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(54) Modular shutter with juxtaposed slats for a cabinet

Modularer Rolladen mit nebeneinanderliegenden Latten für ein Kastenmöbel

Volet modulaire à lames juxtaposées pour un meuble

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Description

[0001] The invention relates to a shutter for a cabinet, more particularly to a modular shutter with a plurality of juxtaposed slats which have transparent slat parts through which an object behind the shutter can be viewed.

[0002] U.S. Patent No. 5,236,260 discloses a drawable shutter for closing an entrance of a cabinet, such as one for receiving compact discs, cassette tapes and the like, therein. Each of the slats has front and rear sides and includes longitudinal upper and lower portions, a longitudinal intermediate portion between the upper and lower portions, a longitudinal rib projecting from the rear side at the intermediate portion, and a pin-and-eye assembly with a pin member provided on the rear side at the upper portion and extending in a direction substantially parallel to the rib and an eye member provided on the rear side at the lower portion. The pin member of one of the slats engages the eye member of an adjacent one of the slats so as to connect pivotally the same. When the shutter is installed, no clearance is formed between adjacent slats to prevent dust from entering into the cabinet.

[0003] It is noted that the slats are made of an opaque material and have no transparent parts to permit viewing of objects behind the shutter, thereby making it difficult to identify the objects kept in the cabinet.

[0004] Although it is possible to form the slats of the above described shutter entirely from a transparent material, such slats are incapable of magnifying the objects behind the shutter. In addition, the aesthetic appeal of the cabinet is diminished when a shutter with slats that are formed entirely from a transparent material is installed.

[0005] Therefore, the object of the present invention is to provide a shutter with juxtaposed slats for a cabinet, the slats being partially transparent and permitting magnified viewing of objects kept behind the shutter so as to facilitate identification of the objects while enhancing aesthetic appeal of the cabinet.

[0006] Accordingly, the shutter of the present invention is to be installed in a cabinet and comprises a plurality of juxtaposed slats with front and rear sides.

[0007] Each of the slats includes at least two longitudinally aligned slat parts with front and rear sides. Each of the slat parts has longitudinal first and second portions, a longitudinal intermediate portion between the first and second portions, a pin-and-eye assembly provided on the rear side at the first and second portions for connecting pivotally adjacent ones of the slats, and complementary first and second connectors formed at two end portions for connecting adjacent ones of the slat parts of one slat. At least one of the slat parts of each of the slats is transparent, and the intermediate portion of the transparent slat part has a convex surface.

[0008] The pin-and-eye assembly includes a pin member provided at the first portion and extending in a longitudinal direction of the slat part and an eye member provided at the second portion. The pin member of one of the slat parts of one of the slats engages the eye member of one of the slat parts of an adjacent one of the slats to connect pivotally the slats.

[0009] The first connector includes a hook member which extends in a longitudinal direction of the slat part from one of the end portions, and the second connector includes a hook seat which is formed at the other one of the end portions and which engages the hook member of an adjacent one of the slat parts of the slat.

[0010] The first connector further includes a tenon which extends in the longitudinal direction from one of the end portions, and the second connector further includes a mortise which is formed in the other one of the end portions and which engages the tenon of the adjacent one of the slat parts of the slat.

[0011] Other features and advantages of the present invention will become apparent in the following detailed description of the preferred embodiment with reference to the accompanying drawings, of which:

Figure 1 is a rear perspective view illustrating a part of the preferred embodiment of a shutter according to the present invention;
Figure 2 is a partly exploded, rear perspective view illustrating how a slat of the preferred embodiment is assembled;
Figure 3 is a rear perspective view of a slat part of the slat shown in Figure 2;
Figure 4 is a sectional view of the slat part, taken along line IV-IV in Figure 3; and
Figure 5 is a rear perspective view illustrating how two slats of the preferred embodiment are connected pivotally.

