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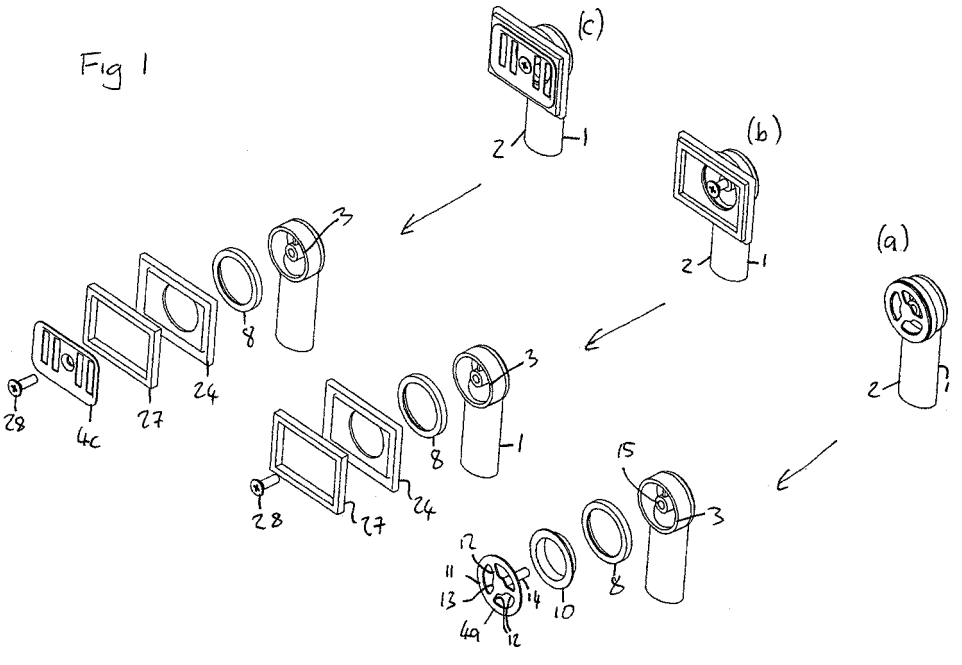
(54) **Overflow apparatus for sanitary fixtures**

(57) A kit of parts for forming an overflow assembly, the kit of parts comprising a first part (3) arranged so as to be positioned about an external side of an overflow orifice in a sanitary fixture and to be connected to a drain, and a plurality of second parts (4a, 4c) each arranged to be positioned on the internal side of the overflow orifice and to interchangeably engage the first part (3). The kit of parts may further comprise an adaptor (24), arranged to engage the first part (3), in which, without the adaptor, the first part is sized and shaped to sealably engage an overflow orifice of a first size and/or shape and in which, with the adaptor engaged, the first part (3) and adaptor (24) combined can sealably engage an orifice of a second, different size and/or shape that would not be possible without the adaptor (24). The sanitary fixture may be a bath, sink, washbasin or the like.

Fig 1



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Description

[0001] This invention relates to overflow apparatus for sanitary fixtures, such as (but not limited to) sinks.

[0002] It is known to provide sanitaryware, such as sinks for use in bathrooms or kitchens, baths and the like with an overflow orifice. This is generally positioned towards the top rim of the fixture in question, so that, should the fixture be filled over a safe amount, water may drain away through the orifice so as to reduce the possibility of water flooding over the rim. Generally, the overflow orifice is connected by means of an overflow assembly to a drain, typically the same drain that drains the fixture in normal use.

[0003] Sanitaryware fixtures come in many different shapes and sizes, so as to fit in with the design and appearance requirements of the end user. This means that different fixtures require different overflow assemblies.

[0004] According to a first aspect of the invention, there is provided a kit of parts for forming an overflow assembly, the kit of parts comprising a first part arranged so as to be positioned about an external side of an overflow orifice in a sanitary fixture and to be connected to a drain, and a plurality of second parts each arranged to be positioned on the internal side of the overflow orifice and to interchangeably engage the first part.

[0005] Thus, overflow assemblies for different sanitary fixtures can be generated using a common first part and interchangeable second parts. This reduces the number of different parts which it is necessary to make to cover a range of designs of fixtures.

