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(54) **BRAKING DEVICE FOR MOTORCYCLIST GEAR AND SIMILAR**

(57) The device consists of a rubber band or the like, which can be implemented in multiple ways on any protective clothing, such as overalls, jackets, trousers made of leather, cordura or any other material it may be manufactured with, gloves, boots and even helmets, with said band being anti-sliding and arranged over a cushioned or rigid base in order to secure /integrate it into the relevant clothing. Thanks to this structure, the elastic and adherent nature of the rubber bands create an opposing force against the sliding force experienced by the motorcyclist, which significantly reduces the movement speed thereof until they stop.

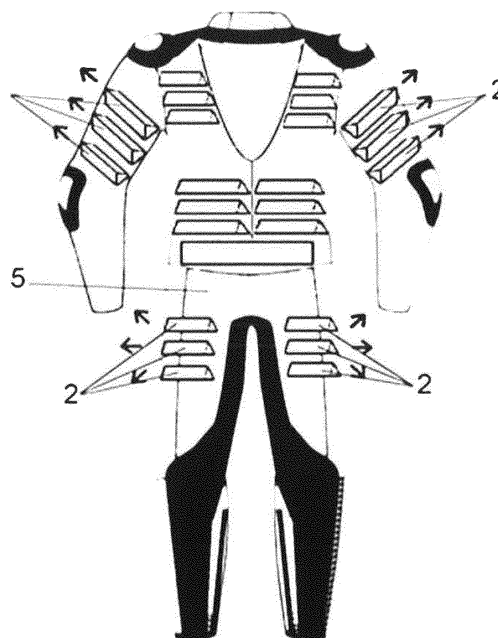


FIG. 4

Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a braking device for the clothing gear of motorcyclists, such as overalls, jackets and/or trousers, helmets, gloves and boots.

[0002] The object of the invention is providing the market and the public in general with a device that can significantly reduce the distance that a motorcyclist slides, over any type of terrain, after suffering an accident and falling off, in order to prevent them from colliding against other elements such as guard rails and similar elements.

[0003] Although the invention is preferably designed to be used in the field of motorcycles, evidently, it can also be applied to other activities in which a pilot may accidentally be ejected, such as riding quad bikes, practising certain types of cycling, etc.

BACKGROUND OF THE INVENTION

[0004] Although there are other known clothing gear for improving the safety of motorcycle riding and doing other types of activities, which include clothing gear such as overalls, jackets and/or trousers, helmets, gloves, and boots equipped with reinforcement plates and/or cushioning that minimise the impact damage caused by falling, this type of safety equipment is only designed to prevent said impacts from being transmitted to the body however as it is commonly known, in many motorcycle accidents the danger does not necessary result from falling on the asphalt or any other surface, but rather from the inertia carried by the body of the motorcyclist due to the speed thereof at the time of the fall, which can cause the motorcyclist to collide against other surfaces after crashing on the ground, and wherein the impact is not spread out homogeneously on their bodies, such as when colliding against the typical rail guards or vertical signposts, which are the cause of amputations or death of many motorcyclists every year.

[0005] Therefore, the current safety systems in the clothing gear worn by motorcyclists are not designed to slow down a motorcyclist sliding over any type of surface, a key factor in many accidents.

DESCRIPTION OF THE INVENTION

[0006] The device described herein has been designed to address the problem described above, since it is designed to slow down the sliding that someone riding a motorcycle or a similar vehicle may experience after falling on any type of solid ground, preventing them from sliding and colliding against sharp or potentially dangerous objects, such as guard rails, vertical signposts, posts, trees, etc.

