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(54) **ELECTRIC HOUSEHOLD APPLIANCE**

(57) An electric household appliance (1) comprising a casing (2) with a wall (3), a coupling device for coupling an outer panel (6) to said wall (3), said wall comprising a first side (4) and a second side (5), said coupling device comprising:
a hinge device (20) for fixing in a pivotal manner the outer panel (6) to the wall (3) of the casing (2), and
a retaining device (10) for holding the outer panel (6) in a position facing the wall (3) of the casing (2) in order to

conceal at least partially the wall (3),
said appliance further comprising at least one seat (30) provided in each of the first side (4) and the second side (5) of the wall (3), each of said seats (30) being configured for receiving at least partially the hinge device (20) and the retaining device (10), so that the hinge device (20) and the retaining device (10) are interchangeable from the first side to the second side and *viceversa*.

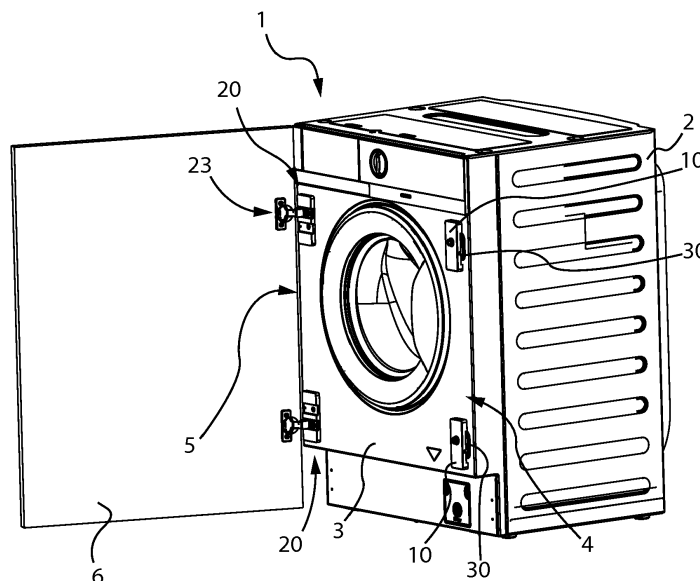


Fig. 2

Description

[0001] The present invention relates to an electric household appliance. In particular, the electric household appliance of the invention is intended to be inserted in a furniture system.

[0002] More in detail, the electric household appliance of the invention is intended to be adapted to any existing furniture system, independently from the position of the hinges of the doors. Usually, in the design of a kitchen or of a laundry room furniture, there is an aesthetical need of uniformity, that leads users to cover the front surface of the electric household appliances with doors having the same look of the surrounding furniture.

[0003] Nevertheless, the presence of a front door in a household appliance, for example in a washing machine, or in a drying machine, the different height of the machine compared with the one of the surrounding furniture, recesses, and position of the machine along a wall of the room, impact on the final look and functionality of the door.

[0004] Existing electric household appliances are equipped with systems which allow adapting the position of the door in order to align the height of the door with the one of the surrounding furniture.

[0005] A drawback of this known machine is that, depending on the position of the electric household appliance in the room, e.g. the door could require hinges at the left side of the front panel, or at its right side, so that a left sided machine, or a right sided one shall be bought.

[0006] Accordingly, due to a change of the furniture, or a move into an other room, or house, a new electric household appliance shall be bought every time such needs change.

[0007] The need of an electric household appliance flexible and adaptable to different furniture needs remains. Main aim of the invention is then to overcome the aforementioned drawbacks of the known machines and to provide an electric household appliance that is easy to be adapted to existing furniture.

[0008] In particular, aim of the invention is to provide an electric household appliance that is easy to be assembled with a panel, independent on the position of the machine in a room.

[0009] Another aim of the invention is to realize an electric household appliance equipped with a fixing system for an outer door, which is simple to be used and to be adapted to the needs of the user. These tasks, as well as other purposes that will be apparent hereinafter, are achieved by an electric household appliance according to the attached independent claim, to which reference is made in full.

[0010] Further details of the electric household appliance according to the invention are set forth in the dependent claims, to which reference is made.

[0011] Main subject of the present invention is an electric household appliance comprising a casing with a wall and a coupling device for coupling an outer panel to the

wall, which comprises a first and a second side.

[0012] The coupling device comprises:

a hinge device for fixing in a pivotal manner the outer panel to the wall of the casing, preferably in correspondence with the first side, a retaining device, preferably in correspondence with the second side, for holding the outer panel in a position facing the wall of the casing, in order to conceal at least partially the wall.

[0013] According to the invention, the coupling device comprises further at least one seat, provided in each of the first and the second side of the wall; each seat is configured for receiving, at least partially, both the retaining device and the hinge device alike, so that the retaining device and the hinge device are interchangeable from the first side to the second side and *vice versa*.

[0014] This first aspect of the invention allows the appliance to be adapted to both a left-sided and a right-sided door, with no modification in the structure of the same appliance.

[0015] Preferably, each of said seats may comprise a first slot, and the retaining device / the hinge device may comprise a first sliding element, suitable to be slidably inserted into such first slot.

[0016] In other words, the appliance of the invention can be equipped with a kit of interchangeable elements, so that the hinge device and the retaining device may be fixed at any of the sides of the wall, regardless of their previous position.

[0017] According to the invention, the first sliding element may comprise a hanging element, suitable to be inserted and hung in the first slot of the seat. This could be useful in order to simplify the assembly of the hinge device/retaining device.

[0018] In any case, according to the invention, the seat may comprise a protrusion merging from the wall of the casing, forming the first slot comprising a through hole parallel to the wall, so that the sliding element can slide on a plane parallel / coincident to the wall.

