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(54) **Mobile screen equipped with improved connection system and rolling/sliding system equipped with such screen**

(57) A mobile screen (1) is described, composed of at least one sliding and/or rolling portion (3) defined along a side thereof by at least one connection edge (5) to a handle bar (7) adapted to allow, by dragging, a sliding or a rolling/unrolling of said sliding and/or rolling portion (3), such connection edge (5) being equipped with at least one thickening portion (8) directly applied onto a surface of such mobile screen (8) and adapted to be inserted inside at least one connection groove (9) of such handle bar (7). A rolling or sliding screen system (10) is further described, comprising at least one of such mobile screens (1).

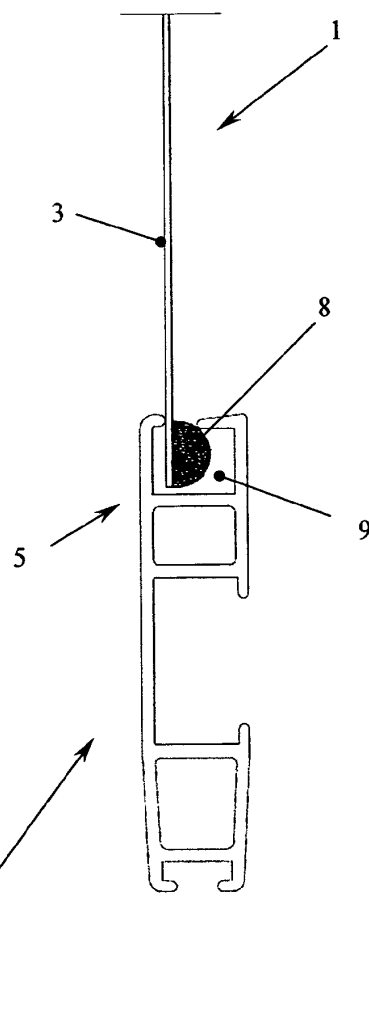


FIG. 2

Description

[0001] The present invention refers to a sliding and/or rolling mobile screen, in particular like sun screens, curtains, mosquito nets, thermal screens, equipped with an improved connection system to a handle bar. The present invention further refers to a winding or sliding screen system comprising at least one of such mobile screens.

[0002] As known, and as it is possible to note in particular in the enclosed Figures 9 and 10, in the current art a winding screen system 30 currently consists in a small caisson 31 placed in an upper (Figure 9) or side (Figure 10) position, depending on the sliding directions of the screen 30 itself, with respect to the opening of the door/window to be protected containing a tube on which the screen 20 itself is rolled. On the opposite flanks of the opening, then, two guides 33 are present, that allow the screen 20 dragged by its handle bar 35 to vertically (Figure 9) or horizontally (Figure 10) slide in the correct way and to remain in the correct position.

[0003] As it is possible to note in particular in the enclosed Figures 5 to 8, currently the fastening of the screen 20 to the handle bar 35 substantially occurs according to two modes:

- as shown in Figure 5, the fastening edge 21 of the rolling screen 20 is equipped with a bolt-rope composed of a rope or a rod iron 23 inserted inside a cuff of the screen 20, the end band 25 of such cuff being welded along the surface of the screen 20 itself;
- as shown in Figure 7, the fastening edge 21 of the winding screen 20 is equipped with a bolt-rope composed of a rope or a rod iron 23 inserted inside a suitably bent ribbon 27 whose two end bands 29 are welded along the opposite faces of the screen 20 itself.

[0004] As shown in Figures 6 or 8, in order to perform the connection of the mobile screen 20 to the handle bar 35, the bolt-rope indifferently made according to one of the two above-described modes, is inserted for sliding inside a groove 37 of the handle bar 35, such groove 37 obviously having a width lower than the diameter of the rope 21 in order to keep inside it the bolt-rope of the screen 20.

[0005] As clearly appears from the enclosed Figures 9 and 10, through the above-described prior art connection systems of the mobile screen 20 to the handle bar 35, the welding area 39 of the end band 25 of the cuff or the end bands 29 of the ribbon 27 on the screen 20 widely projects from the outline of the handle bar 35, resulting well visible and of an objectionable aesthetic impact and a scarce functional efficiency.

[0006] Therefore, object of the present invention is providing a sliding and/or rolling mobile screen, in particular like sun screens, curtains, mosquito nets, thermal screens, equipped with an improved connection means to a handle bar that eliminates the visible welding areas,

thereby improving its functional efficiency.

[0007] Another object of the present invention is providing a mobile rolling or sliding screen system comprising at least one mobile screen equipped with an improved connection means to a handle bar that eliminates the visible welding areas, thereby improving its functional efficiency.

