(19) Europäisches Patentamt
European Patent Office
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(11) **EP 2 792 792 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
22.10.2014 Bulletin 2014/43

(51) Int Cl.:
E01F 1/00 *(2006.01)* ***E01F 9/053*** *(2006.01)*

(21) Application number: **14164604.2**

(22) Date of filing: **14.04.2014**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **15.04.2013 IT AQ20130003 U**

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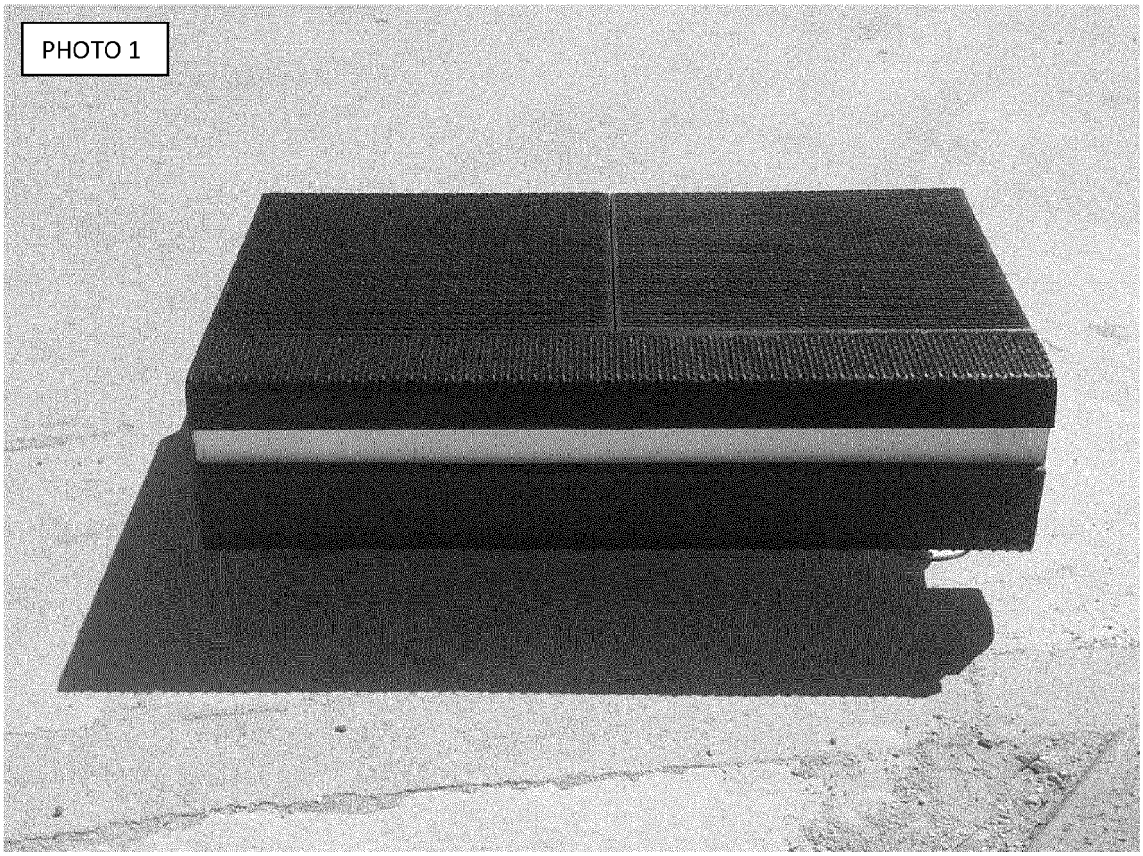
(54) **Suspended security kerb**

(57) Suspended safety kerb for platforms, pavements and roundabouts comprising rubber profiles alternated with reflecting laminate on a metal support.