[0007] In order to do so, more specifically the braking device comprises an elongated body or band of solid rubber in which a central core that can have different

sections such as triangular, rectangular, rounded, etc., is defined, with a cushioned and/or rigid base for securing said band, an assembly that is integrated into the clothing gear of the motorcyclist, such as overalls, jackets and/or trousers, helmet, gloves and boots, which may be made of leather or cordura, as well as any other material, with the bands being distributed on different parts of said clothing gear, mainly on the areas that statistically are in contact with the asphalt or any other surface the motorcyclist slides on, such as the arms, the lower back, hips, upper back, the front and sides of the legs, the head, hands, feet, etc., in such a way that these elements are configured and arranged in parallel, forming staggered sections comprising a very efficient braking system for the motorcyclist or pilot.

[0008] Thanks to this structure, the elastic and adherent nature of the rubber bands create an opposing force against the sliding force experienced by the motorcyclist, which significantly reduces their movement speed until they stop, while the foam core interior provides a damping effect, while the cordura fabric, in addition to securing the device to the relevant clothing, provides an anti-abrasion feature that prevents said clothing from tearing.

[0009] According to a variation of an embodiment of the invention, the base of the device may have slightly larger dimensions, acting as a support for securing the device to the relevant clothing gear, preferably by means of stitching, or it can also be secured by means of adhesives, so that in the first case said base has orifices lining the perimeter of the device in order to facilitate the stitching.

[0010] In a similar fashion, the rubber bands can be integrated together forming a single-piece assembly that forms a profile based on triangles, rectangles or semicircles that protrude significantly from the plastic base.

[0011] Evidently, the device described can work alongside with other commonly used protection systems for this type of protective clothing gear, such as internal protection plates, cushioning, airbags, etc.

[0012] Optionally, a layer of cushioned material, such as foam or the like, can be arranged between the plastic base supporting the rubber bands and the relevant clothing gear, to act as a damping element on impact.

[0013] Similarly, the rubber bands can have other configurations different to the longitudinal one mentioned above in order to offer additional design features, which include adopting letter shaped configurations, curved forms, drawings, or any other design criteria.

DESCRIPTION OF THE DRAWINGS

[0014] To complete the invention described below and in order to give a better understanding of the characteristics of the invention, according to a preferred embodiment thereof, this description is accompanied by a set of drawings in which the figures described below have been represented, for purely illustrative purposes and should not be construed as limiting:

Figure 1.- Shows a representation corresponding to an upper lateral view of one of the bands comprising the braking device for clothing gear for motorcyclists designed according to the object of the invention.

Figure 2.- Shows a profile view of the device of the previous figure.

Figure 3.- Shows a perspective view of the device of the previous figure.

Figure 4.- Shows a view of an overall of a motorcyclist equipped with the device of the invention.

Figure 5.- Shows a perspective view of a device of the invention integrated into a module designed to form part of the clothing gear of a motorcyclist.

Figure 6.- Shows a representation corresponding to an upper plan view of a variation of an embodiment of the rubber bands.

Figure 7.- Shows a perspective view of the element of the previous figure.

Figure 8.- Shows a lower plan view of the element of figures 6 and 7.

Figure 9.- Shows an upper plan view of the plastic base that forms part of the device of the invention.

Figure 10.- Shows a sectional view of the device after it has been assembled and attached on a clothing gear, in this case with the interposed layer of cushioned material.

Figure 11.- Shows a perspective view of the general aspect of the device before it is assembled.

Figure 12.- Shows, finally, a perspective view of a clothing gear of a motorcyclist equipped with the braking device of the invention.

PREFERRED EMBODIMENT OF THE INVENTION

[0015] As the drawings reported show, the device (1) of the invention is comprised of a plurality of pieces or bands obtained from a rubber (2) sheet that can have different sections, which in the present example have a triangular section, with the rubber (2) band designed to define an adhesive element in order to slow down the sliding of the pilot, providing said rubber (2) band with an internal cushioning (3) comprising a damping means that allows the assembly to deform and prevent, as much as possible, any injuries to certain parts of the body of the user.