[0006] The kit of parts may further comprise an adaptor, arranged to engage the first part, in which, without the adaptor, the first part is sized and shaped to sealably engage an overflow orifice of a first size and/or shape and in which, with the adaptor engaged, the first part and adaptor combined can sealably engage an orifice of a second, different size and/or shape that would not be possible without the adaptor. This allows for the kit of parts to be used to generate overflow assemblies for different sized and shaped orifices.

[0007] At least one of the second parts may be arranged to engage the first part without the adaptor, and at least one of the second parts may be arranged to engage the first part with the adaptor engaged thereto.

[0008] The first part may provide a first sealing surface, of a size and shape to surround, in use, an overflow orifice of a sanitary fixture of the first size and/or shape. The adaptor may engage the first part by the first sealing surface and may comprise a second sealing surface which is of a size and shape to surround, in use, (typically the exterior side of) an overflow orifice of the second size and/or shape. The second parts may be of different sizes and/or shapes; in such a case, the adaptor may allow the first part to engage second parts of different sizes and/or shapes.

[0009] Each second part may comprise a grille for the overflow assembly. Each second part may be of different appearance. This allows for the kit to produce overflow assemblies of different appearances whilst still using a common first part.

[0010] In some cases, sanitary fixings are provided with integral grilles over the overflow orifice. Either or both of the adaptor or the first part may be arranged to engage, in use, the overflow orifice of a sink with an integral grille over its overflow orifice. In the case where it is the adaptor that engages such an orifice, the first part and the adaptor together may form the overflow assembly.

[0011] The first part may further comprise a conduit part leading away from the first sealing surface, which is arranged to collect, in use, water that flows through the orifice and to direct, in use, that water to the drain.

[0012] The first part may comprise a location for a fixing member, such as a screw or nut, which is arranged to fix the overflow assembly together in use; typically, the location comprises a threaded hole. Each second part may have a corresponding location for the fixing member; this may comprise a hole in each second member, especially where the fixing member is a bolt or screw.

[0013] The sanitary fixture may be a sink, a bath or any other suitable sanitary fixture.

[0014] According to a second aspect of the invention, there is provided an adaptor for use in an overflow assembly, comprising a first sealing surface of a first size and shape and a second sealing surface having a second, different size and/or shape, in which the adaptor is arranged such that, in use, the second sealing surface may be sealably fitted about an orifice in a sanitary fixture and the first sealing surface sealably engaged to a part of the overflow assembly connected to a drain.

[0015] This allows the overflow assembly in which the adaptor is to be used is to be used for differently-shaped orifices.

[0016] In some cases, sanitary fixings are provided with integral grilles over the overflow orifice. The adaptor may be arranged to engage, in use, the overflow orifice of a sink with an integral grille over its overflow orifice.

[0017] According to a third aspect of the invention, there is provided a method of forming an overflow assembly for a sanitary fixture, comprising taking from a kit of parts according to the first aspect of the invention a first part and at least one of an adaptor and a second part and combining those together to form the overflow assembly.

[0018] Indeed, the method may comprise the step of taking an adaptor and combining it into the overflow assembly, or taking a second part and combining it into the overflow assembly, or both.

[0019] The method may also comprise the step of fitting the overflow assembly to a sanitary fixture, typically such as a sink or a bath. The first part may be positioned on an external side of an overflow orifice of the sanitary fixture, and the (optional) second part may be positioned on an internal side of the overflow orifice. Typically, the second part would not be used where the sanitary fixture

has an integral grille. The method may further comprise fixing the first part and the second part together, or the first part to the sink, possibly through the adaptor.

[0020] There now follows, by way of example only, description of an embodiment of the invention, described with reference to the accompanying drawings, in which:

Figure 1 shows a kit of parts according to an embodiment of the invention;

Figure 2 shows the kit of parts attached to a first design of sink;

Figure 3 shows a kit of parts attached to a second design of sink; and

Figure 4 shows a kit of parts attached to a third design of sink.

