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(54) **Safety blind**

(57) The invention is concerned with a blind (4) that can be lift up and having fastening means (6') mounted to a window frame, wall or the like. The blind (4) has a lifting mechanism, with which the blind (4) can be moved between an upper position and a lower position. The lift-

ing mechanism consists of a lifting strap (2) that forms a loop. The blind (4) is mainly characterized in that the lifting strap (2) is placed inside a side list (1) in the blind (4). The lifting strap (2) can be moved by means of a handle (3, 3') that is connected to the side list (1).

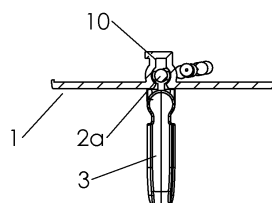
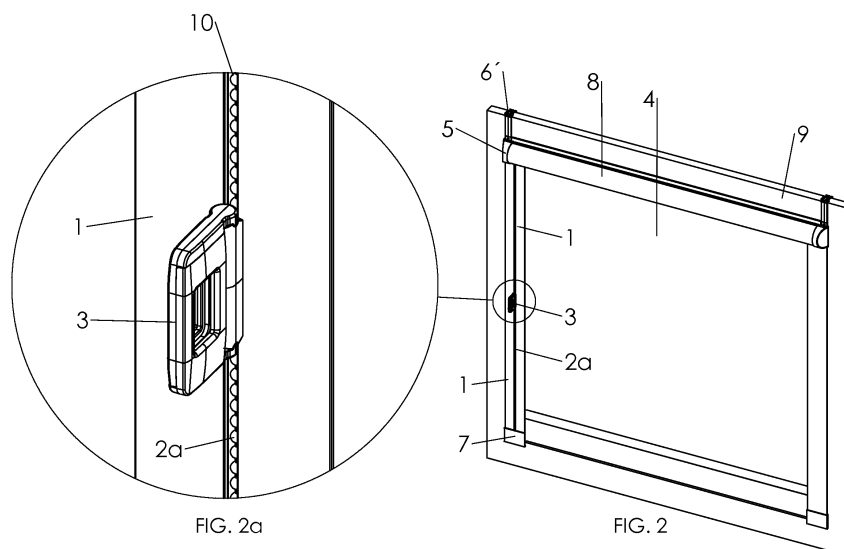


FIG. 2b

Description

TECHNICAL FIELD

[0001] The invention is concerned with a safe blind.

TECHNICAL BACKGROUND

[0002] Different roller blinds and other such blinds are known for having a lifting mechanism, with which the curtain part of the blind being of cloth, cotton or polyester can be lifted in an upper position and brought down in a lower position.

[0003] The lifting mechanism consists of one or two lifting cords or chains, with which they are used and which cords or chains form an endless loop. The lifting cords or chains have been mounted so that the blind can be lifted up into a roll or folded together by means of them and be brought down again to be opened or unbent.

[0004] The roller blind has been lifted up into a roll in its upper position. Pleated blinds are otherwise like roller blinds but they are folded instead of being rolled.

[0005] All of the above mentioned shades are moved up and down steplessly in a known way with cord, chain, spring or electrical mechanisms.

[0006] The cords and chains of different blinds, such as the functional loops of roller blinds, can cause a risk of strangling for children, since the children can put their head through the loop. Hanging long cords and loops have therefore been classified as sources of danger.

[0007] Long cords and chains can be kept unreachable for children by means of different accessories for the blinds, or minimization of the risk of strangling can otherwise be taken into consideration in the design of the products.

[0008] According to regulations of today, i.e. the EU standards EN 13120, EN 16433 and EN 16434, cords and loops have to be kept away from being reached by the children e.g. by wrapping the cords to the wall around a hook or to another suitable attachment point at least on a height of 1,5 m from the floor.

[0009] Some small windows that are generally used in many European countries can be opened so that they are opened from above and are tilting inwards. A blind is often used in these windows as a visual obstruction during the ventilation. In these case, such a sc. Mini Cas-sette is generally used, which has side lists that can be taped to the window frame. The blind is kept in place behind the side lists even if the window has been opened from above and tilts inwards. However, in this situation, the loop of the cord or chain is freely hanging but people prefer not to fasten separate hooks or the like to the window frames through which the cord or chain loop would pass.

[0010] Neither is there so far a solution for a problem that arises when a blind or the like is mounted on a distance from the wall or e.g. to a balcony with no possibilities to fasten the chain or cord to the wall.

