably a T, for receiving hot water on one side and cold water on the opposite side.

The waste-stopper control rod 11 moves vertically within a guide bushing or tube 18 which is threaded at its upper end to receive a nut 19. When the normal friction between the guide bushing 18 and rod 11 is not sufficient to maintain the rod in any desired position, the nut 19 may be employed to tighten a small packing of fibrous material 19a wound around the rod 11. The upper end of the rod is provided with a handknob 20, and the lower end thereof may be connected in any suitable manner to the stopper lever of the basin.

In accordance with my invention, I provide an improved fabricated fixture by arranging a shell 21 formed of ductile sheet metal about the above described fitting in such a manner that it forms a nondetachable and permanent housing therefor. The sheet metal employed in making the shell is preferably a stainless metal such as a chromium alloy, for example, which may comprise of approximately 18 parts chromium, 8 parts nickel and 74 parts iron.

The shell 21 comprises a longitudinal portion 22 and a hemispherical dome 23. The longitudinal portion 22 forms an annular tube of elliptical cross-section which surrounds and contacts the spout 13 of the delivery conduit 10, as shown in Fig. 2. The hemispherical dome 23 is provided with a threaded opening 24 at the top thereof to receive the threaded upper end of the

guide bushing 18 to which is secured the nut 19. As will be noticed in Fig. 1, the lower end of nut 19 is recessed at 25 so that the nut will seat over the upturned edge of the shell at the threaded opening 24, thereby providing a neat appearance to the fixture. The dome 23 encloses the upper end of the guide bushing 18, the portion of the spout 13 adjacent the bend 12 of the delivery conduit 10, and the bend 12 of the delivery conduit.

For clamping the dome 23 to the shelf 26 of a wash basin, a clamping bushing 27 having an outwardly extending flange 28 at its upper end is provided. The flanged end of this bushing is welded to the inside of the dome at 29, slightly above its lower edge, so that a putty ring may easily be formed when the fixture is secured to the shelf of the basin. In order to provide a strong and unitary fixture structure, the lower end of the guide bushing 18 and the vertical portion 16 of the delivery conduit 10, both of which extend through the clamping bushing 27, are tack welded to each other and also to the inside wall of the bushing 27 at 30 and 31, respectively. The clamping bushing 27 is externally threaded to receive a clamping nut 32 to secure the fixture tightly to the basin shelf 26. It can thus be seen that I have provided a unitary fluid fixture which is rigid in construction and which effectively encloses and supports the internal parts or fittings. Moreover, the stainless sheet metal forming the outside surface of the fixture insures a finish which is neat in appearance, not easily injured, and does not wear away after continued use.

I prefer to make the fixture structure described above by forming the shell 21 from ductile sheet metal, such as a stainless metal alloy, in suitable dies. When the shell 21 is received from the dies, the bottom thereof is open so that the longitudinal portion 22 is in the shape of a trough. At the portion of the dome and spout at and adjacent their junction, the side walls of the shell as received from the dies are deeper than the other portions, as indicated at 33 in Fig. 3, in order to compensate for the closing of the dome circle in the final wrapping of the shell around the inner parts. A threaded opening 24 is formed in the dome 23, through which the stopper rod 11 extends. After the delivery conduit 10, which may be formed of either seamless or welded tubing, is cut to proper length, I preferably shape it in suitable dies to obtain the bends at 12 and 14, and the elliptical shape of the spout 13 and delivery orifice 15. The spout is so shaped that it will fit snugly within the hollow interior of the longitudinal trough portion 22 of the shell 21. The lower end of the vertical portion 16 of the delivery conduit is then threaded so that it can receive the connection 17. After the delivery conduit is properly shaped and threaded, I place the spout 13 in the longitudinal trough portion 22 of the shell 21, and with these parts snugly fitting each other, I shape or press the walls of the trough portion 22 of the shell so that their edges 34 and 35 are almost in juxtaposition on the underside of the horizontal spout 13 of the delivery conduit 10. I then screw the guide bushing 18 outwardly through the threaded opening 24 in the dome 23, and the flanged end 28 of the clamping bushing 27 is positioned within and slightly above the lower edge of the dome 23, so that the guide bushing 18 and vertical portion 16 of the delivery conduit extend through the clamping bushing.

