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(54) **Tool for opening the cap of a jerrycan**

(57) A spanner (10, 20, 30, 40) for opening a cap (1) of a jerrycan comprises an arm (11) and at least one ring (12) or semi-ring (22) at one end of the arm (11). The ring (12) or semi-ring (22) is provided with a plurality of

recesses (16) in its inner wall (14), the said recesses (16) being equidistantly spaced with respect to each other and being shaped as grooves extending the entire axial length of the ring (12) or semi-ring (22).

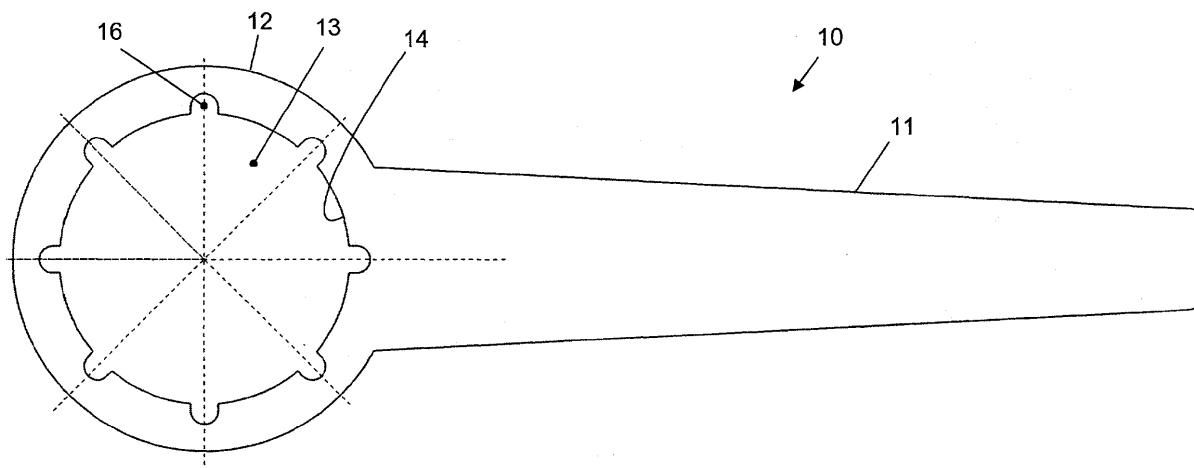


FIG. 2

Description

[0001] The present invention relates in general to a tool for opening the cap of a jerrycan. Such caps can be closed very tightly, so that it is very difficult for a person to open such cap with his bare hands. People need to exert excessive force, and then, when the cap comes loose, it is not unusual for the contents of the jerrycan to get spilled over the clothes of the person.

The present invention aims to provide a relatively simple and low-cost tool which makes it very easy to open the cap of a jerrycan without needing excessive force, so that spilling of the contents is avoided.

[0002] The present invention will be further explained by the following description with reference to the drawings, in which same reference numerals indicate same or similar parts, and in which:

figure 1A schematically shows a cross-section of a cap for a jerrycan;

figure 1B shows a top view of the cap of figure 1A;

figure 2 is a top view of a preferred embodiment of a spanner according to the present invention;

figure 3 is a schematic longitudinal cross section of the spanner of figure 2;

figure 4A is a top view, comparable with figure 2, of an alternative embodiment of a spanner according to the present invention;

figures 4B and 4C are top views showing other embodiments of a spanner according to the present invention;

figure 5 is a cross-section of a cap and a spanner, illustrating the use of the preferred embodiment of the spanner according to the invention.

[0003] Figure 1A schematically shows a cross-section of a cap 1 for a jerrycan, for instance a jerrycan such as commonly used for petrol. The cap 1 has a circular cylindrical body 2, provided with screw thread 4 on its inner surface 3. At one end, the circular cylindrical body 2 is closed by a cover plate 5, which extends substantially perpendicular to the axis of the cylindrical body 2. As should be clear to a person skilled in the art, the cylindrical body 2 fits over a cylindrical mouth piece of the jerrycan, which mouth piece is fitted with external threading mating with the internal threading 4 of the cap 1.

