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(54) CONTAINER FOR BOTTLES

(57) Container for bottles, formed by a base panel, two lateral panels connected to the base panel, a neck retaining panel and a removable panel, **characterised in that** the fixing and transmission of the pressures to the rows of bottles in contact with the base and lateral panels take place on the basis of a grating system, so that in the base of the base panel a series of convex projections is formed, between which is formed a space in which the body of the bottle is housed, whilst in the lateral panels the grating forms a concave space in which the body of the bottle is housed. Finally, the panel retaining the necks of the bottles directly in contact with it is formed by open sections in whose interior space are arranged inclined flanges, alternately, which form spaces between two adjacent and converging sections, which accommodate the neck of the bottles.

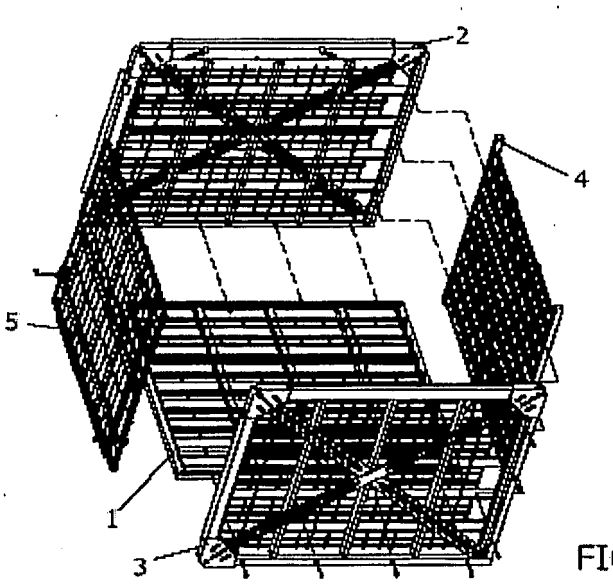

FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The object of this invention is a container for bottles, **characterised in that** it can be formed from a series of grated panels which, when properly connected together, form an interior space in which the bottles are accommodated in an orderly manner and are securely fixed so that there can no variations in their positioning.

[0002] This invention is characterised by the particular configuration and design of each and every one of the elements forming the container according to the invention, a container being obtained for bottles in which they are accommodated in an orderly manner and are securely fixed, without allowing relative displacements between them.

[0003] This invention therefore lies within the scope of large-sized containers for bottles, enabling all the bottles to be subsequently handled.

BACKGROUND TO THE INVENTION

[0004] Until now some containers for bottles have been designed to enable bottles to be accommodated in their interior space in an orderly manner, but lacking the additional means enabling all the bottles to be secured sufficiently rigidly, without high pressures, so that there is no relative displacement between the bottles.

[0005] In other cases the panels forming the containers exhibit, as means for achieving improved fixing of the bottles, U-shaped sections secured to the lateral panels themselves, accommodating the body of the bottle in the cavity defined by the "U" of the section. This system of fixing the bottles which are in direct contact with the lateral panels, cause the bottles on the end rows to support the pressure at three points, two on its sides and one at the bottom of the "U"-shaped cavity. This is not the best system for reducing the possible relative displacement of the bottles.

[0006] The object of this invention is therefore to develop a container for bottles that has, on the panels forming it, a configuration that improves the fixing of the bottles that are in direct contact with the panels, so that the points of contact on the panels are distributed by not loading all the pressure on specific points of contact. On the other side, the aim is to gain maximum benefit from any point of contact of the bottle on the panels as a means of fixing the same.

DESCRIPTION OF THE INVENTION

[0007] The invention of a container for bottles consists essentially of a series of panels connected and fixed together so that they define an interior space accommodating an assembly of bottles in an orderly fashion, and so that once they are arranged they are sufficiently secure to ensure that the relative displacement between the bottles is practically zero, without any of the bottles being subject to any displacement, either those inside or hose that are in direct contact with the lateral walls.

[0008] In order to achieve the objects just described, the panels forming the container are specially designed to fix and retain the bottles in the interior space.

[0009] Specifically, the panel we shall call the base is provided with a plurality or groups of aligned grates of convex transversal cross-section constructed from metal rods. A firs row of bottles is house in the space between the groups of grates. The next row of bottles would be installed by supporting them on the upper rods of the groups of grates and between two consecutive bottles on the row underneath.

