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

(11) Publication number: **0 091 278**
A1

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **83301810.4**

(22) Date of filing: **30.03.83**

(51) Int. Cl.³: **E 06 B 9/54**
E 06 B 9/24

(30) Priority: **06.04.82 DK 1578/82**

(43) Date of publication of application:
12.10.83 Bulletin 83/41

(84) Designated Contracting States:
AT BE CH DE FR GB IT LI NL SE

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(54) A window covering comprising a roller blind.

(57) In a roller blind (4) which, when fully or partly drawn down, has its vertical edge portions retained in slits (10), possibly in a lightproof way, said edge portions are provided with channels or closed grooves (11) threaded on guide pins (12) extending freely upwards from the lower end of the slits (10) till a slight distance from the roller (5) of the blind. Said guide pins (12) are located in a relatively wide portion of the slit (10) to prevent the blind (4) from being pulled laterally out of the slits (10).

To allow smooth winding of the blind (4) on its roller (5) this latter may have a reduced thickness at its ends, thus accommodating the increased thickness of the blind (4) caused by the channels (11).

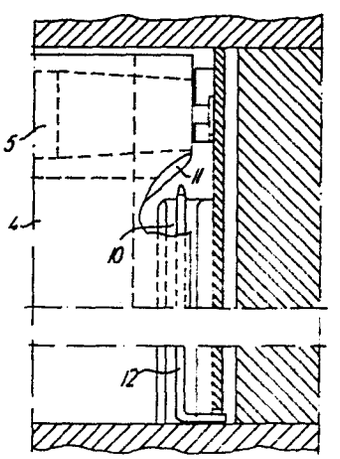

FIG 4

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A Window Covering Comprising a Roller Blind.

In roller blinds most importance is in some cases attached to cover a window area as lightproof as possible, while in other cases the primary aim is to obtain an efficient retaining or locking of the lateral edge portions of the drawn blind so as to prevent the blind from fluttering or flapping or, as regards inclined windows, from sagging.

A similar retaining problem may also occur in exterior insect nets or screens in connection with windows, as it appears from US patent No. 2,521,455 which, moreover, gives a solution to the problem. By this solution the lateral edge portions of the screen - which can be unrolled from and rolled on an upper roller in the same manner as an ordinary roller blind - are received in slitlike guideways in stationary rails, and at said lateral edge portions the screen is provided with hooks which slidably and detachably grip rodshaped guides extending upwards through the guideways. When the hooks are in engagement with the guides they hold the screen laterally extended across the window. Apparently, it is intended that, contrary to an ordinary blind, the screen shall only rarely be drawn down and rolled up because it is scarcely possible to design the structure in such a manner that the hooks are at the same time capable of fulfilling three important requirements, viz. to remain in engagement with the guides, to slide light thereon and to keep the screen tight as intended.

Starting from the outlined prior art the invention relates to a window covering comprising a roller blind and stationary lateral rails comprising slits to preferably lightproof receive the lateral edge portions of the blind, guides being provided in said

slits to laterally hold the blind when fully or partially drawn down. With respect to such covering it is a purpose of the invention to provide an efficient holding of the blind in any desired position as well as a handy operation when the blind is drawn down or rolled up. This has been ensured according to the invention in that the blind along either lateral edge portion has a continuous channel, and in that the guides are spear-like pins which from the lower end of the associate slit extend freely upwards in the slit and have such a length that their upper ends remain in engagement with the channels, even when the blind is fully rolled up.

As the spearlike guides are only fastened at their lower ends, there is a risk that the blind unintentionally urges them to be bent towards each other and thus to be drawn out of the slits, but said risk may easily be eliminated in that the slits have a keyhole-shaped cross-section and that the guides are positioned in the wide portion of the slits and, possibly together the channel portions of the blind, have such a thickness that they cannot pass the narrow portion of the slit cross-section. An analogous arrangement is known from the above mentioned US-patent.

In a preferred embodiment of the window covering each of the lateral rails comprises a guide slot, parallel with the slit, to receive the ends of a lower bar fastened to the blind. A particular advantage consists in that a possible slanting pull of the blind, when drawing it down, i.e. a pull in a direction forming a certain angle with the plane of the blind, will be substantially neutralized by the engagement of the lower bar in its guide slots and thus will exert no extra stress between the channels of the blind and the associate guide pins.

The channels make the blind thicker at its lateral edges, but this can be compensated for by reducing the thickness of the blind roller at its ends, corresponding to said local thickening of the blind caused by the channels.

