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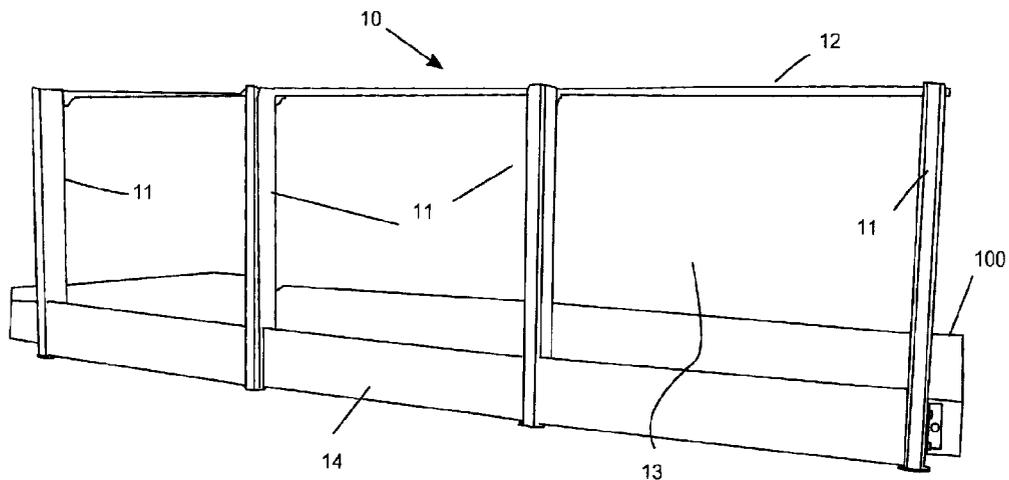
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(54) **Titre : SYSTEME DE RAIL INSTALLE SUR LA BORDURE DE TOIT**

(54) **Title: FASCIA MOUNTED RAILING SYSTEM**



(57) **Abrégé/Abstract:**

A fascia mounted railing system that uses brackets that secure the posts to the slab while also providing base support for the infill panels without the use of a base rail. It does this by using a bracket to secure the posts and a second bracket that fits within the bottom of the post. This bracket has end flanges that extend outwardly from the post to support an infill panel. The infill panels can have a base treatment to conceal the face of the slab, if desired, for a more aesthetically pleasing appearance. In addition, the system has the capacity for a top railing that can be attached to the back of the posts as a grab rail, or attached to the top of the posts (with a bracket) for a top rail.

ABSTRACT

A fascia mounted railing system that uses brackets that secure the posts to the slab while also providing base support for the infill panels without the use of a base rail. It does
5 this by using a bracket to secure the posts and a second bracket that fits within the bottom of the post. This bracket has end flanges that extend outwardly from the post to support an infill panel. The infill panels can have a base treatment to conceal the face of the slab, if desired, for a more aesthetically pleasing appearance. In addition, the system has the capacity for a top railing that can be attached to the back of the posts as a grab rail, or attached to the top of the
10 posts (with a bracket) for a top rail.

Fascia Mounted Railing System

BACKGROUND OF THE INVENTION

1. Field of the invention

This invention relates to fascia mounted railing systems and particularly to fascia mounted railing systems having slab-mounted base of post supports.

5 2. Description of the Prior Art

Modern building design for high-rise apartments and other types of building structures often have concrete balconies. These balconies allow the residents to enjoy outdoor space attached to their dwelling units or offices. For safety purposes, these balconies have railing systems installed. Typically, these guardrails are fabricated from metal or concrete. Guardrails fabricated using metal are usually either surface mounted to the top of the slab using a base plate, or mounted into a core pocket. Although these designs work and provide the necessary protection, they are not the most aesthetically pleasing constructions.

Over the years I have developed several different designs for railing systems. Two of these enable a railing system to be mounted to the face of a slab. These designs are found in U. S. Patents: 7,497,057; and 7,617,650. Two problems exist in mounting a rail to the face of a slab: one is in how to support the railing posts against the slab and the other is how to support infill panels when the railing posts are mounted in front of a slab. Both designs solve this problem by using a number of fascia brackets to secure posts to the outer face of the elevated slab balcony. The posts have a base track secured to them to support the infill panels, which are then placed between the posts to provide the wall structure. A top rail can be used to cover the top of the infill panel. Note that both designs secure the posts to the slab at a point above the base of the posts. As noted above, a base track is installed as well.

BRIEF DESCRIPTION OF THE INVENTION

The instant invention is a design for fascia mounted railings that uses brackets that secure the posts to the slab while also providing base support for the infill panels without the use of a full base rail. It does this by using a first bracket to secure the posts to the slab and a second bracket that fits within the bottom of the post to support the infill panels. This bracket has end flanges that extend outwardly from the post to support an infill panel. Note the infill panels can have a base treatment to conceal the face of the slab, if desired, for a more aesthetically pleasing appearance. In addition, the system has the capacity for a top railing that can be attached to the back of the posts as a grab rail, or attached to the top of the posts (with a bracket) for a top rail.

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BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the first embodiment of my new railing, attached to a slab.

Figure 2 is a right side detail view of a post, installed on a slab showing the first embodiment.

15 Figure 3 is a front view of a portion of the railing, installed on a slab, showing the first embodiment.

Figure 4 is a rear exploded view of a post showing the attachment of the grab rail assembly of the first embodiment.

Figure 5 is a front exploded view of post showing the installation of two infill panels..

Figure 6 is a front exploded view of a post bottom showing the assembly of the slab brackets and the base bracket.

Figure 7 is a top detail view of a base plate.

Figure 8 is a front view of a base plate.

5 Figure 9 is a detail view of a post extrusion.

Figure 10 is a top view of a slab edge-mount bracket.

Figure 11 is a top view of a corner fascia bracket.

Figure 12 is a top detail view of a corner post extrusion.

Figure 13 is a perspective view of the second embodiment of my new railing.

10 Figure 14 is a right side detail view of a post, installed on a slab, showing the second embodiment.

Figure 15 is a front view of a portion of the railing, installed on a slab, showing the second embodiment. .

15 Figure 16 is a rear exploded view of a post showing the attachment of the top rail assembly of the second embodiment.

Figure 17 is a front exploded view of a post bottom showing the assembly of the slab brackets and the base bracket of the second embodiment.

