



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
15.11.2017 Bulletin 2017/46

(51) Int Cl.:
D06F 39/00 (2006.01) D06F 39/14 (2006.01)

(21) Application number: **16168835.3**

(22) Date of filing: **10.05.2016**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME
Designated Validation States:
MA MD

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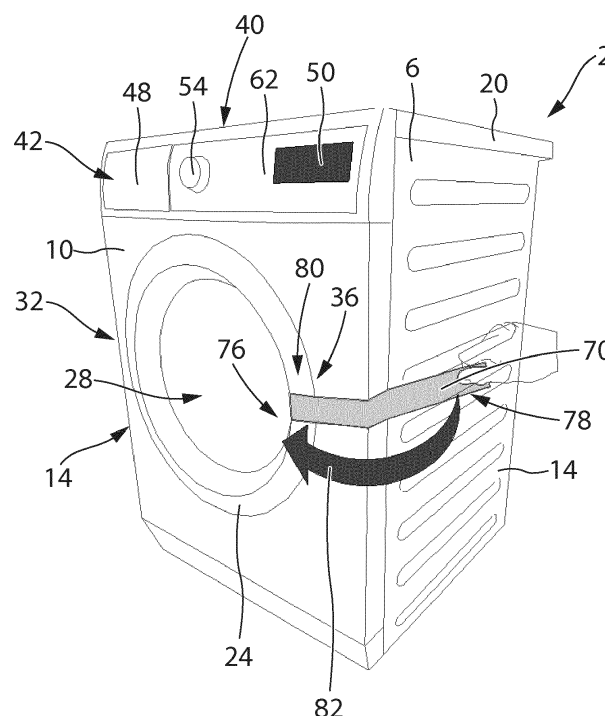
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(54) **HOUSEHOLD APPLIANCE AND METHOD FOR MANUFACTURING A HOUSEHOLD APPLIANCE**

(57) Household appliance (2), comprising a housing (6) in which an operating chamber is arranged, whereby an opening (28) is provided in said housing (6) for accessing said operating chamber, and whereby a door (24) is provided which is adapted to open or close said opening (28), whereby a securing member (70) with an

elongated shape is provided which comprises a first extremity (76) and a second extremity (78), whereby said first extremity (76) is fixed or fixable to said door (24) on a fixing side and whereby said second extremity (78) is fixed or fixable to said housing (6).

FIG. 1



Description

Field of the invention

[0001] The present invention concerns the field of household appliances. More particular, it relates to the field of household appliances with a door for accessing an operating chamber.

Background Art

[0002] Nowadays the use of household appliances is widespread. There are, for example, appliances for the treatment of laundry or the storage of food. Laundry treatment machines comprise both "simple" laundry washing machines (i.e. laundry washing machines which can only wash and rinse laundry) and laundry washing-drying machines (i.e. laundry washing machines which can also dry laundry), or drying machines (i.e. drying machines which can dry laundry).

[0003] In the present description the term "laundry treatment appliance" will refer to simple laundry washing machines or laundry washing-drying machines or drying machines. Laundry treatment appliances such as laundry washing machines generally comprise an external casing provided with a washing tub which contains a rotatable perforated drum where the laundry is placed. A loading/unloading door ensures access to the drum. Laundry treatment appliances typically comprise a water supply unit and a products supply unit, preferably a drawer, for the introduction of water and washing/rinsing products (i.e. detergent, softener, rinse conditioner, etc.) into the tub. Known laundry treatment appliances are also provided with water draining devices that may operate during different phases of the washing program to drain the dirty water.

[0004] According to the known art, a complete treating program typically includes different phases during which the laundry to be washed is subjected to adequate treatments. A treating cycle usually comprises a main washing phase during which the laundry is treated by means of water and a detergent. The water is typically heated to a predetermined temperature based on the washing program selected by the user. It is also possible that hot water is introduced into the tub from the hot water mains. During the main washing phase the drum is rotated, so as to apply also a mechanical cleaning action on the laundry. At the end of the main washing phase the drum is typically rotated at high rotational speed, so in such a way that dirty washing liquid (i.e. water mixed with detergent) is extracted from the laundry, and this dirty washing liquid is drained to the outside by the water draining devices.

[0005] Laundry dryers are household appliances built for drying clothes and comprise a drying chamber or drum into which the clothes to be dried are introduced. The drying chamber is rotatable supported within a cabinet and made to rotate by means of a driving motor, typically

consisting of an electric motor connected to the drying chamber via a belt.

[0006] In a combined washer/dryer, the drying chamber usually is the drum, and one or more drying phases are added which typically commence after the rinsing phases. The drying phase usually involves spinning the drum and applying hot air to the laundry.

[0007] The machine needs to be prepared and secured for transport from its place of manufacturing to the user or customer. Especially the door needs to be secured in order to prevent it from opening during transport, leading to possible damages on door or the whole appliance.

[0008] It is known to use regular adhesive tape to secure a door which is pulled for opening. The tape is attached on the machine housing from one side to another and passes over the washing machine door. In the areas where the tape is in contact with the door's frame it is common to use post-it stickers in order to protect the painted frame from the adhesive tape.

[0009] The US 4,811,840 discloses an appliance shipping container with integral corner posts.