[0011] The object of the invention is therefore a new and alternative safety solution that works in all conditions and as an alternative for fastening the cord or chain loop to the wall.

SUMMARY OF THE INVENTION

[0012] The invention is concerned with a blind that can be lift up and having fastening members that can be mounted to a window frame, wall or the like. The blind has a lifting mechanism, with which the blind can be moved between an upper position and a lower position. The lifting mechanism consists of a lifting strap that forms a loop. The blind is mainly characterized in that the lifting strap is placed inside a side list in the blind. The lifting strap can be moved by means of a handle that is connected to the side list.

[0013] The preferable embodiments of the invention have the characteristics of the sub claims.

[0014] At the front side (that is facing the room), the lifting strap has been mounted to be moved in a groove inside the side list and to continue around a round-shaped part at the lower edge of the side list and further to the back side of the side list in order to form a loop. The round-shaped part is for example a pin positioned in a corner piece placed at the lower edge of the side list.

[0015] The handle can be realized in different ways. It can be connected to permanently move together with the strap or it can be foreseen with a spring by means of which an inner part of the handle can be moved inside the outer part of the handle to lock the handle to the lifting strap and analogously, to free the handle from the lifting strap. In such a way, the handle can be moved without moving the lifting strap, when the handle is loose from the lifting strap.

[0016] The lifting strap is in the first hand a chain or a ball chain, but it can equally well be a cord, a band or a thread. The blind is in the first hand designed to be a roller blind but can also be a pleated blind.

[0017] In the following, the invention will be presented by means of some figures and embodiments. The invention is not restricted to the details of the following presentation.

FIGURES

[0018]

Figure 1 presents a general view of a blind of prior art. Figure 2 presents a blind according to a first embodiment of the invention.

Figure 2a is a detailed partial figure of figure 2, wherein the lifting mechanism of a blind used in the invention is presented obliquely from the side.

Figure 2b is a detailed partial figure of figure 2, wherein the lifting mechanism of a blind used in the invention is presented from above.

Figure 3 presents a blind according to a second em-

bodiment of the invention.

Figure 3a is a detailed partial figure of figure 3, wherein the lifting mechanism of a blind used in the invention is presented obliquely from the side.

Figure 4 presents a blind according to a third embodiment of the invention.

Figure 4a is a detailed partial figure of figure 4, wherein the lifting mechanism of a blind used in the invention is presented obliquely from the front.

Figure 4b is a detailed partial figure of figure 4, wherein the lifting mechanism of a blind used in the invention is presented from the side.

Figure 5 presents the construction of the blind of the invention according to figure 2 from behind, wherein the lifting strap is a ball chain.

Figure 5a is a partial figure of figure 5, wherein the position of the ball chain and its moving path appears more in detail.

Figure 6 presents the construction of the blind of the invention according to figure 3 from behind, wherein the lifting strap is a cord.

Figure 6a is a partial figure of figure 6, wherein the position of the string and its moving path appears more in detail.

DETAILED DESCRIPTION

[0019] Figure 1 presents a blind of prior art as a general view.

[0020] The blind 4 that can be seen in figure 1 is partly rolled up around a tube or corresponding support member. Figure 1 also shows fastening members 6 on the both sides of the support member. The support member of the blind 4 can be fastened to the wall by means of the fastening members 6. Usually, the fastening members 6 are brackets fastened to the ceiling or the wall.

[0021] The blind 4 can be moved up and down between an upper position and a lower position by means of a lifting mechanism 2, which in figure 1 is a chain loop, by means of which the lifting and lowering in question takes place by pulling from the chain.

[0022] The solution used in figure 1 for the lifting mechanism 2 includes a pressure spring inside the side winder that uses a chain drive. The pressure spring is released by pulling from the chain loop, whereby the blind can be brought up and down. When the pulling is stopped, the spring is again pressed against the axis and the blind stays on its place.

[0023] In figure 1, the lifting strap 2 is freely hanging and can cause a risk of strangling for children, since children can put their head through the loop when they are playing. To keep such a lifting strap unreachable for children, it should be fastened to a hook in the wall or other suitable fastening point at a height of at least 1,5 m from the floor.

[0024] The loop of the lifting cord or chain would still hang and the fastening would require separate fastening members or the like to be fastened to the wall.

[0025] In the invention, the lifting strap 2 is placed inside a side list 1 in the blind 4 as in figure 2, wherein an embodiment of the invention is presented. The lifting strap 2a has been brought inside the side list 1 by placing it in a groove 10 in the side list 1. A corner piece 7 has been fastened in the lower part of the side list 1 to protect the lower corner. The lifting strap 2a has been connected to a handle 3, by means of which the lifting strap 2 can be moved.

