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(54) Holder for realization of winding up of pulling elements of blinds

(57) A holder for realization of winding up pulling elements (3) of blinds, whichcomprises a separable body (1) which consists of a fixedly coupled hollow case (11) and a fixture (12) which is built in the form of mirror inverted shoulders which are shaped to lead in a direction toward the central part of the body (1) to form opposed guides (2) which enables winding-up of the pulling element (3), whereas the body (1) is formed with two identical in the lengthwise axis direction separable parts, which are provided with means for realization of multiple demountable connection of these parts on contact spots (14) of the case (11) and of the fixture (12).

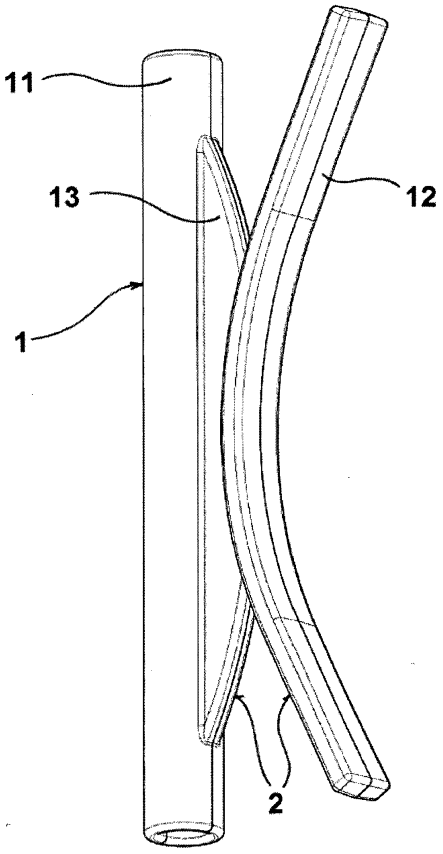

FIG. 1

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Description

Art Domain

[0001] The technical solution concerns the field of shading technique and regards construction of a holder for realization of winding up of the pulling elements of blinds.

Present Prior Art

[0002] We know a variety of systems and construction designs concerning inner mechanisms for control of blinds or their particular parts, which provide their functionality. The construction of the mechanisms then differs in dependence on the kind and use of blinds and the way of their control. Driving mechanisms are mostly controlled with pulling elements usually in the form of ball chains or hanging cords. For coupling of free ends of these pulling elements are altogether used connectors, whose constructional design depends on kind of connected pulling element and on the intensity of the load to which is this element exposed. During designing of these connectors it is, according to ordinary safety standards, necessary to make sure to ensure their destruction with following disconnection of pulling elements at their enormous load, when especially at uncontrolled manipulation with them during games of children is necessary to prevent their injuries or even death by hanging. In some cases these pulling elements can be solved in the way of so called endless design and form a loop. If the blinds are equipped with these control elements they do not have built-in any connectors which can serve in other cases as safety elements. Therefore it is necessary to ensure safety of this endless design of driving mechanisms in a different way.

[0003] Disconnection of pulling element, namely of control chain, of horizontal blinds is mentioned for example in the file EP 2574717 where it is solved with construction of safety element which is realized in the area of upper canal for placing of driving system, namely by the help of cogged set of gears, whereas the control chain is not solid way fixed with a supporting shaft of the driving system. In the moment when the chain is pulled with a stronger force than is common control force there comes to separation of cogged gears in the set of gears and to release of the chain. This safety element does not have to be realized only in the area of the upper canal, but also as a free element between upper and lower control chain as it is described in the file WO 2012/125036. A disadvantage of this solution is quite complicated construction of the safety element with real possibility of damage of particular components of the set of gears during its separation and following necessity of their replacement.

[0004] Next possible solution of safety of control pulling elements for lifting and tilting of lamellas of blinds is their conduit in a protective tube into a casket which contains pulley and gear mechanisms as it is described in the file US 2008/0066876. In this design the pulling elements do not form loops or nooses thus there is not a risk of an injury at manipulation with them, its disadvantage is its complicated construction with a risk of occurrence of failures of functionality.

