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- (71) Applicant: ELECTROLUX APPLIANCES
 AKTIEBOLAG
 105 45 Stockholm (SE)
- (72) Inventor: COSTANTIN, Marco 33085 Maniago Pordenone (IT)
- (74) Representative: Electrolux Group Patents
 AB Electrolux
 Group Patents
 105 45 Stockholm (SE)

(54) COUPLING STRUCTURE FOR LAUNDRY TREATMENT APPLIANCES

(57) The present invention generally relates to the field of appliances, particularly home appliances, more particularly laundry treatment appliances.

According to the invention, a coupling structure (3) for receiving a laundry treatment appliance (1) thereon, comprises one or more coupling elements (5, 6, 10, 11) to be coupled to the appliance (1). The coupling structure is characterized by comprising a connecting device (30) having a shape elongated in one direction which has a first end (31) connected or adapted to be connected to said coupling structure (3) and a second end (32) provided with an attaching member (100) for attaching said connecting device (30) to a holding element (70) available in a location where the appliance (1) has to be placed, such that a movement of the appliance (1) increasing the distance between the holding element (70) and the coupling structure (3) attached thereto is prevented.

The invention also refers to a method for arranging a laundry treatment appliance (1) on top of a coupling structure (3) and to a laundry treatment appliance with said coupling structure (3).

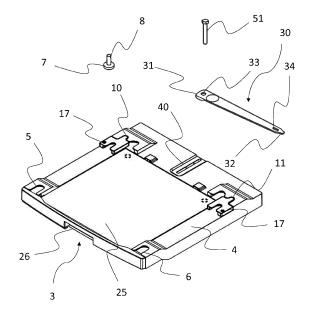


Figure 2

Background of the present invention

Field of the present invention

[0001] The present invention generally relates to the field of appliances, particularly home appliances, more particularly laundry (linen, clothes, garments and the like) treatment appliances (hereinafter, shortly, laundry appliances).

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[0002] The invention relates to a coupling structure for receiving an appliance thereon, said coupling structure comprising a connecting device for improving the coupling structure stability and, consequently the stability of the appliance carried thereon.

[0003] The appliance is preferably a tumble dryer and said coupling structure preferably comprises a frame element which is designed to be fixed on top of a second appliance, preferably a washing machine, so that the coupling structure is placed between the two appliances. The coupling structure may also be arranged on a supporting pedestal, for example a piece of furniture preferably designed to provide a container for storing laundry items, detergents and/or washing additives and the like. [0004] The invention also relates to a method for arranging an appliance on top of a coupling structure and for coupling a connecting device to the coupling structure. [0005] The invention also relates to an appliance comprising a cabinet and the coupling structure being integrated or forming an integral part of one wall of the cabinet

Overview of the related art

[0006] There is often the necessity of saving space in the location where the appliances are going to be placed. A possible known solution is to dispose an appliance on top of another one or on top of a supporting pedestal, for example a piece of furniture. For safety reasons, in case two appliances, namely a laundry washing machine and a laundry dryer, are arranged one on top of the other, the washing machine is placed below the dryer and supports it.

[0007] It is always advisable to use a coupling structure between the two appliances or between the appliance and the supporting pedestal, in order to guarantee a safe stability and a more reliable fixing arrangement. Laundry appliances are known which are equipped with a coupling structure to arrange them one on top of the other.

[0008] EP2703536 A1 discloses a device for connecting a first appliance with a second appliance, wherein the second appliance is arranged on top of the first appliance, wherein the device comprises a frame element which is designed to be fixed on top of the first appliance, wherein the frame element comprises two receptions for a foot arranged at a stem of the second appliance, wherein those receptions are arranged in a front region of the

frame element, wherein the frame element comprises two receptions for a foot arranged at a stem of the second appliance, wherein those receptions are arranged in a rear region of the frame element, wherein each reception has a carrier surface for the foot which is limited by side walls and an upper wall having at least one recess for the passage of the stem of the foot. To allow a secure connection between two appliances with different depth, the invention is characterized in that the device comprises two adapter elements, wherein each adapter element comprises a reception for the foot arranged at the stem, wherein the reception has an upper wall having at least one recess for the passage of the stem of the foot, wherein the recess is arranged at a front end of the adapter element, wherein the adapter element is designed to fit into a reception in the rear region of the frame element with a rear end.

[0009] DE102005026134 A1 discloses an arrangement for connecting two domestic units, especially a washing machine with a drier on top, which comprises a frame or board which can be fixed to the lower unit. The frame or board has at least two shoe sections for fixing the feet of the upper unit. The feet of the upper unit can be placed in the shoe sections and fixed using a horizontal force. The frame or board is made of plastic or metal as are the locating elements and spacers. The frame or board is fixed to the lower unit using screws or adhesive. [0010] The appliance is raised above the ground at a predetermined height, whether on top of another appliance or on top of a supporting pedestal. The higher the appliance is positioned, the greater could be the risk for the appliance placed on top to fall off due to a user interaction with the appliance which may cause instability issues. There are different situations which can cause a fall of the appliance placed on top, for example: a user can pull the laundry loading door of the appliance with excessive strength; an excessive vertical load can be exerted on an open laundry loading door; a garment can get stuck in an appliance element; the appliance vibration during a treatment cycle can cause an excessive shifting movement.

[0011] It should be noted that in case of fall of the appliance placed on top of the coupling structure, the latter will fall too.

[0012] None of the above cited documents discloses a device which guarantees a stability improvement of the coupling structure and of the appliance which in positioned on top.

