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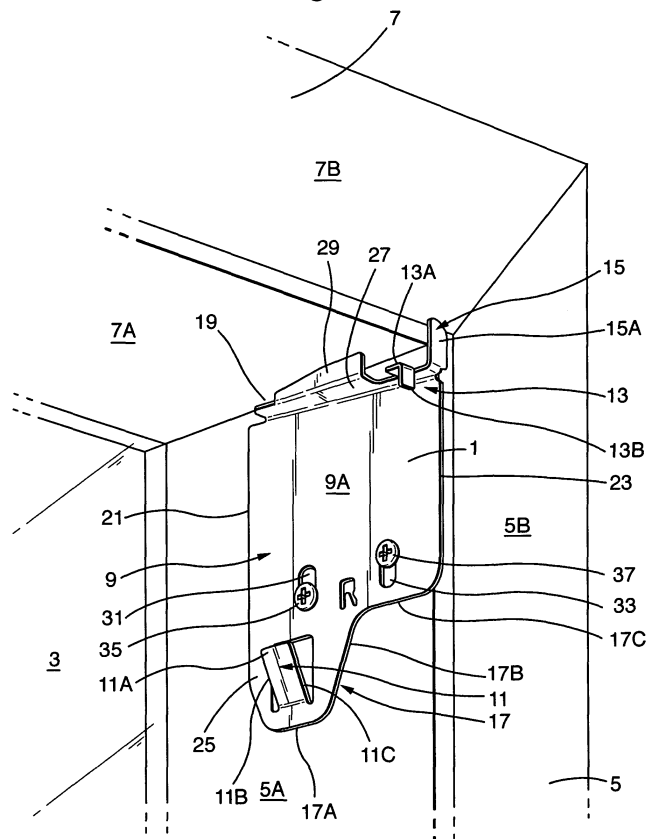
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(54) **Bracket for supporting a covering assembly**

(57) A bracket (1,101,201) for supporting a covering assembly for an architectural opening such as a window. The bracket comprises a base mountable (9,109,209) to a fixed surface adjacent the architectural opening (5A,

105A) and a tab (11,111,211) projecting from the base and capable of supportably engaging a first or horizontal surface (43) at a first end (39) of the covering assembly when mounted to the bracket.

Fig.1.



Description

[0001] This invention relates to a bracket for mounting a window covering assembly in an architectural opening such as a window.

[0002] An architectural opening is generally a rectangular opening in a fixed building surface defined by the lateral surfaces of a pair of left and right vertical opposite fixed surfaces and a pair of top and bottom horizontal opposite fixed surfaces. Thus, the opening has a circumferential size and a lateral depth. The vertical fixed surfaces and the horizontal fixed surfaces are generally substantially perpendicular to each other. A frame may be provided within the opening, the frame including a pair of left and right vertical opposite frame members and a pair of top and bottom horizontal opposite frame members, the frame members generally coinciding with the lateral surfaces of the architectural opening.

[0003] Alternatively, framed window covering assemblies can be provided that are integrally mounted to an architectural opening or to a framed architectural opening.

[0004] Brackets for mounting window blind assemblies to the fixed surfaces or frame members surrounding an architectural opening are well known in the art. In this respect, a distinction can be made between mounting a blind assembly 'in-recess' or 'on-face'. Mounting "in-recess" means or refers to mounting surfaces of fixed surfaces or frame members lateral to the plane of the architectural opening, while mounting "on-face" means or refers to mounting on surfaces of fixed surfaces or frame members in the same plane as the opening.

[0005] In order to easily mount a window covering in an "in-recess" position, brackets are known, which when mounted on opposite lateral surfaces adjacent the architectural opening, allow the head rail of the blind assembly to be slid into engagement with these brackets and subsequently held in place between them.

[0006] Such brackets can each include a flange such that between a pair of such flanges opposite end portions of a blind head rail can be slidably engaged. Alternatively, the bracket can include a body and the blind head rail has the parallel flanges. The blind assembly can be slid into engagement with the brackets moving in a vertical plane parallel to the opposite left and right fixed surfaces or frame members or in a lateral plane and towards the architectural opening.

[0007] Several solutions of these types of mountings have been disclosed.

For example, DE 3048333 discloses a pair of brackets provided with a pair of surfaces being engaged by a pair of parallel flanges at the end of the blind head rail. The blind head rail with the end portions having the parallel flanges, is slid over a pair of opposite bracket members in vertical direction, i.e. from beneath brackets upwards. In order to prevent the blind assembly from sliding back down from the brackets, a pair of side guiding profiles are subsequently mounted against the lower side of the

brackets.

[0008] Another example, DE 3330472, is for mounting a roller blind assembly to a pair of brackets in a roof window. A pair of brackets is mounted to opposite lateral surfaces of opposite left and right frame members. The ends of the roller blind assembly are fitted with end members, one of the end members having a pair parallel flanges that can slidably engage the bracket and snap fit around a portion thereof. The other of the end members includes a protruding shaft end for insertion into the other one of the brackets. Furthermore, the brackets are slightly wedge-shaped in order to provide a blind carrying surface perpendicular to the window plane.

