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(54) **PORTABLE DEVICE FOR CLIMBING TRAINING**

(57) A portable device for climbing training which can be attached to any suitable vertical space to practice climbing exercises such as those which can be performed on a climbing wall or on a fixed installation. The portable device for climbing training comprises a set of a plurality of elements, such as at least one main rope, two foot supports, and a plurality of holding units with grips for the hands, the main rope being able to be tied to a support or an elevated point, and the holding units and the foot supports being able to be tied at different heights on the main rope.

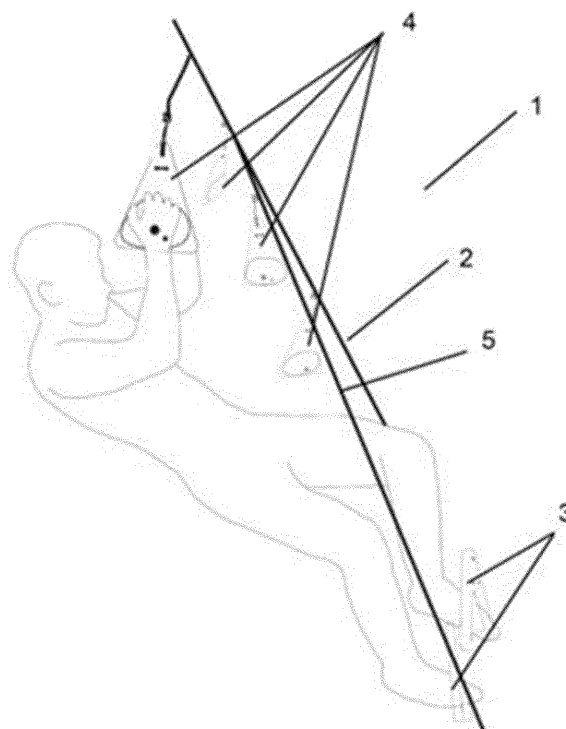


FIG. 1

Description

OBJECT OF THE INVENTION

[0001] As expressed in the title of the present specification, the invention relates to a portable device for climbing training which has a series of advantages and features that will be explained in detail below and entail a significant novelty with respect to the current state of the art.

[0002] The object of the present invention relates to a set of elements forming a portable device which, by being able to be attached to any suitable vertical space, has the purpose of providing practical and simple training means for practicing climbing exercises such as those which can be performed on a climbing wall or on a fixed installation.

FIELD OF APPLICATION OF THE INVENTION

[0003] The field of application of the present invention is comprised within the sector of the industry dedicated to the manufacture of sports accessories, focusing particularly on the field of climbing accessories.

BACKGROUND OF THE INVENTION

[0004] Climbing enthusiasts now have two ways to practice and train:

- On a professional climbing wall, where insurance is sometimes required to practice. In this case, like the need to adhere to a certain schedule because there are other users who are using the wall, travelling also entails a drawback. Furthermore, climbing walls are seldom available because the users of a professional climbing wall are usually there for several hours in order to get the most out of their time and money.
- On a private climbing wall installed at the user's home or at a particular installation. In this case, the main drawback is the large investment required for installing the wall. Furthermore, a lot of space is required, although good availability is obtained in exchange. However, the versatility and variety are usually limited and cannot be expanded in some cases.

[0005] For these reasons, the objective of the present invention relates to the development of a portable device for climbing training which can be installed anywhere and does not require too much space.

[0006] As a reference to the current state of the art, it must be pointed out that the applicant in any case is unaware of the existence of any other portable device for climbing training or device with a similar application having technical, structural, or constitutive features similar to those of the device of this invention.

BRIEF DESCRIPTION OF THE INVENTION

[0007] The portable device for climbing training proposed by the invention is therefore configured as a remarkable novelty within its field of application, since the objectives indicated above are satisfactorily achieved based on its implementation, the characterizing details thereof which make it possible being conveniently included in the final claims accompanying the present specification.

[0008] As described above, the portable device for climbing training object of the invention is configured as a portable kit made up of a set of a plurality of elements allowing its possible attachment to any space, in addition to a wall support, simply with the premise that it can be hung from a point that is somewhat elevated to enable practicing climbing and/or mountaineering exercises.