[0026] The side list 1 is connected to an end piece 5 at the top of it. The lifting strap 2 moves around a lifting mechanism inside the end piece 5. There is space inside a cassette 8 for a fabric or other roll that forms the blind. Reference number 9 describes a window frame, to which the blind 4 has been fastened with fastening members 6'.

[0027] Figure 2a is a detailed partial figure of figure 2, wherein the lifting mechanism used in the blind of the invention can be seen obliquely from the front and from the side. The lifting strap is in this embodiment a ball chain 2a and it can be seen in figure 2a that it on the front side of the side list 1 (the side facing the room) moves in a groove 10 in the side list 1. The handle 3 is in the embodiment of figure 2a fastened to the handle 3 to move together with the lifting strap and it works as a chain connector and handle at the same time.

[0028] Figure 2b is a detailed partial figure of figure 2, wherein the lifting mechanism of the blind of the invention can be seen from above. The side list 1 is mounted in an end piece 5 and has a groove 10, wherein the chain 2a is placed to move and form a loop. The chain 2a that consists of the lifting strap and the handle 3 fastened to that can be seen in figure 2b from above. The chain 2a stays in the groove 10 of the side list 1. The upper end of the side list 1 is connected to the end piece 5 and the side list 1 is taped to the frame 9 with double-sided tape. The chain 2a turns below the side list 1 and then continues behind it via a corner piece 7 and further up and above the side list 1 around a lifting mechanism inside the end piece 5. The blind 4 itself is inside the cassette 8 and between end pieces 5 connected to the cassette 8.

[0029] Figure 3 presents another embodiment of a blind of the invention. The difference compared to figure 2 is that the lifting strap in figure 3 is a cord 2b.

[0030] Figure 3a is a detailed partial view of figure 3, wherein the lifting strap of the blind used in the invention can be seen obliquely from the front and from the side. The handle 3 is similar to that of figure 2a.

[0031] Figure 4 presents a third embodiment of a blind of the invention. The difference compared to figures 2 and 3 lies in the handle 3'. The lifting strap is a cord 2b as in figure 3 but could of course be a ball chain 2a as well.

[0032] Figure 4a is a detailed partial view of figure 4, wherein the lifting strap of the blind used in the invention can be seen obliquely from the front and from the side.

[0033] Figure 4b is a detailed partial view of figure 4, wherein the lifting strap of the blind is seen from the side. Reference number 16 is the window glass. Here in this figure 4b, the handle 3' is foreseen with a spring 12, by

means of which an inner part 13 of the handle 3' can be moved inside an outer part 11 in order to lock the handle 3' to the string 2b and to release the same from the string, respectively.

[0034] When the spring is pressed down to the bottom, the handle 3' is free from the cord 2b, whereby it can be moved without moving the cord 2b. When the spring 12 is released, the handle 3' moves together with the cord 2b. Naturally, a ball chain or other lifting strap 2 could be used in this embodiment as well.

[0035] Figure 5 presents the construction of a blind of the invention from behind.

[0036] Figure 5a is a detailed partial view of figure 5, wherein the position and path of the lifting strap 2 can be seen more in detail. The lifting strap, which in figure 5a is a ball chain 2a moves in front of the side list 1 and continues around a round-shaped part 14 at the lower edge of the side list 1 behind the side list 1 thus forming a loop. The round-shaped part 14 is e.g. a pin positioned in the corner piece 7 at the lower edge of the side list 1. In the corner piece 7 there is also a guiding part 15 that locks the side list 1 on its place and guides the lifting strap 2a around the round-shaped part 14.

[0037] Figures 6 and 6a otherwise presents the same constructions as figures 5 and 5a except that it is a cord 2b that is used as lifting strap, which moves in front (referenced as 2b") of the side list 1 and continues around a round-shaped part 14 fastened in a corner piece 7 at the lower edge of the side list 1 and further behind (referenced as 2b") the side list 1 thereby forming a loop.

in that the handle (3) is fastened to the lifting strap (2, 2a, 2b) to move together with the lifting strap (2, 2a, 2b).

