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(54) **PACKAGE OF PRODUCTS**

(57) A package (10) of products (100) comprising a box-like body (20), a handy strap (30) and products (100) arranged on at least one row, wherein each of said products (100) comprises at least one vertical surface (101) and a base surface adapted to be laid on a horizontal geometric plane, wherein said box-like body (20) comprises a support base wall (21) and side walls (22, 23), which rise starting from the extreme sides of the support

base wall (21), wherein said support base wall (21) lies on said horizontal geometric plane and is adapted to allow a support of said base surface of each of said products (100), wherein said box-like body (20) does not comprise any adhesion portions between inner surfaces of walls (21, 22, 23) and products (100), wherein said handy strap (30) comprises an arched portion (31) and two side straps (32).

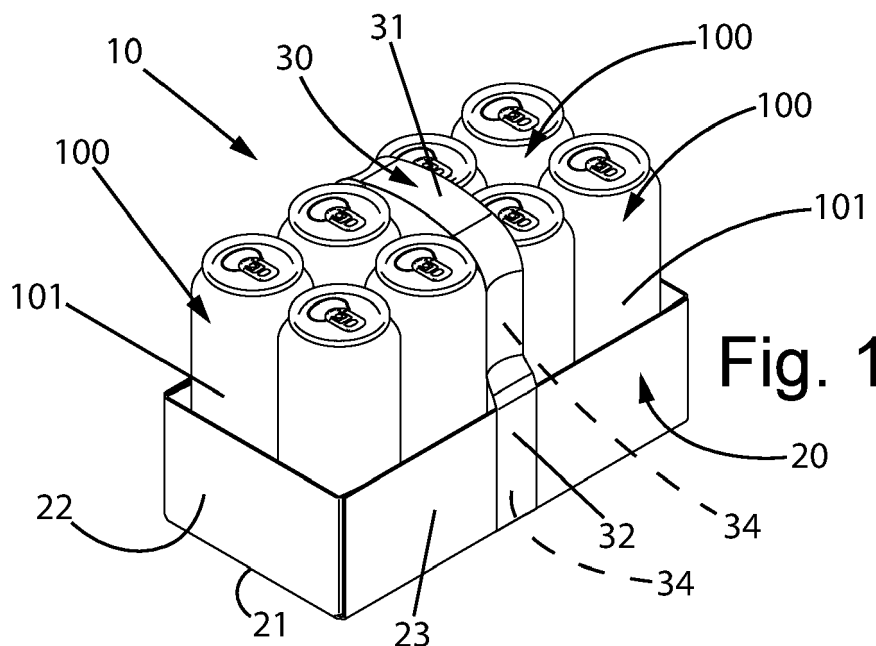


Fig. 1

Description

[0001] The present invention relates to a package of products.

[0002] In the state of the art bundles of containers for liquids are known, such as bottles, cans, vials, cardboard boxes for liquids or other food products that disadvantageously envisage a preponderant use of heat shrinkable or extensible plastic material for wrapping the containers. A non-structural handle is applied to the top of the bundles of plastic material, which has the sole function of facilitating handling and/or manual transport operations.

[0003] Disadvantageously, the plastic materials are obtained through polluting manufacturing processes, the recovery of which causes just as much pollution.

[0004] The object of the present invention consists of providing a package for packaging products that is economically sustainable, more respectful of the environment, strongly reduces the use of plastic materials of the packaging package, strongly reduces the use of glues, is more biodegradable, more manageable and that allows the safe transport of the packaged products.

[0005] According to the invention, such object is achieved with a package of products according to claim 1.

[0006] Other features are comprised in the dependent claims.

[0007] The features and advantages of the present invention will be more apparent from the following description, which is to be understood as exemplifying and not limiting, with reference to the appended schematic drawings, wherein:

Figure 1 is an axonometric view of a package according to the present invention for packaging eight products arranged on two rows of four products, in particular eight cans are depicted arranged on two rows, each can containing a liquid food product;

Figure 2 is an axonometric view of the package of twelve alternative products arranged on three rows of four products or on four rows of three products, in particular twelve paperboard boxes are depicted for food liquids such as wine, fruit juice or milk, arranged on three rows;

Figure 3 is an axonometric view of the package of six alternative products arranged on two rows of three products, or on three rows of two products, in particular bottles of food liquids arranged on two rows.

[0008] With reference to the cited figures a package 10 of products 100 is shown.

[0009] The package 10 of products 100 comprises a box-like body 20, a handy strap 30 and products 100 arranged on one or more rows.

