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(11) **EP 1 083 143 A1**

(12) **EUROPEAN PATENT APPLICATION**  
published in accordance with Art. 158(3) EPC

(43) Date of publication:  
**14.03.2001 Bulletin 2001/11**

(51) Int. Cl.<sup>7</sup>: **B67B 7/04**

(21) Application number: **99962273.1**

(86) International application number:  
**PCT/ES99/00409**

(22) Date of filing: **29.12.1999**

(87) International publication number:  
**WO 00/40499 (13.07.2000 Gazette 2000/28)**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**

(30) Priority: **31.12.1998 ES 9803278 U**

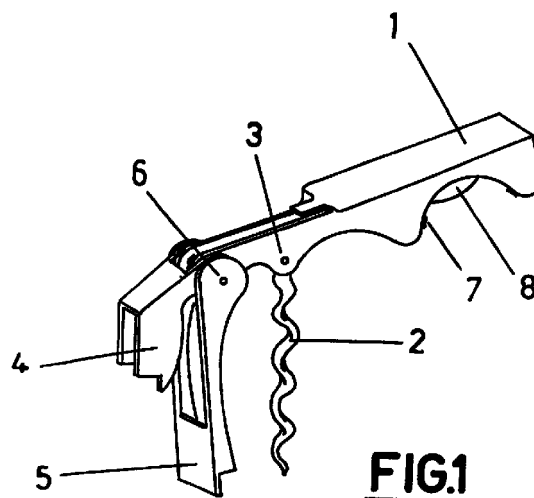
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(54) **IMPROVED PORTABLE CORK-SCREW**

(57) The invention relates to a portable cork-screw provided with a conventional spiral-shaped extraction means (2) which is articulated to the body in a position offset towards one of its extremities, said body having a C-shaped cross-section, and having in one of its walls a circular recess with two cutting protuberances (7) in spaced longitudinal positions, said protuberances being usable as a crown cork lifter, and presenting at said extremity which is closer to the spiral a pair of arms (4, 5) which are hinged to a same pin (6) and having substantially different lengths; the two arms are provided at their respective extremities with stepped portions so that they can bear to the upper edge of the neck (9) of the bottle; the longer arm (5) has a wide opening traversed by the shorter arm (4).



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## Description

### Object of the Invention

[0001] The present invention refers to an improved portable cork-screw, contributing basically novel features and important advantages with respect to similar devices known and used for the same purpose in the present state of the art.

[0002] More specifically, the invention proposes the development of a device that may be used as a cork-screw, with a sufficiently reduced size to be able to be carried by the user, making it possible to perform, comfortably and simply, the removal of a bottle cork with a minimum effort and applicable to any type of stopper, independently from its characteristics or size by a single operation, or in two stages depending on the length of the cork in question. Moreover, the design of the cork-screw has been conceived in such a way that it also provides, in the same body, means to cut the capsules that may cover the cork itself.

[0003] The field of application of the invention is in the industry dedicated to the manufacture of household items, gifts, promotion and similar items, as well as for industrial and domestic use.

### Background and Summary of the Invention

[0004] Several devices that may be used as cork-screws are known in the state of the art, with structural designs and

[0005] Several devices that may be used as cork-screws are known in the state of the art, with structural designs and widely varied shapes. Generally, all these devices are provided with a suitable spiral component to be "screwed" in the bottle cork to be removed and at least, a handle component by which the user applies the pulling effort during the cork removal operation.

[0006] In the case of portable cork-screws, that is, those that may be easily carried by the user in a pocket, it is logical that the size is reduced to a maximum, trying to maintain, as far as possible, the advantages of comfort and easy use as others of a greater size. On many occasions this situation leads to the adoption of complicated solutions giving structurally complex devices with a difficult design.

[0007] Therefore, a practical necessity exists of making a portable cork-screw which with a simple design may be quickly, comfortably and simply applied to all types of corks independently from their features and sizes.