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Description

[0001] The present invention consists in a suspended safety kerb for platforms, pavements and roundabouts, characterised by its application versatility. For instance, in the specific case of the making of roundabouts, a demolition of the existing kerbing with the related traditional kerbs is unnecessary, as the proposed model has a "straddling" section which enables laying by using the existing structure as a supporting height, (see drawing - Table 4 and photo 3). The remarkable value added to this novel type of kerb is afforded by the materials used for its making:

- recycled PVC profiles, making it stand out as a green product (so much so that in 2012 the Inventors were awarded the *Confindustria Abruzzo Green Prize*);

- laminate reflecting materials, guaranteeing exceptional nighttime visibility;

- reinforced concrete, constituting its core and binding together each element;
  Considering the frequency of road accidents near roundabouts, above all in nighttime, due to scarce visibility of the same, and the substantial expenditures due to new makings with the traditional method, the novel kerb for roundabout immediately repays itself by introducing significant functional and performance improvements to the road infrastructure, which will become safer and more user-oriented. So much so that this novel type of kerb has already been tested in 2012, with positive results, in the making of roundabouts for the Municipality of Sulmona and the Province of L'Aquila (see photos 4 and 5). Therefore, the Inventors keep improving its details, as the present utility model originates from constant research and development activities carried out by their Company also on Patents already granted, such as, e.g.: ***Cordolo di sicurezza,*** Nr. 0001364076, issued on 22 July 2009; ***Cordolo di banchina*** *a* ***canale,*** Nr. 000273543, issued on 24 May 2012; *Gradino* ***ergonomico di sicurezza,*** Nr. 0001373045, issued on 19 April 2010; and from which, by extension and diversification, the application for the present model derives. From studies and tests performed on the basis of the above-mentioned Patents, the Inventors attained a novel applicative typology, which in different variants constitutes just the SUSPENDED SAFETY KERB. It is made with materials commonly found on the market, such as concrete, inert materials and reinforcing irons, as well as rubber profiles produced by the Inventors' Company (materials also used in the making of other products subject-matter of patent(s) owned by the Inventors. The section of the novel design (see main drawing), which makes the novel kerb SUSPENDED from road or platform height, hints at how, in the making of the artefact, concrete is cast into formworks suitable for the required sizes, and wherein also all other artefact components reside. Once making moulds are taken down, the artefact has two front rubber profiles, separated from each other by a high-visibility reflecting metal band (see attached photo 2). The novelty lies in having contrived a prefabricated element having two profiles of recycled PVC, which soften any impact and make it stand out as a green product, alternated with reflecting laminate materials, guaranteeing exceptional nighttime visibility. Such novelty constitutes the essence of the invention, which can be of variable shapes, sections and sizes depending on the different performances required. This novel type of kerb proves to be useful and suitable for the making of kerbs and kerb covers for road roundabouts, for the making of road and railway pavements, and is deemed particularly suitable for the superelevation (banking) of station pavements, see drawing - Table 1, from which there may be inferred the adjustable suspension with telescopic base, enabling to bring the tread floor of the kerb to the set height; this solution is a typological variant of the channel kerb provided in the superelevation of Patent Nr. 0000275218, issued on 8 March 2013, which is experimentally being made at Tortoreto Lido railway station (see photo 6). Moreover, to improve the safety degree of travelers getting on and off trains, a typology was studied and made which provides kerb width increase by addition of a rubber-concrete panel fixedly coupled with the same casting (see drawing section - Table 2), thereby increasing the nonslip tread floor and therefore safety, as may be seen from photos 1 and 2 - (incidentally, the above-mentioned panel is a diversified use of Patent Nr. 0000272387, granted on 28 November 2011 with the title ***"pannello ergonomico prefabbricato",*** etc....). The oversize kerb, by being wider, envisages height adjustments with telescopic bases at the two sides, or at one side only and with the other one already placed at a preset height (see drawing Table 3).

[0002] In short, this kerb has the innovative feature of being prefabricated in one piece, ergonomic and modular, with the advantage of being laid simply and quickly, with a remarkable saving of costs and times. Ergonomic, as interacting between individuals and technologies, for a higher level of safety, adaptability and usability. The features, measures, materials and relative proportions of the model are variable and depend on the technical-performance level to obtain safety standards suitable and required for both road and railway use. Currently, kerbs of various types, sizes and shapes are produced and marketed, yet not with the **specific rubber components, both in case of a making entirely of rubber (see drawing Table 5) and with the rubber-concrete coupling technology, as well as with the use of embedded re-**

flecting laminae that, along with the materials and fittings used, actually constitutes the **innovative part** of the present model for which protection is sought.

Claims

1. The innovation of the industrial utility design, for which **"protection of the invention"** is sought is the specific section of the kerb (as highlighted by attached drawings and photos), which, made with rubber profiles alternated with the reflecting laminate on a metal support, enables to obtain an innovation of production process and end product, as well as the technological novelty related to the laying thereof.