Summary of the invention

[0010] The aim of the invention is to provide a household appliance which allows a convenient preparation of a transport and allows a reliable securing of the door during transport.

[0011] It is a further aim of the invention to provide an easy and reliable securing of the door preventing any aesthetic defects on the door when said securing means are removed.

[0012] It is a further aim of the invention to provide a method for manufacturing a household appliance which prepares the household appliance for a secure transport.

[0013] The invention therefore in a first aspect relates to a household appliance, comprising a housing in which an operating chamber is arranged, whereby an opening is provided in the housing for accessing the operating chamber, and whereby a door is provided which is adapted to open or close the opening, whereby a securing member with an elongated shape is provided which comprises a first extremity and a second extremity, whereby the first extremity is fixed or fixable to the door on a fixing side and whereby the second extremity is fixed or fixable to the housing.

[0014] Preferred embodiments of the invention are described in relation to the dependent claims and the description of the enclosed drawings.

[0015] The invention is based on the consideration that the transport of a household appliance from its location of manufacture to the customer is a very import process. Damages and aesthetic impairments should be avoided. A source of possible damages is the door of the appliance, especially a pull-top-open door. Due to shocks on the appliance during transport, an unsecured door can open and get damaged. It is therefore important the secure the door. This securing member on the one hand

should reliably secure the door during transport. On the other hand, the securing member should not leave any traces on the machine after removal and impair the aesthetic impression of the machine.

[0016] Applicant has found that these requirements can be met if a securing member is provided which has two extremities of which one end or extremity is attached to the door and the other end or extremity is attached to the housing.

[0017] Preferably, the door comprises at least one frame which provides on the fixing side at least one fixing point for said securing member.

[0018] The fixing point is advantageously built as a protrusion extending from the frame, whereby the securing member on its first extremity comprises at least one hole into which the protrusion is engaged or can be engaged.

[0019] The protrusion is preferably built as a dome or a rivet or a screw. If the protrusion is built as a screw, it can be preferably used for attachment of another frame.

[0020] The door preferably comprises a front frame with a frontal side facing, in a closed state, of the door the outside of the appliance, whereby the protrusion is arranged at least partially in an inner profile of a rear side of the front frame facing the interior of the appliance when the door is closed. The rear side therefore is on the opposite side of the frontal side of the front frame.

[0021] The door preferably comprises a rear frame which is mounted on the front frame and which faces the interior of the appliance when the door is closed. The door therefore is essentially built of two frames which are attached to each other.

Additionally or alternatively of the protrusion(s) arranged on the front frame, the at least one protrusion in which the at least one hole of the first extremity of the securing member is engaged or can be engaged, is arranged at least partially in an inner profile of the rear frame facing the outside of the appliance.

[0022] Preferably, at least two protrusions are provided on the front frame and at least two holes are respectively provided on the first extremity which are engaged or can be engaged with these protrusions. Two protrusions provide a stable connection of the securing member to the door and also keep the securing member aligned when it is guided radially around the door to get fixed on the housing.

[0023] In a preferred embodiment, the securing member comprises a predrilled seam, dividing the securing member into the first extremity and a remaining part, whereby the seam is arranged on the securing member in such a way that when the remaining part is separated from the first extremity at the seam, the first extremity is hidden by the door and / or by the housing; in other words, when the securing member is fixed to the door and the division of the first extremity from the remaining part happens along the predrilled seam, the first extremity remains placed in a position that is not visible from the outside of the machine because it is hidden by the door and/or the housing external components. In the preferred

embodiment where the door is comprised of two frames, the first extremity preferably remains between in a space these two frames.

[0024] Preferably, the second extremity comprises on one of its faces an adhesive part for attachment to the housing.

[0025] On the adhesive part, advantageously at least one protective part is removably arranged. The protective part can be removed right before attaching the second extremity to the housing and prevents adhesive to get in touch with other parts of the appliance. It is especially disadvantageous if adhesive gets in contact with the front part of the appliance, especially the front part of the housing or the door for aesthetic and handling reasons.

[0026] Preferably, the securing member between the two extremities comprises an intermediate part, whereby only the second extremity comprises an adhesive portion. The securing member is preferably designed in such a way that when the first extremity is fixed to the door and the securing member is wrapped around the housing, the adhesive part can only get in contact with the side wall of the housing.

[0027] The intermediate part and the extremities are preferably dimensioned such that in an assembled state in which the second extremity is attached to the housing, no adhesive of the second extremity is in contact with the door.

[0028] In a preferred embodiment, the securing member is built as a strip or band. It is preferably essentially made of polypropylene (PP).

[0029] The door preferably is a pull to open door which is on one connecting side connected to the housing by a hinge in the housing.

[0030] The door on its side opposed to the connecting side preferably comprises a handle. The handle makes it very convenient for the user to open and close the door and makes her or him immediately recognize where to open the door.

[0031] The securing member is preferably guided from the first extremity around the door handle to the housing for fixation.

[0032] The securing member is preferably made of adhesive tape between 0,20 m and 0,80 m, especially 0,40 m. The securing member has preferably holes, is predrilled and two protection stickers all over the adhesive surface. During the assembly of the washing machine's door the tape is stuck between the frames with the use of the two holes. Before the assembly of the packaging the operator removes the external protection and attaches it to the body of the washing machine. This way the area in contact with the frame remains protected. The user, at home, when she or he opens the packaging of the washing machine, can use the predrilled part to remove the adhesive tape leaving no traces.