[0009] The mentioned set of elements making up the portable device of the invention comprises at least one main rope, two foot support elements, and a plurality of units with holding grips of different shapes and sizes for the hands, and a wall anchor for use thereof.

[0010] On the main rope, which is tied strongly enough at one end to an overhang or elevated point, for example, the branch of a tree, the holding units are tied on the rope at different heights and the foot supports are tied in the lower portion.

[0011] Furthermore, to enable changing the position of said holding units with ease, they are preferably connected to the main rope through two points using a "cordelette" or an auxiliary cord and a lower rear fastener, such that the first point of attachment is located between the cordelette and the main rope, and the second point of attachment is located between the main rope and the lower rear fastener in the base plate of the holding unit.

[0012] Likewise, the hand units may be both fixed and not fixed through their fastener to the main rope, providing the device with more possibilities of practicing exercises, reproducing new movements and more complex engrams.

[0013] Likewise, one of the foot supports is also preferably connected to the main rope by means of using a section of cordelette, while the other is directly attached to the lower end of the main rope. Furthermore, the lower end of the main rope can be fixed, so the inclination of the set can be changed.

[0014] In any case, it must be indicated that the mode and arrangement of each of said elements will be those that best suit each case and/or those the climber prefer for the type of exercise envisaged, where the fact that a net, a climbing wall, a rope having a variable length and safety rings, etc., can be assembled from the described device must be highlighted.

[0015] In any case, the described portable device for climbing training consists of an innovative structure having features that were unknown up until now for its intended purpose, and these reasons, combined with its practical usefulness, give the invention sufficient grounds

for obtaining the exclusive right that is sought.

DESCRIPTION OF THE DRAWINGS

[0016] To complement the description that is being made and for the purpose of helping to better understand the features of the invention, a set of drawings is attached to the present specification as an integral part thereof, in which the following has been depicted with an illustrative and non-limiting character:

Figure 1 shows a schematic perspective view of a practical embodiment of the portable device for climbing training, depicted such that the mode of use by a climber can be seen;

Figure 2 shows an elevational view of an example of a foot support the device according to the invention has, the configuration thereof being seen;

Figure 3 shows a rear elevational view of an embodiment of the base plate of the holding units the device of the invention has, depicted without being attached to the rope and without any of the elements it incorporates, such that the holes envisaged for said incorporation can be seen;

Figures 4 and 5 shows respective front and rear elevational views of an example of the holding units the device of the invention has, the elements comprised in the manner of passing the cordelette and of attaching same to the main rope being seen in this case; and

Figure 6 shows a perspective view of an enlarged detail of the rear portion of one of the holding units of the device according to the invention, showing the fastener which fixes said unit to the main rope.

PREFERRED EMBODIMENT OF THE INVENTION

[0017] In view of the described drawings and according to the numbering used, a non-limiting example of the portable device for climbing training of the invention which comprises the parts and elements that are indicated and described in detail below can be seen therein.

[0018] In this case, as observed in said Figure 1, the device (1) at hand is essentially made up of three main elements: the main rope (2), two foot supports (3), and a plurality of units (4) with holding grips (7) for the hands, preferably five.

[0019] The main rope (2) is a climbing rope with a special sheath which is tied at least at one of its ends to an overhang located at an elevated point, such as a tree (not depicted in the drawings), for example. One of the foot supports (3) is tied at its other end, while the other support (3) is tied using a section of cordelette (5). Holding units (4) are tied along the rope (2), preferably also

using a cordelette (5), where both supports (3) tied with a section of cordelette (5) can be used as described in detail below.

[0020] Optionally, furthermore, the lower end of the main rope (2) can also be fixed to a suitable overhang and the inclination of the set can therefore be changed.

[0021] As seen in Figure 2, the foot supports (3) are formed by parts (31) having a triangular shape and a central cavity (32) with a lower flange (33) like a stirrup for supporting the feet and for the user to be able to "edge" or practice other techniques. These triangular parts (31) have three holes (6) in the upper portion to enable passing the cordelette (5) therethrough in a specific manner and tying it to the main rope (2).