[0013] Therefore, in order to overcome the above mentioned problems, there is the necessity to increase the stability of the coupling structure and of the appliance which is placed on top. In other words the invention provides for solutions that increase the force to be applied to a part of the assembly formed by the coupling structure and the appliance thereon up to an increased safety level that greatly reduces the risk that the entire assembly may fall.

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Summary of the present invention

[0014] It is an object of the invention to provide a coupling structure for receiving a laundry treatment appliance thereon, said coupling structure comprising one or more coupling elements to be coupled to the appliance, characterized by comprising a connecting device having a shape elongated in one direction which has a first end connected or adapted to be connected to said coupling structure and a second end provided with an attaching member for attaching said connecting device to a holding element available in a location where the appliance has to be placed, such that a movement of the appliance increasing the distance between the holding element and the coupling structure attached thereto is prevented.

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[0015] Preferably the appliance is a washing machine, a washing and drying machine or a laundry dryer, particularly a tumble dryer.

[0016] The appliance comprises a cabinet, preferably parallepiped-shaped. Said cabinet has a plurality of walls, i.e. a front wall, two lateral walls, a rear wall, a top wall and a base wall.

[0017] The appliance preferably has a plurality of feet, more preferably four feet. Preferably two front feet and two rear feet. Preferably the feet are arranged at stems, which are preferably designed as a threaded rod so as to allow an adjustment of the appliance footprint to the surface where the appliance lies on.

[0018] The connecting device has a shape elongated in one direction, a first end connected or adapted to be connected to the coupling structure and a second end provided with an attaching member for attaching said connecting device to a holding element available in a location where the appliance has to be placed.

[0019] The holding element available in a location where the appliance is to be placed may be a wall of the location, a pillar, a tube or a pipe available in the location. [0020] The attaching member may have different configurations: in a favourite embodiment of the present invention the attaching member is a threaded element, for example a bolt or a screw with a nut for receiving said bolt or an expandable member that receives the screw therein and is provided to be received in a hole drilled in the holding element. The attaching member is adapted to engage the second end of the connecting device and attach it to the holding element, for example a wall of the location where the appliance has to be placed. The attaching member can also be a nail.

[0021] Alternatively, the attaching member can be a hook to be fixed to the holding element and adapted to engage the second end of the connecting device.

[0022] In another embodiment the attaching member can be integrated in the second end of the connecting device, for example in the form of a hook, and adapted to be connected to the holding element or to an eyelet to be fixed to the holding element.

[0023] In other embodiments the attaching member may include a snapping connection with a part to be fixed to the holding element and a portion formed or attached to the second end of the connecting device.

[0024] In another embodiment, the attaching element can be a lace associated to the second free end of the connecting device and adapted to be wrapped around the holding element, for example a pillar, a tube or a pipe. [0025] By preventing a movement of the appliance increasing the distance between the holding element and the coupling structure attached thereto, the connecting device helps to improve the user safety by stably fixing the coupling structure to a holding element available in a location where the appliance is to be placed, to prevent the risk of a possible fall of the appliance.

[0026] The coupling structure comprises a seat for receiving the first end of the connecting device or for receiving a fixing member that connects the connecting device to the coupling structure.

[0027] The seat has preferably an elongated shape which is adapted to receive the first end of the connecting device or the fixing member in a plurality of positions. The elongated shape allows a certain tolerance of the distance between the coupling structure and the holding element available in the location where the appliance is to be placed. The appliance located on top of the coupling structure may be positioned for example at a certain distance from the wall of the location and the adjustable position of the connection device can facilitate the mounting of the connecting device.

[0028] The connecting device is preferably connected to the seat of the coupling structure through a fixing member. Preferably the fixing member is a threaded element, for example a screw or a bolt. In an embodiment, the coupling structure also comprises a hooking member to hook the top wall of the appliance casing so as to fix the coupling structure thereto by means of a fastening member which is received in a hole provided in the hooking member.. In another embodiment, said fastening member can be the fixing member that connects, at the same time the connecting device and the hooking member to the coupling structure. Said hooking member is preferably placed under the seat of the coupling structure.

[0029] In other embodiments, the connecting device is directly received within the seat of the coupling structure. In such embodiments the first end of the connecting device has preferably a T shape so that it can be inserted in the seat of the coupling structure and slide therein.

[0030] The coupling structure comprises a frame element which is designed to be fixed on top of a second appliance or on a supporting pedestal to raise the coupling structure at a predetermined height, such that the second appliance or the supporting pedestal is arranged below said appliance with the coupling structure there-

[0031] Preferably the frame element has a substantial U-shaped form. Preferably the frame element comprises the coupling elements described above. More preferably the frame element comprises four coupling elements, i.e. two coupling elements for the front feet of the appliance

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and two coupling elements for the rear feet of the appliance. Preferably the coupling elements are arranged in side regions of the frame element of the coupling structure

[0032] Preferably each coupling elements has a carrier surface which is basically formed by the upper surface of the frame element. Preferably each coupling element is formed by side walls and upper walls to form a reception chamber. Preferably, to allow the appliance foot with its stem to be pushed into the reception, the upper wall has a recess.

[0033] Preferably the coupling structure comprises adapter elements. A more detailed description of this type of adapter elements is provided in the application EP2703536A1 of the same Applicant to which the present description refers to.

[0034] Preferably the position of the first end of the connecting device is adjustable in a plurality of positions relative to the coupling structure.

[0035] Preferably, the connecting device is slidably and/or rotatably coupled to the coupling structure. Preferably, the connecting device can slide into the seat of the coupling structure so as to facilitate the mounting of the connecting device to the holding element available in a location where the appliance has to be placed by adapting the connecting device position relative to the coupling structure according to the distance between the latter and the holding element.

[0036] Preferably, the connecting device is rotatably coupled to the coupling structure so as to guarantee that a holding element available in a location where the appliance has to be placed is reacheable even if it is available in different positions relative to the coupling structure.