[0012] Referring to Figures 1 to 5, the preferred embodiment of a shutter (S) according to the present invention is shown to comprise a plurality of juxtaposed slats (S1) (only two slats are shown in Figure 1). Each of the slats (S1) comprises a plurality of slat parts 1 with front and rear sides, 102 and 101. Each of the slat parts 1 has longitudinal first and second portions, 103 and 104, a longitudinal intermediate portion 105 between the first and second portions, 103 and 104, and a pin-and-eye assembly 11 provided on the rear side 101 at the first and second portions, 103 and 104, for connecting pivotally adjacent slats (S1). The pin-and-eye assembly 11 includes a pin member 110 provided at the first portion 103 and extending in a longitudinal direction of the slat part 1 and an eye member 111 provided at the second portion 104. The pin member 110 of one of the slat parts 1 engages the eye member 111 of the slat part 1 of an adjacent one of the slats (S1) so as to connect pivotally the slats (S1), as shown in Figure 5.

[0013] Each of the slat parts 1 further has a connecting unit 12 formed at two end portions for connecting adjacent slat parts 1 of one slat (S1). The connecting

unit 12 includes complementary first and second connectors, 121 and 122. The first connector 121 includes a hook member 123 and a tenon 124 which extend in a longitudinal direction of the slat part 1 from one of the end portions. The second connector 122 includes a hook seat 128 and a mortise 127 formed at the other one of the end portions. The hook member 123 has a barbed end 125. The hook seat 128 projects from the rear side 101 of the slat part 1 and has a distal face which is formed with an engaging groove 126 that extends along the longitudinal direction of the slat part 1 and that is confined by a spaced pair of walls 129.

[0014] In the preferred embodiment, there are two kinds of slat parts 1 employed in each slat (S1). Referring to Figure 2, each of the slats (S1) comprises two transparent slat parts (1A) and three opaque slat parts (1B). The first connector 121 of each of the transparent slat parts (1A) engages the second connector 122 of one of the opaque slat parts (1B), while the second connector 122 of each of the transparent slat parts (1A) engages the first connector 121 of another one of the opaque slat parts (1B). Preferably, the transparent slat parts (1A) of adjacent slats (S1) are aligned with one another, as shown in Figure 1. In this way, viewing of objects kept behind the shutter of the present invention is permitted so as to facilitate identification of the objects.

[0015] Referring to Figure 4, the intermediate portion 105 of the slat parts 1 has a convex surface at the front side 102. Thus, the intermediate portion 105 of the transparent slat part (1A) can serve to magnify the object behind the same to facilitate viewing of the object.

[0016] It has thus been shown that the shutter of the present invention permits magnified viewing of objects kept behind the shutter so as to facilitate identification of the objects. In addition, since the shutter is only partially transparent, the aesthetic appeal of the cabinet which is installed with the shutter of the present invention can be enhanced.

Claims

1. A shutter (S) for a cabinet including a plurality of juxtaposed slats (S1), characterized by each of said slats (S1) including at least two longitudinally aligned slat parts (1) with front and rear sides (102, 101), each of said slat parts (1) having longitudinal first and second portions (103, 104), a longitudinal intermediate portion (105) between said first and second portions (103, 104), a pin-and-eye assembly (11) provided on said rear side (101) at said first and second portions (103, 104) for connecting pivotally adjacent ones of said slats (S1), and complementary first and second connectors (121, 122) formed at two end portions for connecting adjacent ones of said slat parts (1) of one said slat (S1), at least one (1A) of said slat parts (1) of each of said slats (S1) being transparent, said intermediate portion (105) of said transparent slat part (1A) having a convex surface.

2. The shutter (S) as claimed in claim 1, characterized in that said transparent slat parts (1A) of adjacent ones of said slats (S1) are aligned with one another.

3. The shutter (S) as claimed in claim 2, further characterized in that said convex surface is at said front side (102) of said slat (S1).

4. The shutter (S) as claimed in claim 1, characterized in that said pin-and-eye assembly (11) includes a pin member (110) provided at said first portion (103) and extending in a longitudinal direction of said slat part (1) and an eye member (111) provided at said second portion (104), said pin member (110) of one of said slat parts (1) of one of said slats (S1) engaging said eye member (111) of one of said slat parts (1) of an adjacent one of said slats (S1) to connect pivotally said slats (S1).

5. The shutter (S) as claimed in claim 1, characterized in that said first connector (121) includes a hook member (123) which extends in a longitudinal direction of said slat part (1) from one of said end portions, and said second connector (122) includes a hook seat (128) which is formed at the other one of said end portions and which engages said hook member (123) of an adjacent one of said slat parts (1) of said slat (S1).

6. The shutter (S) as claimed in claim 5, further characterized in that said hook member (123) has a barbed distal end (125).