[0016] In order to integrate the device into the relevant clothing, the device is complemented by side pieces (4)

made of cordura and leather that form part of the cut of the clothing in which they are integrated and that are fixed by means of adhesive to the sides of the rubber (2) band, and which define side wings used for securing the device to the clothing (5) of the motorcyclist, such as an overall, as the one represented on Figure 4, trousers, and/or a jacket, boots, and it can also be integrated into helmets, gloves, and any other clothing of the motorcyclist.

[0017] Thanks to this structure, as shown on Figure 4, the bands are distributed on strategic areas over the surface of the protective clothing in order to maximise how much the motorcyclist slows down the slide thereof over any surface.

[0018] Therefore, as Figure 5 shows, the device can form part of the pieces that comprise the clothing of the motorcyclist, so that the fixing side wings (4) form part of the leather or cordura piece of the clothing (5) gear, which can be complemented on the ends thereof with finishing pieces (4'), including the aforementioned cushioning (3) inside thereof, which can be independent, or a common sheet for several rubber (2) bands.

[0019] According to a variation of an embodiment of Figure 6, the device of the invention can also be comprised of a plurality of rubber pieces or bands (2'), which are all single-piece and have triangular sections in the example embodiment, with said rubber bands (2') designed to define an adhesive element to slow down the sliding of the pilot.

[0020] During the manufacturing process of the device, said rubber bands are partially imbibed on a laminate base (3') made of rigid, semi-rigid or soft plastic, which is slightly protruding in relation to the rubber bands (2') in order to define a perimeter edge (6) with a line of orifices (7) that facilitates stitching said base to the relevant clothing gear (5), with a layer of cushioned material (8) that can also be interposed between both elements, as shown on Figure 5.

[0021] Optionally, the base could be attached by means of adhesive instead of stitching, and the rubber bands (2') could have a hollow core or a core filled with a stiffening material, without affecting the essence of the invention.

[0022] Thanks to this structure, as shown on Figure 12, the bands are distributed on strategic areas over the surface of the protective clothing in order to maximise how much the motorcyclist slows down the slide thereof over any surface.

[0023] It was proven experimentally that the device of the invention reduces up to 50% the distance travelled by a motorcyclist after falling and sliding over different types of surfaces until they stop, compared to conventional clothing gear.

Claims

1. Braking device for clothing gear for motorcyclists and the like, which can be attached to any protective

clothing such as overalls, jackets, trousers made of leather, cordura or any other material it may be manufactured with, gloves, boots and even helmets, **characterised in that** it is comprised of an anti-sliding rubber band, which defines a solid band that is arranged over a cushioned base in order to secure /integrate it into the relevant clothing.

or filled with a stiffening material.

2. Braking device for clothing gear for motorcyclists and the like, according to claim 1, **characterised in that** the rubber band has a triangular, rectangular or rounded section, or a section of any shape according to any type of design. 5 10
3. Braking device for clothing gear for motorcyclists and the like, according to claim 1, **characterised in that** the rubber bands are also fixed by means of side wings that form part of the cut of the material of the clothing it is integrated into. 15 20
4. Braking device for clothing gear for motorcyclists and the like, according to claim 1, **characterised in that** the side wings attached to the rubber bands are independent of the material and the piece of clothing they are integrated into. 25
5. Braking device for clothing gear for motorcyclists and the like, according to claim 1, **characterised in that** it comprises a plurality of pieces or bands (2') made of rubber or a material derived from rubber, which are anti-sliding, fixed to a laminate base (3') made of rigid, semi-rigid or soft plastic, which has a slightly oversized plant in relation to the rubber bands (2'), and that can be attached to the relevant clothing gear. 30 35
6. Braking device for clothing gear for motorcyclists and the like, according to claim 5, **characterised in that** the base (3') is slightly protruding plant in relation to the anti-sliding rubber bands (2'), defining a perimeter edge (6) comprising a line of orifices (7) for fixing the device to the clothing gear by means of stitching. 40
7. Braking device for clothing gear for motorcyclists and the like, according to claim 5, **characterised in that** a layer of cushioned material (8) is placed between the clothing gear (5) and the base (3'). 45
8. Braking device for clothing gear for motorcyclists and the like, according to claim 5, **characterised in that** the anti-sliding rubber bands (2') comprise a triangular, rectangular or rounded section, which can also adopt a longitudinal or curved arrangement, as well as form drawings or letters. 50 55
9. Braking device for clothing gear for motorcyclists and the like, according to claim 5, **characterised in that** the core of the anti-sliding rubber bands (2') is hollow

