



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 166 672 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
02.01.2002 Bulletin 2002/01

(51) Int Cl.7: **A43C 9/04**

(21) Application number: **01830187.9**

(22) Date of filing: **16.03.2001**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Spaziani, Carlo**
00139 Roma (IT)

(74) Representative: **Iannone, Carlo Luigi et al**
Ing. Barzanò & Zanardo Roma S.p.A. Via
Piemonte, 26
00187 Roma (IT)

(30) Priority: **26.05.2000 IT RM000107 U**

(71) Applicant: **Spaziani, Carlo**
00139 Roma (IT)

(54) Improved end ferrule

(57) The invention concerns to an end ferrule (1) comprising a substantially hollow semi-cylindrical body (2), having rounded edges (3), said edges (3) having substantially the shape of  of a hollow sphere, and at least a flap (4), projecting from said substantially semi-

cylindrical body (2), provided toward one of the ends of the end ferrule (1), said at least one flap (4) being foldable inward the substantially semi-cylindrical body (2), one end of a cord (5) or like being housed within the substantially semi-cylindrical body (2) and blocked by folding said at least one flap (4).

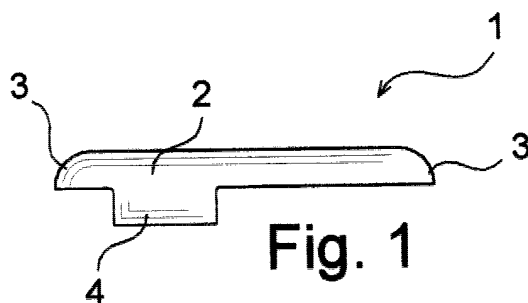


Fig. 1

EP 1 166 672 A1

Description

[0001] The present invention relates to an improved end ferrule.

[0002] More specifically, the invention concerns an end ferrule of the above kind allowing to realise an end ferrule structure not causing wear and tear of the surfaces with which it is in contact.

[0003] As it is well known, in many cases, such as the realisation of bag handles, elastic for sheet folders, etc., at the ends of the cord, or of the elastic, a stopping element, or end ferrule, is placed that must prevent the exit of the cord from the hole through which it passes.

[0004] The use of the end ferrule is very useful since it allows to block the cord, or the elastic, without the need of making, for example, a knot, or similar system, that is bulky and not always usable.

[0005] However, the end ferrules presently available on the market are realised in a rather approximate way, having a half cylinder shape and a half semi-cylinder shape, with the ends having sharp edges.

[0006] Therefore, they can cause a wear and tear of the surface of the material with which they are in contact, being thus completely unacceptable, particularly if used for high quality level products.

[0007] In view of the above, the Applicant has realised an end ferrule able to solve all the above drawbacks.

[0008] Main object of the present invention is that of providing an end ferrule without sharpened edges and cuts.

[0009] It is therefore specific object of the present invention an end ferrule comprising a substantially hollow semi-cylindrical body, having rounded edges, said edges having substantially the shape of $\frac{1}{4}$ of a hollow sphere, and at least a flap, projecting from said substantially semi-cylindrical body, provided toward one of the ends of the end ferrule, said at least one flap being foldable inward the substantially semi-cylindrical body, one end of a cord or like being housed within the substantially semi-cylindrical body and blocked by folding said at least one flap.

[0010] Always according to the invention, they can be provided two foldable flaps, provided laterally opposed each other on the edges of said substantially semi-cylindrical body.

[0011] Furthermore, according to the invention, said rounded ends are comprised of $\frac{1}{4}$ of hollow sphere, said sphere having the diameter corresponding to the diameter of the cylinder generating the substantially semi-cylindrical body.

[0012] Still according to the invention, said rounded ends and said at least one flap are integrally realised on the substantially semi-cylindrical body.

[0013] The present invention will be now described, for illustrative but not limitative purposes, according to its preferred embodiments, with particular reference to the figures of the enclosed drawings, wherein:

figure 1 is a lateral view of an end ferrule according to the invention;

figure 2 is a top view of the end ferrule of figure 1;

figure 3 is a front view of the end ferrule of figure 1; and

figures 4, 5, and 6 are view of an end ferrule according to the invention applied on a cord.

[0014] Observing now the figures of the enclosed drawings, it is shown an end ferrule 1 according to the invention, providing a body, comprised of a hollow, semi-cylinder 2, the ends 3 of which are rounded having dimensions corresponding to $\frac{1}{4}$ of a hollow sphere, the diameter of which corresponds to the diameter of the cylinder creating the semi-cylinder 2.

[0015] Along the semi-cylindrical body 2 two lateral projecting and foldable flaps 4 are provided, to block the cord.

[0016] Obviously, the dimensions of the end ferrule 1 must be such to allow the introduction through the cord passage hole, and where the blocking must occur, and moreover to allow the housing of the cord.

[0017] As it can be clearly seen from figures 4 - 6, the end of the cord 5 is inserted within the semi-cylindrical body 2 of the end ferrule 1, into its half provided with the two flaps 4.

[0018] The flaps 4 are then folded, in order to block the cord 5.

[0019] The particular shaping of the ends 3 of the end ferrule 1 and of the semi-cylindrical body 2 allows its use without any risk of wear and tear for the surfaces on which, during its use, the element 1 rests, forcing on the surface.

[0020] End ferrule 1, when the cord 5 is pulled, places with its flat portion parallel and corresponding to the surface around the introduction hole, thus preventing the possibility of damaging persons and things, for example when introducing or extracting something from a bag on which the cord has been applied.

[0021] The present invention has been described for illustrative but not limitative purposes, according to its preferred embodiments, but it is to be understood that modifications and/or changes can be introduced by those skilled in the art without departing from the relevant scope as defined in the enclosed claims.