[0009] Other examples are in EP 1,003,953 and EP 1,151, 176 which both describe generally brick-like brackets about which generally laterally recessed end portions of a blind assembly are slidably held. The end portions of the blind assembly are slid over the brick-like brackets in lateral direction.

[0010] These prior art brackets are all somewhat bulky since a protrusion has to cooperate with a pair of end portions in order to slidably engage one to the other.

[0011] However, another example of 'in-recess' mounting is disclosed in SE 467,470. Here, a head rail is slid in vertical direction between a pair of side guide profiles with integrally formed blind carrying means on their lateral surfaces. The blind head rail is moved between a pair of side guide profiles vertically upwards, the outer ends of the head rail at some point hit a pair of opposite protrusions which are pushed inward to the lateral surface under the movement of the blind head rail and once the head rail has passed the protrusions, resiliently flex back outward from the lateral surfaces such that the blind head rail is held by its lowermost surface unto a lateral surface of the protrusions.

[0012] This side guide mounting profile has as drawback that it is dedicated for one specific size of architectural opening. In particular, for every variation in height of architectural openings and for every variation in height of a blind head rail, the profile has to be made to measure. When, due to measurement or production mistakes, the protrusions are at the wrong place relative to the height of the blind, its head rail or the window, the blind cannot be properly positioned.

[0013] Objects of the invention include at least assisting in providing a bracket which

- can be used to mount a blind to an architectural opening in an 'in-recess'-position, and which
- allows the install to simply slide the blind head rail in vertical or horizontal direction relative to a pair of brackets mounted to the lateral surface of opposite fixed surfaces or frame members, and which
- obviates the need of additional securing means of the blind assembly relative to the lateral surfaces of the opposite fixed surfaces or frame members, and which
- is very slim and therefore hardly visible even when

- no side guide profiles are used to cover it, and which is easy to position for proper installation the blind assembly onto to the fixed surface.

[0014] According to one aspect of the invention, there is provided a bracket for supporting a window covering assembly for an architectural opening such as a window, said bracket comprising

- a base mountable to a fixed surface adjacent the architectural opening, and
- a tab projecting from said base and capable of supportably engaging a first horizontal surface at a first end of the assembly when mounted to the bracket.

[0015] According to another aspect of the invention, there is provided a bracket for supporting a window covering assembly for an architectural opening such as a window, said bracket comprising

- a base mountable to a fixed surface adjacent the architectural opening, wherein said base has a through opening defined by a circumferential edge and positionable about a post projecting from the fixed surface such that at least a portion of the circumferential edge engages the post.

[0016] A stopper flange can be provided on said base removed from said tab and capable of abuttingly engaging a second vertical surface at said first end of the assembly when mounted to said bracket and preventing rotational movement of the assembly relative to the first horizontal surface.

[0017] Preferably, said base has a through opening defined by a circumferential edge and positionable about a post projecting from the fixed surface such that at least a portion of the circumferential edge engages the post.

[0018] A positioning flange can be provided on said base removed from said tab and capable of abuttingly engaging a second fixed surface perpendicular to said first fixed surface and thus positioning the bracket relative to the architectural opening.

[0019] The invention will be more clearly understood from the following description, given by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a right-hand bracket of the first embodiment mounted in an 'in-recess' position to a right vertical frame member an architectural opening which is partially shown.

Figure 2 is a perspective view of the right-hand bracket of Figure 1 (as if looking through the right vertical frame member of Figure 1) with a blind assembly engaged thereto; the blind assembly is partially shown.

Figure 3 is an enlarged perspective view of Figure 2 featuring a lower portion of the bracket engaged to

the blind and viewed in the same general direction as Figure 2.

Figure 4 is an enlarged perspective view of Figure 2 featuring an upper portion of the bracket engaged to the blind, but viewed from the general direction as Figure 1.

Figure 5 is a perspective view of a right-hand bracket of the second embodiment mounted to a window frame

Figure 6 is a perspective view of a right-hand bracket of a third embodiment of the invention.

[0020] In Figure 1 is shown the bracket 1 in relation to a partial shown perspective view of a window 3 lined with a right vertical frame member 5 and a horizontal top frame member 7. As shown in Figure 1 the bracket 1 is mounted in a typical "in-recess" - position onto the lateral vertical surface 5A of the right vertical window frame member 5. The lateral vertical surface 5A is perpendicular to the vertical plane of the window 3.

[0021] As can be seen in Figure 1, the bracket is relatively flat and it features a base 9, a tab 11 projecting from said base, a stopper 13 and a positioning flange 15 both formed on the base 9 and diagonally removed from the tab 11.

[0022] The bracket base 9 has a base lateral front 9A for engagement to an end portion of a head rail of a blind and a base lateral back 9B for contacting the vertical lateral surface 5A.

