(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 520 753 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
07.11.2012 Bulletin 2012/45

(51) Int Cl.:
E06B 9/262 *(2006.01)*

(21) Application number: **11003193.7**

(22) Date of filing: **15.04.2011**

(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

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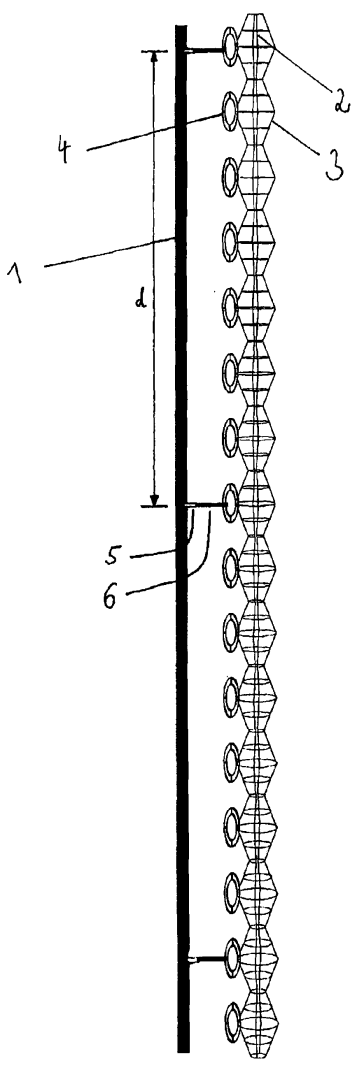
(54) Cord device for window coverings

(57) A cord device for a window covering comprising: at least one cord for operating the window covering; and at least one cord shroud,

wherein the at least one cord is housed in the at least one cord shroud and the at least one cord shroud is designed to be attached to the window covering.

Fig. 1



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Description

Technical field

[0001] This document relates to a cord device for window coverings and to window coverings comprising a cord device. Further, the present application relates to a child safety device for window coverings.

Background

[0002] In the past years, hazardous situations involving pleated shades occurred in which a child's head became entangled in a cord loop that is used to raise and lower the blind, sometimes resulting in injuries or even strangulation of the child. Consequently, the Window Coverings Association of America together with the United States Consumer Product Safety Commission has recently prepared a new standard for safety of corded window covering products with the scope of reducing the possibility of injury, including strangulation, to young children from the bead chain, chain, or any type of flexible loop device used to operate the product. In this context it has been proposed to eliminate looped cords in window covering products or to introduce a device that breaks the loop in case of entanglement or to introduce a device that envelops or restrains the cord in such a way that a child could not get strangled in the loop.

[0003] Colson et al. provide in U.S. Pat. No. 6,116,325 a break away operating cord system for retractable coverings for architectural openings such as windows, doors, arches or the like which includes a mounting plate to which an operating cord is attached and wherein the mounting plate is releasable from the remainder of the control system for the retractable covering allowing the operating cord to be separated from most of the covering to avoid injury to a child or infant whose head might be trapped within the closed operating cord loop.

[0004] Kollman et al. disclose in U.S. Patent No. 7,086,446 a cord connection device for roll-up shades having a coupling member that fits over a receptive member. The body of the receptive member has a section configured to receive the coupling member in a manner to provide a connection such that when a selected force acts on a cord attached to the coupling member or the receptive member the coupling member will separate from the receptive member. The body of the receptive member can have a second section configured to receive the coupling member in a manner to provide a connection such that the coupling member will not separate from the receptive member or can have a third section configured such that the coupling member will separate when a second selected force acts on the cord or can have all three sections.

[0005] Such complex devices are not, however, suited for retrofitting window coverings lacking child safety devices. It is to overcome the shortcomings in the prior art and to provide a new and simple system for child safety window coverings, and particularly a child safety system which allows a more easy retrofitting of window coverings that the present cord device has been developed.

Summary

[0006] A cord device and a child safety device, respectively, for a window covering are provided, comprising at least one cord for operating the window covering and at least one cord shroud, wherein the at least one cord is housed in the at least one cord shroud and the at least one cord shroud is designed to be attached to the window covering.