Figure 1B is a top view of the cover plate 5. As can clearly be seen in this top view, the cover plate 5 has a substantially circular circumferential edge 7, which is provided with a plurality of projections 6 spaced equidistantly along the circumferential edge 7. The number of such projections may vary. Usually, caps 1 are provided with four or eight projections, spaced at angular distances of 90° or 45°, respectively.

[0004] Figure 2 is a top view of a spanner 10 according to the invention, adapted to function as a tool for opening (or closing) such cap 1. The spanner 10 has an

arm 11, which is at one end provided with a ring 12. The ring 12 surrounds a central opening 13 having an inner wall 14. The inner wall 14 is provided with a plurality of recesses 16, preferably spaced equidistantly. In the embodiment shown, the spanner 10 is intended for use with a cap 1 having eight projections 6, so that the ring 12 has eight recesses 16 spaced at angular distances of 45°.

As should be clear, the spanner 10 illustrated in figure 2 can also be used for a cap having four projections spaced at 90°. On the other hand, if the spanner 10 is to be used for a cap having, for instance, six projections, the spanner 10 would have six or twelve recesses 16 at the inner wall 14 of its ring 12. Further modifications to the number of recesses in the inner wall 14 of the ring 12, needed to adapt the spanner 10 to a specific embodiment of a cap 1, should be clear to a person skilled in the art, so that a further explanation is omitted here.

[0005] The central opening 13 of the ring 12 may be a straight opening, i.e. the diameter of the opening 13 may be equal at all axial positions of the ring 12. Preferably, however, the central opening 13 is a stepped opening, as will be explained with reference to figure 3.

[0006] Figure 3 is a longitudinal cross-section of the spanner 10. As can clearly be seen in figure 3, the opening 13 has a first diameter D1 in the upper half of the drawing and has a smaller second diameter D2 in the lower half of the drawing. At the junction between these two diameters, where the inner wall 14 steps from the first diameter D1 to the second diameter D2, the inner wall 14 has a shoulder 15. The two diameters D1 and D2 of the stepped central opening 13 are chosen in relation to the size of the cap 1 for which the spanner 10 is intended. More specifically, for a cap 1 of which the cover plate 2 has a diameter D, the first diameter D1 of the stepped opening 13 is larger than the cover plate diameter D while the second diameter D2 is smaller than the cover plate diameter D.

[0007] Figure 5 is a cross-section, comparable to figure 1A, illustrating the use of the spanner 10 according to the present invention. The spanner 10 is placed with the largest diameter D1 facing downwards, which fits around the cover plate 5 of the cap 1, while the shoulder 15 rests on the cover plate 5 of the cap 1. Thus, the spanner 10 has found a reference position with respect to the cap 1. The projections 6 of the cover plate 5 engage in the recesses 16 of the ring 12.

It is to be noted that, since the projections 6 of the cover plate 5 only engage the recesses 16 in the largest part of the opening 13 (diameter D1), it is not necessary for the ring 12 to have recesses in its smallest diameter part (diameter D2). However, in the preferred embodiment as illustrated, the recesses 16 extend over the entire axial length of the ring 12: this allows for easy manufacturing, therefore reducing the costs, while it also allows for the spanner 12 to be used with smaller sized caps.

With the spanner 10 positioned as illustrated in figure 5, a user grips the arm 11 and, exerting moderate force on the arm, is capable of unscrewing the cap 1 from a jerrycan, without running the risk of spilling the contents of the jerrycan over his clothes. The length of the arm 11 may suitably be in the order of 20-40 cm.

[0008] Figure 4A illustrates a variation of the embodiment of the spanner illustrated in figure 2. Figure 4A illustrates a spanner 20 where the ring 12 is replaced by a semi-ring 22, i.e. a ring which has two arms 12a, 12b extending over more than 180° but less than 360°.