7. The shutter (S) as claimed in claim 5, further characterized in that one of said first and second connectors (121, 122) further includes a tenon (124) which extends in the longitudinal direction from one of said end portions, and the other one of said first and second connectors (121, 122) further includes a mortise (127) which is formed in the other one of said end portions and which engages said tenon (124) of the adjacent one of said slat parts (1) of said slat (S1).

8. A transparent slat part (1A) characterized by front and rear sides (102, 101), longitudinal first and second portions (103, 104), a longitudinal intermediate portion (105) between said first and second portions (103, 104) and that has a convex surface, a pin-and-eye assembly (11) provided on said rear side (101) at said first and second portions (103, 104), and complementary first and second connectors (121, 122) formed respectively at two end portions of said slat part for connecting adjacent ones of said slat

parts.

9. The transparent slat part (1A) as claimed in claim 8, characterized in that said convex surface is at said front side (102) of said slat part (1A).

10. The transparent slat part (1A) as claimed in claim 8, further characterized in that said pin-and-eye assembly (11) includes a pin member (110) provided at said first portion (103) and extending in a longitudinal direction of said slat part (1A) and an eye member (111) provided at said second portion (104).

11. The transparent slat part (1A) as claimed in claim 8, further characterized in that said first connector (121) includes a hook member (123) which extends in a longitudinal direction of said slat part (1A) from one of said end portions, and said second connector (122) includes a hook seat (128) which is formed at the other one of said end portions.

12. The transparent slat part (1A) as claimed in claim 11, further characterized in that said hook member (123) has a barbed distal end (125).

13. The transparent slat part (1A) as claimed in claim 11, further characterized in that one of said first and second connectors (121, 122) further includes a tenon (124) which extends in the longitudinal direction from one of said end portions and the other one of said first and second connectors (121, 122) further includes a mortise (127) which is formed in the other one of said end portions.

Patentansprüche

1. Rolladen (S) für einen Kasten umfassend eine Vielzahl von nebeneinander angeordneten Lamellen (S1), dadurch gekennzeichnet, daß jede der Lamellen (S1) mindestens zwei längs ausgerichtete Lamellenteile (1) mit vorderen und hinteren Seiten (102, 101) aufweist, wobei jedes der Lamellenteile (1) erste und zweite Längsteile (103, 104) aufweist, einen Längszwischenteil (105) zwischen den ersten und zweiten Teilen (103, 104), eine Ösensteckverbindung (11), die auf der Hinterseite (101) an den ersten und zweiten Teilen (103, 104) vorgesehen ist, um angrenzende der Lamellen (S1) schwenkbar zu verbinden, und komplementäre erste und zweite Verbinder (121, 122), die an zwei Endteilen ausgebildet sind, um angrenzende der Lamellenteile (1) der einen Lamelle (S1) zu verbinden, wobei mindestens eines (1A) der Lamellenteile (1) jeder der Lamellen (S1) transparent ist, wobei der Zwischenteil (105) des transparenten Lamellenteils (1A) eine konvexe Oberfläche aufweist.

2. Rolladen (S) nach Anspruch 1, dadurch gekennzeichnet, daß die transparenten Lamellenteile (1A) von angrenzenden der Lamellen (S1) zueinander ausgerichtet sind.

3. Rolladen (S) nach Anspruch 2, dadurch gekennzeichnet, daß die konvexe Oberfläche an der Vorderseite (102) der Lamelle (S1) ist.

4. Rolladen (S) nach Anspruch 1, dadurch gekennzeichnet, daß die Ösensteckverbindung (11) ein Stiftelement (110) unfaßt, das an dem ersten Teil (103) vorgesehen ist und sich in Längsrichtung des Lamellenteils (1) erstreckt, und ein Ösenelement (111), das am zweiten Teil (104) vorgesehen ist, wobei das Stiftelement (110) eines der Lamellenteile (1) einer der Lamellen (S1) in das Ösenelement (111) eines der Lamellenteile (1) einer angrenzenden der Lamellen (S1) eingreift, um die Lamellen (S1) schwenkbar zu verbinden.

