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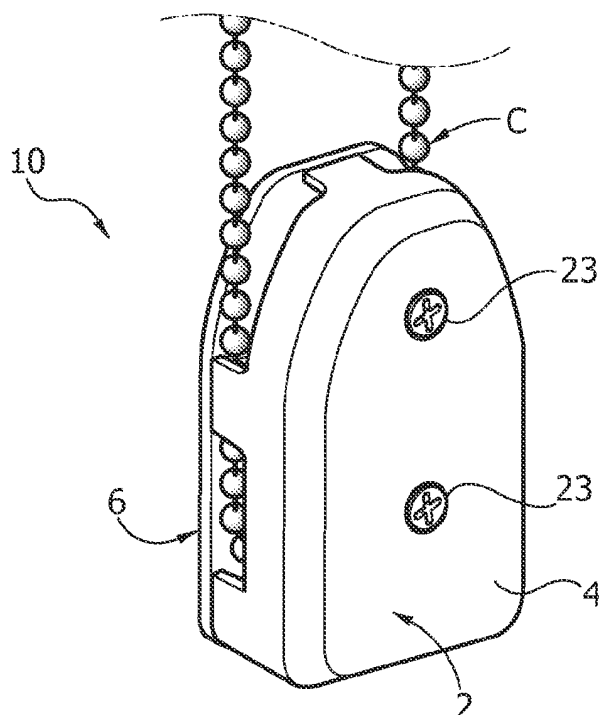
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(54) **Safety device**

(57) Safety device to be applied on the control loop of a curtain, said loop having two substantially vertical branches, hanging from the support structure of the curtain, which extend substantially parallel to each other and are joined at the lower part defining a loop portion, said safety device having a casing (2) intended to be fixed to a wall or floor, which

is adapted to receive at least one portion of said control loop and it has an abutment element adapted to prevent the exit of said portion of said loop from said casing, said device being characterised in that it has locking means (11, 8) adapted to prevent the sliding of said portion of control loop with respect to the device and means (13) adapted to disable said locking means when said casing is fixed to said wall or floor.

FIG. 1



Description

[0001] The present invention refers to a safety device to be applied on the control chord or chain - technically referred to as "control loop" - of a curtain. Hereinafter, specific reference shall be made to control chains, but it is clear that what has been described shall be deemed valid even regarding a control chord and, generally, for any control loop, regardless of the specific embodiment. In the installed condition, the control chain is arranged hanging from the support structure of the curtain with a portion which extends up to reaching an area easily accessible by the user. In particular, such hanging portion has two branches substantially parallel to each other which are joined at the lower part defining a loop portion.

[0002] The device in question has the function of avoiding that a child, playing with the abovementioned control chain, be exposed to the risk of strangling by inadvertently twisting it around the neck.

[0003] In the specific case the present invention regards a safety device having a casing, intended to be fixed to a wall or floor, which is adapted to receive at least one portion of the control loop of the curtain and it has an abutment element adapted to prevent the exit of the loop from the casing.

[0004] Once such device, after being provided on the chain, is fixed onto the wall, it forces the chain into the normal vertical configuration thereof, preventing it from twisting in a noose-like manner or the like hence serving as a protection for children who might play with such chain.

[0005] It should be observed that such device is generally associated to the respective chain right from the moment it is sold and installed; however, it has been observed that often the user does not fix, like required, the device to the wall, but leaves it hanged on the chain, free to oscillate, in a condition wherein it is thus not capable of operating in the safety condition thereof.

[0006] The present invention has the aim of overcoming such drawback by providing a device capable of offering greater safety guarantees.

[0007] Such aim is attained by means of a safety device having the characteristics of claim 1. As observable hereinafter, the device described herein is such to require fixing thereof to the wall, so as to allow using the control chain on which it is applied.

[0008] As observable hereinafter, the safety device described herein has locking means adapted to prevent the sliding, with respect to the device, of the portion of chain on which the device is applied, and means adapted to disable such locking means when the device is fixed to a wall or floor.

[0009] The claims are an integral part of the technical disclosure provided herein in relation to the invention.

[0010] Now, the invention shall be described, purely by way of non-limiting example, with respect to the attached representations wherein:

- figure 1 represents a perspective view of the safety device described herein;
- figures 2 and 3 represent exploded views of a first embodiment of the safety device described herein;
- figure 4 represents a perspective view of the safety device of figures 2 and 3;
- figure 5 represents a sectional view of the safety device of figures 2 and 3;
- figures 6a, 6b and 6c schematically represent the methods for fixing the device of figures 2 and 3 to a wall;
- figures 7 and 8 represent exploded perspective views of a second embodiment of the safety device described herein;
- figure 9 represents a sectional view of the device of figures 7 and 8;
- figures 10a and 10b schematically represent the method for fixing the device of figures 7 and 8 to a wall.

[0011] In the following description there are illustrated various specific details aimed at an in-depth understanding of the embodiments. The embodiments can be provided without one or more of the specific details, or through other methods, components or materials, etc. In other cases, known structures, materials or operations are not shown or described in detail so as to avoid obscuring various aspects of the embodiment.

[0012] The references used herein are used solely for the sake of facilitating the reader and thus they do not define the scope of protection or range of the embodiments.

[0013] With reference to the figures, the reference number 10 indicates a safety device of the type subject of the present invention. As illustrated in figure 1, the device 10 is applied to a control chain of a curtain.

[0014] The device 10 comprises a casing 2, which is adapted to receive a portion of the control chain and it has an abutment element adapted to prevent the exit of the chain from the casing 2. In particular, the abutment element is adapted to prevent the exit of the chain due to a pulling action exerted thereon and tending to remove it from the casing.