[0022] In reference to Figure 3, an embodiment of the base plate (41) of the holding units (4) is shown. This base (41) is made up of a triangular plate, preferably made of wood, which can be of different shapes and sizes, and constitutes the support for a grip (7) in each holding unit (4), consisting of a protruding body which the climber holds with his or her limbs. Like in the case of parts (31) of the foot supports (3), at the upper end or vertex of the triangle forming said base (41) there are provided three holes (6) for tying the cordelette (5) in a specific manner, securing the unit (4) to the main rope (2).

[0023] Furthermore, a slot (42) is arranged in the center of the lower portion of the base (41) so that the main rope (2) is housed and fixed, if desired, by means of a fastener (8) described in detail below. Respective housings (43) for accommodating the elements of the fastener (8) have also been provided in the lower portion of the base plate (41).

[0024] Likewise, two holes (43) are arranged in approximately the lower center of the base plate (41) so as to house two embedded threads (9) and to secure the grip (7) by means of threading, thereby allowing the grip to be exchanged in a simple manner. The possibility of leaving some bases (41) not secured to the main rope (2) through the rear fastener (8) so as to make the exercise more versatile is optional.

[0025] The bases (41) preferably have three sizes that are proportional to one another, maintaining the measurements and arrangement of the holes (6), the slot (42) for the fastener (8), as well as the separation measurements and diameter of the holes and screws for securing the grips (7).

[0026] As mentioned, the grips (7) are the main holding elements which are secured to the base (41) by means of two screws (10) and the mentioned embedded threads (9), preferably one being an M10 and the other being an M4, and can have different shapes and dimensions, where the only constant is the distance and position of the screws so that they can be used in a base (41) of any size.

[0027] As shown in Figure 6, the fastener (8) internally fixing the base (41) to the main rope (2) is preferably made up of a belt section (81) with a securing element (82) which, when inserted in the housing (42) of the base

(41), surrounds the main rope (2).

[0028] Finally, it must be pointed out that a cordelette (5) about one meter in length, tied with a Prusik (Prusian), autoblock, or Marshall knot to said main rope (2) and inserted in a specific manner into the holes (6), is preferably used for the upper securing of the base (41) with the main rope (2). With this knot, the unit (4) is secured and fixed to the main rope (2), given that the lower securing of the main rope (2) and the base (41) with the previously described fastener (8) serves to prevent the units (4) from turning, whereas with this upper knot, the height of the unit (4) is adapted to the main rope (2).

[0029] Having sufficiently described the nature of the present invention as well as the way of putting it into practice, it is not considered necessary to further explain the invention so that one skilled in the art can comprehend the scope thereof and the advantages derived from it, stating that within its essential nature, the present invention could be carried out to practice in other embodiments differing in detail from that indicated by way of example, and such embodiments would also be granted the protection that is sought provided that the fundamental principle thereof is not altered, changed or modified.

Claims

1. Portable device for climbing training, **characterized in that** it comprises a set of a plurality of elements, such as at least, one main rope (2), two foot supports (3), and a plurality of holding units (4) with grips (7) for the hands, the main rope (2) being able to be tied to a support or an elevated point, and the holding units (4) and the foot supports (3) being able to be tied at different heights on the main rope (2).
2. Portable device for climbing training according to claim 1, **characterized in that** the holding units (4) are connected to the main rope (2) using a cordelette (5) which passes through three holes (6) located in the upper portion of said holding units (4).
3. Portable device for climbing training according to claim 1 or 2, **characterized in that** at least one of the foot supports (3) is connected to the main rope (2) using a cordelette (5).
4. Portable device for climbing training according to any of claims 1 to 3, **characterized in that** the main rope (2) is a special climbing rope which is tied at least at one end to a support or overhang and optionally tied at its other end to one of the foot supports (3), while the other foot support (3) is tied using a section of cordelette (5), and the holding units (4) are tied along the main rope (2).
5. Portable device for climbing training according to any claims 1 to 4, **characterized in that** the foot supports

(3) are formed by parts (31) with a central cavity (32) and a lower flange (33) for "edging" or practicing other techniques.