[0008] The solution to the above problem has been solved by the cork-screw of the present invention, by which it is possible to uncork in a really effective way, in any type of situation, and with corks whose sizes may be very short, short, medium, long and very long, for which the cork-screw has been provided with two support arms on the upper edge of the bottle rim, both arms

having different sizes, namely, a reduced one and the other with normal length, the first of these arms being incorporated in the second arm and both fastened to the cork-screw body by means of a single, union point and both crossed by a same pin which pivots them to the body, such that when the cork is penetrated with the cork screw spiral, totally independent support points may be available within the same assembly, without being separated parts and without having also separated supports or fastenings, both arms being found in the same space and permitting that the spiral penetrates in the cork until a desired position, adjusting this penetration to the length of the cork and without completely passing through it if not desired.

[0009] As a result of the arrangement of the short arm, housed or incorporated in the longer one, the size of the cork-screw is effectively reduced by several centimetres with respect to similar ones in the current state of the art, such that an object results which may be easily carried in the user's pocket.

[0010] As will be understood, depending on the length of the cork, either the shorter or longer arm may be used. Activation of the cork-screw body in its approach movement to the bottle to lean on the selected arm, makes the other arm, as relevant, to automatically separate from the bottle, leaving the space free for the easy handling of the assembly. This characteristic will be explain with greater detail below.

[0011] On the other hand, the invention foresees that the cork-screw body incorporates, as has been said, decapsulating means, which preferably consist of small curved, chamfered portions integrated with the body, made in an arched recess, provided in a part of said body. The arrangement of this portions, together with the own shape and sizing of the mentioned recess, make the decapsulating operation, clean, comfortable, fast and effective.

### Brief Description of the Drawings

[0012] These and other features and advantages of the invention may be more clearly understood by the following detailed description of a preferred embodiment thereof, given only as an illustrative and non-limiting example, referring to the attached drawing, in which:

Figure 1 shows a perspective view of a cork-screw constructed according to the present invention.

Figure 2 shows a side elevated view of the cork-screw applied to a bottle, with the spiral introduced in the cork carried by the latter, and

Figures 3 to 6 correspond to successive views in the side elevation of sequential operations related to the removal of a long cork of a predetermined size, with the use of the cork-screw of the present invention.

## Description of the Preferred Embodiment

**[0013]** According to that expressed above, the detailed description of the preferred embodiment of the invention will be carried out with the use of the figures of the attached drawings by which, the same numerical references have been used to mark equal or similar parts. Therefore, firstly referring to figure 1 of the drawings, the representation may be seen in perspective of a cork-screw constructed according to the invention in which a body (1) is seen, consisting of a rigid, longitudinal component, preferably metallic, as a "C" shaped profile, to whose opposite side walls, a conventional spiral shaped extraction means (2) has been articulated, by means of a pin (3) near to one of the ends, destined to be nailed in the cork by means of a rotational movement identical to that made with any other known cork-screw. In this same mentioned end, two arms (4,5) are articulated by means of a same pin (6) and therefore, in a single position, of which, one arm (4) has considerably less length than the other arm (5), both mentioned arms having stepped ends for their easier coupling to the upper edge of the bottle rim carrying the cork to be removed, and of which one of the arms, particularly the shorter one (4), has a slightly less width and is incorporated or housed in the inner space of the other arm (5), the latter having a wide opening through which the shorter one may pass. Moreover, the body (1) has been provided with means to easily decapsulate the bottle, said means consisting of two small slightly protruding portions (7), made over the profile of an arched recess made in one of the side walls of the body. The portion (8), correspondingly in front of the opposite wall, is kept intact, such that in the decapsulating operation, it serves as a stop for the upper edge of the bottle, such that it is the own body width (1) which defines the distance to which the cut should be made over the bottle capsule.

**[0014]** The design given to the cork-screw assembly being described, allows a considerable reduction of size (several centimetres with respect to a similar cork-screw), due to the articulation of both arms at the same point and the possibility of housing in the closed position of the cork-screw of the shorter one (4) inside the longer one (5), besides permitting that the body (1) may have an ergonomic shape allowing a perfect grip by the user for easier handling.

**[0015]** Referring to figure 2, the representation of an elevated view of the cork-screw of the invention is seen, applied to a bottle whose neck (9) has the cork (10) to be removed. In this Figure, the spiral (2) introduced in the cork (10) is seen. Moreover, said cork has been represented with a dotted line and a considerable length has been selected to be able to more easily understand the different operations involved in a complete removal sequence, the latter being represented in Figures 3 to 6.