[0023] The base 9 further has a base lower side 17, a base top side 19 and base inner and base outer sides 21, 23, the inner side being adjacent the window 3 and the outer side is further removed from the window 3. The base lower side 17 is generally S-shaped and includes a horizontal lower base leg 17A generally parallel to the base top side 19, a generally vertical intermediate leg 17B generally parallel to the inner and outer base sides 21, 23 and an upper horizontal leg 17C also parallel to the base top side 19. The tab 11 projects at an acute angle from a tab-area 25 defined in the base lateral front 9A of base 9 by the lower leg 17A and base inner side 21 and intermediate leg 17B of base lower side 17.

[0024] The tab 11 is generally rectangular and projects at an acute angle laterally out from lateral front 9A of the base. The tab 11 includes a top edge 11A which is in a plane generally parallel to the base top side 19 but laterally removed therefrom. The tab 11 further has a pair of inner and outer sides 11 B, 11 C, perpendicular to the top edge 11 A.

[0025] The tab 11 is resilient and thus can be laterally pushed back towards the lateral front 9A of the bracket base and thus towards surface 5A of the vertical frame member 5. Tab 11 can also resiliently flex back out again to its acute angle. This feature is necessary for mounting a blind assembly to the bracket 1 and is explained in relation to Figures 2 and 3.

[0026] The bracket 1 further has, at its top side 19, a horizontal top flange 27 which projects perpendicular and

laterally away from the base 9, in a plane parallel to the lateral horizontal surface 7A of the horizontal top frame member 7 of the window 3.

The stopper 13 is formed on the horizontal bracket top flange 27 and adjacent the outer bracket side 23.

[0027] The stopper 13 includes a stopper base 13A projecting from the horizontal top flange 27 and in the same the lateral horizontal plane as flange 27, and a stopper body 13B which is vertically depending from the stopper base and is perpendicular to base 9 and thus when the bracket is mounted to the frame in the same plane as the window 3 and the vertical outer surface 5B of the right vertical frame member 5. The stopper body 13B is preferably a rectangular body.

[0028] The stopper body 13B will co-operate with a portion of the blind assembly, once it is attached to the bracket 1 and prevents rotation thereof relative to the tab 11. This feature is explained in relation to Figures 2 and 4.

[0029] The positioning flange 15 of the bracket projects vertically up from the bracket top flange 27. The positioning flange 15 is, just as the stopper flange 13, perpendicular to base 9 and thus when the bracket is mounted to the frame in the same plane as the window 3 and the vertical outer surface 5B of the right vertical frame member 5 and adjacent the brackets outer side 23. The stopper flange 13 and the positioning flange 15 are in parallel spaced apart planes. The positioning flange 15 is generally rectangular and it has an outer surface 15A and an inner surface 15B. The inner surface 15B of the positioning flange 15 is for contacting the outer surface 7B of the horizontal frame member 7, in order to position the bracket on the lateral vertical surface 5A relative to the window 3 and the front plane of the window frame. When mounting the bracket with its base back surface 9B to the lateral vertical surface 5A of the frame member, abutting the positioning flange with its inner surface 15B to the outer surface 7B of the horizontal frame member, positions the bracket perfectly in the corner of the joining frame members.

[0030] Also shown in figure 1 is an auxiliary positioning flange 29 for use in roof windows. In roof windows the lateral surfaces 5A, 7A of the vertical and horizontal frame members are at an oblique angle to the plane of the window 3. The auxiliary positioning flange 29 comprises a top section 29A at a first oblique angle and section 29B at a second oblique angle. Thus, in addition to positioning flange 15B to abut against the outer surface 7B of the horizontal frame member 7, the auxiliary positioning flange 29 abuts against the inner surface 7B of the horizontal frame member 7 with one of the two top sections 29A, 29B depending on the actual angle of the inner surface 7B. The bracket can thus be perfectly aligned in the corner of the joining frames, and be at the correct orientation relative thereto with respect to the oblique angle relative to the plane of the window 3 without difficulty. The auxiliary positioning flange 29 projects vertically up from the bracket top flange 27 in a plane parallel to the bracket base 9 and once installed also parallel to the

lateral vertical surface 5A of the frame member.

[0031] A pair of parallel oblong through holes 31, 33 are shown with suitable fasteners 35,37 for attachment of the bracket to the lateral vertical surface 5A of the window frame. Between the two holes 31, 33 is a mark, here the letter R, indicating at what vertical frame member the bracket is to be attached. R stands for 'right vertical frame member'.