[0019] In other words, the seat may comprise a pocket in the wall, merging from the same wall, and inside which the sliding element could be inserted and kept in place easily.

[0020] A second through hole could be provided, so that the sliding element may pass through the pocket entering through the first one and exiting through the second one. This could allow keeping in place the sliding element, avoiding rotations or distortions of the latter.

[0021] Moreover, according to the invention, a recess may be provided in proximity of the first slot, said recess being configured to increase the resulting depth of the entrance of said first slot.

[0022] In detail, the through hole is substantially transversal to the wall, so that its width comprises both the width of the protrusion merging from the wall and the recess in the wall, alike, advantageously allowing a

handy insertion of the sliding element. According to the invention, the protrusion of the seat provides a strengthening enlargement for strengthening the seat, preferably placeable between the slot and the respective side of the wall. Such enlargement allows strengthening the seat, in particular while receiving the hinge device.

[0023] This allows advantageously simply hanging the panel to the wall, avoiding a rotation of the panel or a distortion of the wall due to the weight of the same panel.

[0024] Further, according to the invention, such strengthening enlargement may provide a length of at least one time the length of the respective entrance of the through hole of the slot.

[0025] More in particular, according to the invention, the strengthening enlargement provides a height of one time the height of the respective protrusion.

[0026] The above sizes of the enlargement, taken alone, or combined together, advantageously avoid deflections or deformations in the wall while holding the outer panel.

[0027] In detail, the seat may comprise a shaped protrusion, providing a through hole with an entrance transversal to the wall. Such protrusion may be for example asymmetrical in respect with its main axis, being equipped with a reinforcement area, comprising a second protrusion coplanar in respect with the protrusion of the through hole.

[0028] Preferably along the main axis of the through hole, one or more second slots are provided, for example two second slots, so that the sliding elements are prevented from tilting while inserted into the through hole.

[0029] Such slots preferably have an elongated shape, with a main axis parallel/coincident to the main axis of the through hole.

[0030] This allows adjusting the height of the hinge device/retaining device.

[0031] In correspondence of the position of each of such second slots, a reinforcing rib is provided on the reinforcing enlargement, for further reinforcing the enlargement while the panel is fixed to the seat by a hinge device.

[0032] Preferably, according to the invention, the retaining device / the hinge device may comprise at least one pin element suitable to be associated to at least one second slot provided on the seat.

[0033] This could allow, advantageously, improving the fixing of such elements to the seat.

[0034] For example, according to the invention, one of the at least one pin element may be a second sliding element.

[0035] In particular, the second sliding element may be a retaining element for a frontal constraint of the retaining device/hinge device with the seat.

[0036] Moreover, one of the at least one pin element may be a blocking element for a sliding block of the retaining device / hinge device on the seat.

[0037] In detail, such blocking element may be elastically axially displaceable.

[0038] Further, according to the invention, the hinge device may comprise a support to be coupled with the wall of the casing by means of the at least one pin element and suitable for receiving a hinge adapted for pivotably connecting the outer panel to the wall of the casing.

[0039] In such case, the hinge and the support may be fixed to the first sliding element by means of the at least one pin element sandwiching the seat there between.

[0040] Optionally, the hinge and the support may be two separate elements.

[0041] An other variant could provide that the at least one pin element is a fixing device suitable to pass through the second slot of the seat on its mounting position.

[0042] In any case, according to the invention, the retaining device may comprise a retaining member suitable for retaining the outer panel in a position facing the wall of the casing and a support to be coupled with said wall at said seat, and, in particular, such retaining member may be a magnet.

[0043] This could allow adapting the appliance of the invention to any standard panel, in order to use the latter as a door.

[0044] Further features and advantages of the invention will better appear in the description of a preferred, but not exclusive embodiment of the electric household appliance of the invention, which is illustrated for indicating and non-limiting aim, with the aid of the attached drawings, wherein:

Figure 1 is an isometric view of the appliance of the invention, with panel closed;

Figure 2 shows the appliance of figure 1, with panel opened;

Figure 3 shows an enlargement of a first element of the appliance of figure 1;

Figure 4 is a front view of the enlargement of figure 3;

Figure 5 is a cross section of the element of figure 3, with a second element in a first position;

Figure 6A shows the cross section of figure 5 in a second position;

Figure 6B shows the cross section of figure 5 in a third position;

Figure 7 shows the second element of the appliance of the invention, in a first isometric view;

Figure 8 shows the element of figure 7, in a back view;

Figure 9 shows the elements of figure 5, in an isometric view;

Figure 10 shows a third element of the appliance of the invention with the element of figure 3, in an exploded view;

Figure 11 shows the elements of figure 10 in a front view;

Figure 12 shows a cross section of figure 11, with a hinge applied;

Figure 13 shows a cross section of figure 11 along line B-B;

Figure 14 is a front view of a first variant of the second

element of figure 5;

Figure 15 is a cross section of the first variant of figure 14 along line A-A

Figure 16 is an isometric view of a second variant of the second element of figure 5;

Figure 17 is a back view of the second variant of figure 14 along line A-A.

[0045] Regarding the attached figures 1 - 15, the electric household appliance of the invention is indicated with the reference number 1. It comprises a casing 2, with a front wall 3, having a first side 4 and a second side 5; said first and second sides are preferably vertical with respect to the machine.

[0046] In the following, with vertical side it will mean the whole area of the wall 3 close to such vertical sides.

[0047] The appliance 1 comprises also a retaining device 10 (shown in detail in figures 5-9, 14-15) preferably in correspondence to the first side 4, for holding an outer panel 6 close to the front wall 3 of the casing 2, in order to conceal, at least partially, the same wall 3.