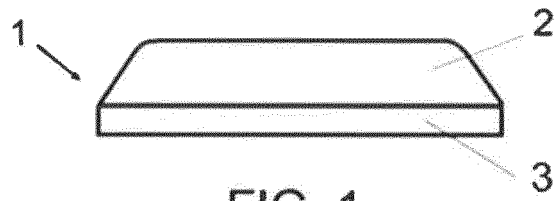


FIG. 1

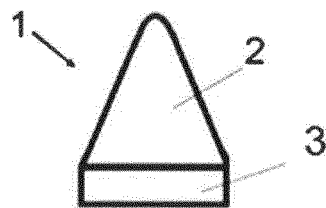


FIG. 2

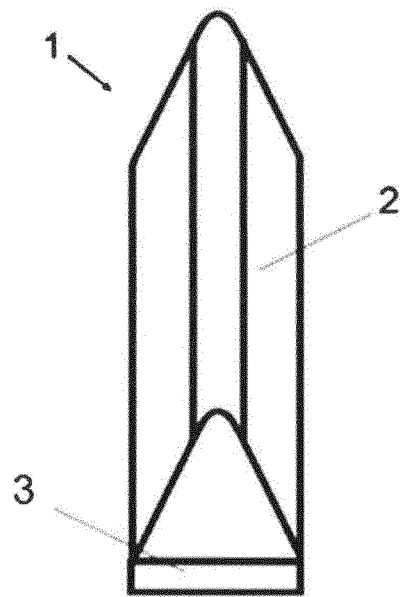


FIG. 3

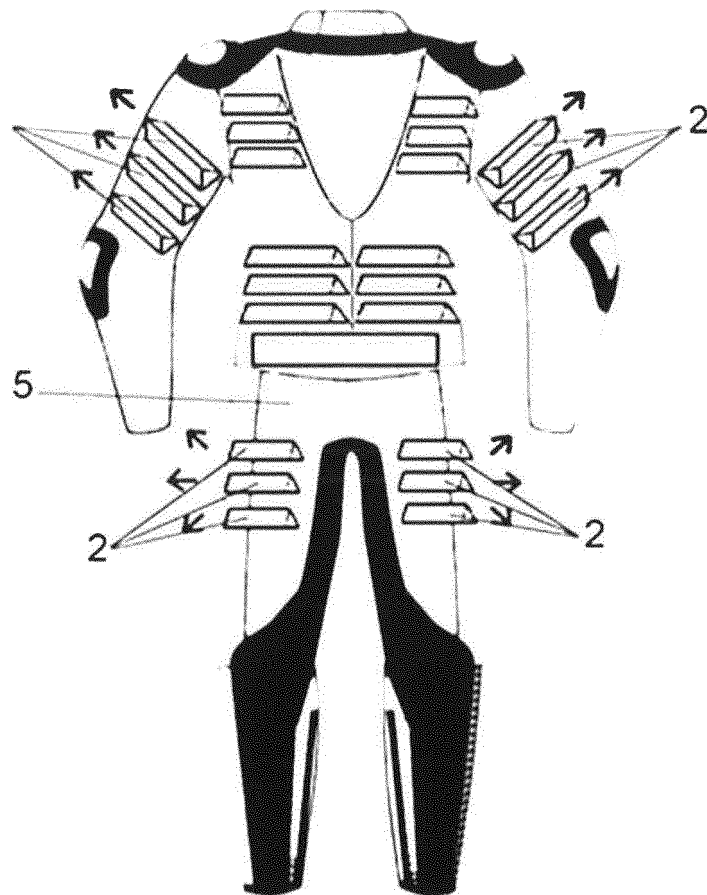


FIG. 4

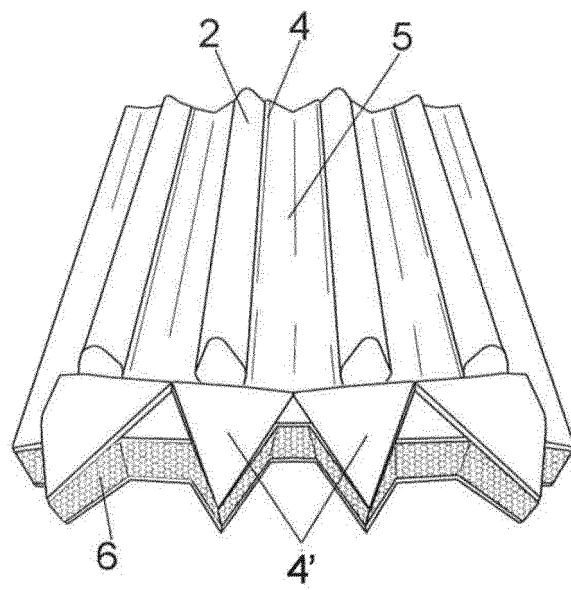


FIG. 5

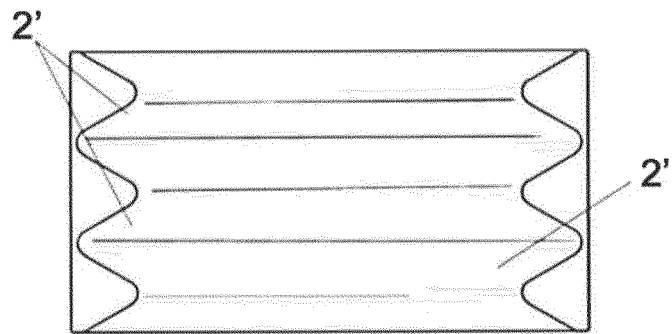


FIG. 6

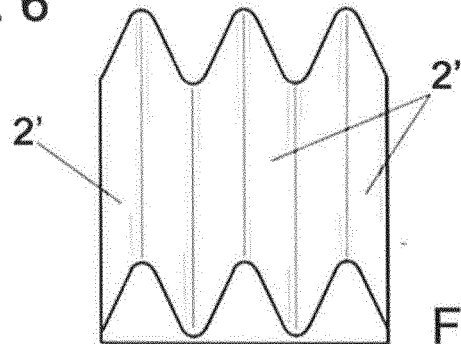


FIG. 7

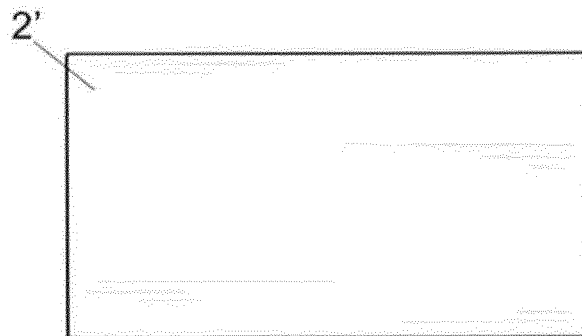


FIG. 8

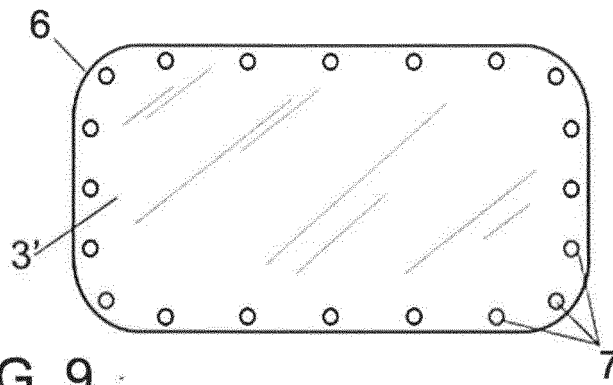


FIG. 9

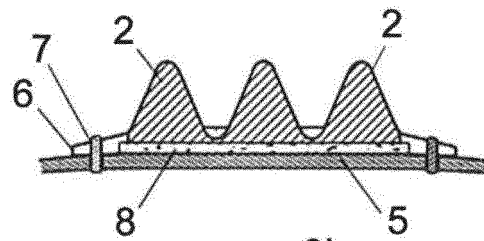


FIG. 10

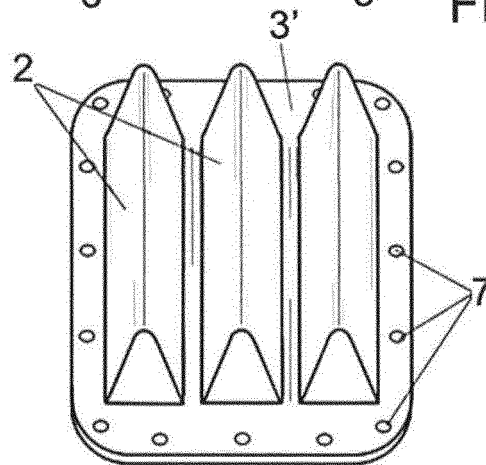
