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(54) **Electrical home appliance with top cover**

Elektrisches Haushaltsgerät mit oberer Abdeckung

Appareil domestique électrique avec couvercle supérieur

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Description

[0001] The invention relates to the field of electrical home appliances such as washing machines and dish-washers comprising a chassis and a top cover. The chassis has two side walls, a rear wall, and a front wall which is fastened to an upper part of the chassis by means of fastening elements.

[0002] The chassis of washing machines is formed from side walls of sheet metal that are joined to form one piece with the rear wall forming a body in the shape of a U. This U-shaped body is reinforced by means of metallic crossbars that rigidify the structure. The springs of the oscillating unit hang from the upper crossbar. The upper crossbar can be a full metal top. The front wall is joined to the arms of the U-shaped body by means of several plastic hooks that engage in corresponding slotted openings. Finally, they are reinforced with screws.

[0003] The upper part of the chassis is closed by a top cover that is screwed on or is joined by a clip fastener to the upper part of the two side walls, the upper part of the back wall and the upper part of the front wall.

[0004] Washing machines with a conventional top cover fasten the top cover to the chassis by, for example, sliding the top over the chassis, which is screwed down when it is in the correct position.

[0005] Document US 2005/0146254 A1 discloses a console assembly for an appliance that includes a cabinet, the console assembly comprising: a console having a surface that includes a console passageway disposed therein; and a rear peg that projects upward from a surface associated with the appliance cabinet and through the console passageway.

[0006] The object of the present invention is to provide a chassis for a home electrical appliance that is easier to manufacture and has simpler connections.

[0007] This object is achieved by means of a home electrical appliance according to the preamble of claim 1 wherein the top cover has a frame which comprises two lateral sides and a rear side. The two lateral sides are connected to the side walls of the chassis of the appliance by means of a sliding fastener and the rear side is connected to the rear wall by means of an interference fastener.

[0008] The advantage of this system compared to others is the ease of assembly. The system is much simpler than the conventional one. Elimination of screws provides a savings in material, and consequently also in costs. However, this is not the only advantage of this system. A simpler system to assemble means a reduction in assembly time, and this means a cost savings when factory production is scaled up.

[0009] In one embodiment, the upper part of the side walls is formed from sheet metal and has at least one slot with a tapered width such that a projection provided in the lateral sides of the top cover frame engages therein and slides until becoming retained by the slot. In this manner, the top can slide over the chassis until it becomes

firmly engaged.

[0010] Moreover, the rear wall is formed from sheet metal and has at least one window such that a catch on the rear side of the top cover frame engages therein. Having a simple clip fastening such as this avoids the need for installing screws at the end of cover assembly.

[0011] To facilitate the assembly of the top cover on the chassis, the rear side of the top cover frame is flexible, permitting the catch to slide over the surface of the rear wall and to enter the window.

[0012] A simplified top cover has the top cover frame formed from plastic and the catch is formed to be integral with the rear side.

[0013] Another assembly option is to introduce the catches into the windows of the rear wall of the chassis by rotating the top cover above them until the projections on the lateral sides of the top cover frame are introduced into the slots of the side walls of the chassis and are fastened by pressing thereon.

[0014] Other advantages are brought out in the following description of the figures contained in the attached drawing. One embodiment of the invention is shown in the figures. The figures, the description and the claims contain combinations of numerous characteristics. One skilled in the art could advantageously also consider the characteristics individually and recombine them in other reasonable combinations.

[0015] In the drawing, there are shown:

- Figure 1. an exploded perspective view of a chassis of a washing machine with a top cover;
- Figure 2. a top view of a slot in the upper part of a side wall with a projection on the top cover engaged in the slot and,
- Figure 3. a schematic view of slip fastening and interference fastening of the top cover to the chassis of the washing machine.

[0016] Figure 1 shows chassis 1 of a home washing machine with the walls that constitute it in an exploded perspective view. Side walls 2 are joined to each other by means of crossbars to rigidify the structure. Top cover 5 has a frame with two lateral sides 52 and one rear side 51 and is fastened to the upper surface of side walls 2 by means of sliding joints with projections 7 placed in lateral sides 52 which in the assembled position engage slots 8 located on the upper surface of side walls 2. In rear side 51 of top cover frame 5 are located several catches 6 that in the assembled position lock into openings 9 that open in rear wall 3 of chassis 1. Also visible is front wall 4 of the chassis that closes it, delimiting the space within the washing machine where the oscillating unit is placed. This fastening system is based on interference between two pieces (for example, the cover and panel). There is an opening or window 9 in rear wall 3. Top cover 5 slides over chassis 1 until it reaches the end, at which time it is lowered and fits into rear wall 3. Since it is an interference joint, the top will be completely fas-

tened and does not require screws. Moreover, assembly is very simple.

