



(12) **EUROPEAN PATENT APPLICATION**  
published in accordance with Art. 153(4) EPC

(43) Date of publication:  
**10.08.2011 Bulletin 2011/32**

(51) Int Cl.:  
**A45C 13/26** (2006.01) **B31D 1/06** (2006.01)

(21) Application number: **08878531.6**

(86) International application number:  
**PCT/ES2008/000762**

(22) Date of filing: **05.12.2008**

(87) International publication number:  
**WO 2010/063851 (10.06.2010 Gazette 2010/23)**

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

(72) Inventors:  
• **ROVIRA TENAS, Sebastià**  
**E-08560 Manlleu (Barcelona) (ES)**  
• **ROVIRA VILARÓ, Jordi**  
**E-08560 Manlleu (Barcelona) (ES)**

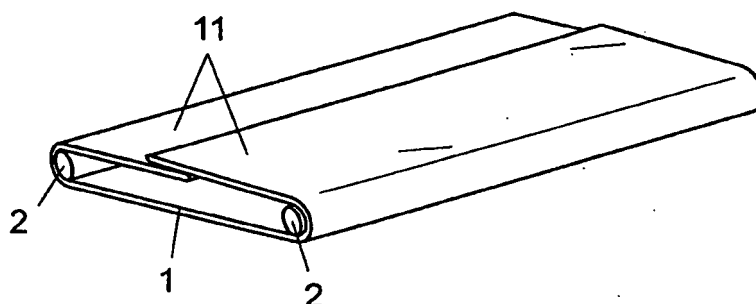
(71) Applicant: **Mimcord S.A.**  
**08560 Manlleu (ES)**

(74) Representative: **Maldonado Jordan, Julia**  
**Linares, 7 - 3**  
**46018 Valencia (ES)**

(54) **REINFORCED ECOLOGICAL STRIP**

(57) Reinforced ecological strip of the type formed from at least one substantially elongate paper sheet, **characterized in that** said strip comprises a planar tubular element, with exterior finishing, formed by a paper sheet, with the longitudinal edges thereof folded inwards, superposed and fastened together by means of an adhesive or a conventional joining means, the interior of

said tubular element containing two or more paper cords or strings lying parallel in the longitudinal direction and joined to the tubular element by an adhesive band, the strip, when used, being suitable for withstanding longitudinal tensile stresses without the flexibility of the strip being adversely affected and also suitable for forming bag handles, strapping, and clothing accessories, *inter alia*.



**Fig. 1**

## Description

### Object of the invention

[0001] The present invention refers to an ecological strip that can be used in different sectors for different objects, such as accessories, tape for hanging objects, handles for bags and generally in any object which includes a strip or slender element with sufficient resistance for prolonged use.

### State of the prior art

[0002] At present, there is a large quantity of objects and accessories that incorporate strips made out of different materials such as fabric, leather and plastic, which are very resistant to wear and tear, but are difficult to recycle once they can no longer be used.

[0003] There are also strips made from at least one sheet of paper that has been stretched slightly. Manufacturing these is economic and they can be made very attractive, so they are suitable for certain uses, such as manufacturing accessories and handles for bags. However, there is a considerable problem in terms of their mechanical resistance and fragility, which is why they are used for products with a short product life or disposable products, but not for longer lasting products which require better mechanical properties.

[0004] The paper strips which resist the best are less flexible and are suitable for certain uses, such as accessories. They are relegated to more static uses, for example for the seats of chairs as a substitute for bulrush and wicker.

[0005] For example, the object described in the Spanish invention patent ES2031782 refers to "Substitute for paper cord and similar, and procedure for obtaining this" of the same holder, and in which the basis of the substitute is formed by a longitudinal fold, without twisting, in the initial strip. This is then covered totally or partially with strips of paper, or raffia made out of polyolefin, polypropylene or a similar material, and is printed to obtain a finish that imitates bulrush or any other material. The result obtained is highly decorative and resistant, but its narrow configuration and certain thickness do not make it comfortable to use in place of a flat strip, which is much more flexible. This is one of the problems solved with the object of the present registration.

### Description of the invention

[0006] The ecological reinforced strip, the object of this invention, presents technical particularities which aim to offer a product of great mechanical resistance and durability, maintaining a suitable level of flexibility which, along with a greater capacity to be recycled than existing strips made of plastic, fabric, leather and other materials, and similar qualities, makes it perfect for a variety of products.

