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(71) Applicant: **Krupnov, Sergey**
29001 Malaga (ES)

(72) Inventor: **Krupnov, Sergey**
29001 Malaga (ES)

(74) Representative: **Carvajal y Urquijo, Isabel et al**
Clarke, Modet & Co.
Suero de Quiñones, 34-36
28002 Madrid (ES)

(54) **PROTECTING AND SEPARATING DEVICE FOR PARKING SPACES**

(57) The device is intended to be positioned horizontally, suspended from the ceiling, in correspondence with the vertical of the lines delimiting the parking spaces, such that the horizontal elements determine between the adjacent parking spaces separating, as well as protecting means so as to avoid damage produced upon impact of the opening doors of a vehicle into the adjacent one, since

the doors will impact directly onto said suspended horizontal elements, these being protected by a damping sheathing made of rubber or the like, and including means to prevent these being caught up in the reaview mirrors of the vehicle, as well as independence from the suspending means for these not to break.

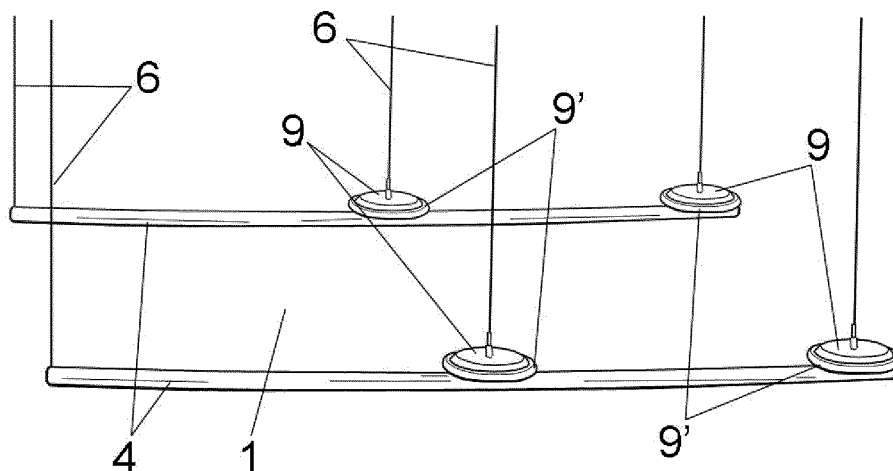


FIG. 2

Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a protecting and separating device for parking spaces, and more particularly to an element to be situated in correspondence with the separating line between two adjacent parking spaces, thereby it can be applied both to parking spaces in community parking lots, and in public parking lots, etc., in both cases with the functionality and purpose of establishing means for delimiting or separating both adjacent parking spaces, thus protecting the doors and bodywork of vehicles from possible banging caused upon opening doors a further distance than that the available space allows for.

BACKGROUND OF THE INVENTION

[0002] As it is known, parking spaces in garages, parking lots, etc., are delimited by means of a line painted on the floor, with the vehicle parking between two adjacent lines which longitudinally delimit each parking space.

[0003] The width of said parking spaces tends to be minimized so as to maximize benefits, in such a way that, in most cases, it does not allow completely opening a car door, but instead of that this must be opened only partially so as to avoid banging into the vehicle parked in the adjacent place.

[0004] The truth is that many drivers do not take care when performing these manoeuvres, so it is usual to have different degree of damage caused to the bodywork or doors of the vehicles situated in the adjacent spaces, which is obviously unacceptable.

DESCRIPTION OF THE INVENTION

[0005] The protecting-separating device for parking spaces herein disclosed, is intended to solve the above problems in a simple but greatly effective way.

[0006] More particularly, the device of the invention is made up of a longitudinal tubular and horizontal element which is situated at certain height, in correspondence to the separation line for two adjacent spaces, said element being suspended from the ceiling and establishing the means which the vehicle door contacts to or bangs into when it is opened further than the distance being allowed according to the space dimensions, thus avoiding impact against the adjacent vehicle, since the device receives the door banging, damping it, and thus avoiding damage in both vehicles, and the bangs caused in the bumper.

