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(54) **A METHOD OF MAKING A CASING INTEGRATED IN AN ELECTRICAL HOUSEHOLD APPLIANCE
AND AN ELECTRICAL HOUSEHOLD INTEGRATING THE CASING**

VERFAHREN ZUR HERSTELLUNG EINES GEHÄUSES BEI EINEM ELEKTRISCHEN
HAUSHALTSGERÄT UND ELEKTRISCHES HAUSHALTSGERÄT MIT DEM GEHÄUSE

PROCEDE DE FABRICATION D'UN BOITIER INTEGRE DANS UN APPAREIL MENAGER
ELECTRIQUE ET APPAREIL MENAGER ELECTRIQUE INTEGRANT LE BOITIER

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Description

Technical Field

[0001] This invention relates to a method of making a casing integrated in an electrical household appliance. This invention also relates to an electrical household appliance integrating the casing.

Background Art

[0002] Washing appliances are known which delimit a washing compartment. Between the washing compartment and the outside of the electrical household appliance there are soundproofing panels which reduce the noise propagating outside the electrical household appliance. Conveniently, these soundproofing panels are typically made of felt and are positioned in suitable housings shaped to match in such a way as to allow their stable positioning. If necessary, these panels are fixed using clips or other holding means. Consequently, they are positioned during assembly of the electrical household appliance. Sometimes, if the shape of the electrical household appliance has special curvatures, the panels have discontinuities, at the interface zones which separate them from each other, which reduce the requested soundproofing.

[0003] In addition, these panels are normally available in standard sizes and often must be positioned in zones which do not extend according to exact multiples of the standard surface of extension of the panels. As a result, the cavities designed to house the panels also have empty zones. Alternatively, the panels must be specially cut for them to be inserted in these empty zones (with a consequent increase in production times).

[0004] Another drawback is linked to the fact that the assembly is not particularly easy for the operators. Bituminous linings applied using a two-sided adhesive tape on the outer side of the wall which delimits the washing compartment are also known. Also in this case, the bituminous linings are arranged in sheets which are applied during assembly and have the aforementioned drawbacks linked to the fact that these sheets are modular and have dimensions that are not always exact multiples of the zone to be treated. In addition, these bituminous sheets normally require an additional heating in an oven to improve adhesion.

[0005] Document DE4227957A1 discloses an acoustic and/or thermal insulation matting for a dishwasher or for a clothes washing machine, bonded to the casing of the appliance through an intermediate carrier which can be peeled or split from the casing or from the insulation matting.

Disclosure of the Invention

[0006] In this context, the technical purpose forming the basis of this invention is to propose a method for

making a casing integrated in an electrical household appliance and an electrical household appliance obtained in this way that overcomes the aforementioned drawbacks of the prior art.

[0007] More specifically, the aim of this invention is to provide a method and an electrical household appliance which can speed up assembly of the electrical household appliance. Another aim of this invention is to improve the soundproofing properties of the electrical household appliance and at the same time also obtain a heat insulating effect (a very important characteristic as it is linked to energy saving).

[0008] The technical purpose indicated and the aims specified are substantially achieved by a method and an electrical household appliance comprising the technical features described in one or more of the appended claims.

Brief Description of the Drawings

[0009] Further features and advantages of this invention are more apparent in the non-limiting description which follows of a preferred non-limiting embodiment of a method and an electrical household appliance illustrated in Figure 1. More specifically, Figure 1 shows a schematic view of an electrical household appliance according to this invention and an enlargement of a portion of the electrical household appliance.

Detailed Description of the Preferred Embodiments of the Invention

[0010] With reference to the accompanying drawings, the numeral 1 denotes an electrical household appliance. The electrical household appliance 1 comprises a casing 2 in turn comprising a multilayer zone 310. The casing 2 comprises a heat insulating and soundproofing lining 4. The lining 4 is integrated in a first layer 32 of the multilayer zone 310. The first layer 32 comprises a matrix in which solid particles are embedded.

[0011] The solid particles advantageously comprise heat insulating material particles such as glass. The matrix comprises a naturally drying binder, such as an aqueous dispersion of acrylic-vinyl resin.

[0012] Conveniently, the lining 4 forms a single body with a support 40 on which it is applied, the support 40 being at least in part integrated in the multilayer zone 310 of the casing 2. Conveniently, the thickness of the first layer 32 is less than 5 millimetres. Advantageously, the thickness of the first layer 32 is more than at least 0.5 millimetres.