- 5 **5.** A blind (4) of any of claim 1, 2, 3, or 4, **characterized in that** the handle (3') is foreseen with a spring (12), by means of which the inner part (11) of the handle (3') can be moved inside the outer part of the handle (3') to lock the handle (3') to the lifting strap (1) and to release it from the lifting strap (2, 2a, 2b), respectively.
- 10
- 15 **6.** A blind (4) of any of claim 1, 2, 3, 4, or 5, **characterized in that** the lifting strap (2) is a chain (2a), a ball chain, cord (2b) or a band.
- 20
- 25 **7.** A blind (4) of any of claim 1, 2, 3, 4, 5, or 6, **characterized in that** the blind (4) is a roller blind or a pleated blind.
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Claims

1. A blind (4) that can be lift up and having fastening members (6') that can be mounted to a window frame, wall or the like and further having a lifting mechanism by means of which the blind (4) can be moved between an upper position and a lower position and which lifting mechanism consists of a lifting strap (2, 2a, 2b) forming a loop, **characterized in that** the lifting strap (2, 2a, 2b) is positioned in a side list (1) in the blind (4), and which lifting strap (2, 2a, 2b) can be moved by means of a handle (3, 3') connected to the lifting strap (2, 2a, 2b).
2. A blind (4) of claim 1, **characterized in that** in the front of the side list (1), the lifting strap (2, 2a, 2b) moves in a groove (10) inside the side list (1) and continues around a round-shaped part (14) in the lower edge of the side list (1) behind the side list (1) thereby forming a loop.
3. A blind (4) of claim 2, **characterized in that** the round-shaped part (14) is in a corner piece (7) placed at the lower edge of the side list (1).
4. A blind (4) of any of claim 1, 2, 3, or 4, **characterized**

