

(19)



(11)

EP 3 061 698 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
31.08.2016 Bulletin 2016/35

(51) Int Cl.:
B65D 5/66 (2006.01) B65D 85/36 (2006.01)

(21) Application number: **16157266.4**

(22) Date of filing: **25.02.2016**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA MD

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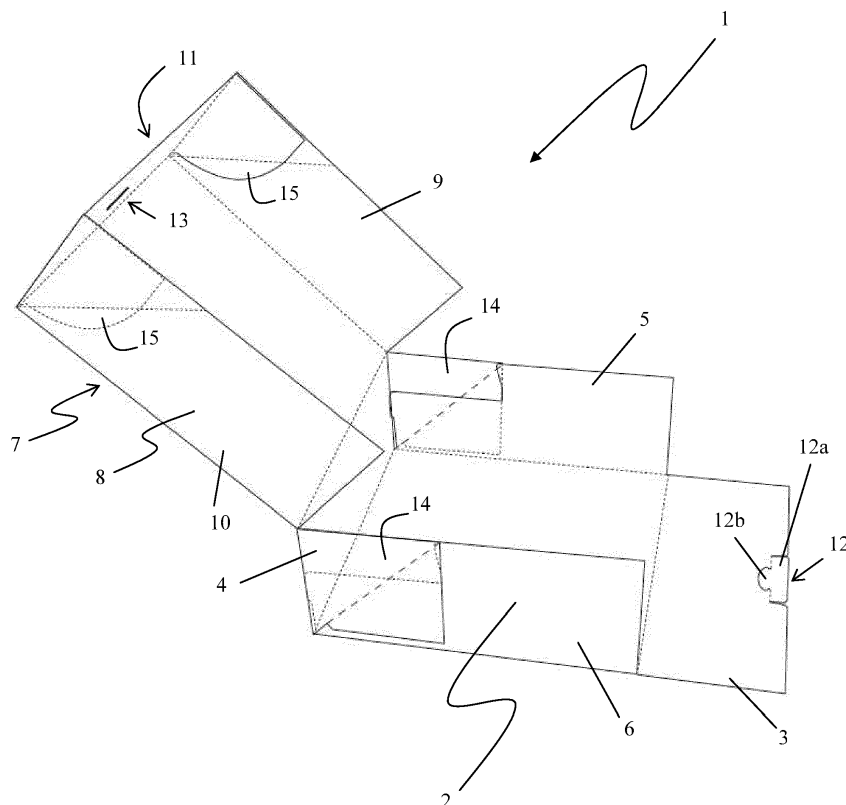
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(30) Priority: **25.02.2015 BE 201505102**

(54) **FOLDING BOX FOR CAKES AND OTHER PASTRIES**

(57) The invention concerns a folding box (1) for cakes, comprising, in erected state, a base panel (2) for receiving a cake, limited by an opposing front wall (3) and rear wall (4) and two opposing side walls (5, 6), and furthermore a lid panel (7) which is pivotably connected to the rear wall (4) and, in erected state, comprises a top

panel (8) and three wall panels (9, 10, 11) extending at right angles from the top panel (8), wherein the first (9) and second (10) opposing wall panels are connected to the third (11) front panel, wherein the front wall (3) is connected only to the base panel (2) and is pivotable between a first and a second state.



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Description

[0001] The invention concerns firstly a folding box for cakes, comprising, in erected state, a base panel for receiving the cake, limited by an opposing front wall and rear wall and two opposing side walls, wherein the front wall is connected only to the base panel and is pivotable between a first and a second state, the folding box furthermore comprises a lid panel which is pivotably connected to the rear wall and, in erected state, comprises a top panel and three wall panels extending at right angles from the top panel, wherein the first and second opposing wall panels are connected to the third front panel. Secondly, the invention concerns a sheet for production of such a folding box.

[0002] Such folding boxes for packing delicate products such as cakes or other pastries, also called patisserie boxes, have been known for a long time and have the advantage that they can be stored unfolded in a space-saving manner until use. Just before use, without the need for associated glue or extending folding, the box can easily be erected by raising the various walls and folding the various fixing flaps in the direction of the opposing walls.

