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(72) Inventor: **Cebrián Sanz, Jesus**
50720 Zaragoza (ES)

(74) Representative: **Barlocchi, Anna et al**
ZBM Patents S.L.,
Balmes 30 1o 1a
08007 Barcelona (ES)

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(71) Applicant: **Servibérica, S.L.**
50720 Zaragoza (ES)

(54) **A top cover for a household appliance**

(57) The top cover (2) is intended to be arranged on the appliance (1) to constitute the upper part thereof. It comprises a housing (3) having a front side; a recess (5) formed in said housing (3) and open towards said front side; an extractable body (6) received in said recess (5) and at least partly extractable therefrom in a sliding extraction movement in a direction (A) at right angles to said front side of the top cover housing (3); an ironing board (7) arranged on said extractable body (6)

such as to be movable with respect to said body (6) between a storage position and at least one working position; and anchoring means (8) to anchor said ironing board (7) to said extractable body (6). The anchoring means (8) are such as to allow the ironing board (7) to be positioned in a plurality of horizontal working positions, at different angles. It allows an ironing to be stored board safely and without taking up any otherwise useful space, and allows its deployment to a working position in a practical manner.

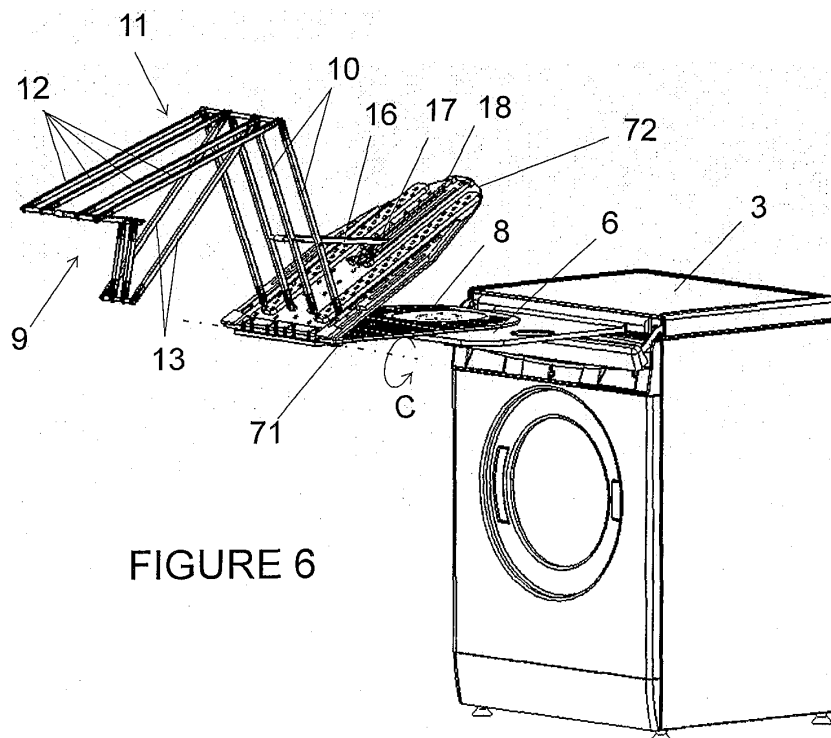


FIGURE 6

EP 1 602 771 A1

Description

[0001] The present invention relates to a top cover for a household appliance, such as a washing machine, drying machine, dishwasher or the like, and to an appliance provided with such a top cover.

BACKGROUND OF THE INVENTION

[0002] Even though the design of domestic ironing boards has improved along the time, they still pose problems in many households, since in their folded state they are quite bulky and often there isn't a proper space to store them when not in use.

[0003] In order to solve this problem, in the past it has been envisaged to provide ironing boards mounted in stored condition in a cabinet or the like, and means for deploying the board to a working position at least partly outside the cabinet; examples of such cabinets including an associated ironing board are US5452531 or US2609628. However, these known solutions have the drawback of requiring a specially adapted piece of furniture, in which the ironing board still takes up a storage space that could be used in a different manner.

[0004] Proposals have already been made to integrate an ironing board in a household appliance such as a washing machine, as described for example in GB855965 or ES2224852; however, these solutions are not fully satisfactory because the ironing board remains on the top surface of the appliance; this makes it impossible to use the top surface for other purposes, and is not suitable for appliances that need to be integrated in the decoration, for example by being arranged surrounded by the kitchen furniture, as is increasingly common today.

[0005] On the other hand, as it is known, currently the top covers of household appliances such as washing machines, drying machines and dishwashers, are manufactured with a chipboard to which are attached a number of decorative and mounting elements, providing the assembly with a double function, namely aesthetic and of closure of the upper part of the apparatus. The top cover is attached to the appliance by means of screws or a similar fastening means.

DESCRIPTION OF THE INVENTION

[0006] The object of the present invention is to solve the above mentioned drawbacks of the prior art by providing a top cover for a household appliance which can integrate an ironing board in such a manner as to leave the top surface of the appliance free.

[0007] According to this object, in a first aspect the present invention relates to a top cover for a household appliance, intended to be arranged on the appliance to constitute the upper part thereof, wherein said top cover comprises a housing having a front side, characterised in that it further comprises: a recess formed in said hous-

ing and open towards said front side; an extractable body received in said recess and at least partly extractable therefrom in a sliding extraction movement in a direction at right angles to said front side of the top cover housing; an ironing board arranged on said extractable body such as to be movable with respect to said body between a storage position and at least one working position; and anchoring means to anchor said ironing board to said extractable body, said anchoring means being such as to allow said ironing board to be positioned in a plurality of horizontal working positions at different angles.

[0008] The top cover according to the invention has been developed from the idea of using the hollow space inside a normal appliance top cover, such that the appliance can maintain its standard dimensions and external look. The above defined top cover stores the ironing board safely and without taking up any otherwise useful space, and allows its deployment to a working position in a practical manner; by virtue of the provision of the extractable body concealed inside the top cover, the upper surface of the appliance remains free and smooth, as in a standard appliance. Furthermore, the ironing board is stored in a closed space, protected from dust and the like.