[0033] The household appliance in a preferred embodiment is a front-loading washing machine, combined washer/dryer or dryer whereby the operating chamber is a drum. In further preferred embodiments, the household

appliance is a top-loading washer/dryer or dryer whereby the operating chamber is a drum. In still further embodiments, the household appliance is a refrigerating/cooling appliance whereby the operating chamber is a cooling and/or freezing chamber.

[0034] In a second aspect, the invention relates to a method for manufacturing a household appliance, comprising a housing in which an operating chamber is arranged, whereby an opening is provided in the housing for accessing the operating chamber, and whereby a door is provided which is adapted to open or close the opening, with the steps of

- a) providing a securing member with an elongated shape which comprises a first extremity and a second extremity;
- b) fixing the first extremity to the door on a fixing side, and
- c) fixing the second extremity to the housing at the door closed position.

[0035] Preferably, the first extremity of the securing member is fixed to the door on the fixing side so that, when the door is on the closed position, the securing member extends radially outside the door and is fixed to the housing.

[0036] The first extremity preferably comprises at least one opening through which a protrusion on the door is guided for fixing.

[0037] The second extremity advantageously comprises an adhesive part for fixing the second extremity to the housing.

[0038] Preferably, a protective part is arranged on the adhesive part, whereby before fixing the adhesive part to the housing, the protective part is removed from the adhesive part.

[0039] The securing member is preferably stretched and/or tensioned before being fixed to the housing. In this way, it is assured that enough force is acting on the door to avoid it to open during transport.

[0040] The securing member preferably comprises a predrilled seam which allows leaving the first extremity within the door invisible to the user when removing the securing member from the machine.

[0041] The advantages of the invention are especially as follows. The securing of the appliance for transport is made faster and easy, no special working spot is needed. The securing is technically efficient. It is made very convenient for the user to remove the securing member and to thereby prepare the appliance for operation.

Brief description of the drawings

[0042] Further features and advantages of the present invention shall become clearer from the following detailed description of some of its preferred embodiments, made with reference to the attached schematic drawings and given as an indication and not for limiting purposes.

[0043] In particular, the attached drawings are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification. The drawings together with the description explain the principles of the invention. In the drawings, corresponding characteristics and/or components are identified by the same reference numbers. In these drawings:

FIG. 1 shows a front loading washing machine with a door and with a securing member in a preferred embodiment;

FIG. 2 shows the securing member of FIG. 1 in a top view;

FIG. 3 shows the securing member of FIG. 1 attached to the door in a first view; and

FIG. 4 shows the securing member of FIG. 1 attached to the door in a second view.

[0044] In FIGs. 1-3, a household appliance 2 is shown which is built as a front-loading washing machine and comprises housing 6 or casing with a preferable parallelepiped shape, the casing 6 comprising a front wall 10, two side walls 14, a cover plate 20 and a rear wall (not shown). Front wall 10 and side walls 14 are preferably part of a cabinet. A front door 24 is provided which can be opened for loading or unloading laundry through an opening 28 into a washing drum and which can be closed. Door 24 is on an attachment or connecting side 32 of door 24 is pivotally mounted on a hinge and can be opened by pulling it on a handling side 36. The door 24 can be closed by pushing against it on its handling side 36. Alternatively, door 24 can be operated, especially opened and closed, by a handle 26.

[0045] Advantageously a washing tub is contained within housing 6, whereby a rotatable and perforated drum is contained by the washing tub. Both washing tub and drum have a substantially cylindrical shape. Advantageously the tub is suspended in a floating manner inside casing 6 by means of a number of coil springs and shock absorbers. The drum is rotated by an electric motor, which transmits the rotating motion of a motor shaft to the drum by a belt/pulley system. In a different embodiment of the invention, the motor can be directly associated with the shaft of the drum. Alternatively, the laundry appliance can be a combined washer and dryer or a dryer, in the latter case the tub is not provided.

[0046] The preferred washing machine shown in FIG. 1 on a front panel 40 comprises a drawer 42 with a front plate 48. Drawer 42 comprises at least one compartment for detergent or washing additives. Adjacent to drawer 42, preferably a rotatable or rotary knob 54 is arranged for selecting a laundry treatment program and/or at least one parameter of a laundry treatment program. Preferably, knob 54 has also a push-functionality and can be pressed for selected and/or confirmation of selected op-

tions. Knob 54 is provided on a user interface 62 which can provide further indicating and/or control elements (not shown). Knob 54 is preferably arranged on front panel 40 adjacent to drawer 42. On front panel 40, a display 50 is arranged on user interface 62.

[0047] Household appliance 2 is especially prepared for a transport, whereby it is assured that door 24 does not swing open and gets damaged. To this end, a securing member 70 is provided. Securing member 70 is built as a strip or band and has an elongated, preferably essentially rectangular, shape with a first extremity 76 which is fixed or fixable to door 24 and a second extremity 78 which is fixed or fixable to housing 6, preferably on sidewall 14 which is adjacent to handling side 36 of door. An arrow 82 indicates the direction in which securing member 70 can be pulled off and thereby removed when the household appliance 2 after the transport has reached its final destination.