[0021] A kit of parts according to an embodiment of the invention is shown in Figure 1 of the accompanying drawings. This shows the kit of parts assembled in three different ways (shown at (a), (b) and (c)), and exploded views of the assembled kit. When assembled, the kit forms an overflow assembly for a sanitary fixture, being in this case a sink.

[0022] The kit comprises a first part 1, comprising a conduit 2 which is attached, in use, to a drain. The first part 1 also has a sealing surface 3. The first part 1 can engage multiple different, in this case two, second parts 4a, 4c, which also form part of the kit. Each second part 4a, 4c form a grille for the overflow assembly, which, in use, provide a different appearance to the end user of the sink.

[0023] The provision of different second parts means that the kit of parts can be used to generate overflow assemblies for different sinks. This can be demonstrated with respect to Figure 2 to 4 of the accompanying drawings. Taking Figure 2 first, this shows a sink 6 having a circular overflow orifice 5. In this case, the first part 1 is positioned on the external side 7 of the orifice 5. Between the orifice 5 and the sealing surface 3 of the first part 1 is positioned a circular silicon seal 8.

[0024] On the internal side 9 of the orifice 5, a protecting ring 10 is provided to protect the sink from the second part 4a discussed below. Over this protecting ring is provided a circular second part 4a. This second part 4a is of the form of flat disc made of metal materials having an annular ring 11 connected by three radial spokes 12 to a central hub 13. The hub has a threaded stub 14 depending from it, out of the plane of the disc. This mates with a threaded hole 15 moulded into the first part.

[0025] By screwing the second part 4a into the first part 1, the first part 1 is forced into sealing contact with the external wall of the sink 6 via its seal 8. A secondary seal is made between second part 4a and the protective ring 10. If the sink is filled to over the level of the bottom of the orifice 5, water will flow through the second part 4a into the first part 1 and thence to the drain. Thus, an overflow assembly 15 for the first design of sink 6 is generated.

[0026] The kit of parts can also be used to generate an overflow assembly for a second design of sink 20 shown in Figure 3 of the accompanying drawings. In this design of sink, the sink 20 comprises a basin portion 21 and a draining portion 22. The draining portion 22 is fitted with an overflow orifice 23, arranged to collect any water which drains into draining portion 22 and also any water that overflows into draining portion 22 from basin portion 21. It is to be noted that the orifice is generally horizontal in this design, rather than vertical in the design of Figure 2. This means that water will fall vertically into the overflow rather than move generally horizontal as with the vertical orifice of Figure 2. However, the orifice could equally well be vertical in the side of the basin portion 21.

[0027] The orifice 23 is of the form of a rectangular grille formed with elongate slots directly in the material of the sink 20; in this case, no second portion is required. Accordingly, the assembly is used in the manner of Figure 1 (b) . The first part 1 and its seal 8 are provided as before.

[0028] The kit is further provided with an adaptor 24 having two sealing surfaces. The first sealing surface 25 is of the same size and shape as the sealing surface 3 of the first part 1, and mates therewith through seal 8. The second sealing surface 26 of the adaptor 24 is rectangular to correspond to the shape of the rectangular grille of the orifice 23. The second sealing surface mates with the underside of the draining portion 22 around the orifice 23 by means of rectangular foam seal 27.

[0029] The overflow assembly in this case is held together by a screw 28 passing through screw hole 29 in the grille formed by the orifice 23, through the centre of the adaptor 26 and into the threaded hole 15 in the first part. This means that the tension in the screw 28 once tightened will bias the first part, and hence the seals 8 and 27 and the adaptor 24 against the sink so as to seal the overflow assembly around the orifice 23. Thus is an overflow assembly for a second design of sink formed.

[0030] The kit of parts can also be used to generate an overflow assembly for a third design of sink 30 shown in Figure 4 of the accompanying drawings. In this sink 30, a basin portion 31 and a draining portion 32 are provided in the same manner as in the design of Figure 3. An orifice 33 is provided in the form of a simple hole in the draining portion 32, although, as in the previous design, the orifice could equally well be vertical in the side of the basin portion 31.