[0048] In order to fix the outer panel 6 to such front wall 3, preferably in correspondence to the second side 5, a hinge device 20 is provided (better shown in figures 10-13).

[0049] The wall 3 comprises a seat 30 (shown in detail in figures 3 and 4) for each side 4 or 5, suitable for receiving alternatively both the hinge device 20 and the retaining device 10 alike, so that the hinge device 20 and the retaining device 10 are interchangeable from the first side 4 to the second side 5 and *vice versa*.

[0050] In particular, the hinge device 20 comprises a support 21 equipped with a coupling element 22 to be coupled with the seat 30. In particular, the coupling element 22 slides into the seat 30, relating to the example embodiment of the attached figures, as a sliding element; in particular, in the favorite orientation of the seat 30 shown in the drawings, the sliding element has a hanging element 22 that may be hung in the seat 30.

[0051] The hinge device 20 preferably comprises also a hinge 23, suitable for pivotably connecting the outer panel 6 to the front wall 3 of the casing 2, and optionally one or more pin elements 24 suitable for securing the hinge 23 and the support 21 to the sliding element inserted on the seat 30 provided on the wall 3 of the casing 2.

[0052] The retaining device 10 preferably comprises a support 11, to be coupled in a detachable manner with the outer panel 6, and equipped with a coupling element 12 to be coupled with the seat 30.

[0053] Analogously with the hinge device 20, also the coupling element 12 enters into the seat 30 and, in the favorite embodiment shown in the attached figures, the coupling element is a sliding element or, in the particular orientation shown in the drawings, a hanging element 12 that may be hung in the seat 30.

[0054] According to the favorite embodiment of the attached drawings, each seat 30 is equipped with a first slot 31, so that both the sliding elements 12, 22 respec-

tively belonging to the retaining device 10 and to the hinge device 20, may be slidably inserted into such first slot 31 of the respective seat 30.

[0055] The seat 30 may also comprise second slots 32, suitable for receiving pin elements of the retaining device 10 and/or of the hinge device 20.

[0056] In particular, the seat 30 may comprise a protrusion 33 which merges from the wall 3 of the casing 2, and which comprises a vertical cavity to contain the sliding element 22 of the hinge device 20 or the sliding element 12 of the retaining device 10.

[0057] In other words, the cavity preferably has an entrance 35 preferably substantially horizontal, or in case transversal to the wall 3, so that the sliding elements 12 and 22 may be inserted within the entrance 35 and preferably stand parallel to the wall 3.

[0058] The entrance 35 of the cavity may have a depth larger than the depth 36 of the protrusion 33 of the housing, preferably providing a recess 34 in the wall 3 of the casing 2, in correspondence of the cavity. In this way the entrance 35 has a width corresponding to the sum of the depth 36 of the protrusion 33 and the depth of the recess 34.

[0059] This would allow an easier insertion of the sliding elements 12 and 22.

[0060] Analogously, the cavity of the seat 30 may preferably have also an exit 37, so that a sliding element which is preferably long enough, for example the sliding element 22 of the hinge device shown in the figures 10-13, is kept in place by two slots 35, 37 transversal to the wall 3.

[0061] Each protrusion 33 of the housings 30 preferably provides a strengthening element 38 between the cavity and the respective side 4 or 5 of the wall 3, for strengthening the seat 30 while holding the sliding elements 12 or 22.

[0062] Such strengthening element is, for example, a further protrusion merging from the wall 3. In particular, such protrusion could have a length equal to or larger than the length of the entrance 35 of the respective cavity, and may also be in one piece with the protrusion 33.

[0063] In the drawings, the seat 30 is realized in one piece with the wall 3 of the casing 2, but it could be also a separate element, that could be applied to the wall 3 by fixing means.

[0064] In a favorite embodiment of the invention, shown in figure 10, the support 21 and the sliding element 22 are separated apart: the sliding element 22 comprises a hooked end 25 to be inserted in the entrance 35 of the seat 30, and the support 21 comprises a first slot 26, suitable to receive the hooked end 25, so that the sliding element 22 is hung to the seat 30, while the support 21 is hung to the hooked end 25 which is passing both through the entrance 35 and to the first slot 26 alike.

[0065] Preferably, the support 21 comprises at least one second slot 27, in the preferred embodiment shown in the attached figures there are two second slots 27, in a position corresponding to the second slots 32 of the

seat 30, when the support 21 is hung to the sliding element 22 inserted in the entrance 35.

[0066] In this way, pin elements, such as tightening devices 24, preferably screws, may be inserted in both second slots 27 and 32, respectively of the hinge device and of the seat 30, in order to fix such elements to each other.

[0067] Providing third slots 28 on the sliding element 22 is also possible, always in a position corresponding to the positions of the aforesaid second slots 27 and 32, so that according to a preferred embodiment the tightening devices 24 pass through the corresponding second slots 27 and 32, fixing at the third slots 28 (see figure 13); according to a further preferred embodiment, the hinge 23 is provided of a fourth slot allowing the passage of the tightening device 24 through it and through the corresponding second slots 27 and 32 and third slot 28 when the hinge 23 is positioned in the support 21, i.e. in a suitable seat provided on said support, allowing the fixation of said hinge 23 with the support 21 and with the sliding element 22 (see figure 12).