[0007] The cord device further comprises a plurality of loops formed on the at least one cord shroud and a plurality of first clips for coupling the at least one cord shroud to the window covering wherein each first clip of the plurality of first clips is attached to a loop of the plurality of loops on the at least one cord shroud. Each first clip of the plurality of first clips is also attached to a respective loop formed on the window covering.

[0008] In order to reduce the risk of an entanglement, the distance between two first clips attached to the at least one cord shroud and to the window covering should be such as hindering a child's head to pass underneath a cord between two first clips. Hence, the distance between two first clips should e.g. not exceed 15 centimeters or about 6 inches.

[0009] The at least one cord shroud has the function of housing the otherwise exposed cord, thus further reducing the risk of injuries. The at least one cord shroud may be, for example, a fabric tube.

[0010] By pulling the cord, a lifting and gathering of the window covering is accomplished. To facilitate a gathering of the window covering, the cord shroud may have alternating softer and harder sections. These sections may be formed by adequate yarns or/and an appropriate weaving technique. Alternatively, the cord shroud may have an accordion structure with periodical segments with bigger and smaller diameter that can contract upon pulling of the at least one cord.

[0011] In order to enable the coupling of the at least one cord shroud with the window covering, the at least one cord shroud is provided with a plurality of loops. These loops are formed on the length of the at least one cord shroud. The plurality of loops may, for example, be formed by stitching a ribbon to the at least one cord shroud at definite distances along the at least one cord shroud, or by loops woven into the shroud. Alternatively, the loops may be rings of metal or fabric or similar suitable material (such as plastic materials) that are attached to the cord shroud, e.g. being singularly stitched onto the cord shroud.

[0012] The loops have the function to enable the coupling of the at least one cord shroud with the window covering. To this end, the window covering may be provided with a number of loops. One loop on the window covering is coupled to one loop on the at least one cord

shroud by a first clip which may be a double clip. The number of loops on the window covering must not be equal with the number of loops on the at least one cord shroud. The distance between two loops on the window covering in a longitudinal direction has to be chosen such that a children's head may not fit through the opening creating the hazardeous loop (i.e. a cord section between two first clips), or such that it is in line with according standards. For example, one standard may relate to a distance of approx. 15 centimeters or approx. 6 inches, but higher or lower distances are possible.

[0013] Further, a window covering is provided, comprising a panel of window covering material, at least one cord for operating the window covering and at least one cord shroud housing the at least one cord, wherein the at least one cord shroud is designed to be attached to the panel of window covering material.

[0014] Further, the window covering also comprises at least one first clip, wherein the at least one cord shroud is coupled to the panel of window covering material by the at least one first clip.

[0015] The loops have the function to enable the coupling of the at least one cord shroud with the window covering. To this end, the panel of window covering material may also be provided with a plurality of loops. Hence, the at least one first clip is attached to the at least one loop of the plurality of loops on the at least one cord shroud and to the at least one loop of the plurality of loops on the panel of window covering material.

[0016] The window covering may further comprise a headrail to which a top edge of the window covering material is attached. The window covering material also comprises a bottom edge to which a first end to which a first end of the at least one cord is attached.

[0017] Each first end of the at least one cord may be fixed to a second clip attached to a loop stitched on the panel of window covering material in proximity of the bottom edge.

[0018] In order to stretch the window covering when it is in a lowered position, the bottom edge of the panel of window covering material may have a bottomrail or rod.

[0019] The headrail may comprise at one of its side ends a cord block and release device.

[0020] As it has become apparent, a simple cord device for a window covering is provided which enables an easy retrofitting of window coverings bearing at least one cord and loops on the window covering for lifting the same.

[0021] Further features and embodiments will become apparent from the description and the accompanying drawings.

[0022] It will be understood that the features mentioned above and those described hereinafter can be used not only in the combination specified but also in other combinations or on their own, without departing from the scope of the present disclosure.

