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(54) **A HOUSEHOLD APPLIANCE**

(57) The present invention relates to a household appliance (1) comprising a body (2); a frame (4) which is provided at the front side of the body (2); an upper edge (5) which is provided on the frame (4); and a panel (3)

which is positioned on the upper edge and wherein the control unit and the control components enabling the user to control the same are disposed.

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Description

[0001] The present invention relates to a household appliance wherein the panel is centered and fixed to the frame supporting the door.

[0002] The panel of the washing machines is an important component which is first seen by the user and which increases the perceptual quality of the product and hence the general perceptual quality. The panel is manufactured by the injection printing method and mounted on the front frame. The panel is centered on the front frame to prevent openings which occur after injection printing. Distortions in the panel and openings after injection cause assembly errors, which in turn result in overflows on the side surface of the body after assembly. In this case, a visually bad image emerges, causing quality errors. In embodiments where the panel is mounted on the front frame without being centered or the centering is not correct, right / left misalignment is observed. In the state-of-the-art embodiments, the panel is centered on the front frame by means of square cut-outs provided at the upper side of the front frame.

[0003] In the state of the art European Patent Application No. EP2520210, a household appliance is disclosed, wherein the side wall and the front frame are joined together.

[0004] The aim of the present invention is the realization of a household appliance wherein the panel is quickly and correctly centered to the front frame.

[0005] The household appliance 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 frame which is provided at the front side of the body and whereon the loading port enabling the loading of the laundry into the body is arranged; an upper edge which is formed by bending the upper edge backwards; two first surfaces which are provided on both sides of the upper edge of the frame and which extend perpendicularly to the upper edge; at least two centering members which are in the form of protrusions provided on the first surfaces; and two centering walls which are provided on both sides of the panel which face the frame and which remain between the two centering members so as to bear against the centering members when the panel is placed onto the upper edge.

[0006] In an embodiment of the present invention, the household appliance comprises two slits which are provided above and below the centering member between the centering member and the first surface. Said slits increase the strength of the centering member.

[0007] In another embodiment of the present invention, the centering walls are in the form of a C and bear against the centering member at the back thereof. In this embodiment of the present invention, the household appliance further comprises a housing which is provided on the panel between the centering wall and the panel body and which receives the centering member.

[0008] In the embodiment of the present invention, the

centering walls on the panel bear against the centering members such that the panel is centered on the body. Thus, the panel is prevented from sliding left or right or from overflowing out of the body. Consequently, the problem of perceptual quality is eliminated. Moreover, by means of the present invention, the panel is centered without using any hole, cut-out or similar components on the frame or the panel.

[0009] In the preferred embodiment of the present invention, the household appliance is a washing machine. In another embodiment of the present invention, the household appliance is a laundry washer/dryer or a laundry dryer.

[0010] A household appliance realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the front perspective view of a household appliance.

Figure 2 - is the front view of the household appliance.

Figure 3 - is the top view of the cross-section A-A in Figure 2.

Figure 4 - is the front view of the frame.

Figure 5 - is the perspective view of the detail B in Figure 4.

Figure 6 - is the front view of the detail B in Figure 4.

Figure 7 - is the front view of the panel.

Figure 8 - is the detailed rear view of the panel.

[0011] The elements illustrated in the figures are numbered as follows:

1. Household appliance
2. Body
3. Panel
4. Frame
5. Upper edge
6. First surface
7. Centering member
8. Centering wall
9. Slit

10. Housing

[0012] The household appliance (1) comprises a body (2); a frame (4) which is provided at the front side of the body (2); an upper edge (5) which is provided on the frame (4); a panel (3) which is positioned on the upper edge and wherein the control unit and the control components enabling the user to control the same are disposed; two first surfaces (6) which are provided on both sides of the upper edge (5) and which extend perpendicularly to the upper edge (5) and parallel to the panel (3); at least two centering members (7) which are provided on the first surfaces (6) and which extend perpendicularly to the first surface (6); and two centering walls (8) which are provided on both sides of the rear surface of the panel (3) facing the first surface (6), which extend from the rear side of the panel (3) outwards and which remain between the two centering members (7) so as to bear against the centering members (7) when the panel (3) is placed onto the upper edge (5) (Figure 1, Figure 2 and Figure 3).