[0068] This will allow securing the hinge 23 to the wall 3, in particular to the seat 30, by sandwiching - between said hinge 23 and said wall 3 - the support 21, so that the latter acts as an adjusting plate able to slidably receive the tightening device 24 or any other possible pin element, in order to adjust the height of the hinge 23 in respect with the wall 3 before to secure in a fixed manner the hinge 23, the support 21 and the sliding element 22 through the tightening devices 24 blockage. In fact, the second slots 32 may provide an elongated shape, so that the position of the support may be adjusted along their length.

[0069] Equally preferably, the hinge 23 may be secured to the seat 30, by sandwiching said seat 30 between the support 21 and the sliding element 22, so that the sliding element 22 may act as a strengthening element of the hinge device 20.

[0070] The hinge device 20 may comprise two supports 21, one for each end of the first side 4 or second side 5 in which the panel 6 has to be hinged: a first support 21 for containing an upper hinge 23, a second support 21 for containing a bottom hinge 23; in other words, said first and second supports are configured to be secured to a first and a second seats 30 provided on the upper portion and on the bottom portion of said first or second sides 4,5.

[0071] In this configuration, the two hinges 23 rotatably connect the outer panel 6 to the wall 3 of the casing preventing the panel 6 from tilting.

[0072] The closing device 10 may comprise a structure analogue to the one of the just described hinge device, or it may comprise a sliding element 12 integral to the support 11, a retaining element 13 (or a shock absorbing element 14 - see figures 14 and 15), and pin elements 15, 16 to be inserted in the second slots 32 of the seat 30.

[0073] In particular, the retaining element may comprise a magnet 13, suitable to be magnetically coupled

with a corresponding ferromagnetic element on the panel 6 or, *vice versa*, the retaining element may comprise a ferromagnetic element, suitable to be magnetically coupled with a corresponding magnet on the panel 6.

[0074] It is possible to provide a retaining device comprising two supports 11, one for each end of the first side 4 or the second side 5 in which the panel 6 has to be retained; preferably a first support 11 contains a retaining element 13, and a second support 11 contains a shock absorbing element 14, for example an elastic element.

[0075] In a favorite variant of such detail of the invention (figures 16-17), the retaining element 13 or the shock absorbing element 14 may be coupled to the support 11 being housed in a removable shell 18.

[0076] In an alternative variant, the retaining element 13 or the shock absorbing element may be coupled to the support 11 being housed in a housing 18A (see figures 5-9 and 14-15) of the same support 11, for example being interlocked with each other.

[0077] The first embodiment of the pin elements preferably is a second sliding element 15, to be slidably inserted in one of the two second slots 32, preferably the lower one, i.e. the one closer to the exit 37 of the vertical cavity of the seat 30.

[0078] More preferably, the second sliding element 15 has a hooked end 17, to be inserted in and hung to second slot 32 of the seat 30, acting as a retaining element 15 for a frontal constraint of the retaining device 10.

[0079] Preferably or alternatively, a further kind of pin element can be provided; for example, a second pin element can be a snap element 16, configured to be inserted in the lower second slot 32, preferably in the same slot where the retaining element 15 is inserted, for a sliding block of the retaining device 10. E.g. the snap element 16 may be an elastically axially displaceable element, in particular an arch element, fixed to the support at one or both ends of the arch (in the latter, the snap force is higher), with a pin element at the peak. In such case, one or more side openings 19 may be provided on the lateral side of the support 11, to allow the insertion of a tool for compressing the snap element 16 and allowing the removal of the support 11 from the seat 30, through the extraction of the pin from the second slot 32.

[0080] In preferred embodiments of the invention, not shown, only one or two of the above described pin elements 15, 16 may be comprised in the retaining device / hinge device; in alternative embodiments, not shown, the retaining device / hinge device may comprise any different pin element, which may vary depending on the requirements and on the available technology.

[0081] According to the invention, in an alternative embodiment, also a kit for coupling an outer panel to a wall of the casing of an electric household appliance may be provided, comprising:

hinge device for fixing the outer panel in a pivotably manner to the wall of the casing, preferably in correspondence to the first vertical side, and

retaining device, preferably in correspondence to the second vertical side, for holding the outer panel in a position facing the wall of the casing in order to conceal, at least partially, the wall.

[0082] Analogously with the invention of the figures 1-15, the hinge device preferably comprise a hinge suitable for pivotably connecting the outer panel to the wall of the casing, a tightening device suitable for securing the hinge to the outer panel and to the wall of the casing and preferably an adjusting plate to slidably receive the tightening device, while the retaining device comprises a support to be coupled with the outer panel. Furthermore, the kit comprises also a seat to be fixed for each side, suitable for housing alternatively the hinge device and the retaining device, so that the hinge device and the retaining device are interchangeable from the first side to the second side and *vice versa*.

[0083] During use, the user installs the household appliance 1 of the invention in the already existing furniture of the room, and then chooses the side on which the hinge device, supposed to pivotably fix the panel 6 to the appliance 1, shall be placed.

[0084] Once the side 5 has been chosen, the user inserts each sliding element 22 of the hinge device 20 into the respective entrance 35 of each seat 30 on the chosen side 5 (figure 10).

[0085] The sliding element 22 is hung on the entrance 35 by its hooked end 25, so that the third slots 28 are in correspondence with the second slots 32 of the seat 30. The support 21 of the hinge device is preferably hung to the sliding element 22, by inserting the hooked end 25 into the slot 26 of the same support 21 (figures 11-13).

[0086] Advantageously, the support 21 is symmetrical in respect of the horizontal axis (when looking at the support while hung to the sliding element), providing another first slot 26 at the bottom of the support, so that the user may rotate it of 180° in case the other side 4 was chosen. The support 21 could be also symmetrical in respect of the vertical axis (when looking at the support while hung to the sliding element), even if in the attached drawings the second slots 27 are not. In any case, since the first slots 26 have a length almost corresponding to the length of the whole support 21, the same support 21 may preferably slide on the hooked end 25 along the first slot 26 until the second slots 27 are in correspondence with the second slots 32 of the seat 30 and with the third slots 28 of the sliding element 22, and pin elements 24 may pass through all the slots 27, 32, 28.

