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Amended claims in accordance with Rule 137(2) EPC.

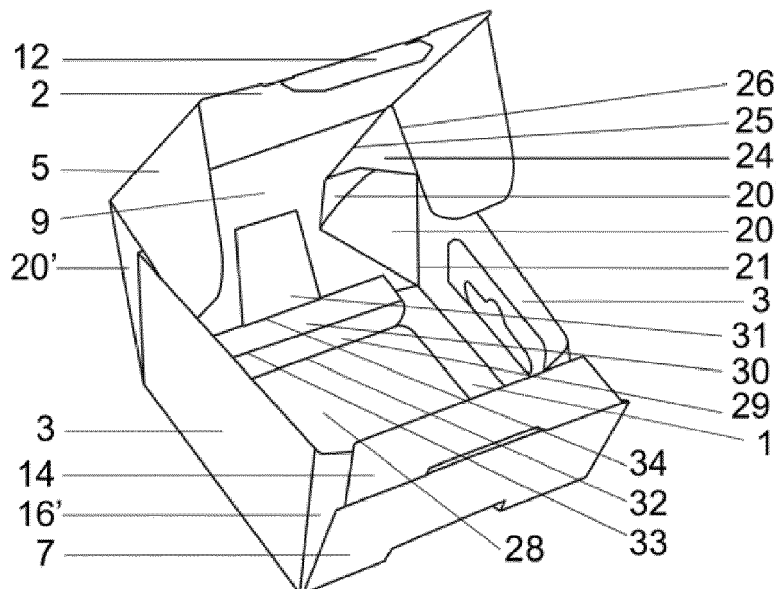
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(54) **TRANSPORT AND DISPLAY BOX PROVIDED WITH A VIEWING WINDOW AND COMPENSATING WEDGE(S)**

(57) The present invention relates to transport and sales packaging rapidly assembled by means of six flaps with an attached cover entering the inside of the base, carried out in a single part from a sheet material folded

onto itself and previously bonded, provided with a view for viewing the contents, and with wedge(s) or other device(s) to immobilise the contents and compensate or their thickness variations.

Fig. 2



EP 3 144 237 A1

Description

OBJECT OF THE INVENTION

[0001] The present invention relates to quickly assembled transport and sales packaging provided with a window for viewing its contents, and its decoration variants, and fitted with wedge(s) or other device(s) to immobilise the contents or to compensate for its variations in thickness.

BACKGROUND OF THE INVENTION

[0002] To avoid having to solve the problem of blocking by the side walls of the closing lid, numerous types of packaging have been deprived of these side walls, as demonstrated, for example, in US patent US 6,676,010 of 13 January 2004, or are limited to four flaps such as those described, for example, in US patent 2,255,223 of 22 September 1939.

[0003] US patent 2003/0057121 of 27 March 2003 describes a packaging with six flaps, which is among the most successful in this category. Moreover, it is provided with a window cut out in the base. However, the side walls of the lid (61) are situated outside those on the base (83) and not on the inside.

[0004] Very simple stops that need to be pressed in manually or mechanically, i.e. without automatic assembly simultaneously with the assembly of the base, exist as described (6, 7, 8) in the French utility model no. 81 15190 of 5 August 1981.

[0005] There are numerous patents, such as US patent 2,807,404 of 09 June 1955, which describe inner stops or wedges that normally consist of extensions (succession of panels 51-49-17) or walls extracted from windows (succession of panels 43-45), but these devices are generally applied to packaging simpler than the six-flap type, or even less so when combined with the side walls of the lid. This is also the case with US patent US 3,682,297 of 20 April 1970, which requires a partial overlapping of walls (11 and 17), which, like the extensions, requires a higher consumption of material.

[0006] A more elaborate integrated stop-wedge version (30 and 31), taken from a viewing window, is found in US patent US 3,347,445 of 01 November 1965. However, these stops only constitute an additional inner wall to prevent lateral displacements of the contents and not a complete thickness compensating roll with adjustable height/depth.

[0007] The packaging constituting the object of the invention overcomes the drawbacks of the above-mentioned patents by combining the existing solutions and by offering more successful solutions for protection and speed of application.