[0007] In a preferred embodiment, the element being suspended is materialized in a PVC tube or the like, having a flexible and absorbent sheathing, such as rubber, foam or the like, in order to avoid damage or abrasion of the door itself at the moment it impacts upon opening thereof.

[0008] The referred element will be logically suspended

from the ceiling, by means of cables which can be nylon cords, wire, chains or any other element making possible that the suspended elements tilts as well as vertically and horizontally moves, so as to prevent it from being an obstacle in certain moments when there is no risk of impact against other vehicles, and it is necessary to open the door up to the maximum opening point or it is necessary for items being introduced or taken out from inside the vehicle.

[0009] The cables or suspending elements will preferably be three, so as to be able to move, incline and lift the device in a more balanced way, and in any case each one of these suspending elements are likely to be supplemented by a short portion of vertical tube equally coated by sheath of a flexible and absorbent material.

[0010] Therefore, it should be noticed that both the suspended longitudinal element, and the portions associated to the suspending means, are made of a semi-rigid material, so as to provide consistency, but having a flexible material sheathing in order to absorb the banging.

[0011] In this way a device is achieved being structurally simple, easy to manufacture and therefore cheap, as well as easy to install, which avoids totally unnecessary damage in vehicles.

[0012] The protecting-separating device described herein will be supplemented by a member for pushing-separating the tubular element in which the protecting device is materialized, said pushing taking place with respect to the vehicle bodywork so as to prevent the cables or suspending means from getting caught into the rear-view mirrors of the vehicle during its manoeuvres for driving into and out of the parking space.

[0013] The pushing means may consist of simple rotating discs mounted in correspondence to the attaching point of the suspending wires to the suspended element, this having a tilting character, but being in a horizontally operative position, that is, perpendicular to the suspending wire or cable, and peripherally protected by a soft material sheathing which avoids damage in the vehicle bodywork.

[0014] Regarding the rotating discs nature, these can be made of a deformable and flexible material, such as rubber, foam polyethylene or the like, which, together with its tilting character, make it not to be an obstacle when walking by or opening the doors.

[0015] In an embodiment variant, instead of rotating discs, small side bars can be arranged that emerge perpendicularly with respect to the separating and protecting element itself, said bars including wheels at the ends thereof which will be contacting and resting onto the vehicle bodywork when this enters the parking space, separating the protecting element at a distance enough to make it impossible for the rear-windows of the vehicle to get caught into the suspending cables.

[0016] On the other hand, regarding the suspending means of the protecting elements for parking spaces, it should be said that these can be elevated so as to position, for example in a defined space between two col-

umns, three separating bars which are selectively lifted and lowered, such that if only the central protecting element is lowered, two spaces of a considerable size are defined, while if there is a greater demand for parking spaces, the central protecting element shall be lifted and the other two elements and the other two elements positioned at both sides will be lowered down, in such a way the said elements define, in the space being defined between the two columns, three parking spaces having a smaller size, but being enough for accommodating therein the corresponding vehicles.

[0017] Regarding the suspending cables or elements, these can be made up from two or more portions related to each other through deformable rings, in such a way that in case of getting caught therein at least one of the rings will deform and pass through the other, detaching therefrom thus avoiding unnecessary damage.

[0018] This solution is equally valid for establishing a protecting means in case of vandalism, being possible to apply it both at intermediate areas of the suspending means and at the ends thereof.

DESCRIPTION OF THE DRAWINGS

[0019] In order to implement the present description and in order to provide a better understanding of the characteristics of the invention, a set of drawings is attached to the present descriptive memory, as an integrating part thereof, with an illustrative but not limitative purpose, which represents the following:

Figure 1.- It shows a representation corresponding to a perspective view of a protecting and separating device for parking spaces, made according to the object of the present invention, being conveniently installed in a garage.

Figure 2.- It shows a representation corresponding to a perspective view of a parking place being delimited between two separating and protecting elements, with the side pushing device in said elements being associated to the suspending wires thereof, all that realized according to the object of the present invention.