[0037] Preferably, the connecting device is made of a resilient flexible material which elastically deforms when subject to a shearing force and is substantially inextensible when subjected to a traction force acting in a direction parallel to the elongation direction of the elongated shaped connecting device. The connecting device would otherwise not improve the stability of the coupling structure: an extension in the direction of the elongated shape may cause the movement of the coupling structure with the risk of a fall of the appliance placed on top thereof. Preferably, the connecting device is made of plastic, i.e. polymeric material.

[0038] Preferably, the connecting device comprises a plurality of holes or slots and has at least one hole or slot at each end. The at least one hole or slot can be, in general, alternatively embodied as apertures of any desired shape. The hole or slot or aperture of the first end is adapted to be coupled to the coupling structure. The hole or slot or aperture of the second end is adapted to be attached to the holding element available in a location where the appliance has to be placed.

[0039] In some embodiments the connecting device has a plurality of holes, slots or apertures distributed along its length. Said holes, slots or apertures have the

function of allowing a certain adjustment of the distance between the coupling structure and the holding element available in a location where the appliance has to be placed. Preferably, the holes, slots or aperture are distributed at the same distance one another along the elongation direction of the elongated shaped connecting device.

[0040] The second appliance is preferably a home appliance, preferably a laundry treatment appliance, more preferably a washing machine.

[0041] Preferably the supporting pedestal is piece of furniture. The piece of furniture may be for example a box adapted to contain garments or laundry treatment products.

[0042] Preferably the coupling structure comprises a movable shelf and/or a drawer. The movable shelf is a panel element which can be extracted/inserted from/into the coupling structure. The movable shelf and/or a drawer preferably comprises a handle. The movable shelf and/or a drawer can be for example used as a support for garments or laundry treatment products.

[0043] It is a further object of the invention to provide a method for arranging a laundry treatment appliance on top of a coupling structure, wherein the method comprises:

- a) coupling the appliance to the coupling structure by means of the one or more coupling elements;
- b) providing a connection between the first end of the connecting device and the coupling structure;
- c) providing a holding element in a location where the appliance has to be placed;
- d) attaching the connecting device to the holding element by means of an attaching member.

[0044] The steps a) to d) can be carried out in different orders. For example, a user may first provide a holding element in the location where the appliance has to be placed, then he/she may connecting the first end of the connecting device to the coupling structure. Then the connecting device is attached to the holding element by means of an attaching member as, for example, a screw and an expandable member that receives the screw therein and is provided to be received in a hole drilled in the holding element. Evidently, the connecting device may be attached to the holding element before connecting the coupling structure with the first end of the connecting device, as explained below. The distance between the holding element and the coupling structure must not exceed the maximum length of the connecting device such that the latter can be connected to both the coupling structure and the holding element. Thereafter the user can couple the appliance on top of the coupling structure by means of one or more coupling elements. Preferably the coupling elements of the coupling structure are connected to the feet of the appliance.

[0045] Preferably, the method further comprises:

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e) providing a second appliance or a supporting pedestal:

f) arranging the coupling structure on top of the second appliance.

[0046] The second appliance is preferably a home appliance, preferably a laundry treatment appliance, more preferably a washing machine. The user places the coupling structure on top of the second appliance. In other embodiments the coupling structure may be placed on top of a supporting pedestal, for example a piece of furniture.

[0047] Preferably, steps c), e), f) are carried out before steps b), d). Preferably, the user first places the second appliance in proximity to a holding element in a location where the appliance is to be placed. Thereafter the user arranges the coupling structure on top of the second appliance. Preferably steps a) b) and d) are then carried out. [0048] Preferably step a) is carried out after steps b), d) are completed. Steps b) and d) can be carried out in different order. In one embodiment the user first connects the first end of the connecting device to the coupling structure and then the second end of the connecting device to the holding element using an attaching member. This can be advantageous because the first end of the connecting device can be adjusted in a plurality of positions as previously described. In another embodiment the user can attach the second end to the holding element before connecting the first end to the coupling structure. This can be useful when there is already an arrangement in the holding element adapted to receive the attaching member, for example a hook or and eyelet in the wall of the room where the appliance has to be can be placed. Step a) is preferably made after b) or d) so as to facilitate the user in the connection of the connecting device to the coupling structure. Having already positioned the appliance on top of the coupling structure would increase the difficulty of connecting the first end of the connecting device to the coupling structure, since the user would have less space available.

[0049] It is a further object of the invention to provide a laundry treatment appliance comprising a cabinet having a plurality of walls and a coupling structure which is integrated or forms an integral part of one wall of the cabinet, preferably the top or a base wall of the cabinet. This solution can be advantageous because it reduces the number of parts to be assembled by a user.

[0050] Preferably, the position of the connecting device can be regulated in a direction perpendicular to the holding member. This allows a certain tolerance of the distance between the coupling structure and the holding element available in the location where the appliance is to be placed.

Brief description of the drawings

[0051]

Figure 1 shows a perspective view of two appliances which are connected by a coupling structure;

Figure 2 shows a perspective view of the coupling structure, a foot of the first appliance, a connecting device and a fixing member;

Figure 3 shows the coupling structure arranged on top of the second appliance;

Figures 4, 5, 6 show an embodiment of the mounting process of the connecting device to the coupling structure:

Figures 7, 8 show an example of the attachment of the connecting device to a holding element.

Detailed description of exemplary and non-limitative embodiments of the present invention

[0052] In Figure 1 a first appliance 1, which is a dryer in the present embodiment, and a second appliance 2, which is a washing machine in the present embodiment, are shown. The first appliance 1, i.e. the dryer, has to be arranged onto the second appliance 2 in a stable manner. For doing so, a coupling structure 3 is employed.