[0048] The securing member 70 is shown in FIG. 2 in a frontal view. Securing member 70 has an elongated shape 86 preferably with two, preferably parallel, long sides 72 of length 92 and two, preferably parallel, short sides 74 of width 88, whereby length 92 is considerably, preferably more than 5 times, longer than width 88. First extremity 76 comprises two openings 96, 98 or holes, of which the opening 96 is closer to an edge 102 with width 88 of first extremity than opening 98. First extremity 76 is preferably separated from an intermediate part 106 and the second extremity 78 by a predrilled seam 110 which is preferably oriented in parallel to edge 102 and perpendicular to long side 72. The width of securing member 70 at the predrilled seam 110 is preferably smaller than its overall width 88 and is preferably reduced by two cuts 116 with the shape of a semi-circle, respectively. On part intermediate 106, preferably a region 120 is provided on which a diagram and/or description is printed which indicates to the user how the securing member is preferably removed again from the appliance 2. The appliance 2 typically reaches the user with the securing member 70 attached to door 24 and housing 6, and the user is thus given some guidance on the removal of the securing member 70.

[0049] Intermediate part 106 is separated from second extremity preferably by a line 126 which is essentially perpendicular to long sides 72. Second extremity 78 comprises an adhesive region or part which is preferably covered by a protection layer which can be removed for attaching or fixing second extremity 78 to sidewall 14 of housing 6. A line 126 is the line in which the adhesive region and/or protection layer for the adhesive portion start; the position of this line is preferably optimized in such a way to improve as much as possible the adhesive surface interacting with the appliance 2.

[0050] Second extremity 78 on its side which is not seen in the FIG. 2 and which in the fixed state is facing casing 6 of appliance 2 preferably comprises an adhesive region for attachment of second extremity 78 to housing 6. Second extremity 78 comprises preferably an adhe-

sive region or part which is covered by a protection layer which can be removed for attaching or fixing second extremity 78 to sidewall 14 of housing 6. A line 126 is the line in which the adhesive region and/or protection layer for the adhesive portion start. The position of this line 126 is preferably optimized in such a way to improve as much as possible the adhesive surface interacting with the appliance 2.

[0051] The adhesive region is preferably dimensioned in such a way that when securing member 70 is attached to door 24 and housing 6, the adhesive region does not get in contact with door 24 but only with casing 24, preferably only on its sidewall 14.

[0052] Preferably, said adhesive region is covered by a cover layer which can be pulled away for attaching second extremity 78 to casing 6. Securing member 70 is preferably made of polypropylene (PP) and/or plastic/rubber.

[0053] In FIG. 3, securing member 70 is fixed or attached to door 24. Door 24 comprises a front frame 140 which comprises preferably a convex inner profile 146 with a base portion 152, an outer rim 156 and an inner rim 158 comprising a first radially inner part 154 and a radially outer part 160. Both rims 156, 158 protrude from base part 152 in directions which in the mounted state of said front frame 140 run towards the interior of the appliance 2. From base part 152, two domes 162, 164 protrude in a direction which in an assembled state runs towards the interior of the appliance 2. Dome 162 is arranged in opening 96 and dome 164 is arranged in opening 98. In this way, a from-locking connection between dome 162, 164 and securing member 70 is achieved. Securing member 70 is wrapped radially around rim 158 and lead around frame 140 such that part 104 and second extremity 78 are aligned parallel to first extremity 76. Frame 140 comprises two domes 172, 176 protruding from base part 152 which preferably enable the main connection between front frame 140 and rear frame 190 (see FIG. 4).

[0054] Frame 140 further comprises a handling element 186 which can be used to open / close door 24. Preferably, the first extremity 76 is fixed to front frame 140 and the second extremity 78 is guided around front frame 140 as shown in the FIG. 3. Second extremity 78 is aligned with handling element 186 and guided around handling element 186 and across door 24 and is then fixed to housing 6. The alignment is preferably done such that securing member 70 passes handling element 186 in a centralized alignment in which it is essentially perpendicular to the circumference or perimeter of the frame 140 at the position of the handling element 186. Preferably, the securing member 70 is then fixed to the sidewall 14 which is adjacent to handling element 186 or door handle in the closed state of the door 24. In other words, for manufacturing the appliance 2, the securing member 70 is guided from the first extremity 76 around the door handle or handling element 186 to the sidewall 14 of housing 6 for fixation of second extremity 78.

[0055] In FIG. 4, door 24 is shown in a perspective in which front frame 140 is shown from a top side. Attached to front frame 140 is a rear frame 190 with a base part 196, an outer part 200 inclined with respect to base part 196, an intermediate part 206 inclined with respect to base part 196 and an inner part 212 which is inclined with respect to intermediate part 206 in such a way that parts 212 and 196 are essentially aligned in parallel. In an assembled state in which door 24 is closed, rear frame 190 faces the interior of the appliance 2. Rear frame 190 is connected to front frame 140 by a screw connection with domes 162, 164 and preferably other connection elements which are preferably snap elements. Rear frame 190 comprises elements which are received by domes 172, 176. Preferably, domes 172, 176 act as the connection elements for the main connection between front frame 140 and rear frame 190. On rear frame 190, holes 220, 222 are provided which are coaxially aligned with domes 162, 164 which are positioned in proximity to handling element 186. Screws are received by holes 220, 222 on rear frame 190 and pass into domes 162, 164 for providing an optional connection of frames 140, 190. All screws used to fix frames 140 and 190 to each other preferably pass through holes provided on rear frame 190 and are screwed on domes provided on the front frame 140, thereby improving the aesthetical outer appearance of the door.