[0087] A hinge 23 is placed directly in contact with the support 21, at the slots for the tightening means 24 in correspondence with the slots 27, 32, 28, then the hinge is fixed to the support 21, which is sandwiching the seat 30 with the sliding element 22; there is also the possibility of adjusting the height of the same hinge, by sliding the tightening means 24 along the length of the second slot 32 of the seat 30.

[0088] The hinge 23 is further fixed to the panel 6 in a

known way, such as by fastening means / glue.

[0089] On the other side 4, the user places the retaining device 10 facing with the seat 30 (figures 5-9, 14-15).

[0090] In particular, the sliding element 12 is placed in front of the recess 34, while the second sliding element 15 is placed in front of the lower of the two second slots 32 (figure 6A), according to a first direction A perpendicular to the front wall 3.

[0091] Just dragging down the support 11 downwards along a second direction B parallel to the front wall 3, the sliding element 12 engages with the first slot 31, while the hooked end 17 of the second sliding element 15 enters the lower of the second slots 32, then the second sliding element 15 engages with said second slot 32 avoiding a tilt of the support 11.

[0092] In the meanwhile, the snap element 16 is elastically displaced towards the seat 30 and, while the second sliding element 15 enters and engages with the second slot 32, the snap element slides along the protrusion 33 according to the second direction B (fig. 6A).

[0093] As soon as both the sliding elements 12 and 15 are engaged, the snap element 16 enters the lower second slot 32 together with the second sliding element 15.

[0094] The sliding elements 12 and 15 also prevent the support 11 from front falling.

[0095] The snap element 16 advantageously prevents vibration and also avoids the support accidentally disassembling by dragging upwards from the first slot 31 and the second slot 32.

[0096] Furthermore, the support 11 is prevented from tilting or rotating.

[0097] The ferromagnetic element placed in a corresponding position on the panel 6 will be now attracted by the magnet 13 of the retaining element 10, so that the panel 6 will be kept closed, concealing the wall 3, while the eventual shock absorbing element of the second support 11 is able to absorb the impact of the panel 6 while it is closed.

[0098] If a change of side is requested for the panel 6, the hinge system 20 may be easily removed just unscrewing the pin / fixing elements 24 and extracting the sliding element 22 from the first slot 31. Removal of the supports 11 from the seat 30 simply requires inserting an elongated element (for example, a "flat blade" screwdriver) into the side opening 19, in order to unsnap the snap-fit element 16 from the lower second slot 32.

[0099] Subsequent to the removal of the retaining system 10 and of the hinge system 20, they may be switched in the respective opposite sides 5 and 4.

[0100] 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. An electric household appliance (1) comprising a casing (2) with a wall (3), a coupling device for coupling an outer panel (6) to said wall (3), said wall comprising a first side (4) and a second side (5), said coupling device comprising:

a hinge device (20) for fixing in a pivotal manner the outer panel (6) to the wall (3) of the casing (2), and

a retaining device (10) for holding the outer panel (6) in a position facing the wall (3) of the casing (2) in order to conceal at least partially the wall (3),

characterized in comprising at least one seat (30) provided in each of the first side (4) and the second side (5) of the wall (3), each of said seats (30) being configured for receiving at least partially the hinge device (20) and the retaining device (10), so that the hinge device (20) and the retaining device (10) are interchangeable from the first side to the second side and *vice versa*.
2. An electric household appliance (1) according to claim 1, **characterized in that** each of said seats (30) comprise a first slot (31) and **in that** the retaining device (10) / the hinge device (20) comprise a first sliding element (12, 22), suitable to be slidably inserted into said first slot (31).
3. An electric household appliance (1) according to claim 2, **characterized in that** the first sliding element (12, 22) comprises an hanging element, suitable to be inserted and hung in the first slot (31) of the seat (30).
4. An electric household appliance (1) according to any of claims 2 or 3, **characterized in that** the seat (30) comprises a protrusion (33) merging from the wall (3) of the casing (2), forming the first slot (31) comprising a through hole parallel to the wall (3), so that the first sliding element (12, 22) can slide on a plane parallel/coincident to the wall (3).
5. An electric household appliance (1) according to claim 4, **characterized in that** a recess (34) is provided in proximity of the first slot (31), said recess (34) being configured to increase the resulting depth (37) of the entrance (35) of said slot (31).
6. An electric household appliance (1) according to claim 4 or 5, **characterized in that** each protrusion (33) of the seat (30) provides a strengthening enlargement (38) for strengthening the seat (30).
7. An electric household appliance (1) according to any of claims 1-6, **characterized in that** the retaining device (10)/the hinge device (20) comprises at least one pin element (15, 16; 24) suitable to be associated to at least one second slot (32) provided on the seat (30).
8. An electric household appliance (1) according to claim 7, **characterized in that** one of the at least one pin element is a second sliding element (15).
9. An electric household appliance (1) according to claim 8, **characterized in that** the second sliding element is a retaining element (15) for a frontal constraint of the retaining device (10)/hinge device (20) with the seat (30).
10. An electric household appliance (1) according to any of claims 7 - 9, **characterized in that** one of the at least one pin element (16) is a blocking element for a sliding block of the retaining device (10)/hinge device (20) on the seat (30).
11. An electric household appliance (1) according to claim 10, **characterized in that** one of the blocking element (16) is elastically axially displaceable.
12. An electric household appliance (1) according to any of claims 1-11, **characterized in that** the hinge device (20) comprises a support (21) to be coupled with the wall (3) of the casing (2) by means of the at least one pin element (24) and suitable for receiving a hinge (23) suitable for pivotably connecting the outer panel (6) to the wall (3) of the casing (2).
13. An electric household appliance (1) according to claim 12 when depending from any of claims 2-11, **characterized in that** the hinge (23) and the support (21) are fixed to the first sliding element (22) by means of the at least one pin element (24) sandwiching the seat (30) therebetween.
14. An electric household appliance (1) according to any of claims 1-13, **characterized in that** the retaining device (10) comprises a retaining member (13) suitable for retaining the outer panel in a position facing the wall (3) of the casing (2) and a support (11) to be coupled with said wall (3) at a seat (30).
15. An electric household appliance (1) according to claim 14, **characterized in that** the retaining member (13) is a magnet.