Figure 3.- It shows a practical application in one of the sides of the device represented in the previous figure, showing how the rotating discs rest onto the side surface of the vehicle preventing the suspending cables from being caught into the rear-view mirrors of the vehicle.

Figures 4, 5 and 6.- These show, finally, schematic details of the arrangement of three separating elements between two columns in a garage, so as to define, by means of the selective lifting thereof, two wide spaces or three smaller spaces depending on the requirements in each case.

Figure 7.- It shows a detail of a suspending cable divided into two sections being related by means of deformable rings.

Figure 8.- It shows, finally, an embodiment variant of the means depicted in figure 7, but wherein only one of the rings is deformable.

PREFERRED EMBODIMENT OF THE INVENTION

[0020] As it can be seen in figure 1, the protecting and separating device for parking spaces, applied to a garage (1), wherein the respective parking spaces (2) are established delimited by lines (3) painted on the floor, it is constituted as separating and protecting element for vehicles parked into said parking spaces, the device being made up from a tubular element (4) or in any other polygonal shape, for example, PVC-based, having a flexible material sheathing (5), as for example rubber, gum or the like.

[0021] Said tubular element (4) with a sheathing (5) is suspended from the ceiling through nylon cords, cords, chains, cables, etc. and in any case, three suspending elements (6) are preferably defined so that the movements of the device assembly are performed in a balanced way.

[0022] The lower sections of the suspending elements (6) include tubular portions (7) and the suspending vertical tubular element (8) means having the same protection as the suspended element (5), such that the assembly forms a suspended device with a horizontal branch situated at the convenient height so that, when it is arranged in correspondence to the line separating two parking spaces (2), it constitutes a means for avoiding the impact with the adjacent space, these impacting onto the device, which deforms and absorbs the impact avoiding damage to both vehicles.

[0023] As it has been mentioned above, the device can freely move in case it is necessary, not constituting an obstacle limiting the usual manoeuvres that can be performed using the vehicle.

[0024] Regarding what is shown in figures 2 to 6, it should be said that it is provided that, in correspondence to the suspending means (6) of the protecting elements (4), pushing and separating elements (9) are arranged which in figure 2 are materialized as a kind of rotating discs, having a slightly bigger radius than the length of a rear-view mirror, the edges (9') thereof being provided with a cushioning or soft material which prevents the vehicle from being damaged when it impacts onto said rotating discs, such as it is shown in figure 3.

[0025] The rotating discs (9) are mounted in such a way that said discs can tilt so as not to limit the opening degree of the doors once the vehicles are parked, in such a way that they can adopt an oblique position in said manoeuvre for opening the doors, these elements (4) and (5) being in charge of avoiding possible damage caused by impacts between the bodywork of both vehicles.

[0026] Regarding the nature of the rotating discs (9), and as it has been discussed above, these can be made of a deformable and flexible material, such as rubber, foam polyethylene or the like, which, together with its tilting character, make it not to be an obstacle when walking by or opening the doors.

[0027] As it has been said, instead of the rotating discs (9) the pushing-separating members can be materialized as bars perpendicularly and horizontally emerging from elements (4), terminated with wheels, not shown in the figures, made of a soft material, which will contact the side surface of the vehicle bodywork, playing the same role as that of the rotating discs (9).

[0028] Finally, it should be said that the suspending elements (4a, 4b and 4c) can incorporate lifting means, as it is shown in figures 4 to 6, so as to selectively arrange them in order to define either two extremely large "XL" spaces, only lowering the element (4b), or three smaller spaces "S" by lowering the elements (4a and 4c).

[0029] Lastly, it should be said that the suspending elements (6) can be formed by two or more portions (6', 6'', ...) as depicted in figures 7 and 8, portions which are directly related by means of rings, being fixed to each other by introducing one within the other, wherein both rings (10) can be elastic and consequently deformable so that, in case the cable is caught or pulled, they detach by one passing through the other, wherein one of them (10') can be rigid, without this affecting the core of the invention.