[0017] Figure 2 shows a top view of the sliding fastener between the top cover and the upper part of side wall 2 of chassis 1. A hole is formed in side wall 2 to be used as slot 8, into which is introduced projection 7 that is formed in lateral side 52 of the top cover, and in the assembled position becomes engaged at the narrowest part of the slot as seen in Figure 2.

[0018] Figure 3 shows a schematic view of the top cover mounted on the chassis with a detailed view of sliding fasteners 7, 8 and interference fastener 6, 9. In the left side of the figure is seen the sliding fastener where projection 7 of lateral side 52 of the top cover frame is engaged in slot 8 of the upper part of side wall 2 of the chassis. In the right side of Figure 3 is seen the interference fastener where catch 6 of rear side 51 of the top cover frame is engaged in window 9 in rear wall 3 of the chassis.

Claims

1. A home electrical appliance such as a washing machine or dishwasher comprising:

a chassis which has two side walls (2), a rear wall (3), and a front wall (4); and
a top cover (5) which is fastened to an upper part of the chassis by means of fastening elements;

characterized in that

the top cover (5) has a frame which comprises:

two lateral sides (52) which are connected to the side walls (2) by means of sliding fasteners (7, 8); and
a rear side (51) which connects to the rear wall (3) by means of an interference fastener (6, 9).

2. The home electrical appliance as recited in Claim 1, wherein the upper part of the side walls (2) is formed from sheet metal and has at least one slot (8) of tapered width such that a projection (7) provided in the lateral sides (52) of the top cover frame (5) engages and slides therein until it is retained by the slot (8).
3. The home electrical appliance as recited in one of the preceding claims, wherein the rear wall (3) is formed from sheet metal and has at least one window (9) such that a catch (6) from the rear side (51) of the top cover frame (5) engages therein.
4. The home electrical appliance as recited in claim 3, wherein the rear side (51) of the top cover frame (5) is flexible to permit the catch (6) to slide over the

surface of the rear wall (3) and to enter the window (9).

5. The home electrical appliance as recited in one of claims 3-4, wherein the top cover frame (5) is formed from plastic and the catch is formed to be integral with the rear side (51).
6. A washing machine according to one of the preceding claims wherein the two side walls and the rear wall form one U-shaped piece from sheet metal.

Patentansprüche

1. Elektrisches Haushaltsgerät wie eine Waschmaschine oder ein Geschirrspüler mit Folgendem:

einem Gehäuse, das zwei Seitenwände (2), eine Rückwand (3) und eine Vorderwand (4) aufweist, und
einer oberen Abdeckung (5), die mit Hilfe von Befestigungselementen an einem oberen Teil des Gehäuses befestigt ist,

dadurch gekennzeichnet, dass

die obere Abdeckung (5) einen Rahmen aufweist, der Folgendes umfasst:

zwei seitliche Seiten (52), die mit Hilfe von Gleitbefestigungsmitteln (7, 8) mit den Seitenwänden (2) verbunden sind, und
eine Rückseite (51), die sich mit Hilfe eines eingreifenden Befestigungsmittels (6, 9) mit der Rückwand (3) verbinden lässt.

2. Elektrisches Haushaltsgerät nach Anspruch 1, bei dem der obere Teil der Seitenwände (2) aus Blech gebildet ist und mindestens einen Schlitz (8) von sich verjüngender Breite aufweist, so dass ein Vorsprung (7) in den seitlichen Seiten (52) des Rahmens (5) der oberen Abdeckung dort eingreift und darin gleitet, bis er von dem Schlitz (8) festgehalten wird.
3. Elektrisches Haushaltsgerät nach einem der vorhergehenden Ansprüche, bei dem die Rückwand (3) aus Blech gebildet ist und mindestens eine Öffnung (9) aufweist, so dass eine Nase (6) von der Rückseite (51) des Rahmens (5) der oberen Abdeckung darin eingreift.
4. Elektrisches Haushaltsgerät nach Anspruch 3, bei dem die Rückseite (51) des Rahmens (5) der oberen Abdeckung flexibel ist, damit die Nase (6) über die Oberfläche der Rückwand (3) gleiten und in die Öffnung (9) eintreten kann.
5. Elektrisches Haushaltsgerät nach einem der Ansprüche 3 und 4, bei dem der Rahmen (5) der oberen

Abdeckung aus Kunststoff und die Nase einstückig mit der Rückseite (51) gebildet ist.

tes, dans lequel les deux parois latérales et la paroi arrière forment un élément en forme de U en tôle.