[0008] Although there are numerous packaging materials that come close in scope to the invention claimed, none of them ensures, apart from rapid assembly, interior positioning of the side walls of the closing lid that enables

them to slide progressively along the walls of the base to prevent premature contact with the contents and blocking before complete closure.

[0009] Nor do any of them provide locking in position of the contents by the inner side walls of the lid of part of one side of the object contained and by stops or blocking wedges on the other part of the opposite side of the contained object.

[0010] Nor do any of them simultaneously ensure that at least one of the wedging devices is in continuity with a printed outer face, e.g. with printing ink or varnish that retards abrasion, both in contact and in support with the content to ensure temporary protection from friction.

DESCRIPTION OF THE INVENTION

[0011] The present invention is set forth and claimed in the independent claims, whereas the dependent claims disclose further features.

[0012] The packaging constituting the object of the invention is designed as a single die-cut component from a sheet material such as cardboard or corrugated cardboard, folded on itself and preferably previously partially bonded.

[0013] The packaging consists of a base of a front side (or panel), a rear side, an attached lid and lateral walls. It is provided with six gussets six to ensure rapid assembly. From the viewing window cut into one of the larger sides it is possible to remove a supplementary wedging device.

[0014] After providing protection for the contents which it envelopes during transport from the place of manufacture to the point of distribution or sale, the packaging is preferably used for the identification, enhancement and presentation of products in a distribution warehouse and/or semi-wholesale or retail store for professionals or private individuals.

[0015] The packaging constituting the object of the invention is described below in a non-exhaustive version of application and use, which includes packing, transport, distribution and the sale of small electrical appliances, such as a socket and control device of the switch type.

[0016] The objectives sought are:

- to immobilise the contents inside the packaging,
- to envelop the contents to protect them impacts,
- to keep them in a constant position despite differences in shape or thickness of their different versions by means of blocking wedges or other thickness compensating devices such as panels or inner side flaps,
- to allow the identification of their variants or their different decorations (aluminium or brushed stainless steel, plastic of different colours, "faux-woods", etc.) by cutting out a viewing window,

- to allow the screening of this window by labelling or the adhesion of partially or totally transparent plastic film.

DESCRIPTION OF THE DRAWINGS

[0017] The present document is complemented with a set of drawings as an example for illustrating the preferred embodiment, and which in no way limits the invention.

Figure 1 is a flat view of the packaging constituting the object of the invention, after die-cutting, as produced by the manufacturer before the bonding and folding operations and before assembly for it to be used.

Figure 2 is a perspective view of the packaging constituting the object of the invention being assembled by the packer-packager, after die-cutting, gluing and folding by the manufacturer.

Figure 3 is a sectional view along A-A of the packaging constituting the object of the invention, closed on itself, after filling and assembly. This view also integrates the cutting of a version of the contents in order to view its supports.

Figure 4 is a sectional view along B-B of the packaging constituting the object of the invention, closed on itself, after filling and assembly. This view also integrates the cutting of a version of the content to view its supports.

PREFERRED EMBODIMENT OF THE INVENTION

[0018] As shown in Figures 1 and 2, the packaging constituting the object of the invention consists of a succession of essentially rectangular panels that are interconnected, namely a base panel (1), a lid panel (2), outer side panels (3) attached and connected to the base (1) by hinge folds (4), inner side panels (5) attached and connected to the lid (2) by hinge folds (6), a front panel (7) connected to the base panel by a hinge fold (8), a rear panel (9) connected to the base panel (1) by a hinge fold (10) and to the lid panel (2) by a hinge fold (11). The lid panel is extended to the opposite end of the rear panel by means of a closing device (12) to which it is connected by a hinge fold (13). The supplement (14) of this closing device extends the front panel (7) to which it is connected by a hinge fold (15).

[0019] The packing is provided with three sets of flaps at various points on the succession of front - base - rear - lid panels (or sides).

[0020] A first set of flaps (16-16') provides the articulation between the front panel (7) to which it is connected by hinge folds (17) and outer side panels (3) to which it is connected by hinge folds (18).

[0021] Whether single or double, the hinge fold (19) dividing these flaps into two parts (16 and 16') forms an angle essentially equal to 45° to the folds (17, 18) of the panels which it connects, as is common with this type of flap articulation.