[0031] For this design, the first part 1, seal 8, adaptor 24 and seal 27 function in the same manner as in the design of Figure 3. However, instead of having the integral grille of Figure 3, the kit further comprises another second part 4c, of the form of a rectangular grill. This is positioned on the topside of the draining portion and is connected to the first part 1 by means of a screw 28 passing through hole 38 in the second part 4c and engaging the threaded hole 15. In this case, the head of

the screw 28 engages the second part 4c and the threaded portion engages the first part 1, biasing the two parts together. This forces the seal 27 of the adaptor 24 into contact with the underside of the sink, thereby sealing the overflow assembly thus formed against the sink.

[0032] The embodiment therefore provides the following kit of parts:

- First part 1 (used in Figures 2 to 4)
- Seal 8 (used in Figures 2 to 4)
- Adaptor 24 (used in Figures 3 and 4)
- Seal 27 (used in Figures 3 and 4)
- Disc-shaped second part 4a (used in Figure 2)
- Protecting ring 10 (used in Figure 2)
- Rectangular second part 4c (used in Figure 4)
- Screw 28 (used in Figure 3 and 4)

[0033] This simple set of parts allows various parts, including the first part and the adaptor, to be reused in order to fit different designs of sinks. An installer of a sink can be provided with the same kit of parts and, by selecting the appropriate parts to install, can install overflow kits for different types of sinks. Previously, they would have had to been provided with different kits for each design of sink, thereby leading to what we have appreciated to be an unnecessary number of different parts to be manufactured.

Claims

1. A kit of parts for forming an overflow assembly, the kit of parts comprising a first part arranged so as to be positioned about an external side of an overflow orifice in a sanitary fixture and to be connected to a drain, and a plurality of second parts each arranged to be positioned on the internal side of the overflow orifice and to interchangeably engage the first part.

2. The kit of parts of claim 1, further comprising an adaptor, arranged to engage the first part, in which, without the adaptor, the first part is sized and shaped to sealably engage an overflow orifice of a first size and/or shape and in which, with the adaptor engaged, the first part and adaptor combined can sealably engage an orifice of a second, different size and/or shape that would not be possible without the adaptor.

3. The kit of parts of claim 2, in which at least one of the second parts is arranged to engage the first part without the adaptor, and at least one of the second parts is arranged to engage the first part with the adaptor engaged thereto.

4. The kit of parts of claim 2 or claim 3, in which the first part provides a first sealing surface, of a size and shape to surround, in use, an overflow orifice of a sanitary fixture of the first size and/or shape.

5. The kit of parts of any of claims 2 to 4, in which the adaptor engages the first part by the first sealing surface and comprises a second sealing surface which is of a size and shape to surround, in use, an overflow orifice of the second size and/or shape.

6. The kit of parts of any of claims 2 to 5, in which the second parts are of different sizes and/or shapes, the adaptor allowing the first part to engage second parts of different sizes and/or shapes.

7. The kit of parts of any preceding claim in which each second part comprises a grille for the overflow assembly.

8. The kit of parts of any preceding claim in which each second part is of different appearance.

9. The kit of parts of any preceding claim in which either or both of the adaptor or the first part are arranged to engage, in use, the overflow orifice of a sink with an integral grille over its overflow orifice.

10. The kit of parts of claim 9 in which the adaptor engages such an orifice, and in which the first part and the adaptor together form the overflow assembly.

11. The kit of parts of claim 4 in which the first part further comprises a conduit part leading away from the first sealing surface, which is arranged to collect, in use, water that flows through the orifice and to direct, in use, that water to the drain.

12. The kit of parts of any preceding claim, in which the first part comprises a location for a fixing member which is arranged to fix the overflow assembly together in use.

13. An adaptor for use in an overflow assembly, comprising a first sealing surface of a first size and shape and a second sealing surface having a second, different size and/or shape, in which the adaptor is arranged such that, in use, the second sealing surface may be sealably fitted about an orifice in a sanitary fixture and the first sealing surface sealably engaged to a portion of the overflow assembly connected to a drain.

14. The adaptor of claim 14, arranged to engage, in use, the overflow orifice of a sink with an integral grille over its overflow orifice.