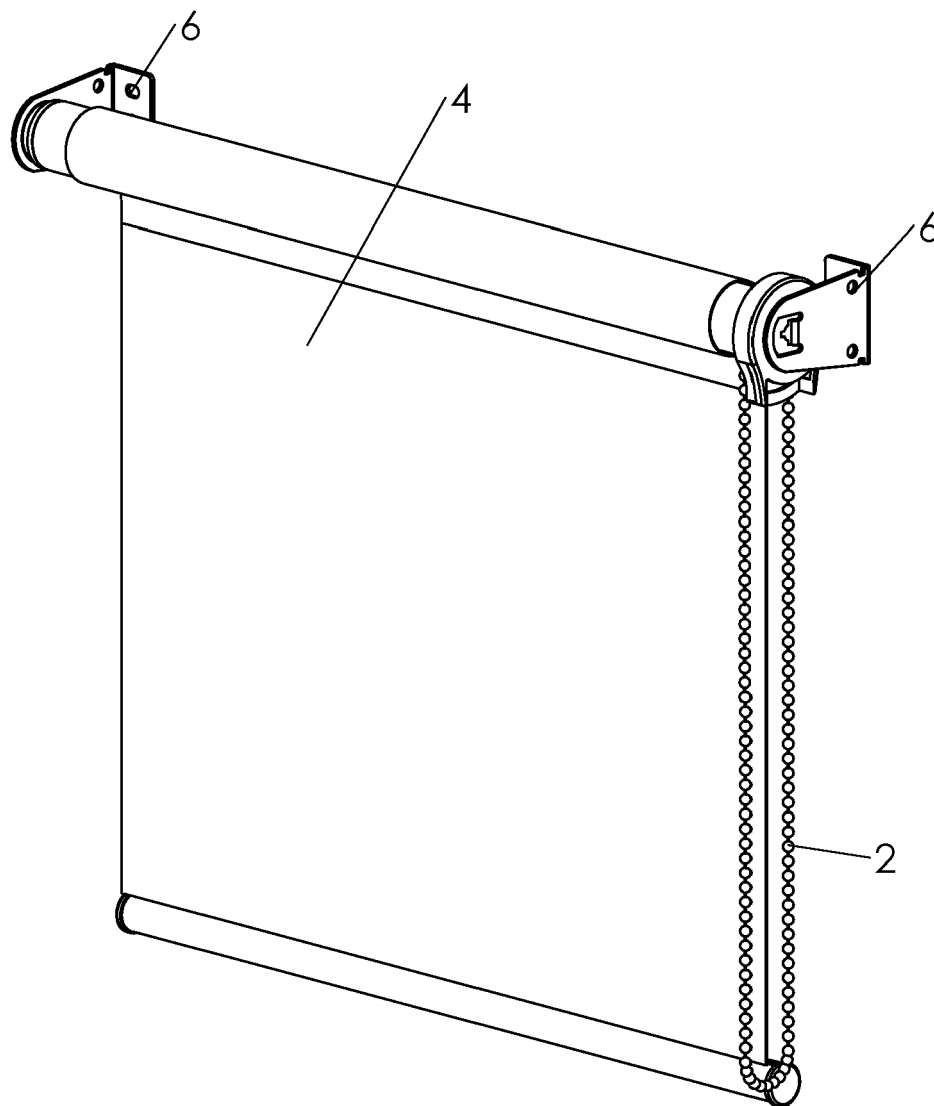


FIG. 1

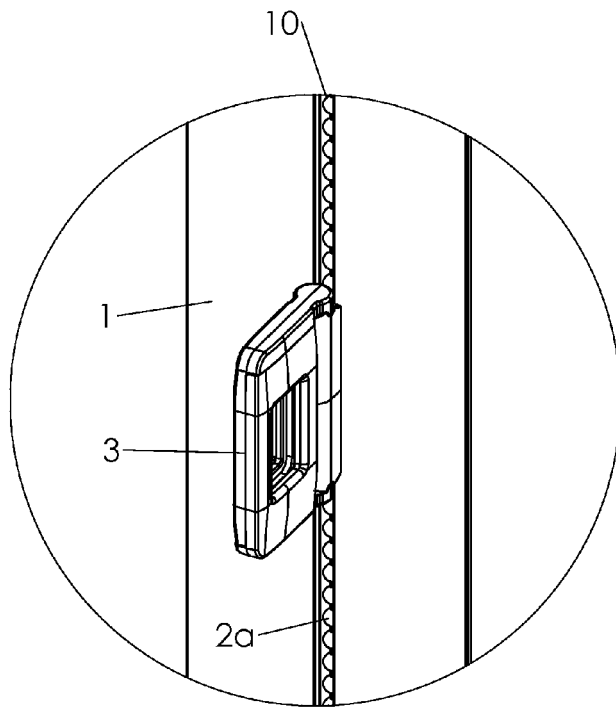


FIG. 2a

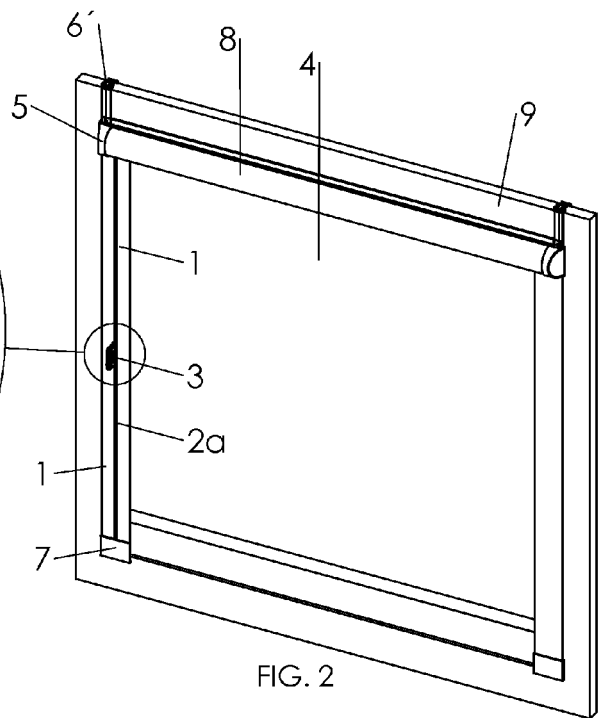