With the different elements just described held in suitable devices, I fabricate the entire structure in a single welding operation. I unite the abutting edges of the trough portion 22 of the shell 21 at 36, as indicated in Figs. 1 and 2, from the point 37 at the delivery orifice 15 to the point 38 at the lower edge of the dome 23. I then continue the welding operation by welding the clamping bushing 27 to the dome 23 at 29, either tack welding or entirely welding the junction between the inner wall of the dome 23 and flange 28 of the clamping bushing 27. The guide bushing 18 and vertical portion 16 of the delivery conduit are preferably tack welded to each other and to the clamping bushing at 30 and 31, respectively. After the welding operation, the welded parts may be finished off smoothly by grinding.

In view of the foregoing, it will be clear that I have provided a simplified and improved fabricated fluid fixture construction. The various fitting parts can be readily machined in any desired manner, and the shell forming the non-detachable enclosing structure can be readily made of pressed sheet metal. While I prefer to fabricate the fixture elements by welding, the elements of the fixture can also be readily fabricated together by brazing or by any other suitable manner. In using stainless sheet metal for the shell material, the metal can be easily polished when in sheets, as it does not lose its polish when stamped into shell form. The metal does lose its polish locally because of the welding operation, but after the welded parts have been finished off smoothly by grinding, such parts can be readily repolished.

Although I have shown and described my invention in connection with a particular type of fitting, it will be obvious to those skilled in the art that modifications may be made without departing from the spirit and scope of my invention.

I claim:

1. A fabricated fluid fixture including a fitting comprising a fluid delivery conduit having a spout portion, a waste-stopper control member and a guide member therefor, and an annular bushing; and a shell arranged about said fitting and having the lower edges thereof united to said annular bushing; the portion of said shell arranged about said spout having the abutting edges thereof united together to retain the same in close contact with said spout; said shell having an opening; said waste-stopper control member extending through the opening and having said guide member therefor secured to said shell at the opening.

2. A fabricated fluid fixture including a fitting comprising a fluid delivery conduit, a waste-stopper control member and an annular bushing; said delivery conduit having a horizontal spout portion and a vertical downwardly extending portion adapted to be connected to a source of fluid; a shell having an annular portion surrounding and contacting said spout portion and a dome portion having an opening; said bushing being united to the lower edge of said dome portion; and means including said bushing for securing the fixture to a support; said waste-stopper control member extending through the opening in said dome and said waste-stopper control member and the vertical portion of said delivery conduit extending through said bushing.

3. A fabricated fluid fixture including a fitting comprising a fluid delivery conduit having a spout portion and a waste-stopper control member and a guide therefor, and a nondetachable enclosing structure for said fitting comprising a shell formed from a sheet of a stainless steel alloy, said shell being arranged about said fitting and having a domed portion and another portion bent so as to completely enclose and contact said spout with the opposing edges of such bent portion forming a single seam, the opposing edges of said seam being united by welding or brazing, the domed portion of said shell having an opening through which said waste-stopper control member is adapted to extend.

4. A fluid fixture comprising a fluid delivery conduit having a spout portion, a fluid control member, and a guide for said member; means permanently secured to and enclosing a major portion of said fixture, said means comprising a shell separately formed from a sheet of chromium steel, a portion of said shell engaging the exterior surface of and enclosing a major part of said spout and having a single welded or brazed seam extending lengthwise of said spout, said shell also having a domed portion provided with an aperture, said guide projecting outwardly through said aperture and a part of said guide bearing against the interior of said domed portion adjacent the edge of said aperture; and a nut adjustably threaded on said guide outside said domed portion and having a part overlapping said domed portion around said aperture to conceal the edge of said aperture and to hold said shell in place.

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