2. The innovative design of the section, of different and various shapes and dimensions, the composite prefabrication with other elements, such as, e.g., rubber profiles, rolled steel sections and reflecting laminates, are the characteristic elements which form the real object of the industrial utility model, and which essentially constitute the specific claim that is to be protected in the scope of the production and marketing process of the kerb at issue.

PHOTO 1

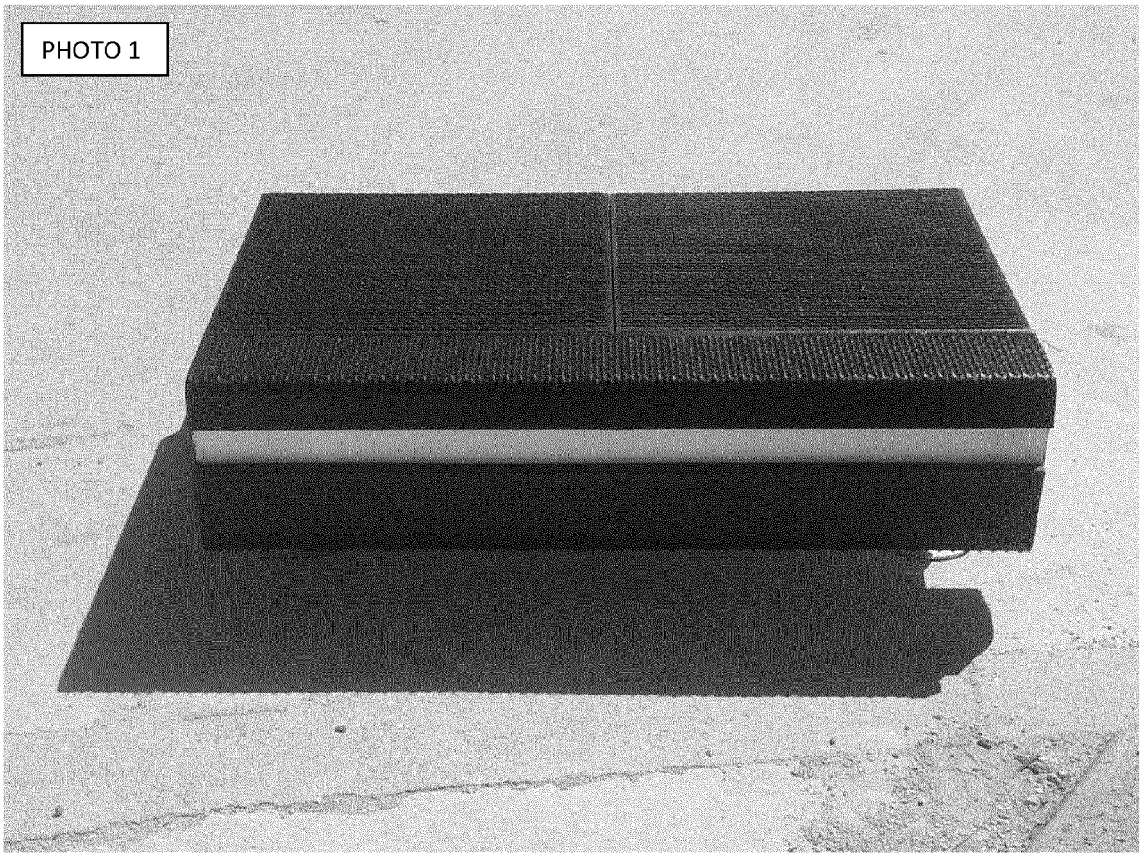


PHOTO 2

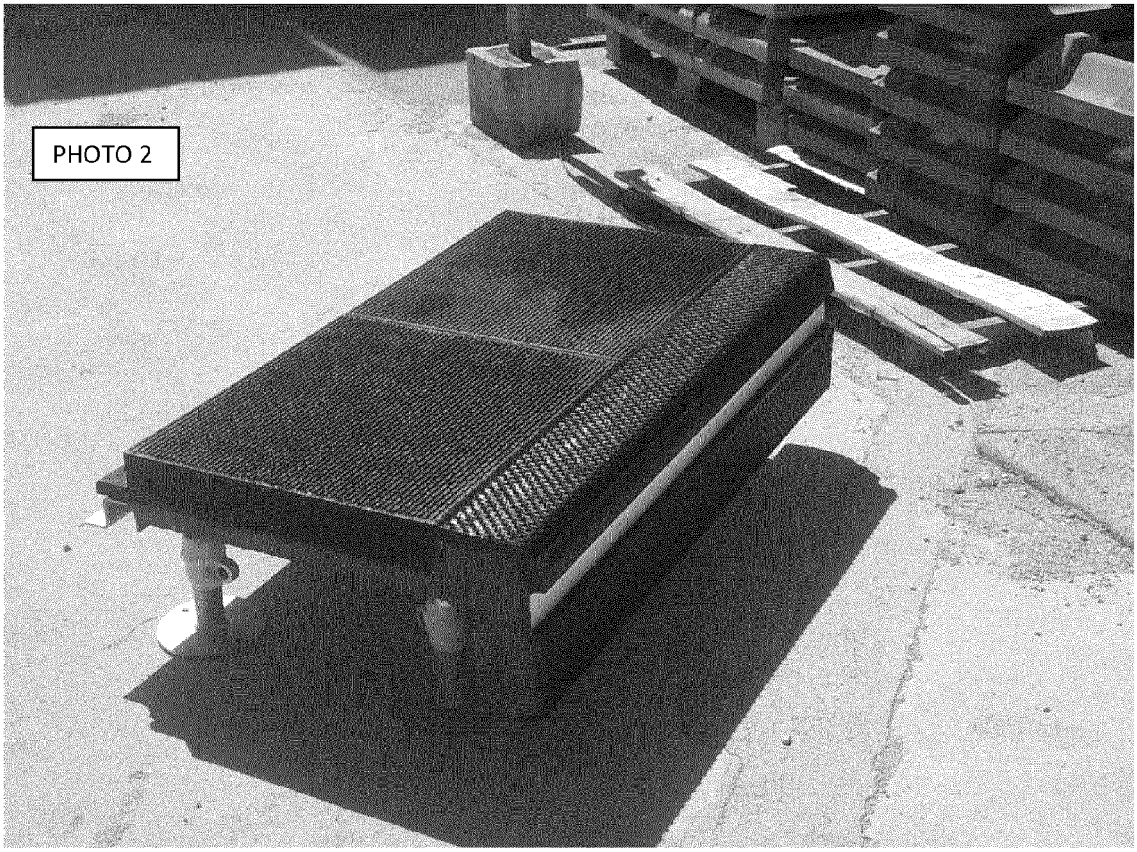


PHOTO 3

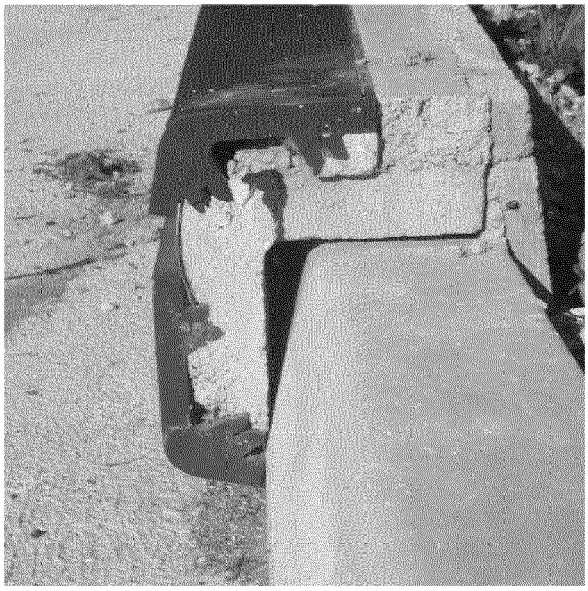
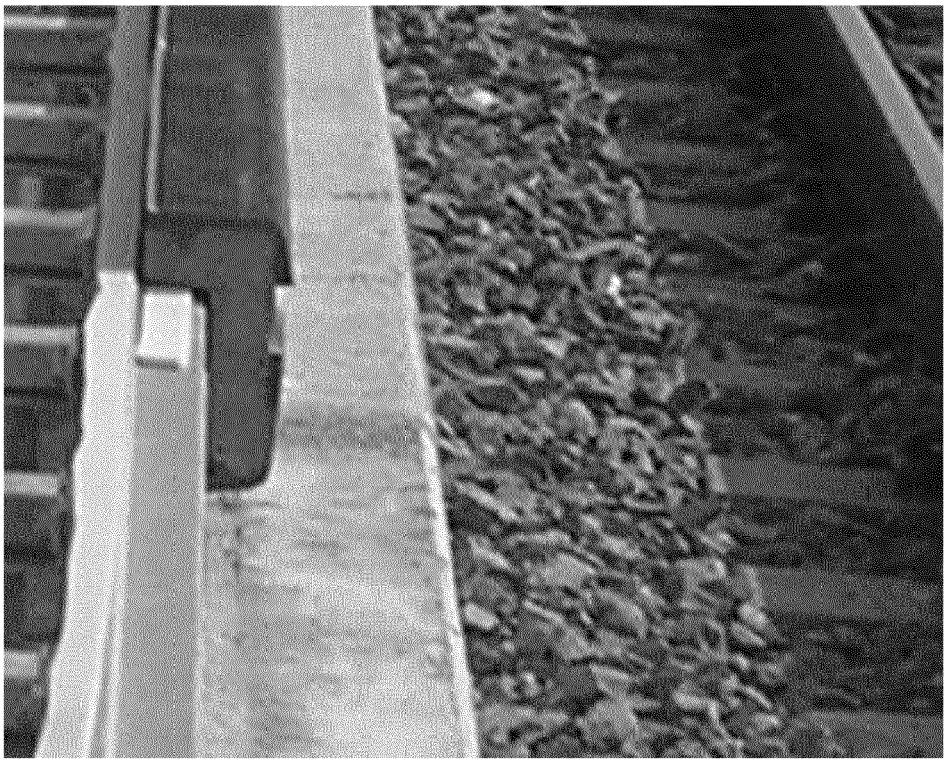


