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(54) **Blocking device**

(57) The invention relates to a device for blocking and unblocking a pin guided in a vertical channel, which device comprises:

- a locking body which is guided vertically between a lower position and an upper position and which in the upper position is guided horizontally between a first and second position, wherein the locking body further comprises a hook part for engaging on the pin guided in the vertical channel and wherein the locking body comprises an operating surface for operation of the locking body by the pin guided in the vertical channel in order to urge the locking body into the lower position; and
- spring means which in at least the upper position engage on the locking body in order to urge the locking body out of the first position into the second position.

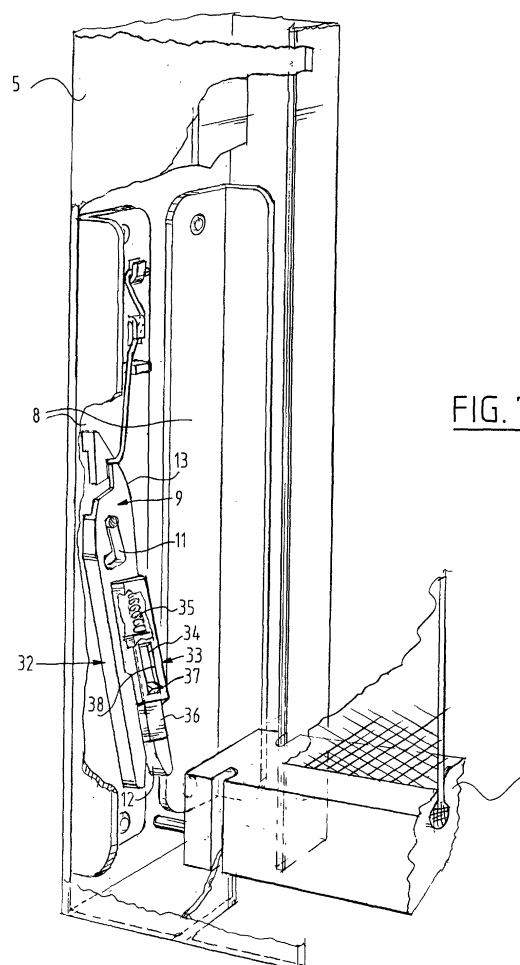


FIG. 7

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Description

[0001] The invention relates to a blocking device for blocking and unblocking a pin guided in a vertical channel.

[0002] In sunblinds wherein a cloth is guided vertically along the window, there is arranged on the underside of the cloth a profile beam which comprises two pins, one on either side, which are guided in vertical guides. When the weather is windy, the cloth will flap back and forth, whereby the lower beam will begin to rattle in the vertical guides. It is therefore desirable to be able to secure this lower beam in the vertical guides, so that the cloth can be pulled taut and rattling is prevented.

[0003] The above stated is an object of the invention.

[0004] This objective is achieved with a device for blocking and unblocking a pin guided in a vertical channel, which device comprises:

- a locking body which is guided vertically between a lower position and an upper position and which in the upper position is guided horizontally between a first and second position, wherein the locking body further comprises a hook part for engaging on the pin guided in the vertical channel and wherein the locking body comprises an operating surface for operation of the locking body by the pin guided in the vertical channel in order to urge the locking body into the lower position; and
- spring means which in at least the upper position engage on the locking body in order to urge the locking body out of the first position into the second position.

[0005] A blocking and unblocking device is obtained in particularly simple manner with a device according to the invention.

[0006] The upper, lower, first and second positions can herein be defined by an L-shaped slot.

[0007] In a preferred embodiment according to the invention the operating surface is arcuate. The operating surface can hereby never remain caught behind the operating surface and reliable operation of the device is ensured.

[0008] In a preferred embodiment according to the invention the device is resiliently suspended. It can be advantageous to suspend the device resiliently so as to take up slack in for instance the cloth.

[0009] In another embodiment according to the invention there is arranged in the hook part a spring element which likewise has the purpose of removing any slack from the cloth.

[0010] The invention further comprises a sunblind, comprising a vertically extending cloth which can be rolled up and which on the underside is guided on either side in vertical rails, wherein at least one device according to the invention is arranged in the vertical rails to enable blocking of the underside of the cloth in the ver-

tical rails.