[0013] The lining 4 also constitutes a fire-retardant lining.

[0014] Advantageously, the electrical household appliance 1 may be a washing appliance such as a laundry washer or a dishwasher. In a particularly advantageous solution, the electrical household appliance is a laundry drying appliance (in the trade this appliance is usually

called "clothes dryer").

[0015] Advantageously, the casing 2 comprises a rotary drum 20 in turn forming a space 21 designed to hold the laundry inside. The first layer 32 is formed along a portion of the drum 20 outside the space 21. This is not designed to be in contact during use with the laundry to be treated (washed or dried). This prevents any roughness of the lining from damaging the laundry to be washed or dried. The latter solution is particularly useful in the case of a laundry washer and a laundry drier. In the case of laundry driers the support 40 might be a galvanised sheet or a stainless steel sheet, whilst in the case of laundry washers it might be a stainless steel or plastic layer.

[0016] Preferably, the multilayer 310 is at least in part integrated in a lateral band of the drum 20 which surrounds the axis of rotation of the drum 20. Conveniently, the multilayer zone 310 surrounds the axis of rotation. In addition, or alternatively, the multilayer zone 310 is integrated in an end surface of the drum 20 transversally to the axis of rotation of the drum 20. The end surface is opposite the opening of the drum 20 which allows inserting or removing the laundry to be washed or dried.

[0017] Advantageously, the integration of the lining 4 in the drum 20 of the laundry drier allows both improvement of the thermal efficiency of the laundry drier reducing the electricity consumption needed to heat the hot air introduced into the drum 20 and reduction of the noise generated by the movement of the laundry in the drum 20. More specifically, the Applicant has found that with the same energy consumption there is a temperature increase of between 5°C and 10°C inside drum 20.

[0018] Conveniently, the casing 2 might comprise a containment cabinet 22 which delimits at least partially from the outside the electrical household appliance 1. A surface of the cabinet 22 invisible from the outside of the electrical household appliance 1 comprises the first layer 32. Advantageously, the multilayer zone 310 is formed at least along the upper wall of the cabinet 22 (in jargon "top").

[0019] The step of applying the first layer 32 on the cabinet 22 is also advantageous in the case of the washing appliances (such as laundry washer, dishwasher, laundry drier) but also in the case of ovens for cooking food. In the later case, the heat insulating and soundproofing lining allows both the reduction of heat dispersion to the outside (increasing the efficiency) and the reduction of noise generated such as from aerodynamic noise generated by the passage in suitable ducts of currents of cooling air.

[0020] Advantageously, the first layer 32 may be applied both on the drum 20 and on the containment cabinet 22.

[0021] This invention also relates to a method of making a casing 2 integrated in an electrical household appliance 1.

[0022] Conveniently, the casing 2 may have one or more of the technical features described above with ref-

erence to the electrical household appliance 1.

[0023] The method comprises the steps of:

- assembling components 3 of the casing 2, the step comprising assembly of at least a first and a second component 331, 34 of the casing 2;
- applying at least on a first surface portion 31 of the first component 331 a heat insulating and soundproofing lining 4.

[0024] The first upper portion 31 and the first layer 32 in combination form the multilayer zone 310. The step of applying the heat insulating and soundproofing lining 4 comprises the step of simultaneously spraying, on the first portion 31, solid particles and a binder to form a first layer 32 comprising a matrix in which the solid particles are embedded.

[0025] In order to have as uniform a thickness as possible, the first portion 31 should lie on a horizontal plane during the spraying step.

[0026] The solid particles comprise for example glass balls (the balls are preferably hollow). The binder comprises an aqueous dispersion of acrylic-vinyl resin. Conveniently, the method provides for heating the first layer 32 in order to increase the drying speed. After completely drying, the first layer 32 is like a rubbery and at least partly elastic layer.

[0027] Advantageously, the sprayed composition has an aqueous base and comprises a natural-based binder and inert mineral fillers.

[0028] In a preferred, non-limiting embodiment, the percentages in weight of the sprayed components are as follows:

- water: greater than 40% and less than 55%;
- inert mineral fillers, glass balls, pyrogenic silica, ammonium polyphosphate, possible pigmentation: greater than 30% and less than 45%;
- acrylic-vinyl polymer: greater than 10% and less than 20%;

[0029] Products of this type are available on the market, having been developed at least by Univer Sokema S.r.l.