[0010] The products 100 are for example cans for liquids as shown in Figure 1, or paperboard boxes for liquids as shown in Figure 2 or bottles as shown in Figure 3.

[0011] Alternatively it is possible to envisage that the

products 100 may be other containers for liquids such as vials, other paperboard boxes for liquids or for other food products or even of another nature.

[0012] As shown in Figures 1-3 the package 10 is advantageously free of packaging film made of plastic material that envelops one or more rows of products 100 or that envelops the whole package 10.

[0013] Each of the products 100 comprises at least one vertical surface 101 and a base surface adapted to be laid on a horizontal geometric plane.

[0014] As shown by way of non-limiting example in Figure 1, the vertical surface 101 of the can is the outer surface, in Figure 2 the vertical surface 101 of the paperboard box is the outer surface, in Figure 3 the vertical surface 101 of the bottle is the outer surface portion of the bottle with vertical walls on which the labelling of the bottle is envisaged.

[0015] According to other examples not shown, the products could be square shaped or have another geometric shape.

[0016] The box-like body 20 comprises a support base wall 21, which lies on the horizontal geometric plane and four side walls 22 which rise upwards starting from the sides of the support base wall 21. In figures 1-3 the side walls 22 of the box-like body 20 are vertical, but it may be envisaged that at least one side wall 22, 23 forms an angle with a vertical geometric plane, where the vertical geometric plane is perpendicular to the horizontal geometric plane. The angle of the side wall 22, 23 depends on the shape of the product 100 of the package 10.

[0017] The box-like body 20 is made of paperboard obtained from a blank of a cardboard box so as to limit the use of plastic.

[0018] Alternatively the box-like body 20 may be comprised in a list comprising a rigid plastic material, a rigid laminate or equivalent rigid materials to those included in this list.

[0019] The support base wall 21 lies on the horizontal geometric plane and allows a support of the base surface of each of the products 100.

[0020] The side walls 22, 23 allow the products 100 to be kept in position keeping them packed against one another without using adhesives between an inner surface of the walls 21, 22, 23 and the products 100.

[0021] The box-like body 20 is free of adhesion portions and is free of gluing points between the inner surfaces of the walls 21, 22, 23 and the products 100.

[0022] Advantageously, the products 100 are not glued with the inner surfaces of the side walls 22, 23 or with the support base wall 21 of the box-like body 20 in order to further reduce the waste of plastic material and glue and to simplify the production process.

[0023] Preferably, the dimensions of the support base wall 21 follow the dimensions of the arrangement on one or more rows of products 100 of the package 10 and the angle with respect to the vertical of the side walls 22, 23 follow the outer shape of the surface of the product 100, so that the box-like body 20 keeps the products 100 ar-

ranged on one or more rows still and rigidly in position without the use of plastic packaging film.

[0024] Even more preferably, the side walls 22, 23 have vertical dimensions equal to a third of the respective vertical dimensions of the product 100 of the package 10. The vertical dimensions are measured starting from the support base wall 21 upwards and, when the side wall 22, 23 is not vertical but angled with respect to the respective vertical geometric plane, the vertical dimensions are measured in projection on the respective vertical geometric plane of the side wall 22, 23 taken into consideration.

[0025] As shown in Figures 1-3 the side walls 22, 23 are a first pair of said walls 22 and a second pair of side walls 23.

[0026] When the support base wall 21 is a rectangle, as shown in Figures 1-3 or a square, then the respective pairs of side walls 22, 23 are arranged on the opposite sides of the support base wall 21.

[0027] As shown in Figures 1-3 the support base wall 21 is shaped like a rectangle to contain the products 100, but it may alternatively have a quadrangular shape if it needs to contain four products arranged on two rows.

[0028] Alternatively, it may be envisaged that the support base wall 21 has a shaped outline (not shown in the figures), where "shaped outline" means an outline that follows a perimeter of the base surfaces of the product 100 once arranged on one or more rows to be packaged, or "shaped outline" means for example an outline comprising a multiplicity of broken lines or curves that defines a perimeter with a geometric shape or a different aesthetic shape.

[0029] As shown in Figures 1-3 each side wall 22, 23 comprises at least one portion that rests against at least one vertical surface 101 of each of the products 100 turned outwards.

[0030] When there are three rows of products 100, as shown in Figure 2, where two outer rows and a central row of products can be seen, then it will be noted that only the extreme products 100 of the central row comprise at least one vertical surface that rests against the respective side wall 22, 23.