[0032] Figure 2 shows the bracket 1 with attached thereto an end cap 39 of a blind housing 51 for a roller blind, in a position as if looking through the right vertical frame member 5 from the lateral vertical surface 5A to the base rear 9B. As partially shown in Figure 2, the blind housing 51 includes an elongated rounded profile with an elongated horizontally extending top portion 51A, which once the blind is installed in the window abuts the vertical outer surface 7B of the horizontal frame member 7. The end cap 39 includes an end cap base 41 having a front surface 41A facing into the blind housing and a rear surface 41 B facing the front bracket base 9A when mounted thereto. The end cap further has a top side 41C, a bottom side 41 D, an inner 41 E and outer side 41 F. When the covering assembly is installed to the bracket, the inner side 41 E of the end cap 39 is co-planar with the inner side of the bracket. A recessed area 43 in its base rear 41 B is in a plane coinciding with and facing the tab area 25 of bracket 1. The recessed area 43 as best seen in Figure 3, includes a recess 45 in which tab 11 can be accommodated and a lateral horizontal top surface 47 which can rest on the tab top rim 11A of the bracket.

The end cap further includes a vertical cover flange 49 perpendicular to its base and at the outer side 41 F. The vertical cover flange 49 is destined to abut the outer vertical surface 5B of the right vertical frame member 5 and the outer horizontal surface 7B of the horizontal frame member 7 once the blind is installed to the window frame. The portion abutting the right vertical frame member 5 closes any gap between blind, bracket and right vertical frame member, and the portion abutting the horizontal frame member 7B also covers the positioning flange 15.

[0033] Figure 2 also shows the stopper base 13A and the positioning flange 15 in relation to the end cap 39. The inner surface 15B of positioning flange 15 is seen clearly, while the outer face 15A is covered by a vertical cover flange 49 of the end cap 39. The vertical cover flange 49 of the end cap 39 also partially covers an end portion of the top edge 51A of the blind housing 51.

[0034] Once the blind is mounted to the bracket, the weight of the blind rests on the tab top edge 11A by means of the lateral horizontal top rim 47 in recess 45 in the end cap. Since the tab 11 and recess 45 are not in line with a vertical centre line of the blind, there is a risk of the blind rotating relative to the tab.

The stopper body 13B acts on the blind end cap 39 diagonally removed from the tab 11 and as such prevents rotation of the blind relative to the tab 11, this is best seen in Figure 4.

[0035] Figure 4 provides a view from the blind towards the base front 9A. The end cap 39 is carried by the bracket 1 at the front side 9A, and is thus perfectly aligned thereto. Stopper body 13B falls into a gap 53 on the end cap, adjacent the inner surface of the vertical cover flange 49 of thereof. The stopper gap 53 is formed between a pair of opposite outer and inner gap members 55, 57 parallel to the vertical cover flange 49. The gap members 55, 57 thus define a pair of opposite inner and outer vertical surfaces on the end cap 39, accommodating the stopper body 13B of the bracket between them. The vertical outer gap member 55 is on the inner surface of the vertical cover flange 49 and the vertical inner gap member 57 is spaced apart and on a top portion of the end cap 39. The stopper gap 53 is in the same plane as the stopper body 13B. Stopper body 13B by its inner surface 13B' acting on the outer vertical surface 59 of the inner gap member 57.

[0036] Figure 5 shows a second embodiment of the bracket 101 of the invention, this embodiment is similar to that of figures 1-4 and for the description of which corresponding reference numerals (greater by 100) are used below for describing the same parts or corresponding parts.

[0037] Bracket 101 is shown mounted to a post 161 which projects from the vertical lateral surface 105A of the right vertical frame member 105. Such a post 161 can be already present on the window frame because of previous use for mounting different window blinds, i.e. such as a curtain or the like. Or for mounting blinds of a different brand.

The bracket 101 is provided with a through opening 163 to accommodate the post 161 and use it as a means for attaching the bracket to the frame member 105. Thus other fasteners and the screw holes 31, 31 of the first embodiment are no longer necessary. In order to centre the bracket 101 about the post 161 the through opening 163 can be provided with one or more lateral extending centering flanges 165.

Such resilient centering tabs 165 can be easily formed on the circumferential surface of the through opening 163.

The advantage of this solution is that any posts already present on the window frame do not have to be removed. Instead, they can be used as means for attaching the bracket to the window frame.

[0038] It should be appreciated that the through opening of the bracket of Figure 5 could be provided in a bracket in conjunction with different means for carrying a blind than the tab and/or with different means for preventing rotation than the stopper flange.

[0039] Figure 6 shows a third embodiment of the bracket 201 of the invention, this embodiment is similar to that of figures 5 and for the description of which corresponding reference numerals (greater by 100) are used below for describing the same parts or corresponding parts.

[0040] In Figure 6 the bracket 201 is shown in a shown perspective view, the bracket is relatively flat and it fea-

tures a base 209, a tab 211 projecting from said base, a stopper 213 and a positioning flange 215 both formed on the base 209 and diagonally removed from the tab 211.