[0003] Despite the fact that the known boxes are generally satisfactory in function, they have the disadvantage that there is a great risk of damaging the packed cake and/or any decoration applied thereon when the customer removes the cake from the box. To offer a solution to this problem, the patentee has in the past developed a folding box which allows the packed cake to be retrieved from the folding box in a simple and practical manner. The folding box concerned is described in European patent EP 2 295 330 and is characterized by the fact that the front wall thereof is connected to the side walls by means of foldable fixing flaps extending approximately at right angles from the front wall, which comprise a tear-off lip intended to tear said fixing flaps together with the front wall off said side walls. The tear-off lips allow the front of the folding box to be opened, whereby the customer can extract the cake from the folding box much more easily without risk of damage.

[0004] Despite the many advantages of the folding box according to EP 2 295 330, it has been found in practice that it is too complex for a number of users, and it is not always clear how the front of the box can be opened.

[0005] European patent publication EP 0 274 982 describes a one-piece patisserie box of which the lower part comprises a base, two side walls, a rear wall and a front wall which is pivotably connected to the base. The side walls are connected to the rear wall by means of a foldable connecting flap. The front wall comprises a wall part which, in closed state of the box, forms the visible side, and a tab part, wherein a slit is punched in the fold line between the front wall and the tab part. The box is furthermore provided with a lid part which is connected to the rear wall of the bottom part via a fold line. A slot is made between the front and the top wall panel of the lid

part.

[0006] To close the box described in EP 0 274 982, the lid is folded down over the side walls of the bottom part, then the front wall is folded up and the tab part introduced into the slot. To keep the box in the closed state, the front panel of the lid part, in the region of the slot, is provided with an upwardly extending tongue which engages in the punched slit. Such a box has the disadvantage that many manual actions are required to erect it. In addition, opening and closing is awkward, and extra cardboard is required to form the tab part.

[0007] The object of the invention is therefore to provide an alternative folding box, wherein amongst others it is immediately clear to a user how the front side of the box can be opened so that the cake can easily be extracted from the folding box, and which can be opened and closed again in a user-friendly manner.

[0008] The object of the invention is achieved by the provision of a folding box for cakes, comprising, in erected state, a base panel for receiving a cake, limited by an opposing front wall and rear wall and two opposing side walls, wherein the front wall is connected only to the base panel and is pivotable between a first and a second state, the folding box furthermore comprises a lid panel which is pivotably connected to the rear wall and, in erected state, comprises a top panel and three wall panels extending at right angles from the top panel, wherein the first and second opposing wall panels are connected to the third front panel, wherein the front wall has a push-in lip which is suitable for being partly received by an opening provided in the third front panel of the lid panel to keep the lid panel in the closed state. Preferably, the front wall is connected to the base panel via a fold line.

[0009] The push-in lip ensures that the lid (panel) cannot spring open by itself, and the folding box can suitably remain closed. In addition, the use of an adhesive tape, label or ribbon to prevent the lid from springing back is in principle superfluous. The opening is provided within the peripheral limits of the front panel. The push-in lip allows the folding box to be opened and closed (again) in a user-friendly manner.

[0010] With the folding box according to this invention, it is immediately clear to the customer that the front wall must be pivoted. The open front side furthermore ensures easier insertion and extraction of the cake present in the box without risk of damage.

[0011] In a preferred embodiment of the folding box according to the invention, the push-in lip has a gripping part and a lip part protruding from the gripping part, wherein the lip part is suitable for being received in said opening. Preferably, the gripping part is pivotably connected to the front wall. Initially, the push-in lip lies in the same plane as the front wall. After closure of the box, to keep the lid panel in the closed state, the push-in lip must be pivoted so that the lip part can engage in the opening of the front panel of the lid panel.