[0009] The top cover according to the invention can be applied to any usual household appliance in a fast and simple way; it can be provided together with the appliance, or as a kit to be applied to an existing appliance.

[0010] In embodiments of the invention, the ironing board is rotatably mounted on the extractable body about a vertical axis, and preferably it is rotatable on said extractable body by an angle of at least 90°.

[0011] The ironing board preferably comprises at least two sections hinged to each other about a horizontal axis; the board may comprise a proximal section rotatably mounted on the extractable body and a distal section hinged to said proximal section about a horizontal axis. Advantageously, said distal section can be rotated about the horizontal hinge axis over substantially 180° between a folded position in which it rests on said proximal section and a deployed position in which both sections are aligned forming a longer ironing board. By virtue of the structure in two sections, the space taken up by the board when arranged inside the top cover can be significantly less than the length of the board in use.

[0012] Preferably, in the storage position of the extractable body the ironing board is arranged with its longer side parallel to the front side of the housing.

[0013] In advantageous embodiments, the top cover further comprising at least one foldable leg; in case of a board with a proximal and a distal section, the leg may be hinged to the distal section of the ironing board, such as to provide better support to said distal section.

[0014] Preferably, the leg is hinged to the ironing board such as to be movable from a folded position in which it rests folded in contact with the ironing board and a deployed position in which it extends substantially

at right angles with respect to said board.

[0015] In one embodiment, the leg comprises an upper section and a lower section, said upper section being hinged at one end to the ironing board and at the other end to said lower section, said lower section being intended to rest on the ground at its end opposite the hinge end when the leg is fully deployed and the ironing board is in working position. The two sections can be folded on each other when the assembly is inside the top cover, taking up a minimum space, while the sum of their lengths when deployed is enough to provide support on the floor for the ironing board.

[0016] The lower section may comprise advantageously at least two supporting bars, hinged to the upper leg section, and at least two securing struts, each strut being hinged to one of the supporting bars and to the other strut.

[0017] The leg may further comprise a stabilising bar, hinged at one end to an intermediate point of the upper section, and having a slider at the other end, said slider being engaged in a guide of the ironing board.

[0018] These features provide a leg which can be housed inside the top cover while having adequate strength and dimensions when the board is in use; furthermore, the structure can be switched easily from a folded storage condition to a deployed working condition.

[0019] According to a second aspect, the present invention relates to a household appliance comprising a top cover as described above.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] Particular embodiments of the present invention will be described in the following, only by way of non-limiting example, with reference to the appended drawings, in which:

figure 1 is a perspective view of a washing machine provided with a top cover according to the present invention, having an ironing board in storage position therein;

figures 2 to 7 show the appliance of figure 1 in several steps during the extraction of the ironing board from the top cover to a working position, according to a first embodiment of the invention;

figure 8 is a perspective view in explosion showing the main parts of the top cover of figures 1 to 7; and figures 9 to 12 show the last steps of the deployment of the ironing board in case of a top cover according to a second embodiment of the invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

[0021] As seen in figure 1, a household appliance 1 is provided with a top cover 2 which closes its upper side and forms the top surface of the appliance.

[0022] A top cover according to embodiments of the

present invention will now be described in detail, with reference in the first place to figures 2 to 8.

[0023] The top cover 2 has essentially the configuration of a housing 3, having a flat parallelepipedic configuration. In the housing is provided a recess 5, which is open towards the front side of the housing, i.e. towards the front side of the appliance 1. A removable cover 4 is provided on the front side of the housing to close the recess 5.

[0024] At the sides of the recess, or at the top sides of the appliance, are provided guide means (not shown), on which an extractable body 6 can slide in a direction at right angles to the front side of the top cover and the appliance, as shown by arrow A in figure 3.

[0025] The body 6 consists essentially in a flat platform, on which is anchored an ironing board 7; the board 7 is anchored on the body 6 by means of a rotatable coupling 8 having a vertical axis (see figure 8), such that it can turn horizontally with respect to the body 6 and it can be set in any desired angular position.

[0026] The ironing board 7 is constituted by a proximal section 71, anchored to the extractable body 6, and a distal section 72, coupled to the proximal section by means of a horizontal hinge axis, such that when the assembly is in the storage position the distal section 72 is folded over the proximal section 71 and rests on it, thus taking up a minimum length, but it can be rotated over 180° in order to deploy the ironing board to its full length.

[0027] Figure 3 shows the ironing board 7 on the extractable body 6 in the position it adopts when the assembly is concealed inside the top cover and during the extraction of the body from the top cover: as can be seen, the board 7 is folded and arranged with its longer side parallel to the front side of the housing.

[0028] The first steps of the deployment of the ironing board can be seen in the sequence of figures 1 to 4: at the beginning, the whole assembly is received in the recess 5 inside the housing 3, and concealed by the cover 4. In order to extract the ironing board, in the first place (figure 2) the cover 4 is opened, and the extractable body 6 with the ironing board 7 is pulled out to the position of figure 3. The ironing board 7 is then caused to rotate about coupling 8 over an angle, such as 90°, as shown by arrow B of figure 4. This causes the ironing board to be positioned at right angles to the front of the top cover and appliance.

[0029] The top cover further comprises a foldable leg 9; a first embodiment of said leg can be seen in figures 5 to 8.

[0030] The foldable leg 9 comprises an upper section 10 and a lower section 11.

[0031] The upper section is constituted by a number of parallel bars 10 having an end hinged to the underside of the distal section 72 of the ironing board 7. A stabilising bar 16 is hinged at one end thereof to an intermediate point of the upper section 10, and has a slider 17 at the other end; the slider is engaged in a guide 18

which is attached to the distal section 72 of the ironing board, as shown in figure 6).

[0032] The lower section is made up by two sets of supporting bars 12 and 13, each bar 12,13 being hinged at one end to the free end of the bars 10 of the upper section, and some securing struts 14,15; each strut 14,15 is hinged to one of the supporting bars 12,13 at one end, and to the other strut at the other end.