Figure 18 is a top detail view of a base plate for the second embodiment.

Figure 19 is a front view of a base plate for the second embodiment.

20 Figure 20 is a top view of a fascia bracket for the second embodiment.

Figure 21 is a detail view of a post extrusion for the second embodiment..

Figure 22 is a top detail view of a top cap for the second embodiment.

Figure 23 is a front detail view of the top rail adapter for the second embodiment.

Figure 24 a top view of a corner fascia bracket for the second embodiment.

5 Figure 25 is a top detail view of a corner post extrusion for the second embodiment.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to figure 1, a perspective view of the first embodiment 10 of my new railing attached to a slab 100 is shown. In this view, the posts 11 are shown along with the
10 back rail 12, and infill panels 13. The infill panels 13 have masking 14, such as a ceramic frit pattern, to hide the face of the slab. Note that there is no base rail used in this design. As discussed below, the infill panels are supported by brackets attached to the bottom of the posts 11.

Figure 2 is a right side detail view of a post 11, installed on a slab 100 showing the first
15 embodiment. In the first embodiment a back mounted grab rail 12 is shown. Details of this rail are discussed below. This view shows the slab edge-mount brackets 15 and the fastener system 16 that attach the post to the slab.

Figure 3 is a front view of a portion of the railing, installed on a slab, showing the first embodiment. In this view, the posts 11 and the infill panels 13 are shown. Also shown are the the slab edge-mount brackets 15 and the bottom brackets 17 that are attached to the posts and provide support for the infill panels, as discussed below.

5 Figure 4 is a rear exploded view of a post 11 showing the attachment of the grab rail assembly 12 of the first embodiment. The grab rail assembly 12 consists of a rail portion 20, a mounting bracket 21 and a post mounting spacer 22. The mounting bracket 21 has a top mount 21a that secures the bracket to the rail 20 with screws 23. The mounting bracket 21 also has a spacer 21b that extends downward to a mounting cylinder 21c. The mounting cylinder
10 21c passes through the mounting spacer 22 and is secured to the post with a fastener 23. Note that the post has a mounting hole 11a provided to attach the installation of two infill panels.

Figure 5 is a front exploded view of a post 11 showing the installation of two infill panels 13. Here the post 11 is shown. Note that the front of the post has a pair of formed channels 11b that receive the infill panels 13. A vinyl insert 13a is fit over the ends of each
15 infill panel. The vinyl inserts and glass panels are fitted into the channels 11b on the post. Note, this view also shows a top cap 11c that is used in this first embodiment.

Figure 6 is a front exploded view of a post bottom showing the assembly of the slab brackets and the base bracket. Each post 11 is secured to the face of the slab 100 using a mounting system 16. This system includes a track 30 that holds bolts 31 so that they extend
20 forward from the face of the slab as shown. A slab edge-mount bracket 15 is used to secure

the post to the bolts 31. Each slab edge-mount bracket 15 is secured to a post using bolts 32, washers 33, nuts 34 and caps 35. Once secured to the post, the slab edge-mount bracket 15 is placed over the bolts 31 (there are two, one on each side of the slab edge-mount bracket 15) and are secured with washers 33, nuts 34 and caps 35.

5 This figure also shows the bottom bracket 17. This bracket has two vertical portions 17a that fit into the bottom of the post 11. These are secured to the post using the same bolts and hardware that are used to secure the slab edge-mount bracket 15. Note that the bottom bracket 17 also has a base 17b that has a formed front with ledges 17c. These ledges are used to support the glass infill panels, thus eliminating the need for a bottom rail that runs between
10 the posts. Note too, that screws 36 are also used to secure the bottom bracket 17 to the post 11.

Figure 7 is a top detail view of a bottom bracket 17 is shown. Note the vertical portions 17a and the base 17b that has a formed front with ledges 17c; note too, the screw holes 17d that hold the screws 36.

15 Figure 8 is a front view of the bottom bracket 17. Here, the vertical portions 17a and the base 17b are shown.

Figure 9 is a detail view of a post extrusion. There is a rectangular portion 11d and a face portion 11e with the spaces between them forming the channels 11b. Note the screw holes 11f that hold the screws 36 that help hold the bottom bracket to the post.

Figure 10 is a top view of a slab edge-mount bracket 15. The slab edge-mount bracket has two front arms 15a that fit around the post 11 and a base plate 15b that is secured to the slab face, as discussed above.

5 The system also provides brackets for fitting around corners. Figure 11 is a top view of a corner fascia bracket 40. This bracket has a 90° angle plate 41 and a pair of arms 42 that extend out from the 90° angle plate 41. These arms secure a post to the corner fascia bracket 40, as in the manner discussed above for a straight post section. Note that the corner fascia bracket 40 is attached to the slab with bolts through the 90° angle plate 41, also as discussed above.

10 Figure 12 is a top detail view of a corner post extrusion 43. Here, the main difference is that the channels 44 that receive the infill panels 13 are set at an angle, so that they form a right angle corner. Each of the infill panels placed in a corner post 40 extend to meet regular posts 11.

15 Figure 13 is a perspective view of the second embodiment 50 of my new railing. This embodiment is identical to the first embodiment except for the type of grab rail. In the first embodiment, the grab rail is attached to the back of the posts. In the second embodiment, the grab rail is attached to the top of the posts. This necessitates a different top structure for the posts. As shown in fig. 13, the railing 50 has the elements as the first embodiment: posts 51 are shown along with the top rail 52, and infill panels 53 all attached to a slab 100. The infill
20 panels 53 can have masking 54, such as a ceramic frit pattern, to hide the face of the slab.

Note, as in the case of the first embodiment, there is no base rail used in this design. As discussed below, the infill panels are supported by brackets attached to the bottom of the posts 51.

Figure 14 is a right side detail view of a post, installed on a slab, showing the second embodiment. Here, a post 51, installed on a slab 100 is shown. In the first embodiment a back mounted grab rail 12 is used (see e. g., fig. 2). In this embodiment, a top rail 52 is used. Details of this rail are discussed below. This view shows the slab edge-mount brackets 55 and the fastener system 56 that attach the post to the slab.

Figure 15 is a front view of a portion of the railing, installed on a slab, showing the second embodiment. In this view, posts 51 and the infill panels 53 are shown. Also shown are the the slab edge-mount brackets 55 and the bottom brackets 57 that are attached to the posts and provide support for the infill panels, as discussed below.