FIG. 2

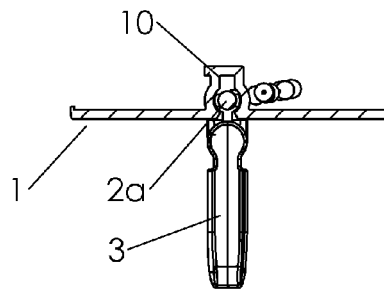


FIG. 2b

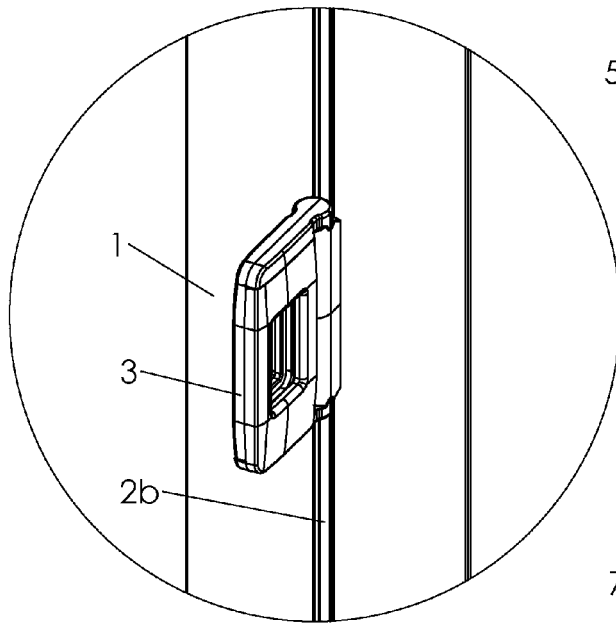


FIG.3a