Figure 4B illustrates an alternative embodiment 30 of the spanner according to the invention. In this case, the spanner 30 has two rings 32, 42 at the opposite ends of the arm 11. Basically, each ring 32, 42 may be identical to the ring 12 as discussed above, and the rings 32, 42 may actually be equal to each other. However the two rings 32, 42 preferably have different sizes, so that the spanner 30 can be used for a larger variety of cap diameters. It is also possible that the number of recesses in one ring 32 differs from the number of recesses in the other ring 42.

Figure 4C illustrates a spanner 40 having two semi-rings 52, 62 at the opposite end of its arm 11.

As a further alternative, it is also possible that a spanner has a complete ring 12 at one end of its arm 11 and has a semi-ring 22 at the opposite end of its arm 11, but such embodiment is not illustrated separately.

[0009] It should be clear to a person skilled in the art that the present invention is not limited to the exemplary embodiments discussed above, but that several variations and modifications are possible within the protective scope of the invention as defined in the appending claims.

Claims

1. Spanner (10, 20, 30, 40) for opening a cap (1) of a jerrycan, comprising:
 - an arm (11);
 - at least one ring (12) or semi-ring (22) at one end of the arm (11);
 - wherein the ring (12) or semi-ring (22) is provided with a plurality of recesses (16) in its inner wall (14).
2. Spanner according to claim 1, wherein the said recesses (16) are equidistantly spaced with respect to each other.
3. Spanner according to claim 1 or 2, wherein the ring (12) or semi-ring (22) has a stepped opening (13), so that its inner wall (14) shows a shoulder (15) at the junction between a large diameter (D1) portion of the opening and a small diameter (D2) portion of

the opening.

4. Spanner according to any of the previous claims, wherein the recesses (16) are shaped as grooves extending the entire axial length of the ring (12) or semi-ring (22).