[0041] The base 209 is of the same shape as the bracket of Figure 1, thus has a base top side 219 and base inner and base outer sides 221, 223, a base lower side 217 which is generally S-shaped and includes a horizontal lower base leg 217A generally parallel to the base top side 219, a generally vertical intermediate leg 217B generally parallel to the inner and outer base sides 221, 223 and an upper horizontal leg 217C also parallel to the base top side 219. The tab 211 projects at an acute angle from the tab-area 225 and includes a top edge 211A which is in a plane generally parallel to the base top side 219 but laterally removed therefrom. The tab 211 further has a pair of inner and outer sides 211 B, 211C, perpendicular to the top edge 211A.

[0042] The horizontal top flange 227 projects perpendicular and laterally away from the base 209, and stopper 213 is formed it and adjacent the outer bracket side 223. The stopper 213 includes a stopper base 213A projecting from the horizontal top flange 227 and in the same the lateral horizontal plane as flange 227, and a stopper body 213B which is vertically depending from the stopper base.

[0043] The positioning flange 215 of the bracket projects vertically up from the bracket top flange 227, is generally rectangular and it has an outer surface 215A and an inner surface 215B.

[0044] The auxiliary positioning flange 229 projects vertically up from the bracket top flange 227 in a plane perpendicular to the positioning flange 215, and generally parallel to the tab 211.

[0045] A pair of parallel oblong through holes 231, 233 are shown with a marking R between them, indicating the bracket is to be attached to the right vertical frame member of a window frame.

[0046] Bracket 201 is shown having both a through opening 263 to accommodate a post 261 and use it as a means for attaching the bracket to the frame member 105 as well as the screw holes 231, 233 which can be used to fix the bracket to a window frame member. The screw holes 231, 233 only are necessary when no post is present in the window frame and thus are closed by break-out tabs 231 A, 233B. The break-out tabs 231A, 233A can be removed when the blind installer sees that no post is present in the window frame.

[0047] The bracket of the invention is preferably a sheet metal bracket.

[0048] This invention is, of course, not limited to the above-described embodiments which may be modified without departing from the scope of the invention or sacrificing all of its advantages. In this regard, the terms in the foregoing description and the following claims, such as "left", "right", "front", "rear", "vertical", "horizontal", "lateral" and "longitudinal" have been used only as relative terms to describe the relationships of the various elements of the bracket of the invention. For example al-

though in the description the right vertical frame member 5 is mentioned, it is of course clear that in a slanted roof window this frame member is not in a vertical position relative to the floor.

[0049] For example, although the bracket is described in relation to frame members 5 and 7 surrounding window 3, it can also be used when no frame members are present and only horizontal and vertical lateral fixed surfaces 7A, 5A and horizontal and vertical front surfaces 7B and 5B are present.

[0050] For example, the bracket is shown to have an S-shaped lower side 17; instead, the bracket can be generally rectangular and the lower side 17 be straight.

[0051] For example, the positioning flange 15 is shown projecting from top flange 27; instead, it can also project from outer side 23, and be parallel to outer vertical surface 5B of vertical member 5.

[0052] For example, the bracket of the invention is shown to carry an end cap 39 for a roller blind housing 41, but it can also be used to carry a Venetian blind or any other blind as long as the end cap of such blinds is provided with recessed area having the lateral horizontal rim to rest atop the tab top edge.

positioning about the post projecting from the fixed surface such that at least a portion of the circumferential edge engages the post.

5 **5.** The bracket of any preceding claim further comprising:

10 - a positioning flange (15, 115, 215, 29, 129, 229) on said base removed from said tab (11, 111, 211) and capable of abuttingly engaging a second fixed surface (7, 7B, 7A) perpendicular to said first fixed surface (5A, 105A) and thus positioning the bracket on said first and second fixed surfaces (5A, 105A, 7A, 107A, 107B) and relative to the architectural opening (3, 103).

20 **6.** The bracket of any of the preceding claims wherein the tab (11, 111, 211) projects from a portion of the base adjacent a lower side of the base.

25 **7.** The bracket of any of the preceding claims wherein the tab (11, 111, 211) is resilient.

Claims

1. A bracket (1,101, 201) for supporting a covering assembly for an architectural opening such as a window, said bracket comprising:

30 - a base mountable (9,109,209) to a fixed surface adjacent the architectural opening (5A, 105A), and

35 - a tab (11, 111, 211) projecting from said base and capable of supportably engaging a first or horizontal surface (43) at a first end (39) of the covering assembly when mounted to the bracket.

40 **2.** The bracket of claim 1 further comprising a stopper flange (13, 113, 213) on said base (9,109,209) removed from said tab (11,111, 211) and capable of engaging a second or vertical surface (57) at said first end (39) of the covering assembly when mounted to said bracket and preventing rotational movement of the covering assembly relative to the tab (11, 111, 211).

45 **3.** The bracket of claim 2, wherein the stopper flange (13, 113, 213) is diagonally removed from the tab (11, 111, 211).

50 **4.** The bracket of claim 1, 2 or 3 for use with a fixed surface having a projecting post, wherein:

55 said base (109, 209) has a through opening (163, 263) defined by a circumferential edge for

Fig.2.