[0012] In a more preferable embodiment of the folding box according to the invention, the gripping part compris-

es an oval cut-out whereby, in closed state of the box, a finger can be placed on the gripping part in order to extract the lip part of the push-in lip, provided in the opening, easily from the opening and thus open the box again.

[0013] In a particular embodiment of the folding box according to the invention, the front wall initially lies against the upright edges of the opposing side walls. The front wall only lies against the edges concerned and is not connected thereto. In the second state, the front wall lies in the extension of plane of the base panel, whereby a cake contained in the folding box can easily be removed from the folding box.

[0014] According to a more particular embodiment of the folding box according to the invention, the front wall is provided so as to cover and secure the third front panel of the lid panel in closed state. Thus, the respective front wall also forms a visible side of the folding box, on which also images, illustrations or advertising can be placed. By using the front wall of the folding box to secure (lock) this, it is much easier for the user to close the box again after inserting the cake. This is much more difficult to achieve in the known folding boxes.

[0015] In an advantageous embodiment of the folding box according to the invention, the first and second opposing wall panels of the lid panel are connected to the third front panel by means of foldable, rounded fixing flaps extending approximately at right angles from the third wall panel. In this way the lid can easily be folded in one single movement in the original flat state. Thanks to their rounded form, the fixing flaps do not catch on folding. This gives the advantage that a box held incorrectly can quickly be straightened again.

[0016] In a more particular embodiment of the folding box, the fold line between the lid panel and the rear wall is produced weakened. By producing the fold line weakened in comparison with the other fold lines present, the backward tipping of the folding box (e.g. under the weight of the lid) when erecting the folding box is prevented.

[0017] The fold line can be weakened by the use of an adapted punching form when punching out the box, and by weakening the fold line further by carrying out an extra folding process on this fold line in the folding and gluing device. With regard to punching, it should be noted that the punching form is selected such that at the fold line concerned, the punch produced in the sheet material from which the folding box is made is deeper than at the other fold lines.

[0018] Another subject of this patent application is a sheet for production of a folding box as described above, comprising at least one panel for forming the base of the folding box, four wall panels provided pivotably on the periphery of the base panel for forming the opposing front and rear walls and opposing side walls, and a panel mounted pivotably on the rear wall for forming a lid panel, wherein the front wall is provided with a push-in lip which is suitable for being received in the opening provided in the lid panel.

[0019] In the detailed description below of some ex-

emplary embodiments of the folding box according to this invention, the abovementioned features and benefits of the invention are clarified further. The aim of this description is merely to clarify the general principles of the invention. The description may not therefore be interpreted as any restriction of the invention or its area of application.

[0020] In this description, by means of reference numerals, reference is made to the enclosed drawing in which:

- Figure 1 shows a perspective depiction of a folding box according to this invention.

[0021] The folding box (1) according to this invention and as shown on figure 1 is formed from a sheet made from a sheet material, such as for example cardboard with a suitable thickness.

[0022] To produce the folding box (1) according to the invention, the sheet comprises an e.g. rectangular base panel (2) which is connected pivotably to the wall panels (3, 6) via fold lines at right angles to each other, to facilitate the folding of the wall panels (3, 6). The wall panels (3, 6) form an opposing front wall (3) and rear wall (4) which are connected to the base panel (2) via a first and second fold line respectively, and two opposing side walls (5, 6) which are connected to the base panel (2) via a third and a fourth fold line respectively.

[0023] At its ends, the rear wall (4) is provided with first fixing flaps (14) which allow the rear wall (4) to be connected (via a glue connection) to the side walls (5, 6). These first fixing flaps (4) are connected pivotably to the rear wall (4) via a fold line.

[0024] The sheet (1) furthermore comprises a lid panel (7) which is connected to the rear wall (4) pivotably via a fold line. It must be noted that this fold line is weakened in comparison with the other fold lines. This encourages the autonomous "falling" of the lid (7) and prevents the backward tilting of the complete folding box (e.g. under the weight of the lid) when erecting the folding box.

