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(54) Venetian blind with a shade cloth

(57) A venetian blind comprises a main blind assembly (20) and a shade cloth (30). The main blind assembly (20) has a head rail (21), a bottom rail (23), a slat set (22) having a plurality of slats (221), a lift cord controlling device (27) for driving said slat set (22) to move and for locking said slat set (22) at a predetermined position and a tilt controlling assembly (26). The shade cloth (30) has a covering body (31) and a connecting device (32). The covering body (31) has a covering cloth (331) and a plurality of sleeves (312) transversely extending at one side of the covering cloth (311) for the slats (22) respectively receiving therein. The connecting device (32) crossing the sleeves (312) and fixing with the sleeves (312) at outer ends thereof. The top end of the connecting device (32) connects to the tilt controlling assembly (26) for driving the sleeves (312) and the slats (221).

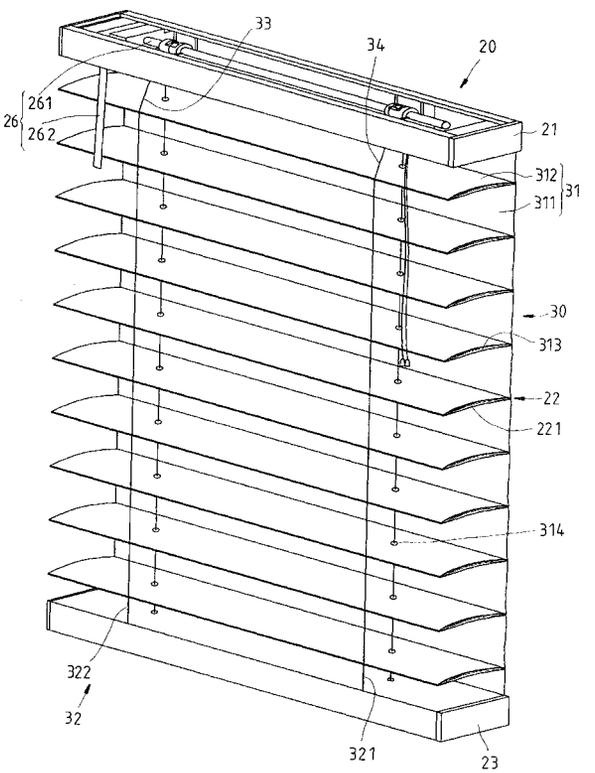

FIG.1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates generally to a venetian blind, and more particularly to a venetian blind with a shade cloth.

BACKGROUND OF THE INVENTION

[0002] The venetian blind is to shade sunshine from illuminating directly via window and to decorate the window. The inventor of the present invention has been working on improving the venetian blind for a long time. A venetian blind having capability of easy to assemble was provided by the inventor, which had a shade cloth mounted on the slats of the venetian blind.

[0003] But there still were two unsolved problems in the above-described venetian blind. First, for the point of mounting the shade cloth on the slats, there must provide a plurality of openings on the shade cloth. And the diameters of the openings must be larger than the distance between the two tilt cords, which are controlling the slats tilting. In conventional venetian blind, the tilt cords are respectively mounting at two sides of the slats and are closing to the ends as possible to facilitate the slats tilting smoothly. For this reason, the diameters of the openings of the shade cloth are substantially equal to the length of the slats. That will make the venetian blind looking strange. Second, if we don't want the shade cloth to provide the openings having larger diameters, then it must provide the two tilt cords locating closer. But, with this solution, it has to redesign the elements of venetian blind. In spite of not facilitating the slats tilting, the manufacture cost will rise a lot.

SUMMARY OF THE INVENTION

[0004] The primary objective of the invention is to provide a venetian blind, which has a shade cloth thereon. And furthermore, it is easy to manufacture and assemble.

[0005] According to the objective of the invention, a venetian blind has a main blind assembly and a shade cloth. The main blind assembly has a head rail, a slat set having a plurality of slats, a lift cord controlling device for driving the slat set to move and for locking the slat set at a predetermined position and a tilt controlling assembly. The shade cloth has a covering body and a connecting device. The covering body has a covering cloth and a plurality of sleeves transversely extending at one side of the covering cloth. The slats receive in the sleeves respectively. The connecting device crossing the sleeves and fixing with the sleeves at outer ends thereof. The top end of the connecting device connects to the tilt controlling assembly for driving the sleeves and the slats tilting.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006]

FIG. 1 is a perspective view of the first preferred embodiment;

FIG. 2 is an exploded view of the first preferred embodiment;

FIG. 3 is a top view of the first preferred embodiment;

FIG. 4 is the lateral view of FIG. 1 showing the slats tilting upwards;

FIG. 5 is the lateral view of FIG. 1 showing the slats tilting downwards;

FIG. 6 is a perspective view of the second preferred embodiment;

FIG. 7 is a perspective view of the third preferred embodiment;

FIG. 8 is a sectional view of FIG. 7 along 8-8;

FIG. 9 is the lateral view of FIG. 7;

FIG. 10 is the lateral view of FIG. 7 showing the slats tilting;

FIG. 11 is a perspective view of the fourth preferred embodiment, and

FIG. 12 is a perspective view of the fifth preferred embodiment.

DETAIL DESCRIPTION OF THE INVENTION

[0007] Please refer to FIG. 1 to FIG. 5, the first preferred embodiment of the present invention provides a venetian blind **10**, which have a main blind assembly **20** and a shade cloth **30**. The main blind assembly **20** comprises a head rail **21**, a slat set **22** having a plurality of slats **221**, a bottom rail **23**, a lift cord controlling device **27** composed of a ratchet locking assembly **24** and a lift cord set **25**, and a tilt controlling assembly **26**à.

[0008] The head rail **21** is to be fixed at the topside of a window. The widths of the slats **221** of the slat set **22** are substantially equal to the width of the head rail **21**. Each of the slats **221** has two opening **222**. Please refer to FIG. **3**, the ratchet locking assembly **24** mounts in the head rail **21**. The lift cord set **25** passes through the opening **222** of the slats **221** having both ends thereof fixing on the bottom rail **23**. The midsection of the lift cord set **25** passes through the ratchet locking assembly **24** and having a part left out of the head rail **21** for facil-

itating user to grip. Thus, user can pull the lift cord set **25** to drive the bottom rail **23** and the slats **221** to lift. The ratchet locking assembly **24** is capable of loosing or locking the lift cord set **25** to control the bottom rail **23** and the slats **221** to lift up, to lower down or to lock at any position. The tilt controlling assembly **26** has a rotating device **261** and an adjusting rod **262**. The adjusting rod **262** has one end engaging with the rotating device **261**, and the other end thereof left out of the head rail **21** for facilitating user to turn the adjusting rod **262** to drive the rotating device **261** to turn.