[0033] The last steps of the deployment of the ironing board can be seen in the sequence of figures 5 to 7: when the body 6 is fully extracted and the ironing board 7 has been rotated (figure 4), the leg 9 is partly deployed, as shown in figure 5. In this movement, the slider 17 of the stabilising bar 16 slides along its guide 18. The distal section 72 of the board 7 is then rotated with respect to the proximal section 71, about their common horizontal hinge axis, as shown by arrow C in figure 6, such that the ironing board 7 is deployed to its full length and the leg 9 reaches the ground.

[0034] In order to secure the leg 9, the struts 14 and 15 are caused to rotate with respect to each other and with respect to support bars 12,13, such as to be aligned and rest on the floor. The securing struts 14,15 keep the bars 12,13 in a suitable position for supporting the ironing board.

[0035] It will be appreciated that this leg structure allows the leg 9 to be stored folded and flat on of the board 7 and to be easily deployed, and at the same time guarantees appropriate support for the ironing board.

[0036] It will be appreciated that the structure of the foldable leg 9 described herein could be applied to a different ironing board or appliance top cover, and it could even be used for other applications in which two elements which can be folded and unfolded require a support on the ground.

[0037] Figures 9 to 12 show a top cover with a different foldable leg 90, in several positions during deployment of the ironing board. As shown, in this case the leg 90 is unfolded after the distal section 72 of the ironing board 7 has been rotated (in figure 9) to its deployed position (figure 10).

[0038] Although only particular embodiments of the invention have been shown and described in the present specification, the skilled man will be able to introduce modifications and substitute any technical features thereof with other technically equivalent, depending on the particular requirements of each case, without departing from the scope of protection defined by the appended claims.

Claims

1. A top cover (2) for a household appliance (1), intended to be arranged on the appliance (1) to constitute the upper part thereof, wherein said top cover (2) comprises a housing (3) having a front side, **characterised in that** it further comprises: a recess

(5) formed in said housing (3) and open towards said front side; an extractable body (6) received in said recess (5) and at least partly extractable therefrom in a sliding extraction movement in a direction (A) at right angles to said front side of the top cover housing (3); an ironing board (7) arranged on said extractable body (6) such as to be movable with respect to said body (6) between a storage position and at least one working position; and anchoring means (8) to anchor said ironing board (7) to said extractable body (6), said anchoring means (8) being such as to allow said ironing board (7) to be positioned in a plurality of horizontal working positions at different angles.

2. A top cover as claimed in claim 1, wherein the ironing board (7) is rotatably mounted on the extractable body (6) about a vertical axis.

3. A top cover as claimed in claim 2, wherein the ironing board (7) is rotatable on the extractable body (6) by an angle of at least 90°.

4. A top cover as claimed in any of the previous claims, wherein said ironing board (7) comprises at least two sections (71,72) hinged to each other about a horizontal axis.

5. A top cover as claimed in claim 4, wherein the ironing board comprises a proximal section (71) rotatably mounted on the extractable body (6) and a distal section (72) hinged to said proximal section (71) about a horizontal axis.

6. A top cover as claimed in claim 5, wherein said distal section (72) can be rotated about the horizontal hinge axis over substantially 180° between a folded position in which it rests on said proximal section (71) and a deployed position in which both sections (71,72) are aligned forming a longer ironing board (7).

7. A top cover as claimed in any of the previous claims, wherein in the storage position of the extractable body (6) the ironing board (7) is arranged with its longer side parallel to the front side of the housing (3).

8. A top cover as claimed in any of the previous claims, further comprising at least one foldable leg (9;90).

9. A top cover as claimed in claim 8, when claim 8 depends on one of claims 4 to 6, wherein the leg (9; 90) is hinged to the distal section of the ironing board.

10. A top cover as claimed in claims 8 or 9, wherein said leg (9;90) is hinged to the ironing board (7) such as

to be movable from a folded position in which it rests folded in contact with the ironing board (7) and a deployed position in which it extends substantially at right angles with respect to said board (7).

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11. A top cover as claimed in any of claims 8 to 10, wherein said leg (9) comprises an upper section (10) and a lower section (11), said upper section (10) being hinged at one end to the ironing board (7) and at the other end to said lower section (11), said lower section being intended to rest on the ground at its end opposite the hinge end when the leg (9) is fully deployed and the ironing board (7) is in working position.
12. A top cover as claimed in claim 11, wherein said lower section (11) comprises at least two supporting bars (12,13), hinged to the upper leg section (10), and at least two securing struts (14,15), each strut being hinged to one of the supporting bars (12,13) and to the other strut.
13. A top cover as claimed in claim 12, wherein the leg (9) further comprises a stabilising bar (16), hinged at one end to an intermediate point of the upper section (10), and having a slider (17) at the other end, said slider (17) being engaged in a guide (18) of the ironing board (7).
14. A household appliance (1), **characterised in that** it comprises a top cover (2) as claimed in any of the previous claims.

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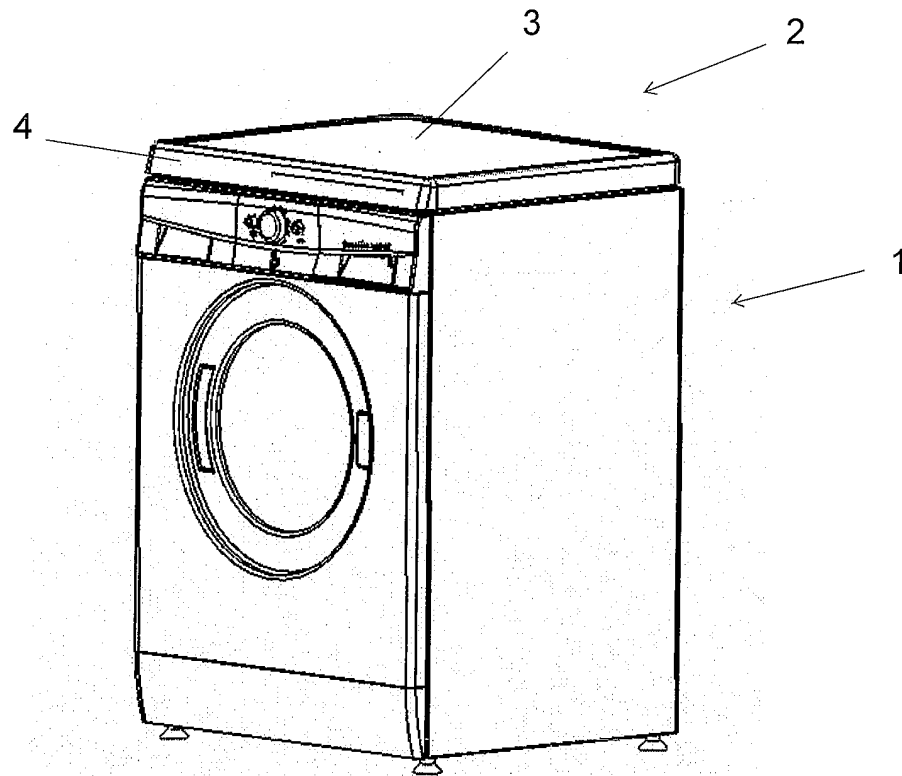