[0011] These and other features of the invention are further elucidated with reference to the annexed drawings.

5 **[0012]** Figure 1 shows a sunblind with a blocking device according to the invention.

[0013] Figures 2, 3 and 4 show perspective views with partly broken-away parts of the device according to the invention in different positions.

10 **[0014]** Figure 5 shows a perspective view with partly broken-away parts of a second embodiment of a device according to the invention.

[0015] Figures 6 and 7 each show a perspective view of other embodiments of the device according to the invention.

[0016] Figure 1 shows in perspective view a window 1, in front of which is drawn a vertical reflective cloth 2. This cloth 2 can be rolled up into a housing 3. Arranged on the underside of cloth 2 is a profile beam 4 which is guided in lateral guides 5. A blocking device 6 according to the invention is arranged in lateral guide 5 to enable blocking of profile beam 4 at a determined position in lateral guide and thus enable tightening of cloth 2, thereby preventing flapping during windy weather. Figures 2, 3 and 4 further show blocking device 6 of figure 1 in different positions.

[0017] Arranged in profile beam 4 on the end face is a pin 7 which is guided between two strips 8 of device 6. Locking body 9 is arranged on one of the strips 8 by means of a pin 10. This pin 10 is guided in a slot 11 in locking body 9. The different positions of the locking body relative to strips 8 are determined by this slot 11. Further arranged in locking body 9 is a hook part 12 which can engage on pin 7. Locking body 9 further has an operating surface 13.

[0018] Further arranged on one of the strips 8 is a spring element 14 which can engage on locking body 9.

[0019] The operation of the device 6 according to the invention is as follows. In figure 2 the device 6 is shown in its rest position, wherein locking body 9 is situated in the lower position. When profile beam 4 with its pin 7 is now moved downward from above between strips 8, locking body 9 will then be pressed aside. When profile beam 4 is then moved upward again, pin 7 will then move into hook part 12 of locking body 9 and thus carry the locking body from its lower position to its upper position (see figure 3). Spring element 14 will simultaneously engage on locking body 9, whereby locking body 9 is displaced substantially horizontally from the first position to the second position. In this second position the locking body 9 cannot slide directly to the lower position. In this position of blocking device 6 the reflective cloth 2 can be pulled taut.

[0020] When profile beam 4 is then lowered again (see figure 4), the locking body will then be rotated by spring element 14 into its second position such that hook part 12 of locking body 9 moves out of the channel between strips 8 while operating surface 13 moves into this

channel. When profile beam 4 is then moved upward once again, pin 7 will come up against operating surface 13 and thus move locking body 9 to its first position and subsequently from its upper position to its lower position, whereby locking body 9 moves to its rest position as according to figure 2.

[0021] Figure 5 shows a second embodiment 20 of the device according to the invention. This device 20 corresponds for the greater part with device 6 and the same parts are therefore designated with the same reference numerals. One of the strips 8 is guided by means of pins 21 in vertical channels. One of the pins 21 is connected to a spiral spring 22, whereby strip 8 is suspended resiliently in vertical direction. When locking body 9 is now in blocking position, as shown, slack or extra pressure on cloth 2 can now be taken up by spring 22.

[0022] Figure 6 shows a third embodiment 30 according to the invention. This embodiment also corresponds for the greater part with blocking device 6 and the same parts are therefore designated with the same reference numerals. Two blocking devices 30 are arranged in lateral guide 5 so that profile beam 4 can be blocked at two different positions. Arranged on locking body 9 is a second spring element 31 which extends close to hook part 12. When pin 7 now lies in the hook part, spring element 31 will then engage on pin 7. A resilient action is hereby obtained once again, whereby slack can be taken up.