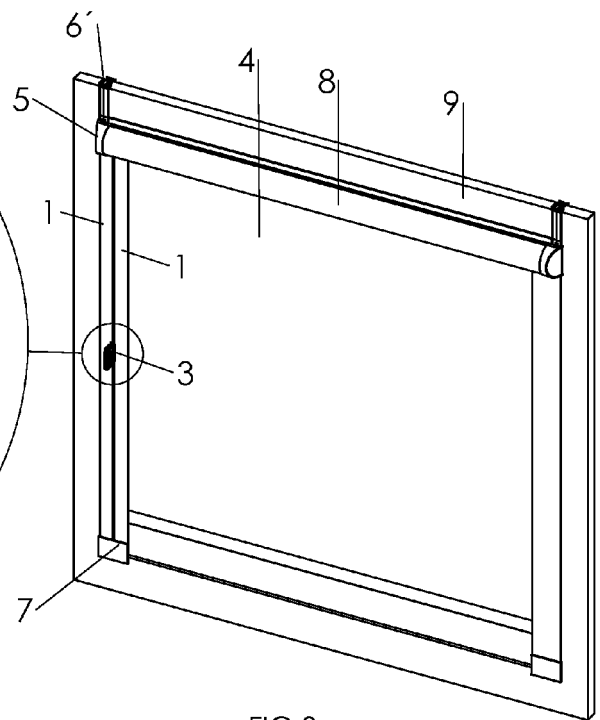
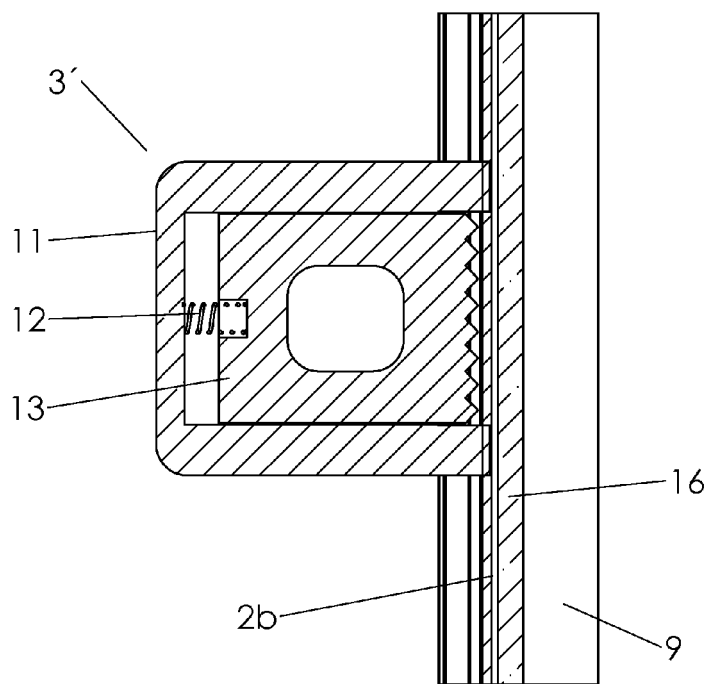
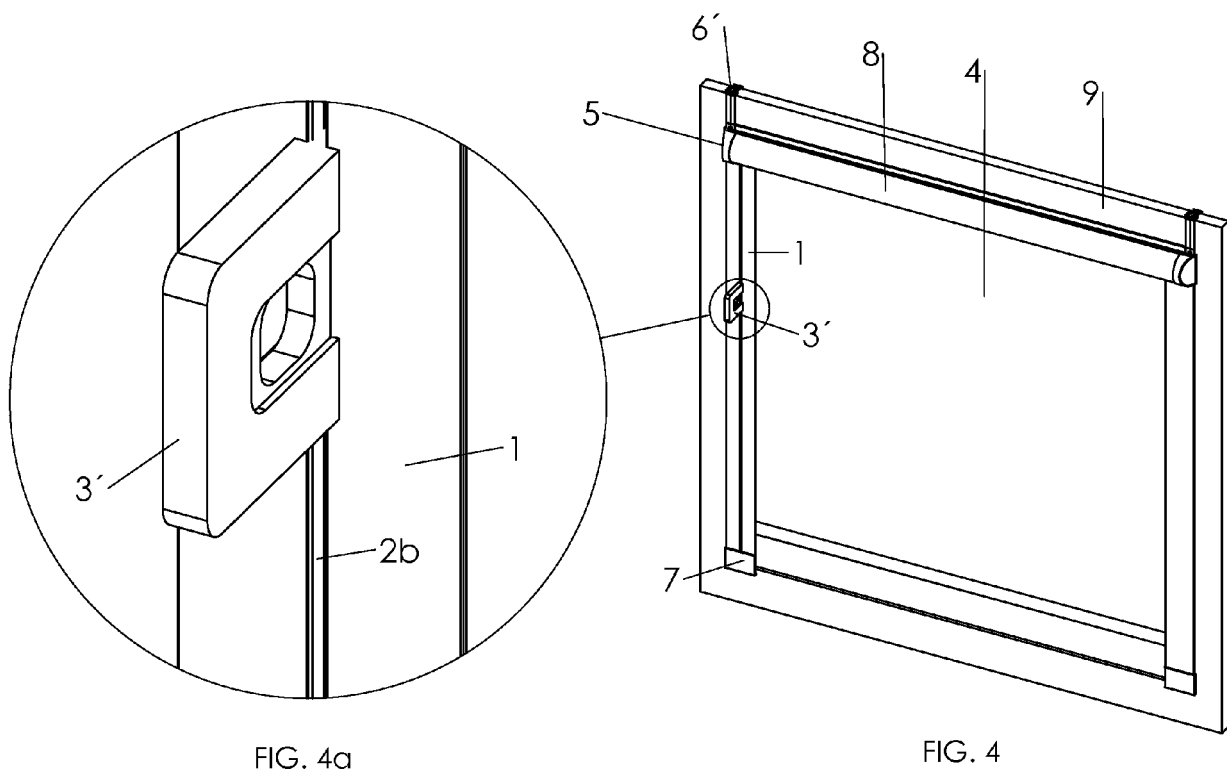