FIGURE 1

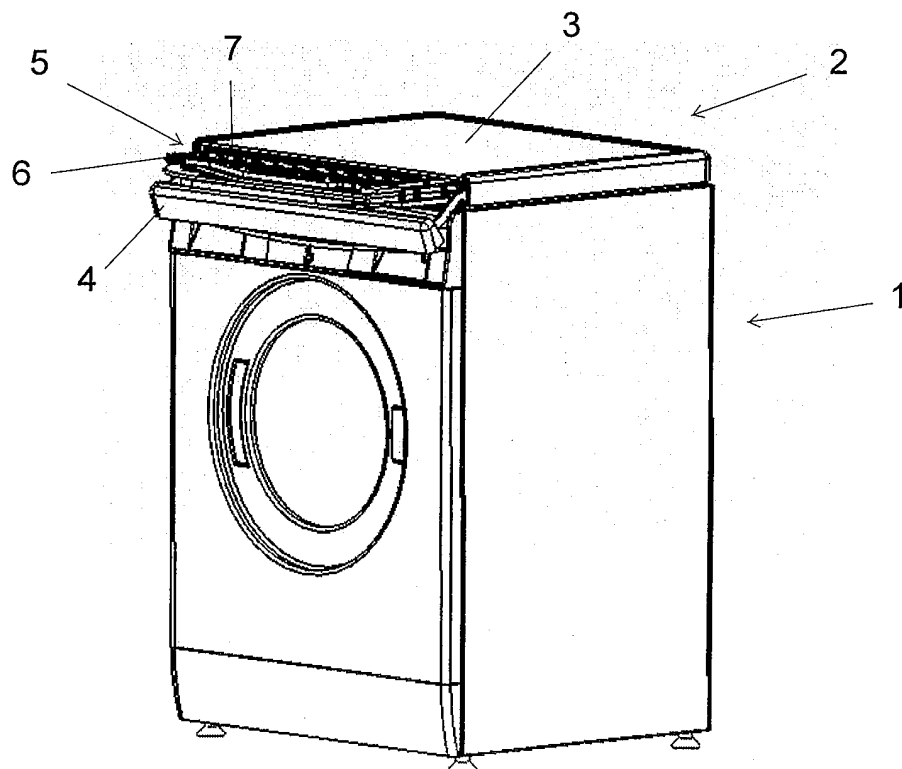
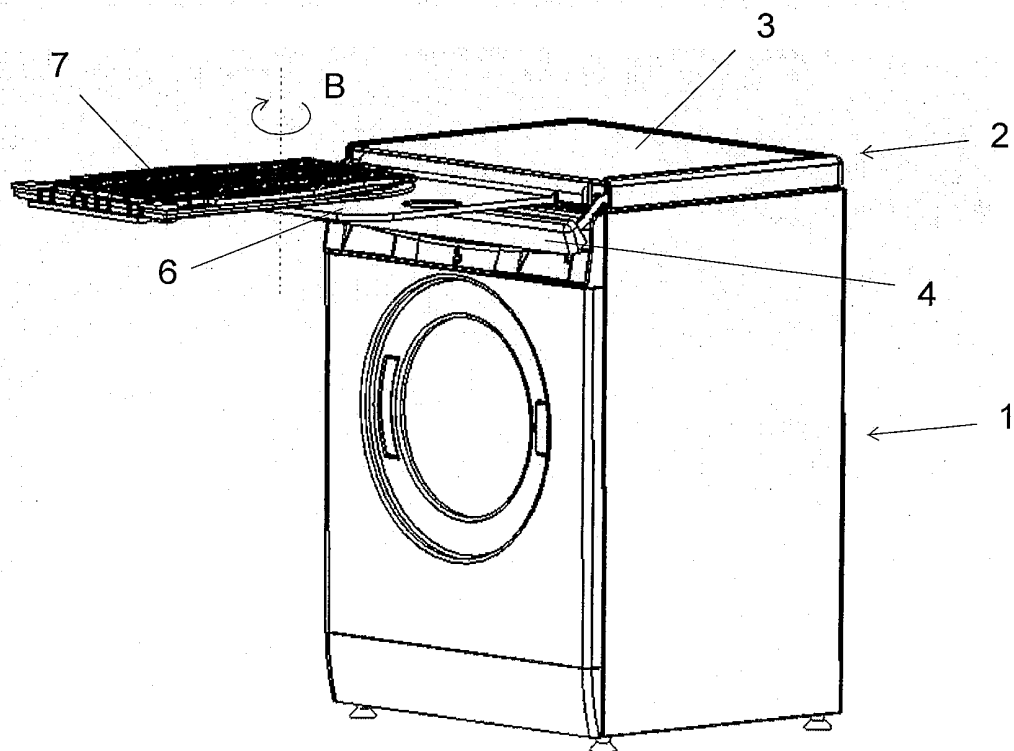
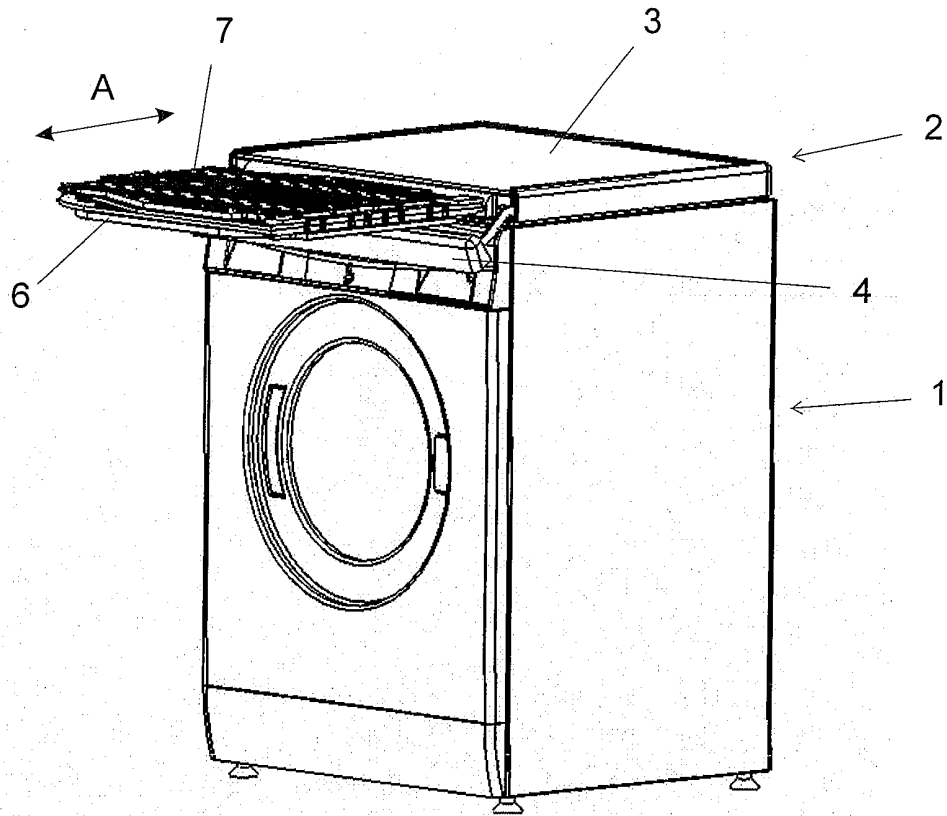