[0056] Preferably the first extremity 76 is completely arranged between frames 140, 190. Securing member 70 is extending from a space between frames 140, 190 and radially wrapped around door 24 or front frame 140 radially outwards.

[0057] In order to remove securing element 70, second extremity 78 is detached from housing 6 by pulling it away. First extremity 76 is then separated from part 104 by pulling on part 104 and/or second extremity 78 in order to separate them at the predrilled seam 110 which will crack or rip, leading to a separation of first extremity 76. The two preferable cuts 116 further support the easy separation of part 106 and first extremity 76. The predrilled seam 110 is arranged on such a position that when this separation has happened, first extremity 76 is fully arranged between frames 140, 190 and is not visible to the user during interaction with the appliance. For this reason, first extremity 76 can remain in the space between the two frames 140, 190. In this way, a very convenient and fast way for the user to remove securing member 70 partly is provided.

[0058] The invention thus conceived can be subjected to numerous modifications and variants all falling within the scope of the inventive concept. In addition, all details can be replaced by other technically equivalent elements. In practice, all the materials used, as well as the shapes and contingent dimensions, may vary depending on the requirements without departing from the scope of protection of the following claims.

Claims

1. Household appliance (2), comprising a housing (6) in which an operating chamber is arranged, whereby an opening (28) is provided in said housing (6) for accessing said operating chamber, and whereby a door (24) is provided which is adapted to open or close said opening (28),
characterized in
that a securing member (70) with an elongated shape is provided which comprises a first extremity (76) and a second extremity (78), whereby said first extremity (76) is fixed or fixable to said door (24) on a fixing side (80) and whereby said second extremity (78) is fixed or fixable to said housing (6).
2. Household appliance (2) according to claim 1, whereby said door (24) comprises at least one frame (140, 190) which provides on said fixing side (80) at least one fixing point (162, 164) for said securing member (70).
3. Household appliance (2) according to claim 2, whereby said fixing point (162, 164) is built as a protrusion extending from said frame (140), and whereby said securing member (70) on its first extremity (76) comprises at least one hole (96, 98) into which said protrusion is engaged or can be engaged.
4. Household appliance (2) according to claim 3, whereby said protrusion is built as a dome or a rivet or a screw (162, 164).
5. Household appliance (2) according to one of the claims 2 to 4, whereby said door comprises a front frame (140) with a frontal side facing, in a closed state of said door (24), the outside of said appliance (2), and whereby said protrusion is arranged at least partially in an inner profile (146) of a rear side of said front frame (140) facing said interior of said appliance (2) when said door (24) is closed.
6. Household appliance (2) according to claim 2 to 5, whereby said door (24) comprises a rear frame (190) which is mounted on said front frame (140) and which faces the interior of said appliance (2) when said door (24) is closed.
7. Household appliance (2) according to one of the claims 3 to 6, whereby at least two protrusions (162, 164) are provided on said frame (140) and at least two holes (96, 98) are respectively provided on said first extremity (76) which are engaged or can be engaged with said protrusions (162, 164).
8. Household appliance (2) according to one of the claims 1 to 7, whereby said securing member (70) comprises a predrilled seam (110), dividing said se-

curing member (70) into said first extremity (76) and a remaining part (104, 78), and whereby said seam (110) is arranged on said securing member (70) in such a way that when said remaining part (104, 78) is separated from said first extremity (76) at said seam (110), said first extremity (76) is hidden by the door (24) and / or by the housing (6). 5

9. Household appliance (2) according to one of the claims 1 to 8, whereby said second extremity (76) comprises on one of its faces an adhesive part (132) for attachment to said housing (6). 10
10. Household appliance (2) according to claim 9, whereby on said adhesive part (132), at least one protective part is removably arranged. 15
11. Household appliance (2) according to one of the claims 1 to 10, whereby said securing member (70) between said two extremities (76, 78) comprises an intermediate part (104) and whereby only said second extremity (78) comprises an adhesive portion. 20
12. Household appliance (2) according to one of the claims 1 to 11, whereby said securing member (70) is built as a strip or band. 25
13. Method for manufacturing a household appliance (2), comprising a housing (6) in which an operating chamber is arranged, whereby an opening (28) is provided in said housing (6) for accessing said operating chamber, and whereby a door (24) is provided which is adapted to open or close said opening (28), 30
characterized in the steps of 35
 - a) providing a securing member (70) with an elongated shape which comprises a first extremity (76) and a second extremity (78);
 - b) fixing said first extremity (76) to said door (24) on a fixing side (80) and 40
 - c) fixing said second extremity (78) to said housing (6) at the door closed position.
14. Method according to claim 13, whereby said first extremity (76) of said securing member (70) is fixed to said door (24) on said fixing side (80) so that, when said door (24) is on the closed position, said securing member (70) extends radially outside said door (24) and is fixed to said housing (6). 45 50
15. Method according to one of the claims 13 to 14, whereby said securing member (70) is stretched and/or tensioned before being fixed to said housing (6). 55