[0013] In an embodiment of the present invention, the household appliance (1) comprises two slits (9) on each first surface (6) so as to remain under and above the centering member (7). Said slits (9) increase the strength of the centering member (Figure 4, Figure 5 and Figure 6).

[0014] In another embodiment of the present invention, the centering walls (8) have a C-shaped cross-section and bear against the centering member (7) at the back thereof. In this embodiment of the present invention, the two centering walls (8) are provided on the right and left of the panel (3) such that the open ends thereof face each other. In this case, the backs of the centering walls (8) bear against the centering members (7) (Figure 7 and Figure 8).

[0015] In another embodiment of the present invention, the household appliance (1) comprises a housing (10) which is provided on the panel (3) and which receives the centering member (7).

[0016] In the preferred embodiment of the present invention, the household appliance (1) is a washing machine. In another embodiment of the present invention, the household appliance (1) is a laundry washer/dryer or a laundry dryer.

[0017] In the embodiment of the present invention, the centering walls (8) on the panel (3) bear against the centering members (7) such that the panel (3) is centered on the body (2). Thus, the panel (3) is prevented from sliding left or right or from overflowing out of the body (2). Consequently, the problem of perceptual quality is eliminated. Moreover, by means of the present invention, the panel (3) is centered without using any hole, cut-out or similar components on the frame (4) or the panel (3).

a frame (4) which is provided at the front side of the body (2); an upper edge (5) which is provided on the frame (4); and a panel (3) which is positioned on the upper edge (5) and wherein the control unit and the control components enabling the user to control the same are disposed, **characterized by** two first surfaces (6) which are provided on both sides of the upper edge (5) and which extend perpendicularly to the upper edge (5) and parallel to the panel (3); at least two centering members (7) which are provided on the first surfaces (6) and which extend perpendicularly to the first surface (6); and two centering walls (8) which are provided on both sides of the rear surface of the panel (3) facing the first surface (6), which extend from the rear side of the panel (3) outwards and which remain between the two centering members (7) so as to bear against the centering members (7) when the panel (3) is placed onto the upper edge (5).

2. A household appliance (1) as in Claim 1, **characterized by** two slits (9) provided on each first surface (6) so as to remain under and above the centering member (7).
3. A household appliance (1) as in Claim 1, **characterized by** the centering walls (8) which have a C-shaped cross-section.
4. A household appliance as in Claim 3, **characterized by** the two centering walls (8) which are provided on the right and left of the panel (3) such that the open ends thereof face each other.
5. A household appliance (1) as in Claim 3 or Claim 4, **characterized by** the centering walls (8) the backs of which bear against the centering members (7).
6. A household appliance (1) as in any one of the above claims, **characterized by** a housing (10) which is provided on the panel (3) and which receives the centering member (7).
7. A household appliance (1) as in any one of the above claims **characterized by** being a washing machine.
8. A household appliance (1) as in any one of Claims 1 to 6, **characterized by** being a laundry washer/dryer.
9. A household appliance (1) as in any one of Claims 1 to 6, **characterized by** being a laundry dryer.