Figure 16 is a rear exploded view of a post showing the attachment of the top rail assembly of the second embodiment. Here, the post 51 is shown with the infill panels 53 and vinyl insert 53a is fit over the ends of each infill panel. The vinyl inserts and glass panels are fitted into the channels 51b on the post. Note, this view also shows the top cap for the post and the rail of the second embodiment. The top cap 58 has a base plate 59 that is fastened to the top of the post using fasteners 60. A pair of angle brackets 61 extends upwards from the baseplate 59 as shown. The tops of the angle brackets lie in the horizontal plane and are fitted with holes 62 for fasteners 63 that are used to fasten the top rail 52 to the angle brackets 61.

Figure 17 is a front exploded view of a post bottom showing the assembly of the slab brackets and the bottom bracket. Each post 51 is secured to the face of the slab 100 using a mounting system 56. This system includes a track 70 that holds bolts 71 so that they extend forward from the face of the slab as shown. A slab edge-mount bracket 55 is used to secure
5 the post to the bolts 71. Each slab edge-mount bracket 55 is secured to a post using bolts 72, washers 73, nuts 74 and caps 75. once secured to the post, the slab edge-mount bracket 75 is placed over the bolts 71 (there are two, one on each side of the slab edge-mount bracket 75 for each post) and are secured with washers 73, nuts 74 and caps 75..

This figure also shows the bottom bracket 57. This bracket has two vertical portions 57a
10 that fit into the bottom of the post 51. These are secured to the post using the same bolts and hardware that are used to secure the slab edge-mount bracket 55. Note that the bottom bracket 57 also has a base 57b that has a formed front with ledges 57c. These ledges are used to support the glass infill panels, thus eliminating the need for a bottom rail that runs between the posts. Note too, that screws 76 are also used to secure the bottom bracket 57 to the post 51.

15 Figure 18 is a top detail view of a bottom bracket 57 is shown. Note the vertical portions 57a, and the base 57b that has a formed front with ledges 57c. Note too, the screw holes 57d that hold the screws 76.

Figure 19 is a front view of the bottom bracket 57. Here the vertical portions 57a, and the base 57b are shown with the ledges 57c.

Figure 20 is a top view of a slab edge-mount bracket 55. Note the slab edge-mount bracket has two front arms 55a that fit around the post 51 and a base plate 55b that is secured to the slab face, as discussed above.

Figure 21 is a detail view of a post extrusion 51. There is a rectangular portion 51d and a face portion 51e with the spaces between them forming the channels 51b. Note the screw holes 11f that hold the screws 36 that help hold the bottom bracket to the post.

Figure 22 is a top detail view of a top cap 58 for the second embodiment. The top cap 58 has a base plate 59 that is fastened to the top of the post as discussed above. A pair of angle brackets 61 extends upwards from the baseplate 59 as shown. The tops of the angle brackets lie in the horizontal and are fitted with holes 62 for fasteners 63 that are used to fasten the top rail 52 to the angle brackets 61.

Figure 23 is a front detail view of the top cap 58 for the second embodiment. Again, the pair of angle brackets 61 extends upwards from the baseplate 59 as shown

As in the first embodiment, the system also provides brackets for fitting around corners. Figure 24 is a top view of a corner fascia bracket 80. This bracket has a 90° angle plate 81 and a pair of arms 82 that extend out from the 90° angle plate 81. These arms secure a post to the corner fascia bracket 80, as in the manner discussed above for a straight post section. Note that the corner fascia bracket 80 is attached to the slab with bolts through the 90° angle plate 81, also as discussed above.

Figure 25 is a top detail view of a corner post extrusion 83. Here, the main difference is that the channels 84 that receive the infill panels 53 are set at an angle, so that they form a right angle corner. Each of the infill panels placed in a corner post 80 extend to meet regular posts 51.

5 The present disclosure should not be construed in any limited sense other than that limited by the scope of the claims having regard to the teachings herein and the prior art being apparent with the preferred form of the invention disclosed herein and which reveals details of structure of a preferred form necessary for a better understanding of the invention and may be subject to change by skilled persons within the scope of the invention without
10 departing from the concept thereof.

We claim:

1. a fascia mounted railing system for mounting on a slab, having a front face, comprising:

a) at least two posts, spaced apart, each of said posts having a top, a bottom, a bottom portion, two sides, a back and a front, and further wherein the front of each post has a pair of channels to receive infill pieces;

b) a mounting bracket assembly, attached to the bottom portion of each of said posts and to said slab to secure each post to said slab;

c) a bottom bracket, attached to the bottom of each post, each of said bottom brackets having a pair of flanges that extend outwardly from the sides of said bottom bracket; and

d) at least one infill panel, placed in one of said channels in each of said two such that said infill panel sits on one of said pair of flanges on said bottom bracket of each of said at least two posts.

2. The fascia mounted railing system of claim 1 further comprising:

a) a back rail; and

b) a bracket, secured to the back each of said at least two posts, for suspending said back rail from said posts.

3. The fascia mounted railing system of claim 1 further comprising:

a) a top rail; and

b) a bracket, secured to the top of each of said at least two posts, for supporting said top rail atop said posts.

4. The fascia mounted railing system of claim 1 further comprising:

a) at least one corner post spaced apart from said at least two posts, said corner post having a top, a bottom, a bottom portion, two sides, a back and a front, and further wherein the front of said at least one corner post having a pair of channels to receive infill pieces;

b) a mounting bracket assembly, attached to the bottom portion of said at least one corner post and to said slab to secure said at least one corner post to said slab;

c) a bottom bracket, attached to the bottom of said at least one corner post, said bottom bracket having a pair of flanges that extends outwardly from the sides of said bottom bracket; and

d) at least one infill panel, placed in one of said channels in each of said two such

that said infill panel sits on one of said pair of flanges on said bottom bracket of each of said at least two posts.

5. The fascia mounted railing system of claim 4 wherein said pair of channels on said at least one corner post are positioned at an angle of less than 180 degrees with respect to said at least one corner post.

6. The fascia mounted railing system of claim 1 wherein each of said infill panels has a lower portion and further wherein the lower portion of each of said infill panels has a ceramic fit pattern applied.

