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(54) **Venetian blind with adjustable width.**

(57) A venetian blind of adjustable width includes a top frame (10), a bottom frame (20), multiple slats (30), a lifting/lowering pull cord (40), a slat rotating device (50) and a rotating rod (60). The top frame includes a main rail (11) and left and right rails (12 and 13) which are extensible and retractable relative to the main rail (11) for adjusting the length of the top frame. The slat rotating device (50) is secured at two ends of the main rail. The bottom frame (20) includes a main rod (21) and left and right rods (22 and 23) which are also extensible and retractable relative to the main rod (21) for adjusting the length of the bottom frame corresponding to that of the top frame, so that the width of the blind can be adjusted according to requirements.

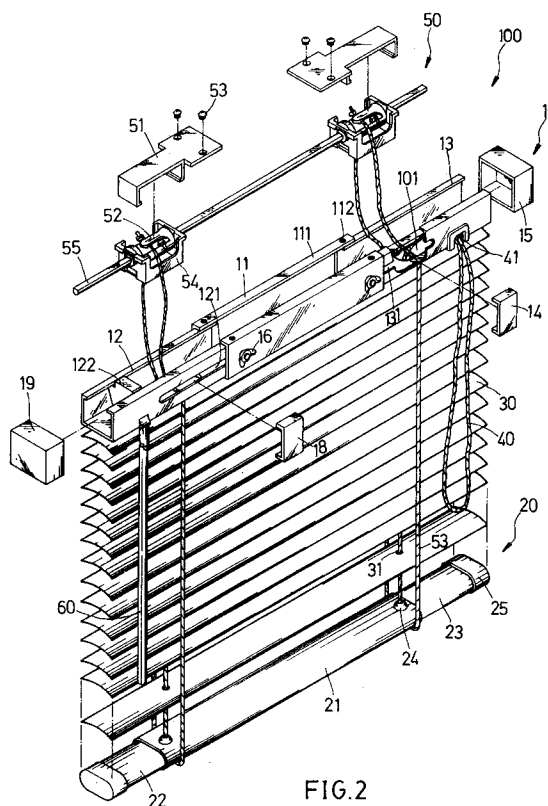


FIG.2

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The present invention relates to a venetian blind with adjustable width, and more particularly to a venetian blind the width of which is adjustable according to requirements without dismantling the blind.

At present, a conventional venetian blind is designed with a fixed dimensional specification. The width of such a blind is difficult to adjust. Especially when the blind is of rigid construction, the top frame and bottom frame thereof are hard to modify to match the width of a specific window. As a result, only a specific blind with a corresponding rail width can be bought and used for a specific window.

If the purchaser wants to shorten the bought blind, it will be quite troublesome for the purchaser to do so, and this procedure must be done by a professional installation person.

Therefore, a blind with adjustable width and length, which can easily be modified by the owner of a house or a handyman is required.

It is an object of the invention to provide a venetian blind the width of which is adjustable according to actual requirements.

It is a further object of this invention to provide such a venetian blind the width of which can easily be adjusted by a handyman.

It is yet a further object of this invention to provide such a venetian blind which can be widely used and which has an attractive appearance.

It is a still further object of this invention to provide a venetian blind wherein protective covers can be fitted on to the extending portions of the main rail and main rod to achieve an attractive appearance.

In accordance with the invention there is provided a venetian blind of adjustable width, comprising a top frame, a bottom frame, multiple slats, a lifting/lowering pull cord, a slat rotating device and a rotating rod, characterised in that said top frame includes a main rail, a left rail and a right rail, said left and right rails are each provided with elongate slots, said main rail having projecting means which can move within and along said slots so as to permit adjustment and securement of said left and right rails relative to said main rail according to actual requirements, said slat rotating device being fixed to each end of said main rail, and said bottom frame including a main rod, a left rod and a right rod.