[0005] Likewise is known design of safety connectors of pulling members which are realized in the form of cords, which are described for example in the files US 2012/0266416, US 8615850 or GB 2481814, when is the body of the connector lengthwise divided in direction of pull of control force, into an upper part of chamber of the connector are led in upper control elements and into lower part of the chamber is led in one lower control element. The body of the connector is then formed in the way that at any load or stretch of control elements, for example with a head of child, comes to its disintegration and to release of pulling elements. Lengthwise splayable connectors for pulling cords are described in the files US 5473797 or US 5906233 whose disadvantage is the fact that they are formed in the way that the pulling cords are led into them via lace openings in the upper part and therefore are useless for control chains. Similarly useless are for control chains solutions of connectors of pulling members which are described in the files US 2006/0144526, WO 2013/028120 or GB 2428269, where the hollow body of the connector is formed by differently shaped horizontally separable parts which are procured with opposed cutouts, interlocks, recesses or grooves which enable demountable connection of these parts at increase of pulling force above defined limit.

[0006] A connecting device for ball chains of blinds which is described in the file CZ 8298 U1 contains a body procured with closable chambers which are made for fixation of end parts of pulling member, where the lock of at least one chamber is placed in the body in separable way at exceeding of defined force which acts on the pulling member. A disadvantage of this solution is quite complicated construction of the body of the connector and herewith also expensive production of this relatively simple function element. In solution according to the file GB 2477585 is described connection of ball chain where is the safety lock implemented into one ball which is divided into demountable way connected parts which, when the force for the chain exceeds defined limit, separate. A disadvantage of this solution is that is used mainly for so called endless pulling members. Another solution of connector of ball chains is known from the file WO 2014065566, which is indeed structurally quite simple yet it does not enable to be used for endless pulling members.

[0007] From the file KR 200467303 is also known solution when the free part of the cord of pulling members goes inside inflexible tube of various shape designs which prevent bending, whereas the end of the cord is procured with an end piece. Outside of the tube is the cord of pulling members wound-up on a cylindrical drum which is part of winding system which is procured with a set of gears and a spring. This way wound cord does not leave space for winding of the cord of pulling members

around the neck of the child but its significant disadvantage is its unsuitability for use in endless pulling members. An automatic winder which adjusts the length of the loop is known from the file US6745969 and is formed with a cylindrical drum with a central axis on which is placed a reel with drive and cover. This device is suitable for use in both ending and endless pulling elements yet it is structurally difficult and demanding on production.

[0008] The aim of presented technical solution is to introduce new construction of supplementary element of pulling members of blinds which would be simple for production, would enable easy assembly and disassembly and would provide possibility to remove pulling elements from the reach of children or animals and herewith would provide use of blinds in compliance with all requirements for prohibition of incompetent and undesired manipulation with them.

The essence of technical solution

[0009] The set goal is reached with a technical solution, which is a holder for realization of winding up of pulling elements of blinds whose essence is in the fact that it is formed with separable body which comprises of fixed way coupled hollow case and a fixture where the fixture is realized in the form of mirror inverted shoulders which are shaped in direction toward central part of the body in the way to form opposed guidance for realization of winding up of the pulling element, whereas the body is formed with two identical in the direction of the lengthwise axis separable parts which are on their contact spots procured with means for realization of multiple demountable connection of these parts.

[0010] In an advantageous design are these means for realization of demountable connection of parts of the body formed with sets of in shape dimensionally corresponding mirror inverted formed not only pins and holes but also grooves and tongues and with these are equipped not only contact spots of the case but also contact spots of the shoulders of the fixture.

[0011] By the presented construction of the holder is presented for use new universal supplementary component of shielding systems with elaborated design which is basically usable for all known kinds of pulling elements and which ensures their use in compliance with latest normative and safety regulations.