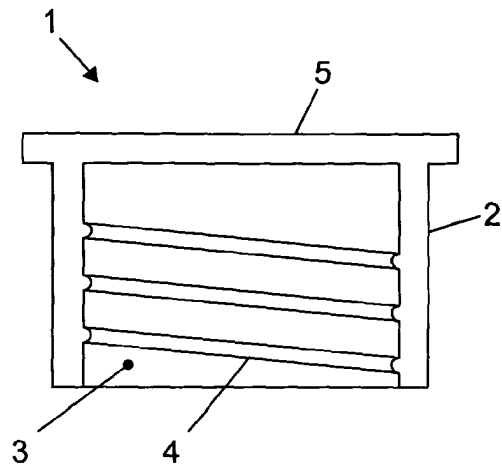


FIG. 1A

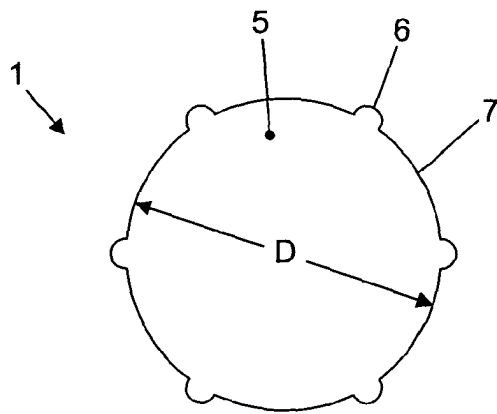


FIG. 1B