FIGURE 2



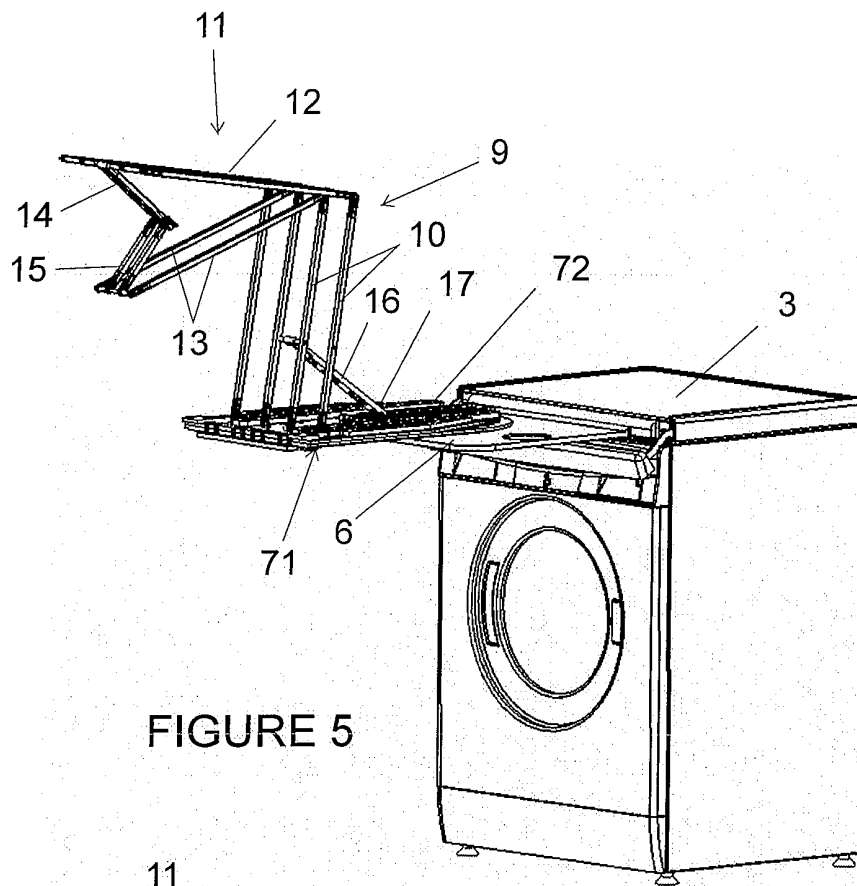


FIGURE 5

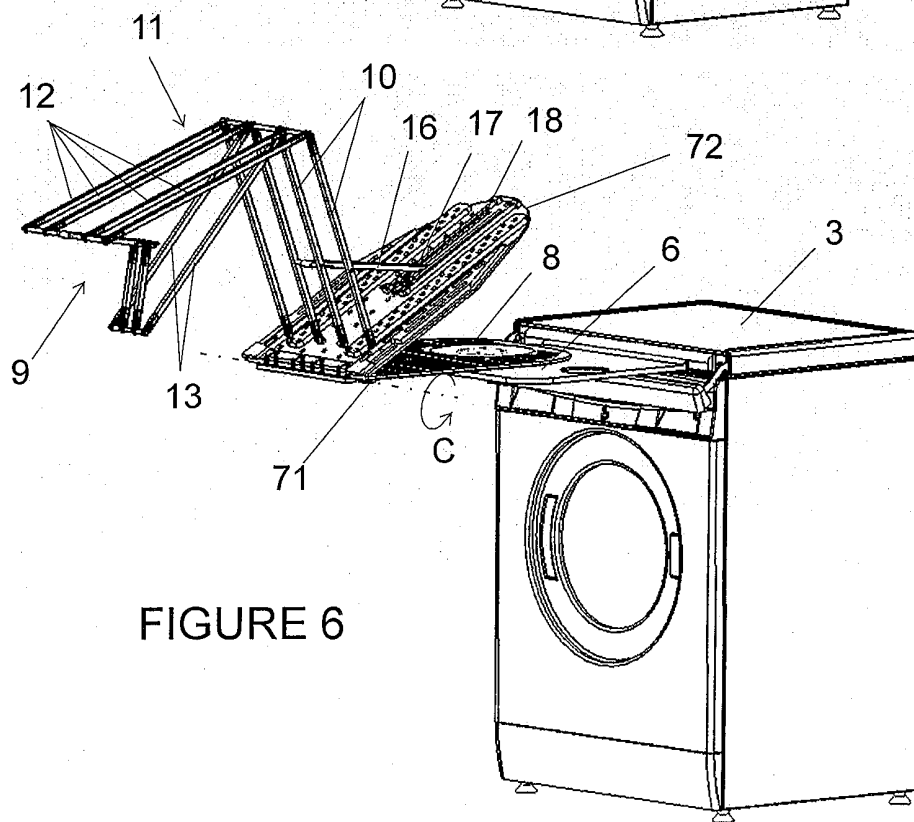