[0015] Preferably, the device 10 is provided to be applied at the loop portion of the chain. Alternatively, the device can instead be provided to be applied on the parallel branches of the chain.

[0016] The casing 2 is intended to be fixed to a wall (or floor) in proximity of the control chain, for example the wall on which the curtain is mounted. Regarding what has been described previously, in such installed condition, the safety device 10 forces the chain into the normal vertical condition thereof.

[0017] The safety device described herein is such to require fixing thereof to the wall, so as to allow using the control chain on which it is applied.

[0018] For such purpose, the safety device 10 actually comprises locking means adapted to prevent the sliding

of the control chain with respect to the device and means adapted to disable such locking means when the device is fixed to a wall.

[0019] In various embodiments, like the ones illustrated in the figures, the casing 2 has a base plate or base 6, intended to be fixed to the wall, and the abovementioned locking means comprise a plate 8, which is pushed by elastic means 11 towards the base plate 6, at an operating position wherein such plate 8 blocks the sliding of the control chain with respect to the device. Furthermore, the plate 8 has ribs 13 which, in the abovementioned operating position of the plate, traverse corresponding openings 6' of the base plate 6, up to projecting outside the latter, so that when the base plate 6 is fixed against the wall, such ribs return towards the internal of the device against the action of the abovementioned elastic means 11 and move the plate 8 away from the operating position thereof, allowing the chain to slide with respect to the device. As observable in the figures, such ribs can have a circular-arc development.

[0020] In various preferred embodiments, like in the illustrated ones, the casing 2 comprises an outer shell 4, adapted to be coupled to the base plate 6 so as to enclose the plate 8 therein. The plate 8 is slidably mounted on the shell 4 and the abovementioned elastic means 11 are interposed between such shell and the plate 8.

[0021] The embodiment of figures 2 to 6 and the embodiment of figures 7 to 10 represent two alternative embodiments, which shall be described in detail hereinafter. In such figures, the elements shared between the two embodiments were indicated with the same reference numbers.

[0022] In the example illustrated in figures 2 to 6, the plate 8 is adapted to engage the control chain blocking the sliding thereof with respect to the device. Preferably, the plate 8 has, for such purpose, ribs 8' which form a grid adapted, in the operating condition of the plate 8, to trap the beads of the control chain. In the case in which a control chord is provided instead of the chain, the plate 8 can have projecting teeth adapted to pinch the chord against the base plate 6. In the embodiment in question, the plate 8 also carries the abutment element, mentioned previously, having the function of preventing the exit of the chain from the device 10. In particular, in the example illustrated in the figures, such element is constituted by the same rib 13 (the rib in central position illustrated in figure 3) of the plate 8.

[0023] In the example illustrated in figures 7 to 10, on the base plate 6 there is instead mounted - free rotatably -, through a bearing 16, a wheel 14, adapted to be rotatably engaged by the control chain and constitute the aforementioned abutment element of the casing. In the operating condition thereof, the plate 8 is adapted to block such wheel. Preferably, the plate 8 has, for such purpose, one or more projecting pins 17, which, in the operating condition of the plate 8, are inserted into openings provided for on the opposite side of the wheel 14.

[0024] In both embodiments described above, the

shell 4, the plate 8 and the base plate 6 can have respective openings 21, 21' and 21" in corresponding positions, so that, through such openings, any fixing means suitable for such purpose, for example screws 23 illustrated in the figures, can engage the casing 2 on the side of the shell 4 and project from the base plate 6, to allow fixing such casing to a wall. In such case, according to preferred embodiments, the openings 21" of the base plate 6 are defined by respective cylindrical portions 25 which traverse the openings 21' of the plate 8, reaching up to the openings 21 of the shell 4, and constitute a seat for the abovementioned screws or fixing means 23. According to preferred embodiments, the abovementioned elastic means are constituted by helical springs each mounted around a respective cylindrical portion 25, interposed between the plate 8 and the shell 4.

[0025] Figures 6a, 6b and 6c illustrate the method according to which the device according to the first embodiment can be fixed to a wall. In particular, figure 6a illustrates the device in a condition wherein the plate 8 is still in the operating condition in which it blocks—in this case trapping the beads thereof in the grid formed by the ribs 8' - the chain, and the ribs 13 project from the base plate 6. Figures 6b and 6c instead illustrate the step of fastening the screws 23 into the wall, during which, as the screws are progressively fastened, the base plate nears the wall and correspondingly the ribs 13 move the plate 8 away from the operating position thereof. As illustrated in figure 6c, once the base plate 6 is fixed to the wall, the plate 8 had entirely freed the chain, which can thus be finally used.

[0026] As illustrated in figures 10a and 10b, an analogous operation is provided for the second embodiment. Regarding this, figure 10a illustrates the operating condition of the plate 8, in which, in this case, the pins 17 engage the corresponding openings provided for in the wheel 14, while figure 10b illustrates the condition in which such pins have abandoned such wheel, making the latter free to rotate, to enable using the chain.

[0027] Obviously, without prejudice to the principle of the invention, the construction details and the embodiments may vary, even widely, with respect to what has been illustrated purely by way of non-limiting example, without departing from the scope of protection of the invention, as defined in the attached claims.