Claims

1. A household appliance (1) **comprising** a body (2);

Figure 1

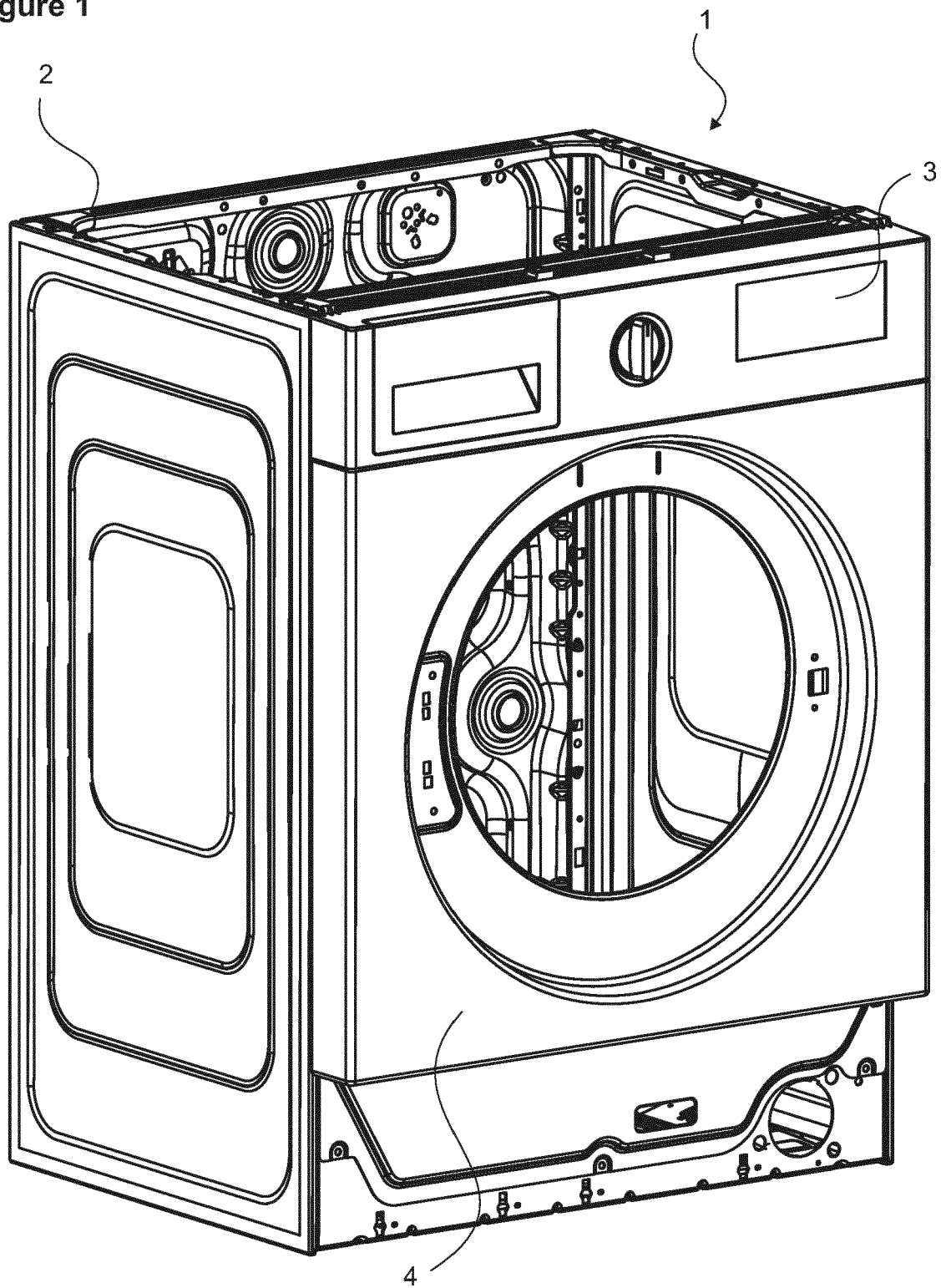


Figure 2

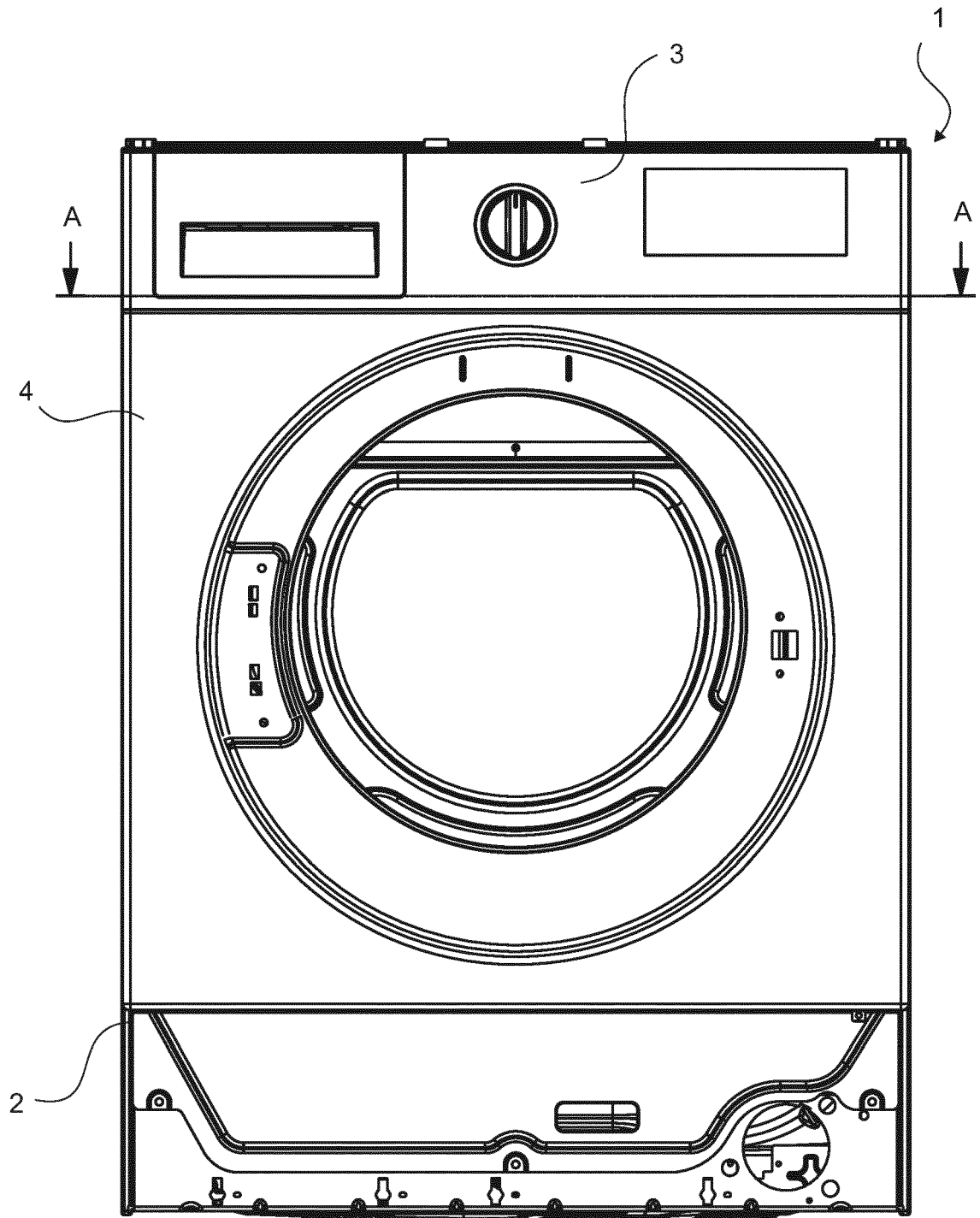


Figure 3

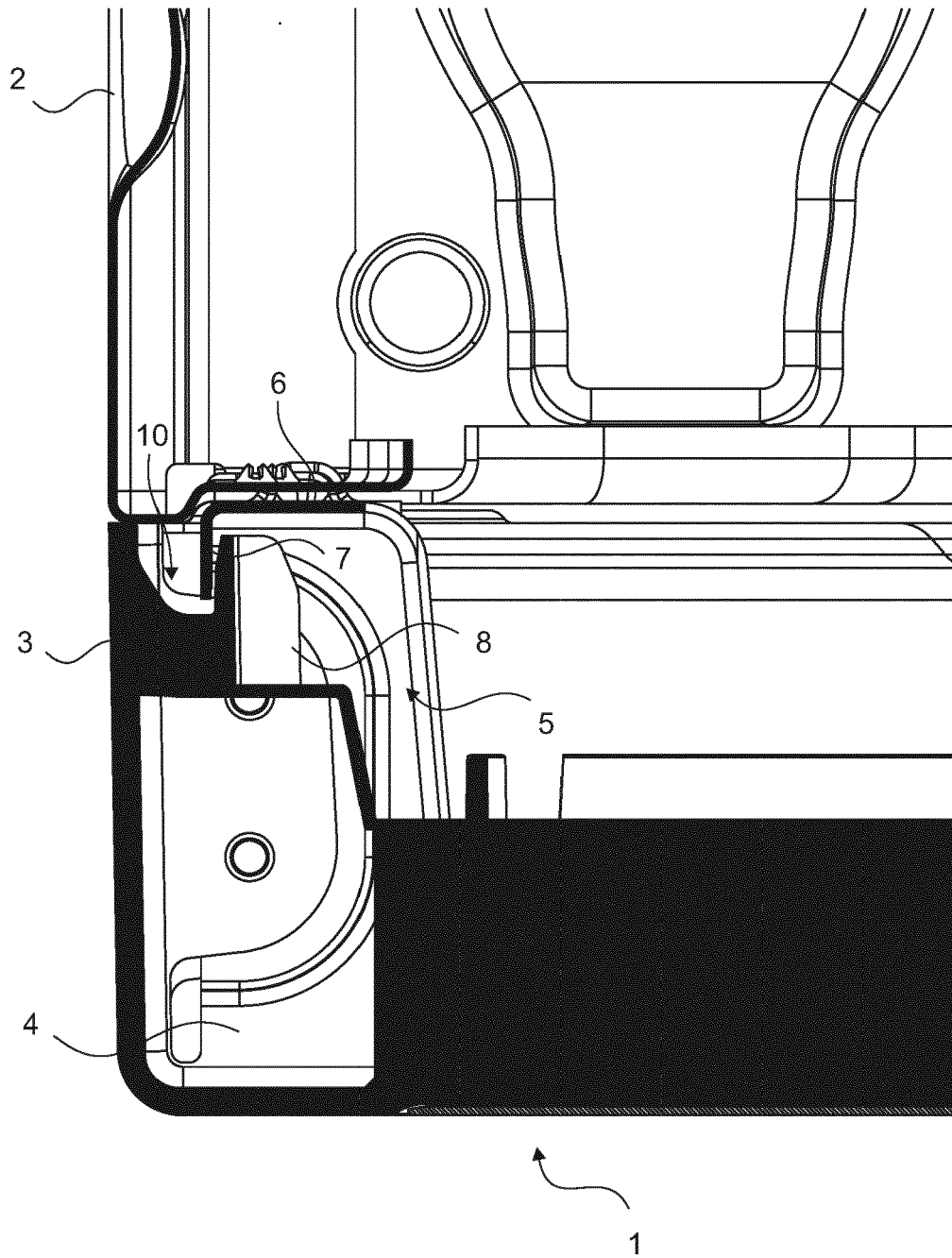