An embodiment of the window covering according to the invention will be more fully explained in the following with reference to the accompanying drawing, in which

Fig. 1 is an elevational inner view of the window with a blind,

Figs. 2 and 3 are sections on a larger scale and taken along lines II-II and III-III in Fig. 1, and

Fig. 4 is a sectional view parallel to the window plane.

The window in Fig. 1 comprises a main frame 1 and a sash 2 with an insulating pane 3, see also Fig. 3, to be covered by a roller blind 4 shown partly drawn down in Fig. 1. The roller 5 of the blind is supported in brackets 6, Figs. 2 and 3, on a carrying rail 7 which is mounted on the sash 2, but which may as well be mounted on the main frame 1, and on which a shield or cover strip 8 is provided to hide the roller 5 from below.

Guide rails 9 having a slit 10 that is key-hole-shaped in cross-section are mounted along the vertical sides of the window sash 2 to receive the corresponding edge portion of the blind 4, said edge portion comprising a closed groove or channel 11 that is caught by a spearlike pin 12. From the bottom of the sash 2 the said spearlike pin extends freely upwards in the wide portion of the slit 10 and its cross-section is somewhat smaller compared to said wide slit portion. However, the thickness of the spearlike pin 12 exceeds the width of the mouth of the slit. Said pins 12 may extend practically all the way to the roller. 5

so as to remain in engagement with the channels 11 after the blind has been rolled up.

Due to the channels the blind 4 is of double thickness at its vertical edges and in order to avoid troubles when winding the blind on the roller 5, the thickness or diameter of the roller is reduced at the ends, see Figs 3 and 4.

Along the slit 19 either of the lateral rails 9 has a further slot 13 separated from the slit 10 by a partition terminating short of the upper end of the rail. The ends of a lower roller bar 14 ordinarily secured to the blind 4 at its lower edge engage said slots 12, and the lower edge of the blind may in a well known manner be provided with a decorative or tightening flounce 15. The lower bar 14 may further carry a handle or grip 16, Fig. 2.

The roller 5 may be of an ordinary type with a pawl mechanism adapted to retain the roller against unintentional rolling up the blind 4, but another possibility is that the roller is permanently urged in its winding direction and that the friction between the ends of the lower bar 14 and the walls of the guide slot 13 is sufficient to hold the blind 4 in any desired position against the winding load. The necessary friction may appropriately be effected by providing either end of the lower bar 14 with two or more tongues which are resilient in themselves or influenced, e.g. by a leaf spring, so as to be kept in sliding contact with the opposite walls of the guide slot 13.

PATENT CLAIMS

1. A window covering arrangement comprising a blind (4) and stationary lateral rails (9) comprising slits (10) to preferably lightproof receive the lateral edge portions of the blind, guides being provided in said slits to laterally hold the blind when fully or partially drawn down, characterized in that the blind (4) along either lateral edge portion has a continuous channel (11) and in that the guides are spearlike pins (12) which from the lower end of the associate slit (10) extend freely upwards in the slit and have such a length that their upper ends remain in engagement with the channels (11), even when the blind is fully rolled up.

2. A window covering as claimed in claim 1, characterized in that each of the lateral rails (9) comprises a guide slot (13), parallel with the slit (10), to receive the ends of a lower bar (14) fastened to the blind (4).

3. A window covering as claimed in claim 1, characterized in that the roller (5) of the blind (4) has reduced thickness at its ends, corresponding to the local thickening of the blind caused by the channels (11).

4. A window covering as claimed in claim 2, characterized in that the roller (5) of the blind (4) is permanently urged in the winding direction and that the friction between the ends of the lower bar (14) and the walls of the guide slot (13) is sufficient to hold the blind in any desired position against the winding load.

5. A window covering arrangement comprising a blind (4) and stationary lateral rails (9) comprising slits (10) to receive the lateral edge portions of the blind, guides being provided in said slits to hold the blind laterally when fully or partially drawn down, characterized in that each lateral edge portion of the blind (4) has a continuous channel (11) extending along the edge, and the guides are pins (12) in the said slits (10), each pin projecting freely upwards from the lower end of an associated said slit (10) and projecting into the channel (11) of the associated lateral edge of the blind so that the channels (11) sleeve over the pins (10) as the blind is drawn down, the pins (12) being of sufficient length that their upper ends remain in engagement with the channels (11), even when the blind is fully rolled up.

6. A window covering arrangement according to any one of the preceding claims wherein the slits (10) receive the lateral edge portions of the blind in such manner is to prevent entry of light past the lateral edge of the blind.