[0008] The above and other objects and advantages of the invention, as will result from the following description, are obtained with a sliding and/or rolling mobile screen equipped with an improved connection system to a handle bar as claimed in claim 1.

[0009] Moreover, the above and other objects and advantages of the invention are obtained with a sliding/rolling mobile screen system as claimed in claim 7.

[0010] Preferred embodiments and non-trivial variations of the present invention are the subject matter of the dependent claims.

[0011] It will be immediately obvious that numerous variations and modifications (for example related to shape, sizes, arrangements and parts with equivalent functionality) can be made to what is described, without departing from the scope of the invention as appears from the enclosed claims.

[0012] The present invention will be better described by some preferred embodiments thereof, provided as a nonlimiting example, with reference to the enclosed drawings, in which:

- Figure 1 shows a side sectional view of a preferred embodiment of the mobile screen according to the present invention;
- Figure 2 shows a side sectional view of the mobile screen of Figure 1 connected to a handle bar;
- Figure 3 shows a front view of a preferred embodiment of the mobile screen system according to the present invention;
- Figure 4 shows a front view of another preferred embodiment of the mobile screen system according to the present invention;
- Figures 5 and 6 show a first connection mode of a mobile screen to a handle bar according to the prior art;
- Figures 7 and 8 show a second connection mode of a mobile screen to a handle bar according to the prior art;
- Figure 9 shows a front view of a first type of mobile screen system according to the prior art; and
- Figure 10 shows a front view of a second type of mobile screen system according to the prior art.

[0013] With particular reference to Figures 1 and 2, it is possible to note that the mobile screen 1 according to the present invention is composed of at least one sliding and/or rolling portion 3 defined along a side thereof by at least one connection edge 5 to a handle bar 7 adapted to allow, by dragging, sliding or rolling/unrolling such sliding and/or rolling portion 3, such connection edge 5 being

equipped with at least one thickening portion 8 directly applied onto a surface of such screen 1 and adapted to be inserted inside at least one connection groove 9 of such handle bar 7, such connection groove 9 obviously having a width at least lower than the thickness of such thickening portion 8.

[0014] As it is possible to note in the Figures, the thickening portion 8 can be made as separate appendix and be applied next to the connection edge 5 directly onto the mobile screen 1: in particular, the thickening portion 8 can be made of any material suitable for such purpose, like for example plastic or metallic material, and directly fastened onto the surface of the mobile screen 1 through any means, such as, for example, screwing, riveting, gluing, etc.

[0015] Alternatively, the thickening portion 8 can be made by laying a material at a fluid, pasty or gluing state, directly onto the surface of the mobile screen 1 next to the connection edge 5, and afterwards subjected to drying to perform its hardening.

[0016] Obviously, the thickening portion 9 can be made as a single continuous rope along the whole connection edge 5 or be composed of a plurality of separate, but suitably aligned, elements or segments, without therefore departing from the scope of the present invention.

[0017] Clearly, the mobile screen 1 according to the present invention can be any type of screen that can be subjected to rolling or sliding such as, for example, a sun screen, a curtain, a mosquito net, a thermal screen, etc., without therefore departing from the scope of the present invention.

[0018] As shown in particular in Figures 3 and 4, the present invention further refers to a rolling or sliding screen system 10 comprising at least two guides 13 arranged on the two opposite sides of an opening to be protected with such screen and at least one handle bar 7 sliding along such guides 13: advantageously, the system 10 further comprises at least one mobile screen 1, like the previously described one, sliding along such guides 13 and connected to a connection groove of such handle bar 7 by means of at least one thickening portion directly applied onto a surface of such screen 1 and inserted inside such groove. Obviously, the rolling or sliding screen system 10 according to the present invention can provide that the screen 1 can be indifferently rolled or sliding along a vertical (Figure 3) or horizontal (Figure 4) direction without departing from the scope of the present invention.

[0019] As is wholly clear from a visual comparison between the system 10 according to the present invention of Figure 3 or 4 and a prior art system of Figure 8 or 9, the use of the thickening portion to connect the mobile screen 1 to the handle bar 7 completely removes any visible welding area, consequently resulting in a quite more appealing aesthetic appearance.

[0020] Obviously, if the system 10 according to the present invention refers to a mobile screen 1 of the rolling type, it will further comprise at least one rolling system

of such screen 1, of the type substantially known in the art, preferably composed of at least one small caisson 11 containing a tube on which the screen 1 is rolled/unrolled.

