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(54) **Process for making a container for solid or frozen food and container thereof**

(57) The present invention provides a process for making a squeezable container (1) for solid and/or frozen food comprising a frustoconical main body (1) with

a top closing wall (2) which has a food dispensing port (4), and removable sealing means (3) of said dispensing port (4).

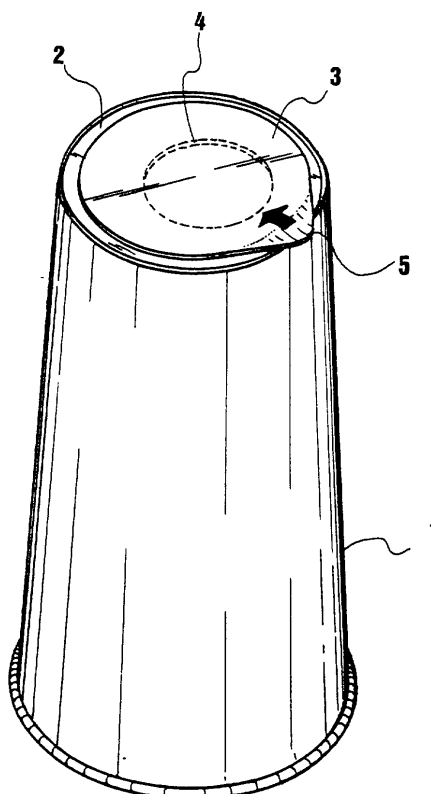


FIG. 4

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Description

[0001] The present invention relates to a process for making a food container, and, more precisely, to a process for making a squeezable container for solid and/or frozen food, and also to a container obtained according to such process.

[0002] Squeezable containers for the containment of solid foodstuffs such as pralines, sweets or the like, which, once unsealed, are also apt to dispense individual product units contained therein are already known in the art. Such containers have various shapes and are made in different materials suitable to preserve the product contained therein.

[0003] A known type of such containers has a frustoconical shape and is provided at the smaller base thereof with a dispensing port, usually sealed by a removable label. For the fastening of the bottom wall having the dispensing port, a process providing a step of inserting the former inside the container followed by a subsequent step of folding the edge area of the container wall onto said bottom wall is provided.

[0004] A first drawback of such a process for fastening the bottom wall to the container wall is due to the fact that the edge, once it is folded onto the bottom wall, generates radial wrinkles which tend to compromise the seal of the container.

[0005] Moreover, a second drawback is due to the fact that the folded edge of the container wall generates an annular area onto which the sealing label may not be applied, due to the presence of the radial wrinkles. This entails that the latter may be applied onto the bottom wall solely at the inside of the area delimited by the folded edge, therefore it should be of moderate dimensions in order not to compromise the adhesion thereof to the wall.

[0006] Moreover, a further drawback is due to the fact that the label thus applied be circumscribed into the edge area and in such a manner as not to protrude upperly to the edge itself, thereby rendering the grasping thereof and tearing off of the label by a user complicated.

[0007] An object of the present invention is to overcome the abovementioned drawbacks by providing a process for making a squeezable foodstuff container providing an eased and effective assembling thereof.

[0008] Another object of the present invention is to provide a foodstuff container providing a bottom edge structure free from wrinkles in order not to compromise the seal thereof, yet concomitantly preserving the intrinsic sturdiness and flexibility thereof.

[0009] A further object of the present invention is to provide a container providing the use of a sealing label with an eased grasping and tearing thereof.

[0010] Hence, according to the present invention a process for making a container for dispensing solid and/or frozen food is provided, characterised in that it comprises the following steps:

- feeding from a coil a strip of a material apt to form a wall of said container;
- forming a dispensing port by dinking on said strip;
- fastening a removable tight-sealing member at the area on said strip onto which said dispensing port was formed;
- cutting a concave-shaped closing member by drawing a portion of said strip and at said dinked and sealed area; and
- fastening a frustoconical skirt about said drawn member so as to make a frustoconical container having the top end thereof closed off by said member and the bottom end thereof opened.