[0025] When forming the sheet, the fold line may be weakened by using a suitable punching form when punching the sheet, wherein the punching form is selected such that, in comparison with the other fold lines, a deeper punch is made in the sheet material, and by weakening the fold line further by performing an extra folding process, in comparison with the other fold lines, on this ninth fold line in the folding and gluing device.

[0026] The lid panel (7) comprises a rectangular top panel (8) and three pivotable side wall panels (9, 10, 11). These wall panels form opposing first (9) and second (10) walls, each of which is connected to the top panel (8) via a fold line, and a third front wall (1) which is also connected to the top panel (8) via a fold line (1).

[0027] The third wall panel (11) is provided with two second fixing flaps (15) which allow the third wall panel (11) to be connected (via a glue connection) to the first and second wall panels (9 and 10) of the lid panel (7). The second fixing flaps (15) are provided at the ends of

the third wall panel (11) and are each connected pivotably to the third wall panel (11) via a fold line.

[0028] The second fixing flaps (15) are rounded, as shown in figure 1. In this way the lid can easily be folded in a single movement in the original flat state. Thanks to their rounded form, in contrast to the known folding boxes, the fixing flaps (15) do not catch when folded. This gives the advantage that a box held incorrectly can quickly be straightened again.

[0029] With the sheet described above, a folding box (1) is formed (by application of specific (spot) glue joints) which is foldable between an erected state in which the front wall (3), rear wall (4) and opposing side walls (5 and 6) extend mainly at right angles from the base panel (2), and wherein the wall panels (9, 10, 11) of the lid panel (7) extend at right angles from the top panel (8), and a folded state in which said front panels and walls (3, 4, 5, 6, 9, 10 and 11) are folded between the top panel (8) and the base panel (2).

[0030] In order now to obtain a folding box (1) according to the invention and as shown in figure 1, which box can be opened in a simple and practical manner, whereby the customer can remove the cake from the folding box much more easily and without risk of damage, the front wall (3) is not connected to the side walls (5 and 6). The front wall (3) is connected only to the base panel, whereby this front wall (3) is pivotable between a first state in which the front wall (3) lies (rests) against the upright edges of the opposing side walls (5 and 6), and a second state in which the side wall (3) lies in the extension of the plane of the base panel (2).

[0031] By producing the folding box (1) in this way, it is immediately clear to the customer that the front wall (3) must be pivoted in order to be able to remove the cake contained more easily from the box (1).

[0032] Another feature of the folding box (1) according to the invention is that the front wall (3) comprises a push-in lip (12) which is provided to hold the lid panel (7) in closed state. This push-in lip is produced from a gripping part (12a) and a lip part (12b) protruding from the gripping part (12a). For this, the third front panel (11) of the lid panel (7) is provided with an opening (13) in which the respective lip (12) can be partly received. The push-in lip (12) here ensures that the lid (panel) cannot spring open by itself and the folding box (1) remains suitably closed. In addition, the use of adhesive tape, label or ribbon to prevent the lid from springing open is in principle superfluous.

[0033] Another feature of the folding box (1) according to this invention is that in closed state of the box (1), the front wall (3) covers the third front panel (11) of the lid panel (7) and secures it by means of the push-in lip (12). In this way, the respective front wall also forms a visible side of the folding box on which also images, illustrations or advertising can be placed.

[0034] In erected state of the folding box, the lid panel (7) is moveable between an open and a closed state. On closure of the folding box, the first (9) and second (10)

wall panels of the lid panel (7) slide over the side walls (5 and 6) of the base panel. At the front, the front third panel (11) rests against the upright edges of the side walls (5, 6) of the base panel (2). The front wall (3) of the base panel (2) is then pressed against the front third panel so that, in closed state, a double layer of cardboard is formed on the front of the folding box. A push-in lip (12) is provided in the front wall (3) (outermost cardboard layer), which in closed state of the lid panel (7) sits with its protruding lip part (12b) in an opening (13) of the front third panel (11) (innermost cardboard layer). Once the lip part of the push-in lip (12) has been introduced into the recess (15), the lid cannot be opened without lifting the lip (12). In this way, the folding box according to the invention is guaranteed to remain closed without the use of adhesive tape, label or ribbon. To facilitate the lifting of the lip (14), the gripping part (12a) of the lip (12) may be provided with a so-called finger recess.