[0007] The strip is made up of a planar tubular element with exterior finishing formed by a paper sheet, with the longitudinal edges folded inwards, partially superimposed and fastened together by means of an adhesive or a conventional joining means. In the middle of the tubular element, there are two or more paper cords or strings, lying parallel lengthways, and joined to the tubular element by an adhesive band. The strip when used is able to withstand longitudinal tensile stress without the flexibility of the strip being adversely affected.

[0008] The strip is therefore ideal for bag handles, hoops and other objects which require a certain mechanical resistance because they are going to be subject to tensile stress.

[0009] This strip is made up entirely of recyclable paper and is therefore more ecological than strips made from other materials.

[0010] Furthermore, the increased resistance compared to strips of paper made from a simple sheet of paper enables a much greater range of uses, and provides great flexibility in comparison with paper strips made out of plaited or folded paper, which cannot be folded repeatedly without breaking or visibly deteriorating.

[0011] Other uses for the strips from this invention include lanyards, such as those used for accreditation badges or to hold keys and other objects, bracelets for identification or decoration, and other accessories. It can also be used for bag handles and rucksack straps, for example.

[0012] The paper cord inside is plaited or twisted, which increases its resistance to tensile stress and therefore provides greater durability without reducing flexibility.

[0013] The strip has at least one paper cord arranged on either side of the tubular element. If greater mechanical resistance is required, more parallel cords can be added between the two aforementioned cords.

[0014] The tubular element presents an external aspect that is slightly flat with an optimal aesthetical quality and the advantages of resistance and flexibility. In addition, the tubular element can be decorated, whether this is printed, painted or added by conventional means on its exterior, improving its appearance or giving it an advertising or promotional aspect.

[0015] In one use of the strip, the edges of the tubular element have a joining means for mutual attachment or attachment to other objects. In one specific case, the joining means are made up of a self-adhesive section covered by a protective film, disposable once used, to stick this edge of the strip, for example for a bag, providing it with a reinforced handle that can be removed after use.

[0016] In another use, they can be made of complementary fastening means, such as a hook and eye, swivel hook, buttonholes or buttons, or any other, depending on the desired use.

## Description of diagrams

**[0017]** To complete the description and facilitate understanding of the different features of the invention, the present descriptive report includes a set of illustrative but not limiting diagrams in which the following can be seen:

- Figure 1 shows a view in perspective of a fragment of the reinforced ecological strip of the invention.
- Figure 2 shows a plan view of the open strip before joining the two sides of the strip of paper that make up the tubular element, along with the central section.
- Figure 3 shows a cross-section of the strip that has four strips of paper in the interior of the tubular element.
- Figure 4 shows the detailed plan view of a fragment of a strip with decoration on the outside.
- Figure 5 shows a view in perspective of a key holder made out of the strip from this invention.
- Figure 6 shows a view in perspective of a strip with self-adhesive fastening on the edges to attach it to the edges of a bag.

## Preferred setup of the invention

**[0018]** As can be seen in the figures referenced, the reinforced ecological strip is made up of a planar paper tubular element (1), inside of which are two paper cords (2) lying parallel lengthways.

**[0019]** The tubular element (1) is made up of a flat strip or sheet of paper, which has two longitudinal adhesive strips (3) where the paper cords (2) are fastened. This flat strip of the tubular element (1) is folded along these strips of adhesive (3) approximately, and the side sections (11) or protruding flaps are folded inwards and joined with a strip of adhesive (4) to close the mentioned tubular element (1).

**[0020]** In figure 3, the cross section of a paper strip can be seen, which is made out of four paper cords (2, 2a), lying lengthways inside.

**[0021]** In the example of use shown in figure 4, the tubular element (1) of paper is decorated (5) printed on the outside, across its length, which gives it a decorative or promotional function.

**[0022]** Figure 5 shows an accessory, more specifically a key holder (6), to be placed around the neck. This key holder is made using the strip from the present invention, along with a swivel hook (61).

**[0023]** Figure 6 shows a practical use for the tape which places joining means (7) on the edges of the tubular element (1) to fasten it to an object (8). In this case, the joining means (7) are self-adhesive sections covered by a protective film (71), disposable once used, which enable the strip to be fastened to the object (8), in this case a bag to create a handle.