[0023] The details of one or more embodiments are set forth in the accompanying drawings and the description below. Other features and advantages of the described embodiments will be apparent from the description and drawings, and from the claims.

Description of drawings

[0024] In the drawings,

Fig. 1 is a schematic side view of a window covering comprising a cord device in a lowered position.
Fig. 2 is a schematic side view of a window covering comprising a cord device during its lifting.
Fig. 3 is a schematic side view of a window covering comprising a cord device in a raised position.

Detailed description

[0025] A schematic side view of a window covering is shown in Fig. 1. Here, only a panel of window covering material 1 is shown.

[0026] Window coverings often comprise a headrail, to which an upper edge of the panel of window covering material 1 is attached, and a bottomrail or rod. The window covering is raised and lowered by operating at least one cord 2. Very often, the cord is attached (not shown) in proximity of the bottom edge of the panel of window covering material 1 and runs up the back surface of the panel of window covering material 1 into the headrail.

[0027] The cord 2 that runs up the back surface of the panel of window covering material 1 is housed in a cord shroud 3. The cord shroud 3 may be a fabric tube, but other suitable materials are possible and known to the person skilled in the art. In order to enable a smooth lifting of the window covering, the cord shroud 3 may have softer and harder segments or, as shown in fig. 1, an accordion structure with periodical segments with bigger and smaller diameter.

[0028] On every segment with bigger diameter a respective loop 4 is positioned, whereby all the loops 4 on the cord shroud 3 are in one line. The loops on the cord shroud 3 can be formed by stitching a ribbon along the cord shroud 3 only at definite distances. Alternatively, the loops are rings of metal or fabric or similar suitable material (such as plastic materials) that are attached to the cord shroud 3, e.g. being singularly stitched onto the cord shroud.

[0029] In an analog manner, the panel of window covering material 1 is also provided with a number of loops 5 that are inline with each other and parallel to an edge of the panel of window covering material 1. The loops 5 may be made of fabric or similar suitable material and are attached to the panel of window covering material 1, e.g. being stitched on the panel, or attached adhesively, by means of a tape, or the like. The coupling of the cord shroud 3 with the panel of window covering material 1 is accomplished by clips 6, which may be double-clips. One clip 6 is attached to a loop 4 on the cord shroud 3 as well as in a loop 5 on the panel of window covering material.

In order to reduce the risk of an entanglement of a child's head leading to a strangling of the child, the distance d between two loops 5 on the panel of window covering material should be short enough for a child's head not to fit through the loop created by the cord section between two clips.

[0030] Figures 2 and 3 show in a very schematic manner the window covering of Fig. 1 during a lifting process.

[0031] The lifting is accomplished by pulling the cord 2. Through the pulling of the cord 2, the cord shroud 3 contracts, wherein the contraction is enabled by the accordion structure of the cord shroud 3. Due to the coupling between the cord shroud 3 and the panel of window covering material 1, a contraction of the cord shroud 3 leads to a lifting of the panel of window covering material 1.

[0032] In the following, various aspects of the invention are recited in a numbered list of aspects:

1. A cord device for a window covering comprising:

    at least one cord for operating the window covering; and
    at least one cord shroud,
    wherein the at least one cord is housed in the at least one cord shroud and the at least one cord shroud is designed to be attached to the window covering.

2. The cord device of aspect 1 further comprising:

    a plurality of loops formed on the at least one cord shroud; and
    a plurality of first clips for coupling the at least one cord shroud to the window covering,
    wherein each first clip of the plurality of first clips is attached to a loop of the plurality of loops on the at least one cord shroud.

3. The cord device of aspect 2 wherein each first clip of the plurality of first clips is also attached to a respective loop formed on the window covering.

4. The cord device of aspect 3 wherein the distance between two first clips of the plurality of first clips attached to the at least one cord shroud and to the window covering is of 15 cm, i.e. approx. 6 inches, or less.