[0053] In other embodiments not illustrated, the first appliance **1** can be arranged on top of a supporting pedestal, for example a piece of furniture. The piece of furniture may be for example a box adapted to contain garments or laundry treatment products.

[0054] Each of the appliances, 1 and 2, comprises a cabinet, 1a and 2a, preferably parallepiped-shaped. Said cabinet has a plurality of walls, preferably a front wall, two lateral walls, a rear wall and a top wall (1b, 1c, 1d, 1e, 1f).

[0055] The upper appliance, i.e. the first appliance 1, has four feet (one of them being schematically shown in Figure 2 with reference 7) which are arranged at stems 8 in Figure 2 which often are designed as a threaded rod. [0056] In Figure 2 it can be seen that the coupling structure 3 has a frame element 4. The frame element 4 has a substantial U-shaped form. So, a receiving space is formed for a movable shelf 25. The movable shelf 25 is preferably a panel element which can be extracted/inserted from/into the coupling structure the coupling structure. The movable shelf 25 preferably comprises a handle 26. The movable shelf 25 can be for example used as a support for garments or laundry treatment products during preparation of laundry and/or the appliances for carrying out a laundry treatment process. In other embodiments the movable shelf 25 can be replaced by a drawer. In other embodiments both a drawer and a shelf can be implemented.

[0057] The coupling structure **3** comprises a seat **40** which has preferably an elongated shape.

[0058] The coupling structure 3 has four coupling elements 5, 6, 10, 11, i.e. two coupling elements 5, 6 for the front feet 7 of the first appliance 1 and two coupling elements 10, 11 for the rear feet 7 of the first appliance 1.

[0059] Preferably, the coupling structure 3 comprises adapter elements 17. A more detailed description of this

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type of adapter elements is provided in the application EP 2703536 A1 of the same Applicant to which the present description refers to.

[0060] The coupling structure 3 comprises a connecting device 30. The connecting device 30 has a shape that is elongated in one direction, a first end 31 and a second end 32.

[0061] The first end 31 is adapted to be connected to the coupling structure 3, preferably to the seat 40, which is adapted to receive the first end 31 of the connecting device 30 or a fixing member 51 that connects the connecting device 30 to the coupling structure 3, in a plurality of positions. Preferably, the fixing member 51 is a threaded element, for example a screw or a bolt.

[0062] In an embodiment not illustrated the coupling structure is integrated or forms an integral part of one wall 1b, 1c, 1d, 1e, 1f of the cabinet 1a. Preferably, the coupling structure 3 is integrated or forms an integral part of the base wall 1g of the cabinet 1a of the first appliance 1. Alternatively, with reference to the second appliance 2, the coupling structure 3 may be integrated or forming an integral part of its top wall.

[0063] The second end **32** is provided with an attaching member **100** so that the connecting device is attached to a holding element **70** available in the location where the appliance has to be placed.

[0064] In the embodiment illustrated in Figure 7, the attaching member 100 is a screw 60 and an expandable member 80 that receives the screw 60 therein and is provided to be received in a hole drilled in the holding element 70. The screw 60 is adapted to engage the second end 32 of the connecting device 30, which remains free after the first end has been connected to the coupling structure 3, and attach it to the holding element 70. The attaching member 100 may have different configurations as previously described.

[0065] In the example illustrated, the holding element 70 is a wall available in the location where the appliance has to be placed. In other embodiments, not illustrated, the holding element 70 can be, for example, a pillar available in the location where the appliance has to be placed. [0066] The connecting device 30 is preferably made of a resilient flexible material which elastically deforms when subject to a shearing force and is substantially inextensible when subjected to a traction force acting in a direction parallel to the elongation direction of the elongated shaped connecting device 30. Preferably the connecting device 30 is made of plastic, i.e. polymeric material.

[0067] The connecting device 30 has at least one aperture (33, 34) at each of its ends (31, 32). Preferably, the apertures are holes or slots. In other embodiments, the apertures may also have different shapes, for example rectangular or oval.

[0068] In the embodiment illustrated, the aperture 33 is a hole while the aperture 34 has a slot shape. The hole 33 of the first end 31 is adapted to be coupled to the coupling structure 3. The slot 34 of the second end 32 is

adapted to be attached to the holding element **70** available in a location where the appliance has to be placed. **[0069]** In some embodiments not illustrated the connecting device **30** has a plurality of holes distributed in his length. Said holes have the function of allowing a certain compensation of the distance of the coupling structure **3** from the holding element **70** available in the location where the appliance has to be placed. Preferably, the holes are distributed at the same distance one another along the elongation direction of the elongated shaped connecting device..

[0070] With reference to **Figures 3** to **8** different steps of a method for arranging the appliance **1** on top of a coupling structure **3**, in particular, the following steps are disclosed:

- a) coupling the first appliance 1 to the coupling structure 3 by means of the one or more coupling elements 5, 6, 10, 11;
- b) providing a connection between the first end **31** of the connecting device **30** and the coupling structure **3**;
- c) providing a holding element **70** in a location where the first appliance **1** has to be placed;
- d) attaching the connecting device **30** to the holding element **70** by means of an attaching member **100**; e) providing a second appliance **2**;
- f) arranging the coupling structure on top of the second appliance **2**.

[0071] In Figure 3 the user places the second appliance 2 in proximity of the holding element 70. The distance from the holding element 70 must be close enough to connect the connecting device 30 both to the coupling structure 3 and to the holding element 70. The user arranges the coupling structure 3 on top of the second appliance 2. In other embodiments not illustrated, the coupling structure 3, instead of on top of a second appliance 2, can be placed on top of a supporting pedestal, for example a piece of furniture.