5. Rolladen (S) nach Anspruch 1, dadurch gekennzeichnet, daß der erste Verbinder (121) ein Hakenelement (123) umfaßt, das sich in Längsrichtung des Lamellenteils (1) von einem der Endteile erstreckt, und der zweite Verbinder (122) einen Hakensitz (128) umfaßt, der am anderen der Endteile ausgebildet ist und der mit dem Hakenelement (123) eines angrenzenden der Lamellenteile (1) der Lamelle (S1) zusammenwirkt.

6. Rolladen (S) nach Anspruch 5, ferner dadurch gekennzeichnet, daß das Hakenelement (123) ein distales Ende (125) mit Widerhaken aufweist.

7. Rolladen (S) nach Anspruch 5, ferner dadurch gekennzeichnet, daß einer der ersten und zweiten Verbinder (121, 122) ferner einen Zapfen (124) umfaßt, der sich in Längsrichtung von einem der Endteile erstreckt, und der andere der ersten und zweiten Verbinder (121, 122) ferner eine Zapfenvertiefung (127) aufweist, die in dem anderen der Endteile ausgebildet ist und die mit dem Zapfen (124) eines angrenzenden der Lamellenteile (1) der Lamelle (S1) zusammenwirkt.

8. Transparentes Lamellenteil (1A) gekennzeichnet durch vordere und hintere Seiten (102, 101), ersten und zweiten Längsteilen (103, 104), einem Längszwischenteil (105) zwischen den ersten und zweiten Teilen (103, 104), und das eine konvexe Oberfläche aufweist, eine auf der Hinterseite (101) an den ersten und zweiten Teilen (103, 104) vorgesehene Ösensteckverbindung (11), und komplementäre erste und zweite Verbinder (121, 122), die jeweils auf zwei Endteilen des Lamellenteils ausgebildet sind, um angrenzende der Lamellenteile zu verbinden.

9. Transparentes Lamellenteil (1A) nach Anspruch 8, dadurch gekennzeichnet, daß die konvexe Oberfläche an der Vorderseite (102) des Lamellenteils (1A) ist.

10. Transparentes Lamellenteil (1A) nach Anspruch 8, ferner dadurch gekennzeichnet, daß die Ösensteckverbindung (11) ein Stiftelement (110) aufweist, das am ersten Teil (103) vorgesehen ist und sich in Längsrichtung des Lamellenteils (1A) erstreckt, und ein am zweiten Teil (104) vorgesehenes Ösenelement (111).

11. Transparentes Lamellenteil (1A) nach Anspruch 8, ferner dadurch gekennzeichnet, daß der erste Verbinder (121) ein Hakenelement (123) aufweist, das sich in Längsrichtung des Lamellenteils (1A) von einem der Endteile erstreckt, und der zweite Verbinder (122) einen Hakensitz (128) aufweist, der am anderen der Endteile ausgebildet ist.

12. Transparentes Lamellenteil (1A) nach Anspruch 11, ferner dadurch gekennzeichnet, daß das Hakenelement (123) ein distales Ende (125) mit Widerhaken aufweist.

13. Transparentes Lamellenteil (1A) nach Anspruch 11, ferner dadurch gekennzeichnet, daß einer der ersten und zweiten Verbinder (121, 122) ferner einen Zapfen (124) aufweist, der sich in Längsrichtung von einem der Endteile erstreckt und der andere der ersten und zweiten verbinder (121, 122) ferner eine Zapfenvertiefung (127) aufweist, die in dem anderen der Endteile ausgebildet ist.

Revendications

1. Volet (S) pour armoire comportant une pluralité de lames juxtaposées (S1), caractérisé en ce que chacune desdites lames (S1) comporte au moins deux parties de lame alignées longitudinalement (1) ayant des côtés avant et arrière (102, 101) chacune desdites parties de lame (1) ayant des première et seconde parties longitudinales (103, 104), une partie longitudinale intermédiaire (105) située entre lesdites première et seconde parties (103, 104), un ensemble formant goujon et oeillet (11) agencé sur le côté arrière (101) au niveau desdites première et seconde parties (103, 104) pour relier de manière pivotante des lames adjacentes parmi lesdites lames (S1), et des premier et second connecteurs (121, 122) formés aux deux parties d'extrémité pour relier des parties de lame adjacentes parmi lesdites parties de lame (1) de l'une desdites lames (S1), au moins une partie de lame (1A) desdites parties de lame (1) de chacune desdites lames (S1) étant transparente, ladite partie intermédiaire (105) de ladite partie de lame transparente (1A) ayant une surface convexe.