Claims

1. Safety device to be applied on the control loop of a curtain, said loop having two substantially vertical branches, hanging from the support structure of the curtain, which extend substantially parallel to each other and are joined at the lower part defining a loop portion, said safety device having a casing (2) intended to be fixed to a wall or floor, which is adapted to receive at least one portion of

said control loop and it has an abutment element adapted to prevent the exit of said portion of said loop from said casing,

said device being **characterised in that** it has locking means (11, 8) adapted to prevent the sliding of said portion of control loop with respect to the device and means (13) adapted to disable said locking means when said casing is fixed to said wall or floor. 5

2. Device according to claim 1, wherein said casing has a base (6), intended to be fixed to said wall, wherein said locking means comprise a plate (8) which is pushed by elastic means (11) towards said base, at an operating position wherein said plate blocks the sliding of said portion of control loop, and 10
 wherein said plate has ribs (13) which, in said operating position, traverse corresponding openings (6') of said base up to projecting outside therefrom, so that when said base is fixed against said wall, said ribs are pushed towards the internal of the device 15
 against the action of said elastic means and move said plate away from said operating position. 20
3. Device according to claim 2, wherein said casing comprises an outer shell (4) coupled to said base (6) 25
 so as to enclose said plate (8) therein, said plate being slidable on said shell and said elastic means being interposed between said shell and said plate.
4. Device according to claim 3, wherein said shell (4), plate (8) and base (6) have respective openings (21) 30
 in corresponding positions, so that, through such openings, fixing means can engage said casing (2) on the side of said shell (4) and project from said base (6), to allow fixing said casing to said wall. 35
5. Device according to any one of claims 2 to 4, wherein said plate has one or more projections (8') adapted, in said operating condition, to trap or pinch said portion of control loop. 40
6. Device according to any one of claims 2 to 4, wherein on said base there is mounted - free rotatably - a wheel (14), which is adapted to be rotatably engaged by said portion of control loop, in said operating position said plate being adapted to block the rotation of said wheel. 45
7. Device according to claim 6, wherein said plate has at least one pin adapted, in the operating condition of said plate, to be inserted into a corresponding opening of said wheel (14). 50
8. Device according to any one of claims 2 to 7, wherein said ribs have a circular-arc development. 55