FIG.3



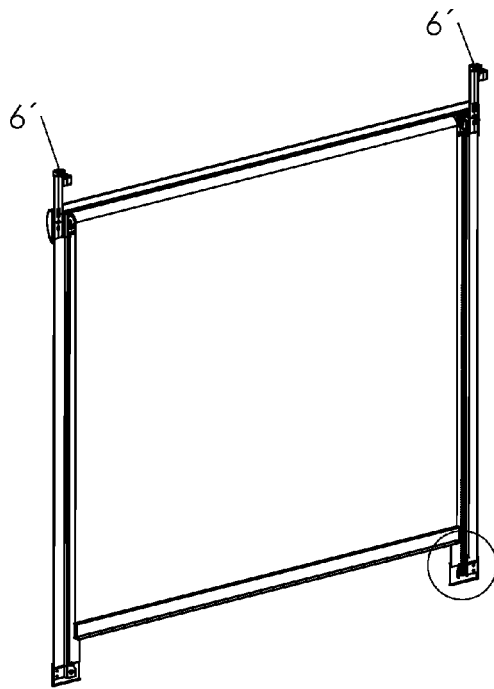


FIG. 5

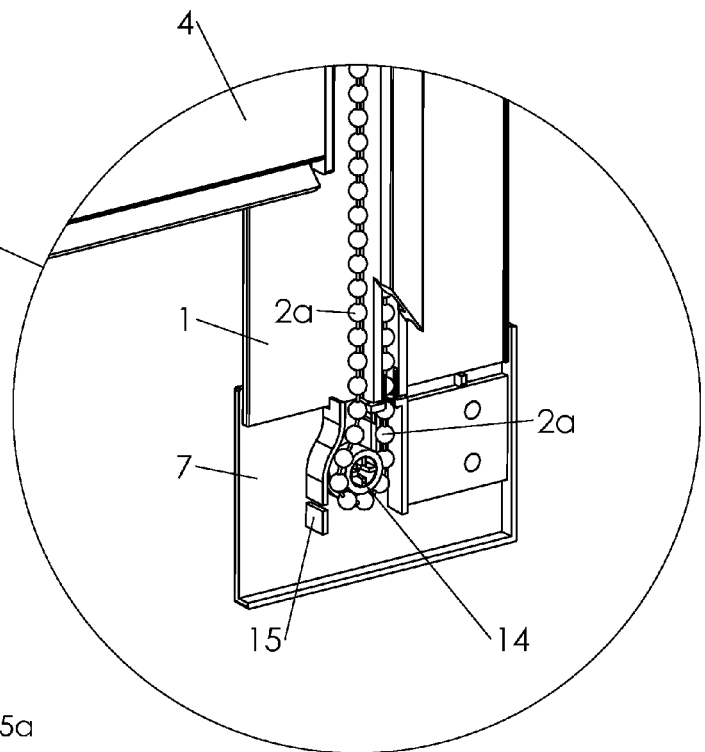


FIG. 5a

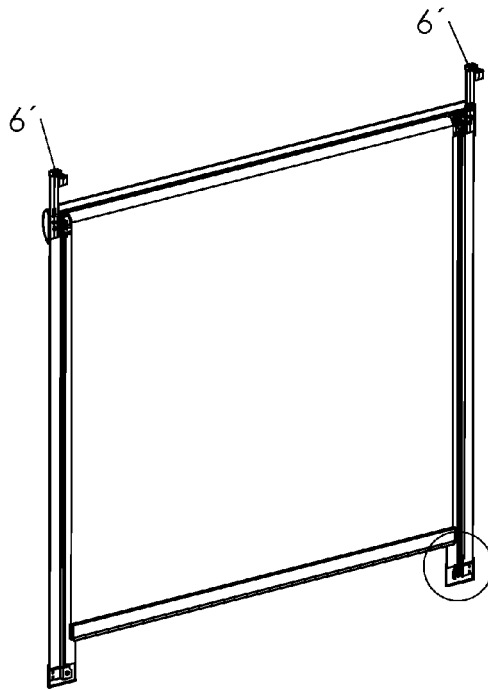


FIG. 6

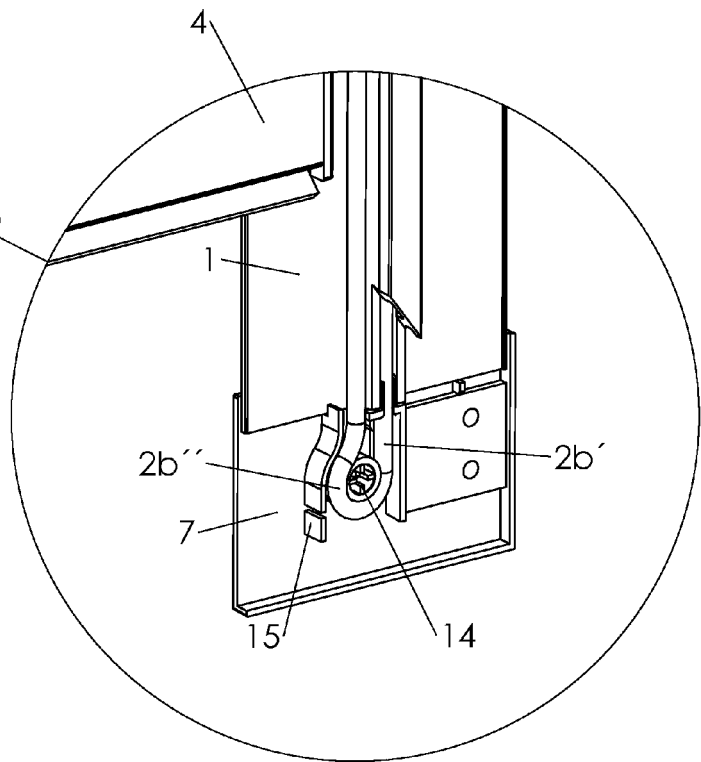


FIG. 6a



EUROPEAN SEARCH REPORT

Application Number
EP 14 17 3442

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	* page 6, lines 15-29; figures 1, 4 *	2-5	
A	WO 03/008751 A1 (HUNTER DOUGLAS IND BV [NL]; HUNTER DOUGLAS [US]; COLSON WENDELL B [US]) 30 January 2003 (2003-01-30) * page 13, lines 20-32 * * page 16, lines 4-10; figures 1, 4-6, 29 *	1-7	
A	CN 202 990 809 U (SU YANJI) 12 June 2013 (2013-06-12) * abstract; figure 2 *	1-7	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E06B
Place of search		Date of completion of the search	Examiner
Munich		13 November 2014	Weißbach, Mark
CATEGORY OF CITED DOCUMENTS		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	
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 17 3442

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13-11-2014

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