**[0024]** Having described in sufficient detail the nature of the invention, and provided an example of preferential

use, it is stated for relevant purposes that the materials, shape, size and arrangement of the elements described can be modified, as long as they do not suppose an alteration of the essential features of the invention which are outlined below.

## Claims

1. Reinforced ecological strip, of the type formed by at least one paper sheet (1), substantially elongated, **characterised in that** the strip comprises a planar tubular element, with exterior finishing, formed by a paper sheet (1), with the longitudinal edges (11) folded inwards, superimposed and fastened together by means of an adhesive (4) or a conventional joining means, the interior of the tubular element (1) containing two or more paper cords or strings (2, 2a) lying parallel in the longitudinal direction and joined to the tubular element (1) by an adhesive band (3), the strip, when used, being suitable for withstanding longitudinal tensile stresses without the flexibility of the strip being adversely affected and also suitable for forming bag handles, strapping and clothing accessories among other uses.
2. According to claim 1, the strip is **characterised in that** the paper cord (2, 2a) is plaited or twisted.
3. According to claim 1, the strip is **characterised in that** inside there is at least one paper cord (2), arranged alongside each side fold of the exterior tubular element (1).
4. According to claim 1, the strip is **characterised in that** the tubular element (1) is decorated (5), printed, painted or fastened through conventional means on the outside.
5. According to claim 1, the strip is **characterised in that** the edges of the tubular element (1) include joining means (7) to fasten it to other objects (8) or to itself.
6. According to claim 1, the strip is **characterised in that** the joining means (7) are made up of a self-adhesive section covered by a protective film (71) that is disposable on its use.