[0009] The shade cloth **30** has a covering body **31** and a connecting device **32**. The covering body **31** is made of natural gauze, natural cotton, natural silk or synthesis gauze, e.g. nylon. The shade cloth **3**0 is to enhance the shade capacity of the main blind assembly **20** and make the venetian blind **10** of the present invention looking fancy. The extending area of the covering body **31** is substantially equal to or slightly larger than the extending area of the slats set **22**. The covering body **31** has a covering cloth **311** and a plurality of sleeves **312** transversely extending at one side of the covering cloth **311**. The top side and the bottom side of the covering cloth **311** attaches on the head rail **21** and bottom rail **23** respectively. Thus, the head rail **21** and the bottom rail **23** are covered by the covering cloth **311** to smooth the rigid shapes of the two rails **21** and **23**.

[0010] The sleeves **312** of the covering body **31** are made by sewing the covering cloth **311** at determined intervals. Thus, each of the sleeves **312** forms a receiving space **313** therein. Each of the receiving spaces **313** is opening at both end and the space of the receiving space **313** is substantially equal to or slightly larger than the size of one slat **221**. Each of the sleeves **312** has two openings **314** corresponding to the opening **222** of each slat **221**. The connecting device **32** crosses the sleeves **312** at the outer ends. The connecting device **32** connects to the tilt controlling assembly **26** via two connecting pieces **33** and **34** for driving the slats **221** to tilt. In the present embodiment, the connecting device **32** has two cords **321** and **322** with bottom ends thereof fixing at the bottom rail **23**. The connecting pieces **33** and **34** are part of the cords **321** and **322** respectively. The midsections of the cords **321** and **322** are fixing with the slats **312** at the out ends.

[0011] Hereunder we will describe how to assemble the elements of the venetian blind **10** and how it works.

[0012] Please refer to FIG. **2**, first, we put the slats **221** of the slat set **22** into the receiving spaces **313** of the sleeves **312** of the shade cloth **30**. The midsection of the lift cord set **25** mounts in the ratchet locking assembly **24** and left a part out of the head rail **21**. Then, two ends of the lift cord set **25** pass through the openings **222** and **314** of the slats **221** and the sleeves **313** and finally fix at the bottom rail **23**. User can pull the left out part of the lift cord set **25** to lift up or to lower down the slats **221** and the covering body **31** and the bottom rail **23** to adjust the shade area of the venetian blind **10** of the present invention. The ratchet locking assembly **24** is capable of locking or loosing the lift cord set **25** to make the slats **221** and the covering body **31** to lock at any position or to move.

[0013] Now please refer to FIG. **4** and FIG. **5**, the top ends of the connecting pieces **33** and **34** pass through the head rail **21** and fix with the rotating device **261**, and the other ends thereof connect to the topest sleeve **312** at the outer end thereof. User can turn the adjusting rod **262** to drive the rotating device **261** turning. Thus, the rotating device **261** can pull up the connecting pieces **33** and **34** and the cords **321** and **322** of the connecting device **32** to lift. In the meantime, the connecting device **32** will drive the slats **222** and the sleeves **312** to tilt upwards as shown in FIG. **4.** If user turn the adjusting rod **262** along the opposite direction, the rotating device **261** will loose the connecting pieces **33** and **34** and the cords **321** and **322** to drive the slats **222** and the sleeves **312** to tilt downwards as shown in FIG. **5**. In the present embodiment, the connecting pieces **33** and **34** are two cords.

[0014] It has to mention here, as shown in FIG. **6**, the venetian blind **10'** of the second preferred embodiment of the present invention is providing two cloth belts **321'** and **322'** to be the connecting device **32**. The connecting pieces are two cloth belts **33'** and **34'.** That will make the venetian blind **10'** looking fancier.

[0015] Hereunder are the advantages of the present invention:

1. Easy to manufacture:

[0016] The connecting device **32** and the connecting pieces **33** and **34** are connecting to the sleeves **312** at the outer ends to control the slats **221** tilting. So, there is no need to provide tilt cords at the slats **221**. It also does not need to enlarge the diameter of the openings on the shade cloth or shift the tilt cords to the central of the slats as the conventional structure do. That will simplify the manufacture greatly.

2. Easy to assemble:

[0017] Because there are no tilt cords in the present invention, we have no need to assemble the tilt cords on the slats. It simplifies the assembly procedure.

3. Look fancy:

[0018] In the present invention, the shade cloth **30** covers on the head rail **21**. That will smooth the rigid shape of the head rail **21**. The exposed lift cords **25** are covered by the shade cloth **30**. So the entire look of the venetian blind of the present invention is mainly shown by the pattern of the shade cloth **30**.

[0019] The third preferred embodiment of the present invention provides a venetian blind **40** as shown in FIG. **7** to FIG. **10**. It has a similar structure as the first em-

bodiment. Hereunder we will describe the different elements of the third preferred embodiment. For the elements we don't mention hereunder are as same as the first preferred embodiment.

[0020] The venetian blind **40** of the third preferred embodiment has a main blind assembly **50** and a shade cloth **60.** The shade cloth **60** has a connecting device **62** and two connecting pieces **63** and **64**. The connecting device **62** has two cloth belts **621** and **622** in the present embodiment and the connecting pieces **63** and **64** have forms of cloth belts too. Each of the cloth belts **621**, **622** and the connecting pieces 63, **64** has a through hole **623** therein along the longitude axis. A lift cord set **55** having midsection thereof connects with a ratchet locking assembly (not shown in FIG.) as described above. Then both ends of the lift cord set **55** pass through the through holes **623** of the cloth belt and the connecting pieces **63**, **64**, and finally fix on a bottom rail **53**. Thus, we will see no lift cord **55** in the perspective view of the present embodiment but has the same functions as the first preferred embodiment.