Also in accordance with the invention there is provided a venetian blind of adjustable width, comprising a top frame, a bottom frame, multiple slats, a lifting/lowering pull cord, a slat rotating device and a rotating rod, characterised in that said top frame includes a main rail, a left rail and a right rail, said left and right rails are each provided with elongate slots, said main rail having projecting

means which can move within and along said slots so as to permit adjustment and securement of said left and right rails relative to said main rail according to actual requirements, said slat rotating device being fixed in said main rail, and said bottom frame including a main rod, a left rod and a right rod.

Moreover, the slats of the blind are preferably formed with circular holes instead of conventional slots so that, when taking up the pull cord, one eliminates the shortcomings due to the slots where the pull cord is not easy to pull vertically upwards in a stable manner and the slats are apt to tilt. In addition, circular holes can be made at low manufacturing cost.

In order that the invention may be fully understood, two preferred embodiments of blind will now be described by way of example and with reference to the accompanying drawings, in which:

Fig. 1 is a front view of a first embodiment of blind in accordance with this invention;

Fig. 2 is a perspective view thereof;

Fig. 3 is a perspective view of the adjustable top frame thereof;

Fig. 4 is a front view of a second embodiment of blind in accordance with this invention; and

Fig. 5 is a perspective view thereof.

Figs. 1, 2 and 3 show a first embodiment of venetian blind 100 in accordance with this invention having a top frame 10, a bottom frame 20, multiple blind slats 30, a lifting/lowering pull cord 40, a slat rotating device 50 and a rotating rod 60. The top frame 10 includes a main rail 11, a left rail 12, a right rail 13 and protective covers 14, 15, 18, 19. After the dimensional specification of a specific window has been measured, the top frame 10 can be adjusted according to the specification. The adjustment is performed by the left and right rails 12, 13 being formed with elongate slots 121, 131 and the main rail 11 having bolts 16, 17, whereby when the bolts 16, 17 are secured from the outer side of the main rail 11, the projections thereof can move within and along the elongate slots 121, 131. Upon reaching the desired position, the bolts 16, 17 are fastened. After the adjustment, the protective covers 14, 15, 18, 19 can be fitted to the left and right rails 12, 13 according to the adjusted specification to maintain the attractive appearance of the blind 100.

The slat rotating device 50 includes a drive drum 52, a drum seat 54 and a rotary shaft 55 of irregular cross-section. When the slat rotating device 50 is fitted to a protective cover 51, the cover is secured to two ends of the main rail 11 by means of screws 53 passing through threaded holes 112 in the main rail 11. The rotary shaft 55 is clamped by a clamp block 122 which is provided with a gear set so that the rotary shaft 60 can control the rotation of the rotary shaft 55. At this

time, the drive drum 52 will pull the pull cord 53 engaged therewith. The two ends of the pull cord 53 are tied to the drive drum 52. The drive drum 52 is rotatably driven by the rotary shaft 55 to pull the pull cord 53 forwards or backwards so as to adjust the angle of the slats 30 for controlling the light entering the room and the illumination thereof.

The bottom frame 20 includes a main rod 21, a left rod 22 and a right rod 23. The manner of adjusting the left rod 22 and the right rod 23 is like the manner of adjusting the left rail 22 and right rail 23 of the top frame 10. The left and right rods 22, 23 are adjusted according to the dimensional specification and then the protective covers 25 are fitted to the left and right rods 22, 23 to maintain the aesthetic appearance.

When pulling the pull cord 40 which goes through the holes 101, 102 of the top frame 10 and the circular holes 31 of the multiple slats 30, the pull cord 40 will stably lift the blind 100. Upon reaching a certain position, the pull cord 40 is clamped tightly by a clamping device 41 so that the blind 100 will not come loose and drop down. At the two ends of the main rod 21 of the bottom frame 20 are two hollow protuberances 24 for receiving knotted ends of the pull cord. The left and right rods 22, 23 of the bottom frame 20 can extend and retract freely without being affected.