[0031] As shown in Figures 1-3 the handy strap 30 is a ribbon made of a material comprised in a list comprising a plastic material, a paperboard, a laminate or flexible materials equivalent to those included in this list.

[0032] The handy strap 30 comprises an arched portion 31 adapted to be handled by a person for picking up the package 10 and transporting it safely.

[0033] The arched portion 31 of the handy strap 30 is designed to be arranged on the package 10 so as to be easily picked up by the person for transporting the package 10.

[0034] The handy strap 30 comprises two side straps 32 each of which is respectively glued with one of the two pairs of side walls 22, 23 of the box-like body 20. Figures 1-3 show that the two side straps 32 are glued with the second pair of side walls 23. However, it is pos-

sible that the two side straps 32 can also be glued with the first pair of side walls 22, as there are no structural differences between the two pairs of side walls 22, 23.

[0035] The handy strap 30 acts synergistically with the box-like body 20 to keep the products 100 contained firmly in rows packed inside the package 10 reinforcing the structure and guaranteeing the compactness also in transport conditions of the package 10 by the person.

[0036] The handy strap 30 is glued directly to the box-like body 20 by gluing or using adhesives or using double-sided tape or using other fixing means.

[0037] The two side straps 32 of the handy strap 30 are glued with the respective pair of side walls 22, 23. It is possible to envisage, as shown in Figures 1-3, that the side straps 32 continue below the box-like body 20 hence also gluing the lower surface of the support base wall 21 of the box-like body 20.

[0038] Alternatively, it is envisaged that two side straps 32 of the handy strap 30 are only glued to the lower surface of the support base wall 21 of the box-like body 20.

[0039] Alternatively, it is envisaged that the two side straps 32 of the handy strap 30 are only glued to the outer surface of the respective pair of side walls 22, 23.

[0040] At least each of the two side straps 32 of the handy strap 30 comprises an adhesive portion 34 for gluing the handy strap 30 to the box-like body 20.

[0041] It is possible to envisage that the handy strap 30 is arranged with the adhesive portion 34 both along at least one length portion of the respective side strap 32 of the handy strap 30 until being arranged with the adhesive portion 34 both along the entire length of the handy strap 30, excluding the arched portion 31 where it is handled by the person's hand.

[0042] Advantageously, only the handy strap 30 comprises adhesive portions 34 for gluing the products 100 and the box-like body 20, so as to further reduce the consumption of material and obtain a package 10 that is even more eco-sustainable.

[0043] Preferably, the side walls 22, 23 comprise vertical dimensions comprised within two thirds of the respective vertical dimensions of the product 100 of the package 10 so as to keep the rows of products 100 of the package 10 still.

[0044] Alternatively, it may be envisaged that the vertical dimensions of the side walls 22, 23 can respond to the requirement to print useful information for the product 100.

[0045] Alternatively, it may be envisaged that at least one side wall 22, 23 comprises a larger vertical dimension than at least one other side wall 22, 23 so that the box-like body 20 is asymmetrical i.e. comprising a side wall 22, 23 with a greater height with respect to another side wall 22, 23.

[0046] Advantageously, as shown in particular in Figures 1-3, the two side straps 32 of the handy strap 30 adhere by gluing to portions of the outer surface of the product 100 making the package 10 more resistant.

[0047] As shown in Figures 1 and 2, when a row com-

prises an even number of products 100, then the two side straps 32 of the handy strap 30 are glued onto portions of the surface of two products 100, so that the handy strap 30 is positioned in the centre of the pair of side walls 22, 23.

[0048] As shown in Figure 3, when a row comprises an odd number of products 100, then the two side straps 32 of the handy strap 30 are glued onto a portion of the surface of the central product 100 of the row, so that the handy strap 30 is positioned in the centre of the pair of side walls 22, 23.

[0049] As shown in Figures 1-3, the products 100 are preferably positioned on one or more rows so as to obtain a package 10 of products 100 that is more solid and safe to transport.

[0050] It is not excluded, according to the invention, that there may be one or more intermediate rows of products 100 such as for example the central row shown in Figure 2 and that it is arranged between the two outer rows of products 100.

[0051] For example, the package 10 may be composed using two rows of one product 2x1, two rows of two products 2x2, three rows of one product 3x1, three rows of two products 3x2 or two rows of three products 2x3 as shown in Figure 3, four rows of two products 4x2 or two rows of four products 2x4 as shown in Figure 1 or three rows of four products 3x4 as shown in Figure 2, five rows of three products 5x3, six rows of three products 6x3, six rows of four products 6x4.