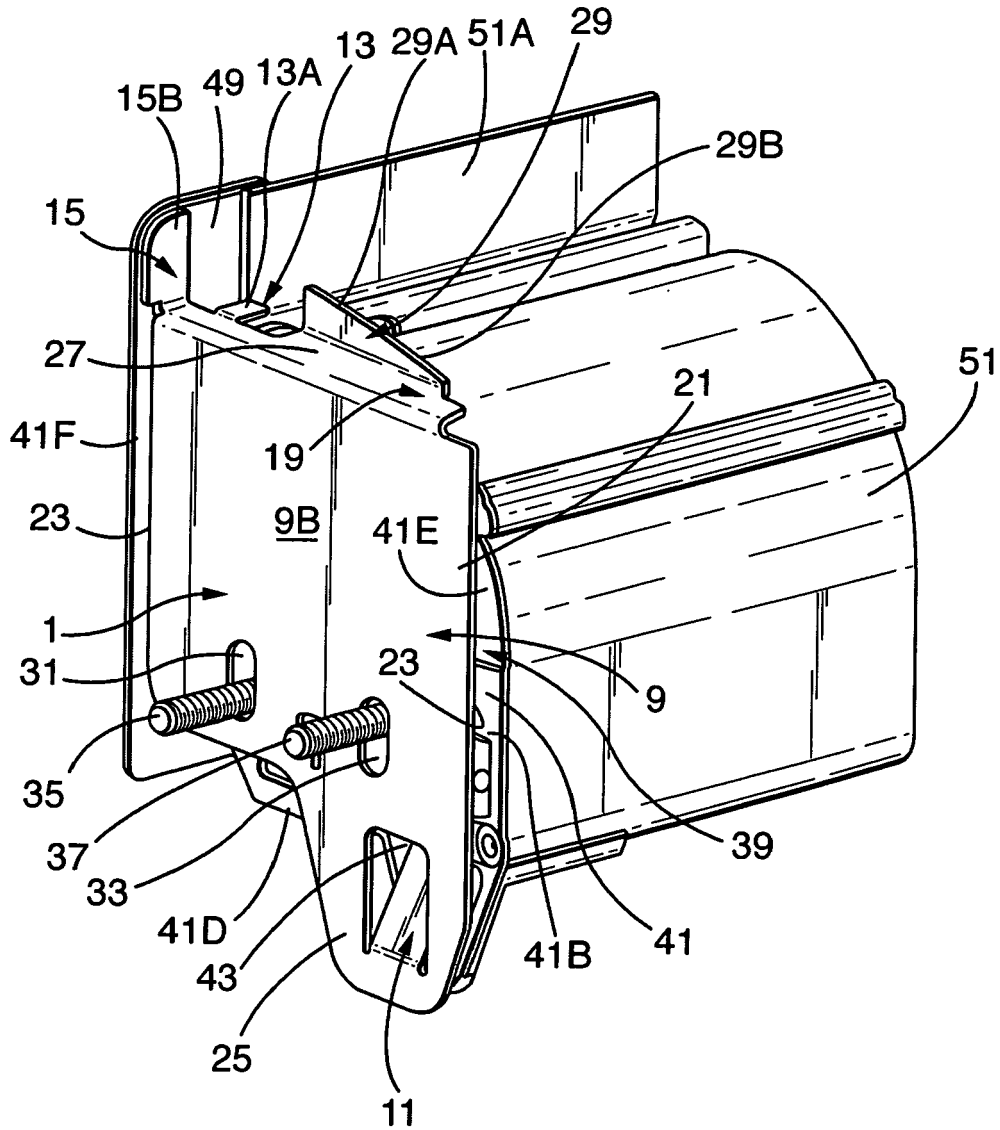


Fig.4.