[0021] The venetian blind **70** of the third preferred embodiment is shown in FIG. **11.** A connecting device having a form of a piece of cloth is provided to replace the connecting device having a form of cords and cloth belts as described in above embodiments. That provides the same function as the above-described embodiments, and furthermore it will provide advantages of easier to manufacture and assemble, looking fancier and a novelty appearance of the venetian blind.

[0022] Please refer to FIG. **12**, the fifth preferred embodiment of the preferred embodiment provides a venetian blind **80**, which has a same structure as the first preferred embodiment except that the covering cloth of the covering body has a larger width than the sleeves. Thus two sides of the covering cloth are bended to fix with two lateral ends of the sleeves respectively.

Claims

1. A venetian blind comprising:

a main blind assembly having a head rail, a slat set having a plurality of slats, a lift cord controlling device for driving said slat set to move and for locking said slat set at a predetermined position and a tilt controlling assembly, and

a shade cloth having a covering body and a connecting device; said covering body having a covering cloth and a plurality of sleeves transversely extending at one side of said covering cloth; said slats receiving in said sleeves respectively; said connecting device crossing said sleeves and fixing with said sleeves at outer ends thereof; the top ends of said connecting device and said shade cloth connecting to said tilt controlling assembly by connecting pieces for driving said sleeves and said slats tilting.

2. The venetian blind as defined in claim 1, wherein the width of said covering cloth of said covering body being larger than said sleeves; two sides of said covering body being bended to cover two lateral ends of said sleeves.

3. The venetian blind as defined in claim 1, wherein the topside of said covering cloth of said covering body covering on said head rail.

4. The venetian blind as defined in claim 1, wherein further comprising a bottom rail locating at bottom side of said slat set; the end of said lift cord fixing on said bottom rail.

5. The venetian blind as defined in claim 4, wherein bottom side of said covering cloth of said covering body covering on said bottom rail.

6. The venetian blind as defined in claim 1, wherein said connecting device of said shade cloth having two substantially parallel cords crossing said slats at the outer ends thereof.

7. The venetian blind as defined in claim 6, wherein said cords of the connecting device and said connecting pieces are connected integrally.

8. The venetian blind as defined in claim 1, wherein said connecting device of said shade cloth having two substantially parallel cloth belts crossing said slats at the outer ends thereof

9. The venetian blind as defined in claim 8, wherein said cloth belts of said connecting device and the connecting pieces are connected integrally.

10. The venetian blind as defined in claim 8, wherein each of said cloth belts of said connecting device and said connecting pieces having a through hole respectively; said lift cord receiving in said through holes of said cloth belts.

11. The venetian blind as defined in claim 1, wherein said connecting device of said shade cloth having a form of a piece of cloth.