7. The fascia mounted railing system of claim 1 wherein the mounting bracket assembly comprises:

- a) a track embedded on the front face of said slab;
- b) a pair of fasteners, placed in said track such that said pair of fasteners extends forward from the face of the slab adjacent to one of said at least two posts; and
- c) a slab edge-mount bracket, secured to each of said at least two posts.

8. The fascia mounted railing system of claim 7 wherein the pair of fasteners comprise a pair of bolts.

9. The fascia mounted railing system of claim 7 wherein the slab edge mount bracket is secured to each of said at least two posts with a set of fasteners.

10. The fascia mounted railing system of claim 9 wherein a set of fasteners comprise:

- a) a plurality of bolts, positioned in a plurality of holes formed in said slab edge-mount bracket,
- b) a nut, placed over each of said plurality of bolts; and
- c) a nut, placed over each of said plurality of bolts; and
- d) a cap, positioned over each of said nuts.

11. The fascia mounted railing system of claim 1 further comprising:

- a) a back rail;
- b) a mounting bracket, having a top mount to attach said back rail to said mounting bracket;
- c) a post mounting spacer that extends downward from said mounting bracket;
- d) a mounting cylinder that is attached to said post mounting spacer; and
- e) a fastener for securing said mounting cylinder to said post.

12. The fascia mounted railing system of claim 1 further comprising:

a) a top rail;

b) top cap, for each of said at least two posts, said top cap having a base plate and a pair of angle brackets extending upwards from said baseplate, each of said pair of angle brackets having flanges that lie in the horizontal to fasten said top rail 52 to said angle brackets, and further wherein said base plate of said top cap is attached to the top of one of said at least two posts.