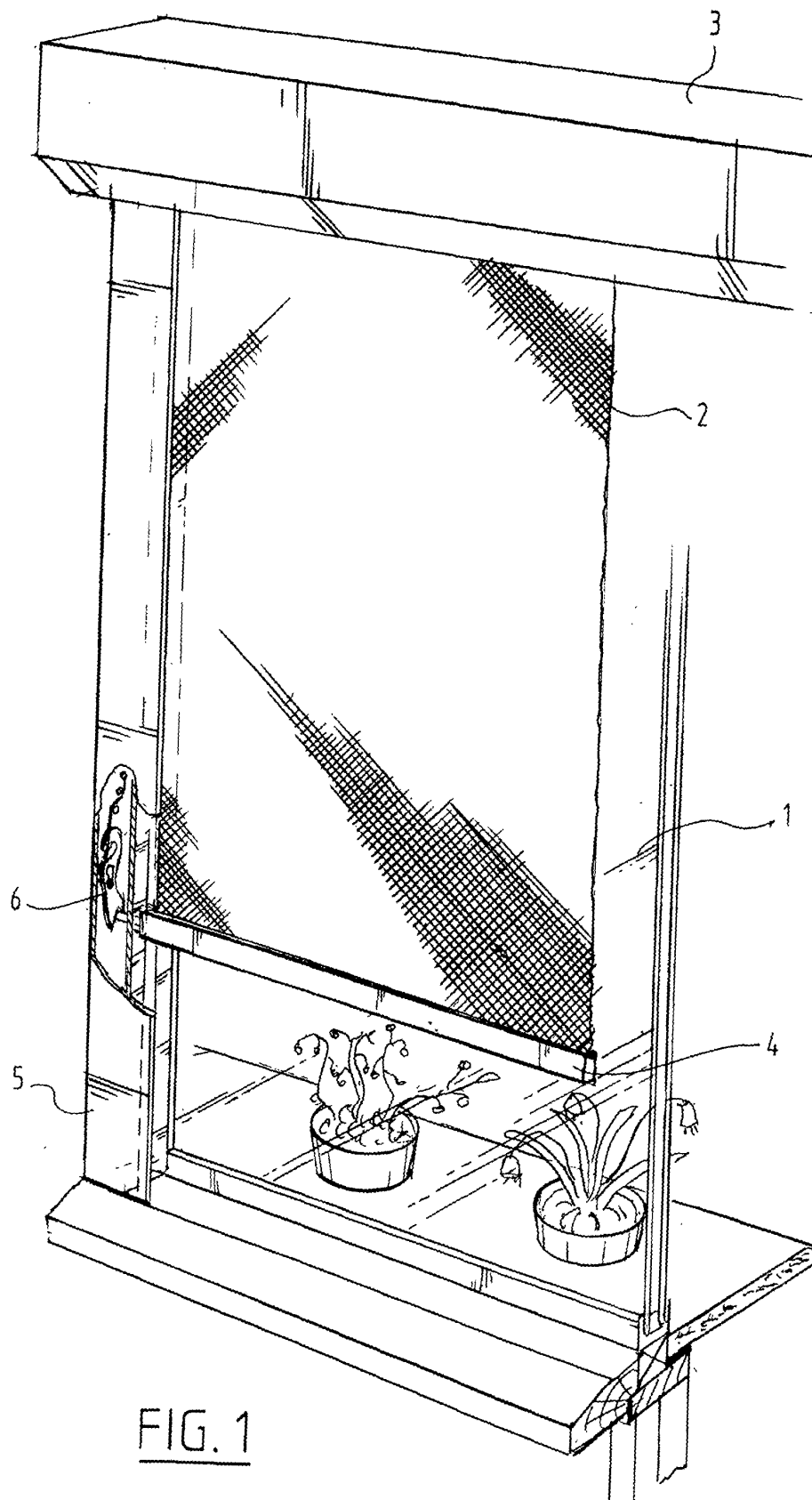
[0023] Figure 7 shows a fourth embodiment 32 of locking body 9. The latter is provided with a raised position 33 which defines a cavity 34 for a pressure spring 35. This latter presses against a stop 36 which is guided in a guide 38 of the raised position 33 by a guide cam 37. The pin 7 can strike against cam 37. Owing to the greater construction height of embodiment 32 the pin 7 does not have to be under spring pressure, because co-action of pin 7 with locking body 9 is now ensured. With this embodiment 32 the beam 4 can also move up and downward to some extent and absorb tensions in cloth 2 and prevent cloth damage.