[0030] This solution can be arranged at the central area of said suspending elements, at any height, or even in correspondence to the ends thereof, without this affecting the core of the invention.

Claims

1. Protecting and separating device for parking spaces, intended for being applied both to public parking lots and to community parking lots and the like, wherein adjacent parking places are defined, being delimited by lines painted on the floor, **characterized in that**, in correspondence with the line delimiting the parking spaces, a horizontal element has been provided suspended at both sides, consisting of a tubular element (4) or with any other geometry playing the same role, having a flexible and absorbent material sheathing (5), such as gum, foam, rubber or the like, the suspending elements (6) intended to be anchored to the ceiling, these being materialized as cables, chains, cords, wires or the like, being provided with reflectors for greater visibility thereof, the suspending elements having a lower section provided with a tubular portion (7) and a protecting sheathing of identical or similar nature as that of the suspended horizontal element.

2. Protecting and separating device for parking spaces

according to claim 1, **characterized in that** the suspending elements (6) preferably participate in groups of three.

3. Protecting and separating device for parking spaces according to the previous claims, **characterized in that** the suspending elements incorporate pushing and separating means (9) therefor with respect to the vehicle bodywork.

4. Protecting and separating device for parking spaces according to claim 3, **characterized in that** the pushing means are materialized as rotating discs having a radius being longer than the rear-view mirror length, including a soft material sheathing.

5. Protecting and separating device for parking spaces according to claim 4, **characterized in that** the rotating discs are mounted onto suspending means or cables being of a tilting nature.

6. Protecting and separating device for parking spaces according to claim 4, **characterized in that** the rotating discs are made of a deformable and flexible material, such as rubber, foam polyethylene or the like.

7. Protecting and separating device for parking spaces according to claim 3, **characterized in that** the pushing and separating means (9) are materialized as small bars projected horizontally and perpendicularly with respect to the main protecting elements, terminated at the ends thereof in wheels made of a soft material.

8. Protecting and separating device for parking spaces according to claim 3, **characterized in that** the protecting and separating means include lifting/lowering means for being selectively used so as to define different width spaces.

9. Protecting and separating device for parking spaces according to claim 1, **characterized in that** the suspending elements (6) are formed by two or more sections (6', 6'', ...) related to each other by means of rings (10) or (10-10') which are fixed to each other by introducing one within the other, at least one of said rings being elastically deformable.

10. Protecting and separating device for parking spaces according to claim 9, **characterized in that** the means for independence of the suspending elements (6) are likely to be arranged at any height from the suspending means, including the ends thereof.