FIG. 1

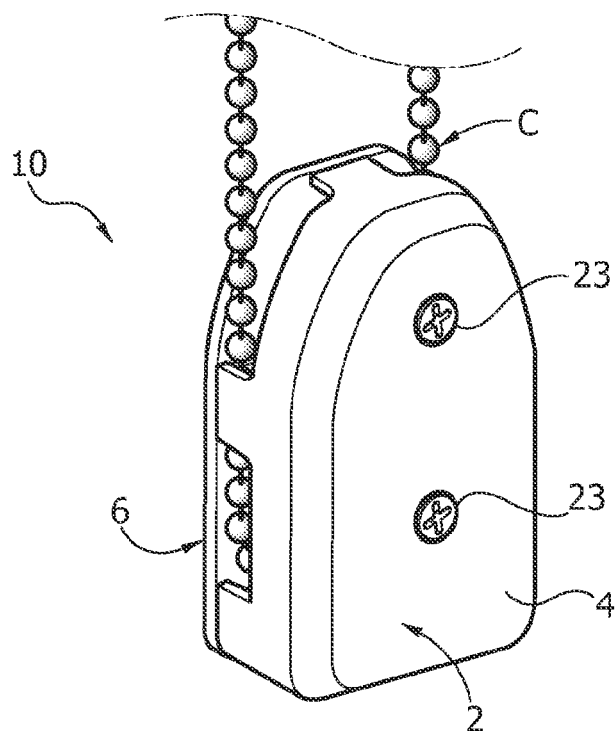


FIG. 2

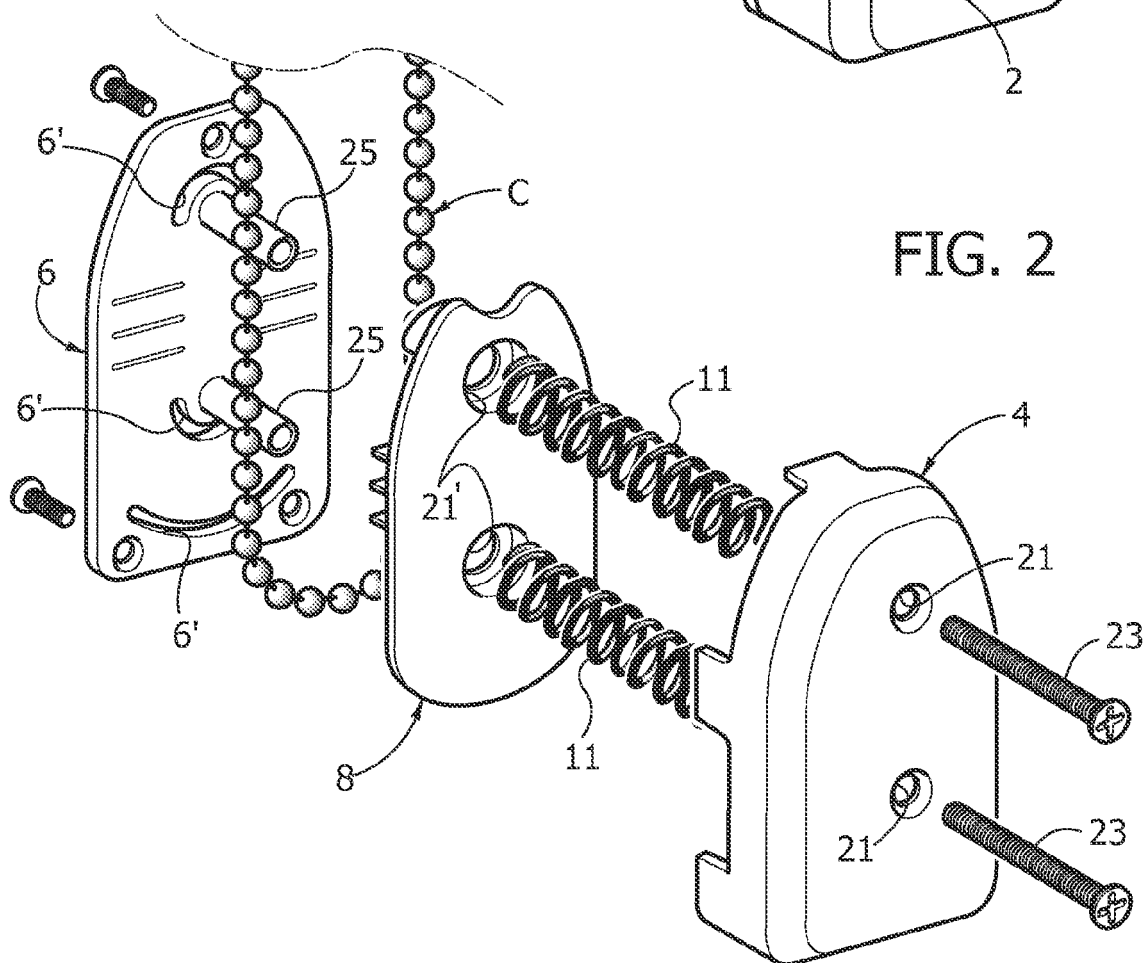


FIG. 3