12. A venetian blind substantially as described herein with reference to, and as shown in, the accompanying drawings.

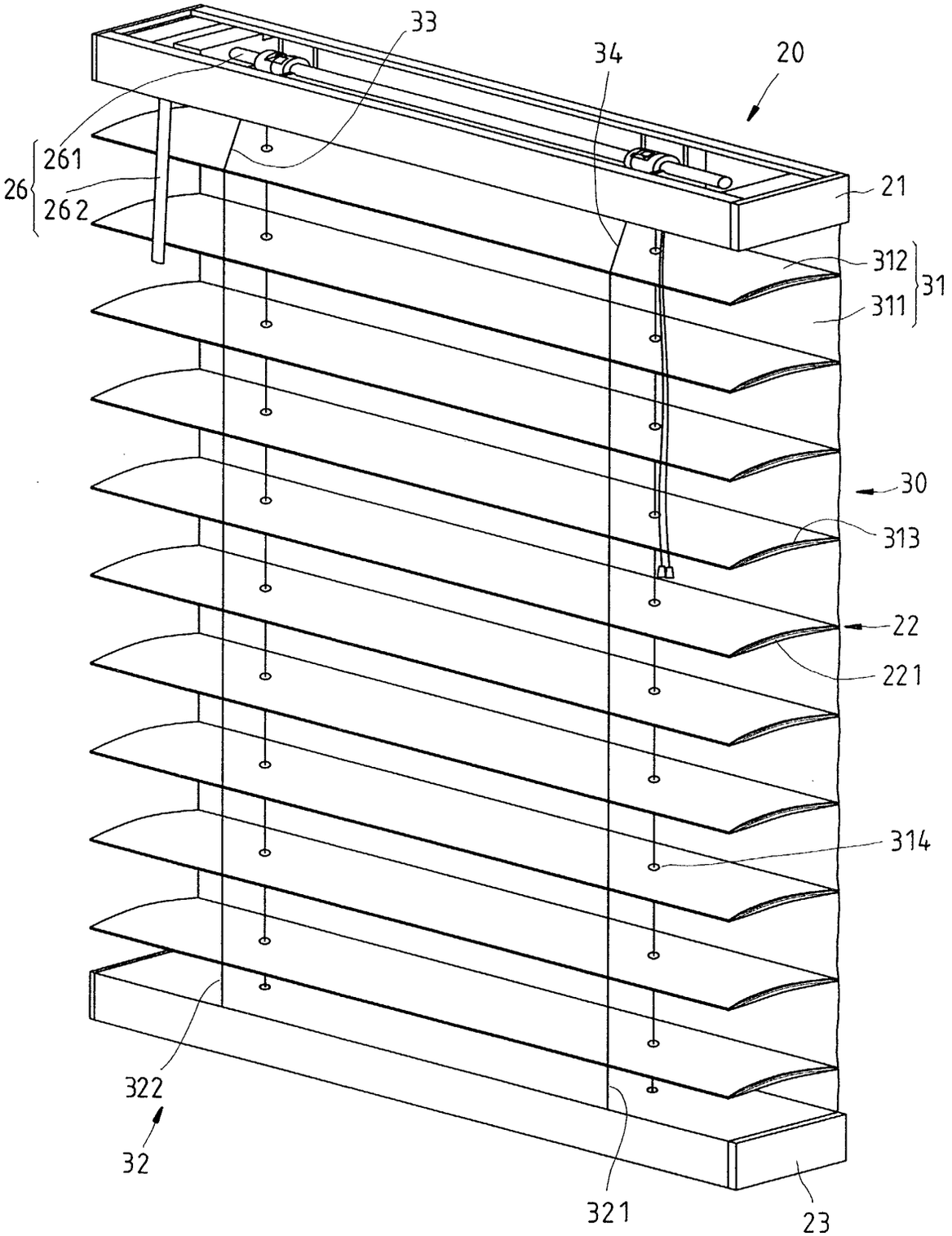

FIG.1

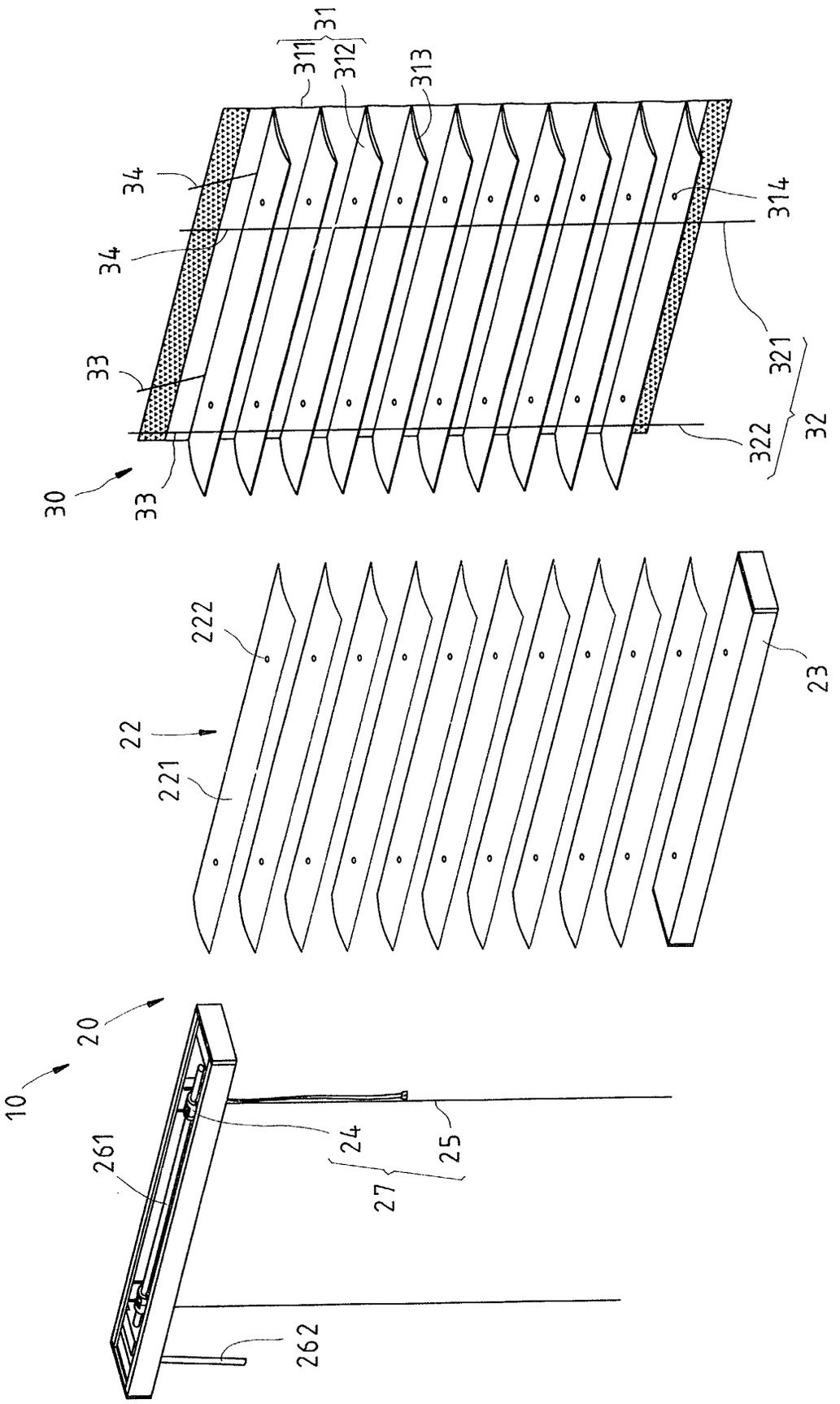
311
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FIG. 2