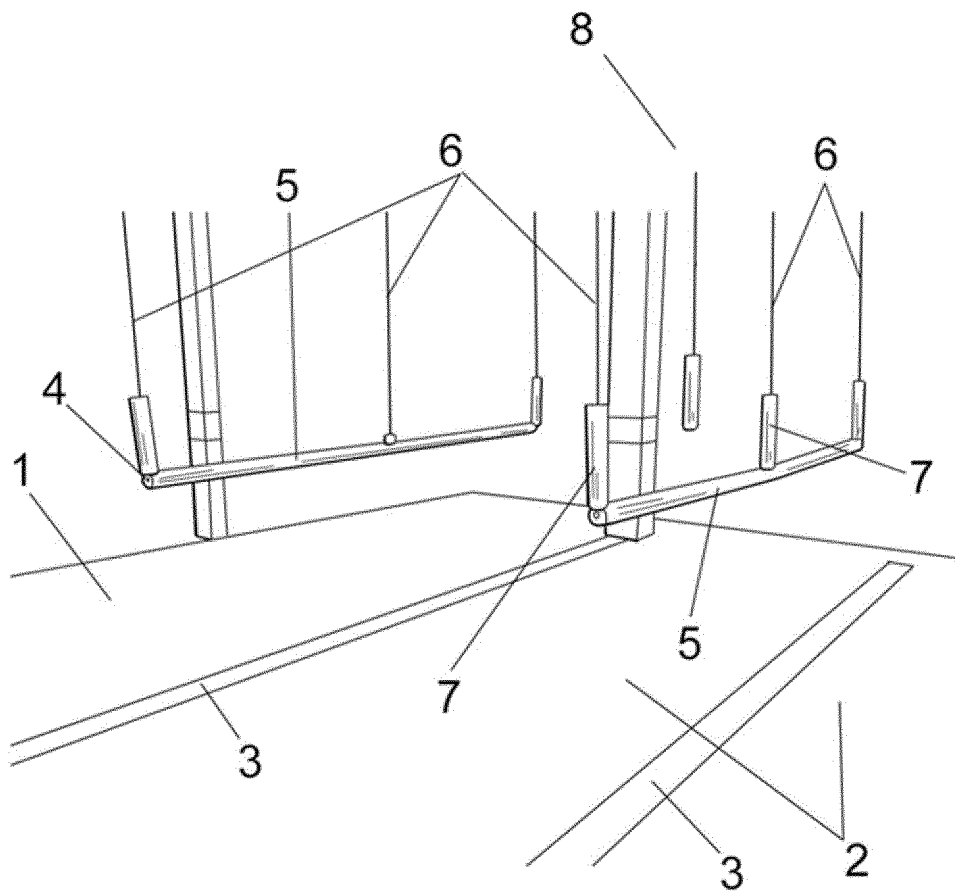


FIG. 1

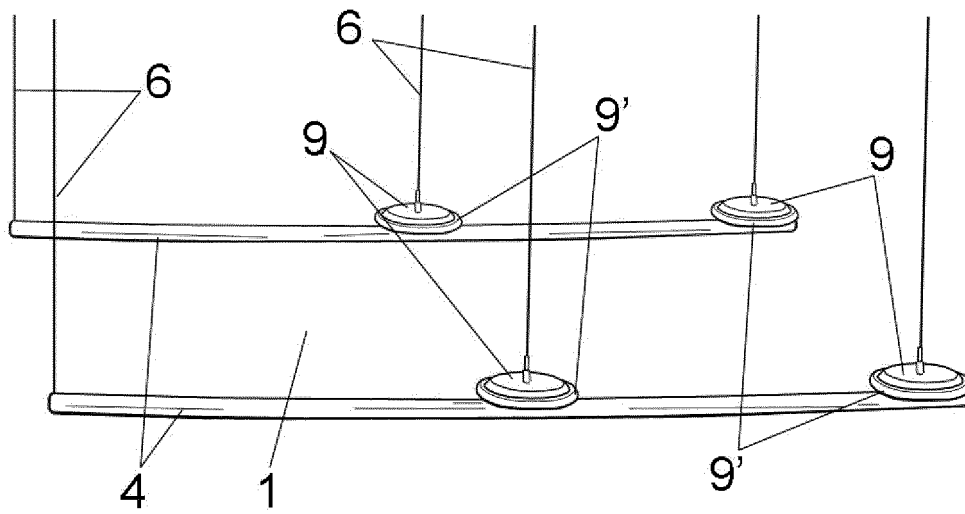


FIG. 2

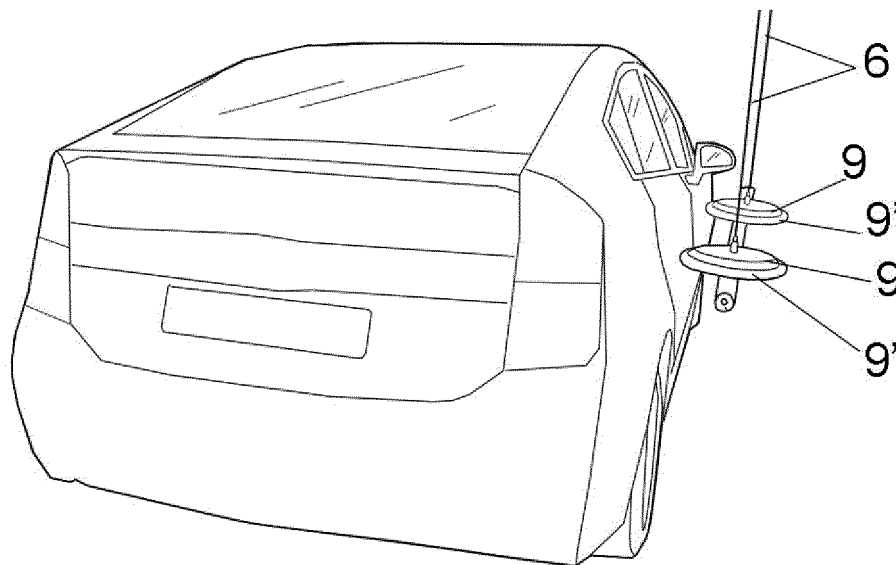


FIG. 3

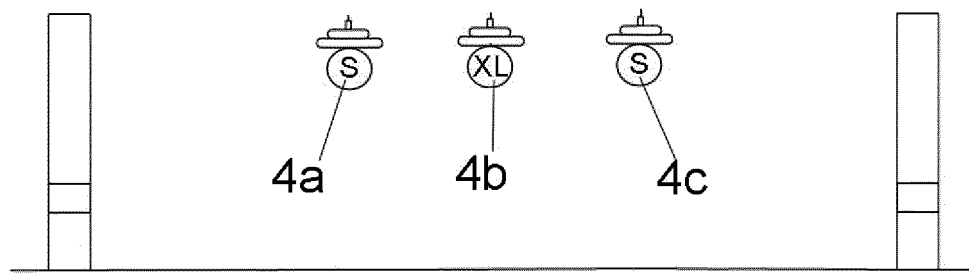


FIG. 4

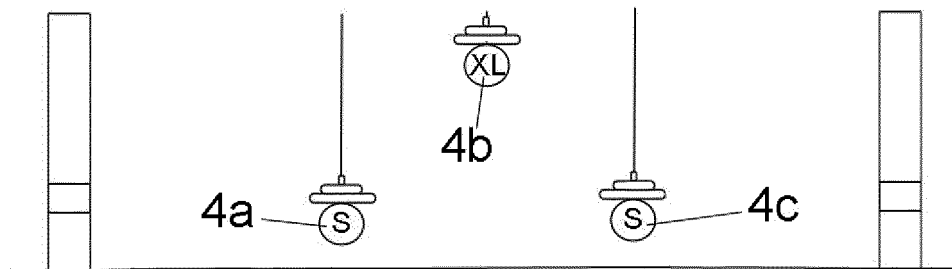


FIG. 5

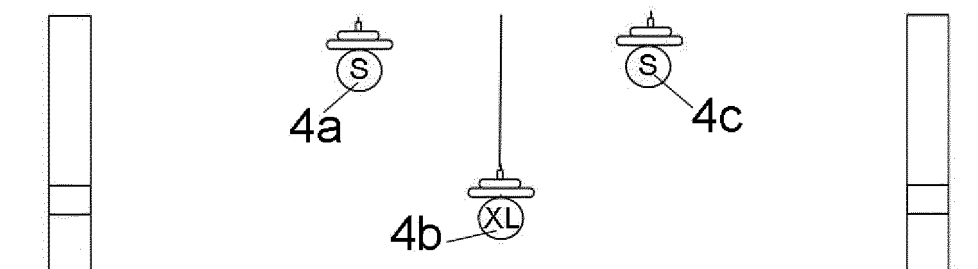


FIG. 6

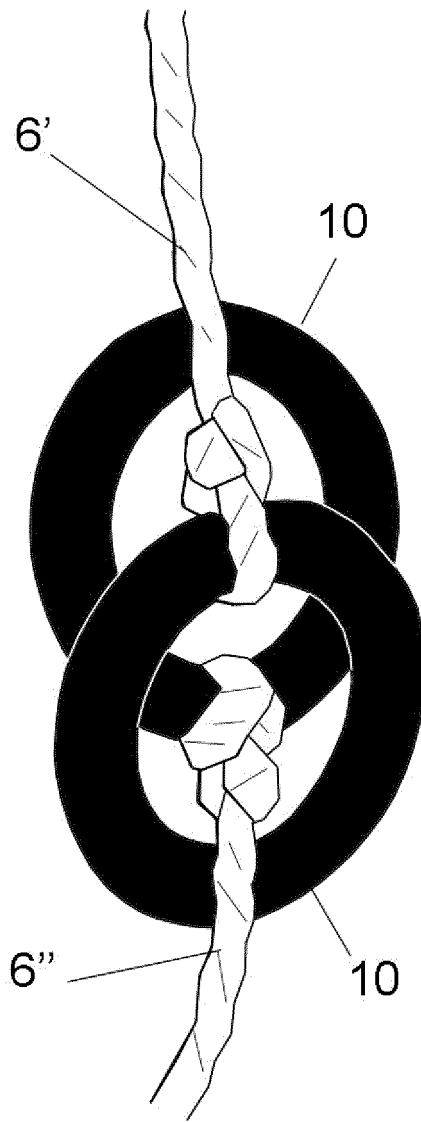


FIG. 7

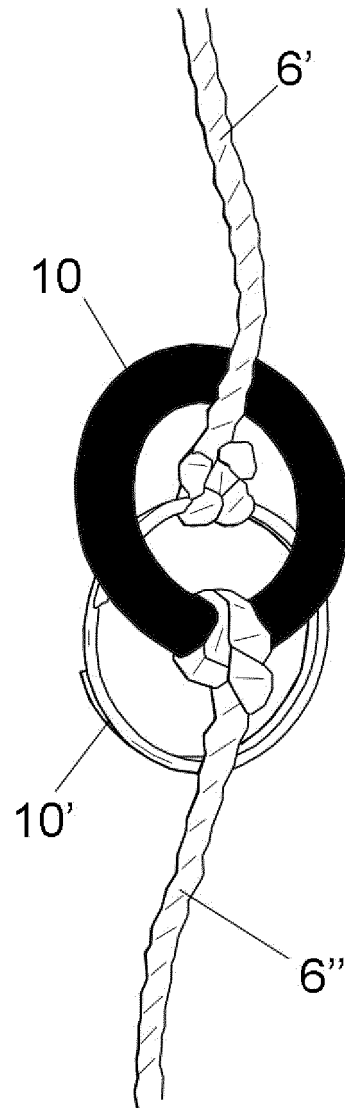


FIG. 8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2015/070965

A. CLASSIFICATION OF SUBJECT MATTER

E04H6/42 (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)

E04H

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6240681 B1 (LYLES ROBERT T ET AL.) 05/06/2001, column 2, lines 39 - 65; column 3, lines 21 - 37; abstract; figures.	1-2
Y	FR 2724967 A1 (GUYOMARD JEAN PIERRE) 29/03/1996, page 2, lines 11 - 21; page 3, line 1 - page 4, line 5; figures.	1-2
A	US 4010933 A (HEBDA THOMAS) 08/03/1977, column 1, line 55 - column 2, line 45; figures.	1
A	US 2012160151 A1 (BATTAGLIA PATRICK) 28/06/2012, paragraphs[0013 - 0014]; abstract; figures.	3-4
A	JP H0941704 A (TOUTSU MASAYUKI) 10/02/1997, Abstract from DataBase WPI. Retrieved of EPOQUE; figures.	3-4

☐ 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
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"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
30/03/2016Date of mailing of the international search report
(31/03/2016)

Name and mailing address of the ISA/

Authorized officer
E. Balsera PorrisOFICINA ESPAÑOLA DE PATENTES Y MARCAS
Paseo de la Castellana, 75 - 28071 Madrid (España)
Facsimile No.: 91 349 53 04

Telephone No. 91 3493260

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2015/070965

Information on patent family members

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
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FR2724967 A1	29.03.1996	NONE	
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JPH0941704 A	10.02.1997	NONE	

Form PCT/ISA/210 (patent family annex) (January 2015)