15. A method of forming an overflow assembly for a sanitary fixture, comprising taking from a kit of parts according to any of claims 1 to 12 a first part and at least one of an adaptor and a second part and com-

bining those together to form the overflow assembly.

16. The method of claim 15 comprising the step of taking an adaptor and combining it into the overflow assembly, or taking a second part and combining it into the overflow assembly, or both.

17. The method of any of claims 14 to 16 comprising the step of fitting the overflow assembly to a sanitary fixture, typically such as a sink or a bath.

18. The method of claim 17, in which the first part is positioned on an external side of an overflow orifice of the sanitary fixture.

19. The method of claim 18, in which a second part is positioned on an internal side of the overflow orifice.

20. The method of claim 19, comprising fixing the first part and the second part together.

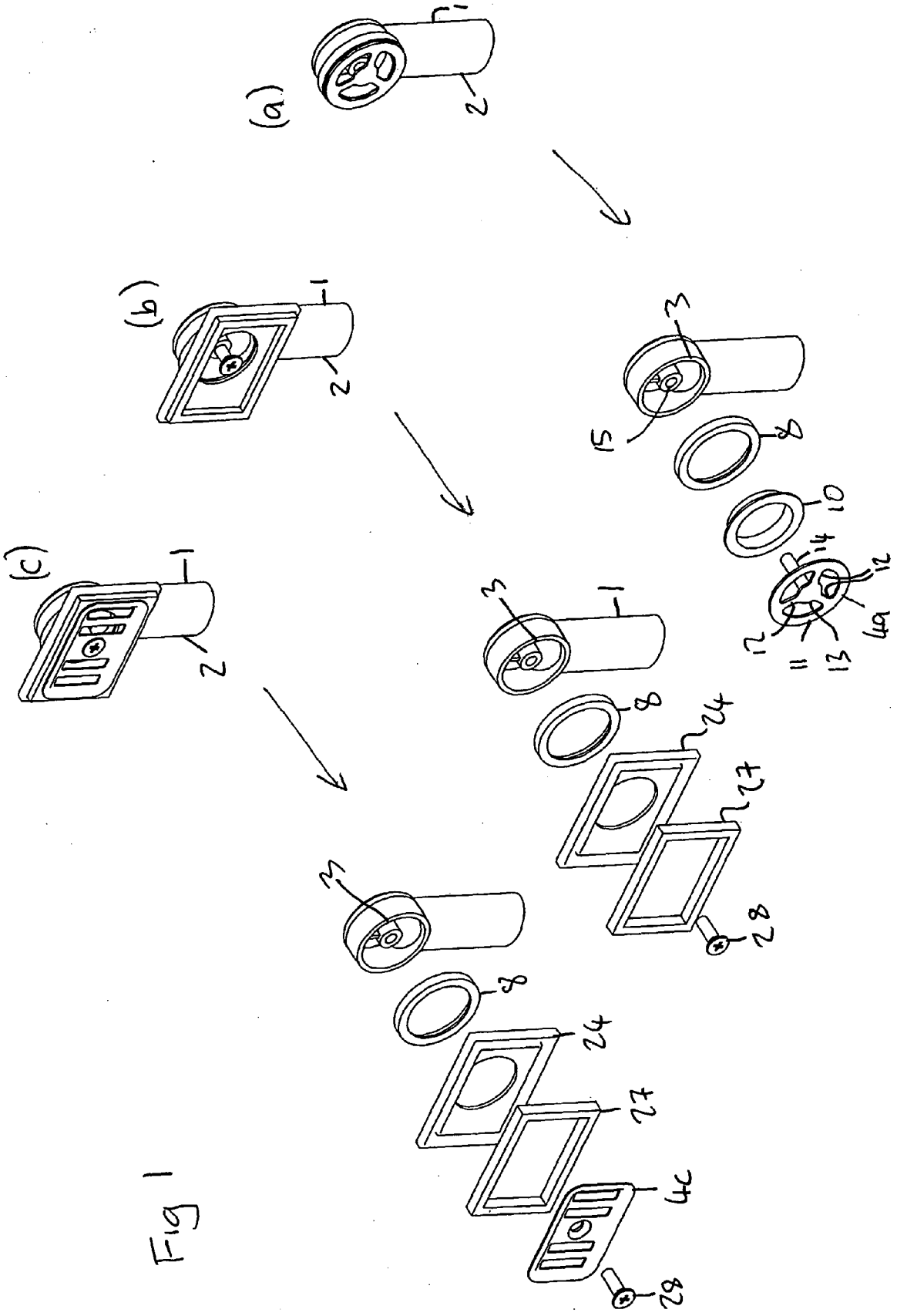

Fig 1

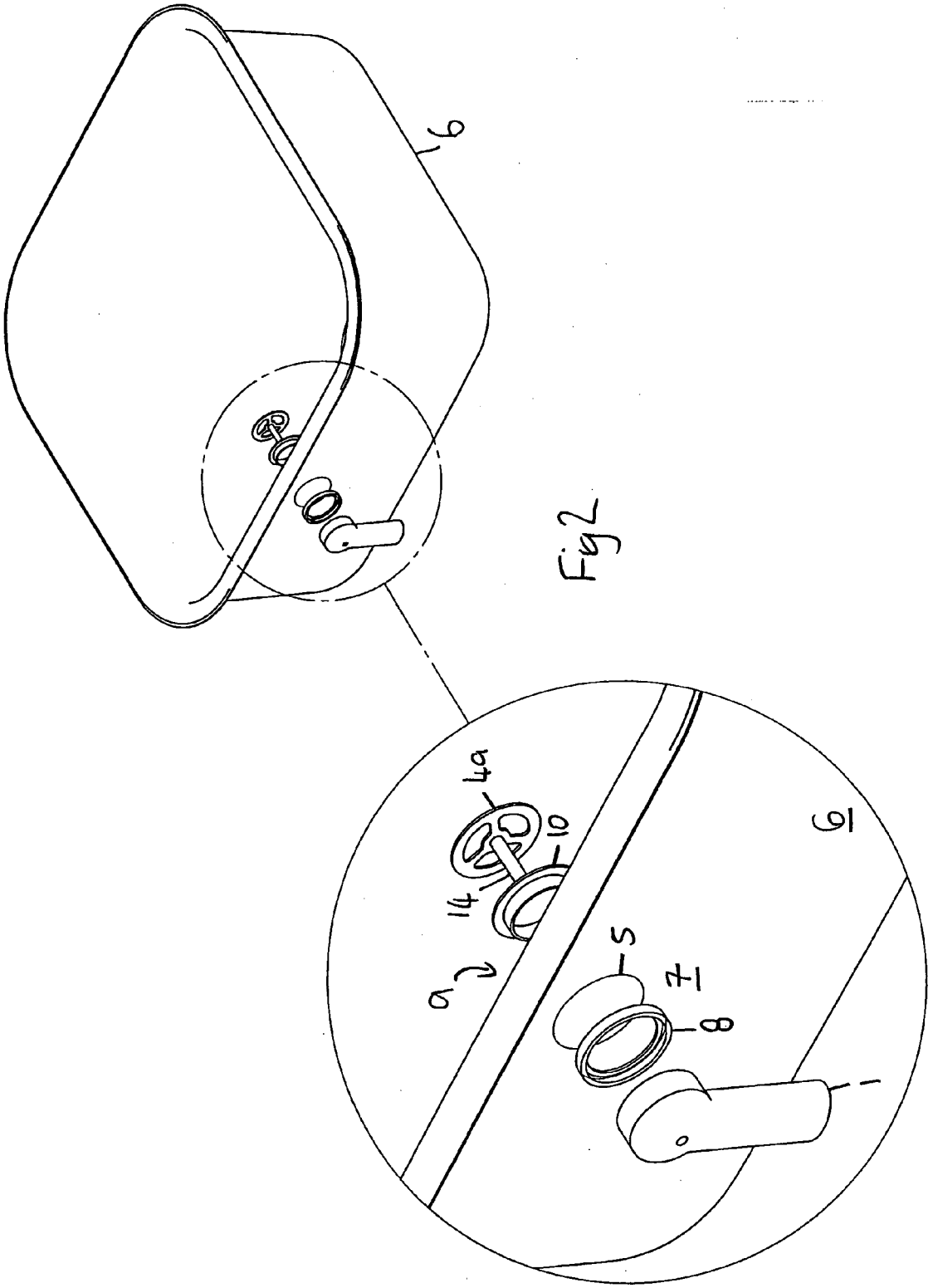

Fig2

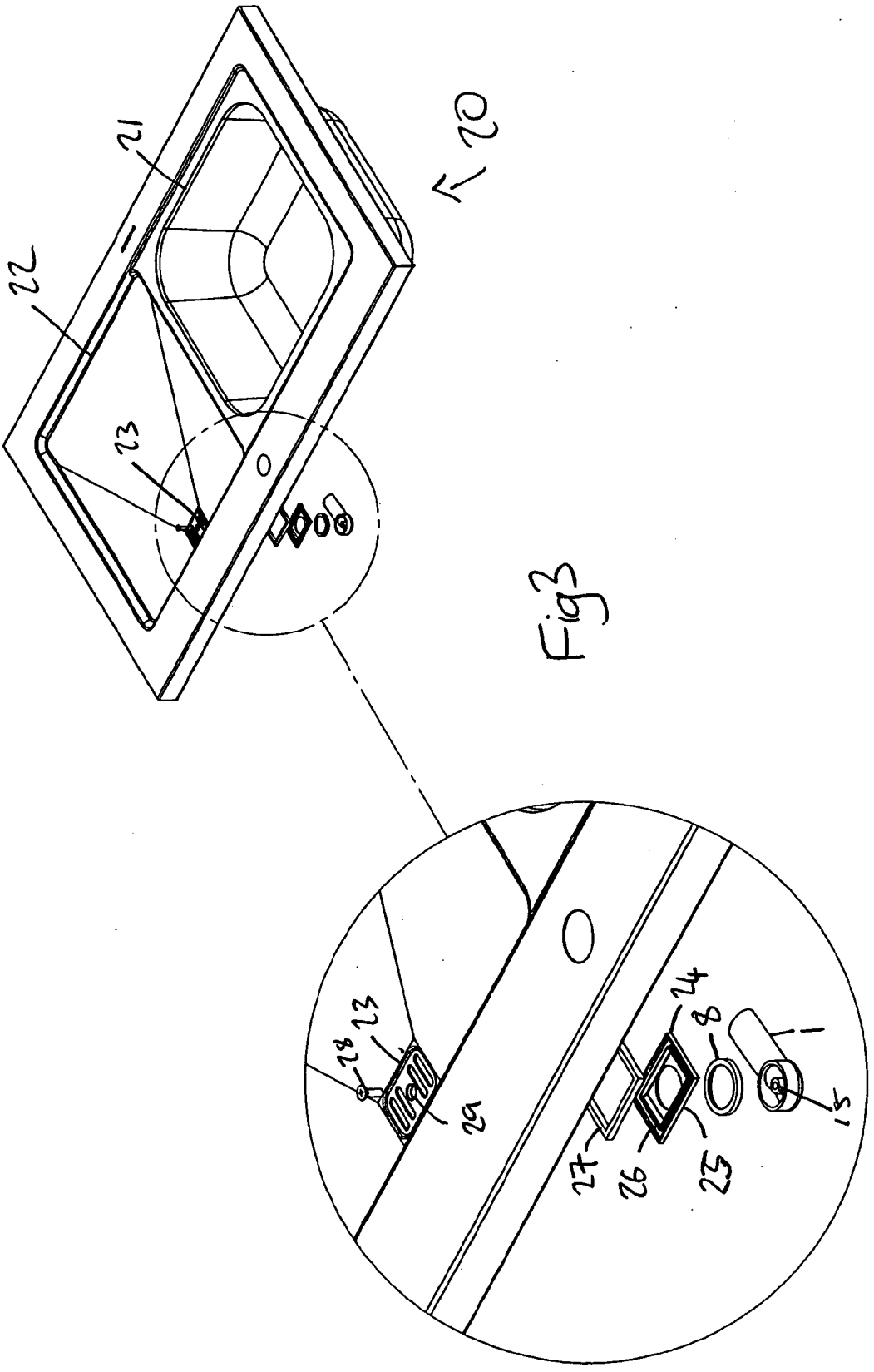

Fig3

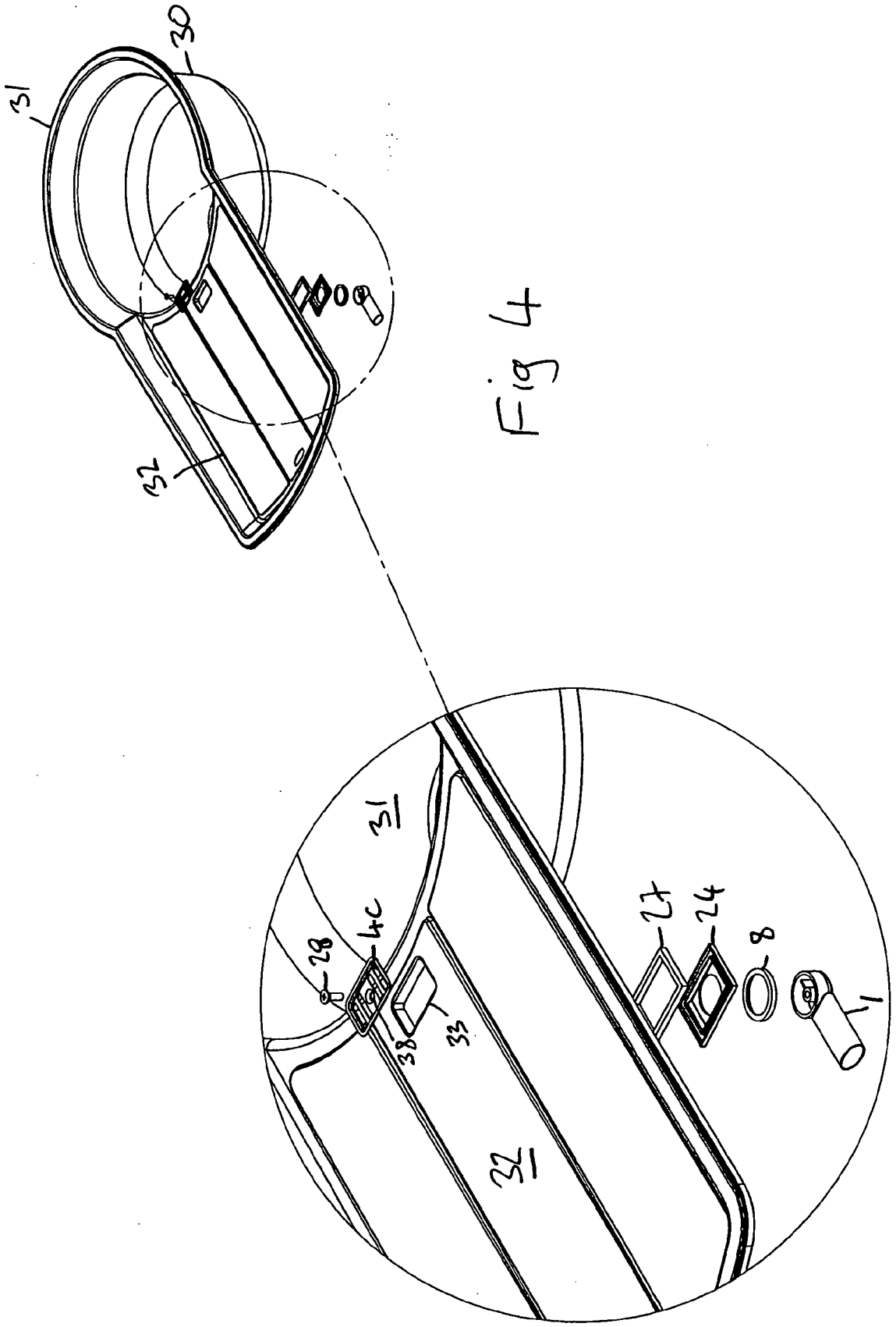

Fig 4