Figs. 4 and 5 show a second embodiment of venetian blind 200 in accordance with this invention which includes a top frame 10b, a bottom frame 20b, multiple blind slats 30, a lifting/lowering pull cord 40, a slat rotating device 50 and a rotating rod 60. The top frame 10 includes a main rail 11b, a left rail 12b, a right rail 13b and protective covers 14b, 15b, 18b, 19b. When the dimensions of a specific window have been measured, the top frame 10b can be adjusted to match the dimensions. The adjustment is performed by the left and right rails 12b, 13b being formed with elongate slots 121, 131 and the main rail 11b being provided with bolts 16, 17, whereby when the bolts 16, 17 are secured from the outer side of the main rail 11b, the projections thereof can move within and along the slots 121, 131. Upon reaching the desired position, the bolts 16, 17 are fastened. After the adjustment, the protective covers 14b, 15b, 18b, 19b can be fitted to the left and right rails 12b, 13b according the adjusted specification to maintain the attractive appearance of the blind 200.

The slat rotating device 50 includes a drive drum 52, a drum seat 54 and a rotary shaft 55 of irregular cross-section. The slat rotating device 50 is fitted to the main rail 11b. The rotary shaft 55 is clamped by a clamp block 122 which is provided with a gear set so that the rotary shaft 60 can control the rotation of the rotary shaft 55. At this time, the drive drum 52 will pull the pull cord 53

engaged therewith. The two ends of the pull cord 53 are tied to the drive drum 52. The drive drum 52 is rotatably driven by the rotary shaft 55 to pull the pull cord 53 backwards and forwards so as to adjust the angle of the slats 30 for controlling the light entering the room and the illumination thereof.

The bottom frame 20b includes a main rod 21b, a left rod 22b and a right rod 23b. The manner of adjusting the left rod 22b and right rod 23b is like the manner of adjusting the left rail 12b and right rail 13b of the top frame 10b. The left and right rods 22b, 23b are adjusted according to the dimensional specification and then the protective covers 25b are fitted to the left and right rods 22b, 23b to maintain the aesthetic appearance of the blind.

When pulling the pull cord 40 which goes through the holes 101, 102 of the top frame 10b and the circular holes 31 of the multiple slats 30, the pull cord 40 will stably lift the blind 200. After reaching a certain position, the pull cord 40 is clamped tightly by a clamping device 41 so that the blind 200 will not come loose and drop down. At the two ends of the main rod 21b of the bottom frame 20b are two hollow protuberances 24 for receiving knotted ends of the pull cord. The left and right rods 22b, 23b of the bottom frame 20b can extend and retract freely without being affected.

Claims

1. A venetian blind of adjustable width, comprising a top frame (10;10b), a bottom frame (20; 20b), multiple slats (30), a lifting/lowering pull cord (40), a slat rotating device (50) and a rotating rod (60), characterised in that said top frame includes a main rail (11; 11b), a left rail (12; 12b) and a right rail (13;13b), said left and right rails are each provided with elongate slots (121, 131), said main rail having projecting means (16, 17) which can move within and along said slots so as to permit adjustment and securement of said left and right rails relative to said main rail according to actual requirements, said slat rotating device (50) being fixed at each end of said main rail (11; 11b), and said bottom frame (20; 20b) including a main rod (21;21b); a left rod (22; 22b) and a right rod (23;23b).
2. A venetian blind of adjustable width, comprising a top frame (10; 10b), a bottom frame (20; 20b), multiple slats (30), a lifting/lowering pull cord (40), a slat rotating device (50) and a rotating rod (60), characterised in that said top frame includes a main rail (11; 11b), a left rail (12; 12b) and a right rail (13; 13b), said left and

right rails are each provided with elongate slots (121, 131), said main rail having projecting means (16, 17) which can move within and along said slots so as to permit adjustment and securement of said left and right rails relative to said main rail according to actual requirements, said slat rotating device (50) being fixed in said main rail, and said bottom frame (20; 20b) including a main rod (21;21b), a left rod (22; 22b) and a right rod (23; 23b).