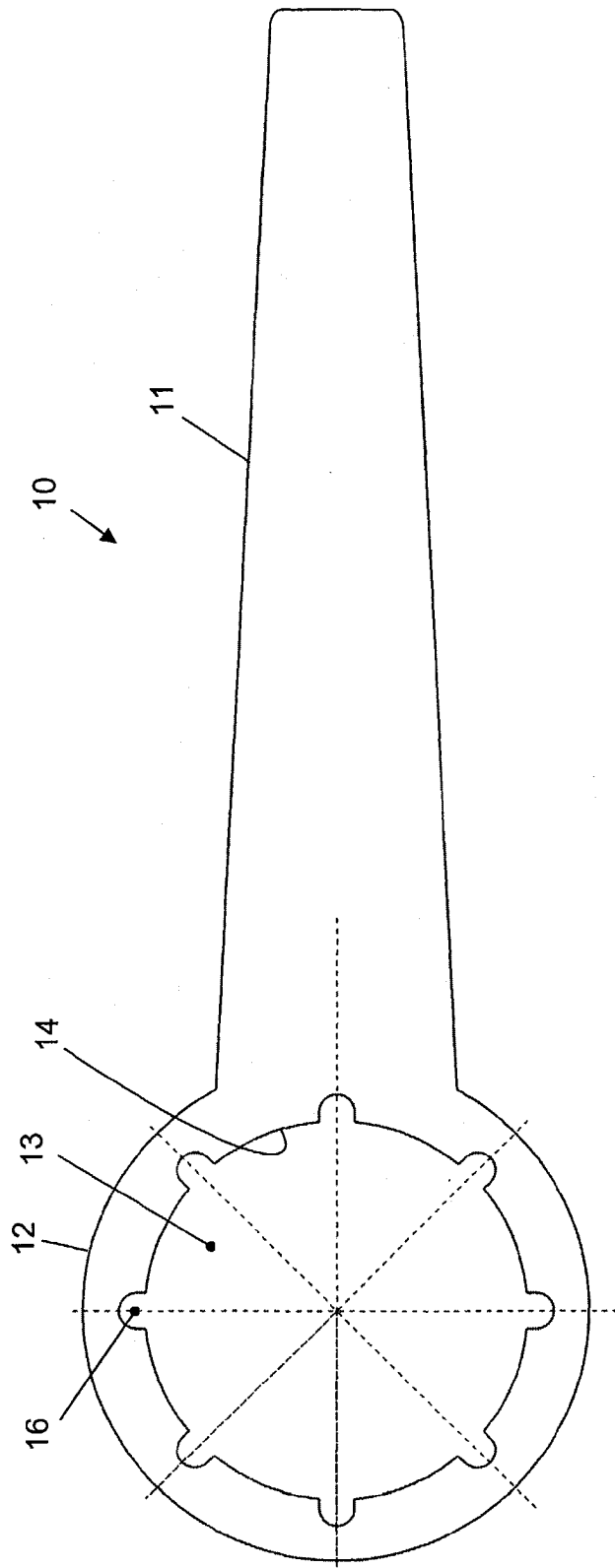


FIG. 2

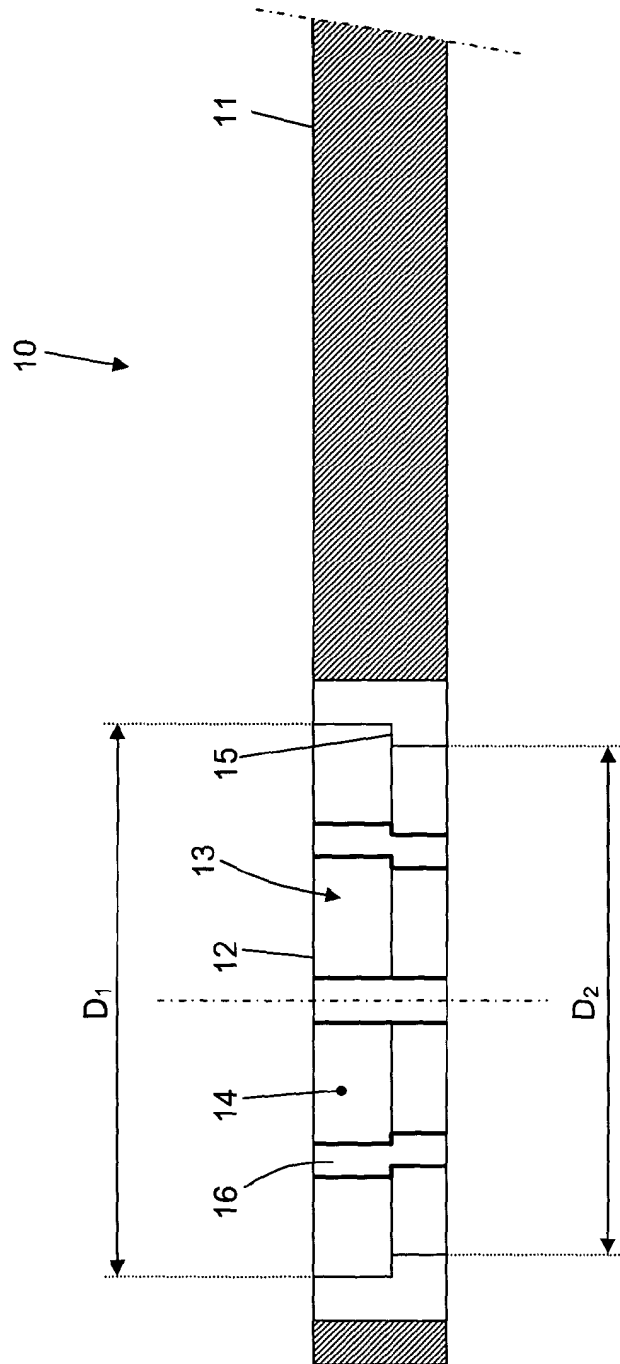


FIG. 3