[0010] On the other side the panels, which we may call lateral due to their arrangement relative to the final position of the container, exhibit a plurality or groups of aligned grates with a concave transversal cross-section, the said grates being constructed from metal rods welded together.

[0011] In the concave shapes of the grates would be housed the bodies of a first vertical line of bottles arranged longitudinally. The next vertical line of bottles would be accommodated in the space between two groups of grates and in contact with the end rods of each group of grates with a concave cross-section, and laterally with the bottles of the vertical line housed directly in the concavities defined by the grates.

[0012] The panel, which we shall call lateral due to the provision of necks, is also specially shaped to maintain the collars or necks of the bottles directly in contact with the said panel. For this purpose it is provided with a series of open sections in the interior of which there is a series of inclined flanges arranged alternately, which form spaces between the adjacent flanges, in a converging arrangement, in which are located the necks of the bottles.

[0013] Finally there would be a panel which we shall call neither fixed or removable, which is simply a closing panel, without taking any special measures for fixing on the lateral panels. The panels are connected to each other by conventional means, such as screws and nuts. As has been observed, no mention has been made of any upper closing panel because it is not normally necessary, and if the container is transported means of closing are provided, by means of belts or the like, secured on the upper edge of the lateral panels.

[0014] This invention of containers for bottles is therefore formed by a series of panels which are provided with grates formed from metal rods properly welded together and which form sections which allow the securing and fixing of the bottles, as well as better transmission of the pressures on the bottles directly in contact with the panels, both on the base and on two of the sides of the container. On the other side they have a panel which is provided with means of retaining the necks of the bottles.

DESCRIPTION OF THE DRAWINGS

[0015] To supplement the description that will be given in the following, and for the purpose of contributing to a better understanding of its characteristics, this description is accompanied by a set of drawings in the figures of which are shown, by way of illustration and without limitation, the most significant details of the invention.

Figure 1 shows an exploded view of the relative arrangement of the panels forming the container for bottles constituting the object of the invention.

Figure 2 shows the container for bottles, assembled and connected, with the interior space in which the bottles are located.

Figure 3 shows a perspective view of the panel which is located on the base of the container.

Figure 4 shows a perspective view of the lateral panels of the container.

Figure 5 shows a perspective view of the panel on which the necks of the bottles are fixed directly in contact with the panel.

Figure 6 shows a perspective view of the closing panel of the container for bottles.

Figure 7 shows a front and side view, as well as a perspective view of each of the groups of grates of convex cross-section used in the base panel.

Figure 8 shows a front and side view, as well as a perspective view of each of the groups of grates of concave cross-section used in the lateral panel.

PREFERRED EMBODIMENT OF THE INVENTION

[0016] Based on the figures mentioned a preferred embodiment of the invention is described below, and an explanation given of the drawings.

[0017] Figure 1 shows the panels forming the container for bottles constituting the object of the invention. Specifically we observe that the container is provided with a base panel (1), two lateral panels (2) and (3) faced panels , with one panel for securing necks (4) and one removable panel (5).

[0018] The lateral panels (2) and (3) and the neck securing panel (4) are fixed by conventional means, such as with screws and the like to each other and to the base panel (1). A bottle has also been shown to show the arrangement that will be adopted by the bottles housed inside the container.

[0019] Figure 2 shows the location of the entire container once the panels have been fixed.

[0020] In figure 3 we see that the base panel (1) is formed by a frame (6) on which a series of lateral holes have been made for fixing the lateral panels (2) and (3). A plurality or groups of grates (8), with a convex transversal cross-section, are arranged in the interior space defined by the frame (6) of the base panel (1), the grating (8) being formed by a series of metal rods welded together. The metal rods are arranged so that transversally, i.e. from lateral panel (2) to lateral panel (3), they define a corrugated section, some defining convex projections between which are formed intermediate spaces (9 in which the body of the bottles are housed.

[0021] As seen in figure 7, each of the groups of grates of concave cross-section (8) is formed by four longitudinal rods, two of the rods (8.1) being arranged at the ends and two central rods (8.2) being arranged at the same level, connected by short transversal sections of rods (8.3) each welded a certain distance apart.

