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(71) Applicant(s):
Croydex Limited
(Incorporated in the United Kingdom)
Central Way, Andover, HAMPSHIRE, SP10 5AW, United Kingdom

(72) Inventor(s):
Peter James Harold Pegden
Paul Edward Wills

(74) Agent and/or Address for Service:
Ipca Consulting Limited
Northpoint House, 52 High Street, KNAPHILL, Surrey, GU21 2PY, United Kingdom

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(56) Documents Cited:
GB 1496609 A
DE 010006988 A1
WO 2002/075183 A2
US 7039966 B1

(58) Field of Search:
INT CL **E03C**
Other: **EPODOC, WPI.**

(54) Title of the Invention: **Mounting method and apparatus**
Abstract Title: **Adhesive gasket for mounting a tap**

(57) The invention provides a method and a means for mounting a tap 5 on a support surface 6 that supplements the conventional mounting and addresses the problem of taps coming loose and rotating on their mountings. The invention provides an adhesive bond between the tap and its supporting surface and comprises an adhesive fixing between the tap structure and support surface. The adhesive 21 may be applied to a locating component 22 or grip gasket 22 located between the tap and support surface. The tap may have locking features 27 which engage with the gasket. A locking component 22 may also be included between the gasket and the tap. The locking component may have ribs 29 which engage with channels 30 in the outer periphery of the grip gasket.