6. Portable device for climbing training according to claim 5, **characterized in that** the parts (31) of the supports (3) have three holes (6) made in the upper portion to pass the cordelette (5) therethrough and to allow tying the same to the main rope (2).
7. Portable device for climbing training according to any of claims 1 to 6, **characterized in that** each of the holding units (4) are formed by a base plate (41), preferably made of wood, to which a grip (7) is attached.
8. Portable device for climbing training according to claim 7, **characterized in that** the grips (7) are attached to the base plate (41) preferably by means of threading such that they are interchangeable.
9. Portable device for climbing training according to claim 7 or 8, **characterized in that** the holding units (4) are formed by base plates (41) of different shapes and sizes.
10. Portable device for climbing training according to any of claims 7 to 9, **characterized in that** the base plate (41) is made up of a triangular plate with holes (6) in its upper portion for tying a cordelette (5) which secures the holding unit (4) to the main rope (2).
11. Portable device for climbing training according to any of claims 7 to 10, **characterized in that** a slot (42) is arranged in the center of the lower portion of the base plate (41) so that the main rope (2) is housed and fixed by means of a fastener (8).
12. Portable device for climbing training according to claim 11, **characterized in that** the fastener (8) internally fixing the base plate (41) to the main rope (2) is made up of a belt section (81) with a securing element (82) which, when inserted in the housing (42) of the base plate, surrounds the main rope (2).
13. Portable device for climbing training according to any of claims 7 to 12, **characterized in that** a cordelette (5) tied with an autoblock, Prusik, or Marshall knot to said main rope (2) and inserted into the holes (6) is provided for the upper securing of the base plate (41) to the main rope (2).
14. Portable device for climbing training according to claim 4, **characterized in that** the main rope (2) is also internally fixed to an overhang which allows changing the inclination and the toughness of the exercise.

15. Portable device for climbing training according to any of claims 7 to 12, by the rear fastener (8) and others are not, providing different positions and engrams.

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

1. Portable device for climbing training, **characterized in that** it comprises a set of a plurality of elements, such as at least one main rope (2), two foot supports (3), and a plurality of holding units (4) with grips (7) for the hands, the main rope (2) being able to be tied to a support or an elevated point, and the holding units (4) and the foot supports (3) being able to be tied at different heights on the main rope (2), where the holding units (4) are connected to the main rope (2) using a cordelette (5) while at least one of the foot supports (3) is connected to the main rope (2) using a cordelette (5), the main rope (2) being a special climbing rope which is tied at least at one end to a support or overhang and optionally tied at its other end to one of the foot supports (3) while the other foot support (3) is tied using a section of cordelette (5), and the holding units (4) are tied along the main rope (2).
2. Portable device for climbing training according to claim 1, **characterized in that** the foot supports (3) are formed by parts (31) with a central cavity (32) and a lower flange (33) for "edging" or practicing other techniques, where the parts (31) of the supports (3) have three holes (6) made in the upper portion to pass the cordelette (5) therethrough and to allow tying same to the main rope (2).
3. Portable device for climbing training according to any of claims 1 to 2, **characterized in that** each of the holding units (4) are formed by a base plate (41), preferably made of wood, to which a grip (7) is attached.
4. Portable device for climbing training according to claim 3, **characterized in that** the grips (7) are attached to the base plate (41) preferably by means of threading such that they are interchangeable.
5. Portable device for climbing training according to claim 3 or 4, **characterized in that** the holding units (4) are formed by base plates (41) of different shapes and sizes.
6. Portable device for climbing training according to any of claims 3 to 5, **characterized in that** the base plate (41) is made up of a triangular plate with holes (6) in its upper portion for tying a cordelette (5) which secures the holding unit (4) to the main rope (2).