[0052] The products 100 of the package 10 can have a casual orientation within the final package or they may be oriented according to special requirements.

[0053] It is possible to apply to the upper side of the package 10 and/or to one or more side flanks of the package 10 at least one label for the purpose of protecting the products 100 and/or increasing the surface area on which to print information.

[0054] Alternatively it is possible to envisage that the packages 10 comprise adhesion elements, e.g. double-sided tapes, adapted to prevent a consumer from being able to take a single product 100 from the package 10 leaving an incomplete package 10 on a shelf in the shop.

[0055] Also alternatively, in addition to the handy strap, 30 it is possible to envisage, as shown in Figure 2 that the package 10 comprises ribbons 33 comprising at least one adhesive portion 35. The ribbons 33 are applied on top of an outer surface of the walls 21, 22, 23 of the box-like body 20 and on top of an outer surface of the product 100 for gluing the outer surface of the side wall 22 to the outer surface of the product 100 advantageously making the package 10 more rigid and solid.

[0056] Advantageously, the ribbons 33 are applied to the first pair of side walls 22 to obtain a more rigid package 10, considering that the handy strap 30 comprising side straps 32 comprising adhesive portions 34 glue the outer surface of the second pair of side walls 23 and preferably also the outer wall of the products 100 as explained above.

[0057] Advantageously, the package 10 for packaging products 100 is ecologically sustainable, more respectful of the environment, strongly reduces the use of plastic materials of the package, is more biodegradable, manageable and allows the safe transport of the packaged products.

[0058] The invention thus conceived is susceptible to many modifications and variants, all falling within the same inventive concept; furthermore, all details can be replaced by equivalent technical elements. In practice, the materials used, as well as the dimensions thereof, can be of any type according to the technical requirements.

Claims

1. A package (10) of products (100) comprising a box-like body (20), a handy strap (30) and products (100) arranged on at least one row, wherein each of said products (100) comprises at least one vertical surface (101) and a base surface adapted to be laid on a horizontal geometric plane, wherein said box-like body (20) comprises a support base wall (21) and side walls (22, 23), which rise starting from the extreme sides of the support base wall (21), wherein said support base wall (21) lies on said horizontal geometric plane and is adapted to allow a support of said base surface of each of said products (100), wherein the box-like body (20) is free of adhesion portions between inner surfaces of walls (21, 22, 23) and products (100), wherein said handy strap (30) comprises an arched portion (31) adapted to be handled and two side straps (32), each side strap (32) comprises at least one adhesive portion (34), wherein said at least one adhesive portion (34) is adapted to engage at least one outer portion of wall (21, 22, 23) of the box-like body (20).
2. The package (10) according to claim 1, **characterised in that** said two side straps (32) of the handy strap (30) are engaged with outer surfaces of a pair of side walls (22, 23) opposite to each other in relation to the support base wall (21).
3. The package (10) according to any one of claims 1 or 2, **characterised in that** said two side straps (32) of said handy strap (30) are engaged with said support base wall (21).
4. The package (10) according to any one of claims 1-3, **characterised in that** said adhesive portion (34) is as long as at least one portion of length of said side strap (32) of the handy strap (30).