Figure 4

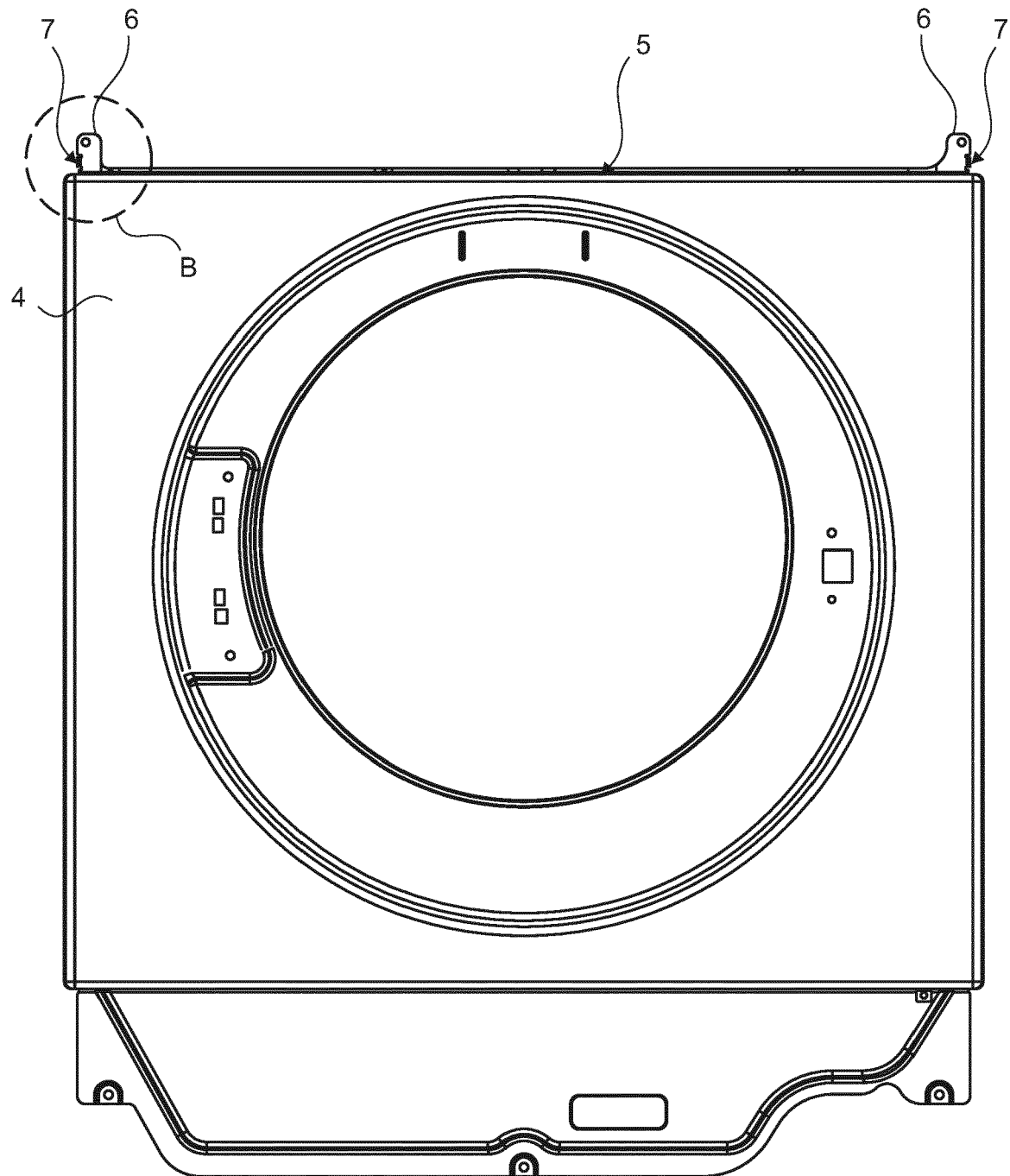


Figure 5

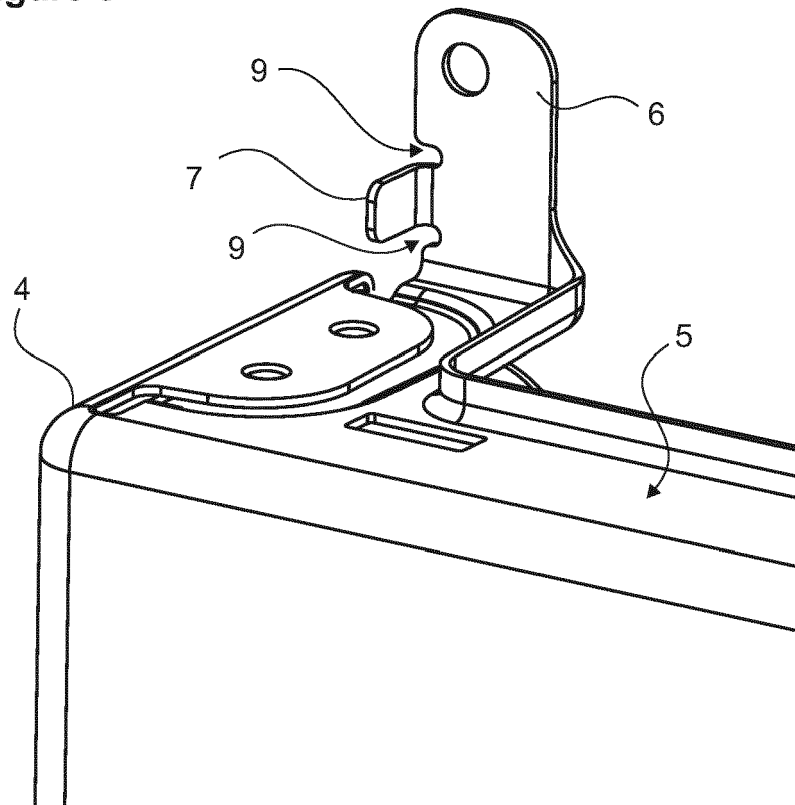


Figure 6

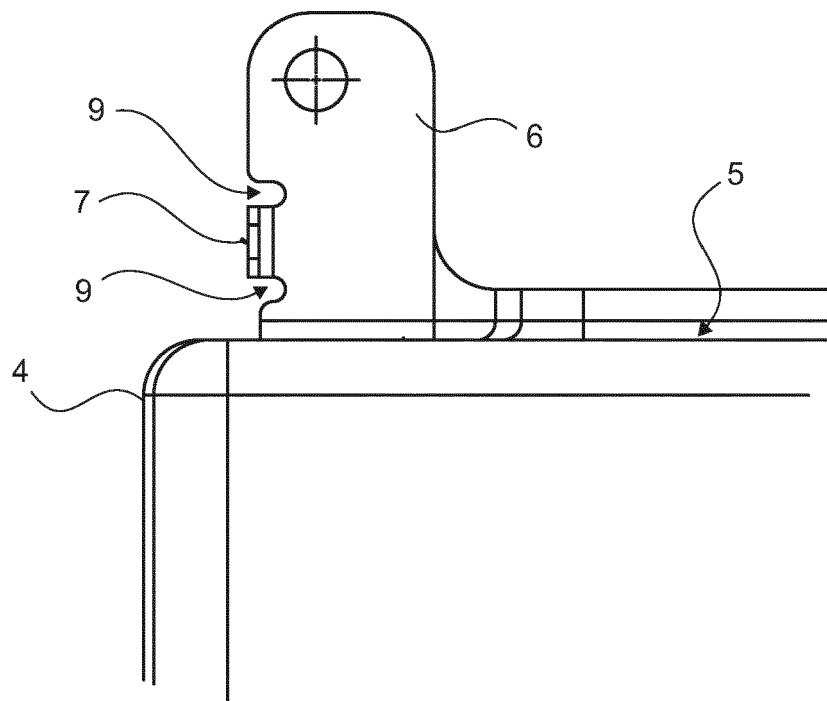


Figure 7

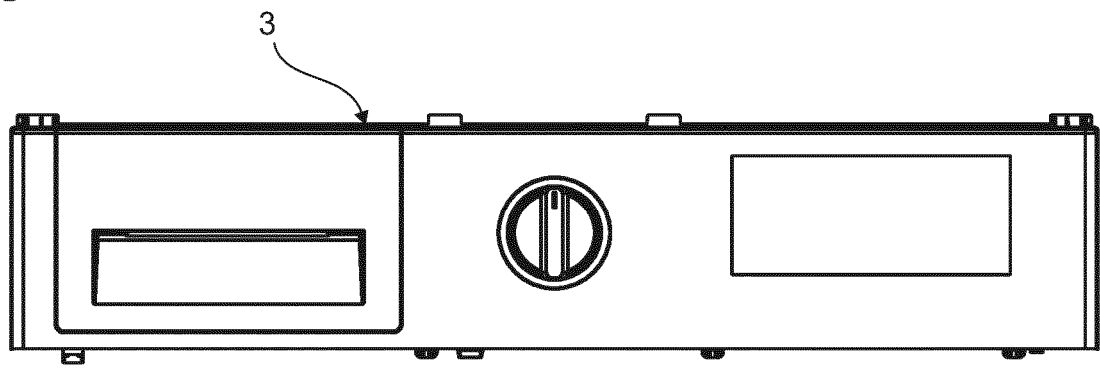