[0030] Conveniently, the first component 331 consists at least or exclusively of a first planar or non-planar slab 33; conveniently, the first slab 33 is at least initially planar.

[0031] Advantageously, the first plate 33 is a first sheet.

[0032] The expression sheet means a thin metal sheet (at the most a few millimetres). The first component 331 might, however, also be a slab or a plastic product, such as a polypropylene base with calcium or talc filler.

[0033] The step of assembling the components 3 of the casing follows at least partly or entirely the step of applying on the first surface portion 31 of the first component 331 the heat insulating and soundproofing lining 4.

[0034] The method also comprises cutting and/or

shaping the first component 331. The step of cutting and/or shaping the first component 331 precedes the step of assembling the first component 331 with the second component 34.

[0035] This allows the first layer 32 to be as uniform as possible, being applied before performing shaping operations of the first component 331 (for example, once the first slab 33 has been folded it is more difficult to spray a first layer 32 with a uniform thickness).

[0036] The step of cutting and/or shaping the first component 331 follows at least partly or entirely the step of applying on the first surface portion 31 of the first component 3 the heat insulating and soundproofing lining 4.

[0037] In a particularly advantageous embodiment, the electrical household appliance 1 is an appliance 10 for washing and/or drying laundry and the casing 2 comprises a rotary drum 20 forming a space 21 designed to hold the laundry inside. The method comprises the step of shaping (preferably calendering) the first component 331 to obtain a lateral band 330 of the drum 20; the step of assembling the first component 331 with the second component 34 comprising joining (preferably clamping) the first component 331 with a second component 34, the second component 34 being a base 341 of the rotary drum 20. Advantageously, the step of assembling the first and the second component 331, 34 (more specifically, the band 330 and the base 341) follows the step of applying at least on a first surface portion 31 of the first component 331 a heat insulating and soundproofing lining 4. Similarly, the step of cutting and/or shaping (for example, calendering) the first component 331 (more specifically, the band 330) precedes the step of applying at least on a first surface portion 31 of the first component 331 a heat insulating and soundproofing lining 4.

[0038] The step of calendering the first component 331 comprises bending the first component 331 to form a cavity designed to form part of the space 21; the step of bending the first component 331 positions the first layer 32 outside the cavity. This avoids contact between the first layer 32 and the laundry to be treated.

[0039] The casing 2 also comprises a containment cabinet 22 which delimits at least partially from the outside the electrical household appliance 1. The step of assembling components 3 of the casing 2 comprising positioning the first layer 32 of the first component 331 on a surface of the cabinet 22 facing towards the inside of the electrical household appliance 1. This way, the first layer 32 is invisible from the outside of the electrical household appliance 1.

[0040] Advantageously, the step of applying the heat insulating and soundproofing lining 4 on the first surface portion 31 of the first component 331 is preceded by the step of removably positioning on the first component at least one mask to cover a zone adjacent to the first portion 31 and avoid the presence of the heat insulating and soundproofing lining 4 in the adjacent zone. The above might be requested for several reasons, for example, because the zone must hold screws or other connecting

elements, or because they are surface zones designed to interact with other components of the electrical household appliance.

[0041] For example, in the case of drum 20, along the lateral band of the drum there is conveniently a stretch on which a belt is wound that connects movement means (for example, the electric motor) and the drum 20.

[0042] It is important that the first layer 32 is not applied on the stretch of the drum 20 on which the belt is wound. In addition, again in the case of the drum 20 the latter normally has a circular flange which circumscribes the opening for inserting or removing the laundry. The flange is advantageously clamped to the lateral band 330. During rotation the circular flange normally slides on a fixed portion which conveniently has containment means such as a felt or a gasket. It is therefore important that also a portion of the circular flange designed to interact with the felt or gasket is not affected by the first layer 32. The portion of the circular flange designed to interact with the containment means comprises the part of the flange which, if measured along the axis of rotation, is furthest from the base 341 of the drum 20. In addition, also the portion of the flange which, if measured along the axis of rotation, is closest to the base 341 of the drum 20 may not be affected by the first layer 32.

[0043] This invention brings important advantages.

[0044] Firstly, it allows the production of a casing integrated in an electrical household appliance having heat insulating and soundproofing properties to be speeded up. More specifically, it makes it easier to line components which after completion must have complex surfaces such as bends or sharp corners.