[0011] Moreover, the present invention provides a container for dispensing solid and/or frozen food, comprising a frustoconical-shaped main body having a top wall and a bottom wall for closing said container, characterised in that said closing member comprises a food dispensing port, and means for sealing said dispensing port.

[0012] The present invention has several advantages.

[0013] A first advantage of the present invention is given by the fact that the container thus assembled has a working surface for arranging a sealing membrane which is greater with respect to those of the likewise state of the art containers, thereby improving the use thereof since, container volume being equal, a sealing membrane of greater dimensions may be made.

[0014] A second advantage is given by the fact that the container thus assembled provides an upper bottom wall free from folds or creasings onto the edge thereof. Therefore, the sealing membrane is placed onto the top wall so as not to interfere with the edge area of the container, thereby allowing an eased grasping and tearing off of the former.

[0015] A third advantage is given by the fact that the container thus assembled may have the sealing membrane of the top wall with a portion of the same protruding from the edge of the container, in order to further ease the grasping and the tearing off thereof.

[0016] A fourth advantage is given by the fact that, since a top wall working surface which is greater with respect to that of the state of the art containers is being provided, in order to ease the dispensing of the food a dispensing port of greater dimensions may be formed.

[0017] A fifth advantage is given by the fact that, a top wall working surface which is greater with respect to that of the state of the art containers being provided, the position of the dispensing port may be off-centred, bringing the same towards an edge area in order to ease an user's mouthwise dispensing without compromising the sturdiness of the container.

[0018] A sixth advantage is given by the fact that a top closing wall of the container which is fixedly arranged onto the top edge area of the latter, in the complete absence of folds or creasings, folded so as to provide an

outwardly tight seal improved with respect to the state of the art containers, is provided.

[0019] A detailed description of a preferred embodiment of the present invention, given by way of example and not for limitative purposes, will be provided hereinafter with reference to the annexed drawings, wherein:

figure 1 is a perspective view of a state of the art container;

figure 2 is a partial cross section view of the state of the art container of figure 1;

figure 3 is a partial cross section view of the container of the present invention;

figure 4 is a perspective view of the container according to the present invention; and

figure 5 is a schematic view of the process of the present invention.

[0020] With reference to figure 1, a container of the state of the art is shown. The container has a frustoconical-shaped main body 1 which has a top wall 2 onto which a sealing member 3 for a food product dispensing port 4 (not in figure and better illustrated hereinafter) is arranged. The arrangement is such as to provide that during the assembly process the top wall 2 be previously inserted through the bottom port into the container body 1 until reaching the top edge area of the latter, where it locks by interference and is heat sealed. Moreover, it is provided that the top edge area of the body 1 be folded and heat sealed onto the surface of the wall 2. This entails that the edge folded onto the wall 2 generate a series of radial wrinkles which might compromise the tight seal of the container itself.

[0021] Moreover, as it is apparent in figure 2, the presence of an annular edge folded onto the wall 2 prevents an extension of the sealing member 3 over the entire wall 2, making it overly difficult for an user to grasp the free portion for lifting and tear off the member 3 at the moment of consumption of the food product. In fact, in the condition in which the sealing member 3 is arranged onto the wall 2, the former does not protrude from the annular edge area of the container, instead lying circumscribed therein. This makes a grasping thereof for the tearing particularly difficult.

[0022] Furthermore, this arrangement allows the dispensing port 4 to be of moderate dimensions and mandatorily arranged at the centre of the wall 2, in order not to compromise the sturdiness thereof.

[0023] With reference now to figures 3 and 4, the container of the present invention is shown. For the sake of simplicity, some parts will be indicated by the same reference numbers.

[0024] As it is apparent in the figures, it is provided that the top wall 2 be fixed to the top end edge of the container 1 in such a manner that the same edge ends with no portion thereof inserted onto the surface of the wall 2, and therefore free from possible wrinkles. Moreover, this arrangement provides the latter with a working

surface for the sealing which is greater with respect to the state of the art containers of same sizes.

[0025] According to the present invention, the top wall 2 provides the dispensing port to be suitably off-centred and of greater size with respect to the state of the art ones, in order to ease the user's mouthwise dispensing, concomitantly without compromising the overall sturdiness of the container 1.