Claims

1. Mobile screen (1) composed of at least one sliding and/or rolling portion (3) defined along a side thereof by at least one connection edge (5) to a handle bar (7) adapted to allow, by dragging, a sliding or a rolling/unrolling of said sliding and/or rolling portion (3), **characterised in that** said connection edge (5) is equipped with at least one thickening portion (8) directly applied onto a surface of said mobile screen (8) and adapted to be inserted inside at least one connection groove (9) of said handle bar (7).
2. Mobile screen (1) according to claim 1, **characterised in that** said thickening portion (8) is a separate appendix and is applied next to said connection edge (5) directly onto said mobile screen (1).
3. Mobile screen (1) according to claim 2, **characterised in that** said thickening portion (8) is made of a plastic or metallic material and fastened onto said surface by screwing, riveting or gluing.
4. Mobile screen (1) according to claim 1, **characterised in that** said thickening portion (8) is made by laying a material at a fluid, pasty or gluing state, directly onto said surface next to said connection edge (5).
5. Mobile screen (1) according to claim 1, **characterised in that** said thickening portion (8) is a single continuous rope along said whole connection edge (5).
6. Mobile screen (1) according to claim 1, **characterised in that** said thickening portion (8) is composed of a plurality of separate, but suitably aligned elements or segments.
7. Rolling or sliding screen system (10) comprising at least two guides (13) arranged on two opposite sides of an opening to be protected with said screen and at least one handle bar (7) sliding along said guides (13), **characterised in that** it further comprises at least one mobile screen (1) sliding along said guide (13) and connected to a connection groove of said handle bar (7) through at least one thickening portion directly applied onto a surface of said screen (1) and inserted inside said groove.
8. Rolling or sliding screen system (10) according to claim 7, **characterised in that** it comprises at least

one rolling system of said screen (1), preferably composed of at least one small caisson (11) containing a tube on which said screen (1) is rolled/unrolled.

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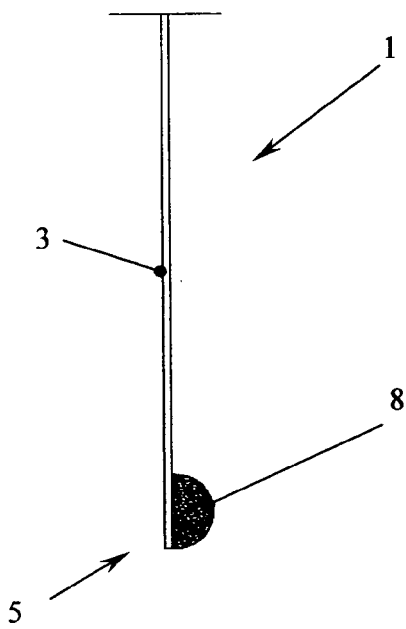