[0045] In addition, this invention is optimum in view of the development of regulations in terms of materials and health, allowing the elimination of critical elements such bituminous linings.

[0046] The invention described can be modified and adapted in several ways without thereby departing from the scope of the inventive concept. Moreover, all the details of the invention may be substituted by other technically equivalent elements. In practice, all the materials used, as well as the dimensions, may vary according to requirements.

Claims

1. A method of making a casing integrated in an electrical household appliance comprising the steps of:

- assembling components (3) of the casing (2), the step of assembling components (3) of the casing (2) comprising assembly of at least a first and a second component (331, 34);
- applying at least on a first surface portion (31) of the first component (331) a heat insulating and soundproofing lining (4); the method being characterised in that the step of applying the

- heat insulating and soundproofing lining (4) comprises the step of simultaneously spraying on the first portion (31) solid particles and a binder to form a first layer (32) comprising a matrix in which the solid particles are embedded. 5
2. The method according to claim 1, **characterised in that** the step of assembling the components (3) of the casing (2) follows at least partly or entirely the step of applying on the first surface portion (31) of the first component (3) the heat insulating and soundproofing lining (4). 10
 3. The method according to claim 1 or 2, **characterised in that** it comprises the step of cutting and/or shaping the first component (331), the step of cutting and/or shaping the first component (331) preceding the step of assembling the first component (331) with the second component (34) and following at least partly or entirely the step of applying on the first surface portion (31) of the first component (331) the heat insulating and soundproofing lining (4). 15 20
 4. The method according to claim 1 or 2 or 3, **characterised in that** the electrical household appliance (1) is a washing and/or drying machine for laundry and the casing (2) comprises a rotary drum (20) forming a space (21) designed to hold the laundry inside; the method providing the step of calendering the first component (331) to obtain a lateral band (330) of the drum (20); the step of assembling the first component (331) with the second component (34) comprising the step of joining the first component (331) with the second component (34), the second component (34) being a base (341) of the rotary drum (20). 25 30 35
 5. The method according to claim 4, **characterised in that** the step of calendering the first component (331) comprises bending the first component (331) to form a cavity designed to form part of the space (21), the step of bending the first component (331) following the step of positioning the first layer (32) outside the cavity. 40
 6. The method according to any of the foregoing claims, **characterised in that** the step of applying the heat insulating and soundproofing lining (4) on the first surface portion (31) of the first component (331) is preceded by the step of removably positioning on the first component (331) at least one mask to cover a zone adjacent to the first portion (31) and avoid the presence of the heat insulating and soundproofing lining (4) in the adjacent zone. 45 50
 7. The method according to any of the claims from 1 to 3, **characterised in that** the casing (2) comprises a containment cabinet (22) which delimits from the outside the electrical household appliance (1), the step of assembling the components of the casing (2) comprising positioning the first layer (32) of the first component (331) on a surface of the cabinet (22) facing towards the inside of the electrical household appliance (1). 55
 8. An electrical household appliance comprising a casing (2) in turn comprising a multilayer zone (310), the casing (2) being **characterised in that** it comprises a heat insulating and soundproofing lining (4) integrated in a first layer (32) of the first multilayer portion (31), the first layer (32) comprising a matrix in which the solid particles are embedded.
 9. The electrical household appliance according to claim 8, **characterised in that** the lining (4) forms a single body with a support (40) on which it is applied, the support (40) being at least in part integrated in the multilayer zone (310) of the casing (2).
 10. The electrical household appliance according to claim 8 or 9, **characterised in that** the casing (2) comprises:
 - a rotary drum (20) in turn forming a space (21) designed to hold the laundry inside, the first layer (32) being formed along a portion of the drum (20) outside the space (21);
 - or
 - a containment cabinet (22) which delimits at least partially from the outside the electrical household appliance (1), a surface of the cabinet (22) invisible from the outside of the electrical household appliance comprising the first layer (32).