[0022] Similarly, a second set of flaps (20, 20') provides the articulation between the outer side panels (3) to which it is connected by hinge folds (21) and the rear panel (9) to which it is connected by hinge folds (22).

[0023] Whether single or double, the hinge fold (23) dividing these flaps into two parts (20 and 20') forms an angle essentially equal to 45° to the folds (21, 22) of the panels which it connects, as is common with this type of flap articulation.

[0024] A third set of flaps is different from the previous sets.

[0025] It has parts (20') that are common with the previous set, those which are superimposed on the rear panel (9) with which they are preferably firmly connected by bonding (27). The other parties of the set of flaps (24), articulated in part to the common parts (20') by folds (25), connect these common parts (20') to the inner side flaps (or panels) (5) attached to the cover (2) by hinge joints (26).

[0026] One of the characteristics of the invention is that the hinge folds (25 and 26) which delimit the central part (24) of the third set of flaps does not form an angle of 45° and that the point of convergence (C) of these two hinge folds is not located on the hinge fold (11) which connects the rear panel (9) to the lid panel (2).

[0027] For the application shown the hinge folds (25) between the parts (20') common to the two sets of flaps and the parts (24) peculiar to the third set of flaps therefore form an angle preferably between 15° and 25° (according to the thickness compensation of the material) to the hinge fold (11) connecting the lid panel (2) to the rear panel (9).

[0028] Similarly, for the application shown, the hinge folds (26) between the parts (24) peculiar to the third set of flaps and the side panels (or flaps) (5) attached to the lid panel (2) form an angle preferably between 20° and 30° (according to the thickness compensation of the material used) with the hinge fold (11) connecting the lid panel (2) to the rear panel (9).

[0029] These angle peculiarities of the folding hinges (25 and 26) therefore enable the side panels (5) attached to the lid (2) on the inside to be guided without additional manipulation or assistance, and, according to the angles applied, they enable the support on the side panels (3) attached to the base (1) to be varied when closing the packaging, until the superposition with these side panels (3), if necessary, provided that the inner side panels (5) attached to the lid also remain in support on the contained part, as shown in Figure 3.

[0030] During the folding operation carried out by the manufacturer of the packaging, the flaps (16-16'), the side panels connected to the base (3), the flaps (20, 20', 24) and the side panels (5) attached to the lid, are folded

so that they are superimposed, after bonding if necessary, on the front (7), base (1), rear (9) and lid panels (2) respectively.

[0031] The height of the side panels (5) attached to the lid (2) is adapted so that they come into contact with the content, as shown in Figure 3, thus preventing the displacement of the contents inside the packaging and separating them, if necessary, from the all which constitutes the lid panel (2) in order to limit the destructive effect of impacts or falls.

[0032] The free edge of the part (20) of the second flap connecting the outer side panels (3) to the rear panel (9) has a curved shape designed to guide in support the third set of flaps during closing of the packaging.

[0033] For the same reason, in addition to and in combination with the curved shape of the panel (20) previously described, the panel (24) of the third set of flaps is truncated and its free edge is delimited by a broken line or curve.

[0034] The base panel (1) is provided by a viewing window (28).

[0035] A thickness compensating blocking wedge, consisting from a succession of panels (29, 30 and 31), is removed from this window.

[0036] A hinge fold (32) connects the first panel (29) of the wedge to the base panel (1) of the packaging.

[0037] A hinge fold (33) connects the first panel (29) of the wedge to the second panel (30) of the wedge.

[0038] A reversed hinge joint (34) connects the second panel (30) of the wedge to the first panel (31) of the wedge which is an adaptor bracket preferably glued (35) to the rear panel (9) on which it is superimposed as shown in Figures 2 and 4.

[0039] In the application shown the cross-section of the blocking wedge thus constituted is essentially rectangular. However, depending on the shape of the object to be wedged or the viewing sought, this cross-section may be essentially square or even trapezoidal, or may even exhibit several types of cross-section in succession.

[0040] When the packaging is printed on its outside, for example with an ink or varnish with anti-abrasive properties, the thickness compensating wedge, whose second panel (30) and adaptor bracket (31) are in contact with the contents, therefore enables these supported contents to be protected from the friction or abrasiveness of the packaging.