[0035] The side walls (5 and 6) of the folding box (1) according to this invention as shown on figure 1 are shaped such that, on erection of the folding box, they clip better over the first fixing flaps (14). This shape contributes to an improved stiffness of the folding box, so that the side walls (5 and 6) remain suitably upright.

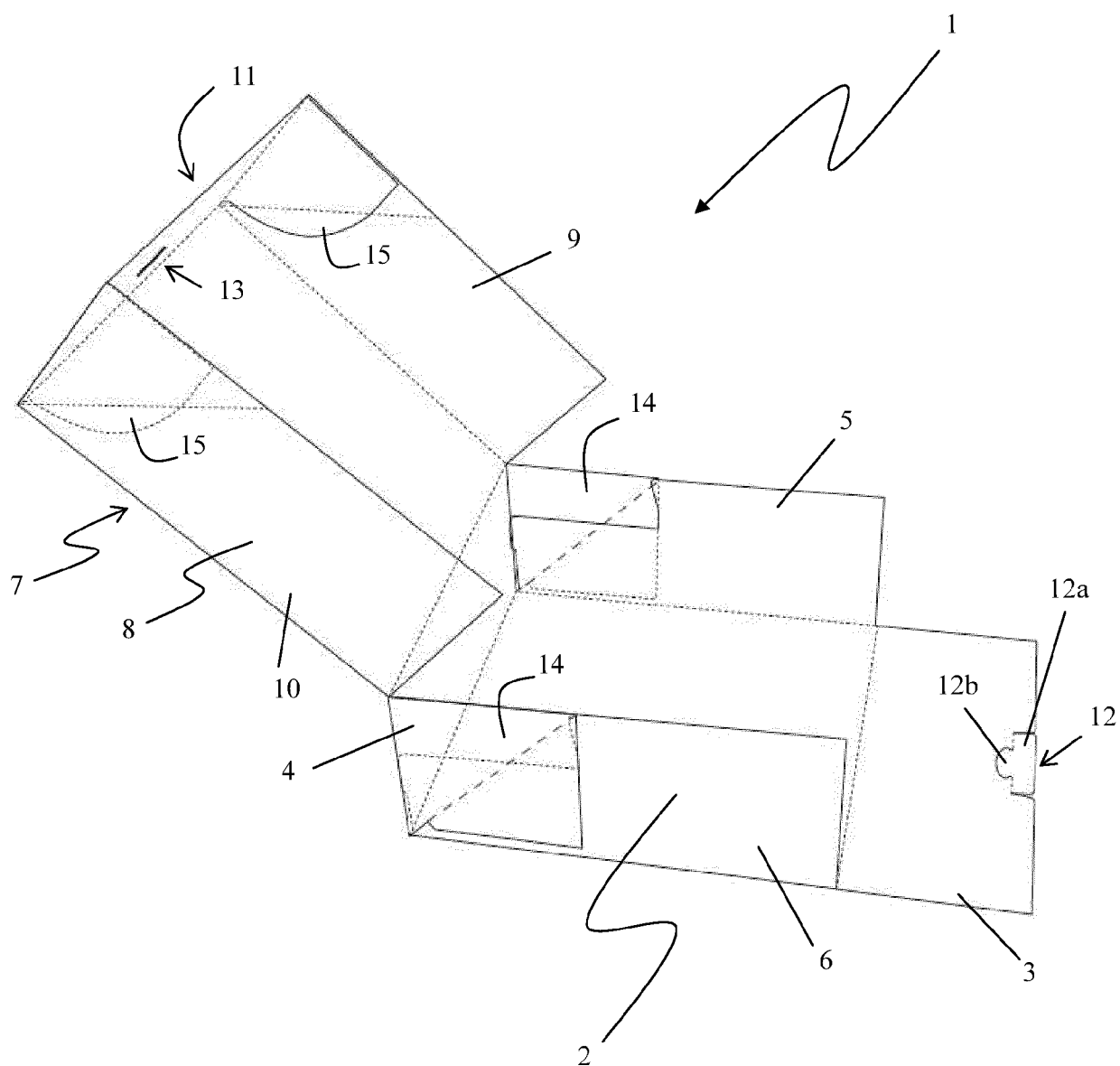
[0036] Despite the fact that the description above refers mainly to a folding box for cakes or other pastries, the invention is not restricted to this. It is also possible to adapt the invention in any way to other luxury packaging. Furthermore, the folding box may have different shapes. A square or rectangular base is usual with four upright walls. Other forms such as triangular, pentagonal etc. are however also possible.