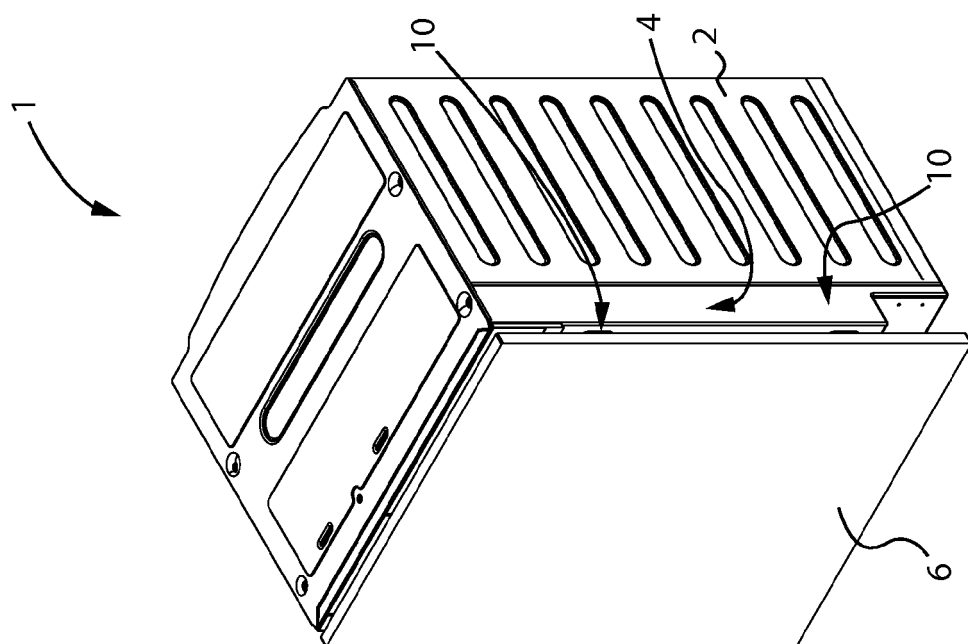


Fig. 1

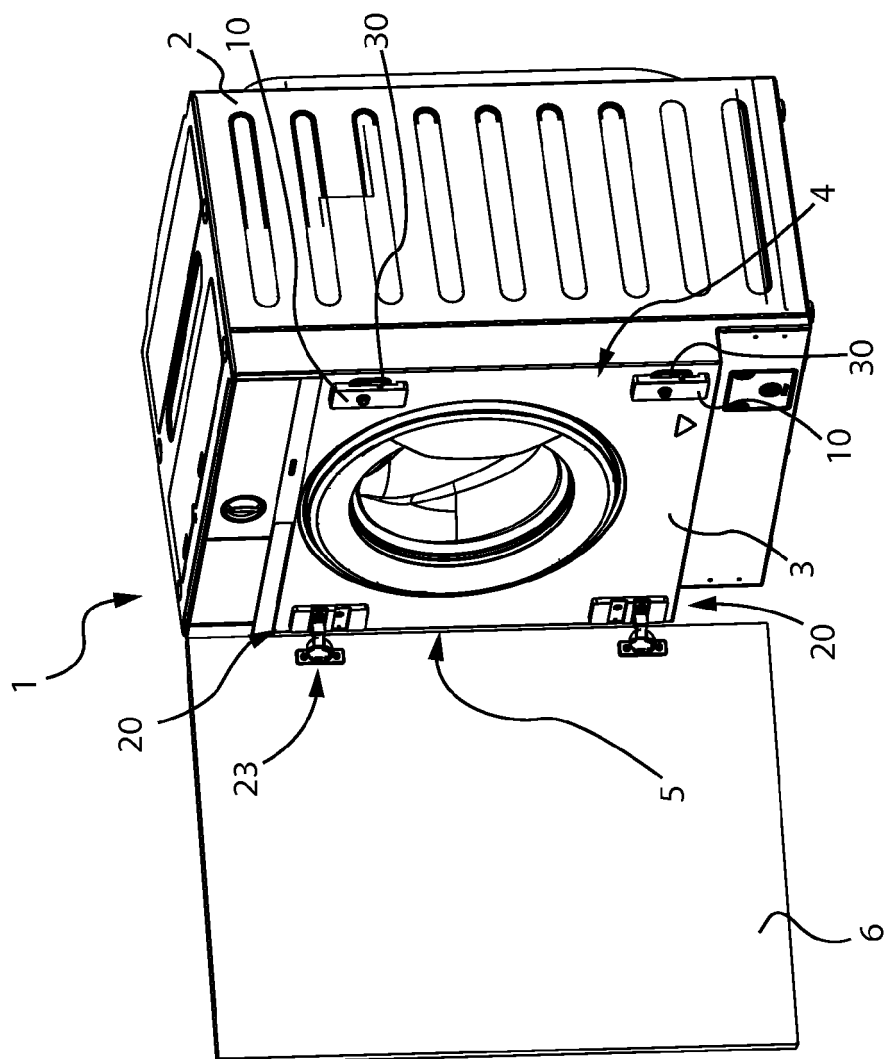


Fig. 2

Fig. 3

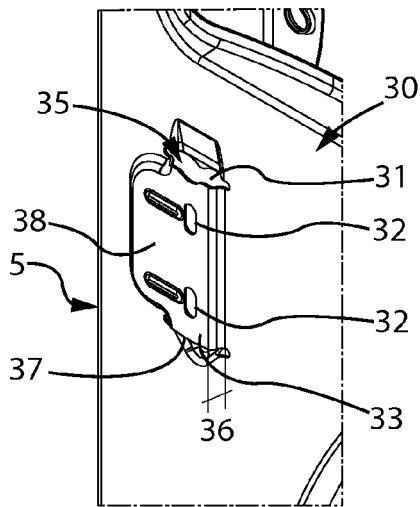


Fig. 4

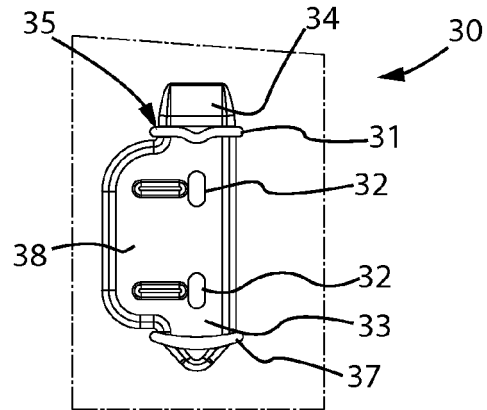