2. Volet (S) selon la revendication 1, caractérisé en ce que lesdites parties de lame transparente (1A) de lames adjacentes parmi lesdites lames (S1) sont alignées les unes avec les autres.

3. Volet (S) selon la revendication 2, caractérisé en outre en ce que ladite surface convexe est située au niveau du côté avant (102) de ladite lame (S1).

4. Volet (S) selon la revendication 1, caractérisé en ce que ledit ensemble formant goujon et oeillet (11) comporte un élément formant goujon (110) agencé au niveau de ladite première partie (103) et s'étendant dans la direction longitudinale de ladite partie de lame (1) et un élément formant oeillet (111) agencé au niveau de ladite seconde partie (104), ledit élément formant goujon (110) de l'une desdites parties (1) de l'une desdites lames (S1) venant en prise avec ledit élément formant oeillet (111) de l'une desdites parties de lame (1) d'une lame adjacente parmi lesdites lames (S1) pour relier de manière pivotante lesdites lames (S1).

5. Volet (S) selon la revendication 1, caractérisé en ce que ledit premier connecteur (121) comporte un élément formant crochet (123) qui s'étend dans la direction longitudinale de ladite partie de lame (1) depuis une desdites parties d'extrémité, et ledit second connecteur (122) comporte un siège pour crochet (128) qui est formé à l'autre partie desdites parties d'extrémité et qui vient en prise avec ledit élément formant crochet (123) d'une partie de lame adjacente desdites parties de lame (1) de ladite lame (S1).

6. Volet (S) selon la revendication 5, caractérisé en outre en ce que ledit élément formant crochet (123) a une extrémité distale munie d'un ergot (125).

7. Volet (S) selon la revendication 5, caractérisé en outre en ce que l'un desdits premier et second connecteurs (121, 122) comporte de plus un tenon (124) qui s'étend dans la direction longitudinale à partir de l'une desdites parties d'extrémité, et l'autre connecteur parmi lesdits premier et second connecteurs (121, 122) comporte de plus une mortaise (127) qui est formée dans l'autre desdites parties d'extrémité et qui vient en prise avec ledit tenon (124) de la partie de lame adjacente desdites parties de lame (1) de ladite lame (S1).

8. Partie de lame transparente (1A) caractérisée en ce qu'elle comporte des côtés avant et arrière (102, 101), des première et seconde parties longitudinales (103, 104), une partie longitudinale intermédiai-

re (105) située entre lesdites première et seconde parties (103, 104) et qui a une surface convexe, un ensemble formant goujon et oeillet (11) agencé sur ledit côté arrière (101) au niveau desdites première et seconde parties (103, 104), et des premier et second connecteurs complémentaires (121, 122) formés respectivement aux deux parties d'extrémité de ladite partie de lame pour relier une partie de lame adjacente parmi lesdites parties de lame.

9. Partie de lame transparente (1A) selon la revendication 8, caractérisée en ce que ladite surface convexe est située du côté avant (102) de ladite partie de lame (1A).

10. Partie de lame transparente (1A) selon la revendication 8, caractérisée en outre en ce que ledit ensemble formant goujon et oeillet (11) comporte un élément formant goujon (110) agencé au niveau de ladite première partie (103) et s'étendant dans la direction longitudinale de ladite partie de lame (1A) et un élément formant oeillet (111) agencé au niveau de ladite seconde partie (104).

11. Partie de lame transparente (1A) selon la revendication 8, caractérisée en outre en ce que ledit premier connecteur (121) comporte un élément formant crochet (123) qui s'étend dans la direction longitudinale de ladite partie de lame (1A) à partir d'une première desdites parties d'extrémité, et ledit second connecteur (122) comporte un siège pour crochet (128) qui est formé au niveau de l'autre partie desdites parties d'extrémité.

12. Partie de lame transparente (1A) selon la revendication 11, caractérisée en outre en ce que ledit élément formant crochet (123) a une extrémité distale munie d'un ergot (125).

13. Partie de lame transparente (1A) selon la revendication 11, caractérisée en outre en ce qu'un connecteur parmi lesdits premier et second connecteur (121, 122) comporte en outre un tenon (124) qui s'étend dans la direction longitudinale à partir d'une première desdites parties d'extrémité et l'autre connecteur parmi lesdits premier et second connecteurs (121, 122) comporte en outre une mortaise (127) qui est formée dans l'autre partie d'extrémité desdites parties d'extrémité.