5. The cord device of any one of aspects 2 to 4, wherein the first clip is a double clip.

6. The cord device of any one of aspects 1 to 5, wherein the at least one cord shroud is a fabric tube.

7. The cord device of aspect 6 wherein the at least one cord shroud has alternating softer and harder sections to facilitate a gathering of the window covering.

8. The cord device of aspect 7 wherein the alternating softer and harder sections are formed by adequate yarns or/and an appropriate weaving technique.

9. The cord device of any one of aspects 2 to 8, wherein the plurality of loops on the at least one cord shroud are formed by stitching a ribbon along the at least one cord shroud only at definite distances.

10. A window covering comprising:

    a panel of window covering material;
    at least one cord for operating the window covering; and
    at least one cord shroud housing the at least one cord, wherein the at least one cord shroud is designed to be attached to the panel of window covering material.

11. The window covering of aspect 10, further comprising:

    at least one first clip,
    wherein the at least one cord shroud is coupled to the panel of window covering material by the at least one first clip.

12. The window covering of aspect 11, wherein the at least one cord shroud further comprises a plurality of loops formed on the at least one cord shroud, wherein the panel of window covering material comprises a plurality of loops,
wherein the at least one first clip is attached to the at least one loop of the plurality of loops on the at least one cord shroud and to the at least one loop of the plurality of loops on the panel of window covering material.

13. The window covering of any one of aspects 10 to 12, wherein the at least one cord shroud is a fabric tube.

14. The window covering of aspect 13 wherein the at least one cord shroud has alternating softer and harder sections to facilitate a gathering of the panel of window covering material.

15. The window covering of aspect 14 wherein the alternating softer and harder sections are formed by adequate yarns or/and an appropriate weaving technique.

16. The window covering of any one of aspects 12 to 15, wherein the plurality of loops on the at least one cord shroud are formed by stitching a ribbon along the at least one cord shroud only at definite distances.

17. The window covering of any one of aspects 12 to 16, wherein the panel of window covering material comprises a number of reinforcement panels on which the plurality of loops is stitched.

18. The window covering of any one of aspects 10 to 17, further comprising a headrail, wherein the panel of window covering material has a top edge attached to the headrail and a bottom edge,
wherein the at least one cord has a first end attached to the bottom edge of the panel of window covering material.

19. The window covering of aspect 18, wherein each first end of the at least one cord is fixed to a second clip attached to a loop of the plurality of loops on the panel of window covering material in proximity of the bottom edge.

20. The window covering of aspect 18 wherein the bottom edge of the panel of window covering material (1) has a bottomrail or rod.

21. The window covering of any one of aspects 11 to 20, wherein the first clip is a double clip.

22. The window covering of aspect 18 wherein the headrail comprises at one of its side ends a cord block and release device.

23. The window covering of any one of aspects 11 to 22, wherein the distance between two first clips attached between the at least one cord and the panel of window covering material is of 15 cm, i.e. approx. 6 inches, or less.

24. A child safety device for window coverings comprising:

at least on cord shroud housing at least one cord for operating a window covering;
a plurality of loops formed along the at least one cord shroud; and
a plurality of first clips for coupling the at least one cord shroud to the window covering wherein each first clip of the plurality of first clips is attached to a loop of the plurality of loops on the at least one cord shroud.

25. The child safety device of aspect 24 wherein each first clip of the plurality of first clip is also attached to a respective loop formed on the window covering.

26. The child safety device of aspect 25 wherein the distance between two first clips of the plurality of first clips is approx. 6 inch or less.

27. The child safety device of any one of aspects 24 to 26, wherein the first clip is a double clip.

28. The child safety device for window coverings of any one of aspects 24 to 27, wherein the at least one ore shroud is a fabric tube.

29. The child safety device for window coverings of aspect 28 wherein the at least one cord shroud hat alternating softer and harder sections to facilitate a gathering of the window covering.

30. The child safety device for window coverings of aspect 29 wherein the alternating softer and harder sections are formed by adequate yarns or/and an appropriate weaving technique.