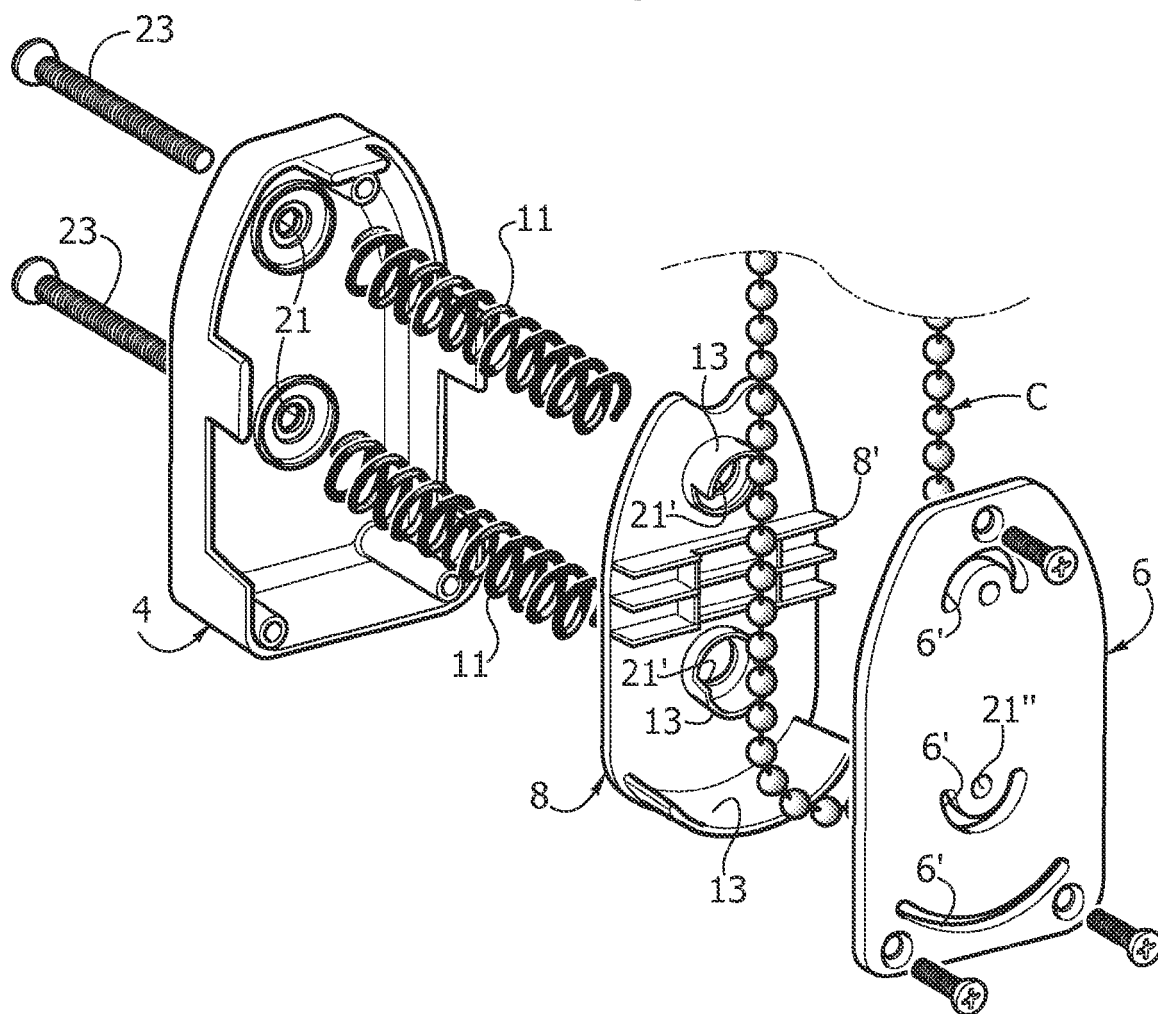


FIG. 4

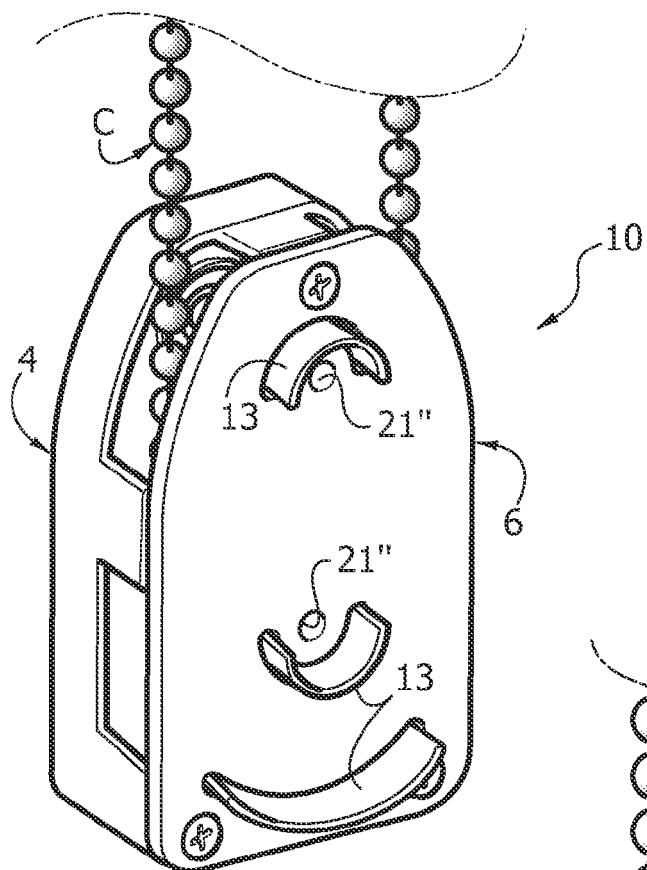
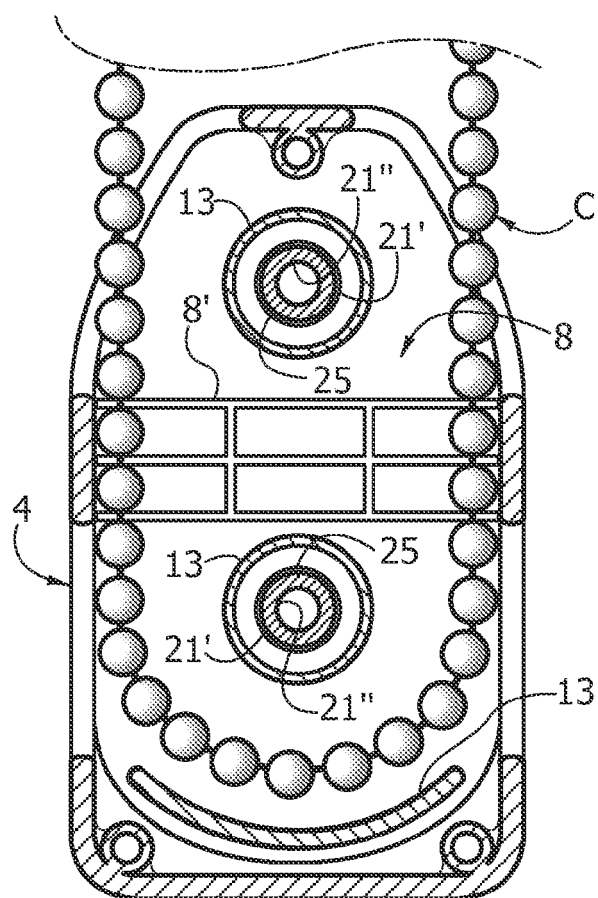