FIG. 1

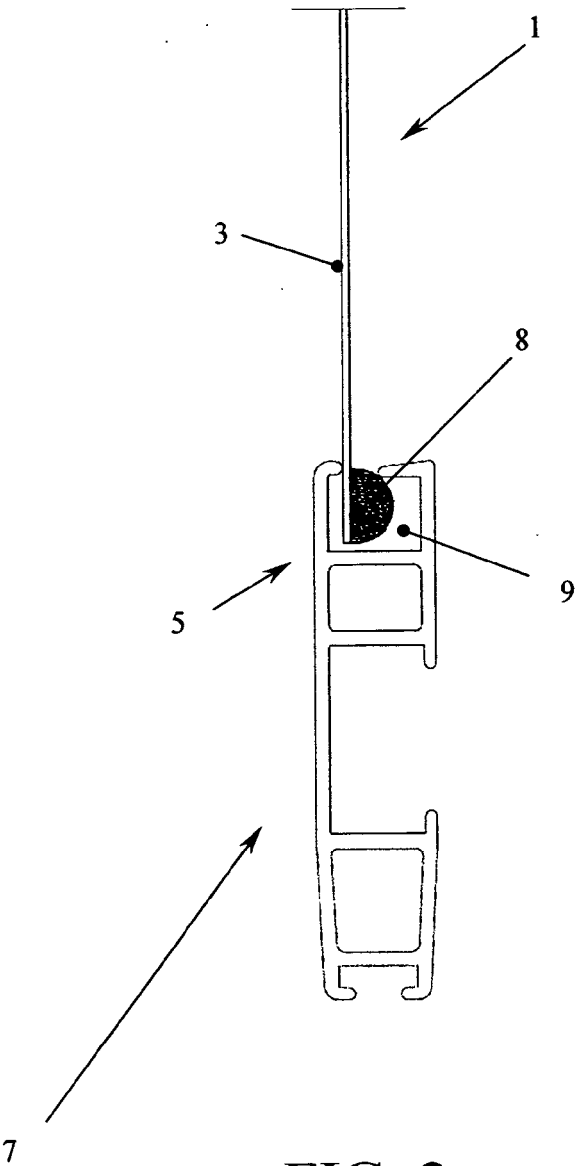


FIG. 2