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7. Portable device for climbing training according to any of claims 3 to 6, **characterized in that** a slot (42) is arranged in the center of the lower portion of the base plate (41) so that the main rope (2) is housed and fixed by means of a fastener (8).
8. Portable device for climbing training according to claim 7, **characterized in that** the fastener (8) internally fixing the base plate (41) to the main rope (2) is made up of a belt section (81) with a securing element (82) which, when inserted in the housing (42) of the base plate, surrounds the main rope (2).
9. Portable device for climbing training according to any of claims 3 to 8, **characterized in that** a cordelette (5) tied with an autoblock, Prusik, or Marshall knot to said main rope (2) and inserted into the holes (6) is provided for the upper securing of the base plate (41) to the main rope (2).
10. Portable device for climbing training according to claim 1, **characterized in that** the main rope (2) is also internally fixed to an overhang which allows changing the inclination and the toughness of the exercise.
11. Portable device for climbing training according to any of claims 3 to 8, **by** the rear fastener (8) and others are not, providing different positions and engrams.

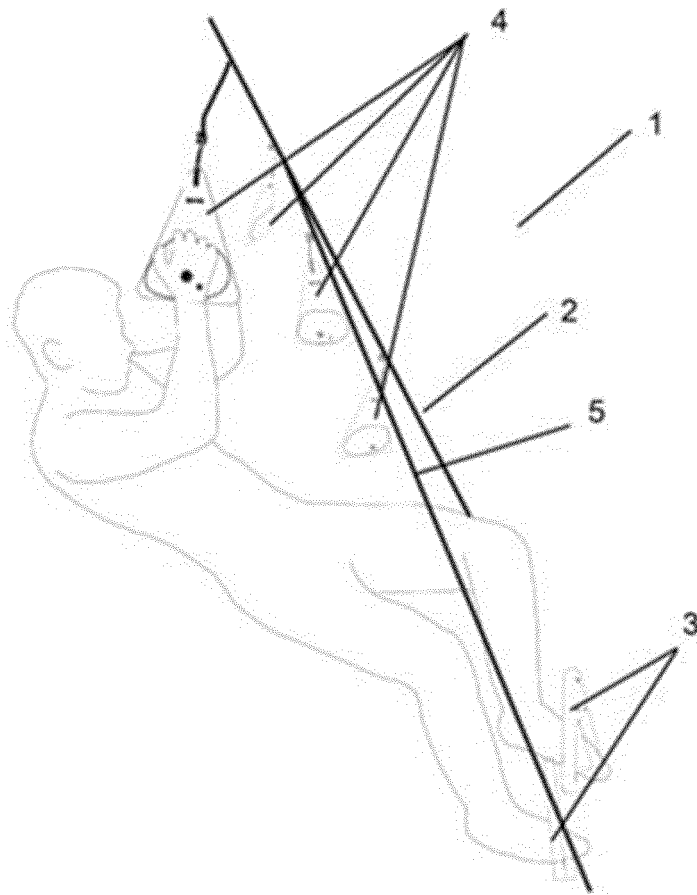


FIG. 1

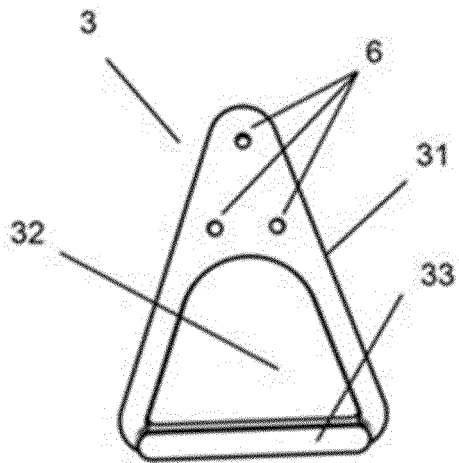


FIG. 2

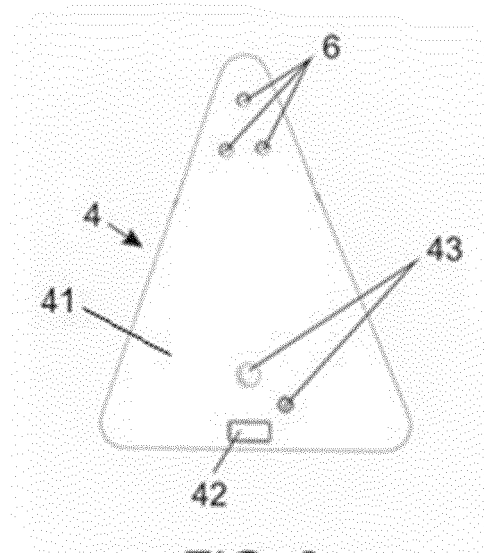


FIG. 3

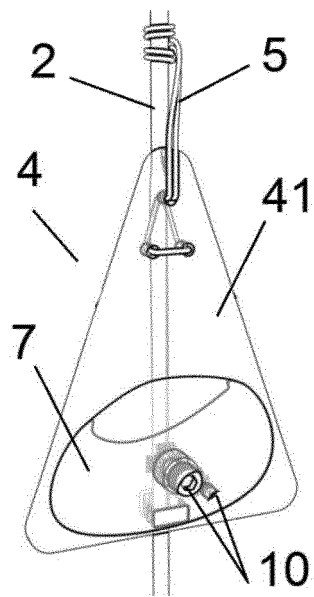


FIG. 4

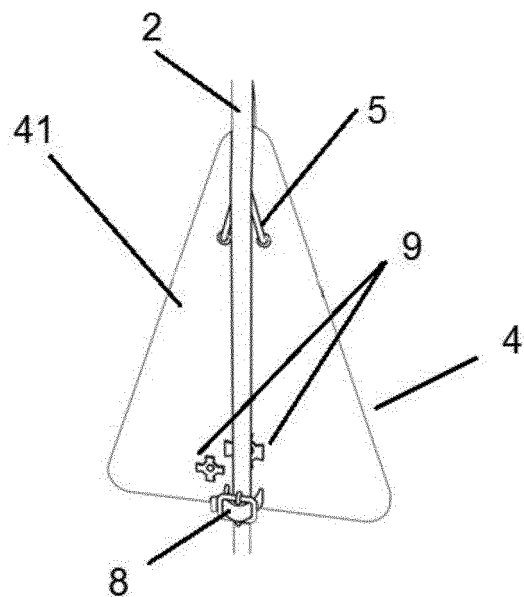