[0022] Once a first row of bottles is arranged in the spaces (9) formed between the convex grates (8) of the base panel (1), another row of bottles is arranged to rest on the central rods (8.2) and is in lateral contact with the bottles in the row underneath.

[0023] In figure 4, which shows the configuration adopted by the lateral panels (2) and (3), we see that they also have a frame (10) on which are made some holes (10) for fixing them to the base panel (1). In the interior space of the frame (10) there is a double grate, on one side a series of groups of concave grates (12), formed by a series of rods welded together by means of short sections of rods, and on the other side another grating (13) for supporting the group of concave grates (12).

[0024] The lateral bodies of the bottles are housed in the interior space formed by the groups of concave grates (12) so that the bottles are not only properly supported by the base panel but the configuration of the panels contributes to better fixing of the bottles.

[0025] Figure 8 shows the configuration of each of the groups of concave grates (12) arranged on the lateral panels (2) and (3). Specifically, it is shown that each group of concave grating (12) is formed by two end rods (12.1) and two central rods (12.2), all connected by means of short sections of transversal rods (12.3) securely welded to each other.

[0026] Once a vertical row of bottles is arranged in the concavities formed by each of the group of concave grates (12), the next vertical row is located between the spaces formed between the groups of concave grates (12), which are in contact with the end rods (12.2) of the grates and with the sides of the bottles in the row housed in the concavities of the concave grates (12).

[0027] The fixing of the necks of the bottles in contact with the neck fixing panel (4) is based on the formation of spaces duly located according to the diameter of the bottles, so that any bottle in contact with the said panel is retained by its neck. To achieve this purpose the collar retaining panel (4) is provided with a series of channelled sections (15) in whose interior space there is a series of inclined flanges (16) arranged alternately and forming space (17) between the adjacent flanges in a converging arrangement, in which the collars or necks of the bottles are located.

[0028] Finally, figure 6 shows the configuration adopted by the removal closing panel(5), which, although grated, is not configured for better fixing of the bottles because it is in direct contact with the base of the same.

Nevertheless, mention must be made of the anchoring means (18) arranged on the sides of the panel (5) for their fixing on lateral panels (2) and (3).

[0029] A more detailed description is not considered necessary since any person skilled in the art understands the scope of the invention and the advantages derived from the same.

[0030] The materials, shape, size and arrangement of the elements will be subject to variation but do not affect the essential spirit of the invention.

[0031] The terms in which this description has been given must always be interpreted in the broadest, non-restrictive sense.

Claims

1. A container for bottles, formed by a series of panels connected to each other, and consisting specifically of a base panel (1), two lateral panels (2) and (3) and a panel 4), as well as a removable panel (5), **characterised in that:**

   - The base panel (1) is provided with a plurality of grates (8) aligned to each other, with a convex transversal cross-section, constructed from a series of metal rods welded together.
   - The lateral panels (2) and (3) have a plurality and group of grates (12) aligned to each other, each of the grates exhibiting a concave transversal cross-section, the grates being formed by a series of metal rods welded together.
   - The panel (4) is a panel for maintaining the necks of the bottles directly in contact with the said panel.

2. The container for bottles according to Claim 1, **characterised in that** the groups of convex grates (8) of the panel of the base are separated by a certain distance so that the body of the bottles are housed in the space (9) formed between two grates (8).

3. The container for bottles according to Claim 2, **characterised in that** the groups of convex grates (8) are formed by four longitudinal rods, two of the rods (8.1) being arranged at the ends two central rods (8.1) at the ends and two central rods (8.2) at the same level, connected by short transversal sections of rods (8.3) each welded a certain distance from each other.

4. The container for bottles according to Claim 3, **characterised in that** the groups of convex grates (8) have dimensions, and are assembled in relation to each other, so that a first row of bottles is located in the space between two contiguous convex grates and the next row is supported directly on the central rods (8.2) in contact with the sides of the row immediately below.