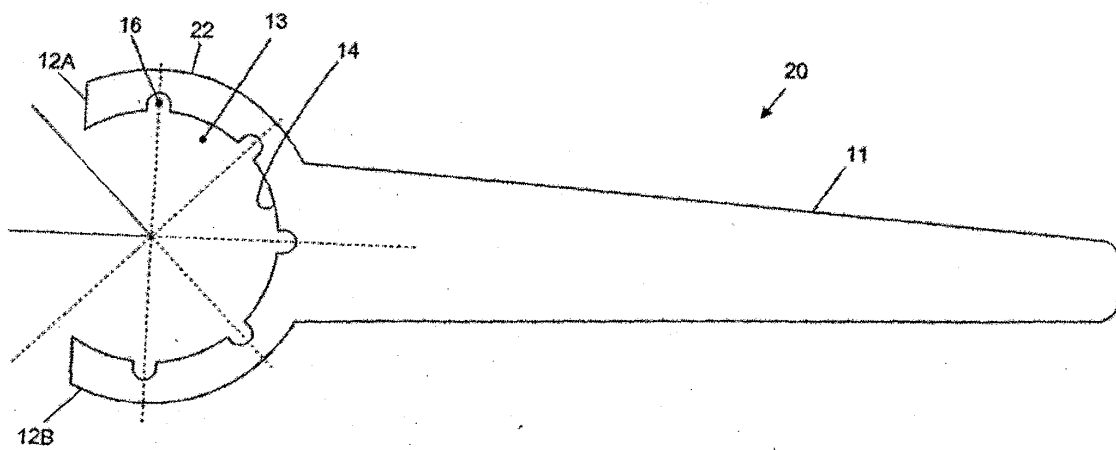
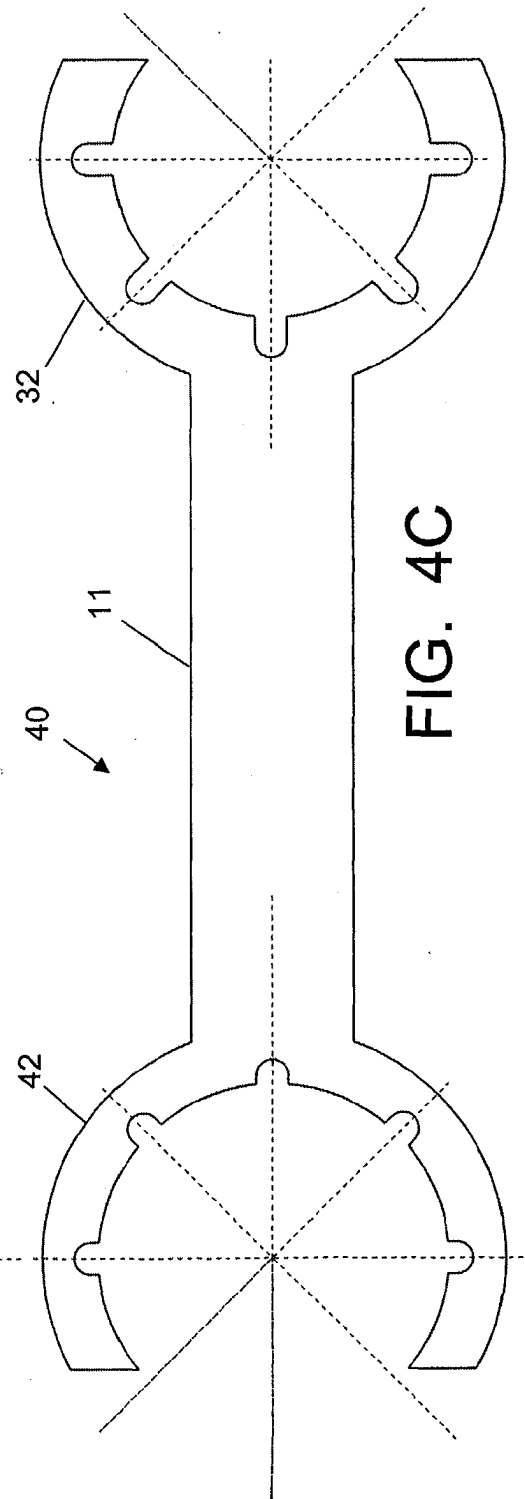
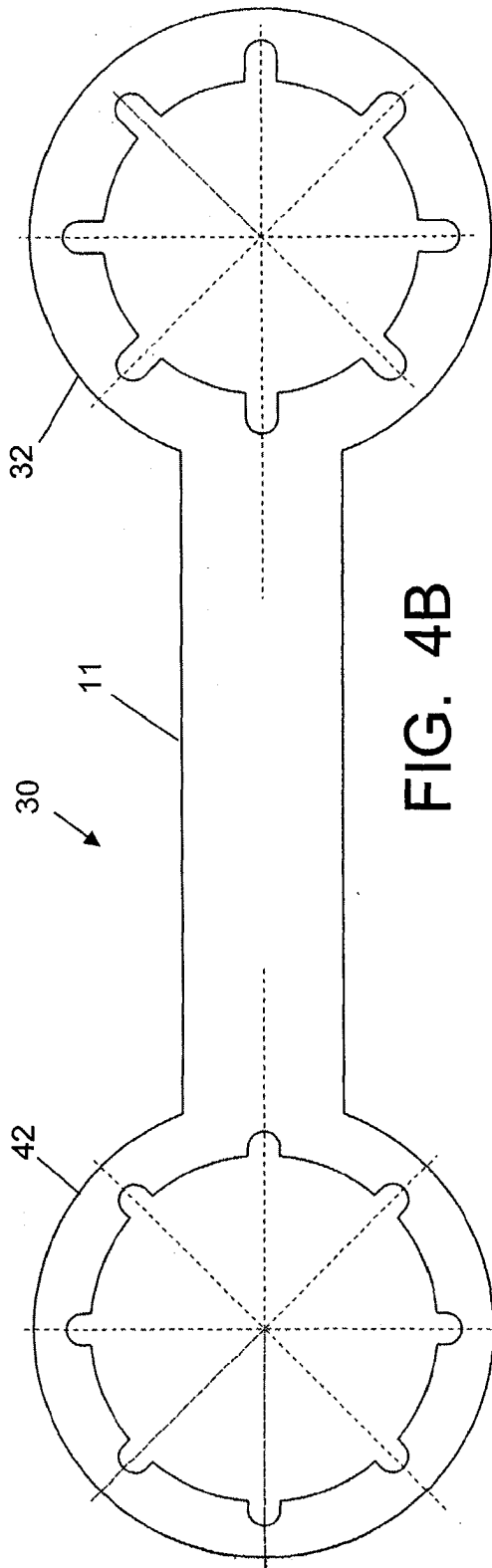