FIG. 5

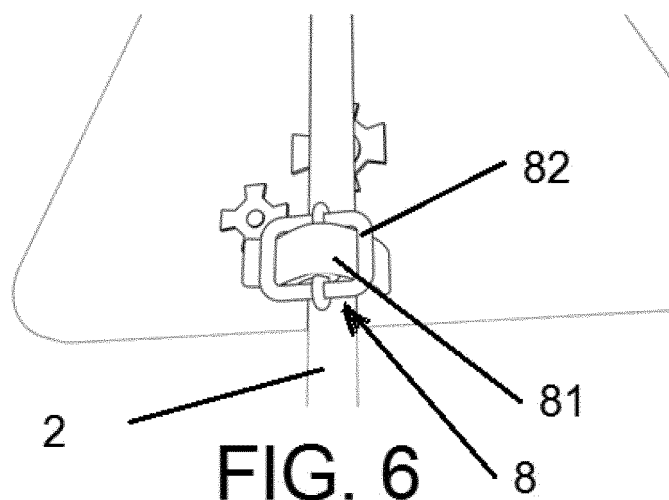


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2016/070934

A. CLASSIFICATION OF SUBJECT MATTER

A63B29/00 (2006.01)

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)

A63B

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)

EPODOC, INVENES, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3658151 A (WISDOM HAMILTON L) 25/04/1972, description; figures 1 - 7.	1-3, 5-6
A	FR 2420983 A1 (VASSILIEFF PIERRE) 26/10/1979, description; figures 1 - 3.	1-15
A	US 3782718 A (SAYLOR C) 01/01/1974, description; figure 1.	1-15
A	FR 2682604 A1 (GRIZARD JACQUES) 23/04/1993, description; figures 1 - 7.	1-15
A	FR 2567028 A1 (HAUDIQUET ROBERT) 10/01/1986, description; figures 1 - 5.	1-15

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance.	
"E" earlier document but published on or after the international filing date	
"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)	"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
"O" document referring to an oral disclosure use, exhibition, or other means.	"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 documents, such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search
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Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2016/070934

Information on patent family members

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FR2420983 A1	26.10.1979	NONE	
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Form PCT/ISA/210 (patent family annex) (January 2015)