PHOTO 4

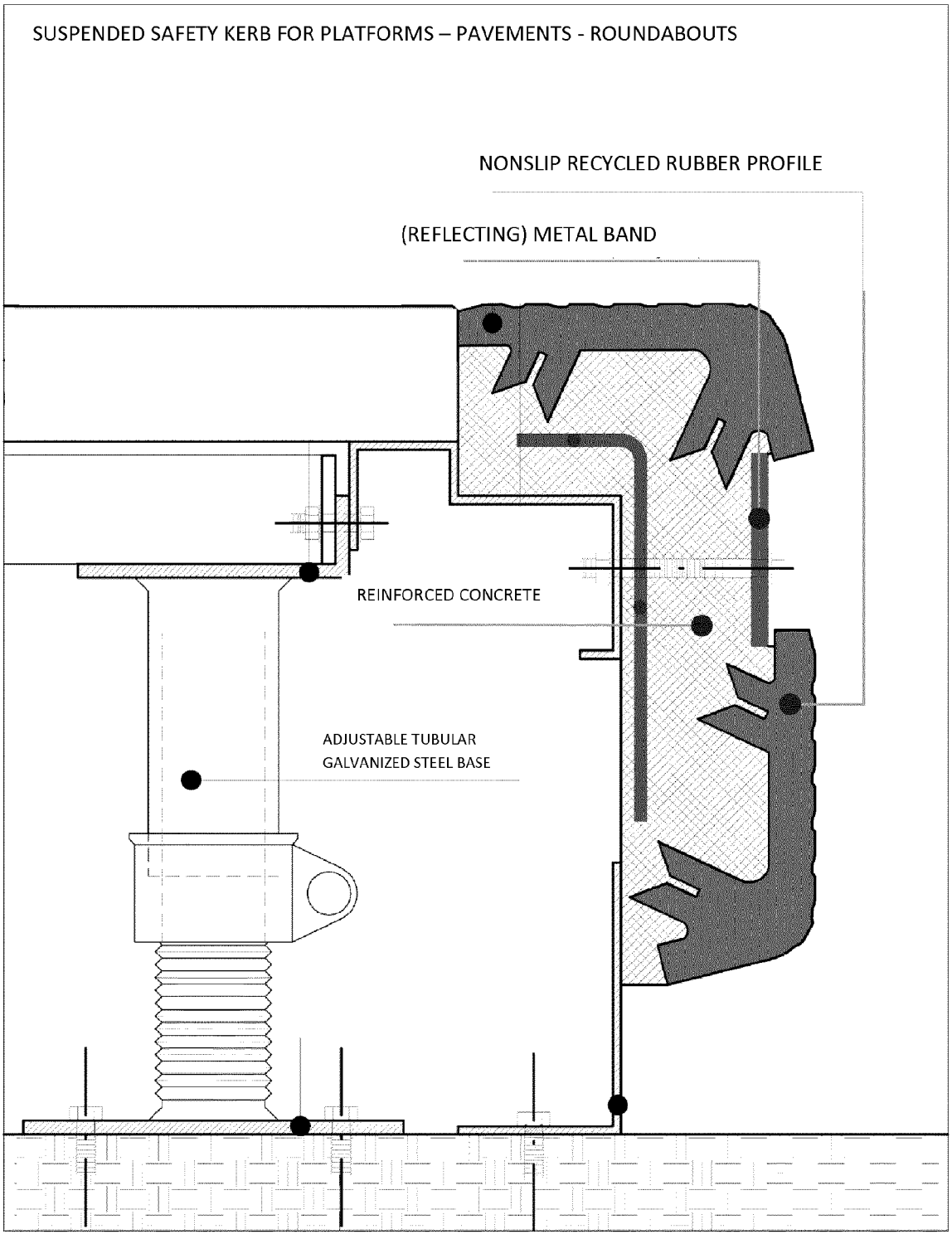
PHOTO 5

PHOTO 6

PHOTO 7

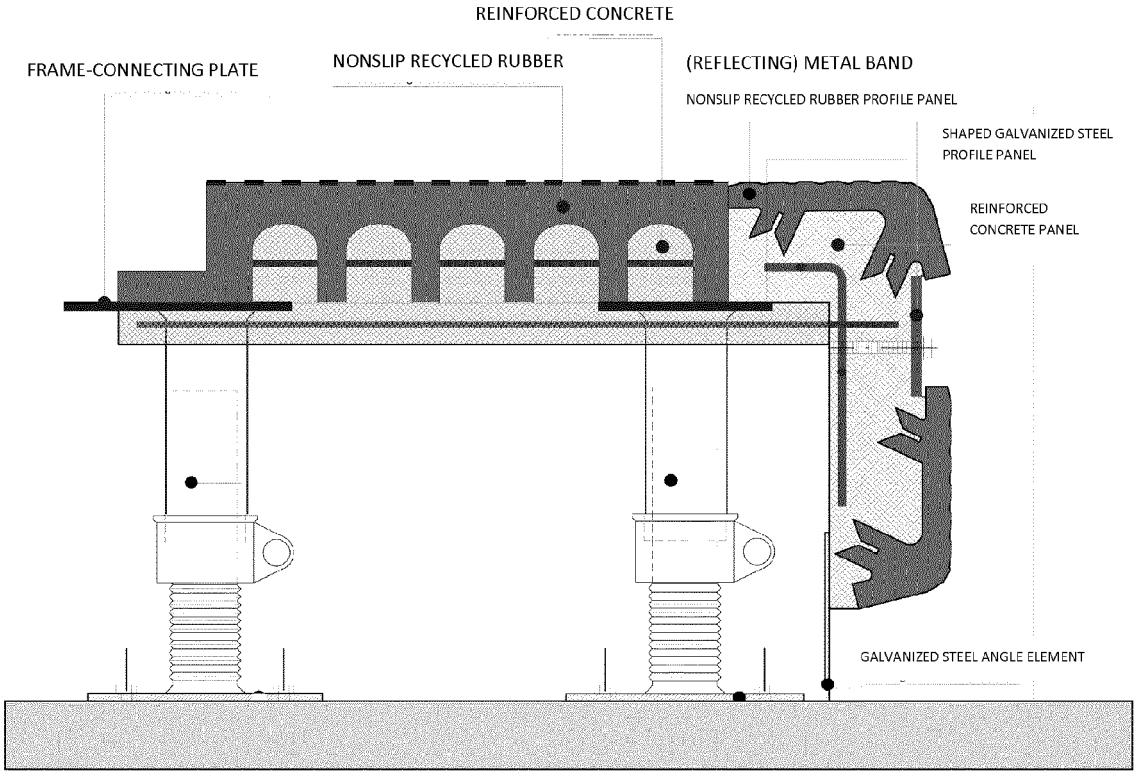


DRAWING – TABLE 1



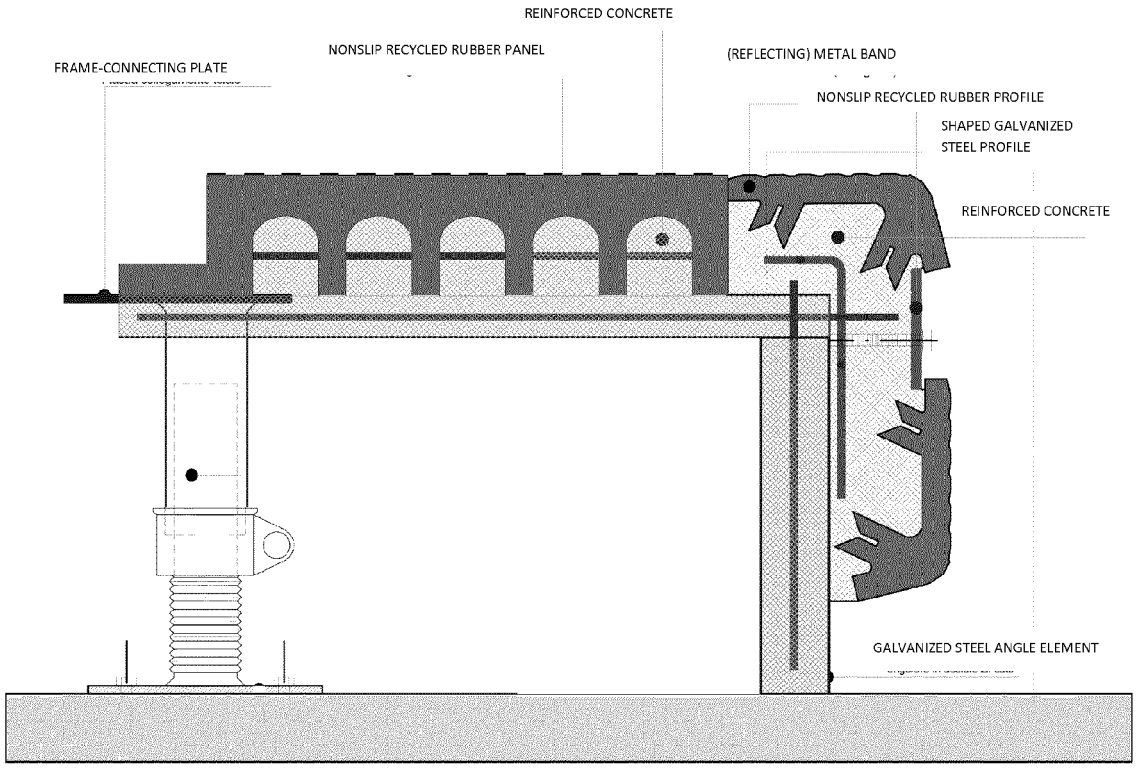
DRAWING – TABLE 2

SUSPENDED SAFETY KERB FOR RAILWAY PLATFORMS



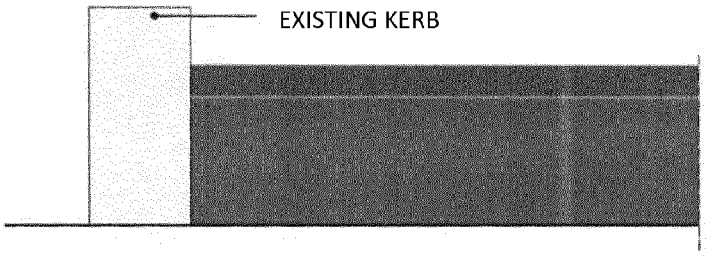
DRAWING – TABLE 3

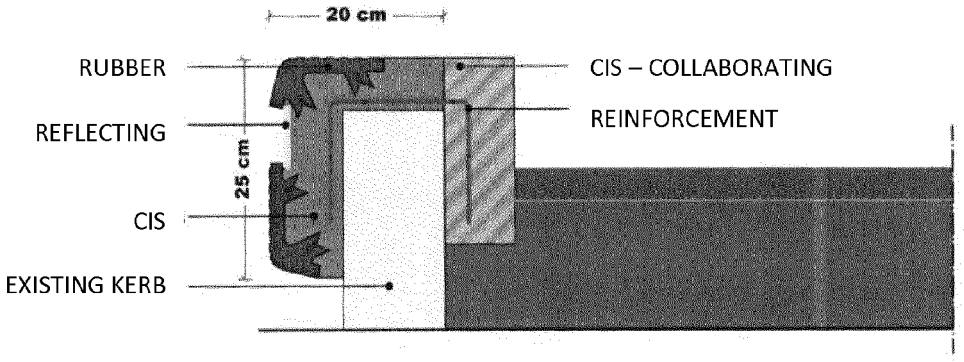
PARTIALLY SUSPENDED, OVERSIZE SAFETY KERB FOR RAILWAY PLATFORMS



DRAWING – TABLE 4

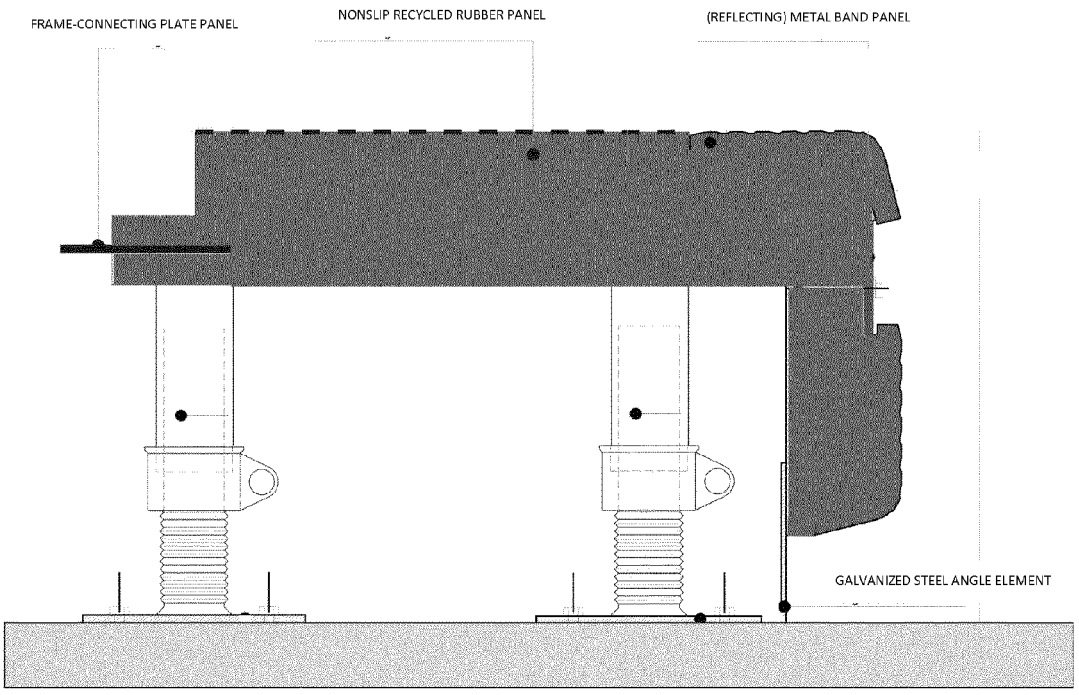