[0026] Furthermore, the wall 2 is apt to be totally or almost totally covered by the sealing member 3, which has a grip area 5 of greater dimensions with respect to ones of the state of the art. Moreover, the absence of a folded edge thickness at the annular edge area of the container makes the user's grasping of the grip area 5 extremely easy, the user merely needing to bring the fingertip into contact with said grip area 5 to lift the latter off the wall 2.

[0027] It has to be pointed out that, according to an alternative embodiment, the grip portion 5 of the sealing member 3 may protrude from the top edge of the container 1 in order to further ease the user's grasping thereof.

[0028] With reference now to figure 5, a process for making the container of the present invention is provided which comprises a first step wherein from a coil 6 a strip 7 of a suitable material is fed.

[0029] Then, the strip 7 undergoes a dinking step in which the dispensing port 4 is formed onto a strip portion. Subsequently, a sealing step of said dispensing port 4 is provided, by applying the sealing member 3 at the area wherein the dispensing port 4 was formed.

[0030] In this condition, the strip is conveyed to a subsequent shearing and drawing step so as to form a concave-shaped closing member 2, having at the centre area thereof the sealing member 3 of the dispensing port 4.

[0031] Then, the closing member 2 thus obtained may be conveyed to the subsequent step, in which the application of a skirt 1 at the edge area of the drawn member 2 is provided, so as to make a container having a frustoconical-shaped body, closed at the top thereof by the previously sealed closing member 2. Then, the container 1 thus obtained may be conveyed to the subsequent steps of foodstuff filling and final closing thereof.

[0032] It has to be pointed out that, according to an alternative embodiment of the process of the present invention, the dispensing port 4 may be formed by dinking the drawn closing member 2, and the relevant sealing thereof subsequently to the step of fixing the skirt 1 onto the edge of the drawn member 2. More precisely, the container body 1, already closed topwise by the drawn member 2, is arranged in a dinking station in which the dispensing port 4 is formed onto the member 2 and, subsequently, conveyed to a sealing station of the dispensing port 4 as abovedescribed.

[0033] Then, the container thus assembled may proceed to the subsequent steps of foodstuff filling, of course in an upturned condition, and of closing the bot-

tom end thereof.

[0034] For the foodstuff consumption, firstly the portion 5 of the sealing member 3 is grasped, to be then manually torn off the top wall 2, thereby opening the dispensing port 4. Then, in this condition, the product may be dispensed by a partial upturning and optionally squeezing of the container 1 towards the user's hand or mouth.

Claims

1. A process for making a container (1) for dispensing solid and/or frozen food, **characterised in that** it comprises the following steps:

- feeding from a coil (6) a strip (7) of a material apt to form a wall of said container (1);
- forming a dispensing port (4) by a dinking step on said strip (7) ;
- fastening a removable tight-sealing member (3) at the area on said strip (7) onto which said dispensing port (4) was formed;
- forming a concave-shaped top closing member (2) by drawing a portion of said strip (7) and at said dinked and sealed area; and
- fixing a frustoconical skirt (1) about said drawn member (2) so as to make a frustoconical container having the top end thereof closed by said concave member (2) and the bottom end thereof opened.

2. A process for making a container (1) for dispensing solid food, **characterised in that** it comprises the following steps:

- feeding from a coil (6) a strip (7) of a material apt to form a wall of said container (1);
- forming a concave-shaped member (2) by drawing a portion of said strip (7) at said drawn and sealed area; and
- fixing a frustoconical skirt (1) about said concave member (2) so as to make a frustoconical container having the top end thereof closed by said concave member (2) and the bottom end thereof opened;
- forming a dispensing port (4) by a dinking step on said concave top closing member (2); and
- fastening a removable tight-sealing member (3) at the area wherein said dispensing port (4) was cut onto said concave top closing member (2).

3. A container (1) for dispensing solid and/or frozen food obtained with the process of claims 1 or 2, comprising a frustoconical main body (1) having a top wall member(2) and a bottom wall for closing said container (1),

characterised in that said top closing mem-

ber (2) forms an annular edge area which is at an angle with said frustoconical body, and comprises a port (4) for dispensing the food, and means (3) for sealing said dispensing port (4).