FIG. 5



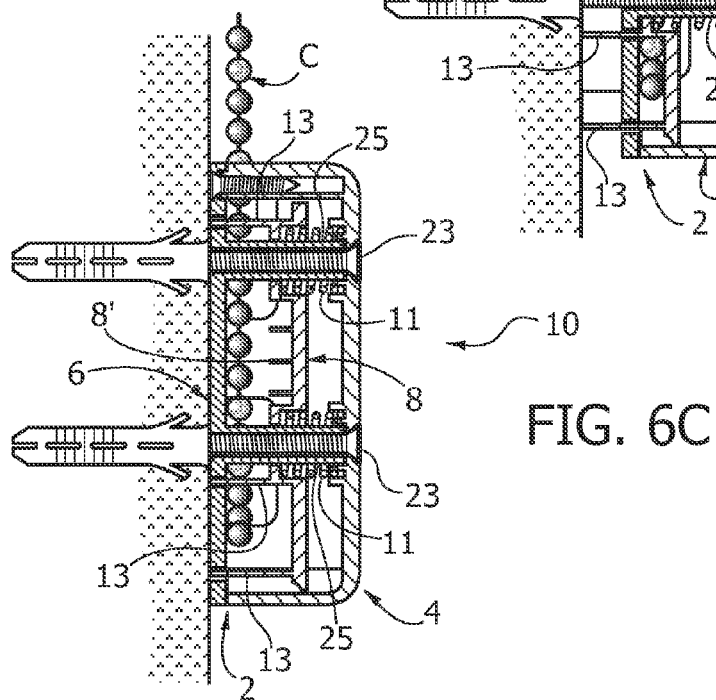
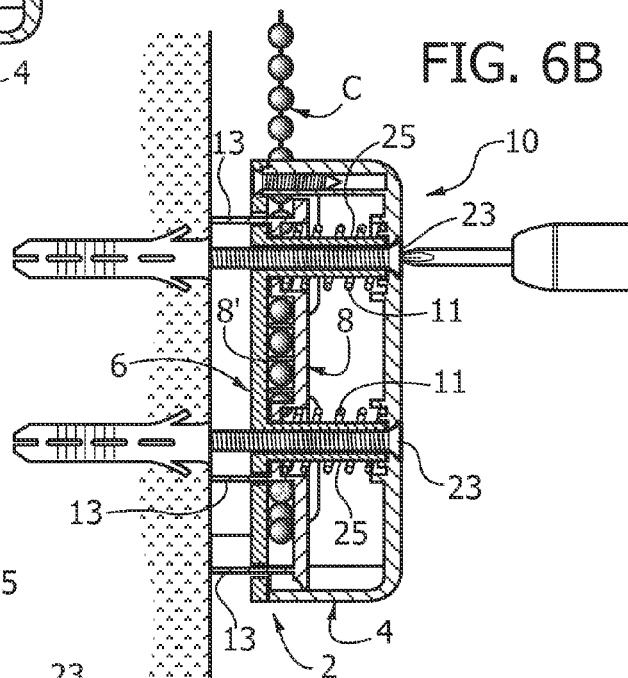
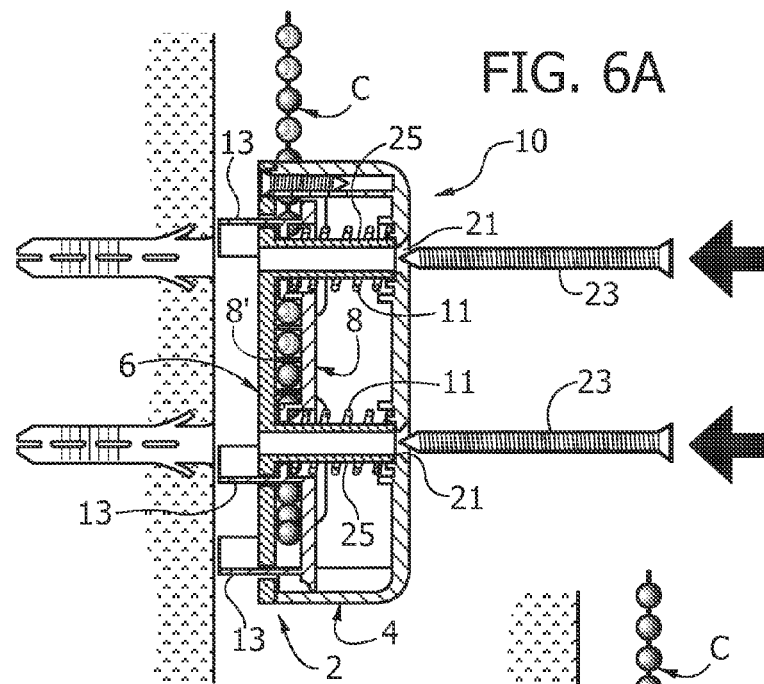