SAFETY KERB FOR ROUNDABOUT





DRAWING – TABLE 5

SUSPENDED OVERSIZE SAFETY KERB FOR RAILWAY PLATFORMS, ENTIRELY OF RUBBER, WITH METAL SUPPORT



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EUROPEAN SEARCH REPORT

Application Number
EP 14 16 4604

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 550 095 A (HERBERT JAMES HAYNES) 22 December 1942 (1942-12-22) * the whole document *	1,2	INV. E01F1/00 E01F9/053
X	CH 627 806 A5 (STEINER SILIDUR AG [CH]) 29 January 1982 (1982-01-29) * the whole document *	1	
A	EP 1 475 289 A1 (COMPOSITE DAMPING MATERIAL NV [BE]) 10 November 2004 (2004-11-10) * paragraphs [0001], [0005], [0006], [0026], [0027], [0041] * * figure 2 *	1	
A	US 5 238 734 A (MURRAY KEVIN N [US]) 24 August 1993 (1993-08-24) * column 1, lines 11-13 * * column 2, lines 58-62 * * figure 1 *	1	
A	BE 406 087 A (UNIVERSAL RUBBER PAVIORS LIMITED ET LUCIEN GAISMAN) 31 December 1934 (1934-12-31) * page 1, paragraph 1 - page 2, paragraph 3 * * figures 1,6 *	1	TECHNICAL FIELDS SEARCHED (IPC) E01F B65G B61B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	25 June 2014	Kremsler, Stefan

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

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25-06-2014

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

REFERENCES CITED IN THE DESCRIPTION

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- WO 0001373045 A **[0001]**
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- WO 0000272387 A **[0001]**