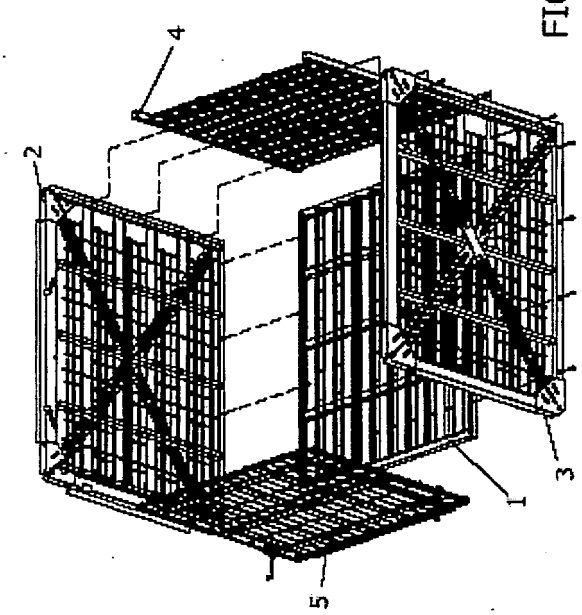
5. The container for bottles according to Claim 1, **characterised in that** the lateral panels (2) and (3) have a double grating, on one side a series of groups of concave grates (12) and on the other side other support grating (13) for the group of concave grates (12), so that the bodies of the bottles are accommodated in the interior space formed by the groups of concave grates (12).

6. The container for bottles according to Claim 5, **characterised in that** the groups of concave grates (12) are formed by two end rods (12.1) and two central rods (12.2) all connected by short sections of transversal rods (12.3) regularly welded.

7. The container for bottles according to Claim 6, **characterised in that** the groups of concave grates (12) have such dimensions and are so assembled in relation to each other so that when a first row of bottles is located in the concavities formed by the groups of concave grates themselves, the next row is arranged so that the bottles are in contact with the end rods (12.1) of the groups of convex grates and with the sides of the bottles in the row that is directly in contact with the lateral panels (2) and (3).

8. The container for bottles according to Claim 1, **characterised in that** the panel for retaining the necks (4) is provided with a series of channelled (15) sections in whose interior space there is a series of inclined flanges (16) arranged alternately, which form spaces (17) between the adjacent flanges in a converging arrangement, in which are located he collars or neck of the bottles.