31. The child safety device for window coverings of any one of aspects 24 to 30, the plurality of loops on the at least one cord shroud are formed by stitching a ribbon along the at least on cord shroud only at definite distances.

32. A window covering comprising at least one child safety device according to any one of aspects 24 to 31.

Claims

1. A cord device for a window covering comprising:

at least one cord (2) for operating the window covering; and
at least one cord shroud (3);
wherein the at least one cord (2) is housed in the at least one cord shroud (3) and the at least one cord shroud (3) is designed to be attached to the window covering.

2. The cord device of claim 1 further comprising:

a plurality of loops (4) formed on the at least one cord shroud (3); and
a plurality of first clips (6) for coupling the at least one cord shroud (3) to the window covering (1);
wherein each first clip (6) of the plurality of first clips (6) is attached to a loop (4) of the plurality of loops (4) on the at least one cord shroud (3).

3. The cord device of claim 2 wherein each first clip (6) of the plurality of first clips (6) is also attached to a respective loop (5) formed on the window covering.

4. The cord device of claim 3 wherein the distance between two first clips of the plurality of first clips attached to the at least one cord shroud and to the window covering is of 15 cm, or less.

5. The cord device of any one of claims 1 to 4, wherein the at least one cord shroud (3) is a fabric tube.

6. The cord device of claim 5 wherein the at least one cord shroud (3) has alternating softer and harder sections to facilitate a gathering of the window covering.

7. A window covering comprising:

a panel of window covering material (1);
at least one cord (2) for operating the window covering; and
at least one cord shroud (3) housing the at least one cord (2);
wherein the at least one cord (3) shroud is designed to be attached to the panel of window covering material (1).

8. The window covering of claim 7, further comprising:

at least one first clip (6);
wherein the at least one cord shroud (3) is coupled to the panel of window covering material (1) by the at least one first clip (6).

9. The window covering of claim 8, wherein the at least one cord shroud (3) further comprises a plurality of loops (4) formed on the at least one cord shroud (3), wherein the panel of window covering material (1) comprises a plurality of loops (5),
wherein the at least one first clip (6) is attached to the at least one loop of the plurality of loops (4) on the at least one cord shroud (3) and to the at least one loop of the plurality of loops (5) on the panel of window covering material (1).

10. The window covering of any one of claims 7 to 9, further comprising a headrail, wherein the panel of window covering material (1) has a top edge attached to the headrail and a bottom edge,
wherein the at least one cord (2) has a first end attached to the bottom edge of the panel of window covering material (1).

11. The window covering of claim 10, wherein each first end of the at least one cord (2) is fixed to a second clip attached to a loop of the plurality of loops (5) on the panel of window covering material (1) in proximity of the bottom edge.

12. The window covering of claim 10 or 11, wherein the headrail comprises at one of its side ends a cord block and release device.

13. A child safety device for window coverings comprising:

at least on cord shroud housing at least one cord for operating a window covering;
a plurality of loops formed along the at least one cord shroud; and
a plurality of first clips for coupling the at least one cord shroud to the window covering wherein each first clip of the plurality of first clips is attached to a loop of the plurality of loops on the at least one cord shroud.

14. The child safety device of claim 13 wherein each first clip of the plurality of first clip is also attached to a respective loop formed on the window covering.

15. The child safety device for window coverings of claim 13 or 14 wherein the at least one cord shroud hat alternating softer and harder sections to facilitate a gathering of the window covering.