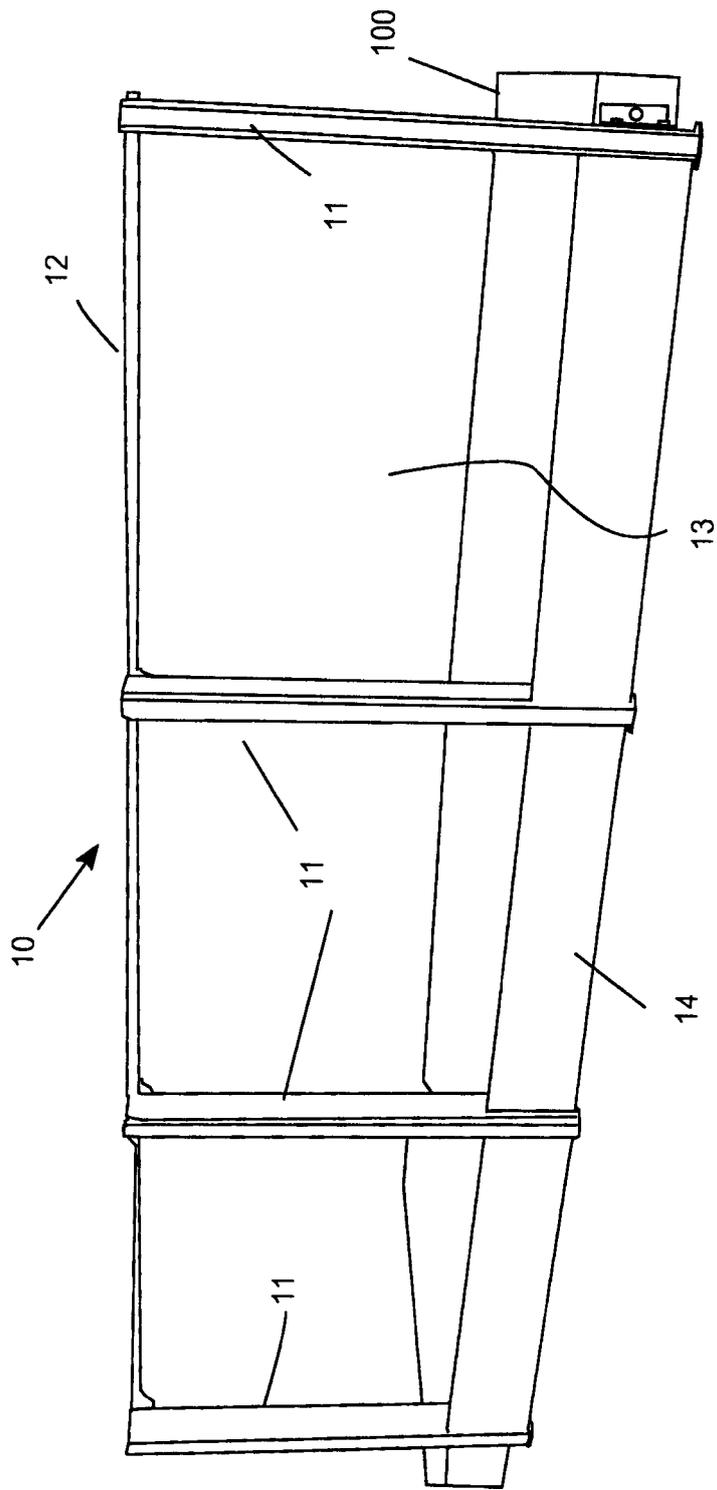


Figure 1

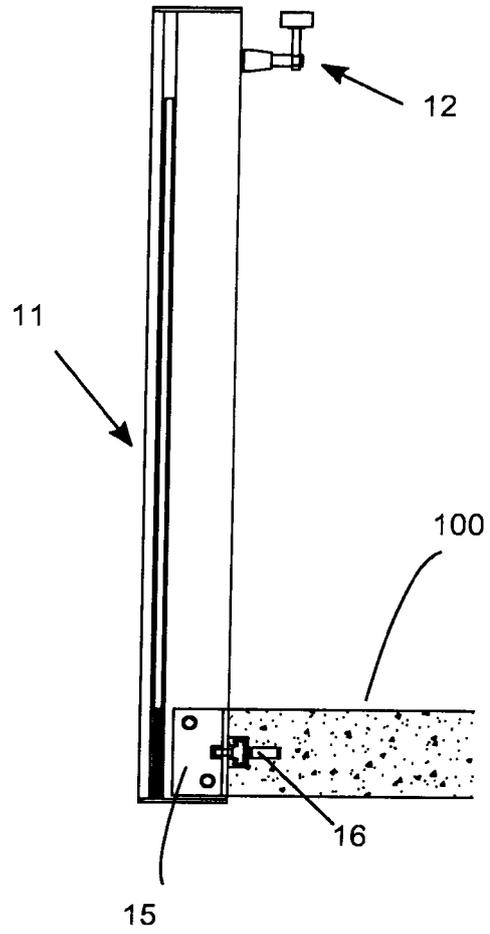


Figure 2

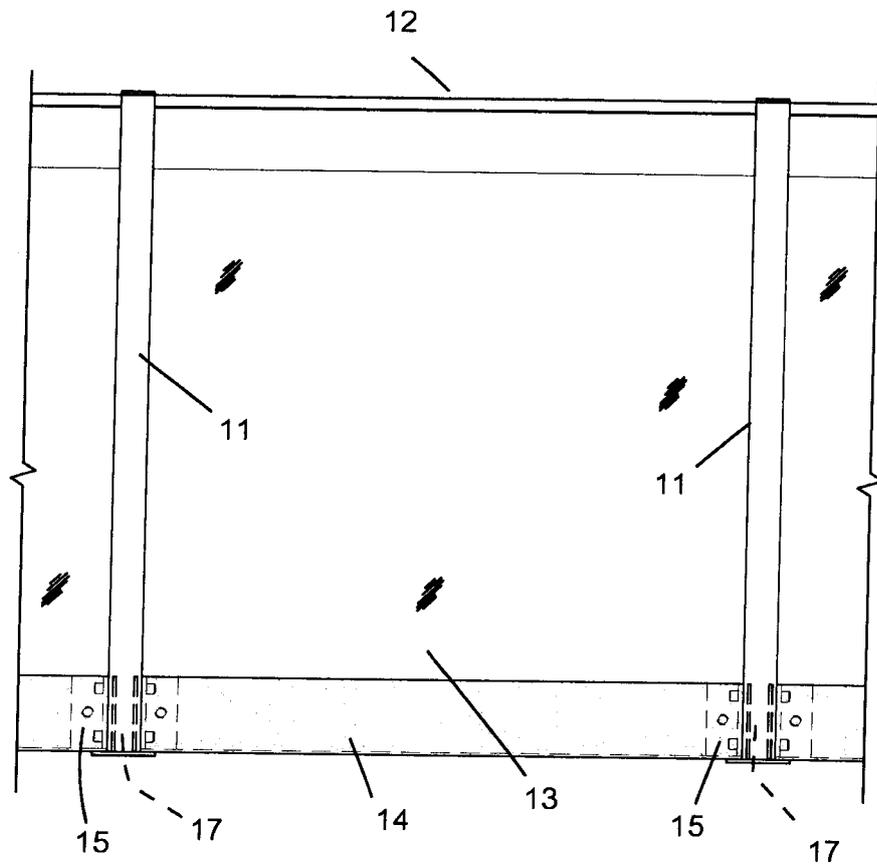


Figure 3

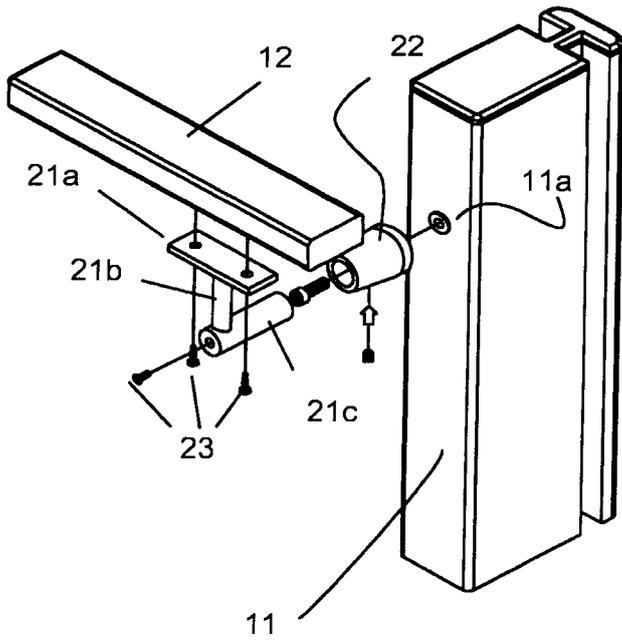


Figure 4