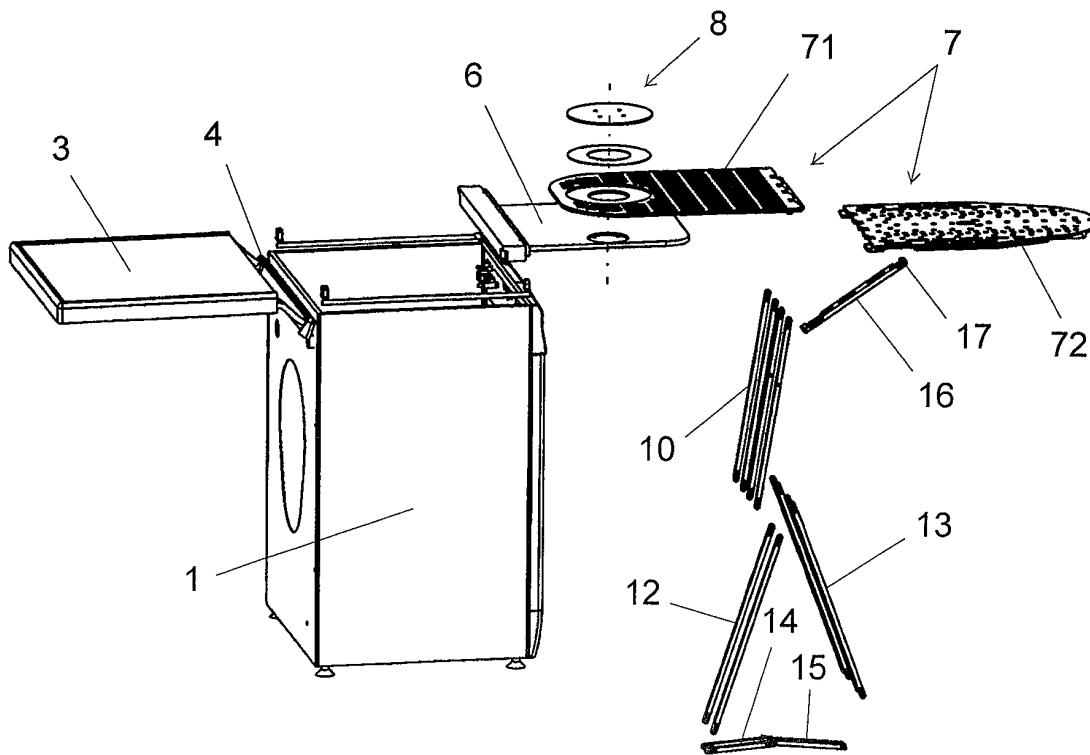
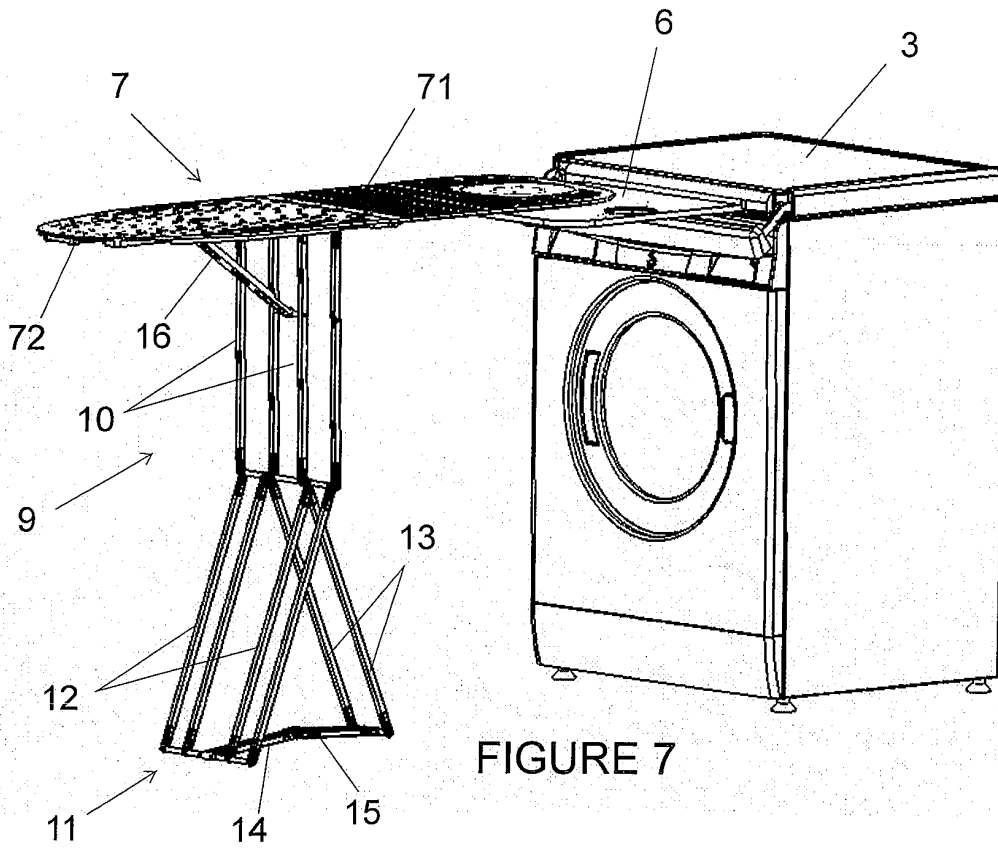