5. The package (10) according to any one of claims 1-3, **characterised in that** said adhesive portion (34) of the side strap (32) of the handy strap (30) adheres to at least one outer portion of at least one of the products (100) of the package (10). 5
6. The package (10) according to any one of claims 1-5, **characterised by** comprising at least one ribbon (33) comprising an adhesive portion (35), which engages an outer surface of at least one wall (21, 22, 23) of the box-like body (10) and at least one outer surface of at least one of the products (100). 10
7. The package (10) according to any one of claims 1-6, **characterised in that** said box-like body (20) is folded to form said support base wall (21) and said side walls (22, 23). 15
8. The package (10) according to any one of claims 1-7, **characterised in that** the side walls (22, 23) are four, a first pair of side walls (22) and a second pair of side walls (23), wherein the side walls (22, 23) of a same pair are opposite in relation to the support base wall (21). 20
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9. The package (10) according to any one of claims 1-8, **characterised in that** said support base wall (21) has rectangular or quadrangular or shaped shape. 30
10. The package (10) according to any one of claims 1-9, **characterised in that** said side walls (22, 23) comprise the vertical dimensions equal to at least one-third of respective vertical dimensions of the product (100) of the package (10), wherein the vertical dimensions are measured starting from the support base wall (21) towards the top and in the projection on a respective vertical geometric plane corresponding to the elevation of the side wall (22, 23) taken into consideration. 35
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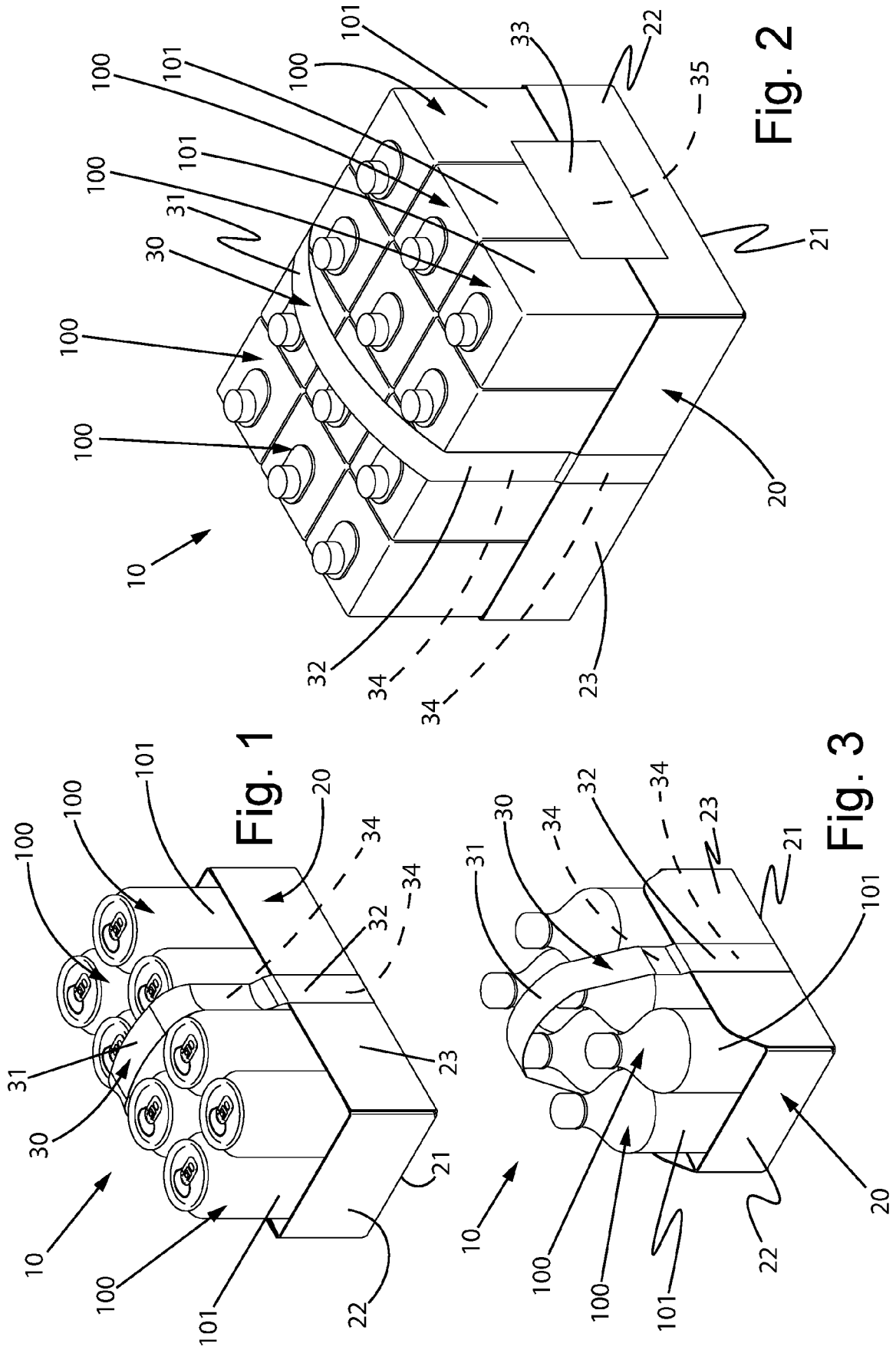


Fig. 1

Fig. 2

Fig. 3



EUROPEAN SEARCH REPORT

Application Number
EP 21 15 3502

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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
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Place of search		Date of completion of the search	Examiner
Munich		26 April 2021	Duc, Emmanuel
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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ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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