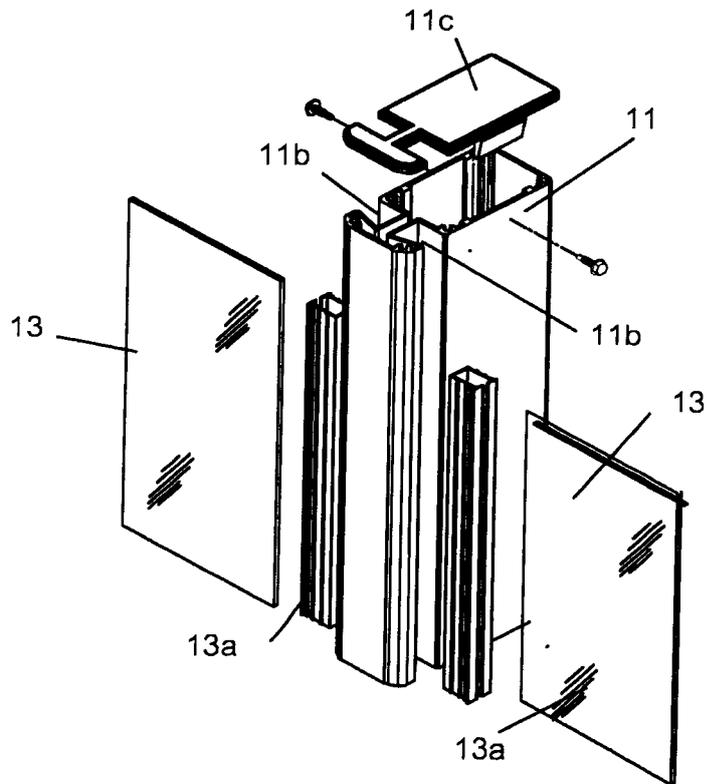


Figure 5

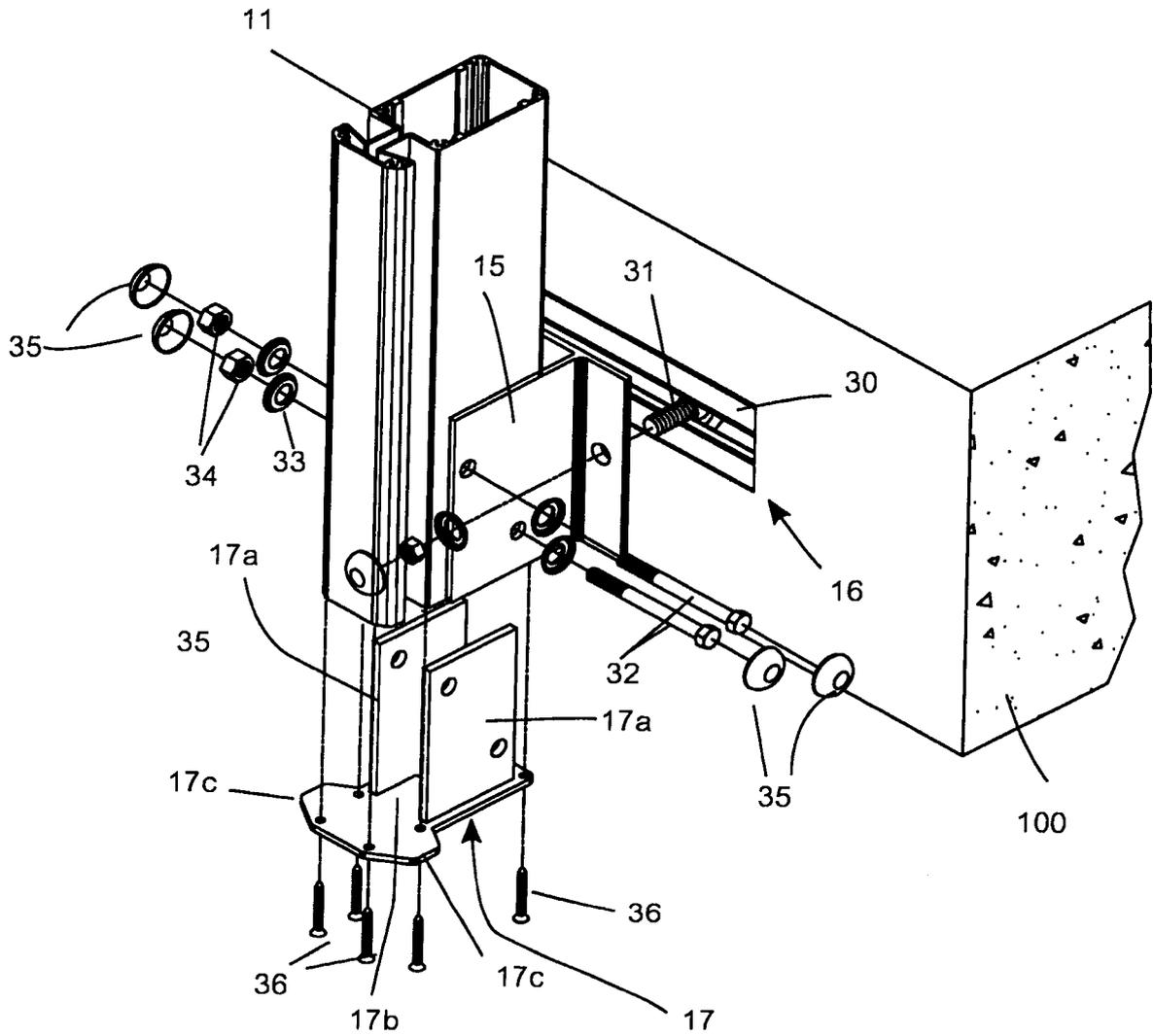


Figure 6

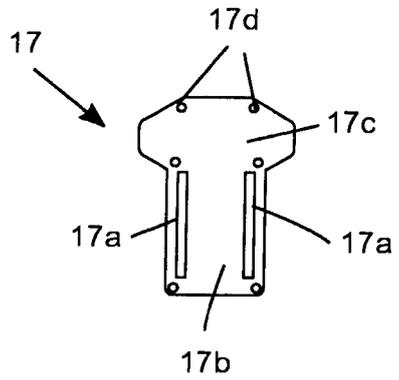


Figure 7

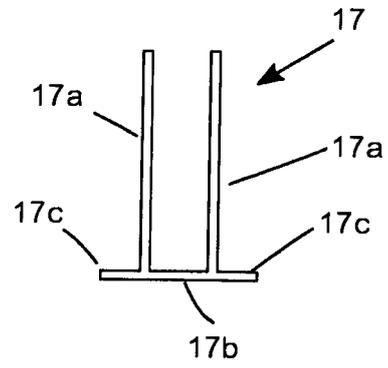


Figure 8