[0072] In Figure 4, 5, 6, the user connects the first end 31 of the connecting device 30 to the coupling structure 3. Preferably the connecting device is connected to the coupling structure 3 through a fixing member (see reference numeral 51 in Figure 5). Preferably the coupling structure also comprises a hooking member (see reference numeral 50 in Figure 4). Preferably the hooking member 50 comprises a hole 50a which is adapted to receive the fixing member 51, so that the connecting device 30 can be fixed on the seat 40 of the coupling structure 30. However other connections are possible between the first end 31 of the connecting device 30 and the coupling structure 3.

[0073] In Figure 7, 8, the user attaches the connecting device 30 to the holding member 70 by means of the attaching member 100. The user uses the attaching member 100 to attach the second end 32 of the connecting device 30 to the holding element 70. However other

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possible coupling solutions can be used.

[0074] The user can couple the first appliance 1 to the coupling structure 3 by means of one or more coupling elements 5, 6,10,11. Preferably, the coupling elements 5, 6,10,11 of the coupling structure 3 are connected to the feet 7 of the first appliance 1.

[0075] The final configuration is the one illustrated in Figure 1.

[0076] Preferably, step a) is carried out after steps b), d) are completed. Steps b) can be carried out before step d) or vice versa.

[0077] In one embodiment the user first connects the first end 31 of the connecting the device 30 to the coupling structure 3 and then the second 32 end of the connecting device 30 to the holding element 70 using an attaching member 100. In another embodiment the user can attach the second end 32 to the holding element 70 before connecting the first end 31 to the coupling structure 3.

[0078] Step a) is preferably made after b) or d) so as to facilitate the user in the connection of the connecting device **30** to the coupling structure **3**.

Claims

- A coupling structure (3) for receiving a laundry treatment appliance (1) thereon, said coupling structure (3) comprising one or more coupling elements (5, 6, 10, 11) to be coupled to the appliance (1), characterized by comprising a connecting device (30) having a shape elongated in one direction which has a first end (31) connected or adapted to be connected to said coupling structure (3) and a second end (32) provided with an attaching member (100) for attaching said connecting device (30) to a holding element (70) available in a location where the appliance (1) has to be placed, such that a movement of the appliance (1) increasing the distance between the holding element (70) and the coupling structure (3) attached thereto is prevented.
- 2. A coupling structure (3) according to claim 1 comprising a seat (40) for receiving the first end (31) of the connecting device (30) or for receiving a fixing member (51) that connects the connecting device (30) to the coupling structure (3).
- 3. A coupling structure (3) according to claim 1 or 2 wherein the coupling structure (3) comprises a frame element (4) which is designed to be fixed on top of a second appliance (2) or on a supporting pedestal to raise the coupling structure (3) at a predetermined height, such that the second appliance (2) or the supporting pedestal is arranged below said appliance (1) with the coupling structure (3) therebetween.
- **4.** A coupling structure (3) according to any of the preceding claims comprising a movable shelf (25)

and/or a drawer.

- A coupling structure (3) according to any of the preceding claims wherein the position of said first end
 (31) of the connecting device (30) is adjustable in a
 plurality of positions relative to the coupling structure
 (3).
- **6.** A coupling structure (3) according to any of the preceding claims wherein the connecting device (30) is slidably and/or rotatably coupled to the coupling structure (3).
- 7. A coupling structure (3) according to any of the preceding claims wherein the connecting device (30) is made of a resilient flexible material which elastically deforms when subject to a shearing force and is substantially inextensible when subjected to a traction force acting in a direction parallel to the elongation direction of the elongated shaped connecting device (30).
- **8.** A coupling structure (3) according to any of the preceding claims wherein the connecting device (30) comprises a plurality of holes or slots (33, 34) and having at least one hole or slot at each end (31,32).
- **9.** A coupling structure (3) according to any of the preceding claims wherein the attaching member (100) comprises, a nail or a threaded element (60) with a nut or an expandable member (80).
- 10. Method for arranging a laundry treatment appliance (1) on top of a coupling structure (3) wherein the method comprises:
 - a) coupling the appliance (1) to the coupling structure (3) by means of the one or more coupling elements (5, 6, 10, 11);
 - b) providing a connection between the first end (31) of the connecting device (30) and the coupling structure (3);
 - c) providing a holding element (70) in a location where the appliance (1) has to be placed;
 - d) attaching the connecting device (30) to the holding element (70) by means of an attaching member (100).
- 11. Method according to claim 10 further comprising:
 - e) providing a second appliance (2) or a supporting pedestal;
 - f) arranging the coupling structure (3) on top of the second appliance (2) or the supporting pedestal
- **12.** Method according to claim 11 wherein steps c), e), f) are carried out before steps b), d).

- **13.** Method according to any claim 10 to 12 wherein step a) is carried out after steps b), d) are completed.
- 14. A laundry treatment appliance (1) comprising a cabinet (1a) having a plurality of walls (1b, 1c, 1d, 1e, 1f) and a coupling structure (3) according to any claim 1 to 8 characterized in that said coupling structure (3) is integrated or forms an integral part of one wall (1b, 1c, 1d, 1e, 1f) of the cabinet (1a).

15. A laundry treatment appliance (1) according to claim 14 where the position the connecting device (30) can be regulated in a direction perpendicular to the holding member (70).

