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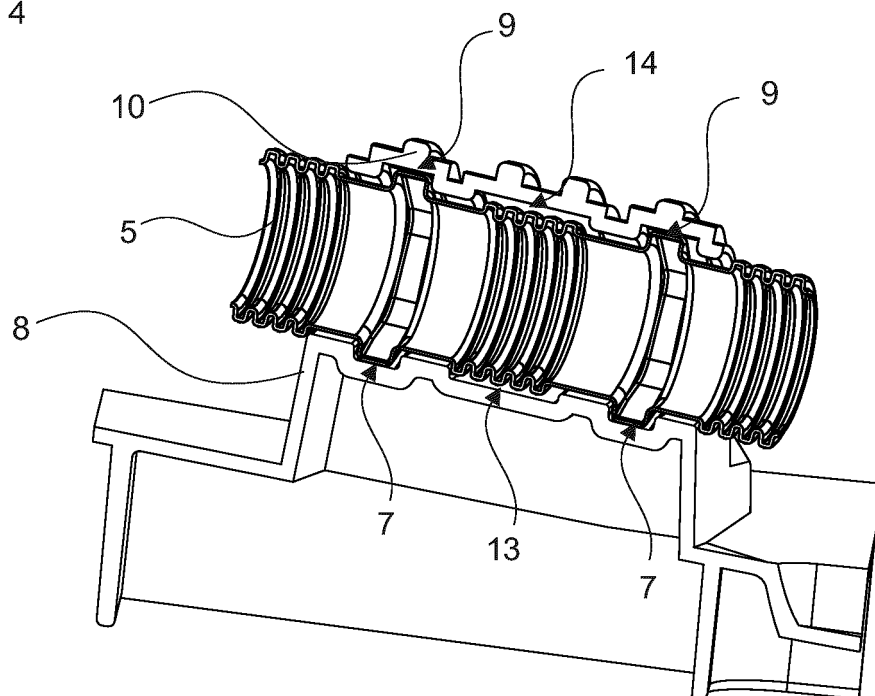
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(54) A WASHER COMPRISING A FIXING MEMBER

(57) The present invention relates to a dishwasher (1) comprising a body (2); a washing tub (3) which is disposed in the body (2) and wherein the washing process is performed; a casing (4) whereon the components in the body (2) are grouped; and a hose (5) which provides the delivery of the water between the components. The hose (5) is circumferentially provided with at least one angular protrusion (6); and the dishwasher com-

prises a fixing member (11) having a first member (8) having at least one first channel (7) with at least partially angular form compatible with the protrusion (6) receiving the hose (5), and a second member (10) which is provided so as to cover the first member (8) after the hose (5) is placed thereon and which has at least one second channel (9) with at least partially angular form compatible with the first channel (7).

Figure 4



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Description

[0001] The present invention relates to a washer comprising a fixing member.

[0002] In washers, the cleaning process is performed in a washing tub. During the washing programs, operations such as delivering the clean water and discharging the dirty water are performed in an order. Hot water and cold water can be used during these washing operations. Hoses are used to direct water in the washer. The strength and positioning of the hoses are critical due to their contact with the water at various flow rates and temperatures. In the washers, it is generally preferred to use hoses which have a certain elongation capability and can withstand high temperatures. In the washing tub, the hoses which are grouped with other electronic components are positioned close to the electronic components. Therefore, the strength and the installation methods of the hoses and the way they are installed are critical. Possible errors during the placement of the hoses may cause the hose to be dislodged under water pressure during the operation of the washer. Due to such errors, major security vulnerabilities occur since the electronic components come into contact with water. In the state of the art, there are various hose holders which enable the hose to be fixed. However, the torsional forces which occur due to the water pressure while the water is delivered are often not absorbed by such holders and cause the hose to rotate and be dislodged.

[0003] In the state of the art Korean Patent Document No. KR100479098, a washer comprising a hose holder is disclosed.

[0004] The aim of present invention is the realization of a washer which provides ease of production and product safety.