FIG.1



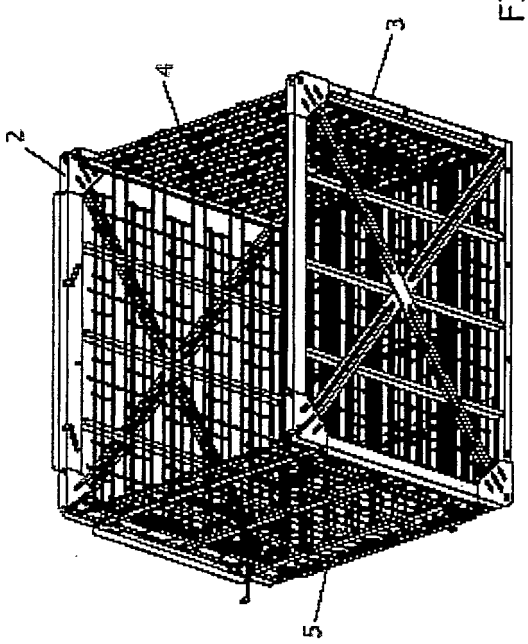


FIG.2

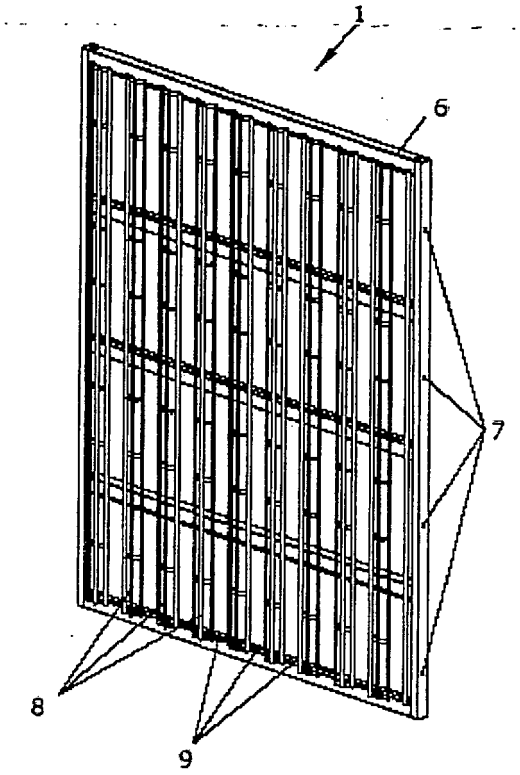


FIG.3

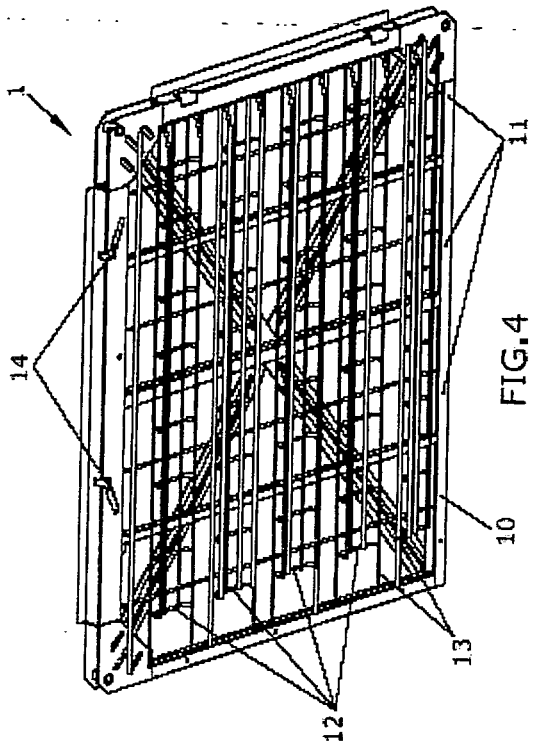


FIG.4

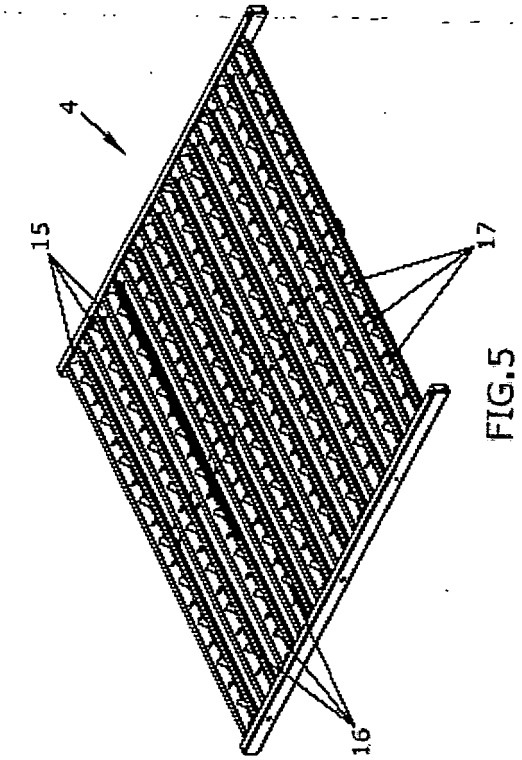


FIG.5

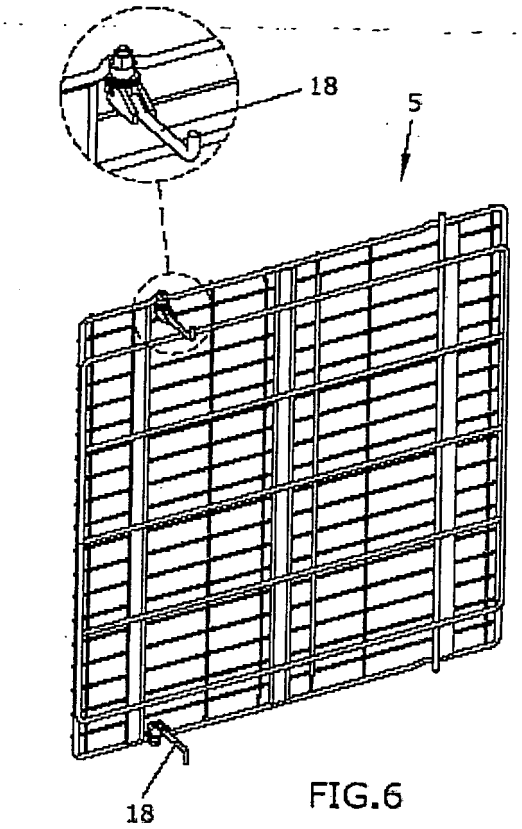


FIG.6

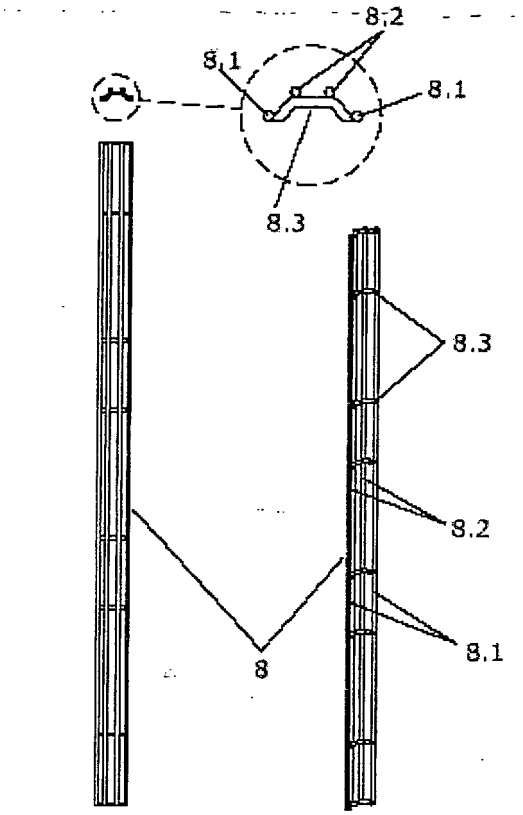


FIG.7

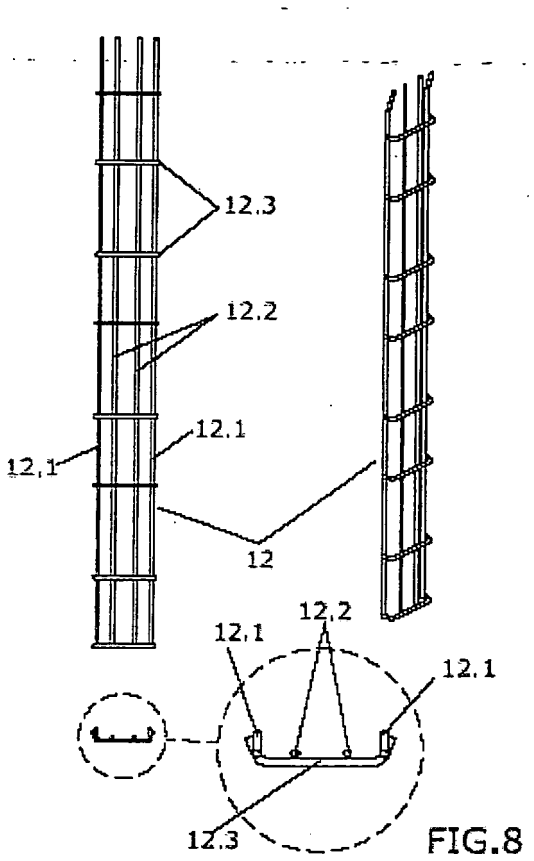


FIG.8

INTERNATIONAL SEARCH REPORT

International application No
PCT/ES2006/070085

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D6/08 B65D6/16 B65D19/10 B65D19/12 B65D25/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 614 007 A (DIFFUSION METHODE CHAMPENOISE CENT [FR]) 21 October 1988 (1988-10-21) page 5, line 22 - page 10, line 3 figures 1-3	1-8
A	FR 2 562 508 A (DIFFUSION METHODE CHAMPENOISE CENTR [FR]) 11 October 1985 (1985-10-11) page 4, line 34 - page 8, line 25 figures 1-6	1-8
A	EP 0 020 227 A (DIFFUSION METHODE CHAMPENOI [FR]) 10 December 1980 (1980-12-10) page 4, line 32 - page 18, line 8 figures 1-18	1-8

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
14 February 2007	27/02/2007

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	RODRIGUEZ GOMBAU, F

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INTERNATIONAL SEARCH REPORT

International application No
PCT/ES2006/070085

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 810 637 A (FRANCE FIL [FR]) 28 December 2001 (2001-12-28) page 4, line 16 - page 9, line 12 figures 1-5	1-8

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/ES2006/070085

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			IT	T020010606 A1	23-12-2002

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