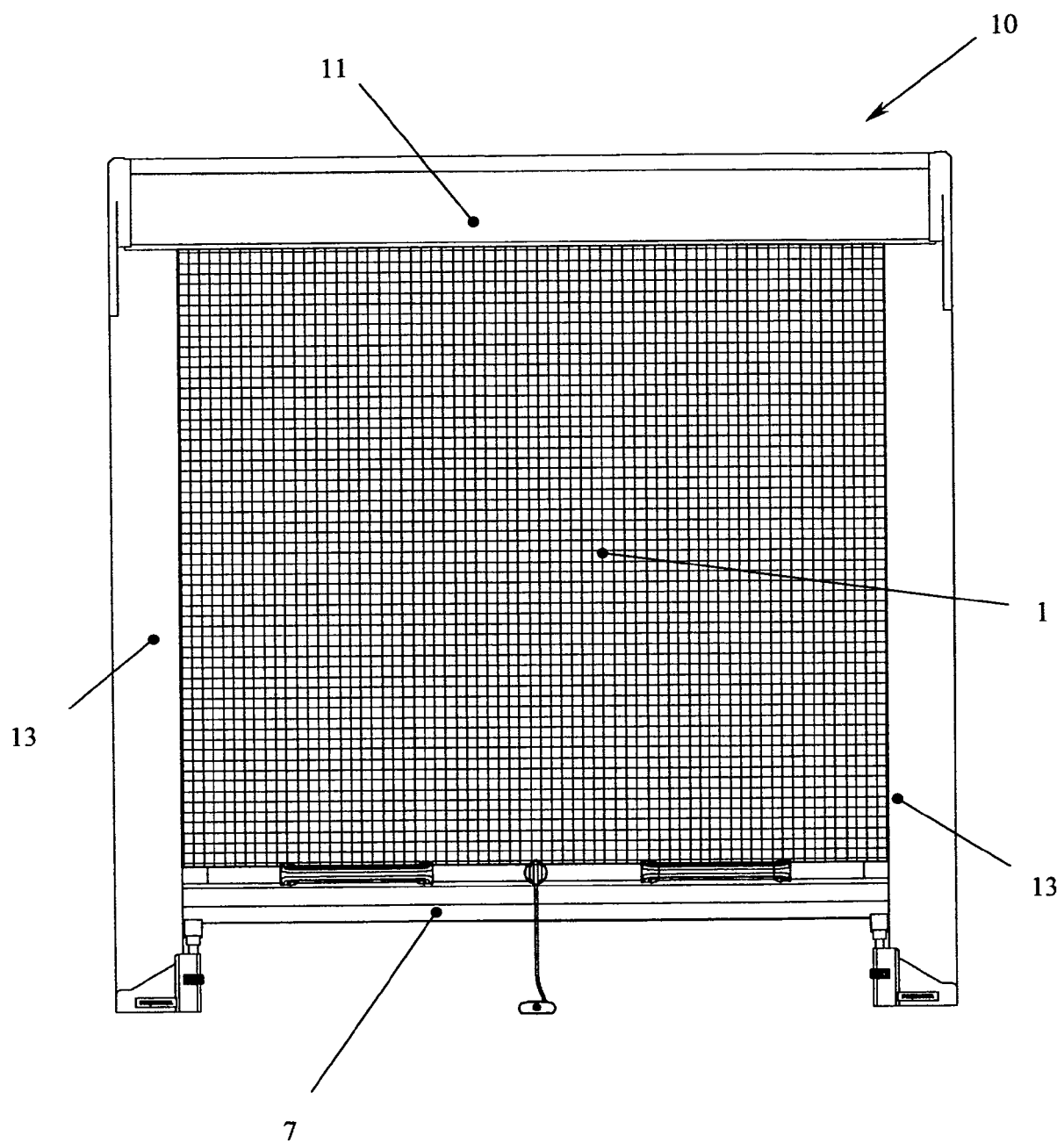
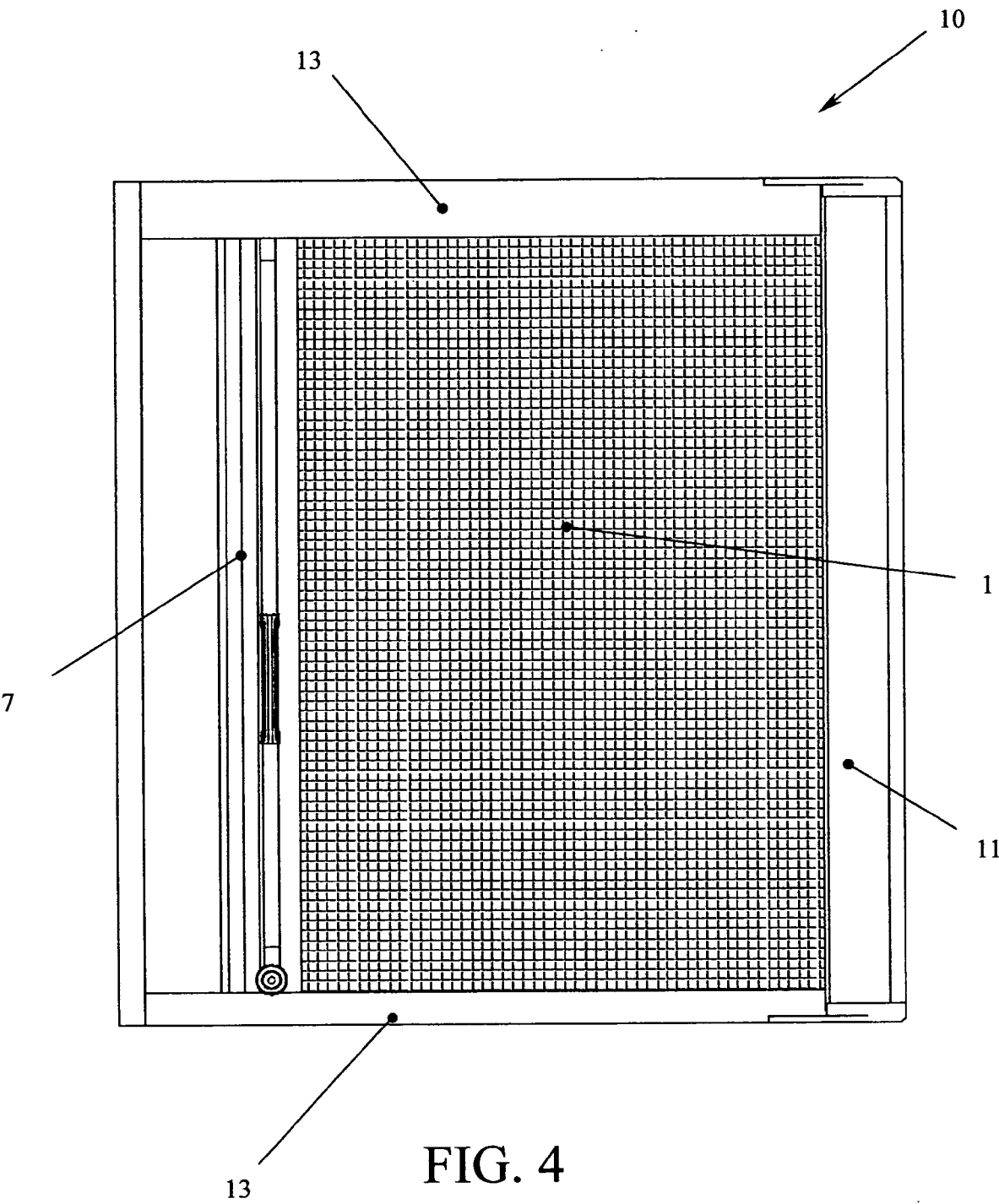