3. A venetian blind as claimed in claim 1, characterised in that adjustable length protective covers (14, 15, 18, 19; 14b, 15b, 18b, 19b) are fitted on the outwardly projecting portions of said left and right rails (12, 13; 12b, 13b).
4. A venetian blind as claimed in claim 3, characterised in that the length of said bottom frame (20; 20b) corresponds to that of said top frame (10; 10b).
5. A venetian blind as claimed in claim 2, characterised in that adjustable length protective covers (14, 15, 18, 19; 14b, 15b, 18b, 19b) are fitted on the outwardly projecting portions of said left and right rails (12, 13; 12b, 13b).
6. A venetian blind as claimed in claim 5, characterised in that the length of said bottom frame (20; 20b) corresponds to that of said top frame (10; 10b).

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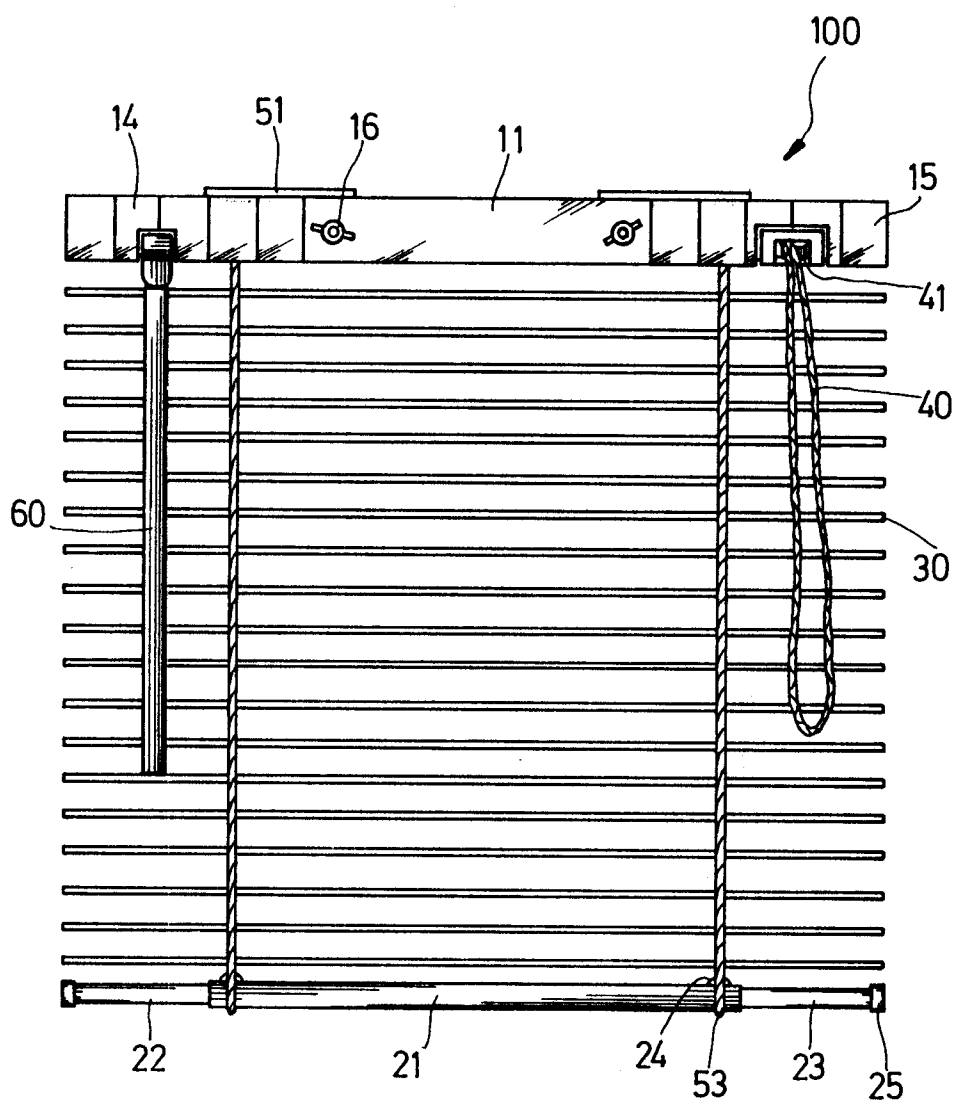