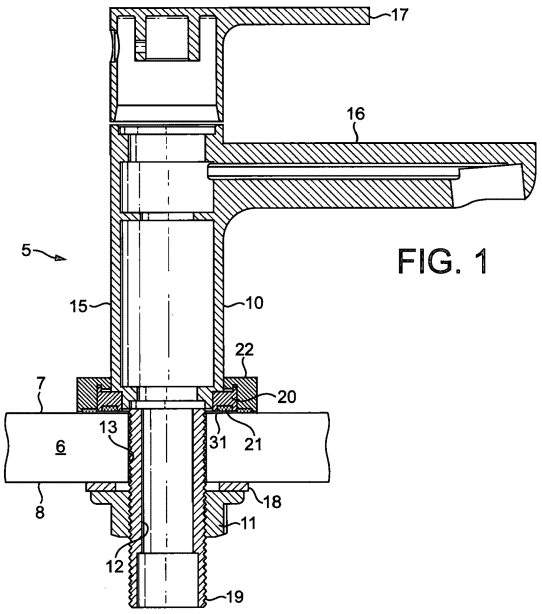

FIG. 1

GB 2511791 A

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

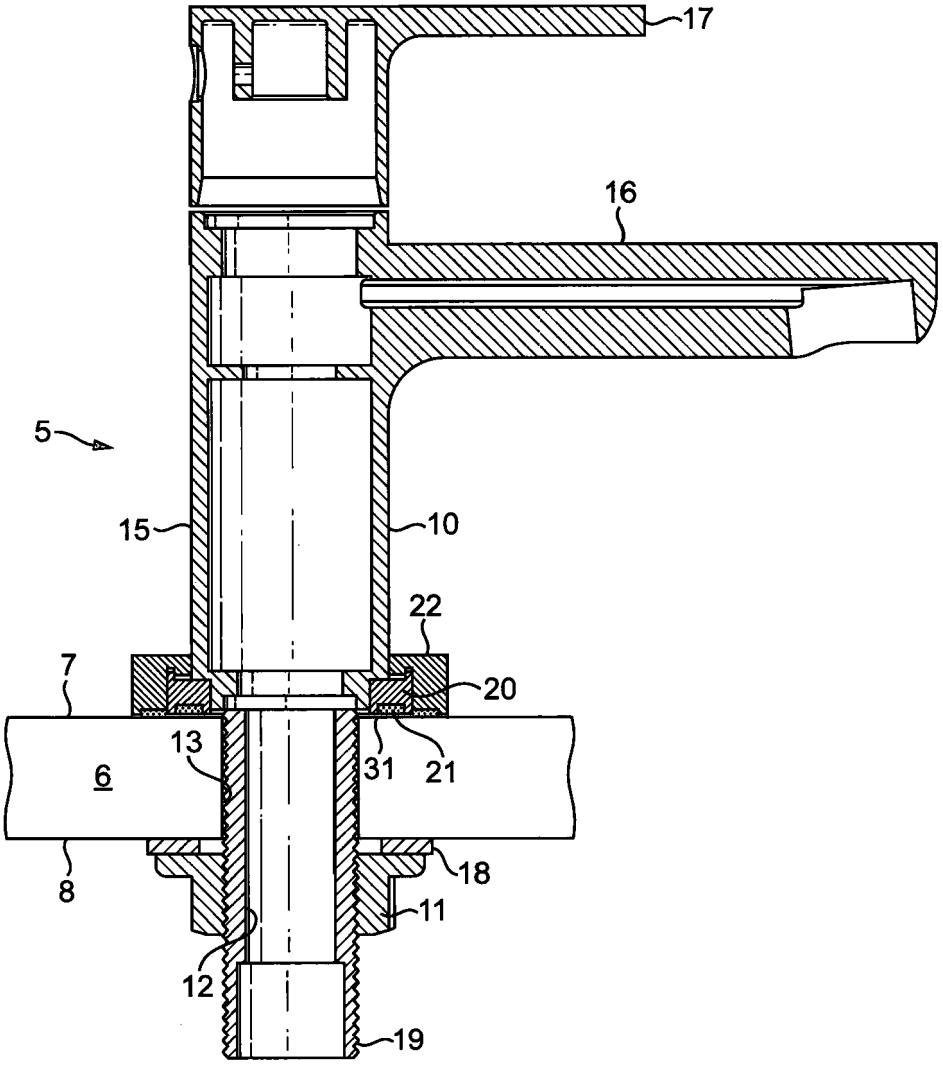

FIG. 1

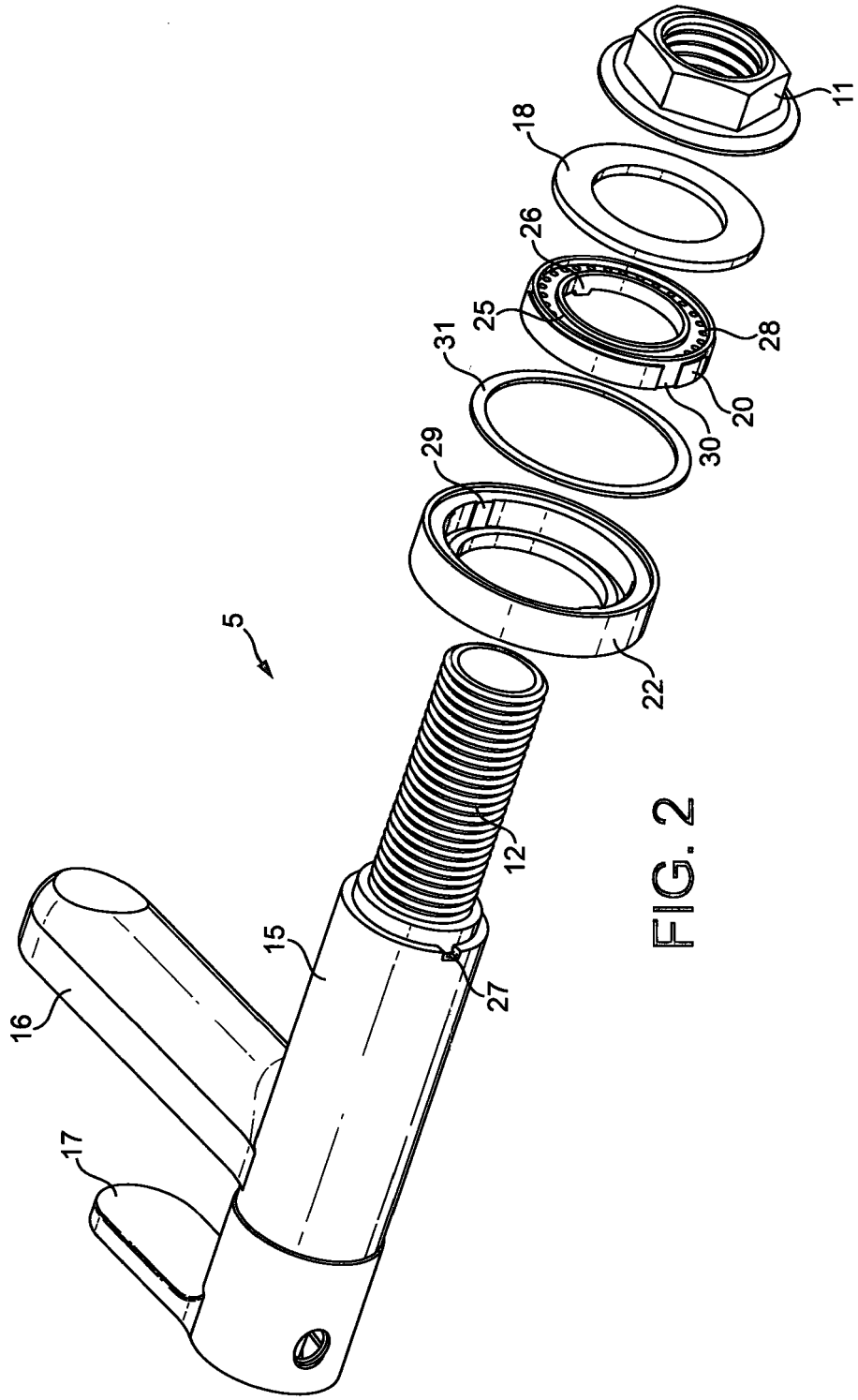

FIG. 2

MOUNTING METHOD AND APPARATUS

Field of the Invention

This invention provides a method of and/or apparatus for mounting a tap or faucet to a supporting surface.

Background to the Invention

A tap or faucet (hereinafter 'a tap') is typically fixed to a supporting surface by a fixing that is passed through a hole in the supporting surface and held in place by a nut or like fixture being attached to that part of the fixing that projects from the remote side of the supporting surface. The fixing may be defined by a threaded stem or shaft formed integrally with the tap body or the fixing may be a separate unit connected to the plumbing system, to which unit a tap body can be fixed from a position above the supporting surface.

Whatever the form of tap, all are susceptible to becoming loose and rotating about their mountings. This problem is not only annoying but can lead to leakage at the water connections and the problem is generally difficult to remedy as the tightening nut is typically hidden away beneath the support surface, and difficult to engage.

It is an object of the invention to provide a method and apparatus which will go at least some way in addressing the drawbacks mentioned above; or which will at least provide a novel and useful alternative.

Summary of the Invention