**[0016]** In fact, once the spiral is introduced as

shown in Figure 2, the following stage to remove a cork (10) consists in supporting the shorter arm (4), taking advantage of the stepping of its free end, over the bottle neck (9) rim, when the position of the cork-screw will be that shown in Figure 3. By suitably holding the bottle with one hand, and applying an upwards pulling effort with the other hand, taking advantage of the lever effect provided by such a support, the cork is removed until a position similar to that shown in Figure 4. It will be understood that if said cork (10) is short or very short, this movement will be sufficient to completely remove it, the removal operation finishing here, with the sole use of the shorter arm (4).

**[0017]** However, when a longer cork (10) is used and this first operation is not sufficient to remove it, the second support, of a greater height is used, provided by the longer arm (5). For this reason, once the first removal operation has finished, and with the assembly in the position shown in said figure 4, it will be enough to make the body (1) descend, such that the shorter arm, dragged by the body itself, is automatically separated from the bottle neck and in its place, the longer arm (5) may be applied, taking advantage of the stepping of its free end, as shown in Figure 5 of the drawings. In this situation, it is sufficient to apply an adequate upwards pull over the body (1) to pass to the position of figure 6 and therefore, total removal of the cork.

**[0018]** From the above, it is clearly seen that the cork-screw design of the invention permits a comfortable and simple use thereof, independently from the type of cork in question. Moreover, the provision of a single articulation pin (6) for both arms (4, 5) with the body (1) permits the arrangement of relative dragging means, such that when any coupling or body (1) moving operation is performed, the arm not being used simultaneously moves with the body, being separated from the application space, and hence not representing any hindrance to handle the assembly. Finally, it will also be understood that the incorporated arm arrangement permits that, in the closed cork-screw position, both arms remain adapted to the body (1), with the spiral (2) inside the latter, hence occupying a minimum space making it especially recommended to be transported by the user in a pocket or any other place.

**[0019]** It is not considered necessary to extend this description for a skilled person to understand its scope and the advantages derived from the invention, as well as to develop and implement the purpose thereof.

**[0020]** Nevertheless, it should be understood that the invention has been described according to a preferred embodiment thereof, such that it may be modified without this representing any change of the basis of said invention, said modifications especially including the shape, the size and/or manufacturing materials.

## Claims

1. An improved portable cork-screw, applicable to the

removal of corks of any size and characteristic, of the type that may be incorporated in a body to which is articulated a spiral component that may be nailed by means of a manual rotational movement, in the cork to be removed, which is characterised in that: 5

in the end nearest to the articulation of the spiral component (2) said articulation has been foreseen, in a single area and with the use of a single pin (6), for two arms (4,5), whose free ends have the formation of a respective stepped edge to provide supports over the upper edge of the bottle rim (9) carrying the cork (10) to be removed; 10 15

said arms (4,5) have different lengths, such that the shortest arm (4) is housed or embedded inside the longer arm (5) and such that the latter has a wide opening in the articulation end, through which the shorter arm (4) may pass; 20