[0005] The dishwasher realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a body; a washing tub which is disposed in the body and wherein the washing process is performed; a casing whereon the components on the body are grouped; and a hose which provides the delivery of the water. All the components which enable the washing process to be performed are grouped on the casing, outside the washing tub. The water is delivered by means of the hose. At the same time, operations such as delivering the water to the washing tub for washing or discharging the dirty water are performed.

[0006] The washer of the present invention comprises at least one protrusion which is circumferentially provided on the hose and a fixing member which is provided on the casing and which enables the hose to be fixed on the casing. The fixing member comprises a first member and a second member. The first member is positioned on the casing and comprises at least one first channel compatible with the protrusion. The second member is provided so as to be closed onto the first member. The second member comprises at least one second channel compa-

tible with the protrusion. The protrusion has a certain angular form, provided circumferentially on the hose. The first channel and the second channel also have an angular form to match the corners on the protrusion. Thus, the corners are enabled to be seated on top of each other.

[0007] In an embodiment of the present invention, the washer comprises a plurality of additional protrusions which are provided on the hose and which ensures the centering of the protrusions while the hose is being placed on the first member. The additional protrusions can be positioned one after the other in a certain area.

[0008] In an embodiment of the present invention, the washer comprises the hose whereon the protrusions and the additional protrusions are positioned one after the other in a certain order. A pattern is obtained on the hose by means of the positioning of the protrusions and the additional protrusions one after the other at certain intervals. Thus, the hose is enabled to be positioned on the fixing member.

[0009] In an embodiment of the present invention, the washer comprises at least one first additional channel which is provided on the first member and at least one second additional channel which is provided on the second member so as to receive the additional protrusions. The channels and the additional channels provided on the first member and the second member are positioned so as to receive the protrusions and the additional protrusions on the hose.

[0010] In an embodiment of the present invention, the washer comprises the fixing member having a plurality of claws which are provided on the side surfaces of the first member and a plurality of housings which are positioned so as to face the protrusion on the side surfaces of the second member. Thus, the second member is fixed by being closed on the first member.

[0011] In an embodiment of the present invention, the washer comprises the housings with different lengths so as to ensure that the second member is always placed on the first member in the same manner. Thus, the correct housing engages only with only the proper claw, preventing the incorrect installation of the second member.

[0012] In an embodiment of the present invention, the washer comprises a positioning member which is provided almost at the center of the first member and which enables the second member to be more easily positioned, and the fixing member having a cut-out provided so as to align with the positioning member. Thus, the placement of the second member on the first member is facilitated.

[0013] By means of the present invention, a washer is realized, comprising a fixing member which enables the hose to withstand the torsional forces thanks to the angular protrusion which is circumferentially provided on the hose and which has a corresponding component on the fixing member.

[0014] A washer realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

- Figure 1 - is the perspective view of the washer.
- Figure 2 - is the perspective view of the casing.
- Figure 3 - is the perspective view of the fixing member on the hose.
- Figure 4 - is the cross-sectional view of the fixing member and the hose.
- Figure 5 - is the perspective view of the first member.
- Figure 6 - is the perspective view of the second member.
- Figure 7 - is the perspective view of the hose.
- Figure 8 - is the front view of the fixing member and the hose.

[0015] The elements illustrated in the figures are numbered as follows.

- 1- Washer
- 2- Body
- 3- Washing tub
- 4- Casing
- 5- Hose
- 6- Protrusion
- 7- First channel
- 8- First member
- 9- Second channel
- 10- Second member
- 11- Fixing member
- 12- Additional protrusion
- 13- First additional channel
- 14- Second additional channel
- 15- Claw
- 16- Housing
- 17- Positioning member
- 18- Cut-out

[0016] The dishwasher (1) comprises a body (2); a washing tub (3) which is disposed in the body (2) and wherein the washing process is performed; a casing (4) whereon the components in the body (2) are grouped; and a hose (5) which provides the delivery of the water between the components. All the components which enable the washing process to be performed are grouped on the casing (4), outside the washing tub (3). The water is delivered by means of the hose (5). At the same time, operations such as delivering the water to the washing tub (3) for washing or discharging the dirty water are performed.