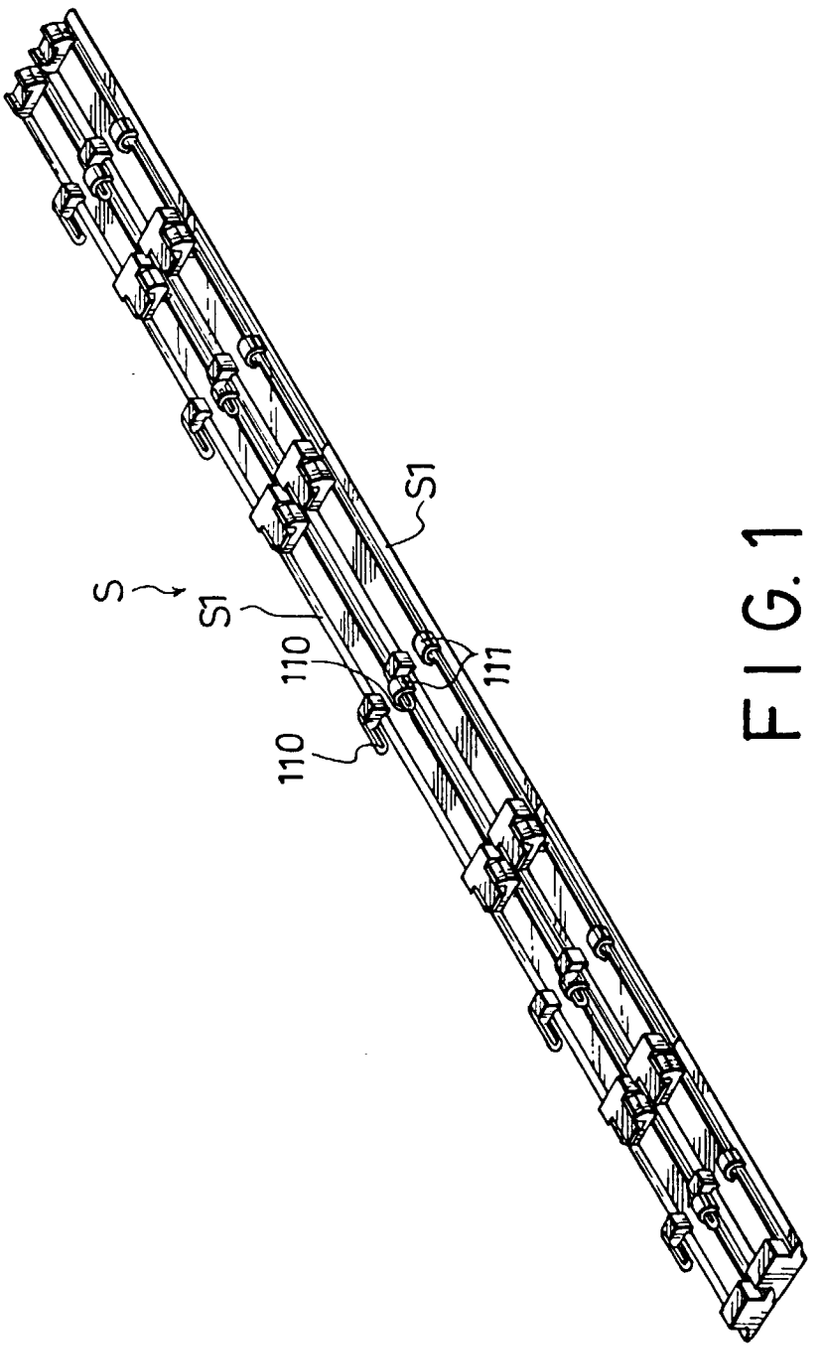
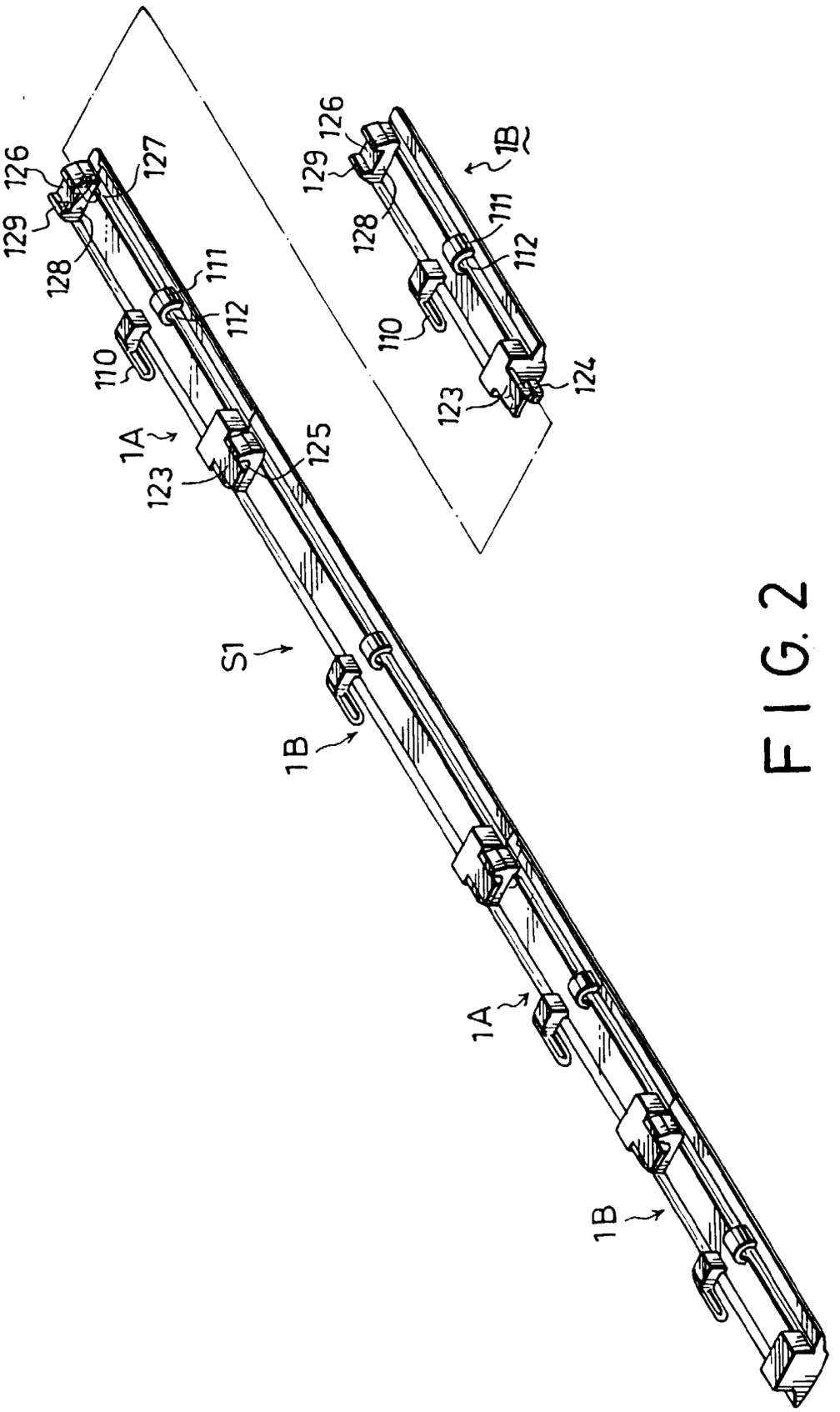