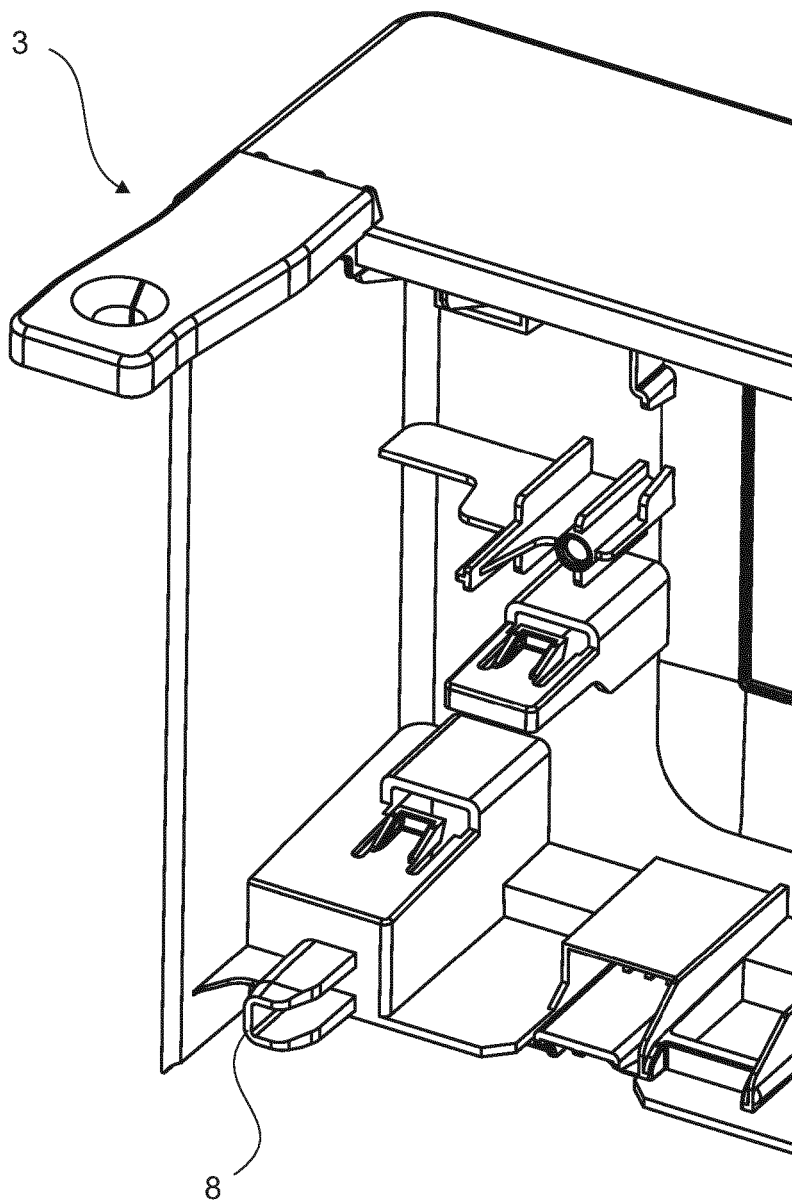


Figure 8





EUROPEAN SEARCH REPORT

Application Number

EP 23 20 7209

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	KR 2006 0112988 A (LG ELECTRONICS INC [KR]) 2 November 2006 (2006-11-02)	1, 2, 6-9	INV.
A	* paragraphs [0002], [0030], [0034], [0045], [0064]; figures * -----	3-5	D06F34/28 D06F39/12
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A	US 2009/211307 A1 (PARK JONG A [KR]) 27 August 2009 (2009-08-27) * paragraph [0059]; figure 7 * -----	1-9	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC) D06F
Place of search Munich		Date of completion of the search 3 April 2024	Examiner Popara, Velimir
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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03-04-2024

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- EP 2520210 A [0003]