4. A container (1) for dispensing solid and/or frozen food according to claim 3, wherein said sealing means (3) are removably arranged on said dispensing port (4).

5. A container (1) for dispensing solid and/or frozen food according to the preceding claim, wherein said sealing means is an adhesive membrane (3) made in a material apt to be heat sealed onto the outer surface of the top closing member (2).

6. A container (1) for dispensing solid and/or frozen food according to the preceding claim, wherein said adhesive membrane (3) has a free grip portion (5) apt to protrude outwards from the edge area of said main body (1).

7. A container (1) for dispensing solid and/or frozen food according to claims 3-6, wherein said dispensing port (4) is cut on said top closing member (2) in an area which is off-set with respect to the centre of said member (2).

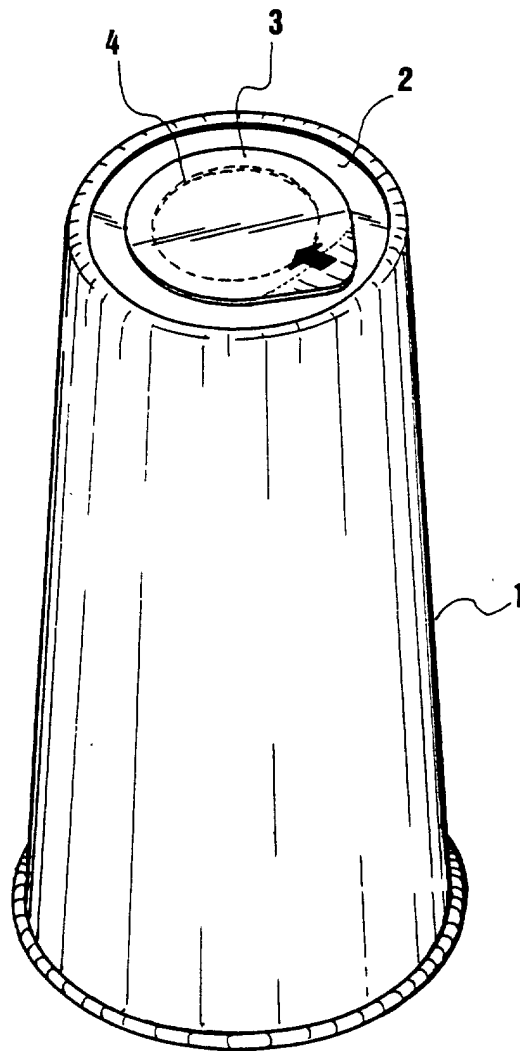


FIG.1

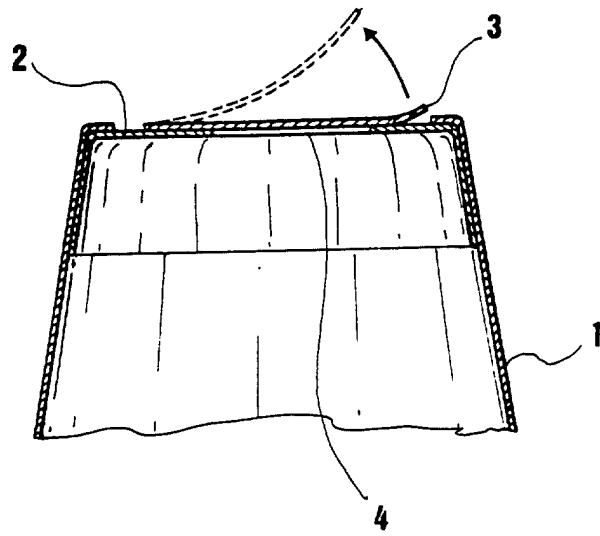


FIG. 2

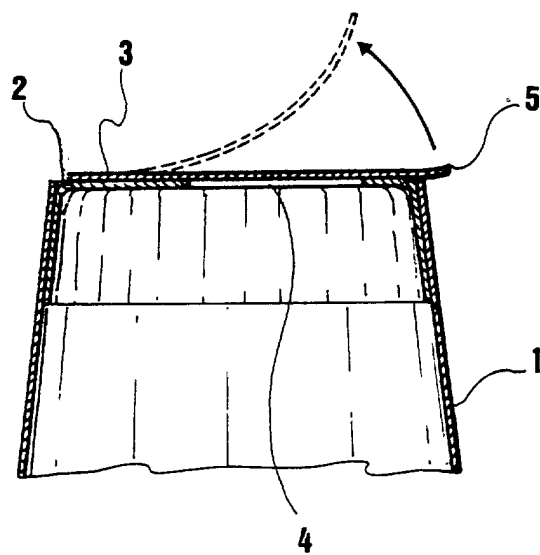


FIG. 3

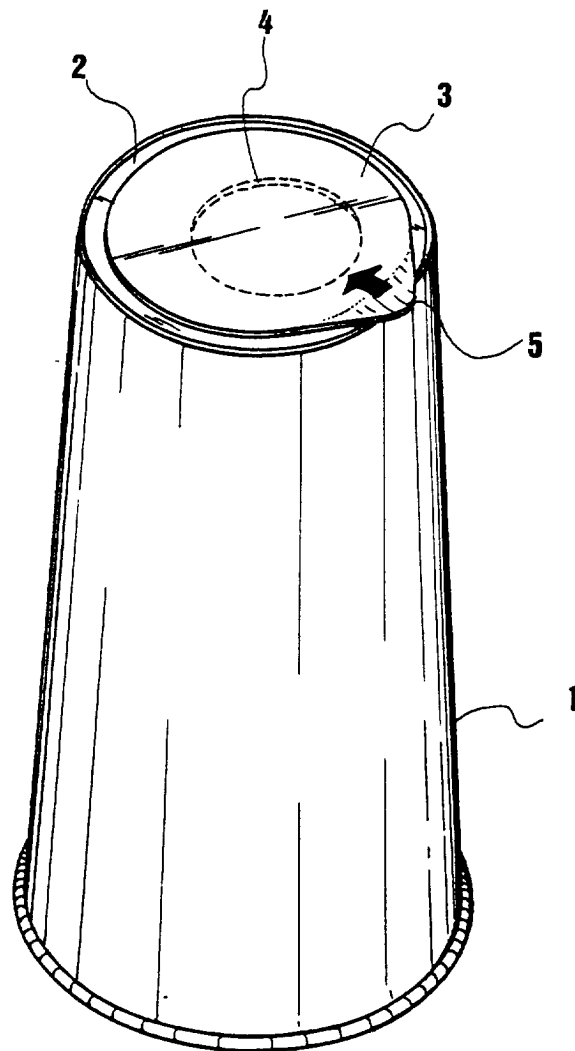