[0017] The washer (1) of the present invention comprises at least one angular protrusion (6) which is circumferentially provided on the hose (5); and a fixing member (11) having a first member (8) having at least one first channel (7) with at least partially angular form compatible with the protrusion (6) receiving the hose (5), and a second member (10) which is provided so as to cover the first member (8) after the hose (5) is placed thereon and which has at least one second channel (9) with at least partially angular form compatible with the first channel (7). The hose (5) which provides the delivery of the water comprises the circumferential protrusion (6) on the surface thereof. The protrusion (6) has a certain angular form. The angular form can be triangle, quadrilateral, pentagon, hexagon, etc. In the present embodiment, the protrusion (6) has preferably a hexagon form. The first channel (7) and the second channel (9) provided on the first member (8) and the second member (10) also have an angular form. Thus, the hose (5) is completely seated on the fixing member (11). A surface contact is provided as the circumferential protrusion (6) and the channels (7 and 9) are seated on top of each other. Thus, the torsional force, depending on the direction of the water delivered into the hose (5) or caused by the movement during the assembly, is countered by said surfaces, and the hose (5) is prevented from making a torsional movement. Thus, the dislodging of the hose (5) and the possible water leaks are prevented, and safety is ensured.

[0018] In an embodiment of the present invention, the washer (1) comprises a plurality of additional protrusions (12) which are provided on the hose (5) and which ensure the centering of the hose (5) while being placed on the first member (8). The additional protrusions (12) have a circular form around the hose (5). Thus, the location of the hose (5) is determined.

[0019] In an embodiment of the present invention, the washer (1) comprises the hose (5) whereon the protrusions (6) and the additional protrusions (12) are positioned one after the other in a certain order. By means of the placement of the protrusions (6) and the additional protrusions (12) in a certain order, the position and the placement location of the hose (5) on the fixing member (11) are determined.

[0020] In an embodiment of the present invention, the washer (1) comprises the first member (8) having at least

one first additional channel (13) compatible with the hose (5) so as to receive the additional protrusions (12), and the second member (10) having at least one second additional channel (14) so as to receive the additional protrusions (12) when placed on the hose (5). The additional protrusions (12) are placed in the first additional channel (13) on the first member (8) and in the second additional channel (14) on the second member (10). Thus, the additional protrusions (12) and the protrusions (6) are placed at the correct position on the fixing member (11), providing form-fit.

[0021] In an embodiment of the present invention, the washer (1) comprises the fixing member (11) having a plurality of claws (15) which are provided on the side surfaces of the first member (8) and a plurality of housings (16) which are provided on the second member (10) so as to align with the claws (15). After the hose (5) is placed on the first member (8), the second member (10) is placed so as to cover the first member (8). The housings (16) are seated on the claws (15) to ensure fixing. Thus, the second member (10) is enabled to be fixed onto the first member (8).

[0022] In an embodiment of the present invention, the washer (1) comprises the housings (16) with different lengths so as to ensure that the second member (10) is always placed on the first member (8) in the same direction. In order to prevent the second member (10) from being placed on the first member (8) in the incorrect manner, the lengths of the housings (16) extending towards the first member (8) vary. Thus, each housing (16) can be seated on a certain claw (15).

[0023] In an embodiment of the present invention, the washer (1) comprises a positioning member (17) which is provided almost at the center of a side of the first member (8) and which enables the second member (10) to be positioned on the first member (8), and the fixing member (11) having a cut-out (18) provided on the second member (10) so as to align with the positioning member (17). By means of the positioning member (17) located almost at the center of a side of the first member (8), the second member (10) is prevented from being placed on the first member (8) in the incorrect manner. The positioning member (17) and the cut-out (18) on the second member (10) are positioned so as to align with each other. Thus, problems such as forcing the mounting of the second member (10) and possible deformations are eliminated.