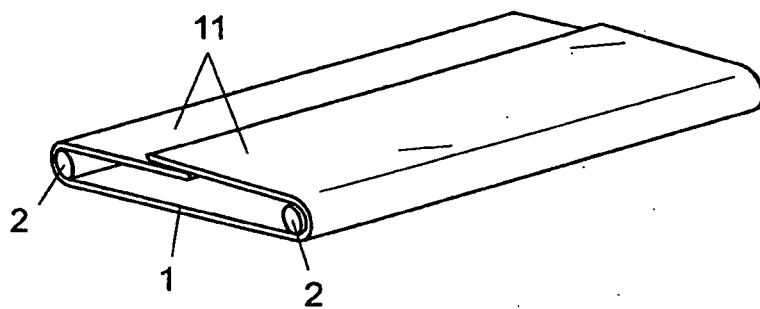


Fig. 1

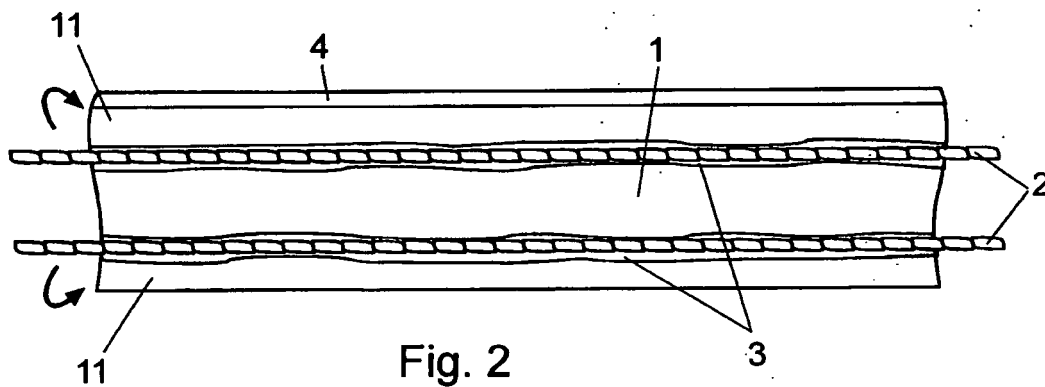


Fig. 2

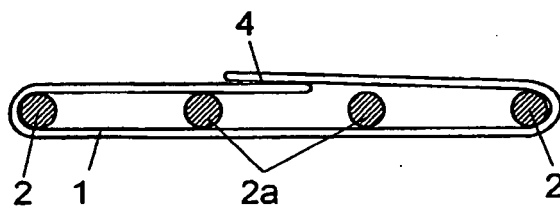


Fig. 3

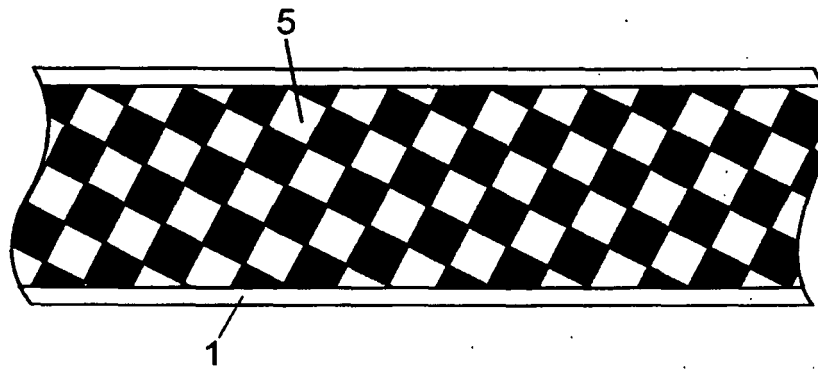


Fig. 4

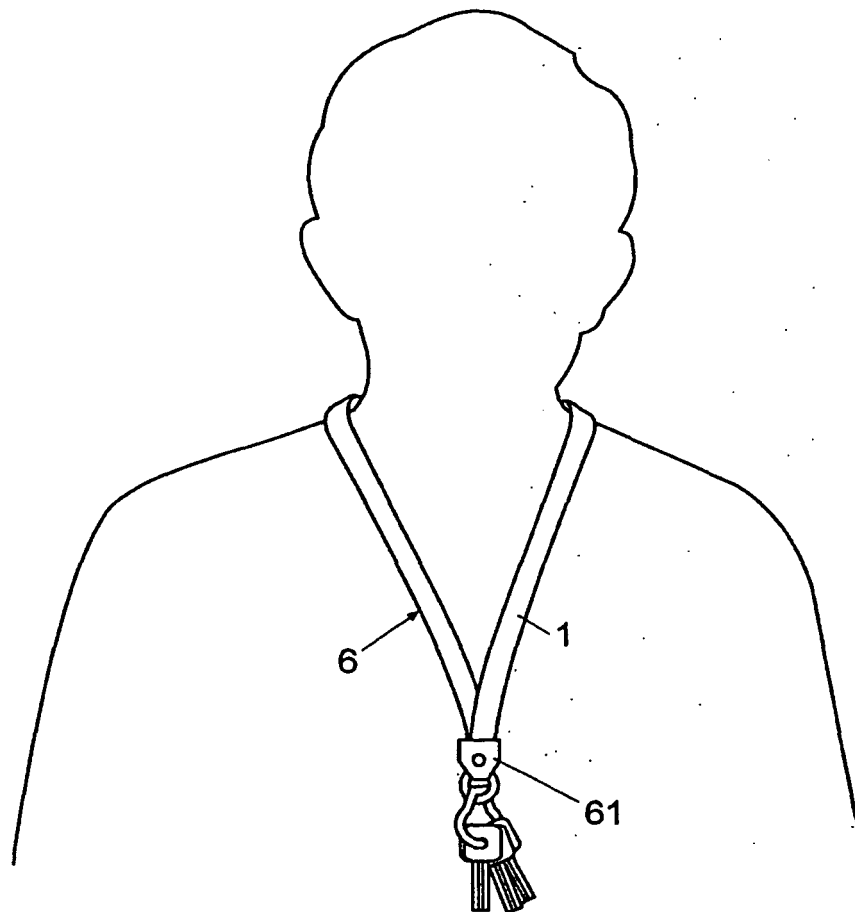


Fig. 5

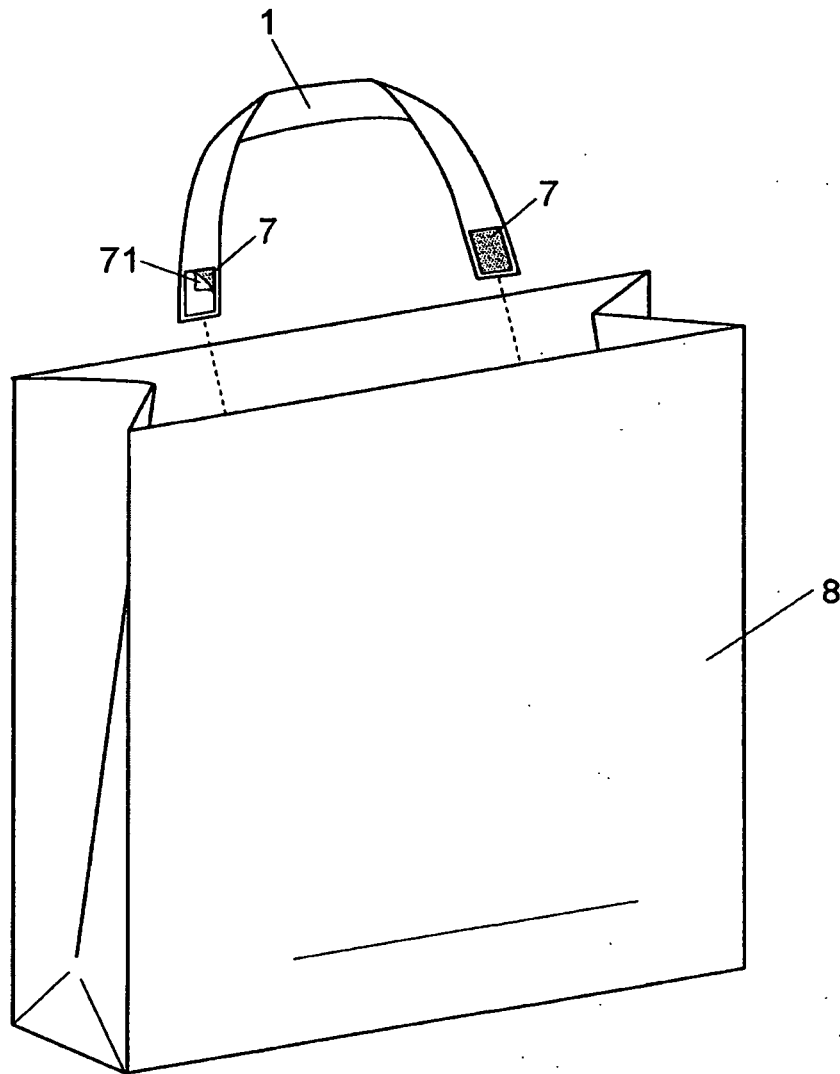


Fig. 6

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ ES 2008/000762

## 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)

A45C 13/00, B31D 1/00

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)

INVENES, EPODOC, WPI, NPL

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3908571 A (MOTSENBOCKER) 30.09.1975, the whole document.	1-6
A	ES 2282008 A1 (MIMCORD) 01.10.2007, the whole document.	1-6
A	EP 0356762 A1 (PROPOSTA) 07.03.1990, the whole document.	1-6
A	JP 2002264952 A (TANAKA IND) 18.09.2002, the whole document.	1-6
A	US 2766925 A (HARFORD STEEN) 16.10.1956, the whole document.	1-6

☐ 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

06 April 2009 (06.04.2009)

Date of mailing of the international search report

(28/04/2009)

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

M. Fluvia Rodríguez

Telephone No. 91 349 30 16

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/ ES 2008/000762

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
US 3908571 A	30.09.1975	NONE	-----
-----	-----	-----	-----
ES 2282008 A B	01.10.2007	NONE	-----
-----	-----	-----	-----
EP 0356762 A	07.03.1990	EP 19890114528 IT 215016 Z	07.08.1989 30.07.1990
-----	-----	-----	-----
JP 2002264952 A	18.09.2002	NONE	-----
-----	-----	-----	-----
US 2766925 A	16.10.1956	NONE	-----
-----	-----	-----	-----

Form PCT/ISA/210 (patent family annex) (July 2008)



INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES 2008/000762

CLASSIFICATION OF SUBJECT MATTER

**A45C 13/26** (2006.01)

**B31D 1/06** (2006.01)

**REFERENCES CITED IN THE DESCRIPTION**

*This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.*

**Patent documents cited in the description**

- ES 2031782 [0005]