Accordingly, in one aspect, the invention provides a method of mounting a tap assembly onto a support surface wherein said tap assembly includes an upper structure on an upper side of said support surface, a fixing member engaging an underside of said support surface, and a linking facility passing through an aperture in said support surface wherein engagement of said fixing member with linking facility fixes said upper structure to said upper side of said support surface, said method including applying an adhesive fixing between said upper structure and said support surface.

Preferably said method includes applying said adhesive so as to encircle said aperture.

Preferably said adhesive is applied to a locating component or grip gasket located between said upper structure and said upper side of said support surface.

Preferably said method further includes locking the rotational position of said upper structure relative to said grip gasket by engaging complimentary locking features on said upper structure and on said grip gasket.

Preferably said method further includes engaging a locking component between said grip gasket and said support surface.

Preferably said method comprises adhering said locking component to said support surface.

In a second aspect the invention provides a tap assembly mountable onto a support surface, said tap assembly including an upper structure engageable

with an upper side of said support surface; a fixing member engageable with an underside of said support surface; and a linking facility which in use, is passed through an aperture in said support surface wherein engagement of said fixing member with linking facility fixes said upper structure to said upper side of said support surface, said assembly being characterised in that an adhesive fixing is provided which, in use, is positioned between said upper structure and said support surface to provide an adhesive bond between said upper structure and said support surface.