6. Waschmaschine nach einem der vorhergehenden Ansprüche, bei der die zwei Seitenwände und die Rückwand ein U-förmiges Teil aus Blech bilden. 5

Revendications

1. Appareil électroménager tel qu'un lave-linge ou un lave-vaisselle, comprenant : 10

un châssis comportant deux parois latérales (2), une paroi arrière (3) et une paroi avant (4) ; et un capot supérieur (5) qui est fixé à une partie supérieure du châssis au moyen d'éléments de fixation ; 15

caractérisé en ce que :

le capot supérieur (5) comporte un cadre qui comprend : 20

deux côtés latéraux (52) qui sont reliés aux parois latérales (2) au moyen d'attaches coulissantes (7, 8) ; et un côté arrière (51) qui est relié à la paroi arrière (3) au moyen d'une attache à ajustement serré (6, 9). 25

2. Appareil électroménager selon la revendication 1, dans lequel la partie supérieure des parois latérales (2) est fabriquée à partir d'une tôle et présente au moins une fente (8) de largeur décroissante, de manière qu'une saillie (7) se trouvant sur les côtés latéraux (52) du cadre de capot supérieur (5) entre en prise avec la fente (8) et y glisse jusqu'à ce qu'elle soit retenue par celle-ci. 30 35

3. Appareil électroménager selon l'une des revendications précédentes, dans lequel la paroi arrière (3) est fabriquée à partir d'une tôle et présente au moins une fenêtre (9), de manière qu'une attache (6) à partir du côté arrière (51) du cadre de capot supérieur (5) entre en prise avec celle-ci. 40 45

4. Appareil électroménager selon la revendication 3, dans lequel le côté arrière (51) du cadre de capot supérieur (5) est flexible pour permettre à l'attache (6) de glisser à la surface de la paroi arrière (3) et de pénétrer dans la fenêtre (9). 50

5. Appareil électroménager selon l'une des revendications 3 et 4, dans lequel le cadre de capot supérieur (5) est constitué de matière plastique et l'attache est formé pour faire corps avec le côté arrière (51). 55