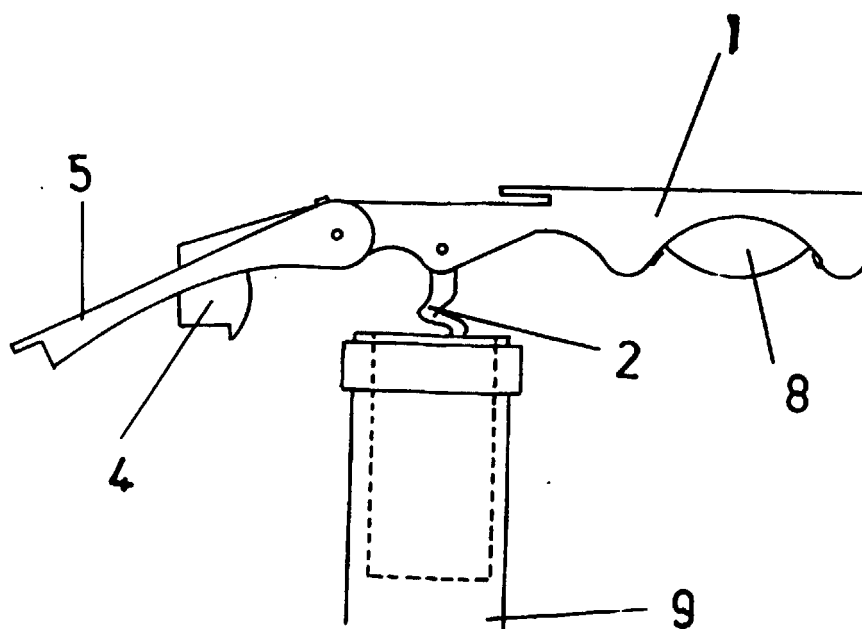
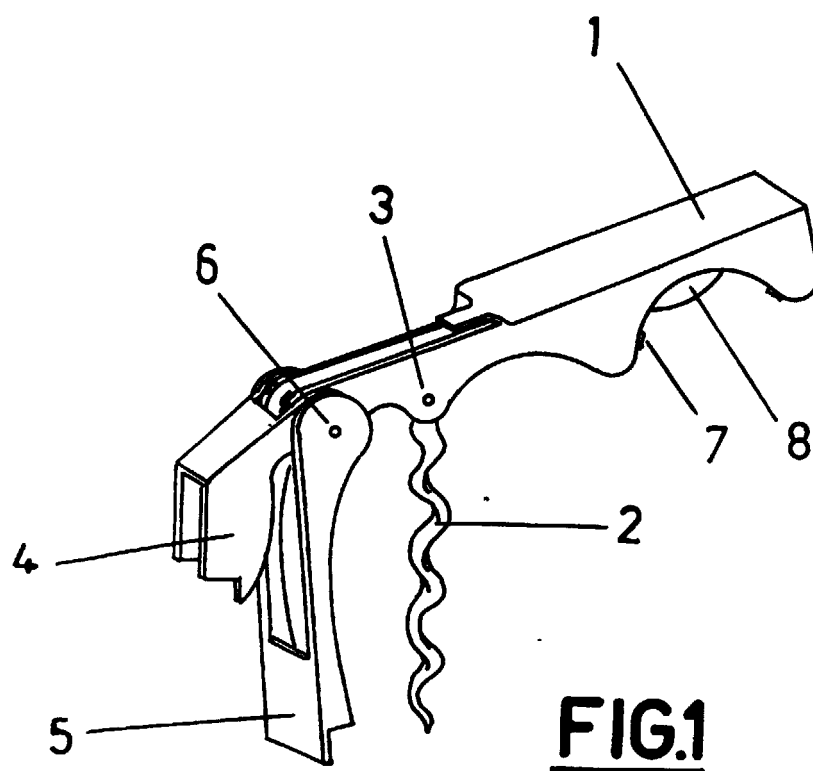
the mentioned body (1) having an open shape with a "C" profile has, in one of its walls, a wide recess, whose profile preferably adopts an arched shape, in which two slightly salient protuberances (7) have been formed in predetermined positions, with a curved chamfered edge, constituting bottle decapsulating means. 25

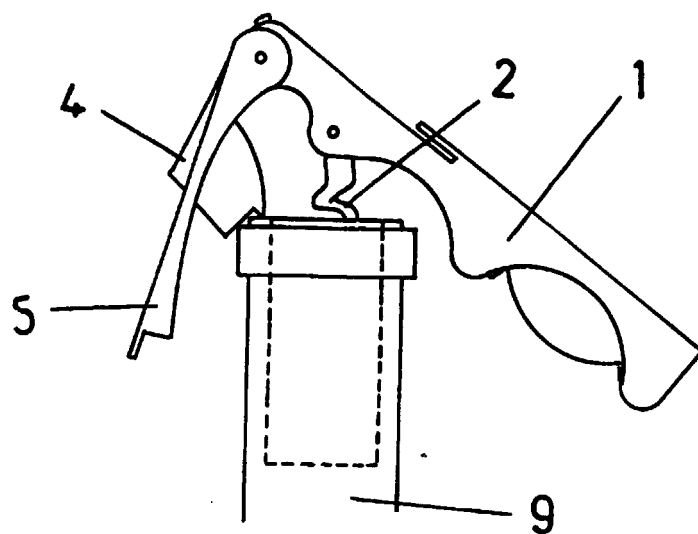
2. An improved portable cork-screw, according to claim 1, characterised in that the shorter arm (4) in its support on the edge of the bottle rim (9), provides sufficient operative distance for the removal of short or very short corks, while the longer arm (5) provides sufficient operative distance for the removal of larger corks and in that the mentioned body (1) also has dragging means destined to automatically separate the arm (4, 5) not being used during the cork removal operation. 30 35 40