FIG. 1

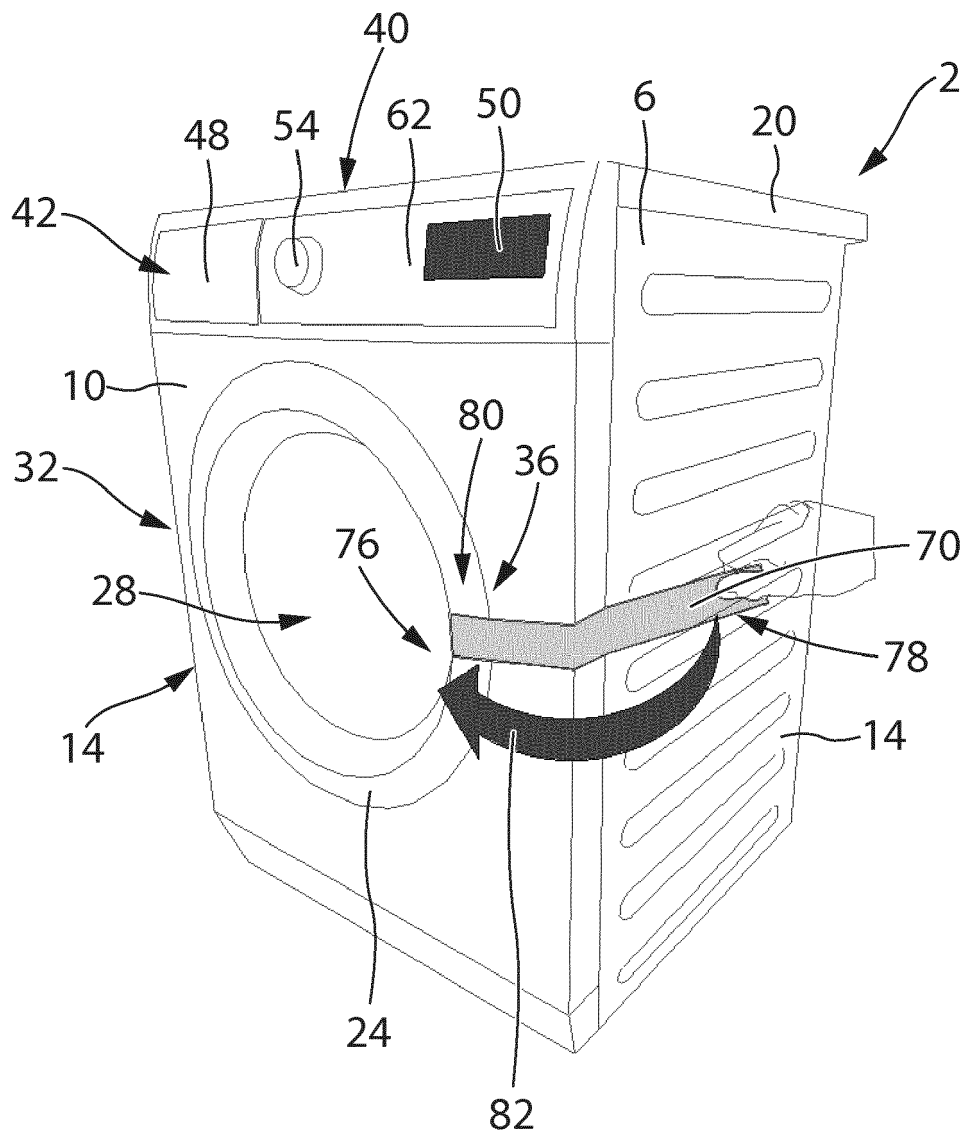
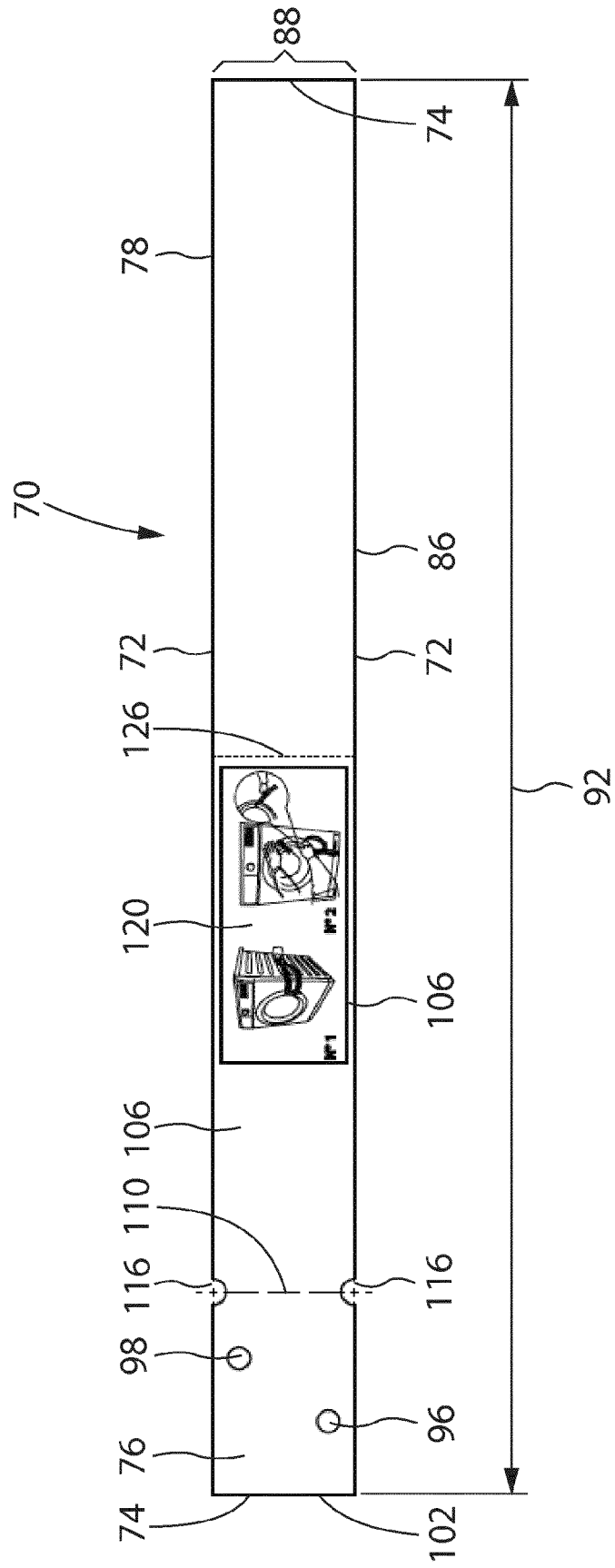