Patentansprüche

1. Verfahren zum Herstellen eines Gehäuses, welches in einem elektrischen Haushaltsgerät integriert ist, umfassend die Schritte:
 - Zusammenstellen von Komponenten (3) des Gehäuses (2), wobei der Schritt des Zusammenstellens von Komponenten (3) des Gehäuses (2) ein Zusammenstellen wenigstens einer ersten und einer zweiten Komponente (331, 34) umfasst;
 - Aufbringen einer Hitzeisolation und Schallschutzauskleidung (4) an wenigstens einem ersten Flächenabschnitt (31) der ersten Komponente (331); wobei das Verfahren **dadurch gekennzeichnet ist, dass** der Schritt des Aufbringens der Hitzeisolation und Schallschutzauskleidung (4) den Schritt eines simultanen Sprühens von Feststoffpartikeln und ei-

nes Bindemittels auf den ersten Abschnitt (31) umfasst, um eine erste Schicht (32) zu bilden, welche eine Matrix umfasst, in welcher die Feststoffpartikel eingebettet sind.

2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** der Schritt des Zusammenstellens der Komponenten (3) des Gehäuses (2) wenigstens teilweise oder vollständig dem Schritt des Aufbringens einer Hitzeisolation und Schallschutzauskleidung (4) an dem ersten Flächenabschnitt (31) der ersten Komponente (3) folgt.
3. Verfahren nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** es den Schritt eines Schneidens oder/und Formens der ersten Komponente (331) umfasst, wobei der Schritt des Schneidens oder/und Formens der ersten Komponente (331) dem Schritt des Zusammenstellens der ersten Komponente (331) mit der zweiten Komponente (34) vorangeht und dem Schritt des Aufbringens der Hitzeisolation und Schallschutzauskleidung (4) an dem ersten Flächenabschnitt (31) der ersten Komponente (331) wenigstens teilweise oder vollständig folgt.
4. Verfahren nach Anspruch 1 oder 2 oder 3, **dadurch gekennzeichnet, dass** das elektrische Haushaltsgerät (1) eine Waschmaschine oder/und ein Wäschetrockner ist und das Gehäuse (2) eine Drehtrommel (20) umfasst, welche einen Raum (21) bildet, welcher dazu bestimmt ist, die Wäsche darin zu halten; wobei das Verfahren den Schritt eines Kalanderns der ersten Komponente (331) vorsieht, um ein laterales Band (330) der Trommel (20) zu erhalten; wobei der Schritt des Zusammenstellens der ersten Komponente (331) mit der zweiten Komponente (34) den Schritt eines Verbindens der ersten Komponente (331) mit der zweiten Komponente (34) umfasst, wobei die zweite Komponente (34) eine Basis (341) der Drehtrommel (20) ist.
5. Verfahren nach Anspruch 4, **dadurch gekennzeichnet, dass** der Schritt des Kalanderns der ersten Komponente (331) ein Biegen der ersten Komponente (331) umfasst, um eine Kavität zu bilden, welche dazu bestimmt ist, einen Teil des Raums (21) zu bilden, wobei der Schritt des Biegens der ersten Komponente (331) dem Schritt eines Positionierens der ersten Schicht (32) außerhalb der Kavität folgt.
6. Verfahren nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** dem Schritt des Aufbringens der Hitzeisolation und Schallschutzauskleidung (4) an dem ersten Flächenabschnitt (31) der ersten Komponente (331) der Schritt eines entfernbaren Positionierens wenigstens einer Maske an der ersten Komponente (331) vorangeht, um eine dem ersten Abschnitt (31) benachbarte Zo-

ne zu bedecken und die Anwesenheit der Hitzeisolation und Schallschutzauskleidung (4) in der benachbarten Zone zu vermeiden.