[0024] By means of the invention, a washer (1) is realized, comprising a fixing member (11) which prevents the hose (5) delivering the water from moving in case of torsional forces. By means of the fixing member (11) composed of the first member (8) and the second member (10) which receive the angular circumferential protrusions (6) on the hose (5), the hose (5) is enabled to be fixed in a rigid structure. Thus, ease of assembly and safety are provided.

Claims

1. A dishwasher (1) **comprising** a body (2); a washing tub (3) which is disposed in the body (2) and wherein the washing process is performed; a casing (4) whereon the components in the body (2) are grouped; and a hose (5) which provides the delivery of the water between the components, **characterized by** at least one angular protrusion (6) which is circumferentially provided on the hose (5); and a fixing member (11) having a first member (8) having at least one first channel (7) with at least partially angular form compatible with the protrusion (6) receiving the hose (5), and a second member (10) which is provided so as to cover the first member (8) after the hose (5) is placed thereon and which has at least one second channel (9) with at least partially angular form compatible with the first channel (7).
2. A washer (1) as in Claim 1, **characterized by** a plurality of additional protrusions (12) which are provided on the hose (5) and which ensure the centering of the hose (5) on the first member (8).
3. A washer (1) as in Claim 2, **characterized by** the hose (5) whereon the protrusions (6) and the additional protrusions (12) are positioned one after the other in a certain order.
4. A washer (1) as in Claim 2 or Claim 3, **characterized by** the first member (8) having at least one first additional channel (13) compatible with the hose (5) so as to receive the additional protrusions (12), and the second member (10) having at least one second additional channel (14) so as to receive the additional protrusions (12) when placed on the hose (5).
5. A washer (1) as in any one of the above claims, **characterized by** the fixing member (11) having a plurality of claws (15) which are provided on the side surfaces of the first member (8) and a plurality of housings (16) which are provided on the second member (10) so as to align with the claws (15).
6. A washer (1) as in Claim 5, **characterized by** the housings (16) with different lengths so as to ensure that the second member (10) is always placed on the first member (8) in the same direction.
7. A washer (1) as in any one of the above claims, **characterized by** a positioning member (17) which is provided almost at the center of a side of the first member (8) and which enables the second member (10) to be positioned on the first member (8), and the fixing member (11) having a cut-out (18) provided on the second member (10) so as to align with the positioning member (17).