Preferably said adhesive fixing is configured to encircle said aperture.

Preferably said adhesive fixing is incorporated in a locating component or grip gasket locatable between said upper structure and said upper side of said support surface.

Preferably said grip gasket and said upper structure include complimentary locking features to prevent rotation between said upper structure and said grip gasket.

Preferably said assembly further includes a locking component engageable between said grip gasket and said support surface.

Preferably said grip gasket and said locking component include complimentary interlocking features to prevent relative rotation there-between.

Preferably said locking component includes an adhesive surface engageable with said support surface.

Many variations in the way the invention may be performed will present themselves to those skilled in the art, upon reading the following description. The description should not be regarded as limiting but rather as an illustration, only, of one manner of performing the invention. Where appropriate any element or component should be taken as including any or all equivalents thereof whether or not specifically mentioned.

Brief Description of the Drawings

Working embodiments of the invention will now be described with reference to the accompanying drawings in which:

Figure 1: shows a sectional view of a tap assembly fitted to a support surface in accordance with the invention; and

Figure 2: shows an exploded view, from below, of the tap assembly components shown in Figure 1.

Detailed Description of Working Embodiment

The invention has been devised to address the long-felt problem of taps becoming loose on their mountings. The invention may be applied to pillar taps of the type shown in the drawings but may equally be applied to tap assemblies in which a tap base is fixed to the support surface having a spigot projecting above the surface to which spigot a tap body may be fitted.

Referring to the drawings, a tap assembly 5 is shown mounted on a support surface 6, the support surface having an upper side 7 and an underside 8. In

the form shown the tap assembly 5 comprises an upper structure 10 engageable with the upper side 7 of the support surface, a fixing member 11 engageable with the under side 8, and a linking facility 12 which passes through an aperture 13 in the support surface such that engagement of the fixing member 11 on the linking facility 12, and tightening thereof, causes the upper structure to be drawn down firmly onto the support surface.

So far all that has been described is entirely conventional. The essence of the invention is the creation of an adhesive bond between the upper structure 10 and the support surface 6. This adhesive bond supplements the fixing applied by the fixing member 11 in combination with the linking facility 12, and serves to minimise the possibility of the upper structure 10 rotating relative to the support surface 6.

In the embodiment depicted and described the tap assembly comprises a pillar tap having a tap body 15, an outlet spout 16, and an operating lever 17. The linking facility 12 in this case comprises a downwardly extending threaded extension of the body 15 whilst the fixing member 11 comprises a threaded nut which bears against washer 18 to draw the body 15 down against the support surface. Conventionally, for a pillar tap, the lower end 19 of the body provides a connection for a water supply to the tap.

It is convenient to provide the adhesive bond between the tap assembly and the support surface by positioning between the tap assembly and the support surface a locating component or grip gasket 20, the grip gasket engaging the tap body and, in use, being adhered to the support surface 6 by adhesive 21. In addition, a locking component 22 is preferably provided which, in use, is engageable between the grip gasket and the support surface to maintain the grip gasket in position while the adhesive bond between the grip gasket and the support surface cures.

Referring to Figure 2, it can be seen that in the depicted embodiment the grip gasket is, in essence, an annular ring through which the threaded extension 12 of the body passes and thus the grip gasket encircles the mounting hole 13. The gasket 20 includes an annular cavity 25 on its underside to receive and contain adhesive compound 21. Spigots 26 project from the upper side of the grip gasket, the spigots engaging with complimentary recesses 27 on the tap body 15 to prevent relative rotation between the tap body and the grip gasket. The grip gasket may also include apertures 28 passing axially there-through to permit excess adhesive in the cavity 25 to bleed out and thus ensure the best possible bond between the grip gasket and the support surface.