Fig. 1

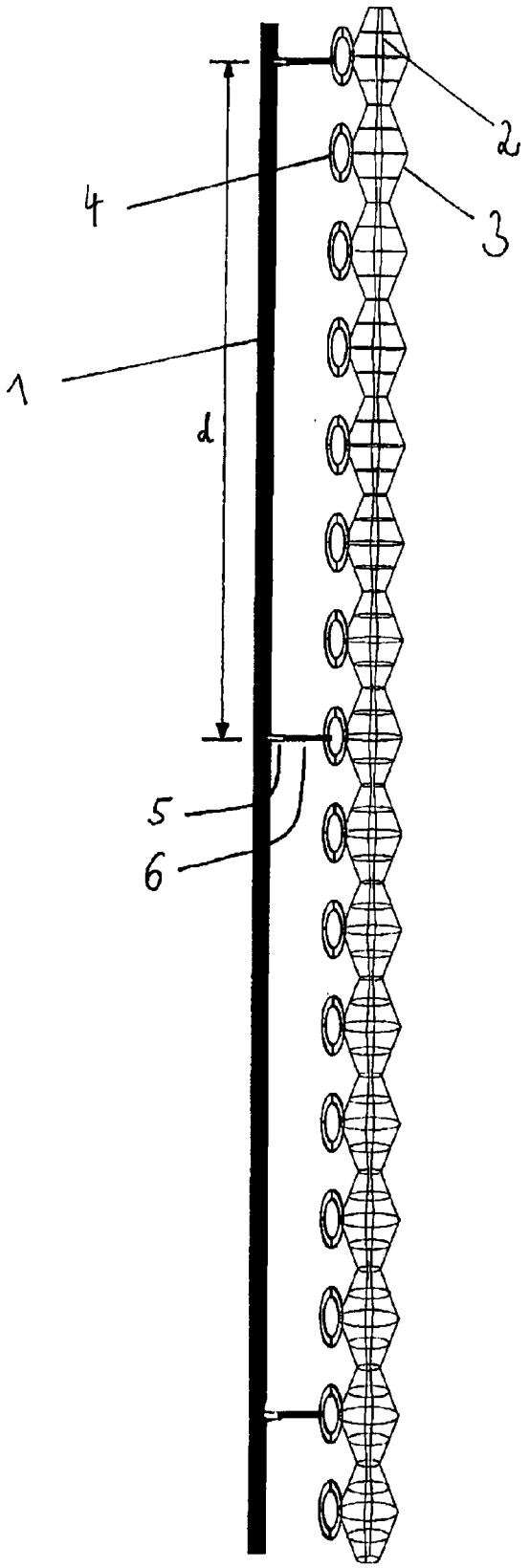
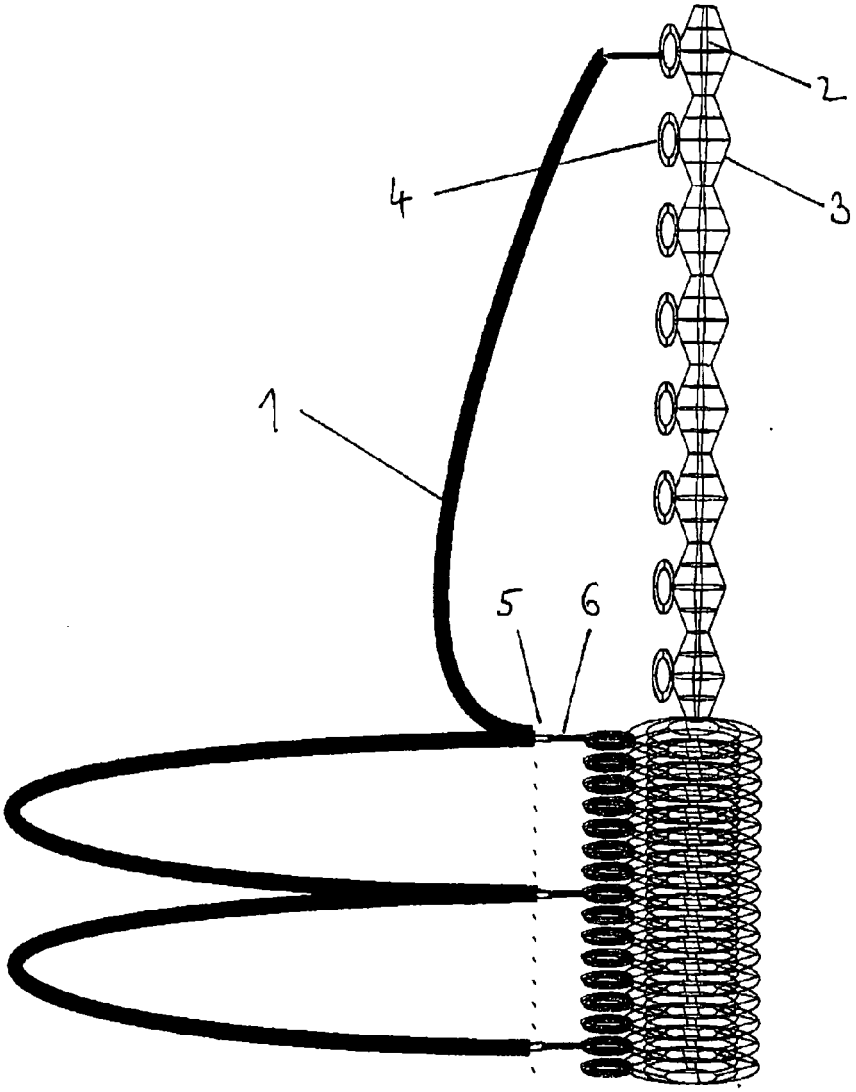