8. A washer (1) as in any of the above claims, which is a dishwasher.

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Figure 1

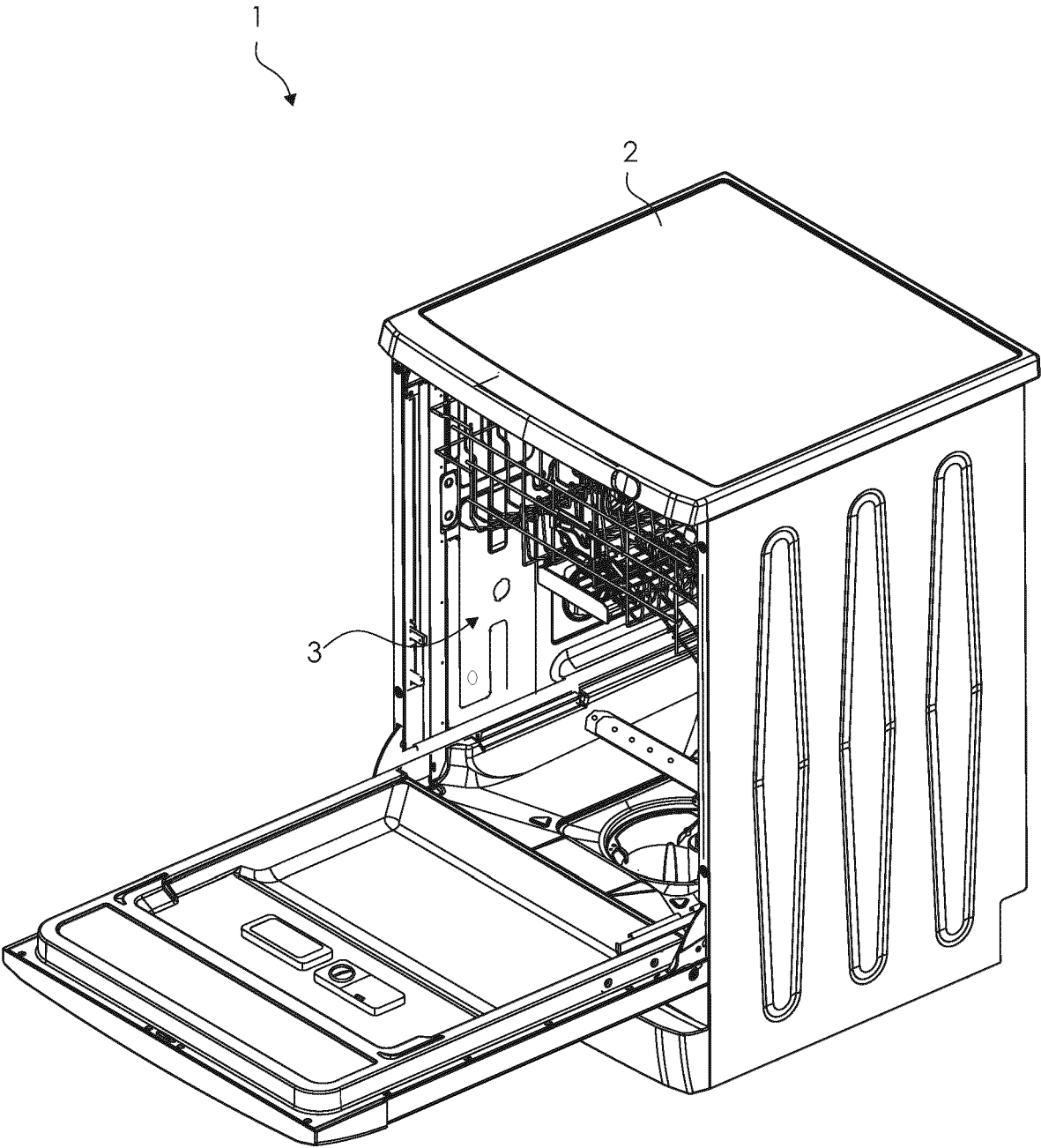