Fig. 5

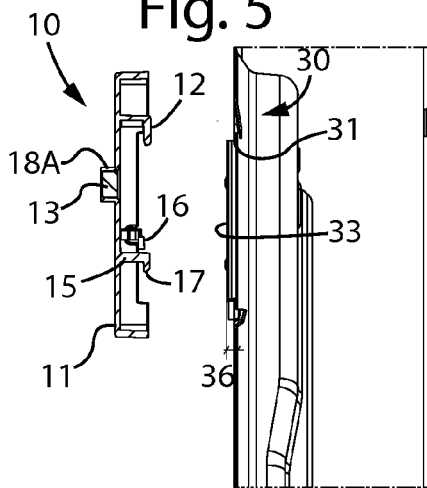


Fig. 6A

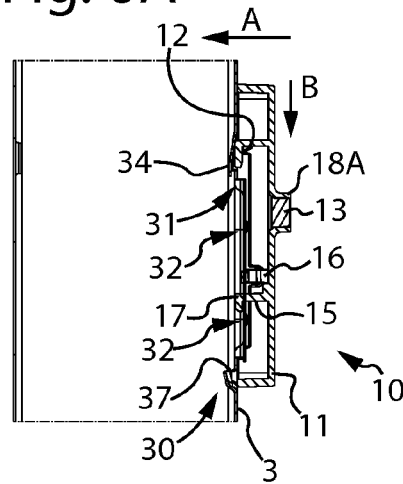


Fig. 6B

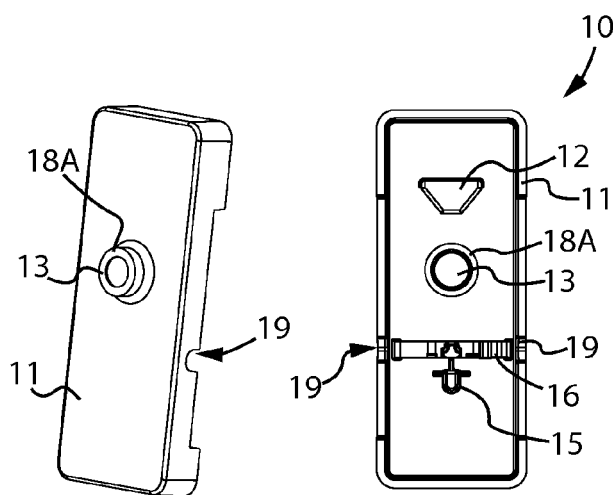
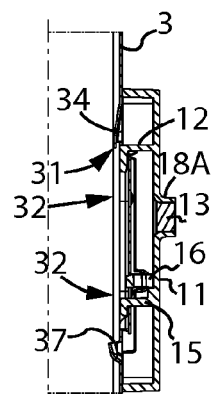


