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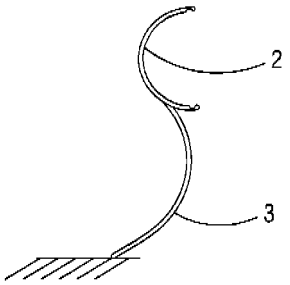
(54) PROTECTION DEVICE FOR GUARDRAILS

(57) The invention relates to a protection device for guardrails, formed by a section (1) comprising two segments (2, 3), namely: a first upper semi-cylindrical segment (2) which is intended to be press-fitted to a double-wave guardrail, and a second lower semi-ovoid segment (3) which is in contact with the road. The invention is intended to reduce human injuries in the event of an accident.

FIG.2



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Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a protection device applied to the known type of road guardrails, such as crash barriers that has numerous advantages with regard to other type of road protections.

BACKGROUND TO THE INVENTION

[0002] Numerous objects have been presented for protecting people ejected from a vehicle, however, the only thing achieved with them at the very best, is to pass from injuries to contusions, whilst the later describe device, prevents the sharp deceleration that is brought about by a vertical element and travels together with the vehicle in its progressive deceleration, this way of operation resulting in its effectiveness.

DESCRIPTION OF THE INVENTION

[0003] The present invention has been developed for the purpose of providing a protection device for road guardrails that solves the above-mentioned disadvantages, in addition contributing other additional advantages that will become clear from the description that is given below.

[0004] The protection device applied to road guardrails consists of a resistant plastic moulding, that is snap engaged with the existing road guardrail, with said structure forming the whole, and is intended for any element (vehicle or person) that if it were to leave the road, such that its trajectory would be guided preventing the sharp deceleration, and/or traumatic amputation of the occupants' limbs. The mentioned device is applied in a simple manner to the road guardrail, resulting in the minimisation of human injuries.

[0005] The protection device applied to road guardrail is characterised in that it comprises a profile that has two portions, an upper portion with a semi-cylindrical outline aimed to be snap engaged with the crash barrier of the road guardrails and a second lower portion with a substantially semi-ovoid outline that rests on the road, whereby it protects the space found between the crash barrier and the road surface itself.

[0006] Preferently the second lower portion has a radius of curvature of 16.5 centimetres. This brings with it the advantage that the object directed to at the guardrail is caught by said skirt, preventing the object from going under the road guardrail and moreover, it makes it to occur it before impacting against the upper semicircular element.

[0007] In a preferred embodiment, the upper and lower portions are overlapped with each other. The upper portion is provided with means to fix it to the crash barrier of the road protection guardrails, which consists of an upper groove and another lower one facing each other.

[0008] Advantageously, the rail is made from a plastic impact-resistant material.

[0009] Other characteristics and advantages of the road guardrail protection device object of the present invention will become clear from a description of a preferred embodiment, but not exclusive, that it is illustrated by way of example, without being in any way limiting, in the attached drawings, wherein:

BRIEF DESCRIPTION OF THE DESIGNS

[0010]

Figure 1. - It is a perspective view of a protection device for road guardrails according to the invention; and

Figure 2. - It is a side elevation view of the profile of the device object of the invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0011] As shown in the figures, the protection device for road guardrails of the invention is basically constituted by a profile referenced in a general manner with number (1) that has two portions (2, 3), a first upper portion (2) with a semi-cylindrical outline aimed at snap engaging with a guardrail crash barrier by means of two grooves (this can be seen more clearly in figure 2) and a second lower portion (3) with a semi-ovoid outline that rests on the road, hence the outer face, that is the face aimed towards the road surface, does not present any cutting element unlike the guardrails provided at present on the roads. The mentioned second lower portion (3) has a double function:

a) To prevent the passage of elements or people under the upper portion; and

b) To take these elements or people back along a longitudinal direction until they stop, not by sharp deceleration, but by means of a progressive loss of kinetic energy.

[0012] Details, shapes, sizes and other accessorial elements, likewise the materials used in the manufacture of the protection device for road guardrails of the invention can be appropriately substituted by others that are technically equivalent and do not stray away from the essentiality of the invention or the scope defined by the claims that are included below.

Claims

1. Protection device applied to road guardrails **characterised in that** it comprises a profile (1) that has two portions (2, 3), a first upper portion (2) with a semi-cylindrical outline aimed at snap engaging with a guardrail crash barrier and a second lower portion

(3) with a semi-ovoid outline that rests on the road.

2. A protection device according to claim 1, **characterised in that** the second lower portion (3) has a curvature radius of 16.5 centimetres.

3. A protection device according to claim 1, **characterised in that** the upper portion (2) and the lower portion (3) are overlapping each other.

4. A protection device according to claim 1, **characterised in that** the first upper portion (2) is provided with means for fixing to the guardrail crash barrier which consists of an upper groove and a lower groove facing each other.

5. A protection device according to claim 1, **characterised in that** the profile (1) is made from a plastic material that is impact resistant.

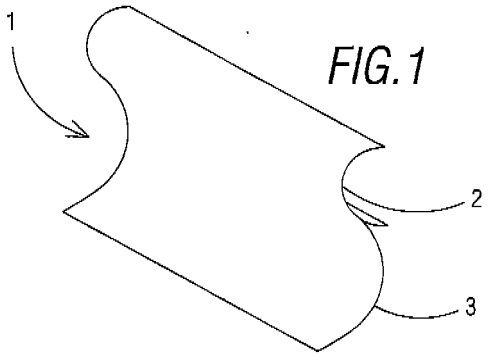
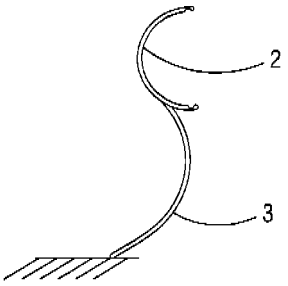


FIG.1

FIG.2



INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 2007/000482

A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet
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)
E01F 15/+

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, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	NL 1008542 C1 (PRINS DOKKUM B V) 10.09.1999, page 6, lines 11-13; figure 1, figures 3A-3D.	1-3,5
Y		4
Y	LU 86582 A1 (FAMAPLAST SA SOC) 22.01.1987, page 4, page 8, figures 2-3.	4
A		1,5
A	FR 2747701 A1 (BARBAGELATA JEAN JACQUES) 24.10.1997, description; figures.	1,2,4,5
A	FR 2752255 A1 (PAYS LILIANE DORIVAL) 13.02.1998, description; figures.	1,4,5
A	FR 2714405 A1 (MAILLET JEAN) 30.06.1995, the whole document.	1,2,4

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

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance.
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"P" document published prior to the international filing date but later than the priority date claimed
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
03 December 2007 (03.12.2007)	
Name and mailing address of the ISA/ O.E.P.M. Paseo de la Castellana, 75 28071 Madrid, España. Facsimile No. 34 91 3495304	Authorized officer A. Martínez de la Rocha Telephone No. +34 91 349 8441

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 2007/000482

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	FR 2546932 A1 (ROUTIER EQUIP SA) 07.12.1984, description; figures 2-6	1,4
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Form PCT/ISA/210 (continuation of second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/ ES 2007/000482

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Form PCT/ISA/210 (patent family annex) (April 2007)

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International application No.

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E01F 15/04 (2006.01)
E01F 15/14 (2006.01)

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