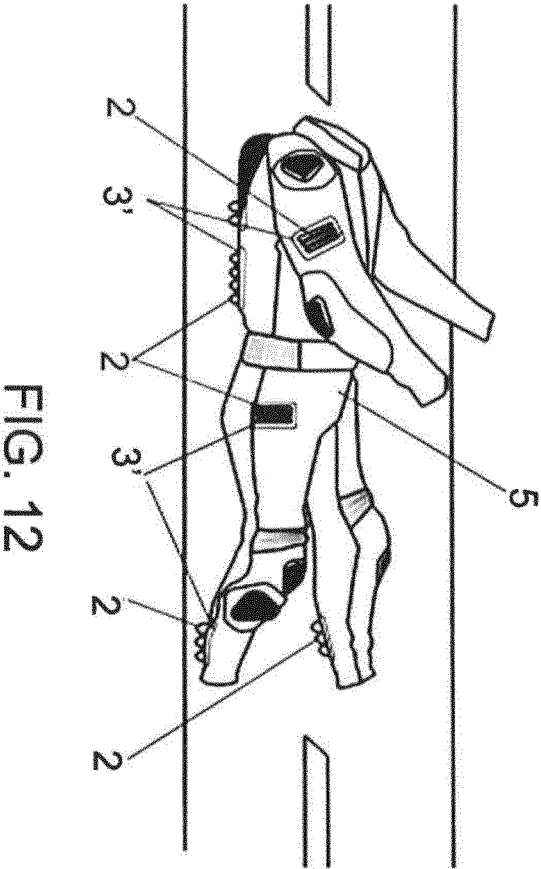


FIG. 11



INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2017/000117

A. CLASSIFICATION OF SUBJECT MATTER

A41D13/015 (2006.01)

A41D27/12 (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)

A41D

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.
X	GB 1357699 A (GREITER F J) 26/06/1974, the whole document.	1-9
X	GB 2381435 A (CHANG JU-SUNG) 07/05/2003, page 3, line 13 - page 6, line 5; figures.	1, 5-9
X	GB 2356127 A (STILMA SRL) 16/05/2001, page 6, line 30 - page 8, line 31; figures.	1-3
X	GB 632894 A (RICHARD THOMAS STOKES) 05/12/1949, the whole document.	1, 2
A	DE 2841290 A1 (FLM MOTORSPORT UND LEDERBEKLEI) 10/04/1980, pages 8 - 9; figures.	1

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

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Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2017/000117

Information on patent family members

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DE2841290 A1	10.04.1980	NONE	

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