FIG.4

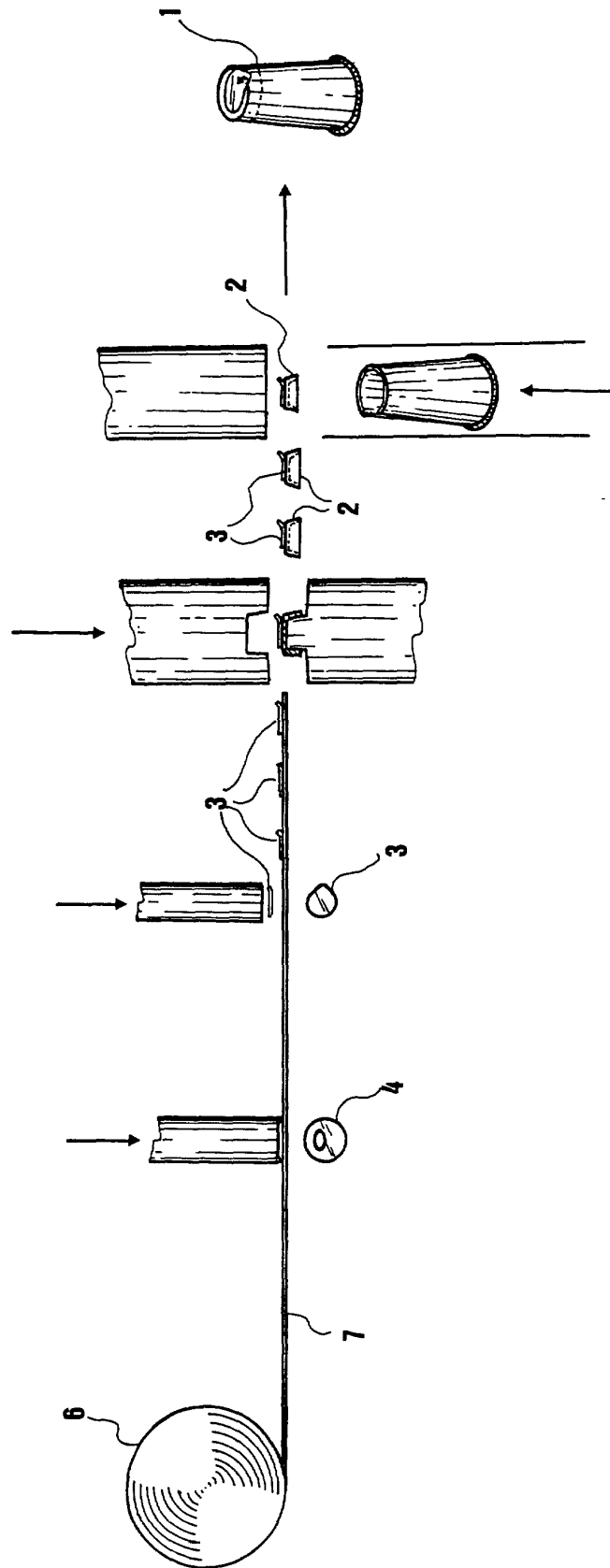


FIG. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 00 83 0761

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 389 792 A (TETRA PAK) 3 October 1990 (1990-10-03) * column 2, line 53 - column 4, line 17; figures 1,2 *	1-7	B65D3/26 B65D3/06 B65D17/50 B31B17/00 B31B1/90
A	US 2 216 331 A (SWALLOW) 1 October 1940 (1940-10-01) * page 1, right-hand column, line 22 - line 37; figures 1,2,6,13 *	1,2	
A	US 2 415 625 A (COKER) 11 February 1947 (1947-02-11) * column 4, line 67 - column 5, line 17; figures 1,2,5 *	3,7	
A	EP 0 439 664 A (SEDA) 7 August 1991 (1991-08-07) * figure 2 *	3	
A	EP 0 259 976 A (GENERAL FOODSCORP.) 16 March 1988 (1988-03-16) * column 1, line 4 - line 24; figures 1-3 *	3	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65D B31B
A	US 4 412 644 A (LA FEVER) 1 November 1983 (1983-11-01) * figures 1-5 *	3-7	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 19 July 2001	Examiner Berrington, N
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 03/92 (F04001)