FIG. 4A



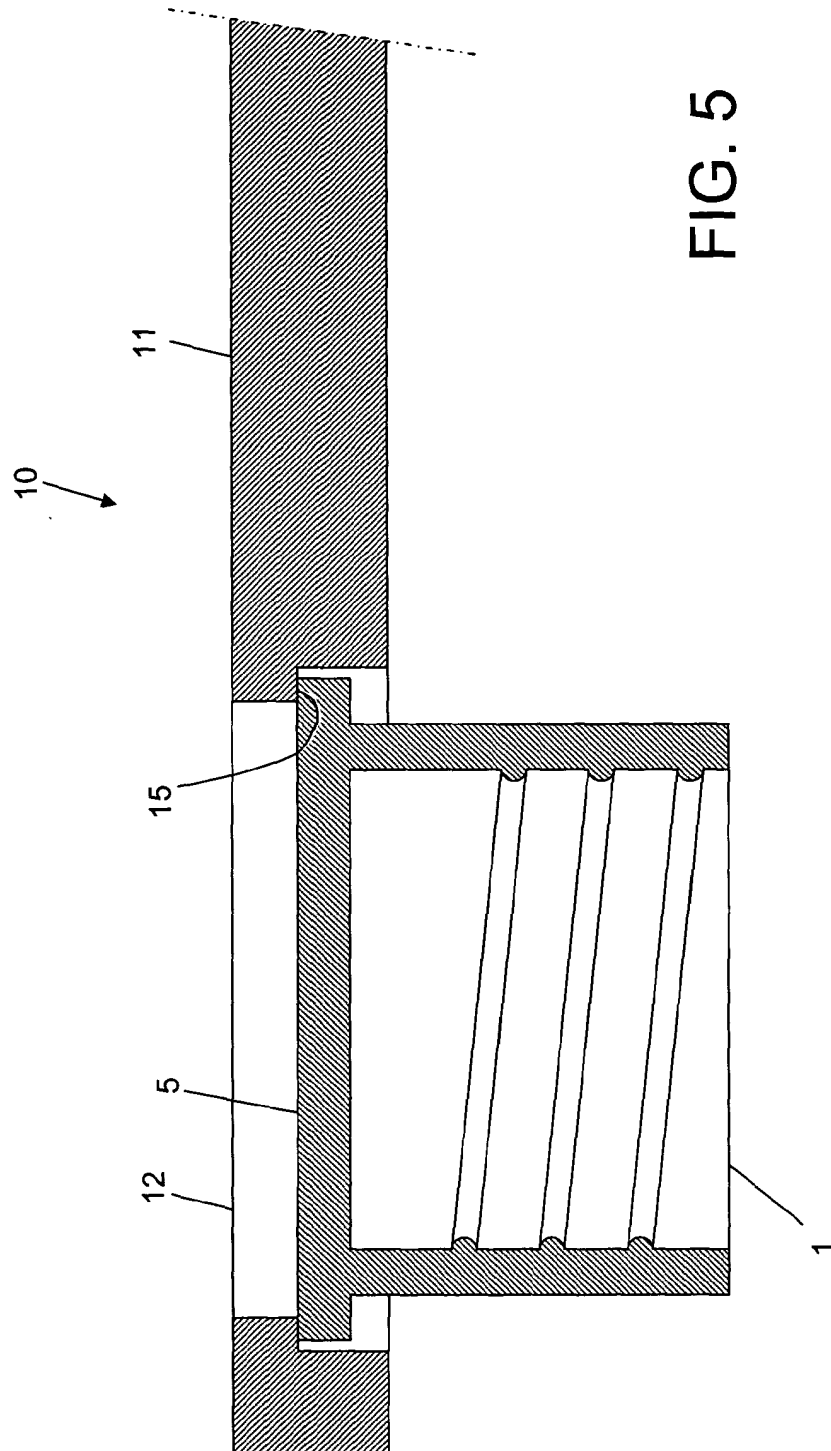


FIG. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 04 07 5943

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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B25B B67B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 August 2004	Examiner Desittere, M
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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