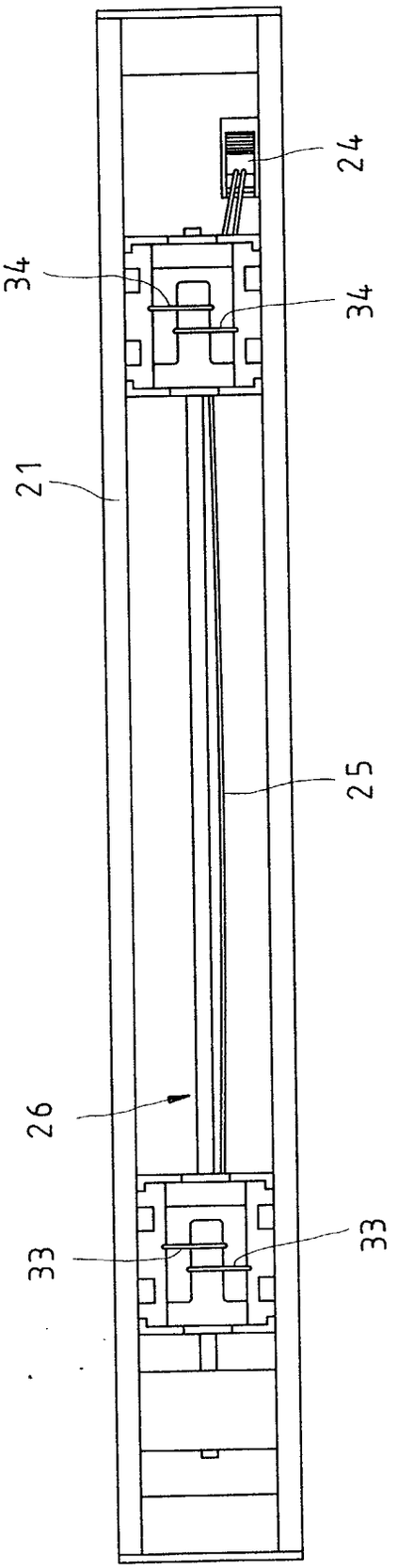

FIG. 3

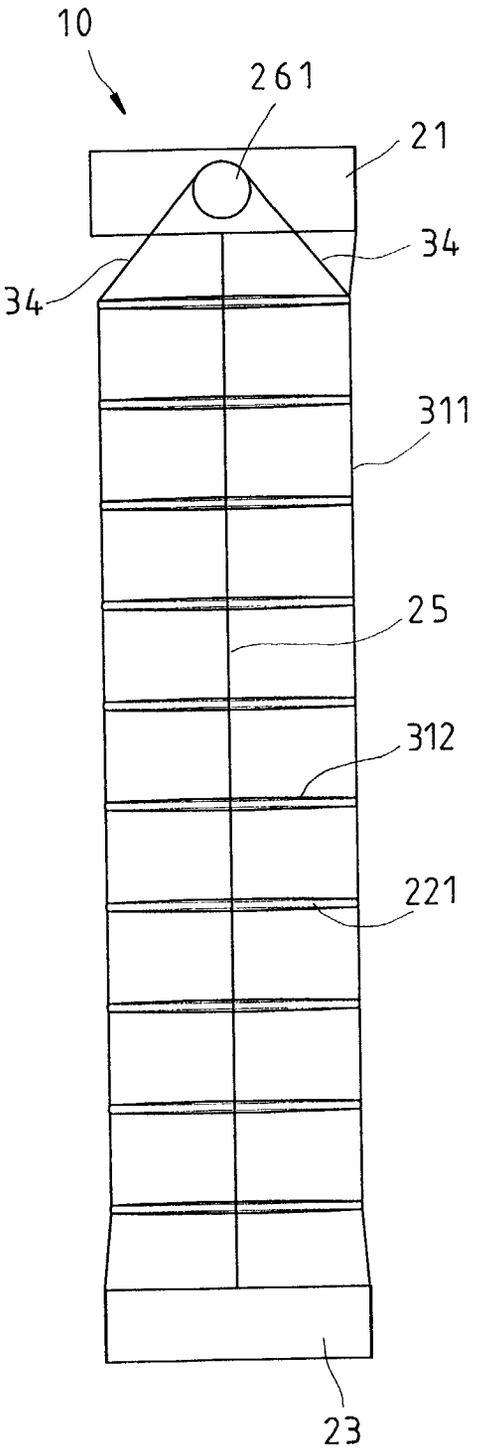

FIG. 4

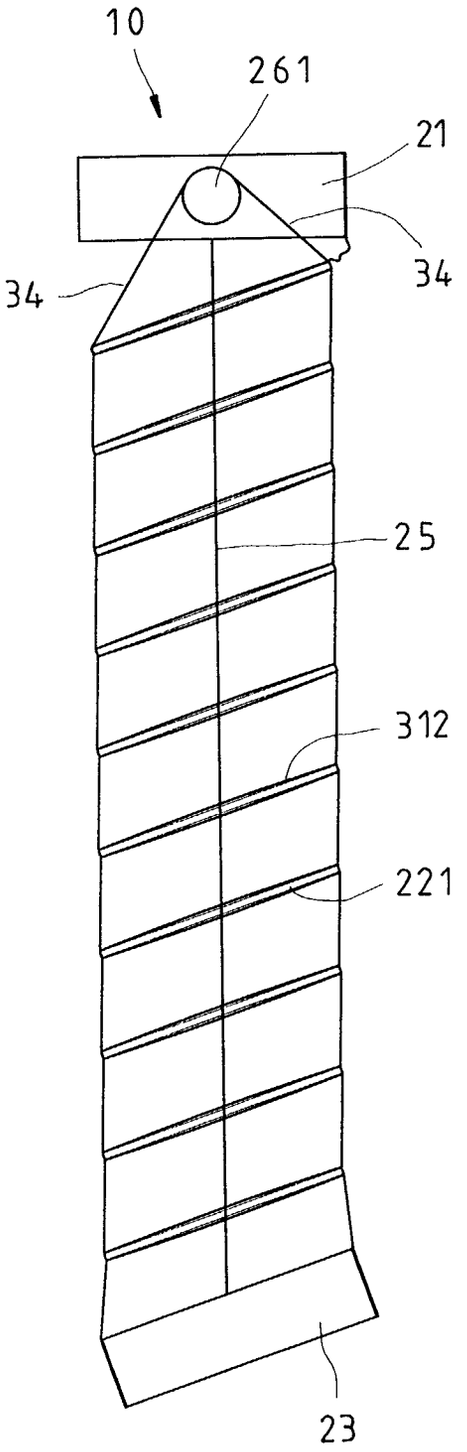

FIG. 5

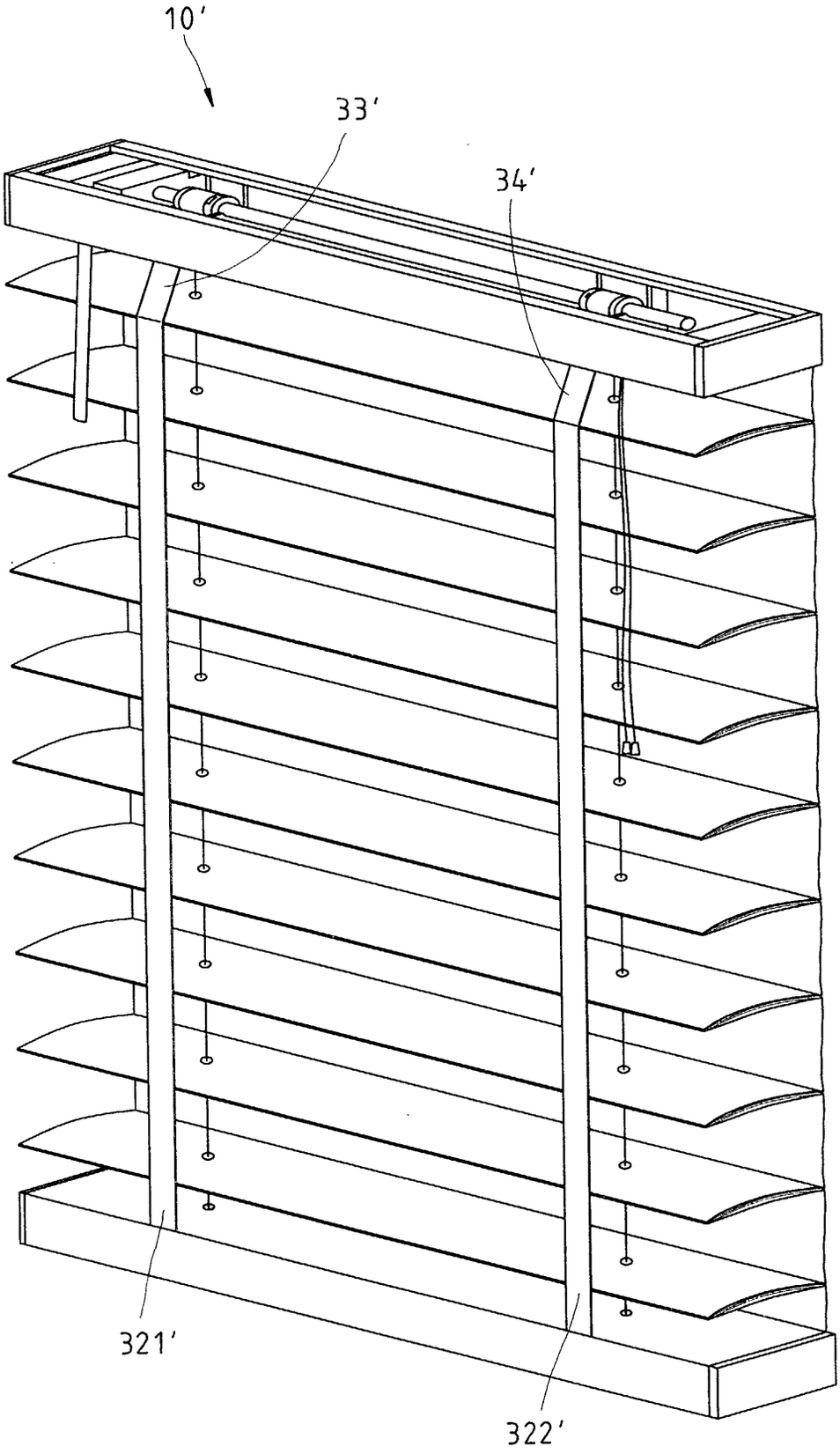

FIG. 6

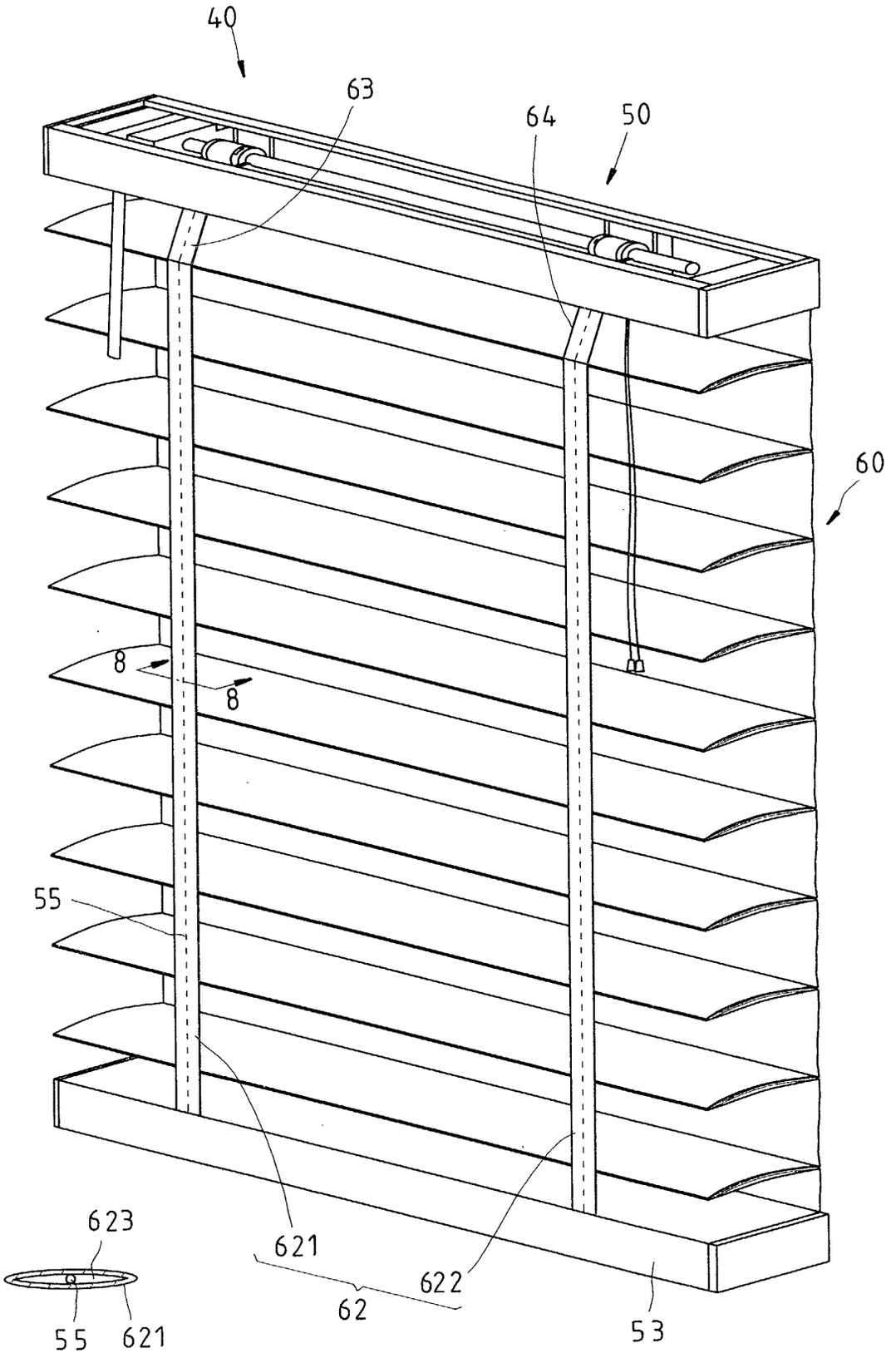

FIG. 8

FIG. 7

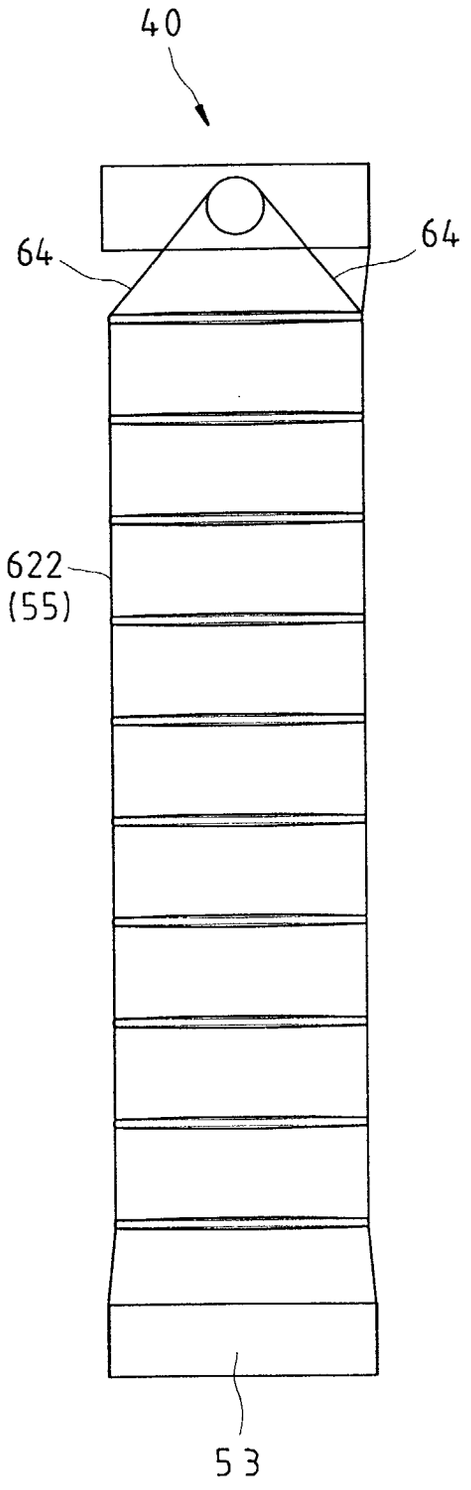