Fig. 7

Fig. 8

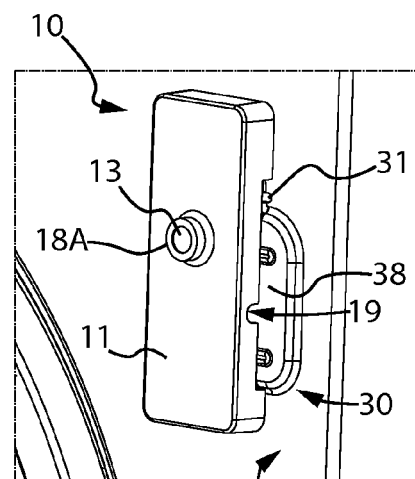


Fig. 9

Fig. 10

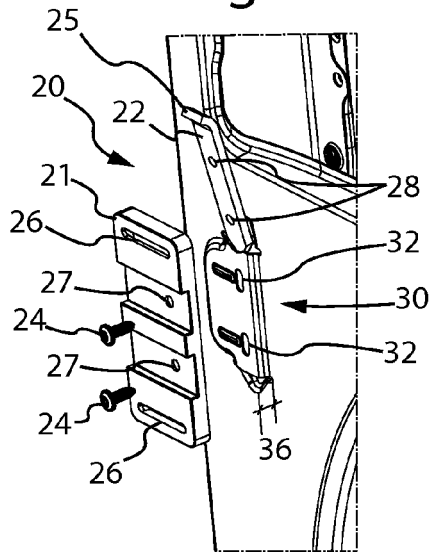


Fig. 11

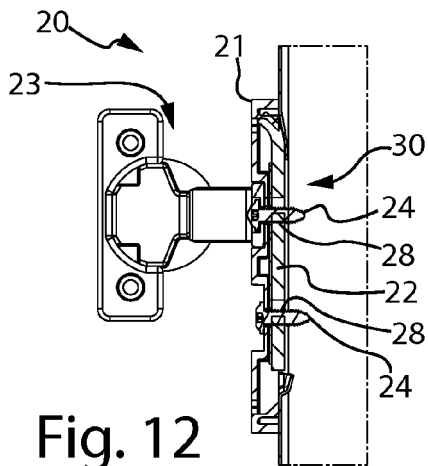
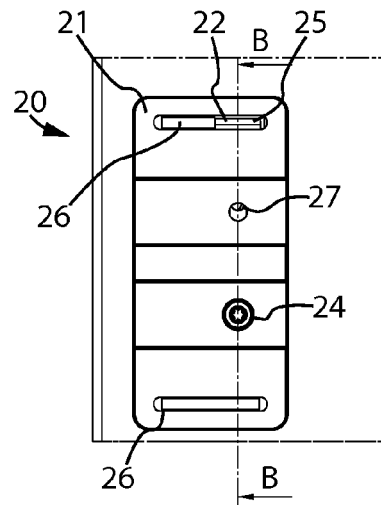


Fig. 12

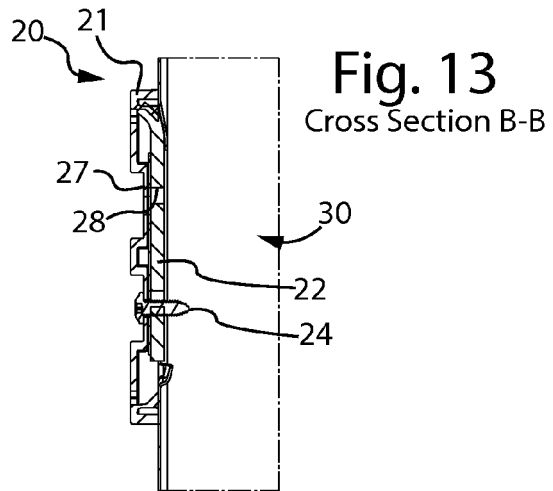


Fig. 13

Cross Section B-B

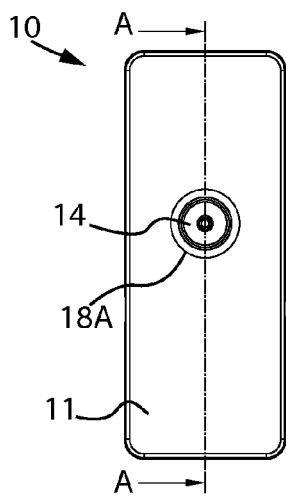


Fig. 14

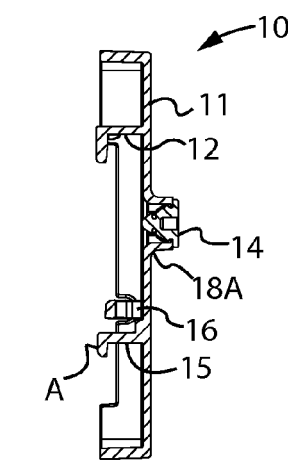


Fig. 15
Cross Section A-A

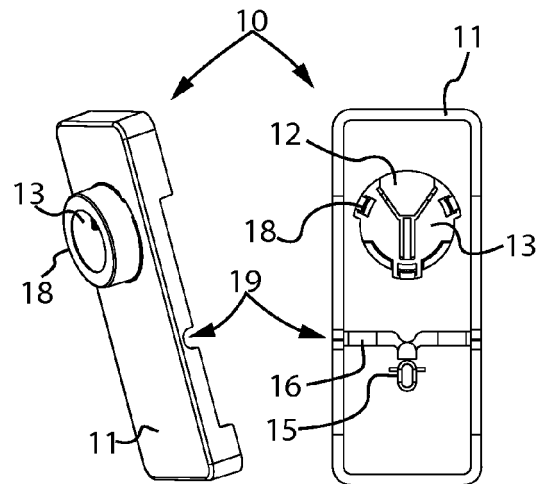


Fig. 16

Fig. 17



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 Application Number
 EP 18 15 4401

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Y	* page 1, line 36 - line 117 * * page 2, line 12 - line 130; claims 1, 5-7; figures 1-5 *	1,2,4,6,14	ADD. D06F39/12 A47B77/08
Y	----- WO 2017/133782 A1 (ARCELIK AS [TR]) 10 August 2017 (2017-08-10) * paragraph [0011] - paragraph [0016] * * paragraph [0038] - paragraph [0046]; figures 2-5 *	1,2,4,6,14	
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 2 July 2018	Examiner Sabatucci, Arianna
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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The members are as contained in the European Patent Office EDP file on
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