[0041] Moreover, the viewing window enables them to be covered, with peripheral bonding of a transparent plastic film or simply the application of an adhesive label whose part containing information covers one of the front and/or rear panels, and a transparent part covers the window to prevent access to the product and to protect it.

Claims

1. Transport and sales packaging consisting of a base panel (1), a front panel (7), a rear panel (9), outer (3)

and inner panels (5) and an attached lid panel (2), designed in a single piece cut out from a sheet material, folding onto itself and provided with six partially bonded flaps, **characterised by** hinge folds (25 and 26) of the flaps connecting the outer side panels (5) of the lid (2) to the rear part (9), which form an angle different from 45 degrees, and whose point of convergence does not lie on the hinge fold (11) which connects the lid panel (2) to the rear panel (9).

2. The transport and sales packaging according to Claim 1, **characterised by**

- an angle of between 20 and 30 degrees, formed by the hinge fold (11) which connects the lid panel (2) to the rear panel (9) and by the fold (6) connecting the inner side panel (5) attached to the lid (2) to a first part of the hinge flap (24) with the rear panel (9),

- an angle of between 15 and 25 degrees, formed by the hinge fold (11) which connects the lid panel (2) to the rear panel (9), and by the fold (25) connecting the panel (24) of the third hinge flap to the part (20') common to the two successive flaps, the second flap being the flap (20 - 20') connecting the outer side panel (3) attached to the base (1) to the rear panel (9).

3. The transport and sales packaging according to Claims 1 and 2, **characterised by** the cutting out of a viewing window (28) from which a blocking wedge (29-30-31) attached to the base (1) is extracted, the wedge being partially bonded (35) and folded for its superposition on a part of the rear wall (9) to constitute a stop of square, rectangular or trapezoidal cross-section after assembly.

Amended claims in accordance with Rule 137(2) EPC.

1. Transport and sales packaging consisting of a base panel (1), a front panel (7), a rear panel (9), outer (3) and inner (5) side panels and an attached lid panel (2), designed in a single piece cut out from a sheet material, folded onto itself and provided with six partially glued gussets made of

- a first set (16 - 16') connecting the front panel (7) to the outer side panels (3),
- a second set (20 - 20') connecting the outer side panels (3) to the rear panel (9),
- a third set (20' - 24) connecting the inner side panels (5) attached to the lid panel (2) to the rear panel (9), **characterised by** hinge folds (25 and 26) of the third set of gussets connecting the inner side panels (5) of the lid panel (2) to the rear panel (9) by the way of a

common part (20') of following second set of gussets,

- which form each an angle different from 45 degrees with the hinge fold (11) which connect the lid panel (2) to the rear panel (9),
- and whose point of convergence does not lie on the hinge fold (11) which connects the lid panel (2) to the rear panel (9).

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2. The transport and sales packaging according to Claim 1, **characterised by**

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- an angle of between 20 and 30 degrees, formed by the hinge fold (11) which connects the lid panel (2) to the rear panel (9) and by the hinge fold (26) connecting the inner side panel (5) attached to the lid panel (2) to a first part (24) of the third hinge gusset with the rear panel (9),

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- an angle of between 15 and 25 degrees, formed by the hinge fold (11) which connects the lid panel (2) to the rear panel (9), and by the hinge fold (25) connecting the first part (24) of the third hinge gusset to the second part (20') common to the two successive third and second set of gussets connecting the outer side panel (3) attached to the base panel (1) to the rear panel (9).

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3. The transport and sales packaging according to Claims 1 and 2, **characterised by** the cutting out of a viewing window (28) from which a blocking wedge (29-30-31) attached to the base panel (1) is coming from, the wedge being partially glued (35) and folded for its superposition on a part of the rear panel (9) to constitute a stop of square, rectangular or trapezoidal cross-section after assembly.