Description of the figures in enclosed drawings

[0012] The particular designs of technical solution are schematically illustrated in enclosed drawings where:

Fig. 1 is a general axonometric view of completed holder,

Fig. 2 is an axonometric view of the holder from fig. 1 in an exploded condition,

Fig. 3 is an axonometric view of the holder from fig. 1 with wound up pulling element,

Fig. 4 is a view of the holder from fig.3 which is placed within window construction and Figs 5a) to 5e) are examples of possible alternative designs of the holders.

[0013] The drawings which illustrate presented invention and consequently described examples of particular design do not in any case anyhow limit the extend of the protection which is mentioned in the definition yet only clarify the essence of the invention.

Examples of realization of the invention

[0014] The holder is in its basic design as it is illustrated in fig. 1 formed with a lengthwise demountable separable body 1 which consists of a hollow case 11 with a cylindrical cross section and a bow shaped fixture 12 which are solidly coupled with a connecting rib 13 whereas the fixture 12 is realized in the form of mirror inverted shoulders which go crossways toward the central part of the body 1 in the way to form an opposed guidance 2 for realization of winding of a pulling element 3 as it is illustrated in fig.3.

[0015] The body 1 is formed with two identical toward the lengthwise axis separable parts which are on their contact spots 14 procured with means for realization of a multiple demountable connection of these parts. These means are formed with sets of dimensionally corresponding mirror inverted not only pins 15 and holes 16 but also grooves 17 and tongues 18 and with these are equipped not only contact spots 14 of the case 11 but also contact spots 14 of the shoulders of the fixture 12 as it is clear from fig. 2.

[0016] During the assembly on shading systems the parts of the holder are placed, with the case 11, to their pulling element 3, and are connected by the help of the connecting elements 15, 16, 17, 18 and herewith form one integral body 1. After termination of the manipulation with lamellas the holder is pulled up along the pulling element 3 into required height whereupon is the pulling element 3 wound around into the guidance 2 which is formed between the case 11 and the fixture 12 as it is evident from figs. 3 and 4 and herewith is the pulling element 3 removed from the reach of children or animals. Before next necessary manipulation with the lamellas is the pulling element 3 simply wound off from the guidance 2 and is ready for use.

[0017] The described design is not the only possible rendering of technical solution and it is possible, as it is clear from figs. 5a) to 5e), that the fixture 12 does not have to be formed with the bow which is connected with the case 11 by the help of the rib 13, which can be replaced with the braces 19, or the fixture 12 can be realized with couple of mirror inverted shoulders of different shape. Likewise the connecting elements 15, 16, 17, 18 of the case 11 and also of the fixture 12 can be placed and shaped differently according to design of these structural elements.

Industrial usability

[0018] The holder according to the technical solution is designed for application to ensure safe operation of any pulling members, especially of ball chains or cords for control of drive mechanisms of interior lamella blinds or other shading technique.

Claims

1. A holder for realization of winding up of pulling elements (3) of blinds, wherein it is formed with a separable body (1) which consists of fixed way coupled a hollow case (11) and a fixture (12) where the fixture (12) is realized in the form of mirror inverted shoulders which are shaped in direction toward the central part of the body (1) in the way to form opposed guidance (2) which enables winding-up of the pulling element (3) whereas the body (1) is formed with two identical in the lengthwise axe direction separable parts, which are on contact spots (14) procured with means for realization of multiple demountable connection of these parts.

2. The holder according to the claim 1, wherein the means for realization of demountable connection of the parts of the body (1) are formed with sets of dimensionally corresponding mirror inverted formed not only pins (15) and holes (16) but also grooves (17) and tongues (18) and with these are also equipped not only the contact spots (14) of the case (11) but also contact spots (14) of the fixture (12).