Claims

1. Folding box (1) for cakes, comprising, in erected state, a base panel (2) for receiving a cake, limited by an opposing front wall (3) and rear wall (4) and two opposing side walls (5, 6), wherein the front wall (3) is connected only to the base panel (2) and is pivotable between a first and a second state, the folding box (1) furthermore comprises a lid panel (7) which is pivotably connected to the rear wall (4) and, in erected state, comprises a top panel (8) and three wall panels (9, 10, 11) extending at right angles from the top panel (8), wherein the first (9) and second (10) opposing wall panels are connected to the third (11) front panel, **characterized in that** the front wall (3) has a push-in lip (12) which is suitable for being partly received by an opening (13) provided in the third (11) front panel of the lid panel (7) in order to hold the lid panel (7) in closed state.
2. Folding box (1) according to claim 1, **characterized in that** the push-in lip (12) has a gripping part (12a) and a lip part (12b) protruding from the gripping part (12a), wherein the lip part (12b) is suitable for being

receiving in said opening (13).

3. Folding box (1) according to claim 2, **characterized in that** the gripping part (12a) is pivotably connected to the front wall (3). 5
4. Folding box (1) according to claim 2 or 3, **characterized in that** the gripping part (12a) comprises an oval cut-out whereby, in closed state of the box, a finger can be placed on the gripping part (12) in order to extract the lip part (12b) of the push-in lip (12), which is provided in the opening (13), easily from the opening (13) and thus open the box again. 10
5. Folding box (1) according to any of the preceding claims, **characterized in that** the front wall (3) is connected to the base panel (2) via a fold line. 15
6. Folding box (1) according to any of the preceding claims, **characterized in that** the front wall (3) is provided so as to cover and secure the third front panel (11) of the lid panel (7) in closed state. 20
7. Folding box (1) according to any of the preceding claims, **characterized in that** in the first state, the front wall (3) lies against the upright edges of the opposing side walls (5 and 6). 25
8. Folding box (1) according to any of the preceding claims, **characterized in that** in the second state, the front wall (3) lies in the extension of the plane of the base panel (2), whereby a cake contained in the folding box (1) can easily be removed from the folding box (1). 30
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9. Folding box (1) according to any of the preceding claims, **characterized in that** the first (9) and second (10) opposing wall panels of the lid panel (7) are connected to the third (11) front panel by means of foldable, rounded fixing flaps (15) extending approximately at right angles from the third wall panel (11). 40
10. Folding box (1) according to any of the preceding claims, **characterized in that** the fold line between the lid panel (7) and the rear wall (4) is produced weakened. 45
11. Sheet for production of a folding box (1) according to any of the preceding claims, comprising at least one panel (2) for forming the base of the folding box, four wall panels (3 - 6) provided pivotably on the periphery of the base panel for forming the opposing front wall (3) and rear wall (4) and opposing side walls (5, 6), and a panel pivotably mounted on the rear wall (4) for forming the lid panel (7), wherein the front wall (3) is provided with a push-in lip (12) which is suitable for being received in an opening (13) provided in the lid panel (7). 50
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EUROPEAN SEARCH REPORT

Application Number
EP 16 15 7266

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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		18 April 2016	Leijten, René
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			

EPO FORM 1503 03/82 (P04C01)

**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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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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