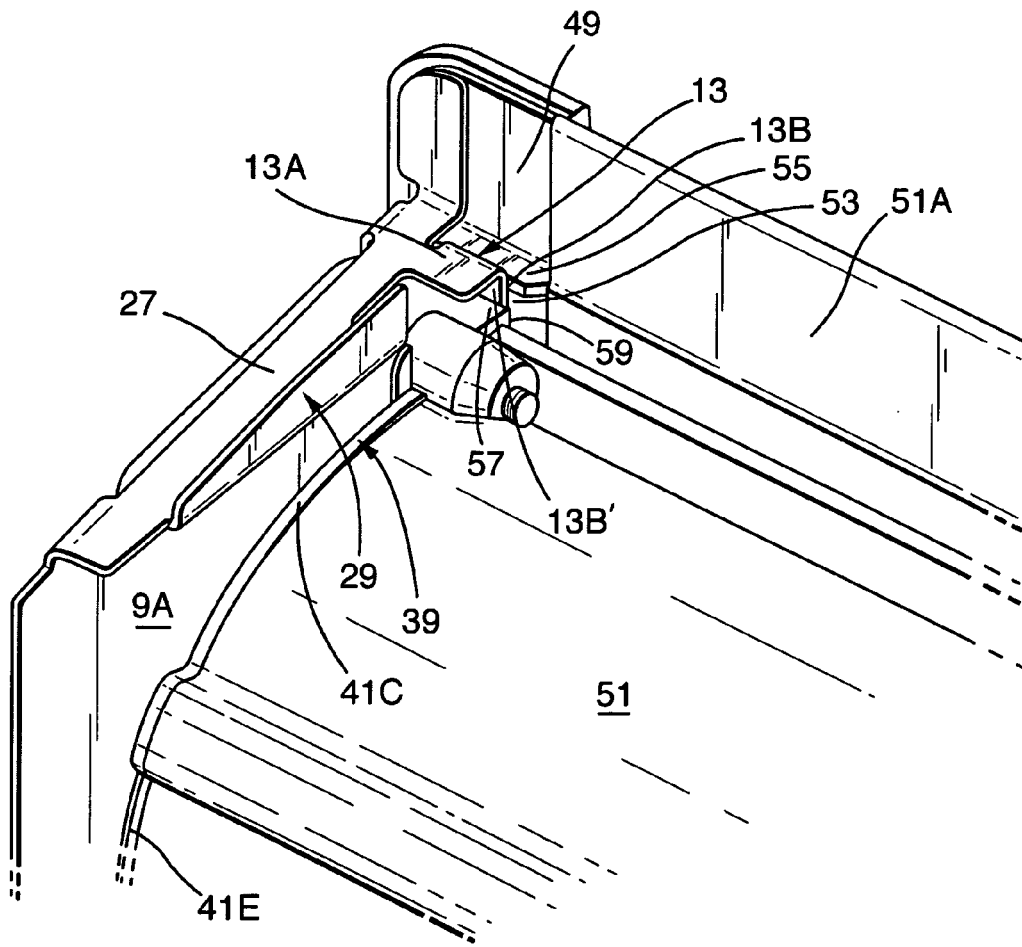


Fig.5.