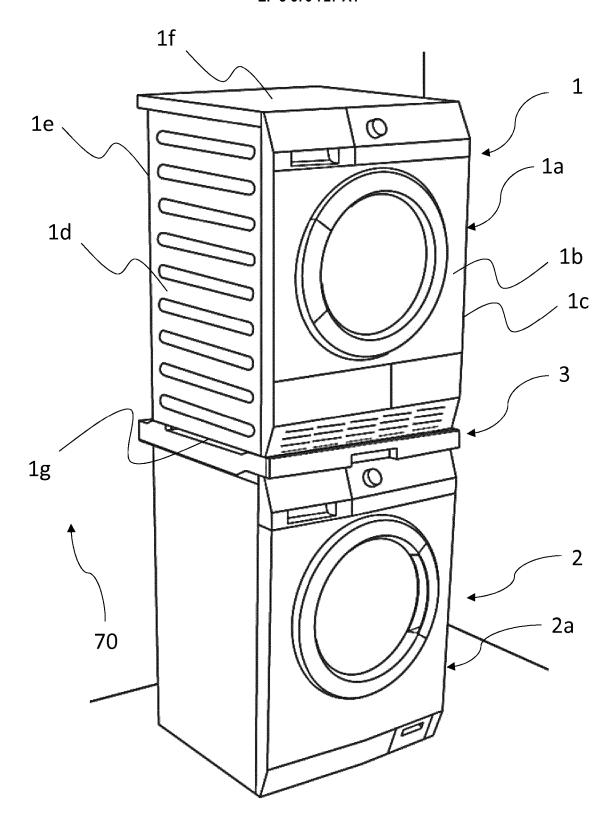


Figure 1

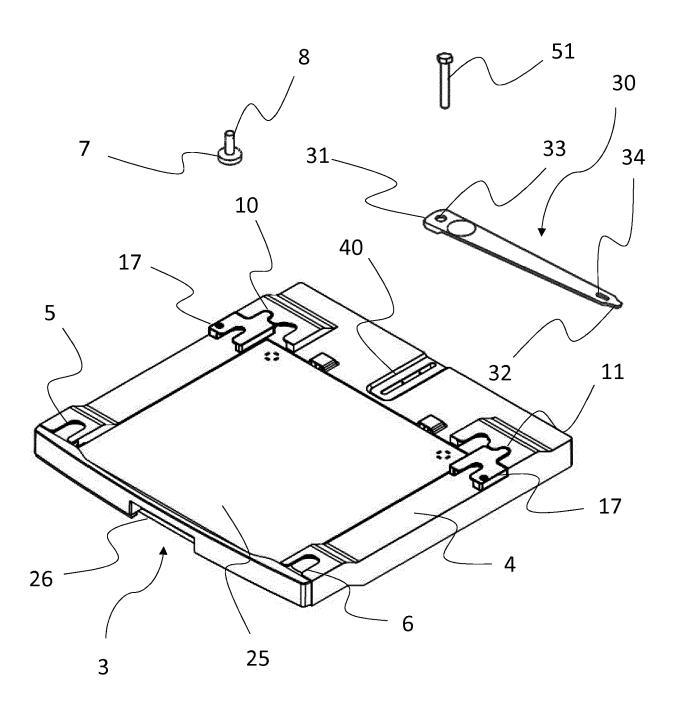


Figure 2

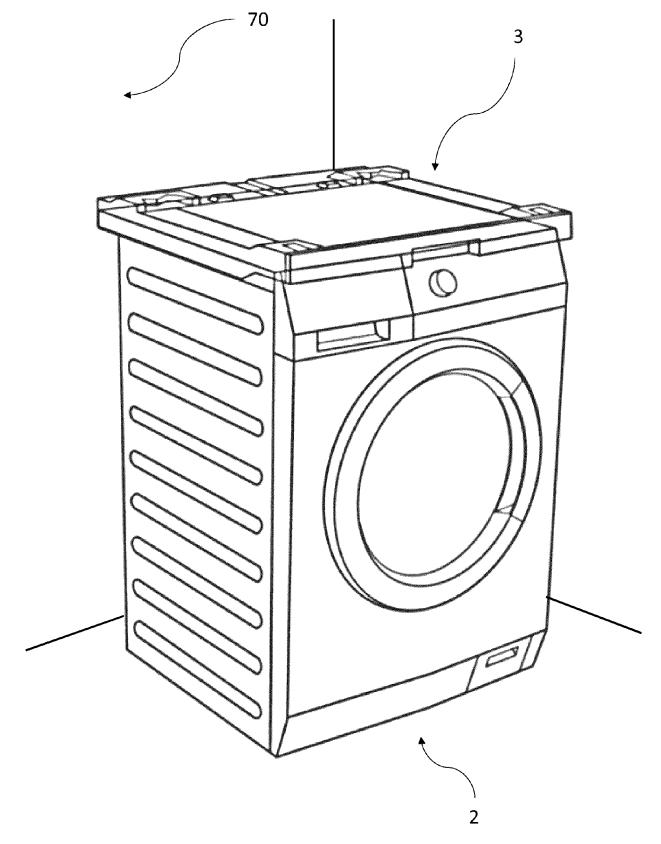


Figure 3

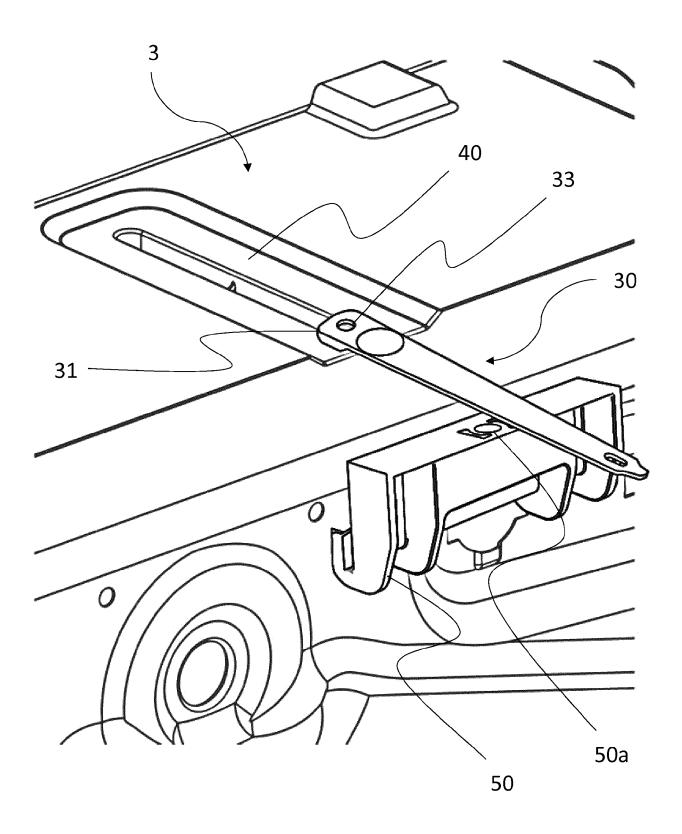


Figure 4

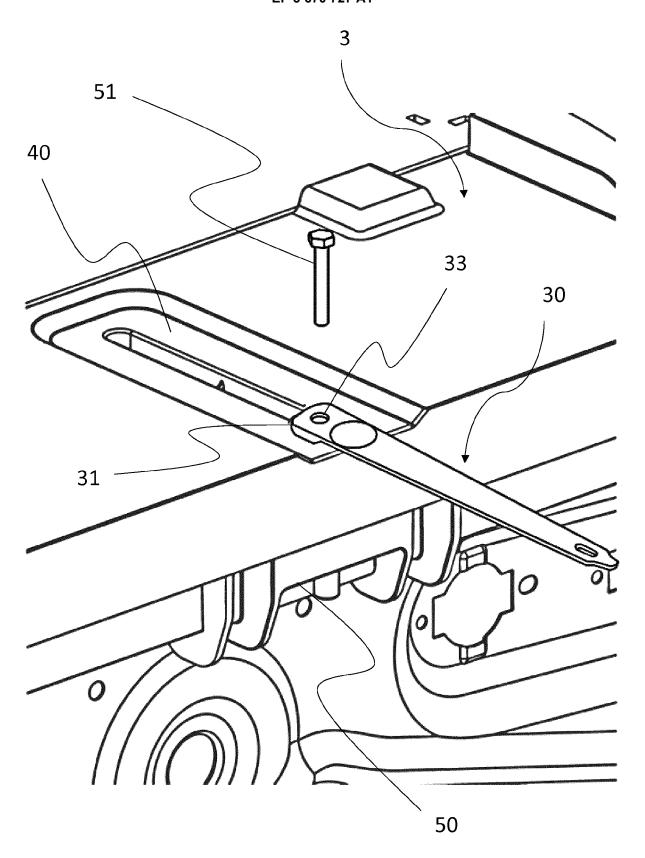


Figure 5

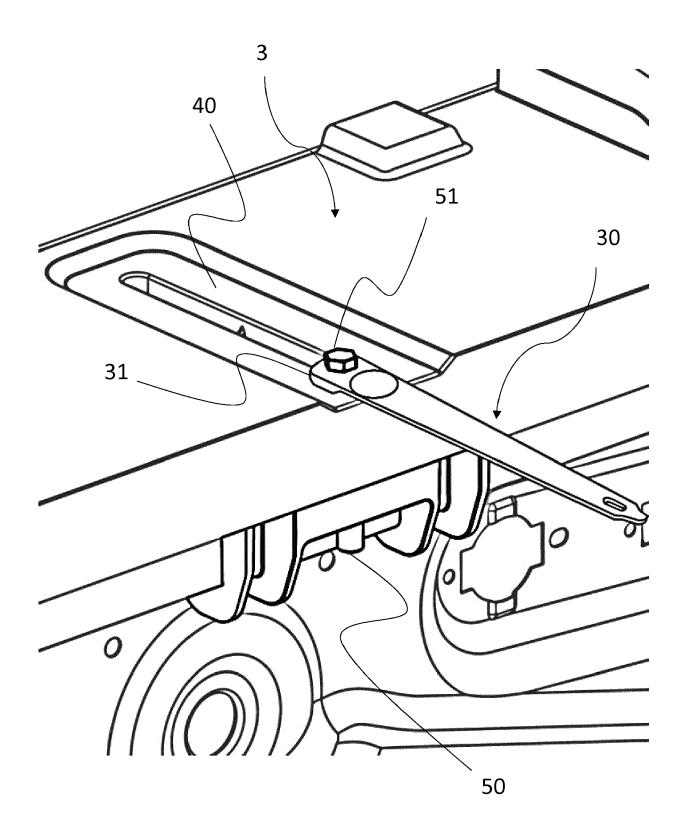


Figure 6

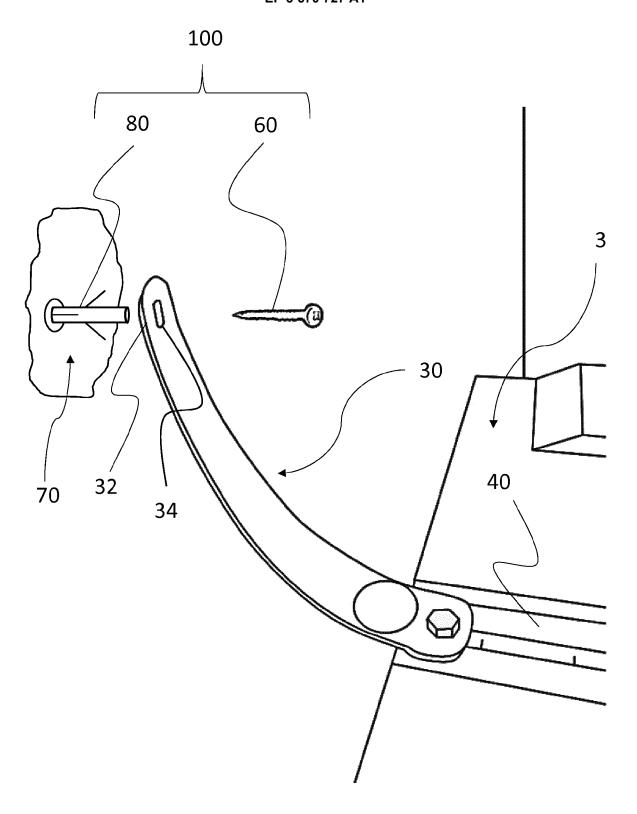


Figure 7

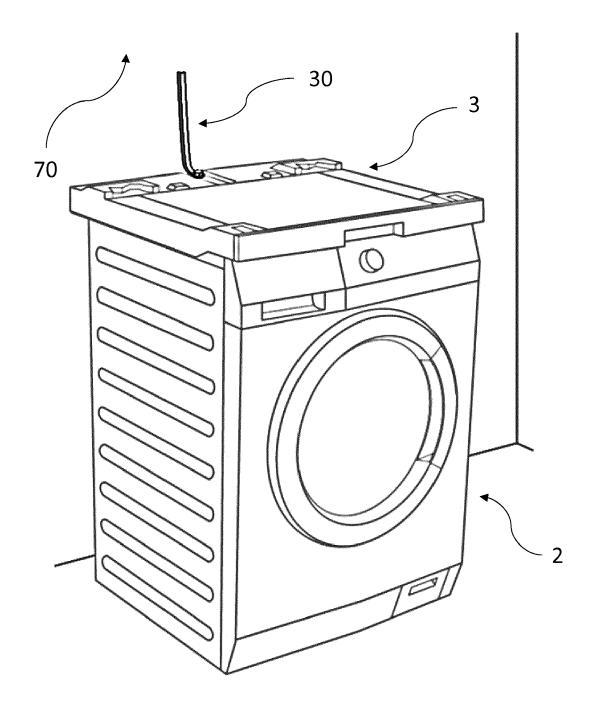


Figure 8



Category

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X,D

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EUROPEAN SEARCH REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT

WO 2014/101963 A1 (ARCELIK AS [TR]; ERTAS

EP 1 550 756 A1 (LG ELECTRONICS INC [KR])

* paragraph [0001] - paragraph [0041];

WO 2017/003167 A1 (LG ELECTRONICS INC

* paragraph [0035] - paragraph [0094];

DE 10 2005 026134 A1 (BSH BOSCH SIEMENS

* paragraph [0048] - paragraph [0062];

* paragraph [0024] - paragraph [0036];

EP 2 436 820 A1 (ELECTROLUX HOME PROD CORP 4

EP 2 703 536 A1 (ELECTROLUX HOME PROD CORP 1-15

[KR]) 5 January 2017 (2017-01-05)

7 December 2006 (2006-12-07)