7. Verfahren nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** das Gehäuse (2) ein Behältergehäuse (22) umfasst, welches das elektrische Haushaltsgerät (1) von der Außenseite abgrenzt, wobei der Schritt des Zusammenstellens der Komponenten des Gehäuses (2) ein Positionieren der ersten Schicht (32) der ersten Komponente (331) an einer in Richtung der Innenseite des elektrischen Haushaltsgeräts (1) weisenden Fläche des Gehäuses (22) umfasst.
8. Elektrisches Haushaltsgerät umfassend ein Gehäuse (2), welches wiederum eine Mehrschicht-Zone (310) umfasst, wobei das Gehäuse (2) **dadurch gekennzeichnet ist, dass** es eine Hitzeisolation und Schallschutzauskleidung (4) umfasst, welche in einer ersten Schicht (32) des ersten Mehrschicht-Abschnitts (31) integriert ist, wobei die erste Schicht (32) eine Matrix umfasst, in welcher die Feststoffpartikel eingebettet sind.
9. Elektrisches Haushaltsgerät nach Anspruch 8, **dadurch gekennzeichnet, dass** die Auskleidung (4) einen einzelnen Körper mit einer Halterung (40) bildet, an welcher sie angebracht ist, wobei die Halterung (40) wenigstens teilweise in der Mehrschicht-Zone (310) des Gehäuses (2) integriert ist.
10. Elektrisches Haushaltsgerät nach Anspruch 8 oder 9, **dadurch gekennzeichnet, dass** das Gehäuse (2) umfasst:
 - eine Drehtrommel (20), welche wiederum einen Raum (21) bildet, welcher dazu bestimmt ist, die Wäsche darin zu halten, wobei die erste Schicht (32) entlang eines Abschnitts der Trommel (20) außerhalb des Raums (21) gebildet ist; oder
 - ein Behältergehäuse (22), welches das elektrische Haushaltsgerät (1) von der Außenseite zumindest teilweise abgrenzt, wobei eine von der Außenseite des elektrischen Haushaltsgeräts unsichtbare Fläche des Gehäuses (22) die erste Schicht (32) umfasst.

Revendications

1. Procédé de fabrication d'un boîtier intégré dans un appareil ménager électrique comprenant les étapes de :
 - assembler les composants (3) du boîtier (2), l'étape consistant à assembler les composants

- (3) du boîtier (2) comprenant l'assemblage d'au moins un premier et d'un second composant (331, 34) ;
- appliquer au moins sur une première partie (31) de la surface du premier composant (331) un revêtement d'isolation thermique et d'isolation acoustique (4) ; le procédé étant **caractérisé en ce que** l'étape d'application du revêtement d'isolation thermique et d'isolation acoustique (4) comprend l'étape consistant à pulvériser simultanément sur la première partie (31) des particules solides et un liant afin de former une première couche (32) comprenant une matrice dans laquelle les particules solides sont logées.
2. Procédé selon la revendication 1, **caractérisé en ce que** l'étape consistant à assembler les composants (3) du boîtier (2) suit, au moins partiellement ou entièrement, l'étape consistant à appliquer sur la première partie (31) de la surface du premier composant (331) le revêtement d'isolation thermique et d'isolation acoustique (4).
3. Procédé selon la revendication 1 ou 2, **caractérisé en ce qu'il** comprend l'étape consistant à couper et/ou à configurer le premier composant (331), l'étape de coupe et/ou de configuration du premier composant (331) précédant l'étape consistant à assembler le premier composant (331) avec le second composant (34) et suivant, au moins partiellement ou entièrement, l'étape consistant à appliquer sur la première partie (31) de surface du premier composant (331) le revêtement d'isolation thermique et d'isolation acoustique (4).
4. Procédé selon la revendication 1 ou 2 ou 3, **caractérisé en ce que** l'appareil ménager électrique (1) est une machine à laver et/ou à sécher destinée au linge et le boîtier (2) comprend un tambour rotatif (20) constituant un espace (21) conçu pour y contenir le linge ; le procédé prévoyant l'étape consistant à calandrer le premier composant (331) pour obtenir une bande latérale (330) du tambour (20) ; l'étape d'assemblage du premier composant (331) avec le second composant (34) comprenant l'étape consistant à relier le premier composant (331) au second composant (34), le second composant (34) étant une base (341) du tambour rotatif (20).
5. Procédé selon la revendication 4, **caractérisé en ce que** l'étape consistant à calandrer le premier composant (331) comprend l'étape consistant à courber le premier composant (331) pour former une cavité conçue pour former une partie de l'espace (21), l'étape consistant à courber le premier composant (331) suivant l'étape de positionnement de la première couche (32) à l'extérieur de la cavité.
6. Procédé selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'étape consistant à appliquer le revêtement d'isolation thermique et d'isolation acoustique (4) sur la première partie (31) de la surface du premier composant (331) est précédée par l'étape consistant à positionner de façon amovible sur le premier composant (331) au moins un masque afin de recouvrir une zone adjacente à la première partie (31) et à éviter la présence du revêtement d'isolation thermique et d'isolation acoustique (4) dans la zone adjacente.
7. Procédé selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que** le boîtier (2) comprend une enceinte de confinement (22) qui délimite l'extérieur de l'appareil ménager électrique (1), l'étape consistant à assembler les composants du boîtier (2) comprenant l'étape consistant à positionner la première couche (32) du premier composant (331) sur une surface de l'enceinte (22) faisant face vers l'intérieur de l'appareil ménager électrique (1).
8. Appareil ménager électrique comprenant un boîtier (2) comprenant à son tour une zone multicouche (310), le boîtier (2) étant **caractérisé en ce qu'il** comprend un revêtement d'isolation thermique et d'isolation acoustique (4) intégré dans une première couche (32) de la première partie (31) multicouche, la première couche (32) comprenant une matrice dans laquelle les particules solides sont logées.
9. Appareil ménager électrique selon la revendication 8, **caractérisé en ce que** le revêtement (4) forme un corps unique doté d'un support (40) sur lequel il est appliqué, le support (40) étant, au moins en partie, intégré dans la zone multicouche (310) du boîtier (2).
10. Appareil ménager électrique selon la revendication 8 ou 9, **caractérisé en ce que** le boîtier (2) comprend :
- un tambour rotatif (20) formant à son tour un espace (21) conçu pour y contenir le linge, la première couche (32) étant formée le long d'une partie du tambour (20) située hors de l'espace (21) ;
ou
 - une enceinte de confinement (22) qui délimite, au moins partiellement, l'extérieur de l'appareil ménager électrique (1), une surface de l'enceinte (22) invisible depuis l'extérieur de l'appareil ménager électrique comprenant la première couche (32).