Figure 2

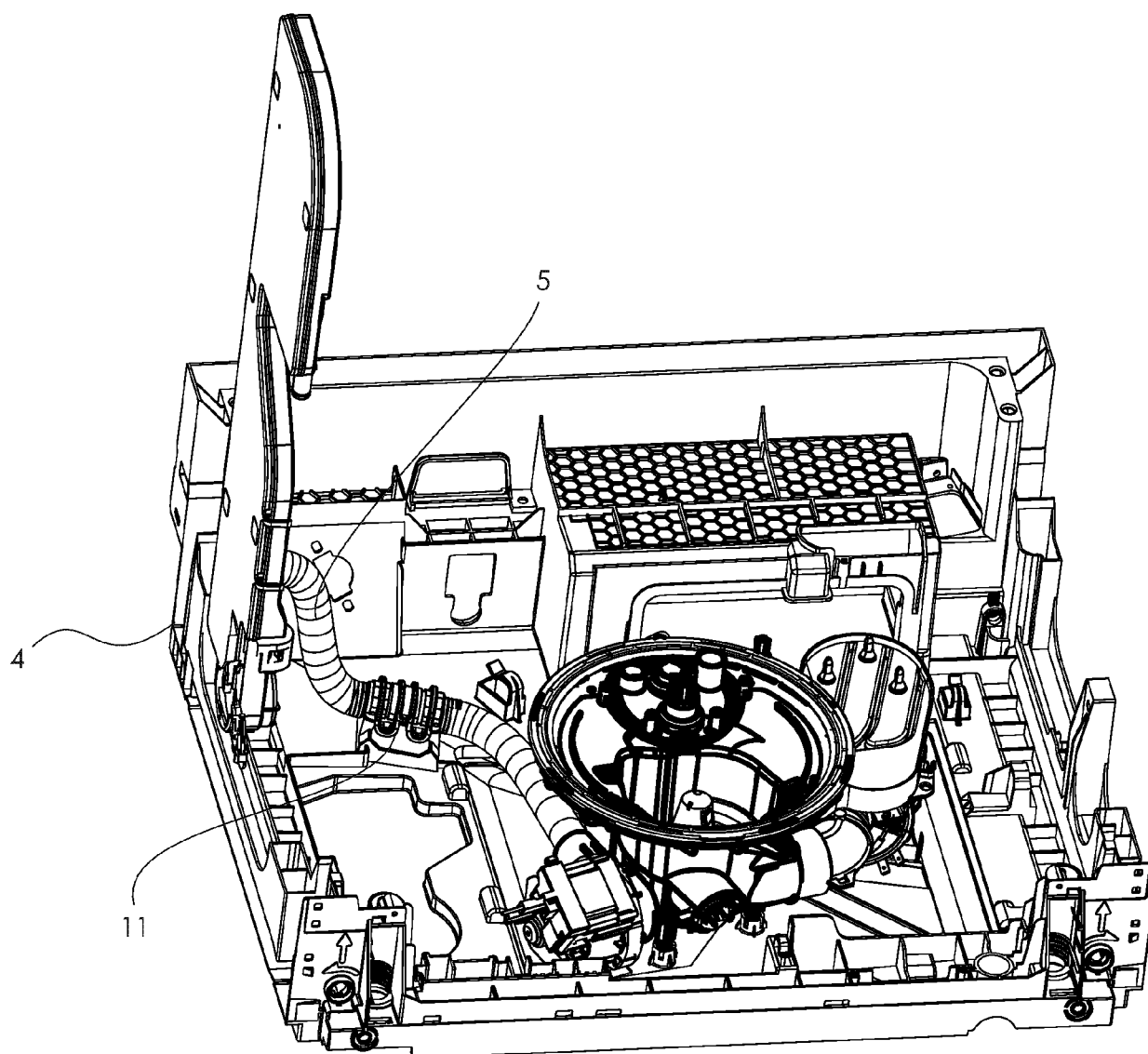


Figure 3

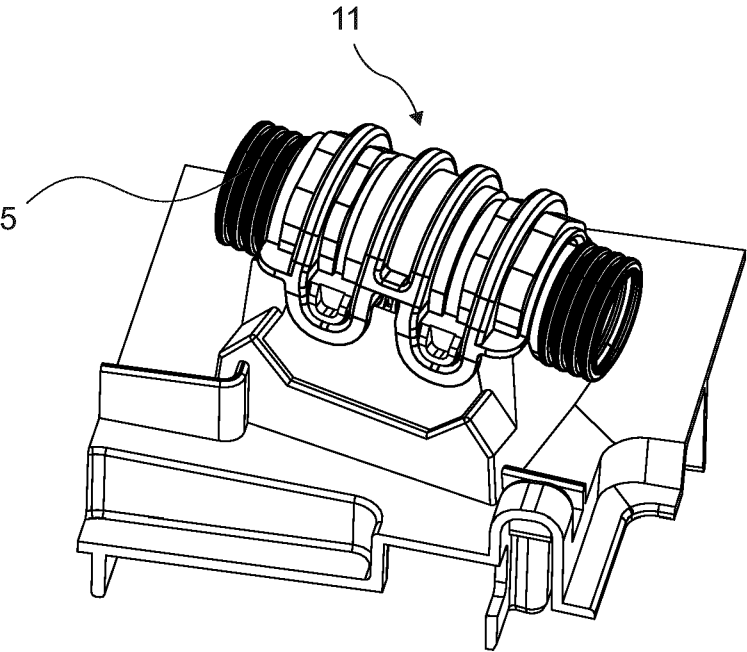


Figure 4

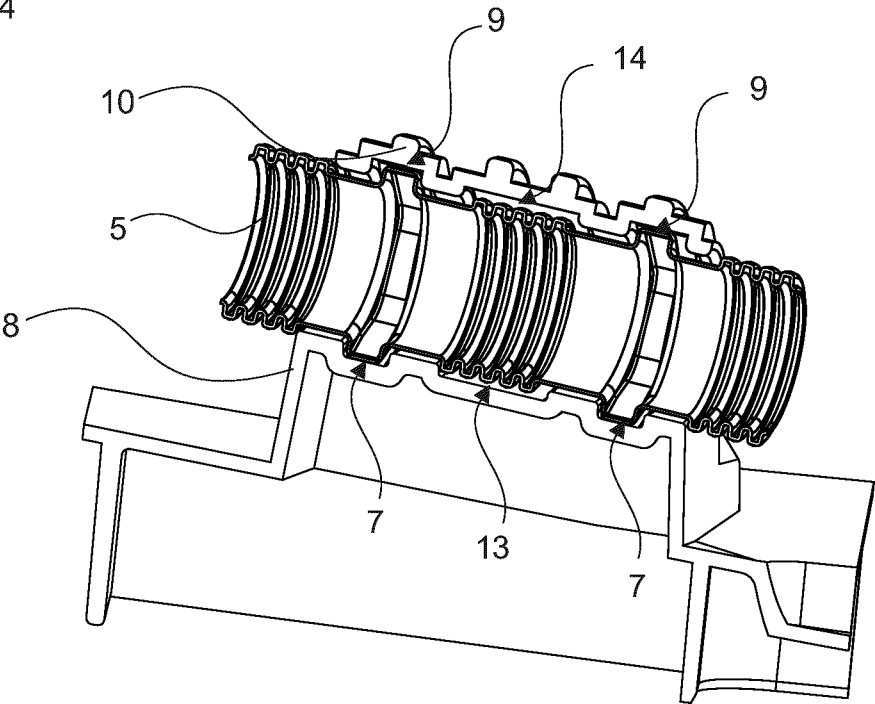


Figure 5