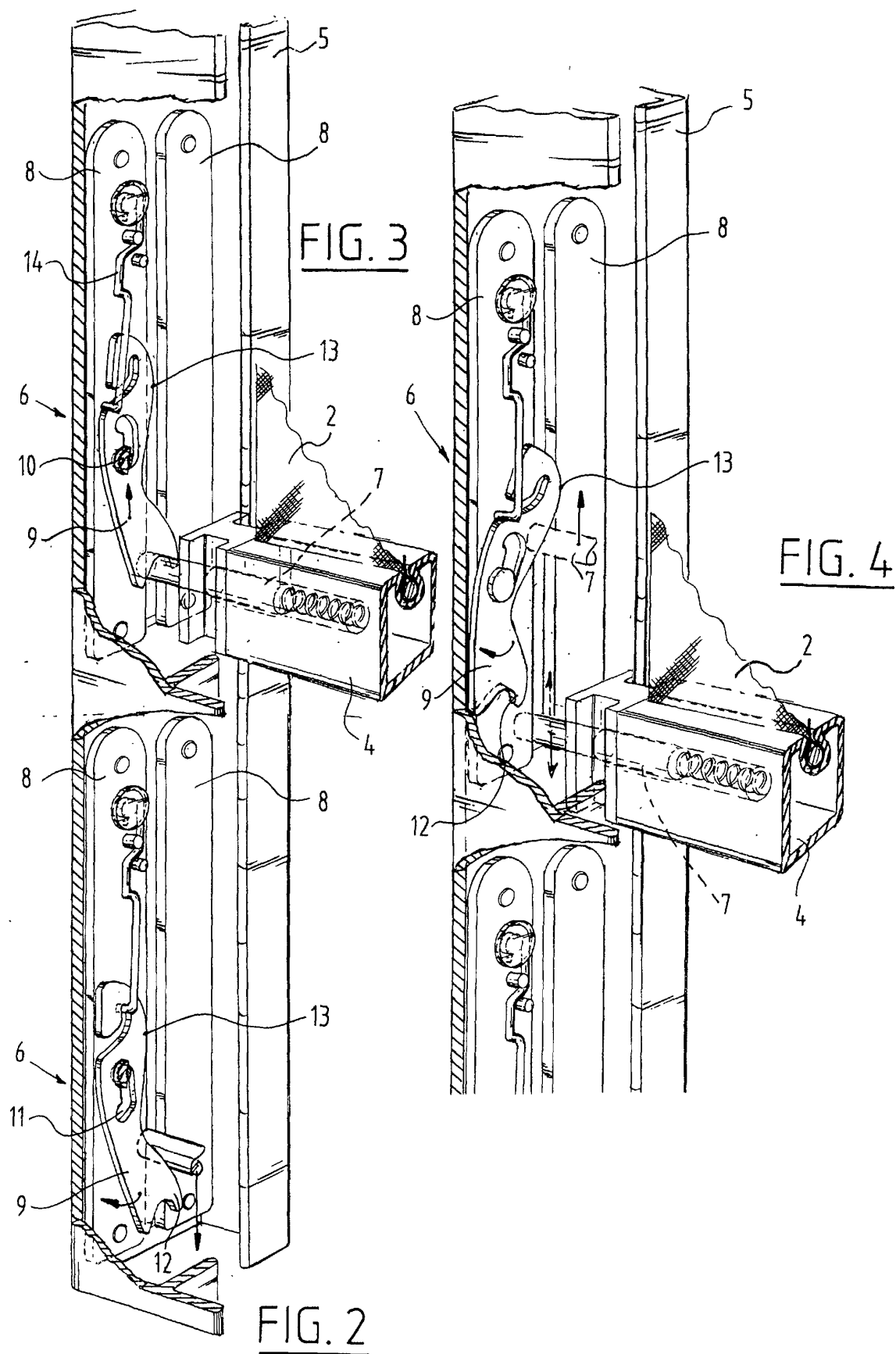
- spring means which in at least the upper position engage on the locking body in order to urge the locking body out of the first position into the second position.