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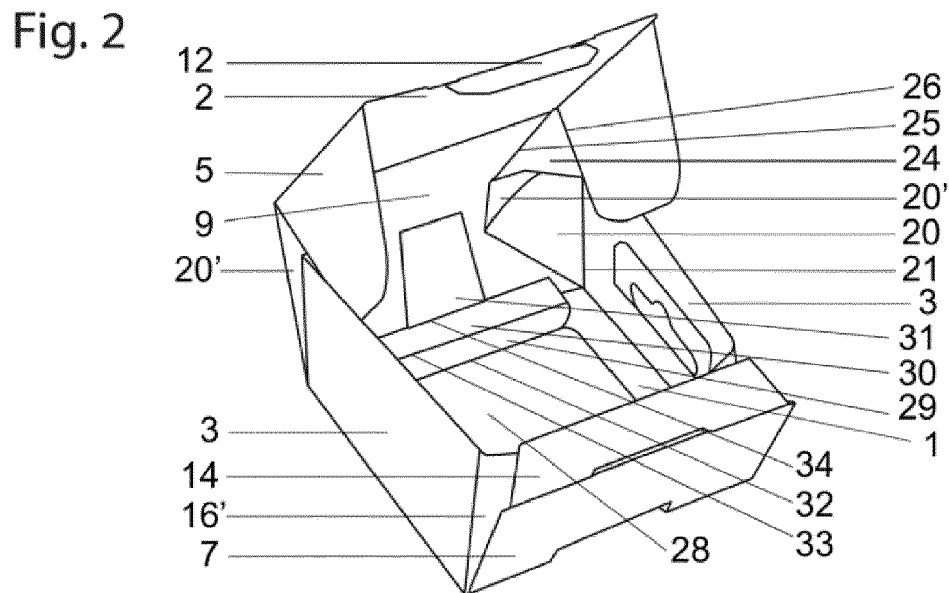
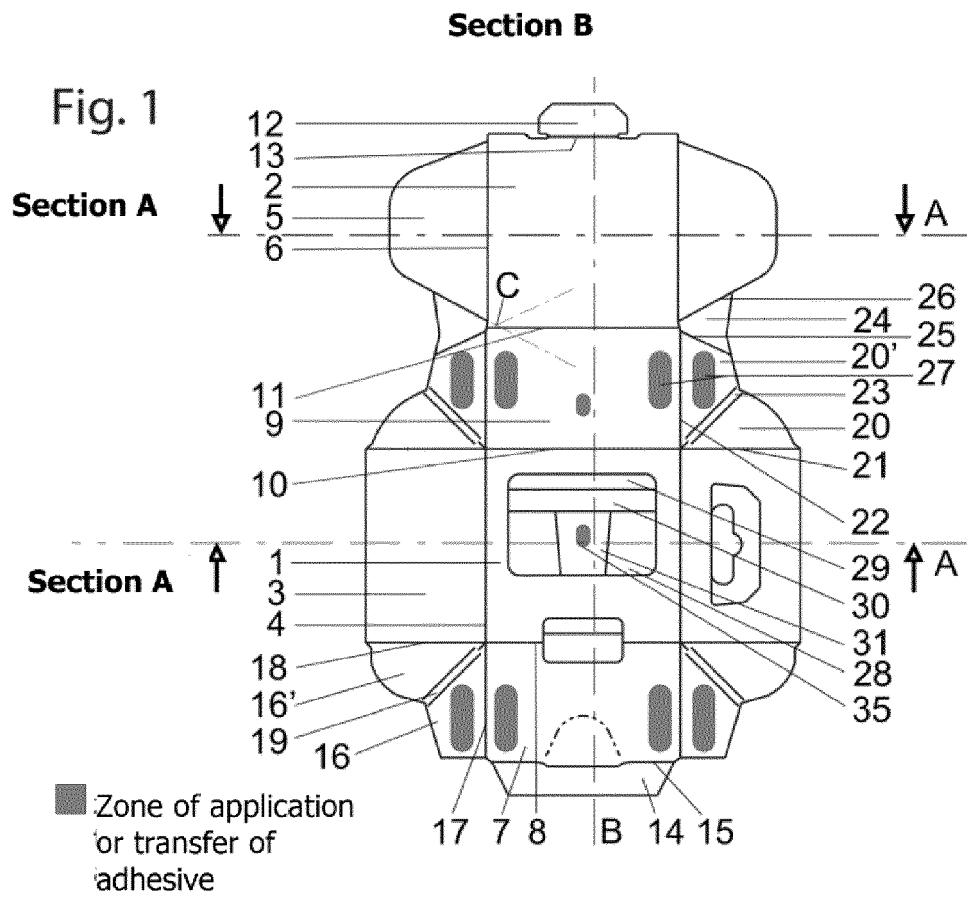