6. Lave-linge selon l'une des revendications précéden-

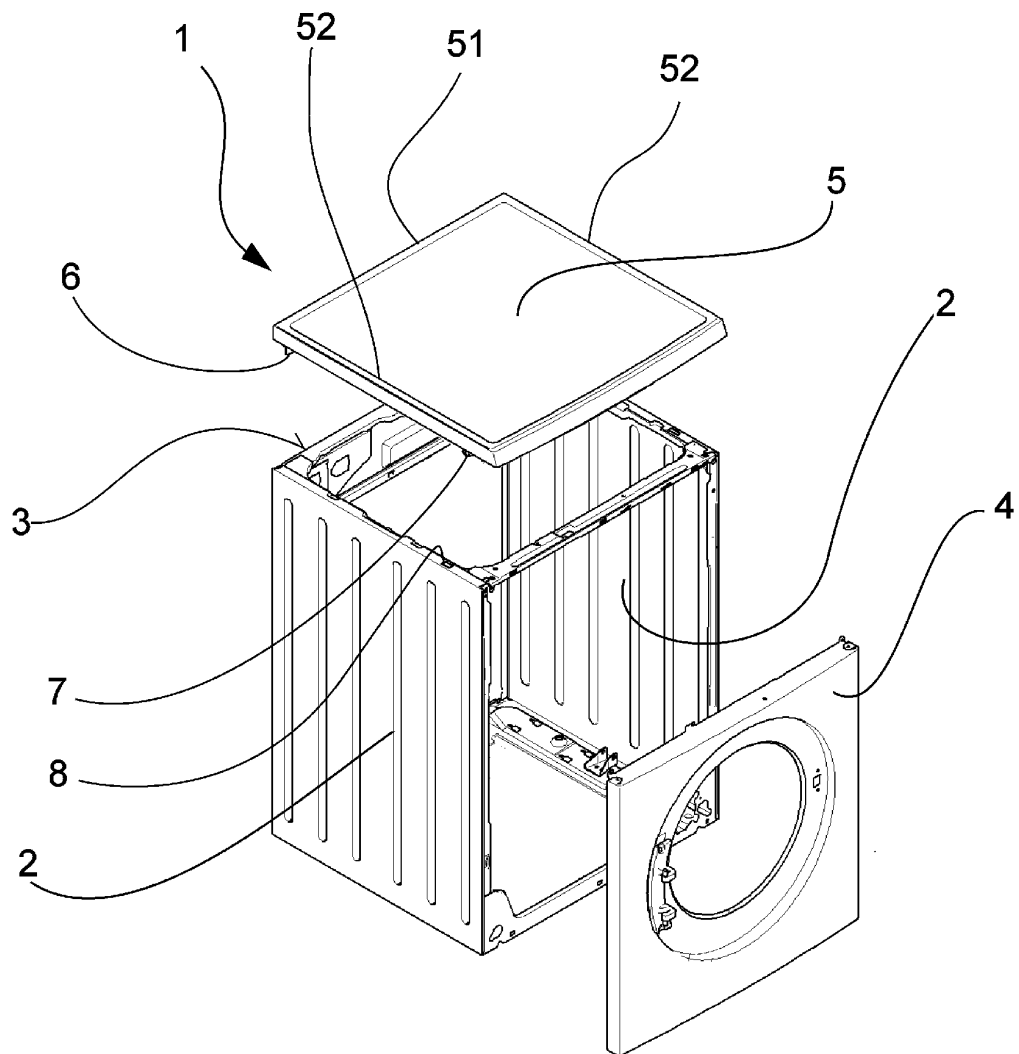


FIG.1

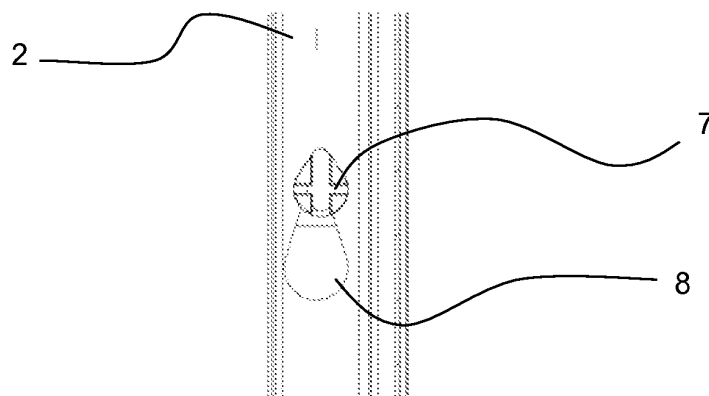


FIG.2

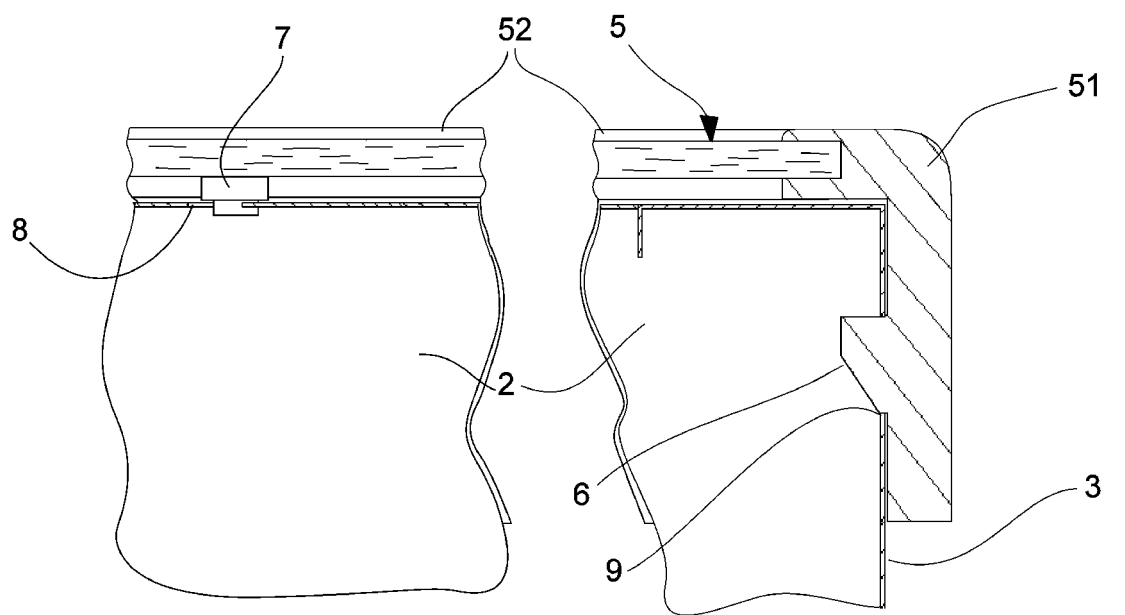


FIG.3

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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