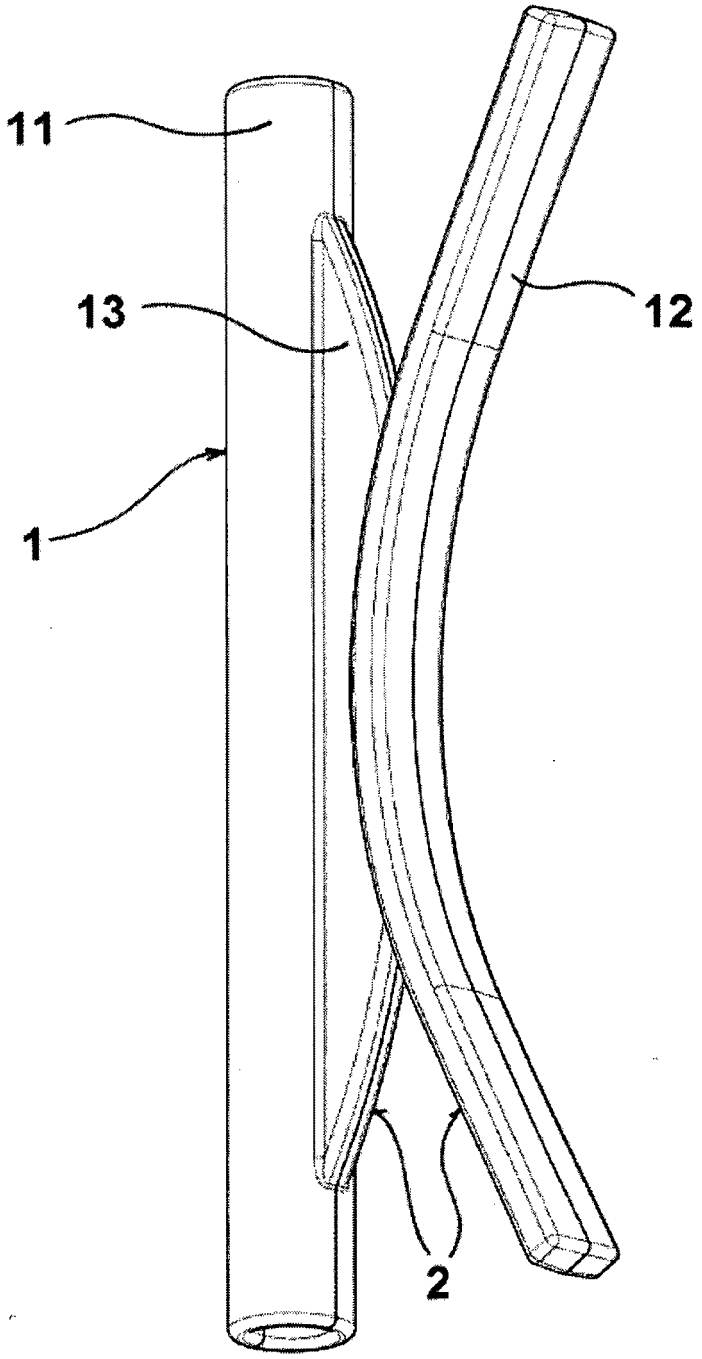

FIG. 1

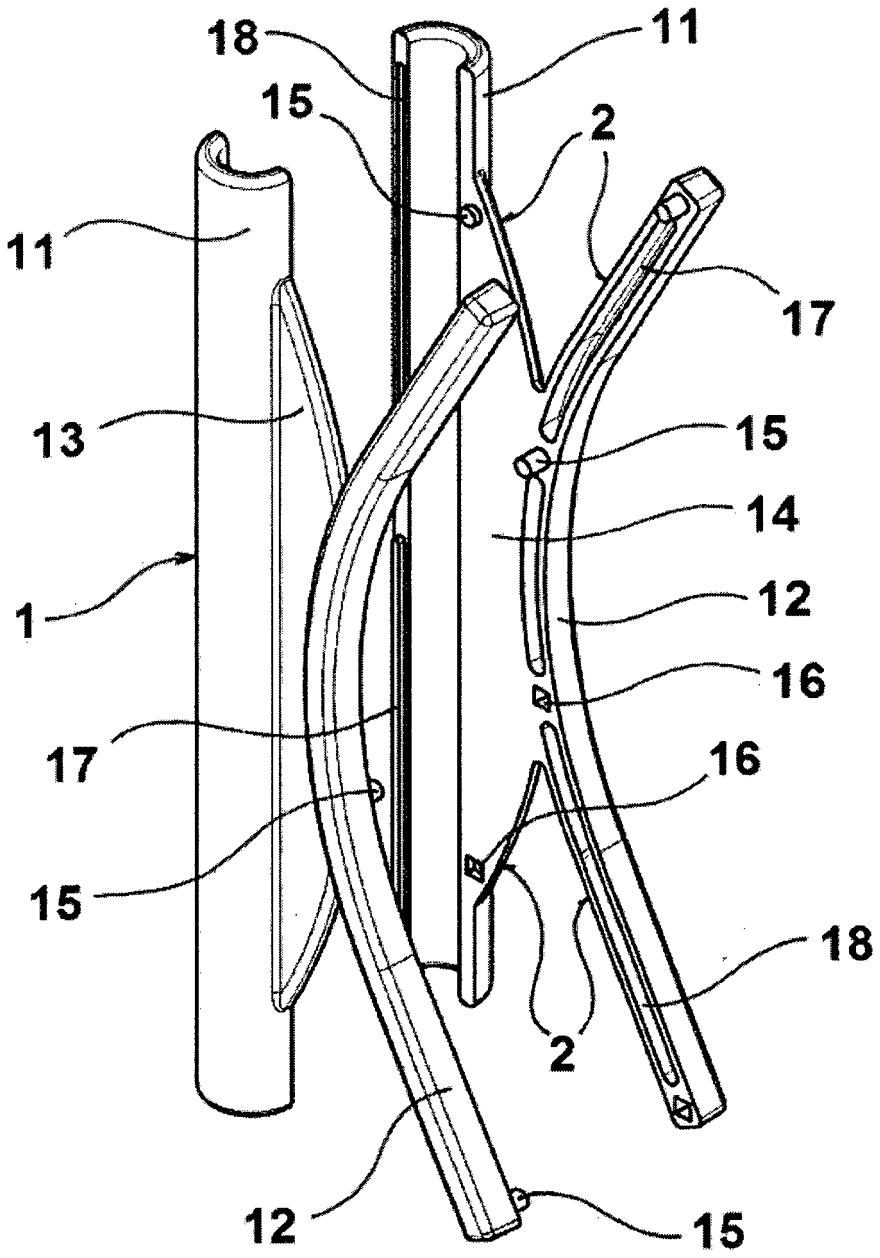

FIG. 2

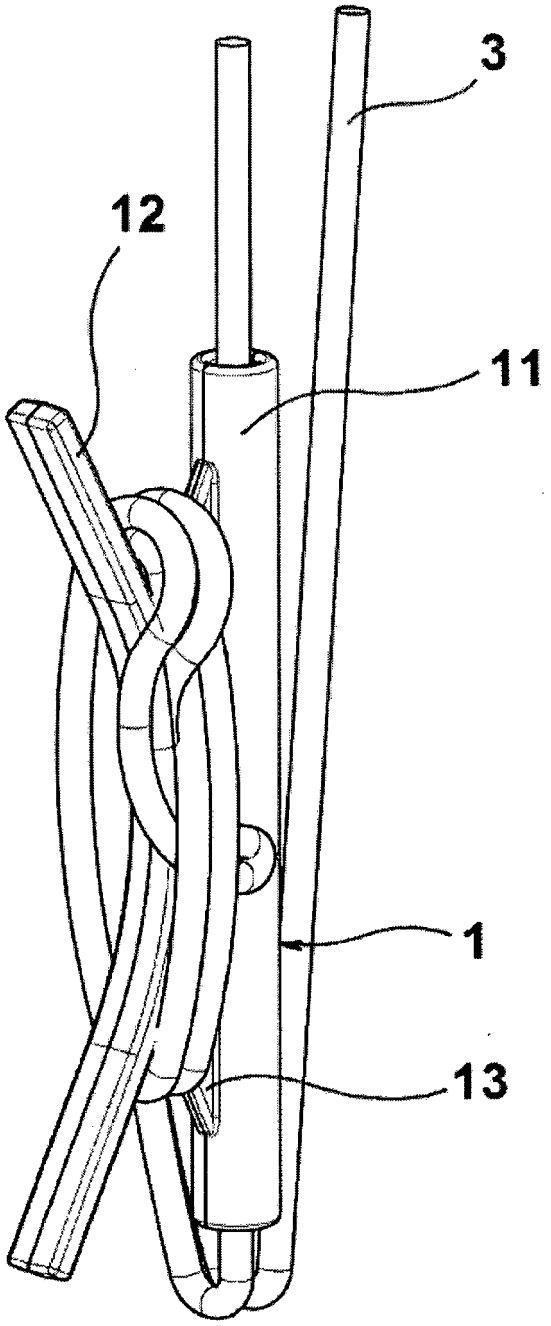

FIG. 3

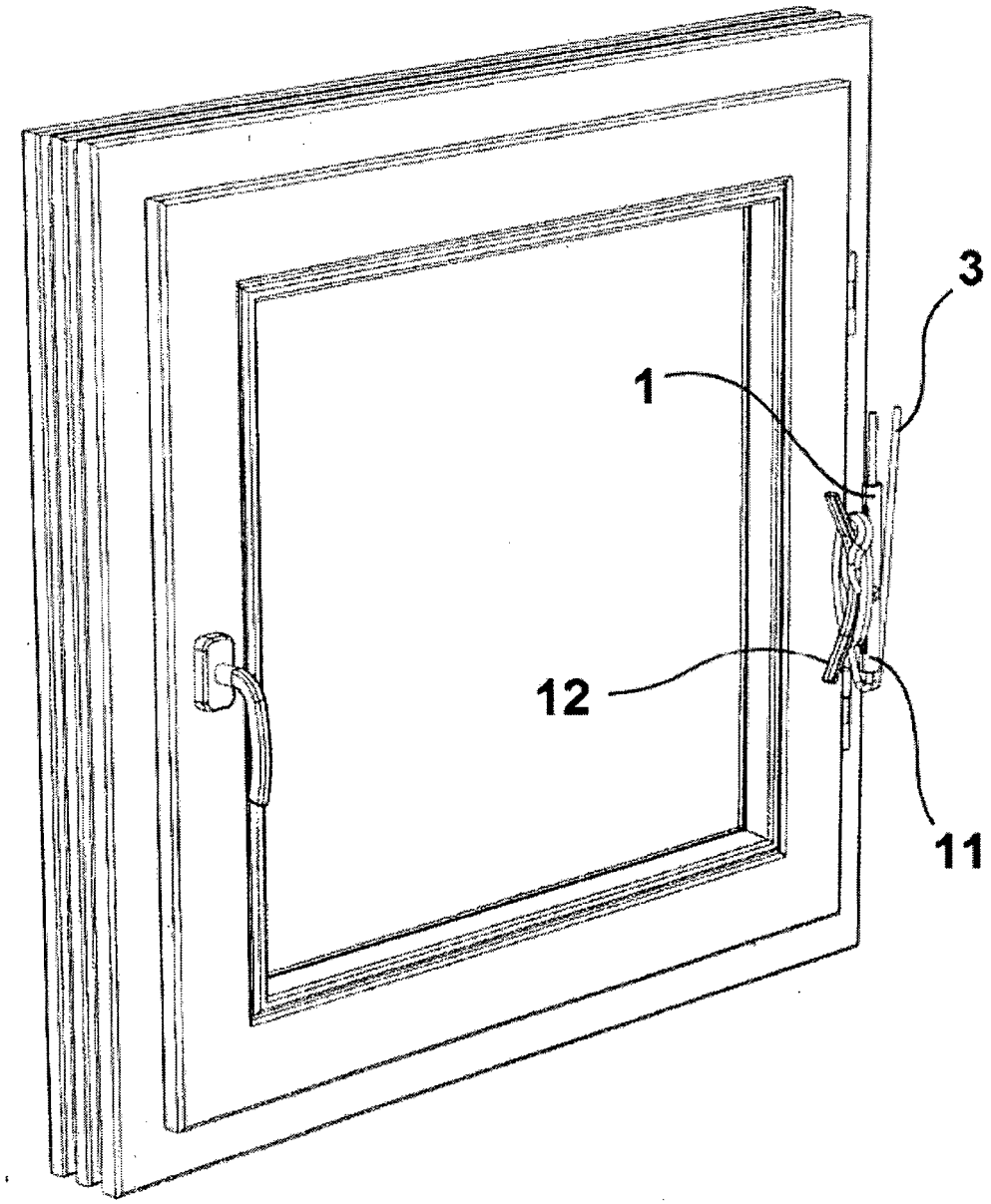

FIG. 4

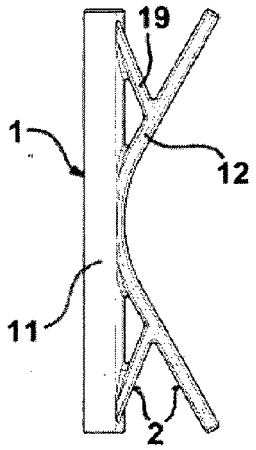

FIG. 5a

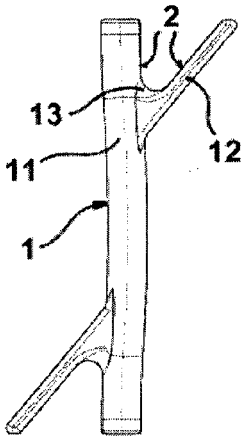