Fig. 3 Section A-A

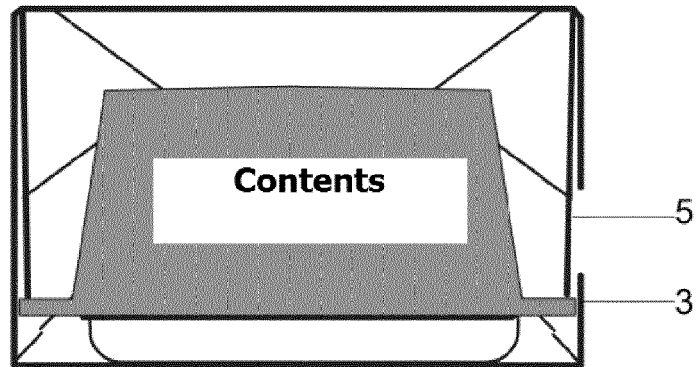
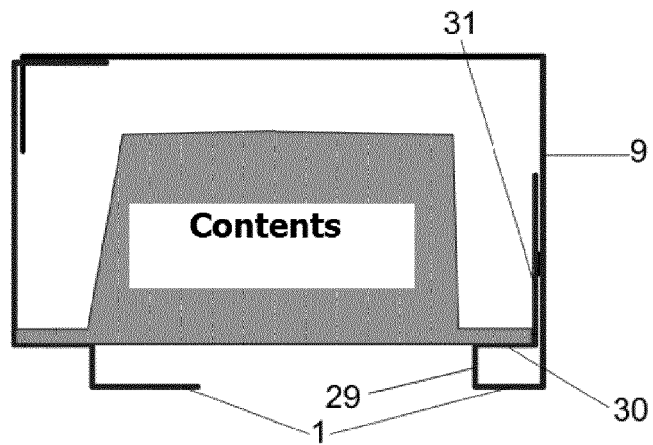


Fig. 4 Section B-B





EUROPEAN SEARCH REPORT

 Application Number
 EP 15 38 2453

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,D	US 2003/057121 A1 (KOHLER KARL A [US]) 27 March 2003 (2003-03-27) * figures 2-4 *	1-3	INV. B65D5/66 B65D5/24 B65D5/50
A	US 5 115 965 A (GIRONA ALEPUZ ELEUTERIO [ES]) 26 May 1992 (1992-05-26) * figures 1, 4, 6 *	1-3	
A	AU 2010 100 863 A4 (STUDIO PERISCOPE PTY LTD) 9 September 2010 (2010-09-09) * figure 2 *	1-3	
A	US 4 209 092 A (JONES ROY [US]) 24 June 1980 (1980-06-24) * figures 1, 2 *	1-3	
A	US 2 421 748 A (FINK RAYMOND E) 10 June 1947 (1947-06-10) * figures 1, 2, 6, 7, 12, 13 *	1-3	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 November 2015	Examiner Serbescu, Anca
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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 EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 15 38 2453

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003057121 A1	27-03-2003	NONE	

US 5115965 A	26-05-1992	DD 299167 A5	02-04-1992
		EP 0463244 A1	02-01-1992
		ES 2020482 A6	01-08-1991
		FI 905065 A	28-12-1991
		JP H0457737 A	25-02-1992
		NO 904426 A	30-12-1991
		PT 95925 A	31-08-1992
		US 5115965 A	26-05-1992

AU 2010100863 A4	09-09-2010	NONE	

US 4209092 A	24-06-1980	NONE	

US 2421748 A	10-06-1947	NONE	

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EPO FORM P0459

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

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 6676010 B [0002]
- US 2255223 A [0002]
- US 20030057121 A [0003]
- FR 8115190 [0004]
- US 2807404 A [0005]
- US 3682297 A [0005]
- US 3347445 A [0006]