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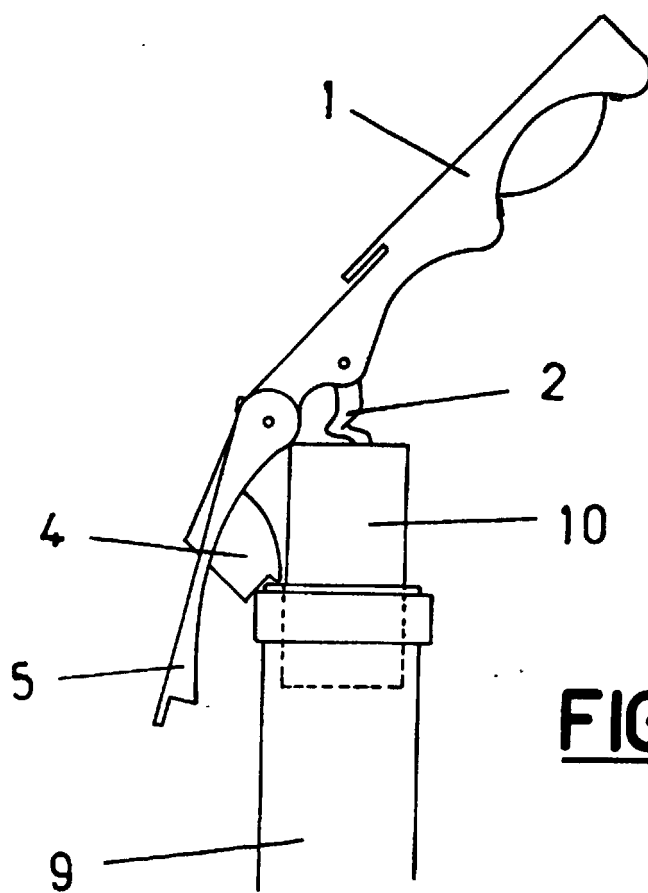
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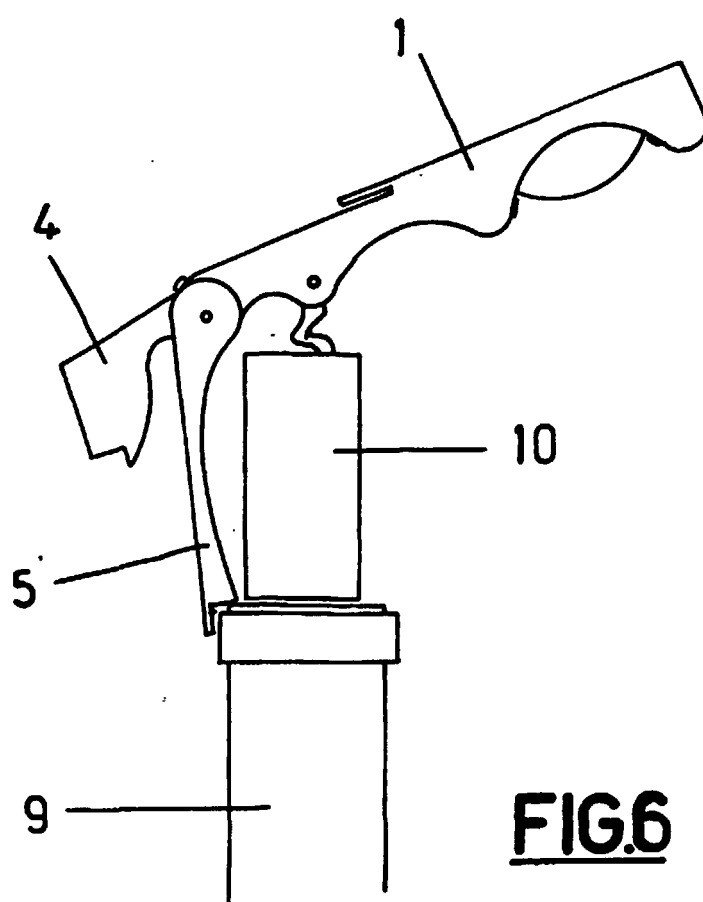
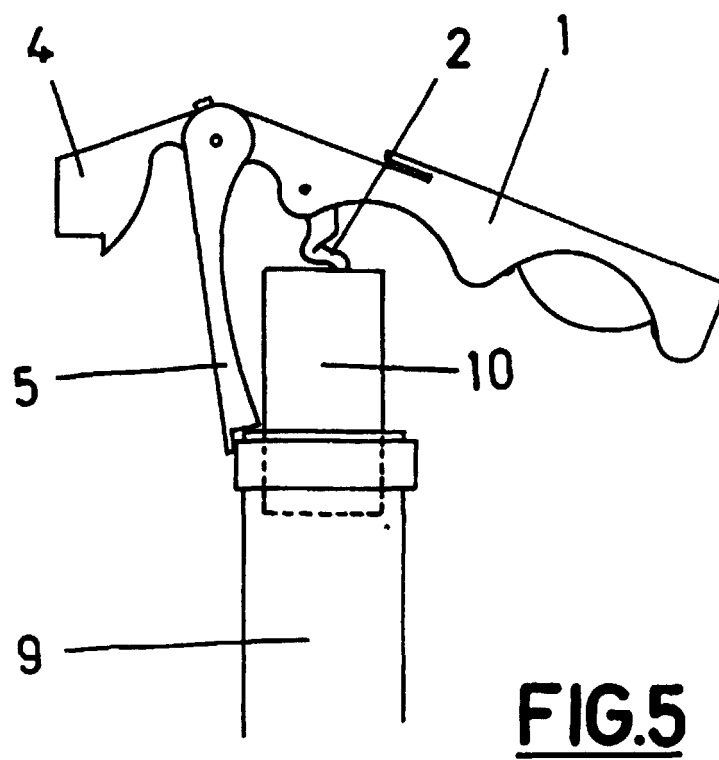