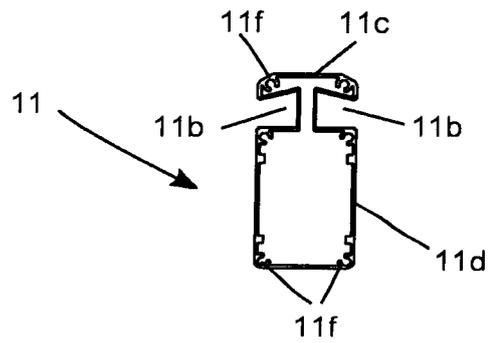


Figure 9

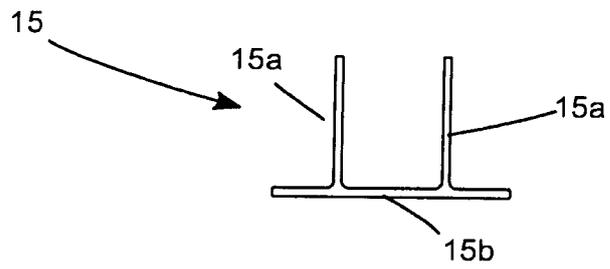


Figure 10

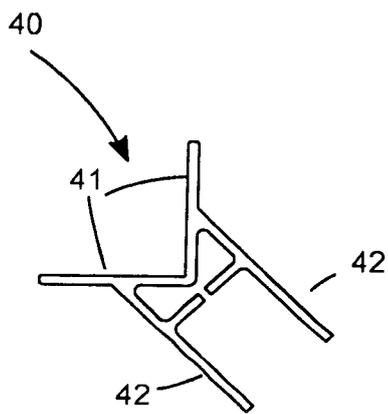


Figure 11

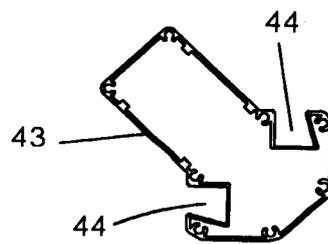


Figure 12