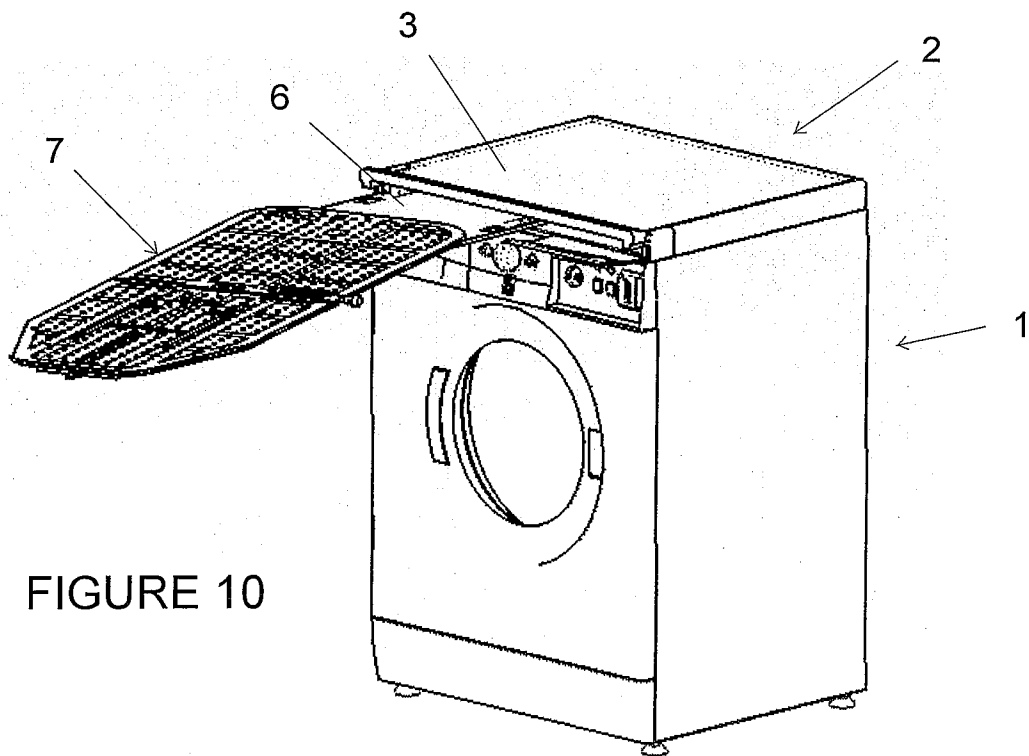
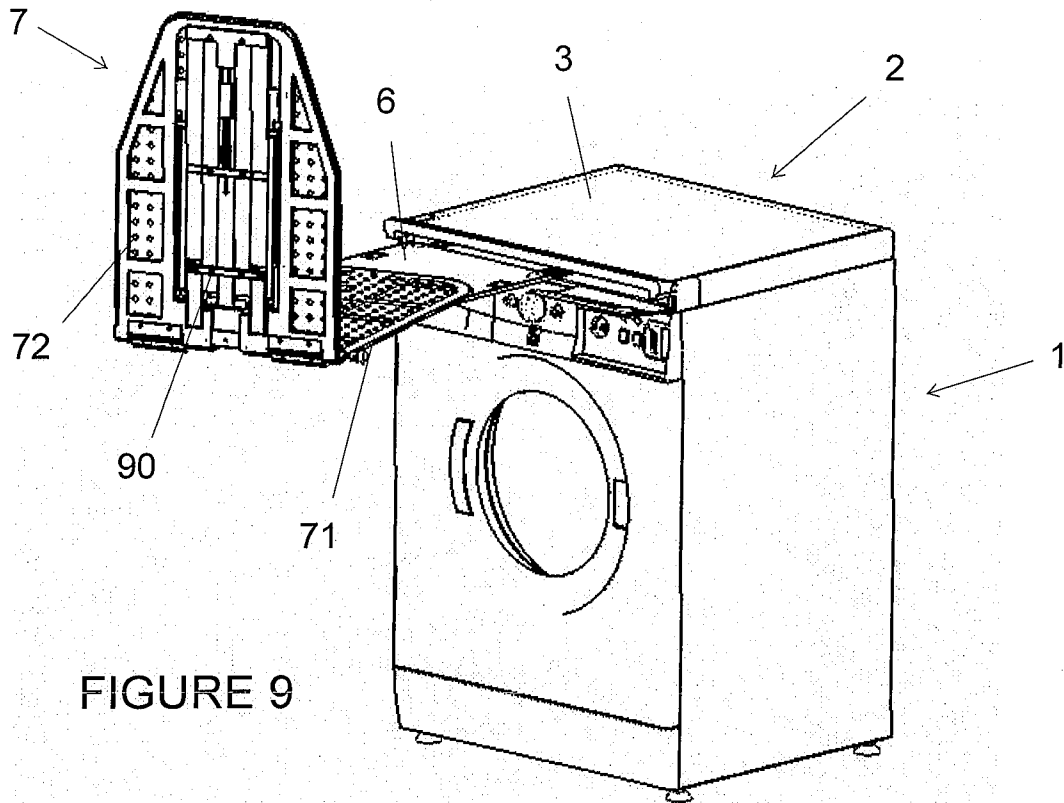