**FIG.3**



**FIG.4**



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ES 99/00409

| A. CLASSIFICATION OF SUBJECT MATTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                    |                                                    |
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| B. FIELDS SEARCHED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                    |                                                    |
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| 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 practicable, search terms used)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                    |                                                    |
| CIBEPAT, EPODOC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                    |                                                    |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                    |                                                    |
| Category*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No.                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ES 1035671 U (BRUCART PUIG, R.) 16 May 1997 (16.05.97)<br>Figures 1-8              | 1,2                                                |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ES 1020637 U (BRUCART PUIG, R. et al.) 16 July 1992<br>(16.07.92)<br>Figures 1-5   | 1,2                                                |
| <input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |                                                    |
| <p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"Z" document member of the same patent family</p> |                                                                                    |                                                    |
| Date of the actual completion of the international search                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                    | Date of mailing of the international search report |
| 7 April 2000 (07.04.00)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                    | 09 April 2000 (09.04.00)                           |
| Name and mailing address of the ISA/ S.P.T.O.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                    | Authorized officer                                 |
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Form PCT/ISA/210 (second sheet) (July 1992)

**INTERNATIONAL SEARCH REPORT**  
 Information on patent family members

International Application No

PCT/ ES 99/00409

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)                                                  | Publication<br>date                                                |
|-------------------------------------------|---------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------|
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| ES 1020637 U                              | 16.07.1992          | DE 9304161 U1<br>FR 2689115 A1<br>IT 930141 A0                              | 24.06.1993<br>01.10.1993<br>01.03.1993                             |

Form PCT/ISA/210 (patent family annex) (July 1992)