[BE]) 4 April 2012 (2012-04-04)

[BE]) 5 March 2014 (2014-03-05)

Citation of document with indication, where appropriate,

of relevant passages

GUVEN [TR] ET AL.)

figures 2, 6, 9 *

HAUSGERAETE [DE])

figures 1, 2, 7 *

* figure 2 *

figures 1-6 *

document of the same category
A: technological background
O: non-written disclosure
P: intermediate document

figure 3 *

3 July 2014 (2014-07-03)

6 July 2005 (2005-07-06)

* the whole document *

Application Number

EP 18 21 5375

CLASSIFICATION OF THE APPLICATION (IPC)

TECHNICAL FIELDS SEARCHED (IPC)

D06F

INV.

D06F29/00

D06F39/12

Relevant

1-3,5-15

to claim 1-3,5,

7-15

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1,3,

10-12.

14,15

1-3,5-15

1-3,5-15

4 2,5-9

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	The present search report has					
_	Place of search	Date of completion of the search		Examiner		
2	Munich	28 May 2019	Spi	tzer,	Bettina	
50.50 cVC	CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with anol	E : earlier patent document, but publis after the filing date				

invention ished on, or

1503 03.82 (P04C01)

D : document cited in the application L: document cited for other reasons

[&]amp; : member of the same patent family, corresponding document

EP 3 670 727 A1

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

EP 18 21 5375

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-05-2019

10	Patent document cited in search report		Publication date	Patent family Publication member(s) date
	WO 2014101963	A1	03-07-2014	EP 2941500 A1 11-11-2015 WO 2014101963 A1 03-07-2014
15	EP 1550756	A1	06-07-2005	AT 485415 T 15-11-2010 AU 2004242504 A1 14-07-2005 CN 1637194 A 13-07-2005 EP 1550756 A1 06-07-2005 US 2005139738 A1 30-06-2005
20	WO 2017003167	A1	05-01-2017	EP 3317450 A1 09-05-2018 KR 20170002887 A 09-01-2017 US 2018195223 A1 12-07-2018 WO 2017003167 A1 05-01-2017
25	DE 102005026134	A1	07-12-2006	NONE
	EP 2436820	A1	04-04-2012	NONE
30	EP 2703536	A1	05-03-2014	NONE
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EP 3 670 727 A1

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

• EP 2703536 A1 [0008] [0033] [0059]

• DE 102005026134 A1 [0009]