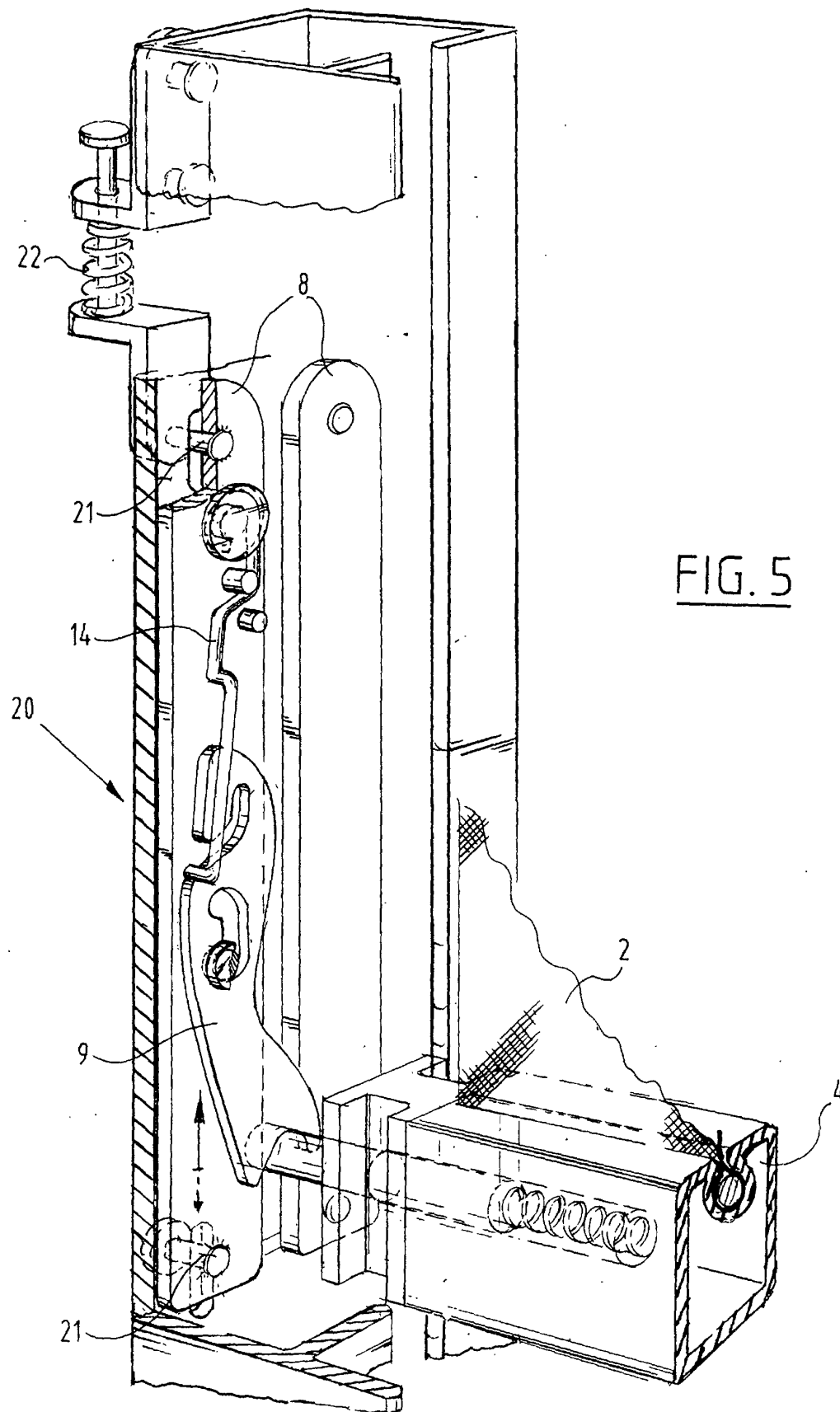
2. Device as claimed in claim 1, wherein the upper, lower, first and second positions are defined by an L-shaped slot.
3. Device as claimed in claim 1 or 2, wherein the operating surface is arcuate.
4. Device as claimed in any of the foregoing claims, wherein the device is suspended resiliently.
5. Device as claimed in any of the foregoing claims, wherein a spring element is arranged in the hook part.
6. Sunblind, comprising a vertically extending cloth which can be rolled up and which on the underside is guided on either side in vertical rails, wherein at least one device as claimed in any of the foregoing claims is arranged in the vertical rails to enable blocking of the underside of the cloth in the vertical rails.