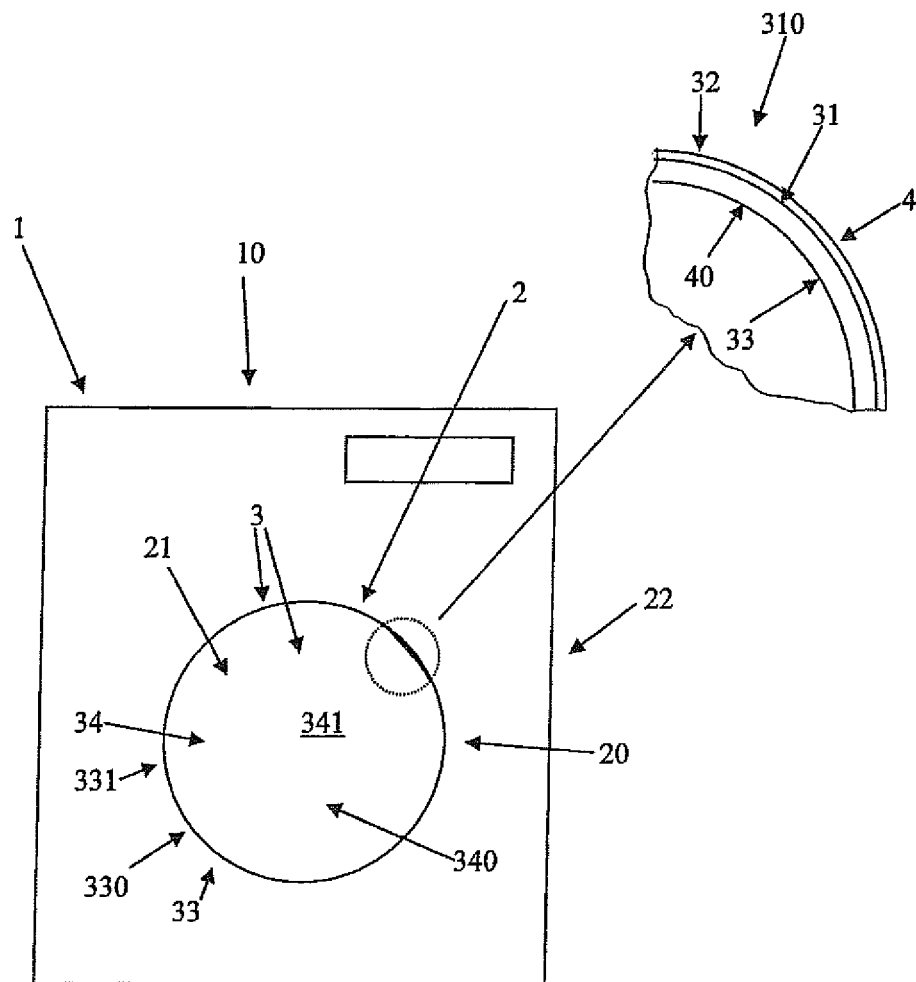


Fig. 1

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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