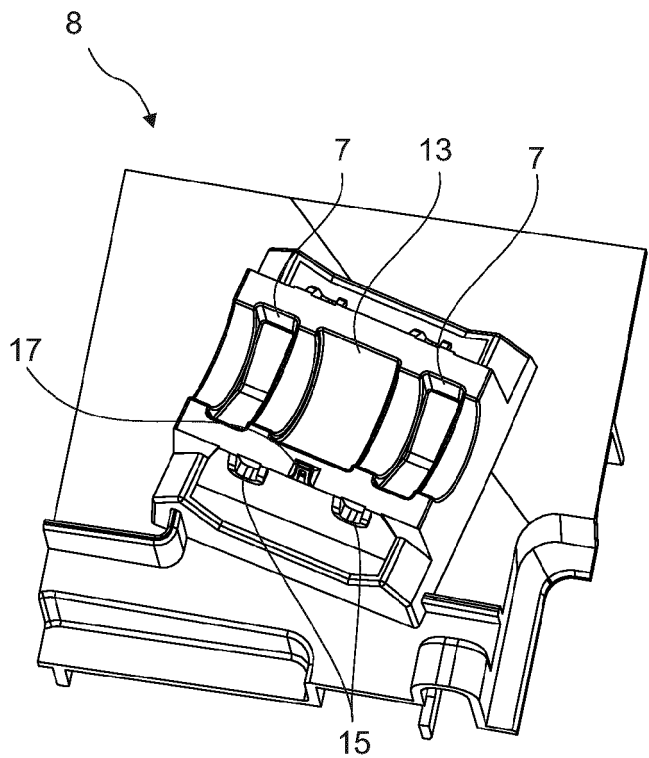


Figure 6

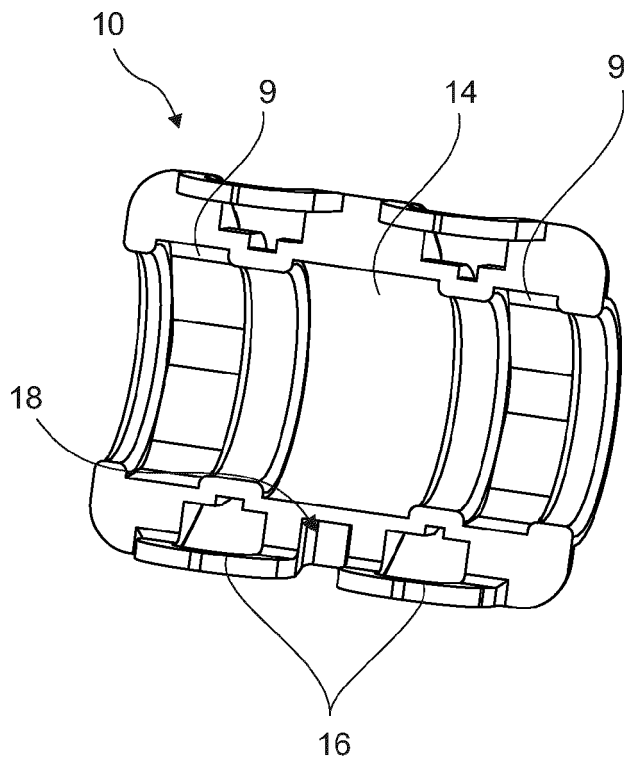


Figure 7

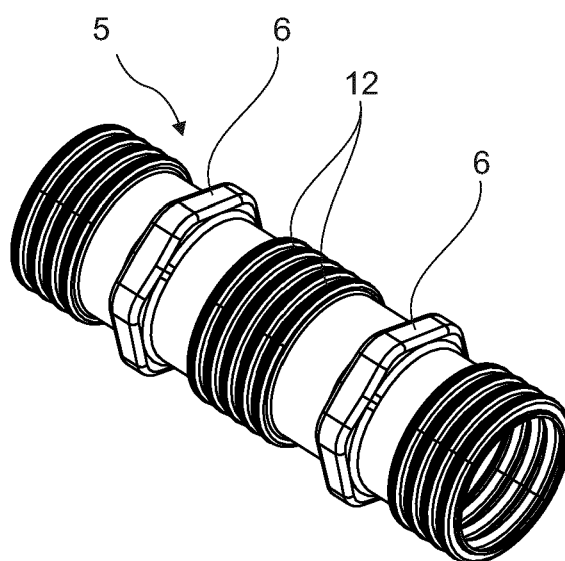
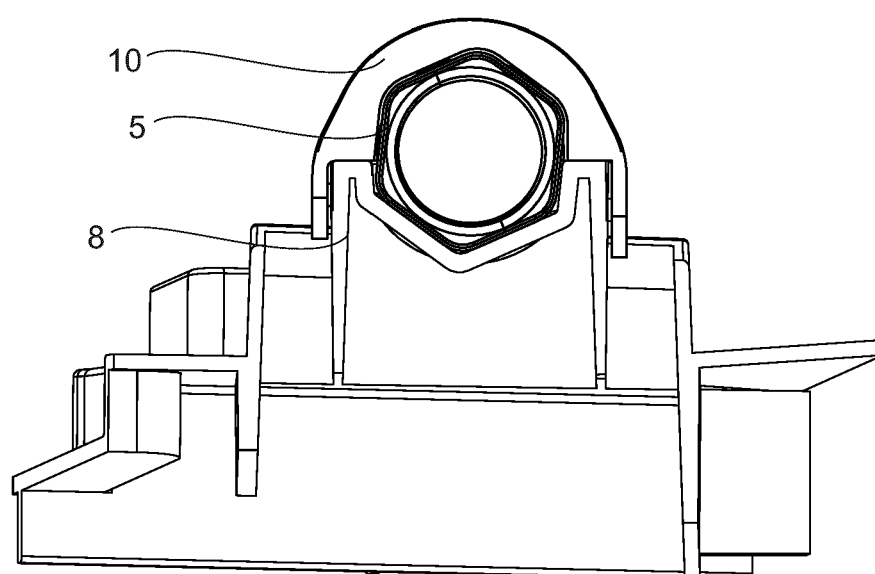


Figure 8





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Application Number

EP 24 20 1933

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