FIG. 7

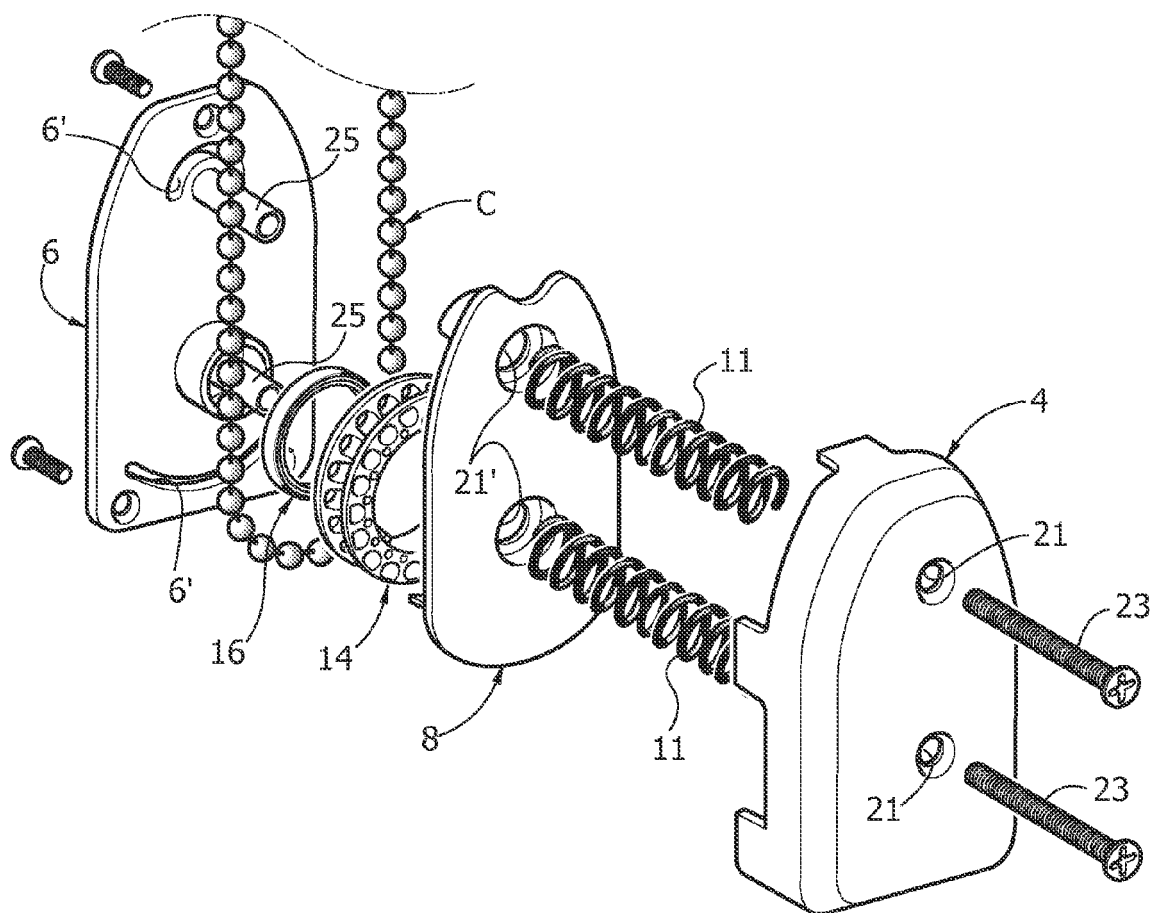


FIG. 8

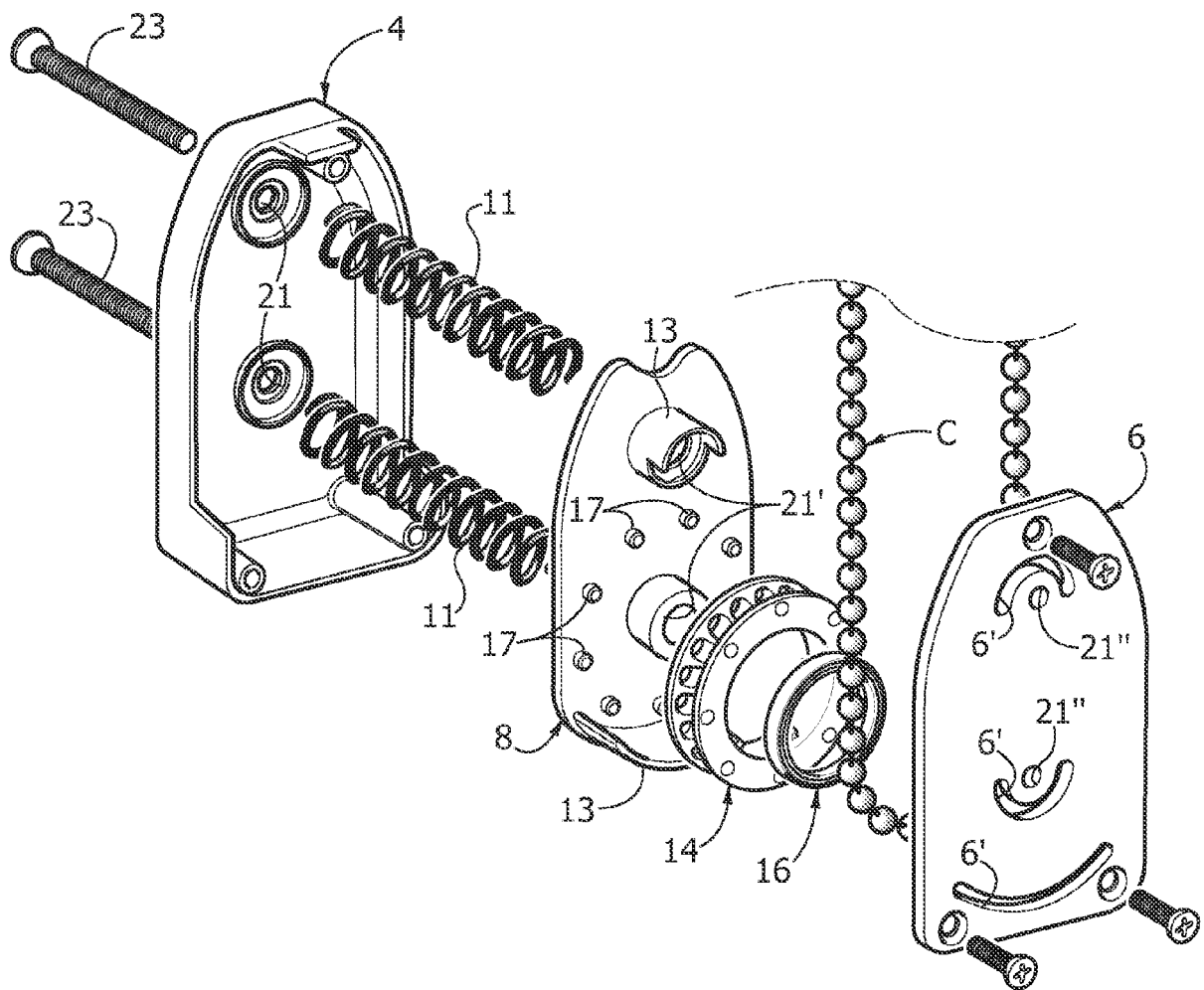


FIG. 9

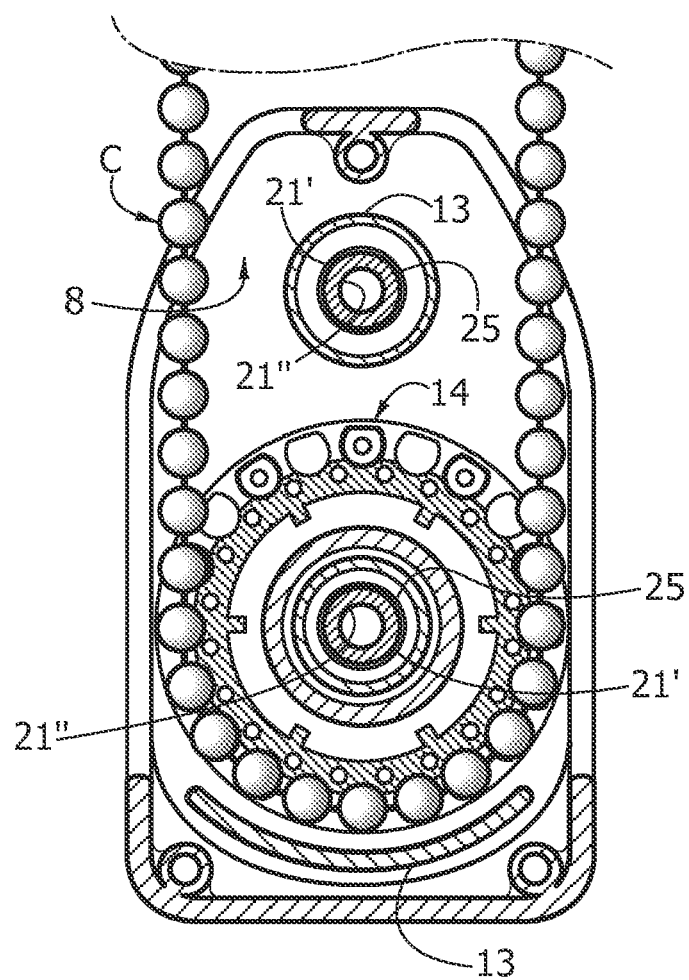


FIG. 10A

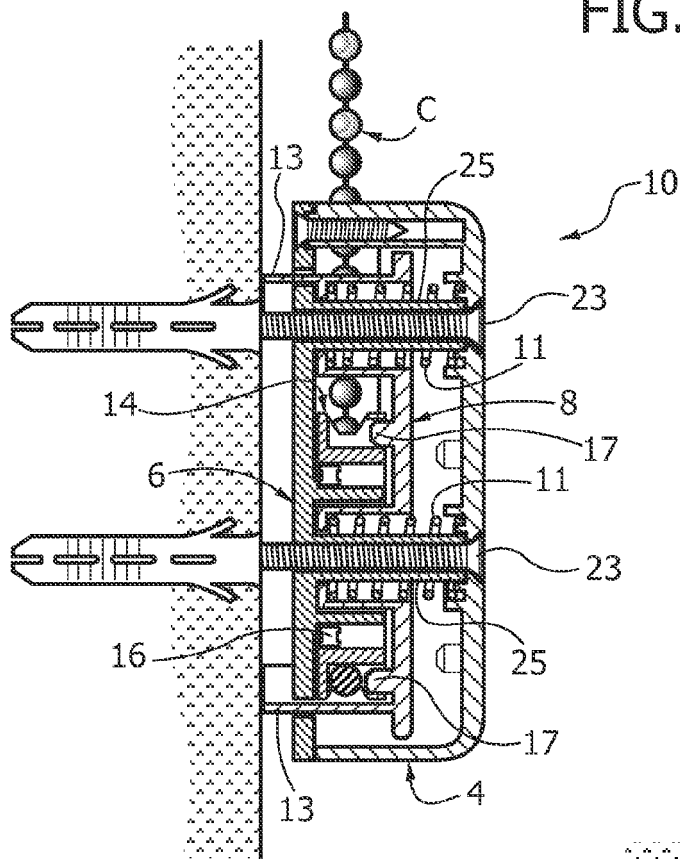
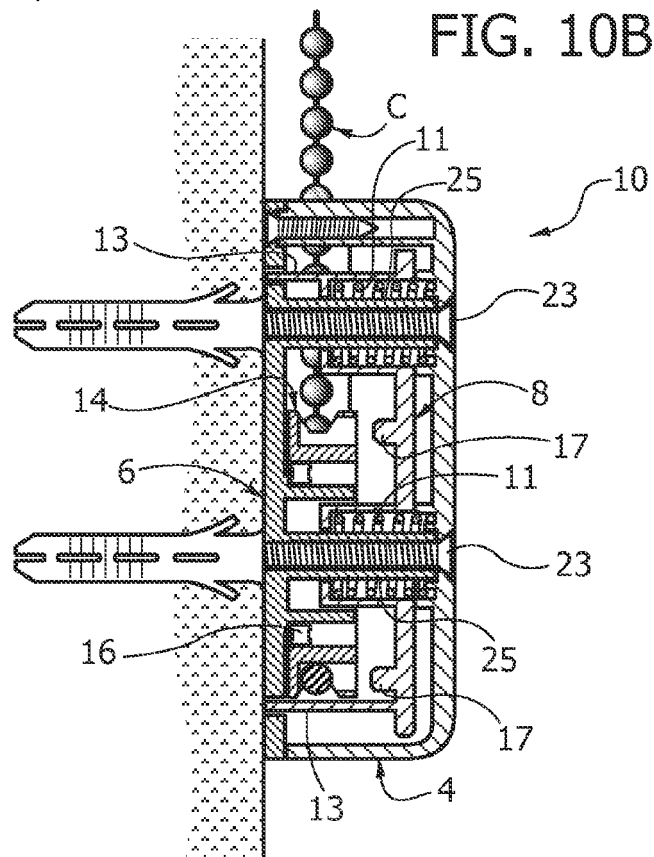


FIG. 10B





EUROPEAN SEARCH REPORT

Application Number
EP 11 15 6232

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	US 2009/205788 A1 (CANNAVERDE JOE [US] ET AL) 20 August 2009 (2009-08-20) * the whole document *	1	INV. A47H5/032 E06B9/326
A	US 6 085 824 A (CADOLETTE MARIO [CA]) 11 July 2000 (2000-07-11) * the whole document *	1	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A47H E06B
Place of search		Date of completion of the search	Examiner
The Hague		10 August 2011	Delzor, François
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EPO FORM 1503 03.82 (P04C01)

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

EP 11 15 6232

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
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10-08-2011

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