FIG. 5b

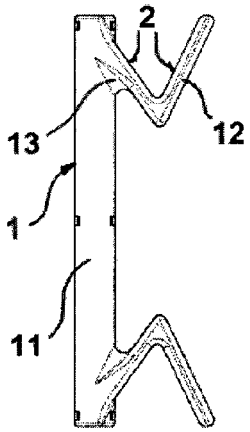

FIG. 5c

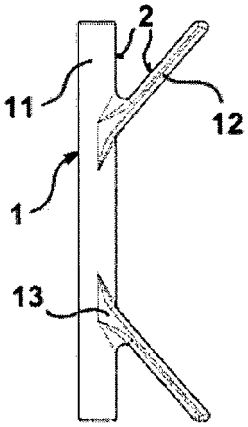

FIG. 5d

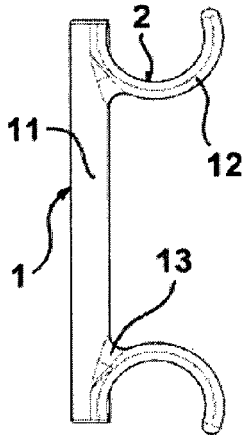

FIG. 5e

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EUROPEAN SEARCH REPORT

Application Number
EP 14 00 3810

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	US 5 683 054 A (CHEN TSANG-I [TW]) 4 November 1997 (1997-11-04) * abstract; figure 3 * -----	1,2	
			TECHNICAL FIELDS SEARCHED (IPC) E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	10 February 2016	Weißbach, Mark

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10-02-2016

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JP 2006200326 A	03-08-2006	NONE	
US 5683054 A	04-11-1997	NONE	

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

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