Claims

1. End ferrule, **characterised in that** it comprises a substantially hollow semi-cylindrical body, having rounded edges, said edges having substantially the shape of $\frac{1}{4}$ of a hollow sphere, and at least a flap, projecting from said substantially semi-cylindrical body, provided toward one of the ends of the end ferrule, said at least one flap being foldable inward the substantially semi-cylindrical body, one end of a cord or like being housed within the substantially

semi-cylindrical body and blocked by folding said at least one flap.

2. End ferrule according to claim 1, **characterised in that** they are provided two foldable flaps, provided laterally opposed each other on the edges of said substantially semi-cylindrical body. 5
3. End ferrule according to one of the preceding claims, **characterised in that** said rounded ends are comprised of  of hollow sphere, said sphere having the diameter corresponding to the diameter of the cylinder generating the substantially semi-cylindrical body. 10 15
4. End ferrule according to one of the preceding claims, **characterised in that** said rounded ends and said at least one flap are integrally realised on the substantially semi-cylindrical body. 20

25

30

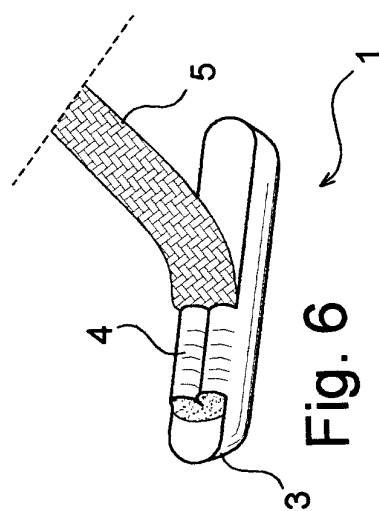
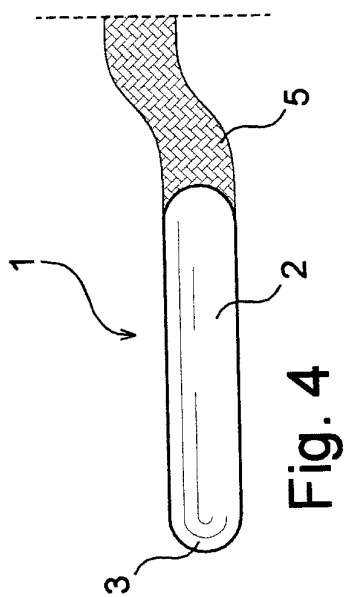
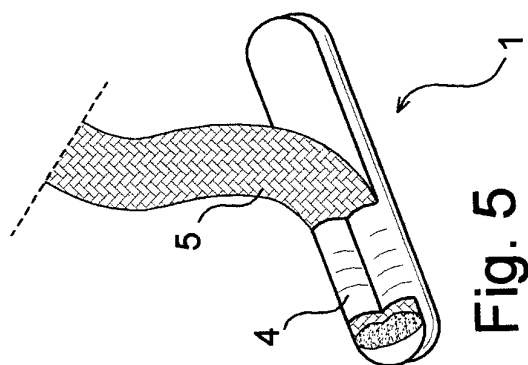
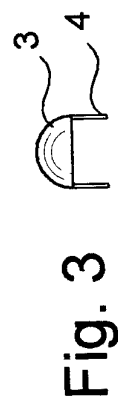
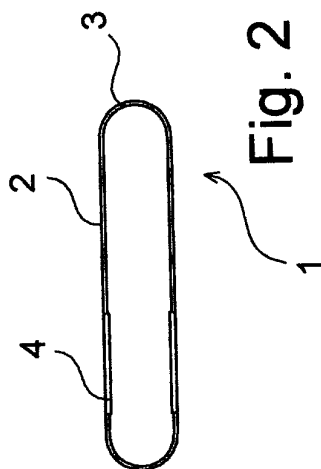
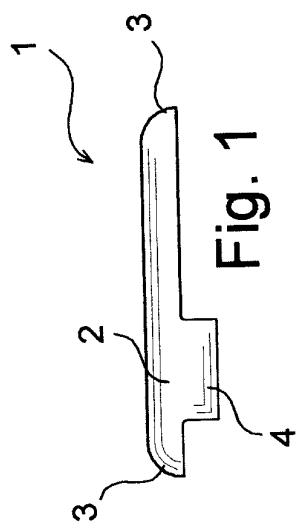
35

40

45

50

55





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 83 0187

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	GB 180 659 A (JAMES PATRICK KELLY) 3 August 1923 (1923-08-03) * the whole document *	1-4	A43C9/04
A	FR 2 017 064 A (ZIMMERMANN OH) 15 May 1970 (1970-05-15) * page 5, line 37 - page 7, line 34; figures 6-12 *	1-4	
A	US 5 926 924 A (TSAI DAO-LONG) 27 July 1999 (1999-07-27) * abstract; figures *	1-4	
A	FR 728 733 A (NEUMANN ET AL) 9 July 1932 (1932-07-09) * claim 1; figures 1-8 *	1-4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) A43C
Place of search THE HAGUE		Date of completion of the search 1 November 2001	Examiner Schölvinck, T.S.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 83 0187

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-11-2001

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
GB 180659	A	03-08-1923	NONE		
FR 2017064	A	15-05-1970	DE	1785220 A1	13-05-1971
			BE	738078 A	02-02-1970
			CH	497863 A	31-10-1970
			ES	151759 Y	01-07-1970
			FR	2017064 A5	15-05-1970
			NL	6913088 A	03-03-1970
US 5926924	A	27-07-1999	DE	29805326 U1	20-05-1998
FR 728733	A	09-07-1932	NONE		

EPO FORM P0459

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