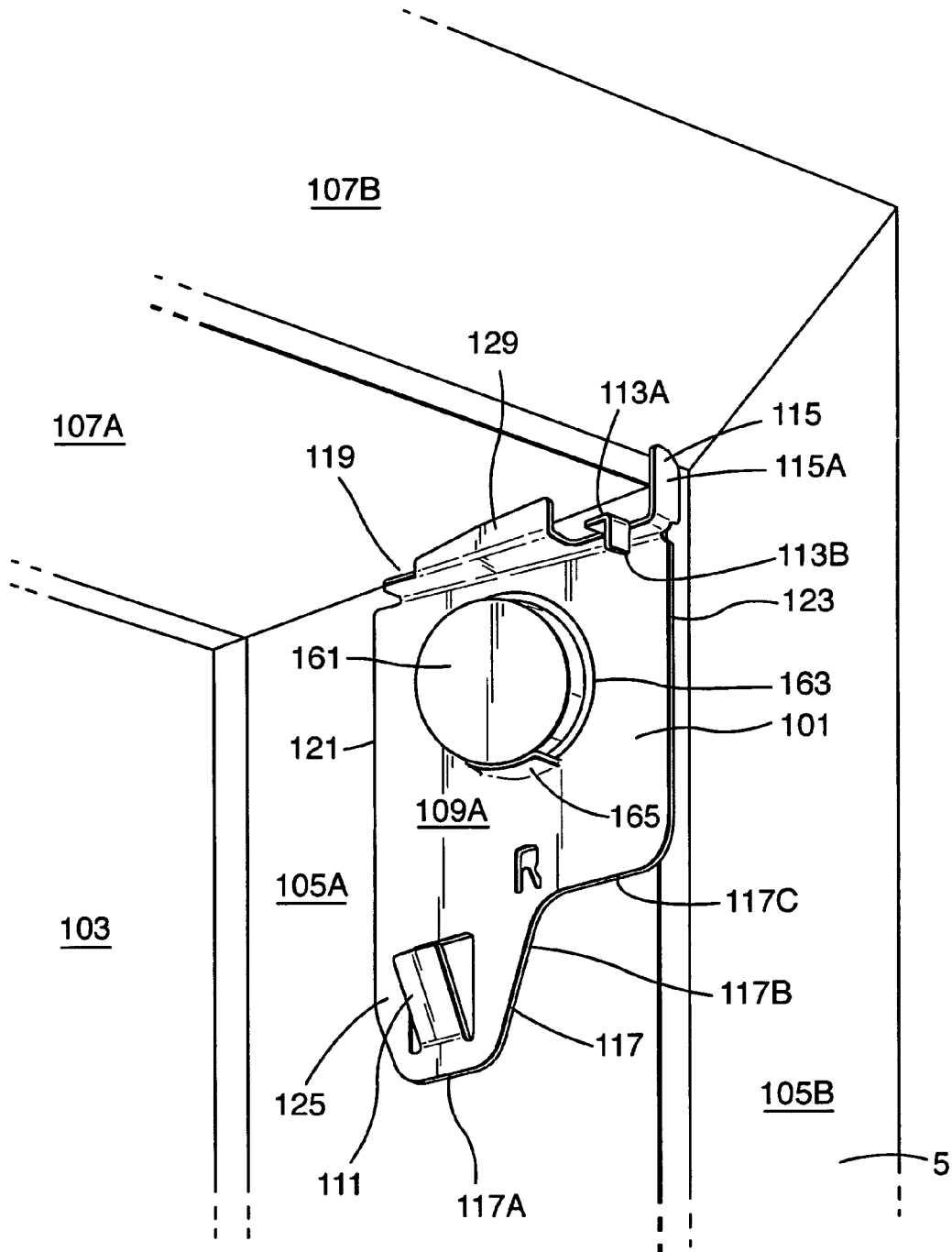
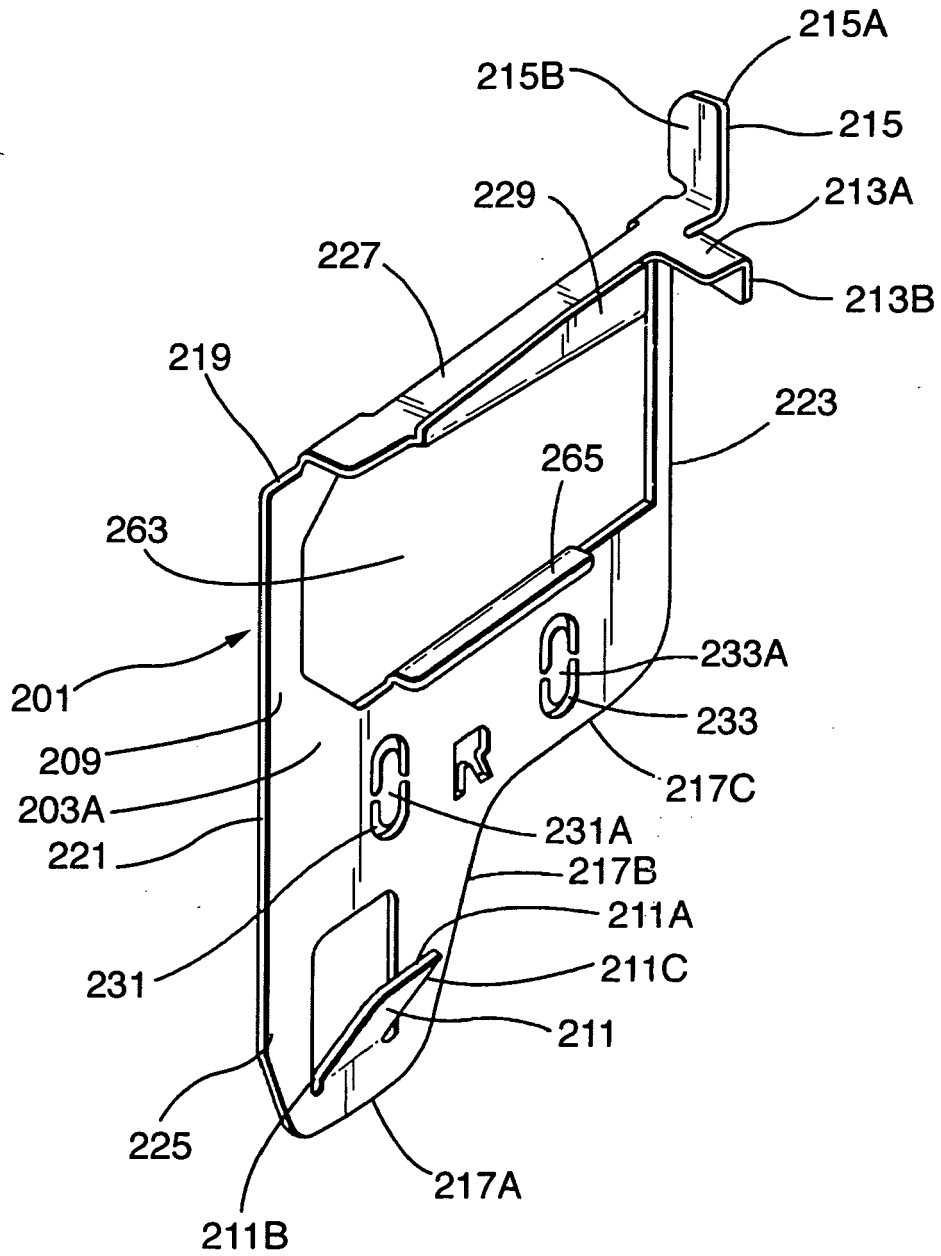


Fig.6.



REFERENCES CITED IN THE DESCRIPTION

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