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

EP 00 83 0761

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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19-07-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0389792 A	03-10-1990	SE 500525 C	11-07-1994
		AT 92421 T	15-08-1993
		AU 625865 B	16-07-1992
		AU 5232790 A	04-10-1990
		CA 2011319 A,C	29-09-1990
		DE 69002499 D	09-09-1993
		DE 69002499 T	18-11-1993
		DK 389792 T	27-09-1993
		ES 2044267 T	01-01-1994
		GR 3026409 T	30-06-1998
		JP 2282043 A	19-11-1990
		JP 2836898 B	14-12-1998
		SE 8901092 A	30-09-1990
		SU 1833338 A	07-08-1993
		US 5219086 A	15-06-1993
		US 5308418 A	03-05-1994
US 2216331 A	01-10-1940	NONE	
US 2415625 A	11-02-1947	NONE	
EP 0439664 A	07-08-1991	AT 111408 T	15-09-1994
		DE 59007144 D	20-10-1994
		DK 439664 T	09-01-1995
EP 0259976 A	16-03-1988	US 4813862 A	21-03-1989
		BR 8704616 A	26-04-1988
		CA 1301718 A	26-05-1992
		JP 63067249 A	26-03-1988
US 4412644 A	01-11-1983	NONE	

EPO FORM P459

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