FIG. 3



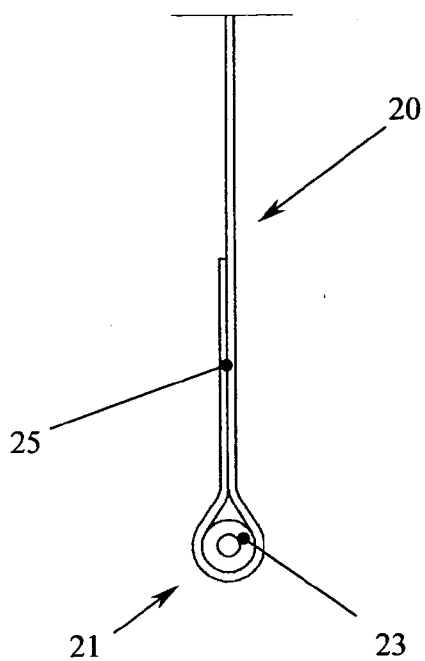


FIG. 5

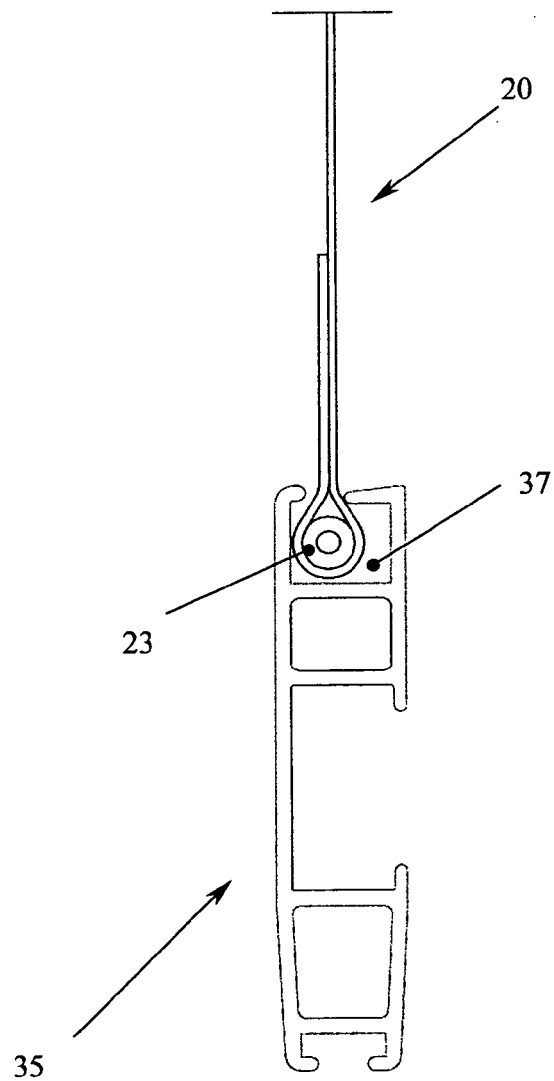


FIG. 6

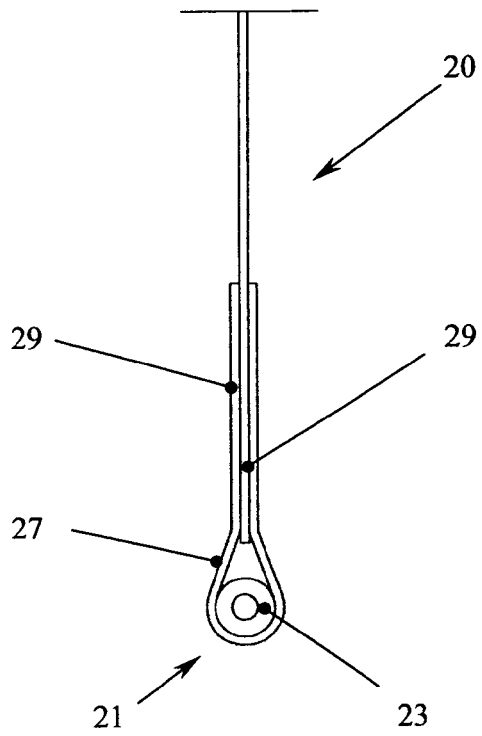


FIG. 7

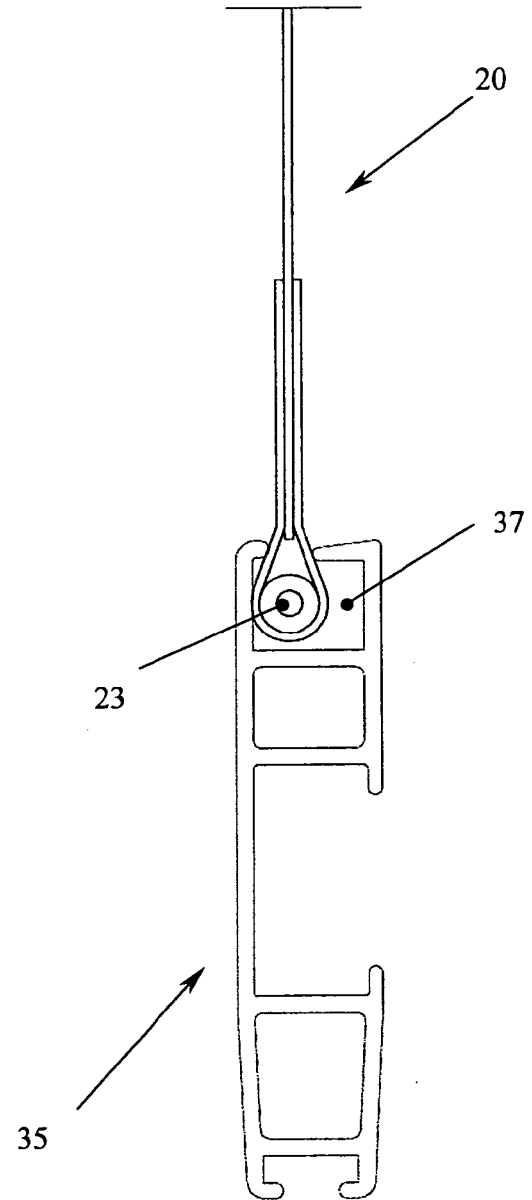


FIG. 8

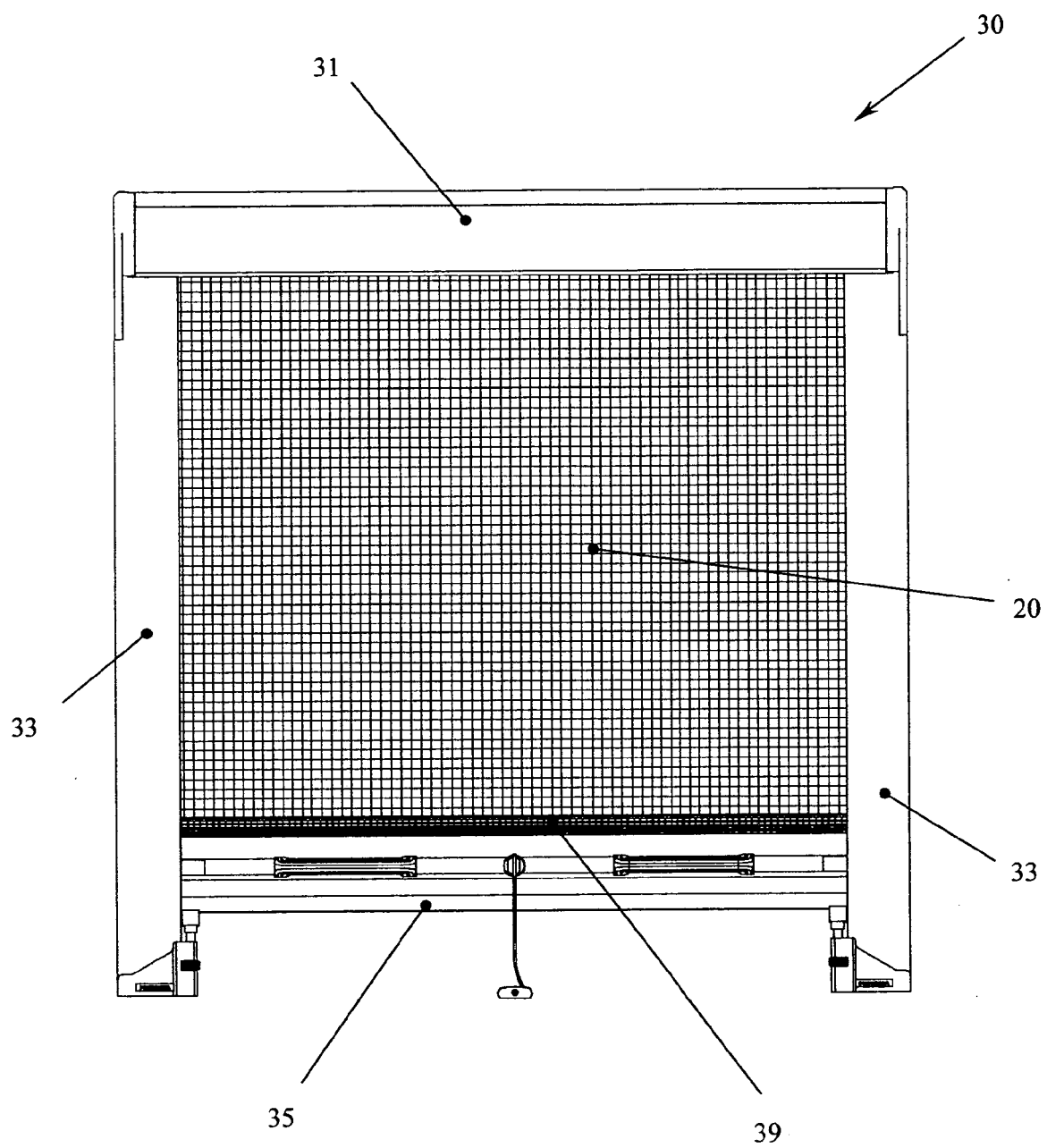


FIG. 9

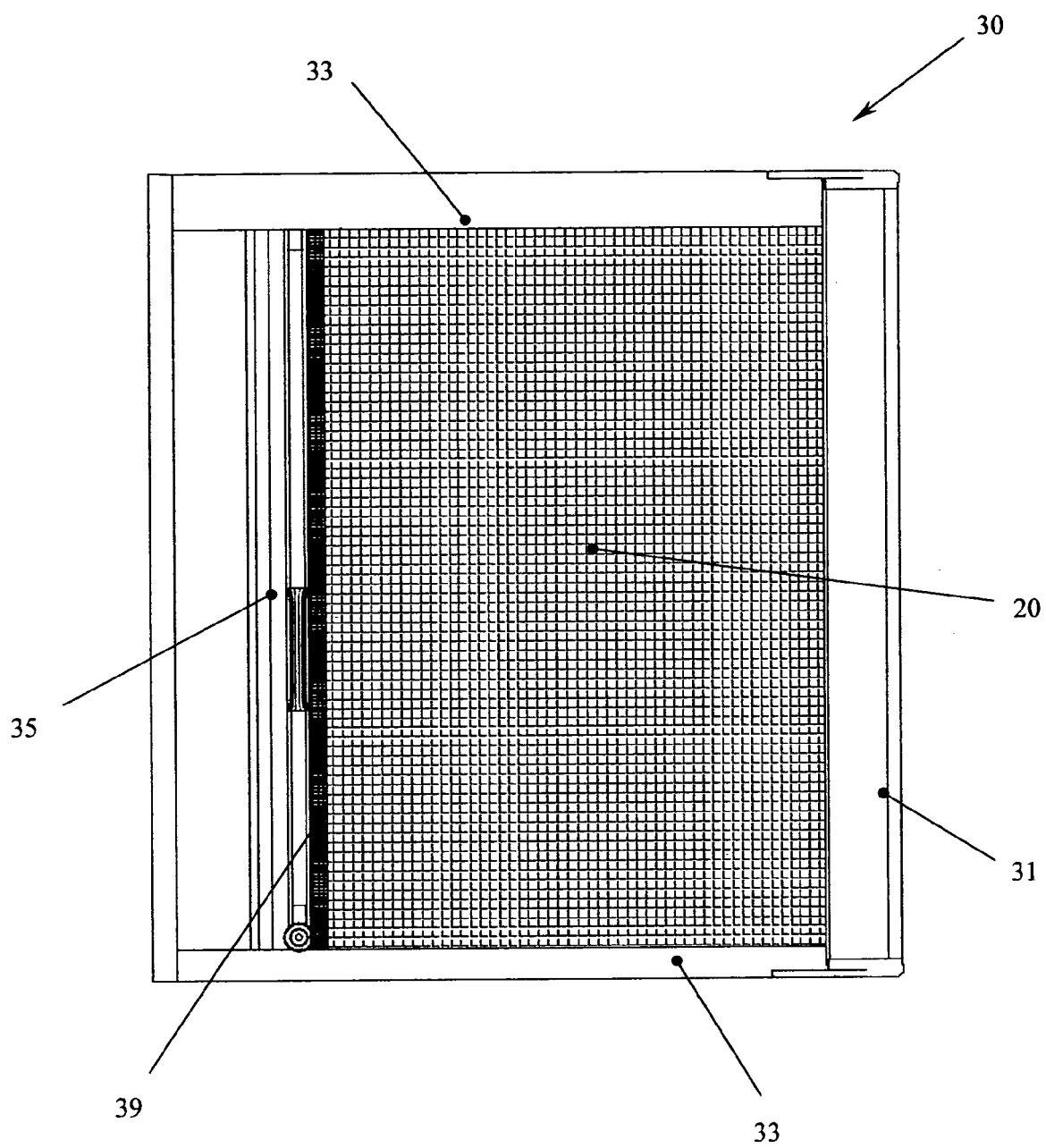


FIG. 10



EUROPEAN SEARCH REPORT

Application Number
EP 11 42 5031

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	NL 7 301 708 A (BEAUTY BLINDS LTD, HIGH WYCOMBE, [GB]) 14 August 1973 (1973-08-14) * figures 1,5,6 * * page 3, line 29 - page 4, line 2 * -----	1-8	INV. E06B9/42 E06B9/54
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E06B
3	Place of search The Hague	Date of completion of the search 7 July 2011	Examiner Cornu, Olivier
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 11 42 5031

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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