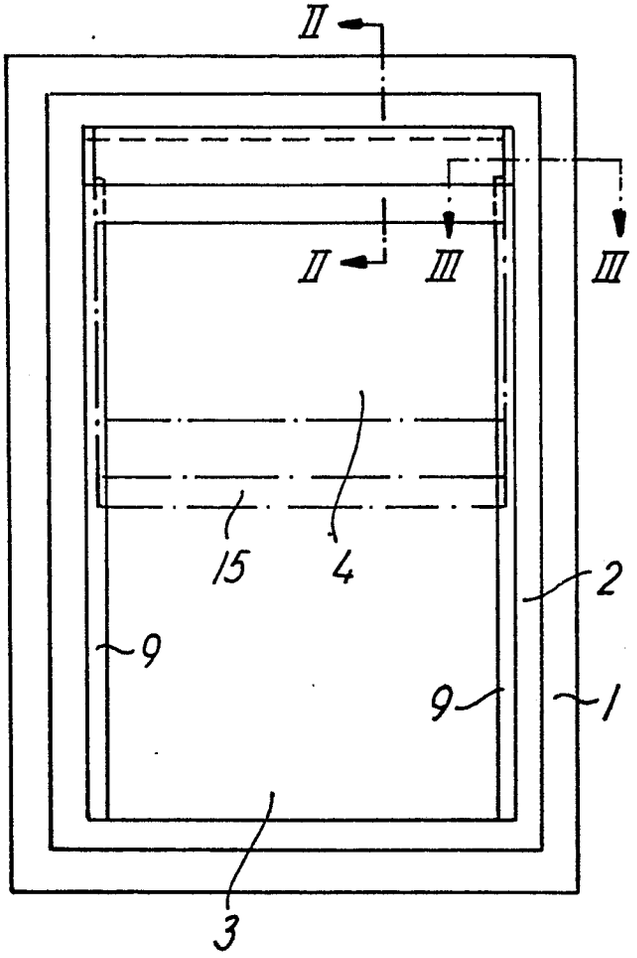


FIG.1

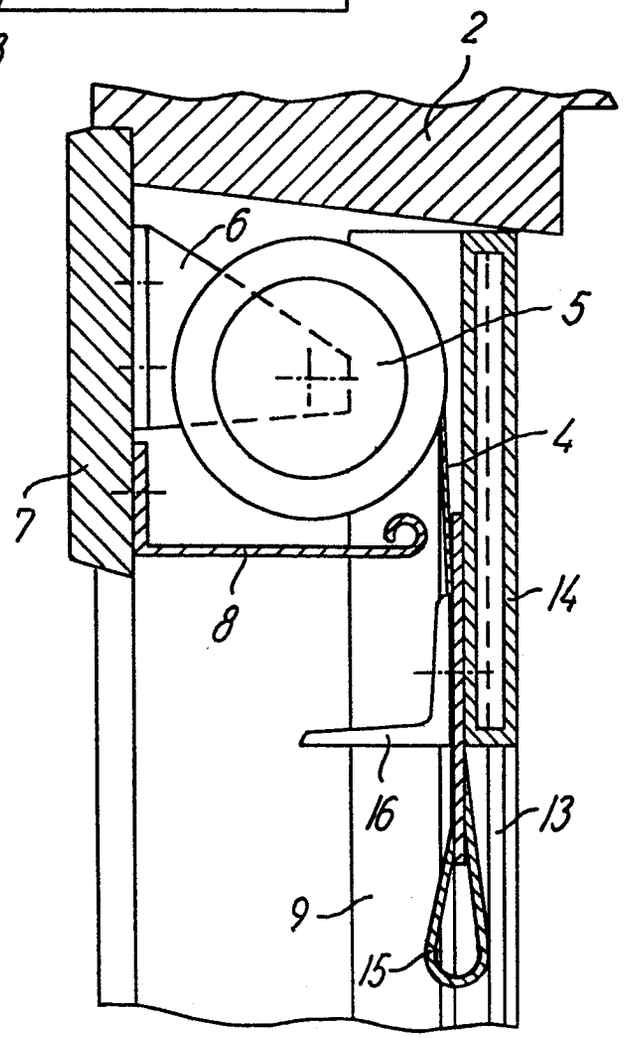


FIG.2

FIG.3

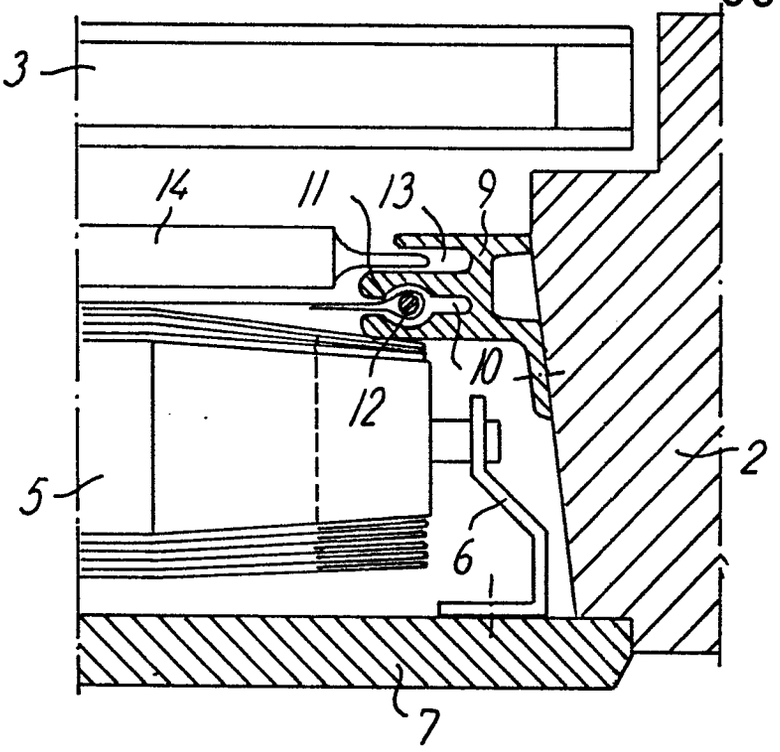
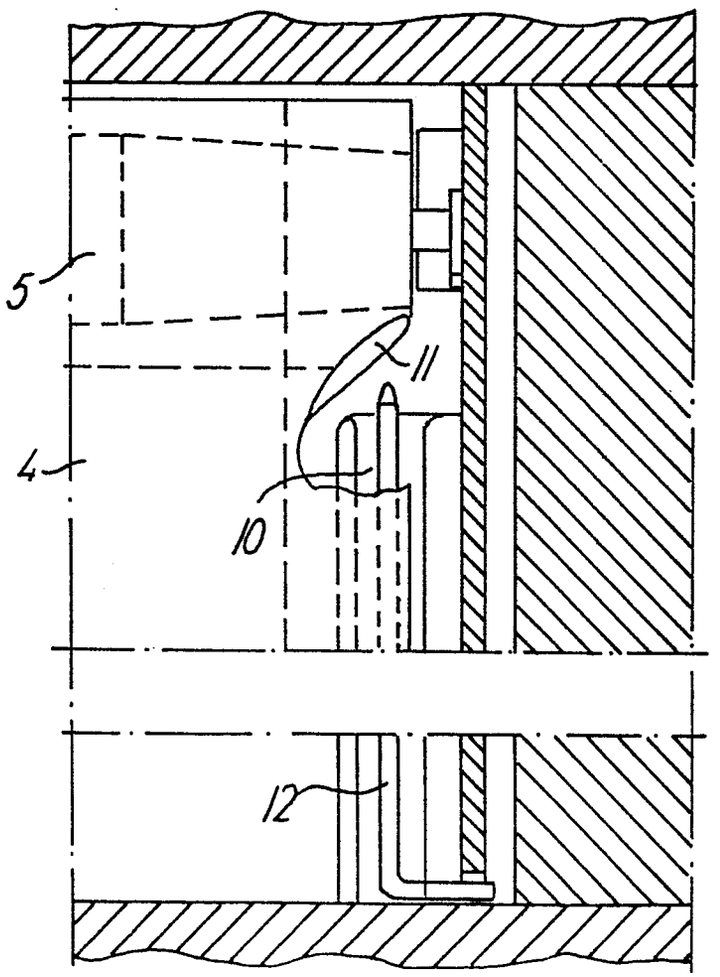


FIG.4



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EUROPEAN SEARCH REPORT

0091278
Application number

EP 83 30 1810

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. ³)
X	CH-A- 455 231 (H. ENGLER & CO. AG) * Complete document *	1,5,6	E 06 B 9/54 E 06 B 9/24
A		2	
X	US-A-1 793 369 (W. LAMP) * Complete document *	1,5	
A	US-A-1 800 654 (N.H. NELSON) * Figures 2-4; page 2, lines 12-27 *	1,3,5, 6	
A	DE-C- 264 173 (E.H. HOBLING) * Figures 1, 2; lines 40-44, 60-64 *	1,5	
D,A	US-A-2 521 455 (D. GORGUN) * Complete document *	1,5	TECHNICAL FIELDS SEARCHED (Int. Cl. ³) E 06 B 9/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	14-06-1983	KRABEL A.W.G.

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