FIG. 1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129
127
128
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123
125
S1
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126
129
128
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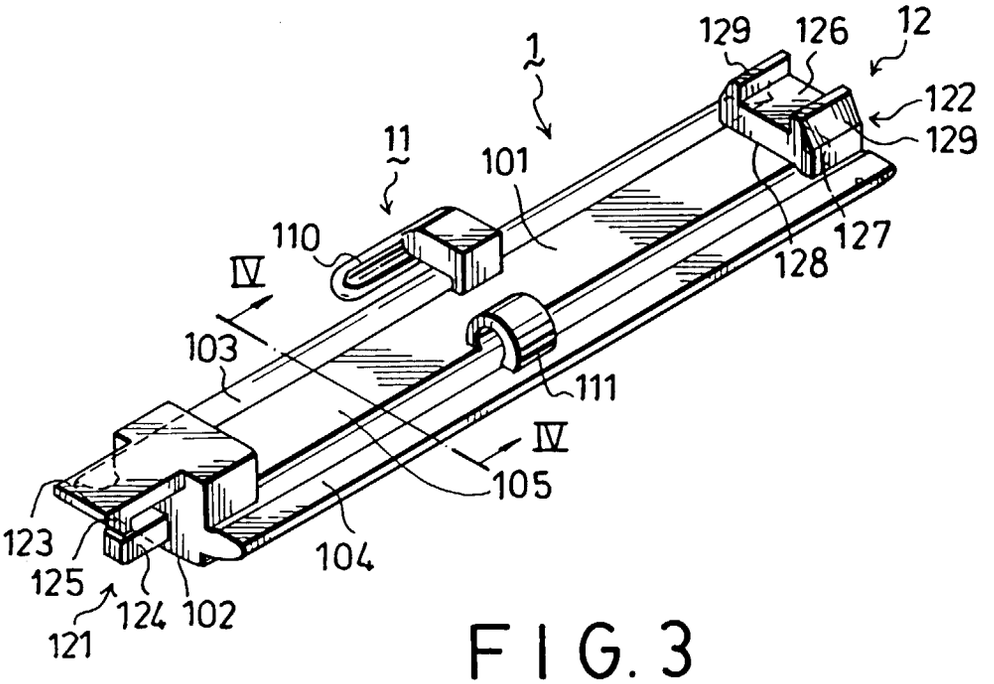
112
110
123
124