FIG. 2



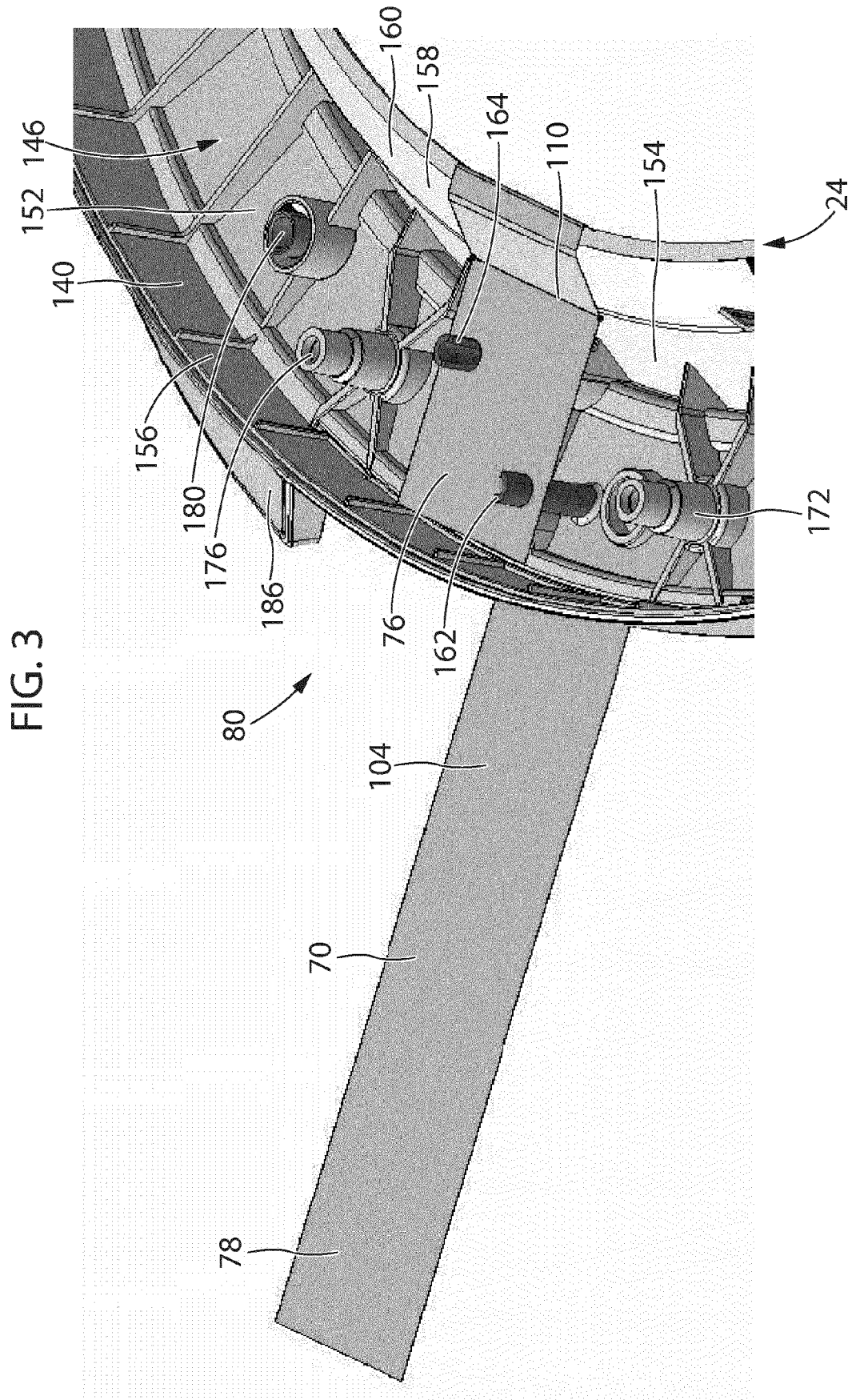
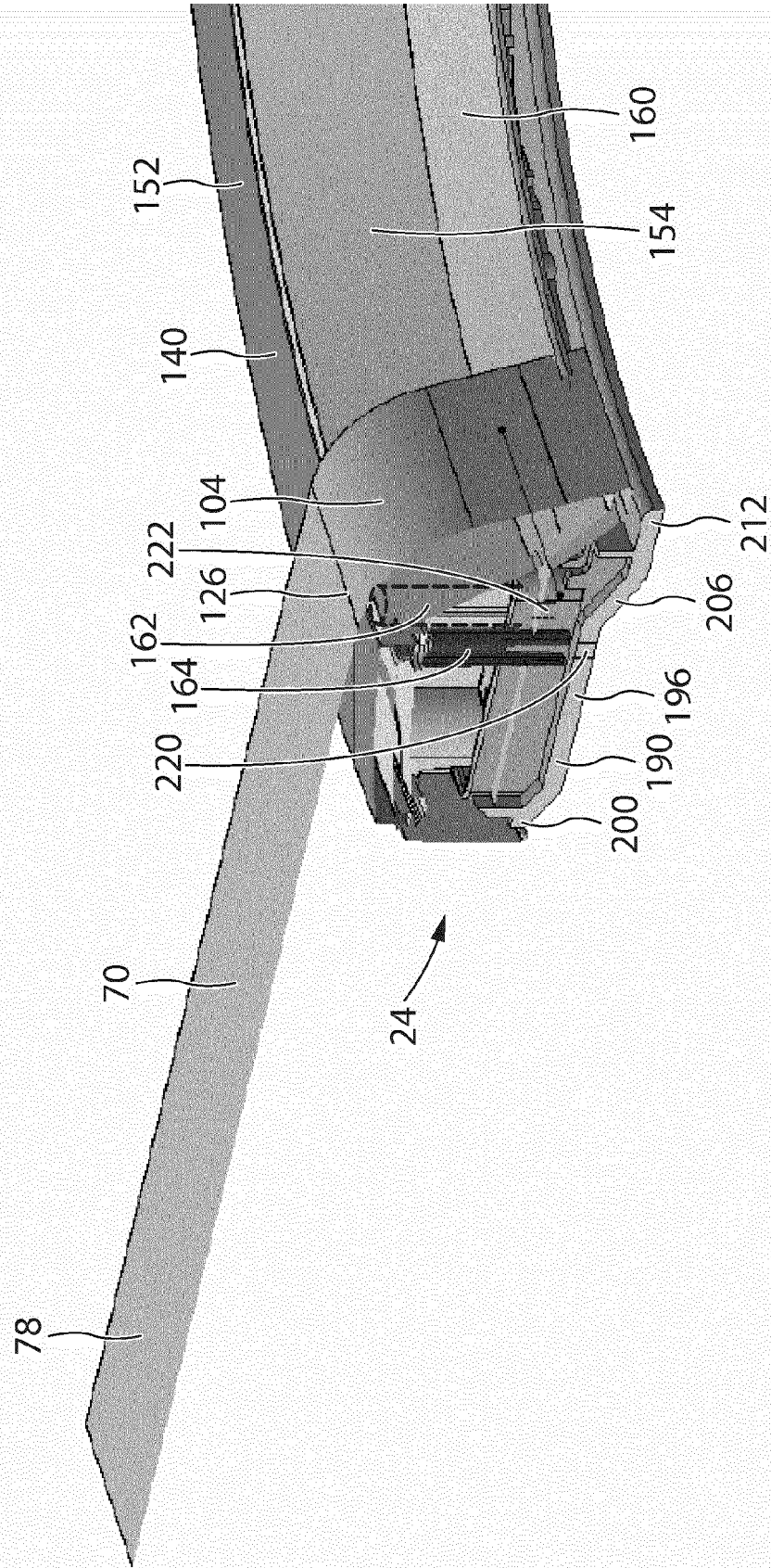


FIG. 4





EUROPEAN SEARCH REPORT

Application Number
EP 16 16 8835

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EPO FORM 1503 03.82 (P04C01)

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	JP S53 144468 U (HOTSUTSUMI) 14 November 1978 (1978-11-14)	1,2,6, 12-15	INV. D06F39/00
A	* figure 2 *	3-5,7-11	D06F39/14
A,D	US 4 811 840 A (MUYSKENS DAVID B [US]) 14 March 1989 (1989-03-14) * column 1, line 1 - column 2, line 3 *	1-15	
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			TECHNICAL FIELDS SEARCHED (IPC)
			D06F F25D A47L B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 July 2016	Examiner Jezierski, Krzysztof
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			

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

EP 16 16 8835

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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05-07-2016

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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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