FIG.1

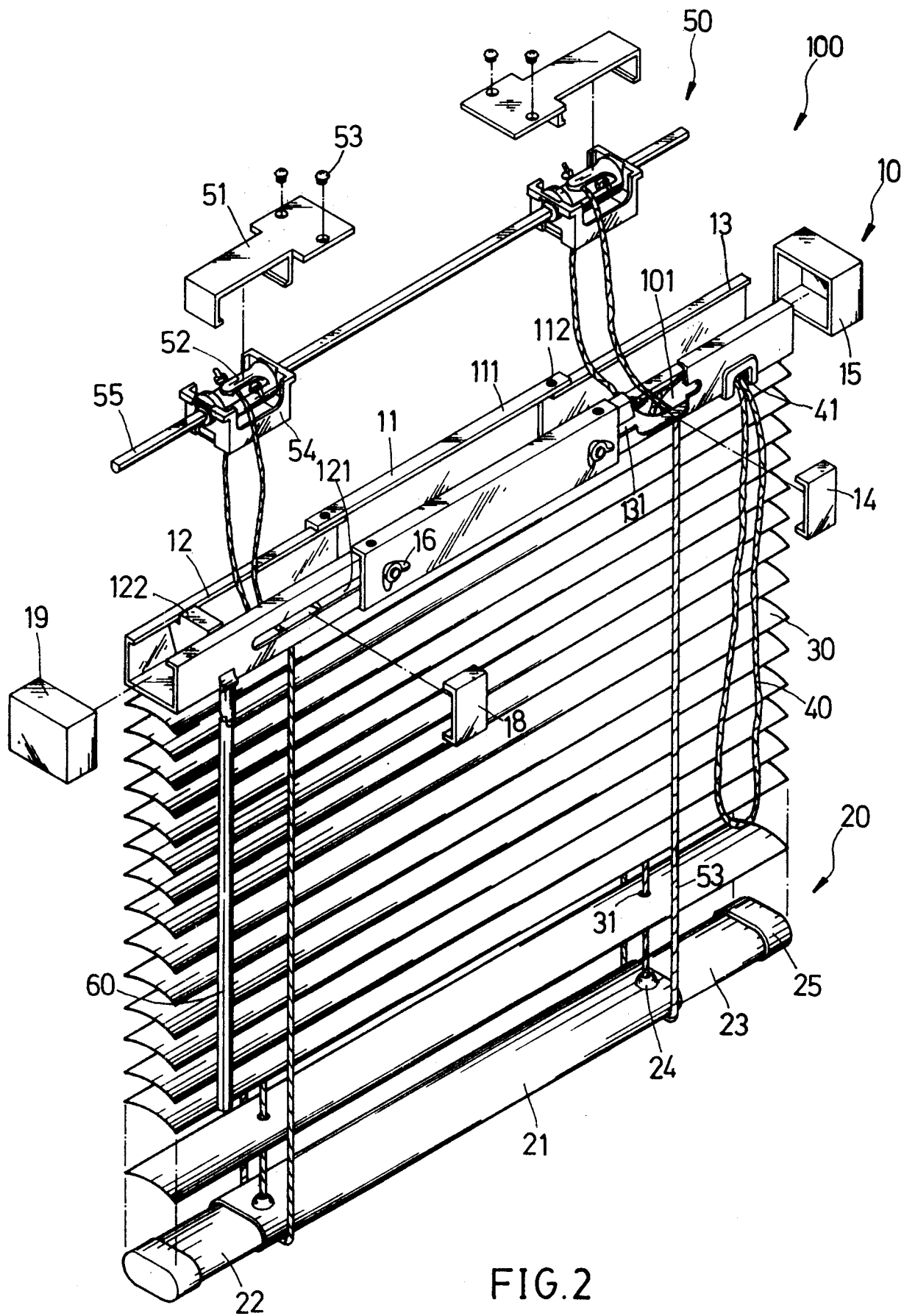


FIG. 2

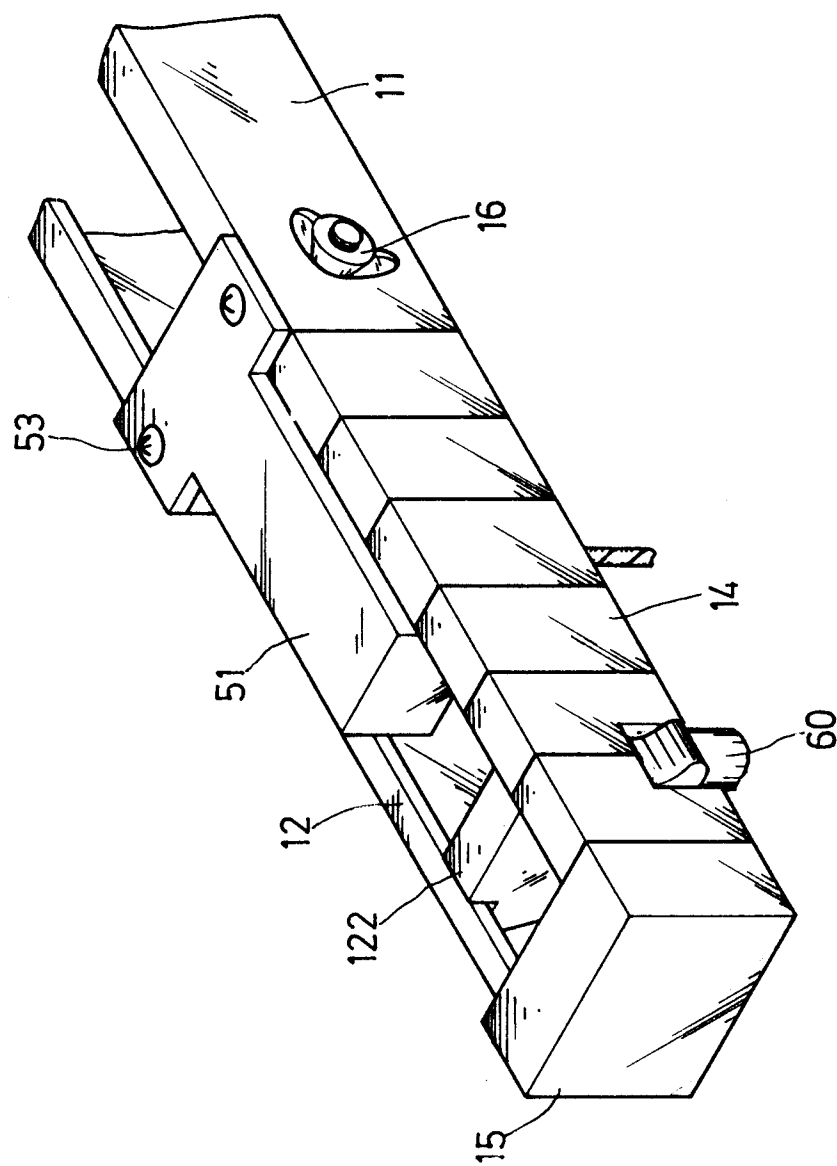


FIG.3

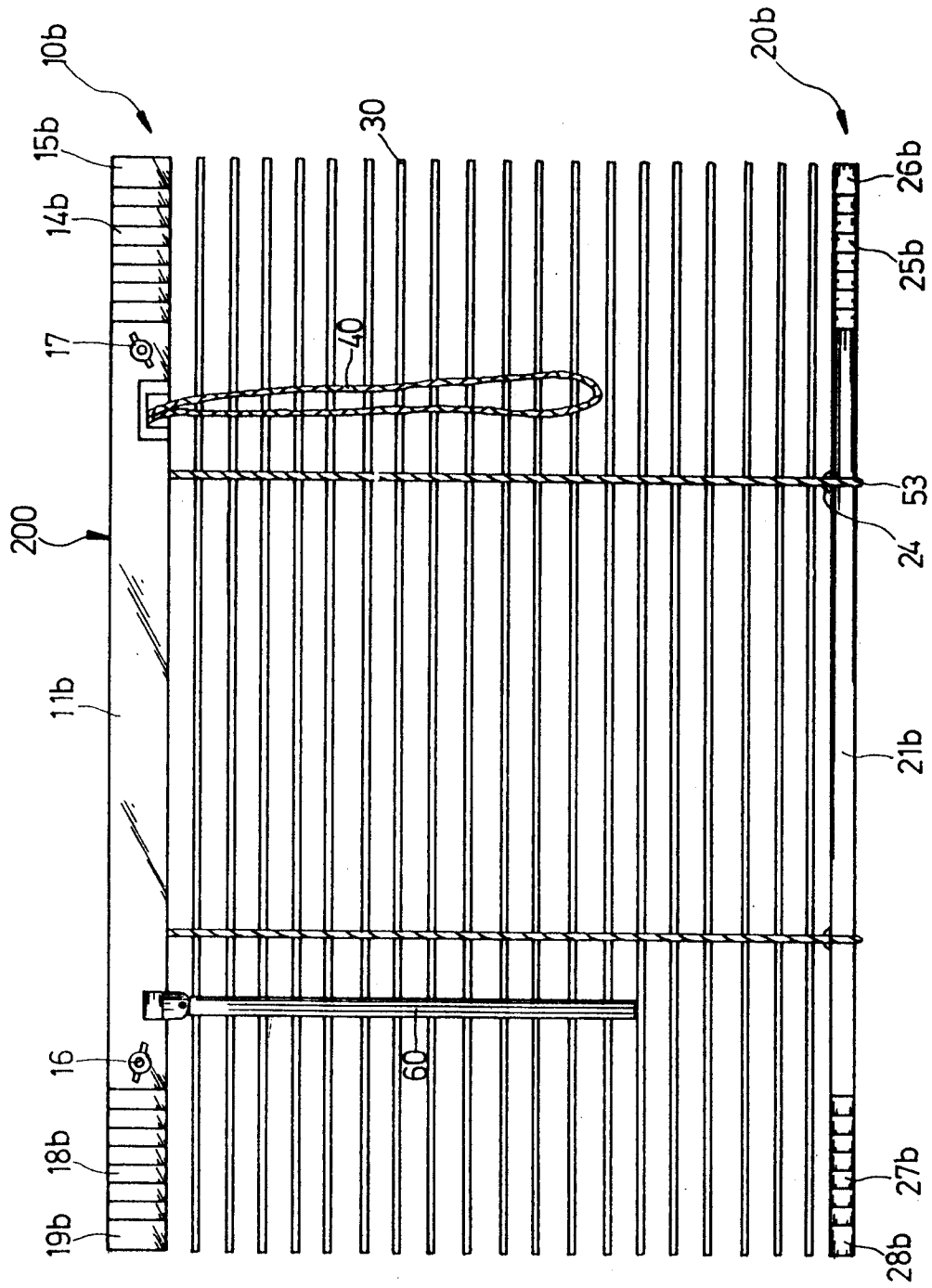
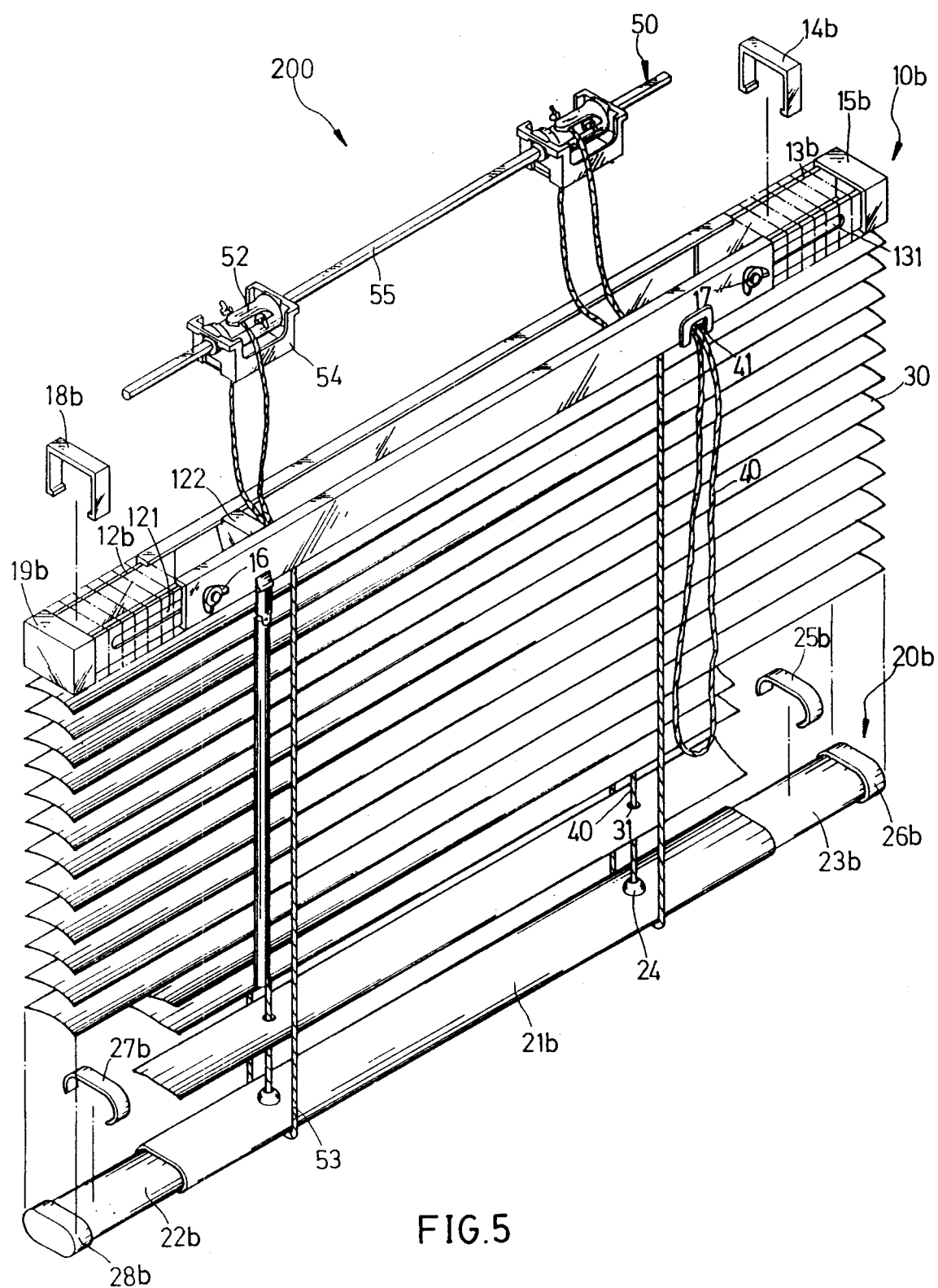


FIG. 4





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EUROPEAN SEARCH REPORT

Application Number

EP 90 31 3802

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.5)
Y	US-A-4 699 196 (ELLIOTT) * column 3, line 24 - line 54; figures *	1,2	E06B9/323 E06B9/30
A	---	3-6	
Y	US-A-4 567 930 (FISCHER) * column 3, line 29 - line 57 * * column 4, line 25 - line 36 * * column 6, line 32 - line 39; figures *	1,2	
A	---	3-6	
A	US-A-2 222 674 (LORENTZEN) * page 1, right column, line 20 - page 2, left column, line 14 * * page 2, right column, line 1 - line 20; figures *	1-6	
A	DE-U-9 012 806 (HSU ET AL) * page 5, line 13 - line 21; figures *	1-6	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E06B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 09 JULY 1991	Examiner KUKIDIS S.
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	