FIGURE 6





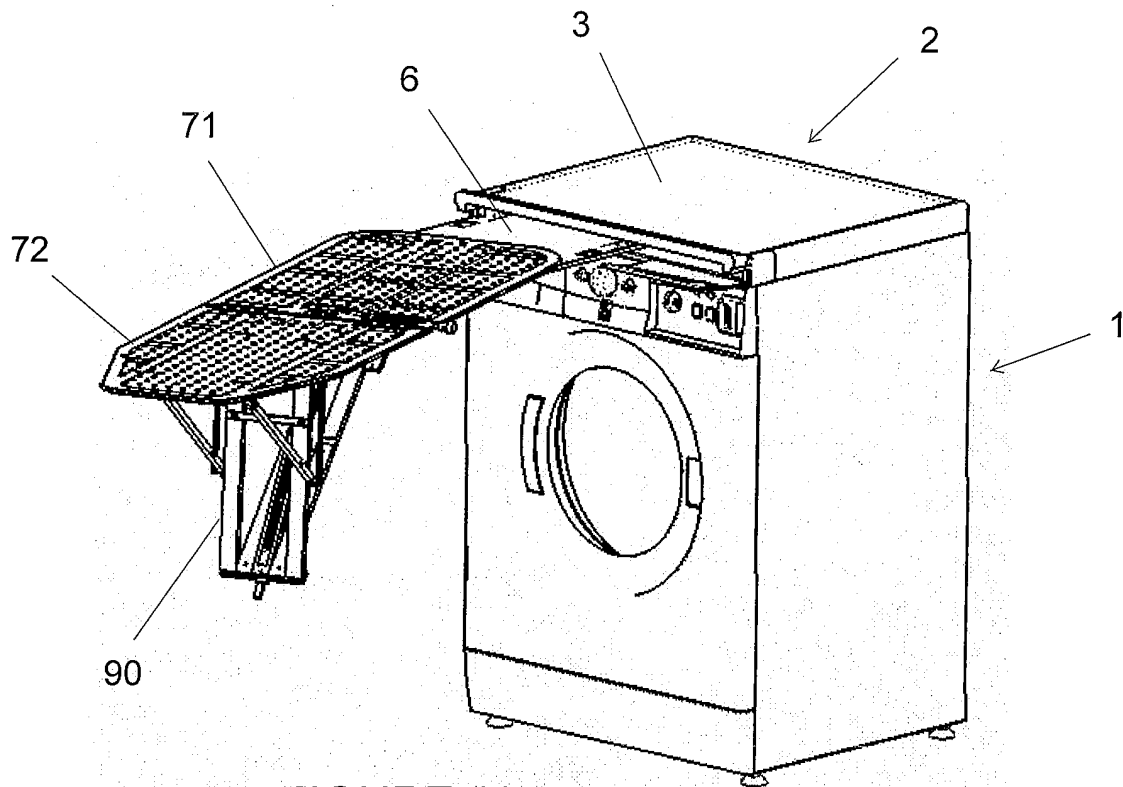


FIGURE 11

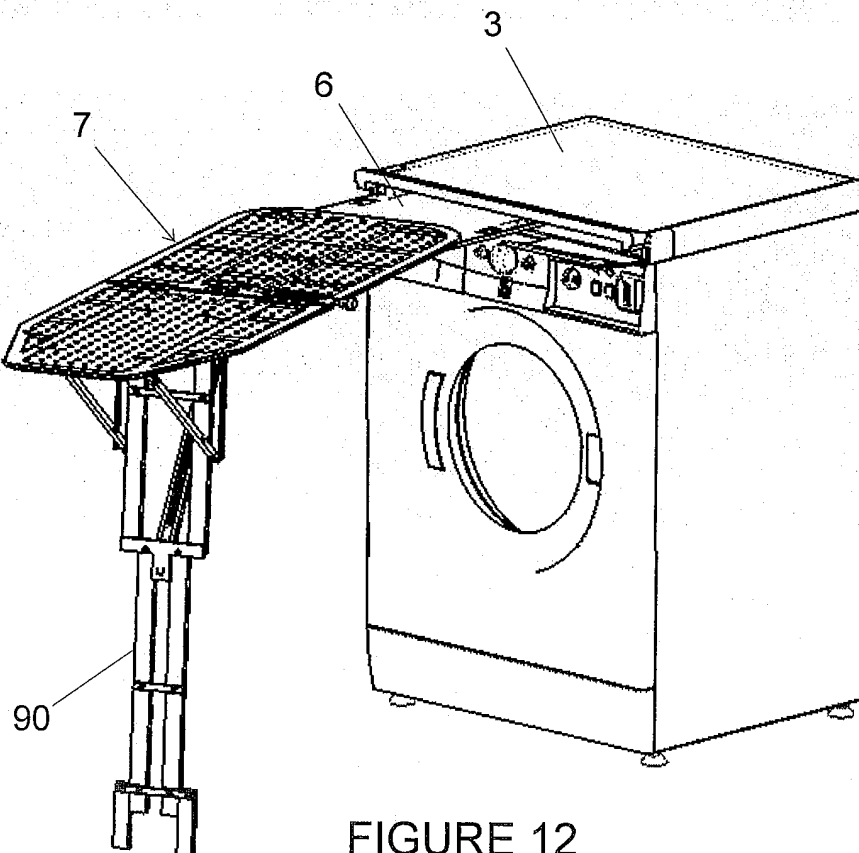


FIGURE 12



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 05 10 3434

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	DE 25 12 678 A1 (BOSCH-SIEMENS HAUSGERAETE GMBH; BOSCH-SIEMENS HAUSGERAETE GMBH, 7000 S) 30 September 1976 (1976-09-30) * page 2, line 10 - page 5, line 9 * * claims 1,5; figure 1 *	1-14	D06F39/12 D06F81/06
Y	US 6 484 645 B2 (ALLEN GARY WILLIAM ET AL) 26 November 2002 (2002-11-26) * column 1, line 53 - column 2, line 34 * * column 5, line 13 - column 6, line 10 * * figures 14-22 *	1-14	
A	US 3 022 589 A (KLEINMAN JACOB L) 27 February 1962 (1962-02-27) * column 1, line 7 - column 3, line 70 * * figures 1-10 *	1-3,14	
A	WO 91/05497 A (PELLE INDUSTRI AB) 2 May 1991 (1991-05-02) * page 2, line 10 - page 5, line 8 *	1-3	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			D06F A47B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 September 2005	Examiner Weinberg, E
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14-09-2005

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