FIG.9

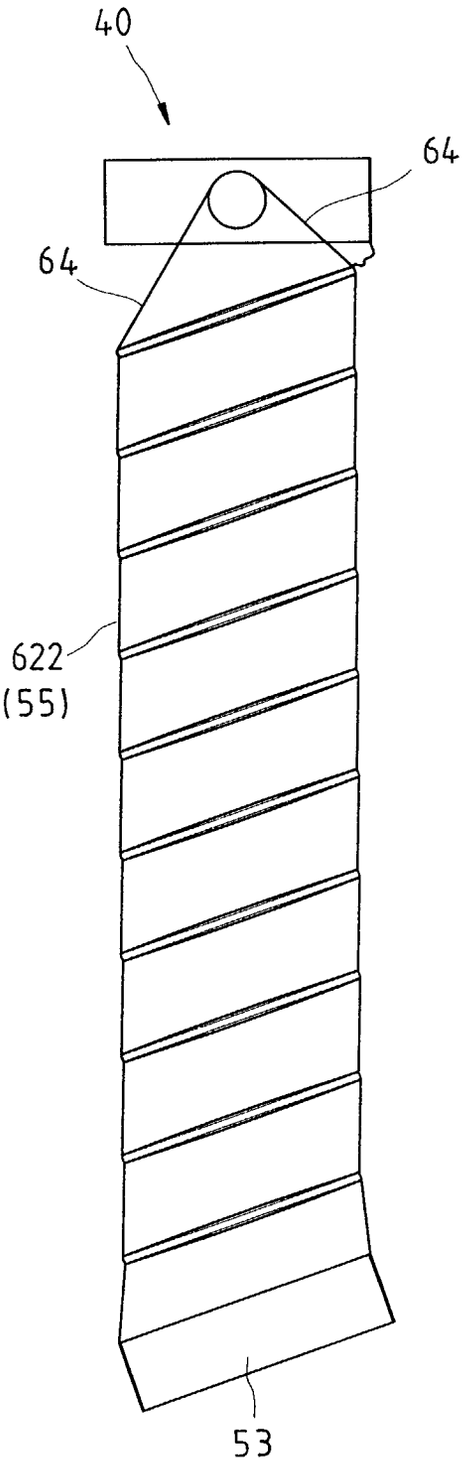

FIG.10

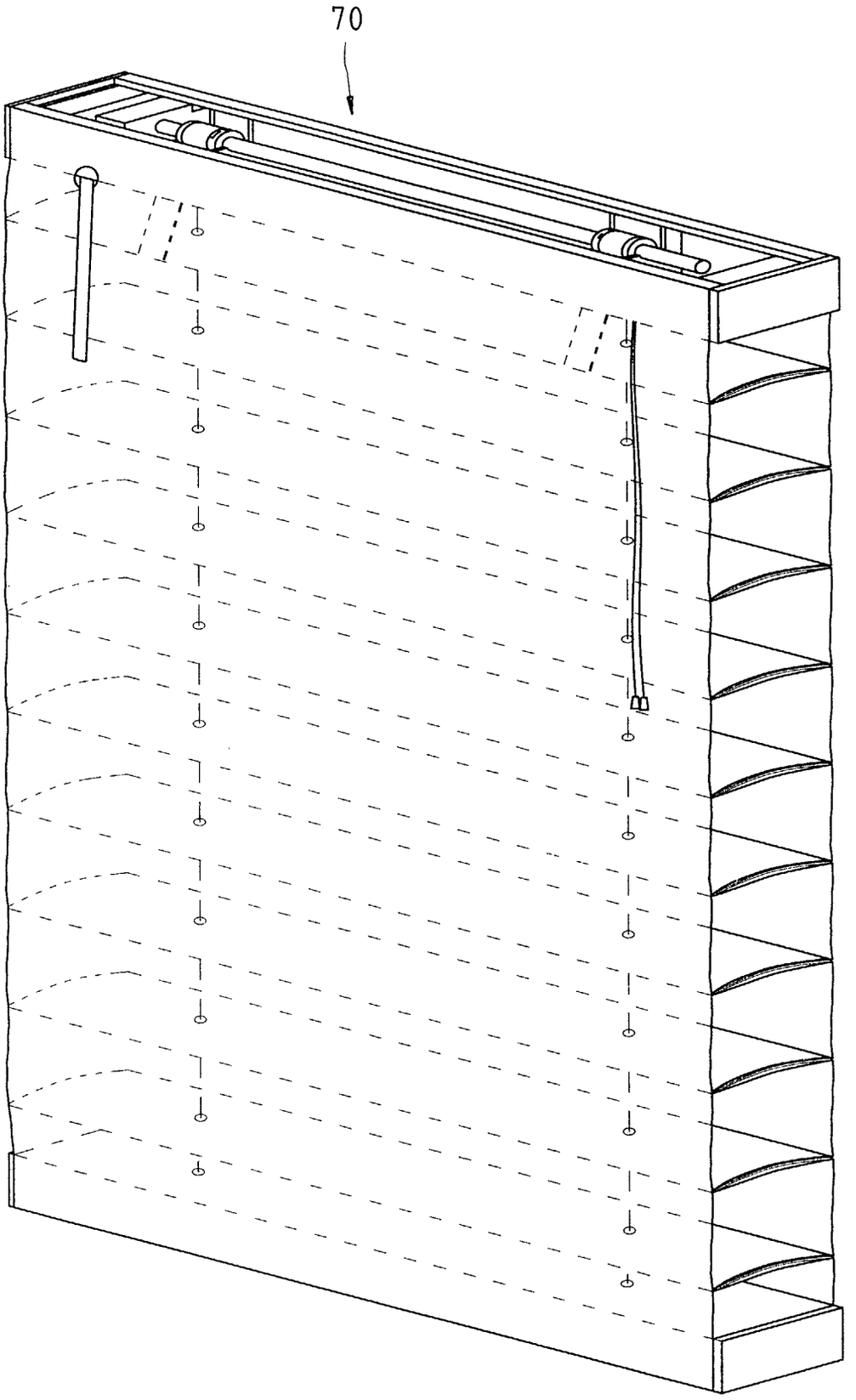

FIG. 11

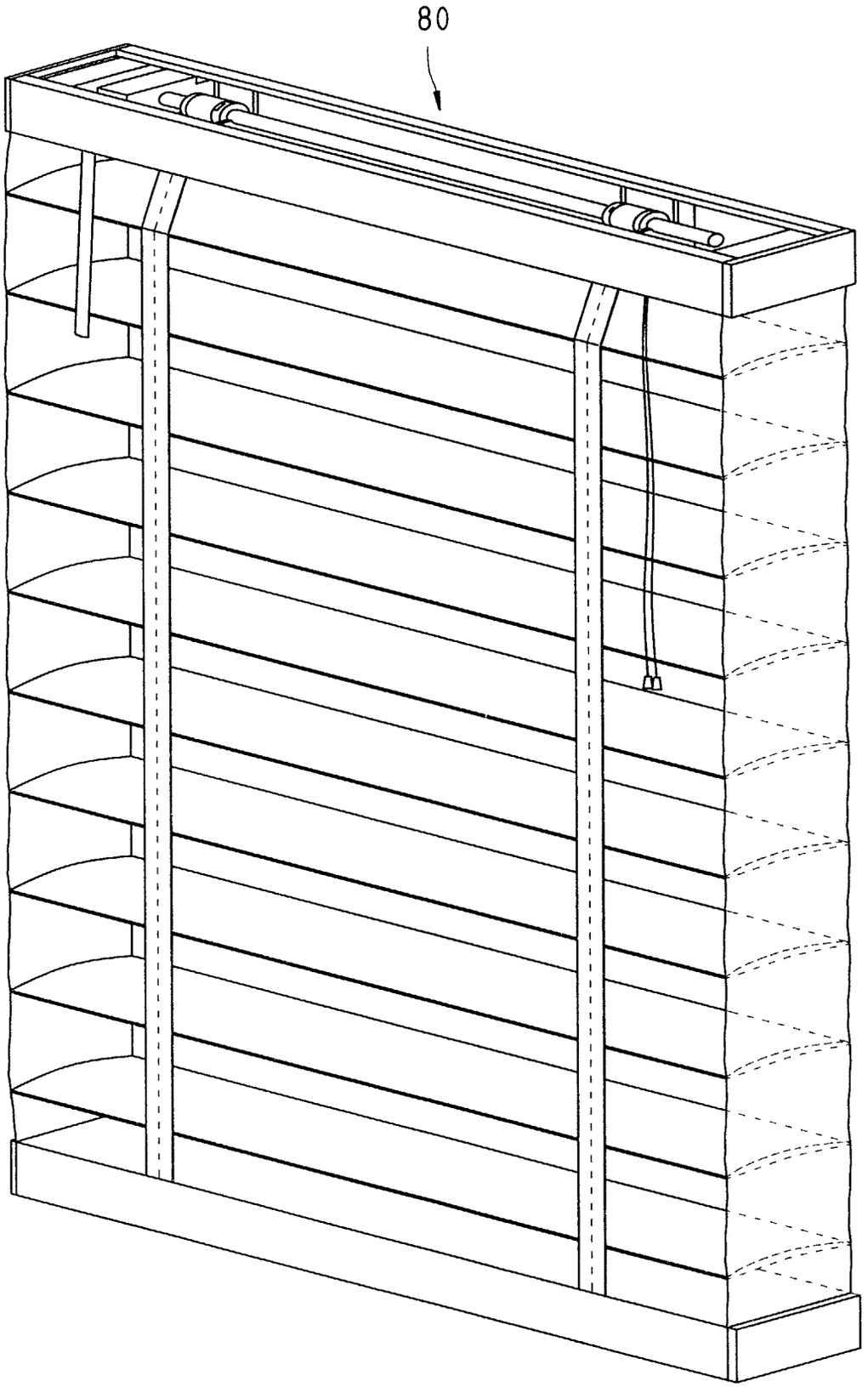

FIG.12

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EUROPEAN SEARCH REPORT

Application Number
EP 01 31 0379

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 6 164 363 A (SWISZCZ PAUL G ET AL) 26 December 2000 (2000-12-26) * column 12, line 53 - column 13, line 2; figures 38,44-48 *	1,2,4,6, 8,11	E06B9/262 E06B9/303
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A	US 5 918 657 A (TUZMEN ZEKI) 6 July 1999 (1999-07-06) * column 4, line 58 - column 5, line 19; figure 1 *	10	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

E06B
A47H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	22 May 2002	Peschel, G

CATEGORY OF CITED DOCUMENTS

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