In the form shown the locking component 22 is an annular ring that fits over, and engages with, the grip gasket 20. To this end the locking component has a pair of axially extending ribs 29 projecting from the inner periphery thereof, the ribs 29 engaging in channels 30 provided on the outer periphery of the grip gasket. It will thus be appreciated that, once the locking component has been placed over the grip gasket, relative rotation between the locking component and the grip gasket is prevented. The locking component 22 is preferably fixed to the upper side 7 of the support surface by a ring 31 of double-sided adhesive tape.

It will be appreciated that alternatives to the described embodiment are possible without departing from the scope of the invention. By way of example only, the grip gasket could be secured to the tap body 15 other than by the physical engagement of spigots 26 and recesses 27, one alternative being to adhere the grip gasket to the tap body.

It thus follows that the invention provides a relatively simple yet effective solution to the common and annoying problem of taps becoming loose and rotating on their mountings.

Claims

1. A method of mounting a tap assembly onto a support surface wherein said tap assembly includes an upper structure on an upper side of said support surface, a fixing member engaging an underside of said support surface, and a linking facility passing through an aperture in said support surface wherein engagement of said fixing member with linking facility fixes said upper structure to said upper side of said support surface, said method including applying an adhesive fixing between said upper structure and said support surface.

2. A method as claimed in claim 1 including applying said adhesive so as to encircle said aperture.

3. A method as claimed in claim 1 or claim 2 wherein said adhesive is applied to a locating component or grip gasket located between said upper structure and said upper side of said support surface.

4. A method as claimed in claim 3 further including locking the rotational position of said upper structure relative to said grip gasket by engaging complimentary locking features on said upper structure and on said grip gasket.

5. A method as claimed in claim 3 or claim 4 further including engaging a locking component between said grip gasket and said support surface.

6. A method as claimed in claim 5 comprising adhering said locking component to said support surface.

7. A tap assembly mountable onto a support surface, said tap assembly including an upper structure engageable with an upper side of said support surface; a fixing member engageable with an underside of said support surface; and a linking facility which in use, is passed through an aperture in said support surface wherein engagement of said fixing member with linking facility fixes said upper structure to said upper side of said support surface, said assembly being characterised in that an adhesive fixing is provided which, in use, is positioned between said upper structure and said support surface to provide an adhesive bond between said upper structure and said support surface.

8. A tap assembly as claimed in claim 7 wherein said adhesive fixing is configured to encircle said aperture.

9. A tap assembly as claimed in claim 7 or claim 8 wherein said adhesive fixing is incorporated in a locating component or grip gasket locatable between said upper structure and said upper side of said support surface.

10. A tap assembly as claimed in claim 9 wherein said grip gasket and said upper structure include complimentary locking features to prevent rotation between said upper structure and said grip gasket.

11. A tap assembly as claimed in claim 9 or claim 10 further including a locking component engageable between said grip gasket and said support surface.

12. A tap assembly as claimed in claim 11 wherein said grip gasket and said locking component include complimentary interlocking features to prevent relative rotation there-between.

13. A tap assembly as claimed in claim 11 or claim 12 wherein said locking component includes an adhesive surface engageable with said support surface.

Application No:	GB1304508.3	**Examiner:**	Mr Haydn Gupwell
Claims searched:	1-13	**Date of search:**	5 August 2013

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-13	WO02/075183 A2 (SKARIE LOREN) see whole document especially the figures noting adhesive backed seals 20, 132, 138, 140, 158, 160 as shown in figures 1 & 18-24 especially.
X	1, 2, 3, 7 & 8	US7039966 B1 (CRANSTON JR SIDNEY C) see whole document especially the figures noting adhesive fixing 20.
X	1, 2, 3, 4, 7, 8, 9 & 10	DE10006988 A1 (SIMILOR SA) see abstract and figures.
X	1, 2, 3, 7, 8 & 9	GB1496609 A (DELTAFLOW LTD) see whole document especially the figures noting adhesive coated fixing 8.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^{X} :

Worldwide search of patent documents classified in the following areas of the IPC

E03C

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI.

International Classification:

Subclass	Subgroup	Valid From
E03C	0001/04	01/01/2006