Fig. 2



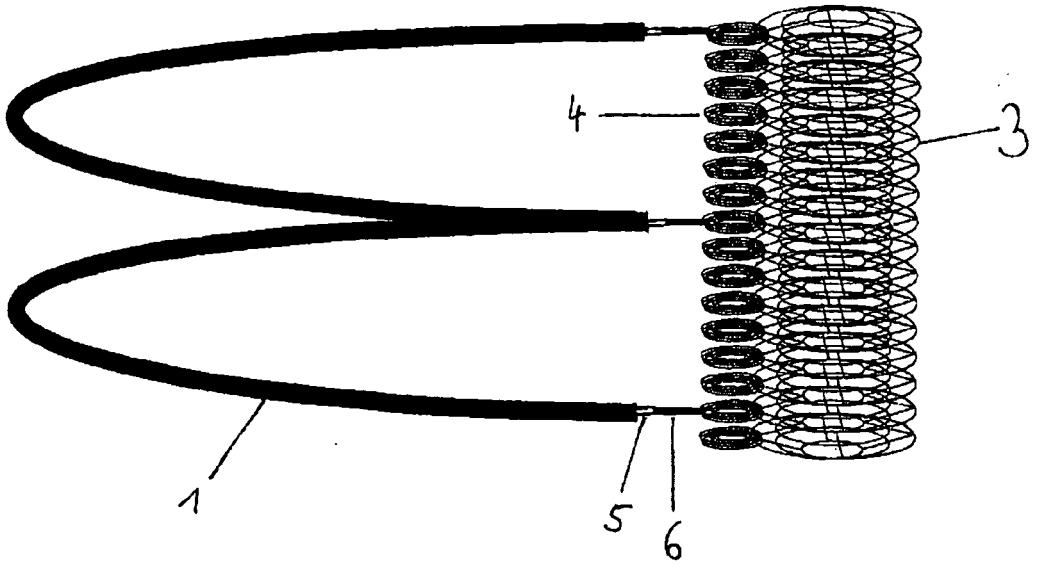


Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 11 00 3193

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	WO 2010/021841 A1 (HUNTER DOUGLAS [US]; ANTHONY JAMES M [US]; JELIC RALPH G [US]; KOVACH) 25 February 2010 (2010-02-25) * paragraphs [0048], [0049] * * figures 6, 13-20 * -----	1,7,8, 10,12	INV. E06B9/262
X	US 2005/092448 A1 (LIN HENRY [TW]) 5 May 2005 (2005-05-05) * paragraph [0014] * * figures 3, 4 * -----	1,5,7, 10,12	
			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
The Hague	20 September 2011	Urbahn, Stephanie

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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20-09-2011

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		EP 2315902 A1	04-05-2011
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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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- US 7086446 B, Kollman **[0004]**