FIG. 2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11
12
101
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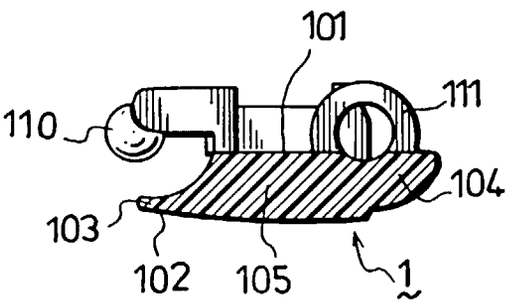
129
IV
IV
102

FIG. 3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104
102
105
1

FIG. 4

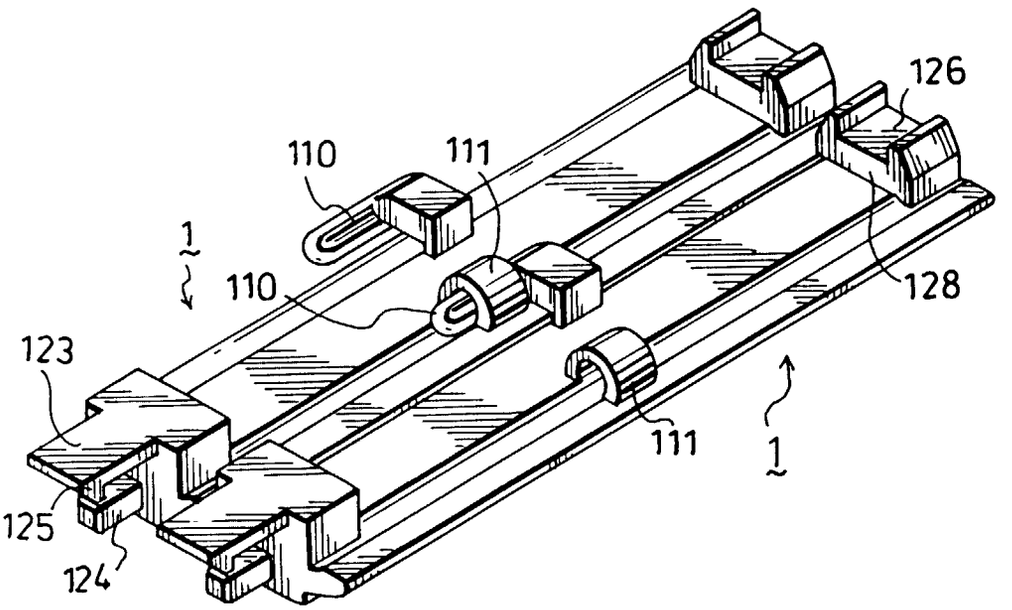

FIG. 5