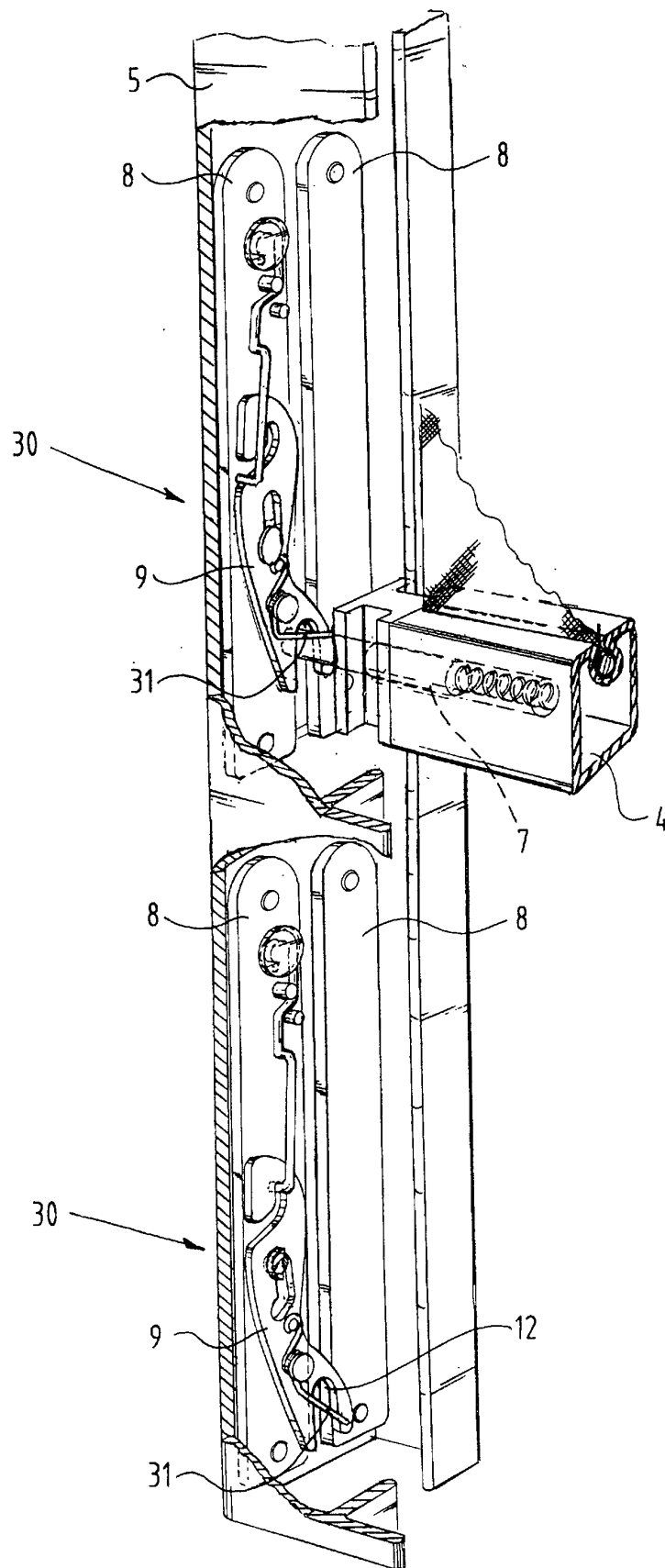
Claims

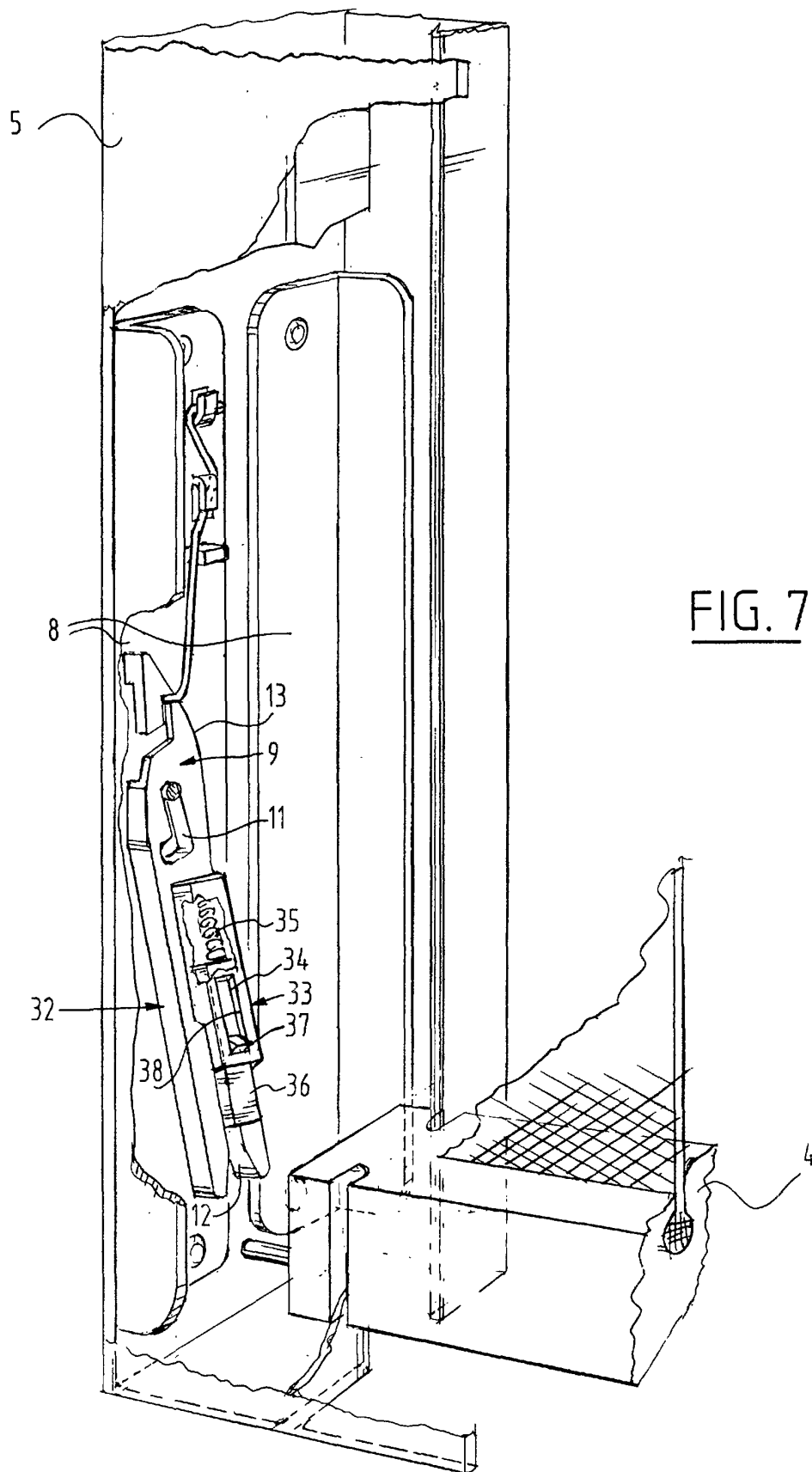
1. Device for blocking and unblocking a pin guided in a vertical channel, which device comprises:
 - a locking body which is guided vertically between a lower position and an upper position and which in the upper position is guided horizontally between a first and second position, wherein the locking body further comprises a hook part for engaging on the pin guided in the vertical channel and wherein the locking body comprises an operating surface for operation of the locking body by the pin guided in the vertical channel in order to urge the locking body into the lower position; and













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EUROPEAN SEARCH REPORT

Application Number
EP 02 07 5131

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	EP 0 957 230 A (MADO NEDERLAND) 17 November 1999 (1999-11-17) * paragraphs '0015!', '0016!' * * figure 1 * -----	1,6	E04F10/06 E06B9/80
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E04F E06B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24 April 2002	Examiner Geivaerts, D
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			

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

EP 02 07 5131

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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24-04-2002

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EPO FORM P0458

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