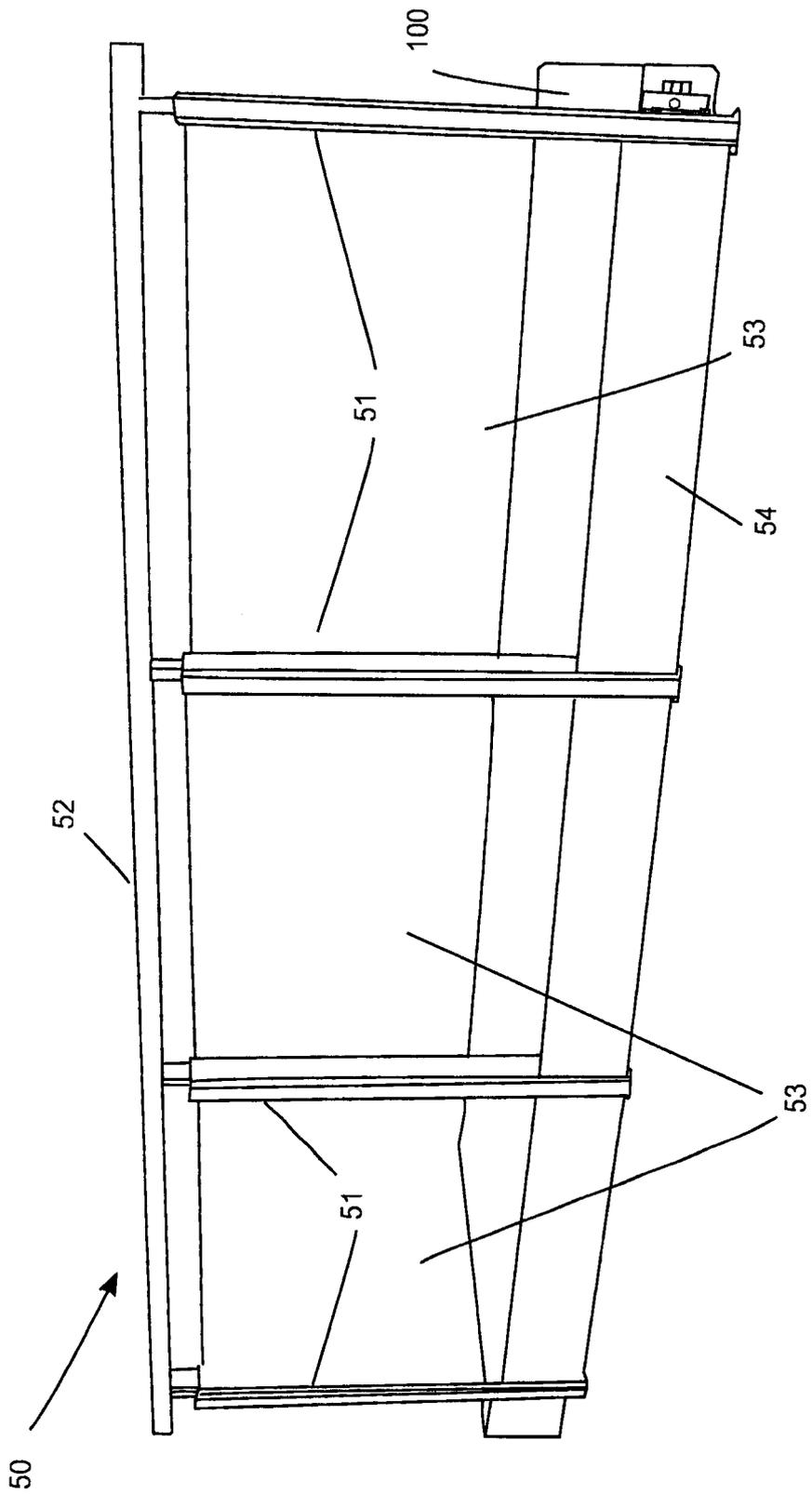


Figure 13

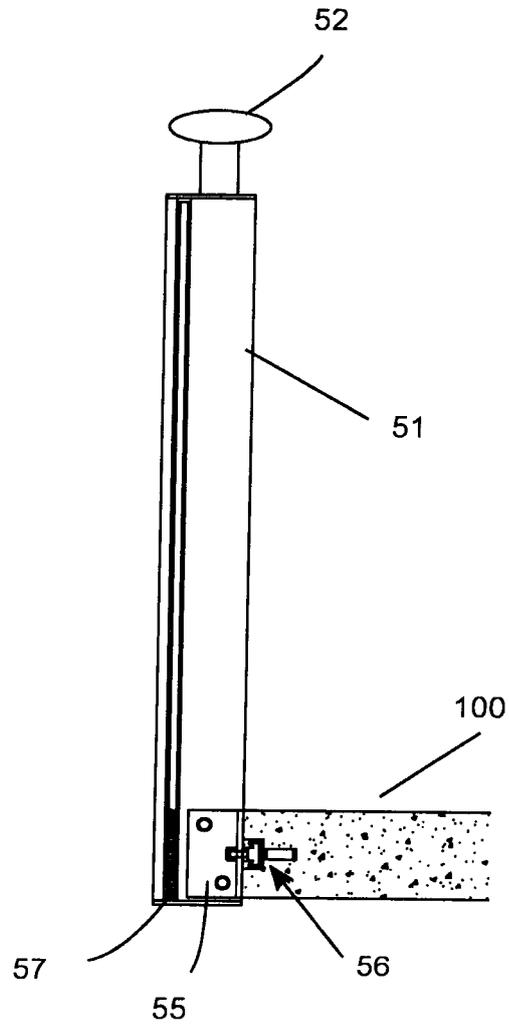


Figure 14

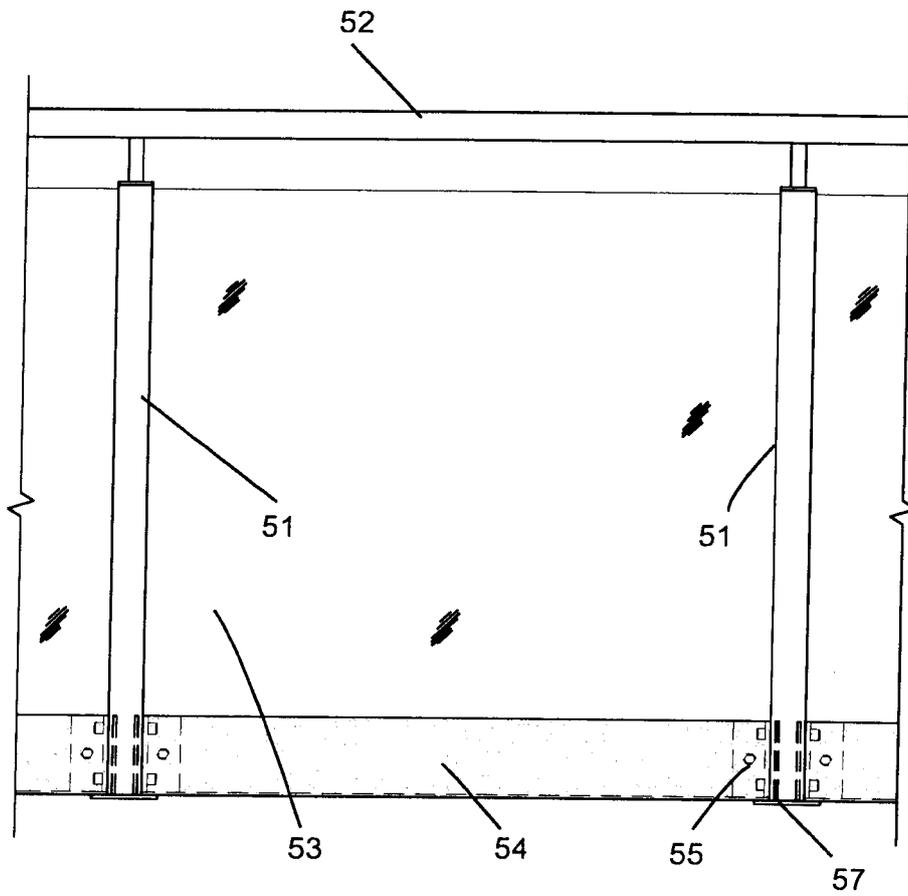


Figure 15

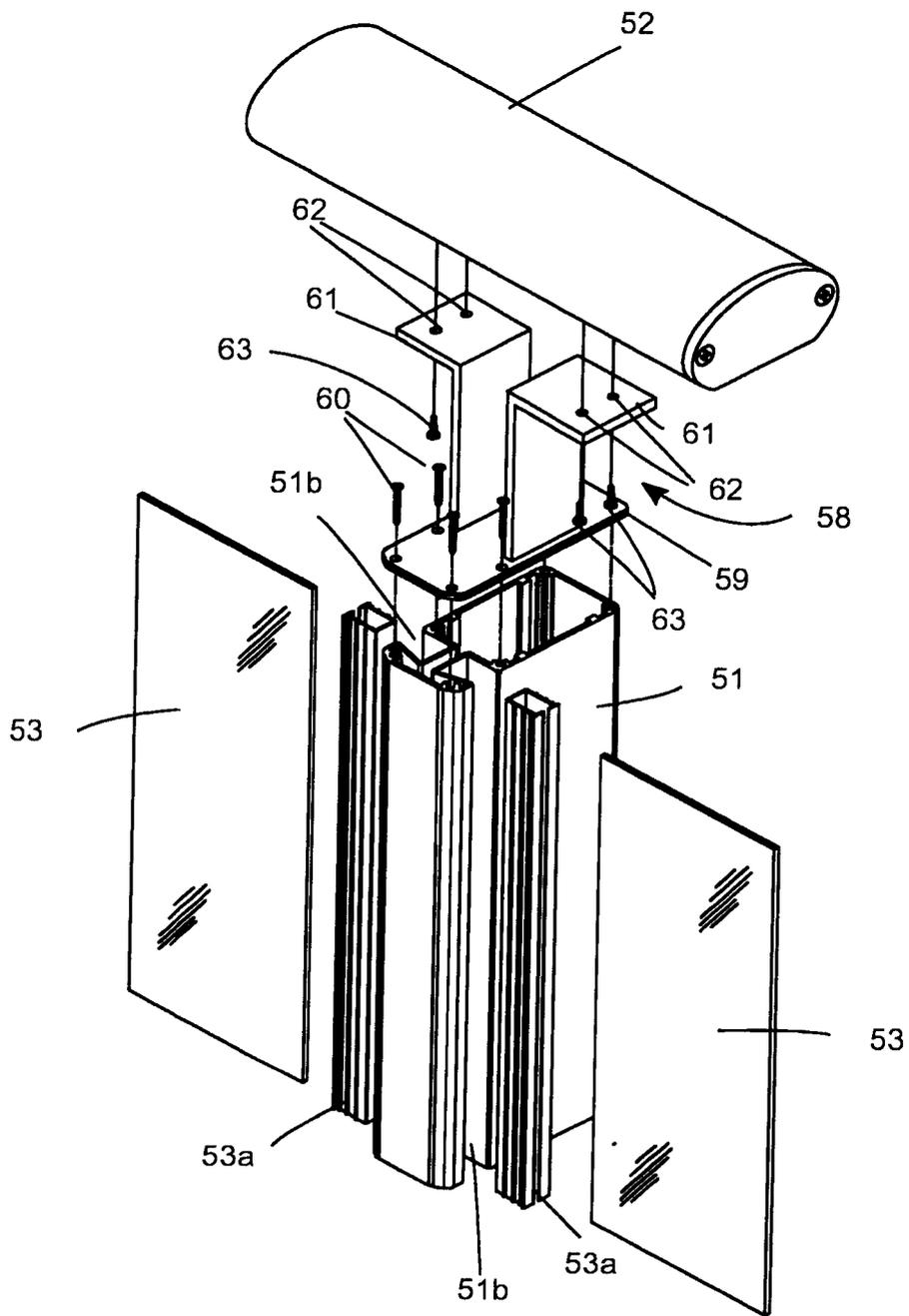


Figure 16

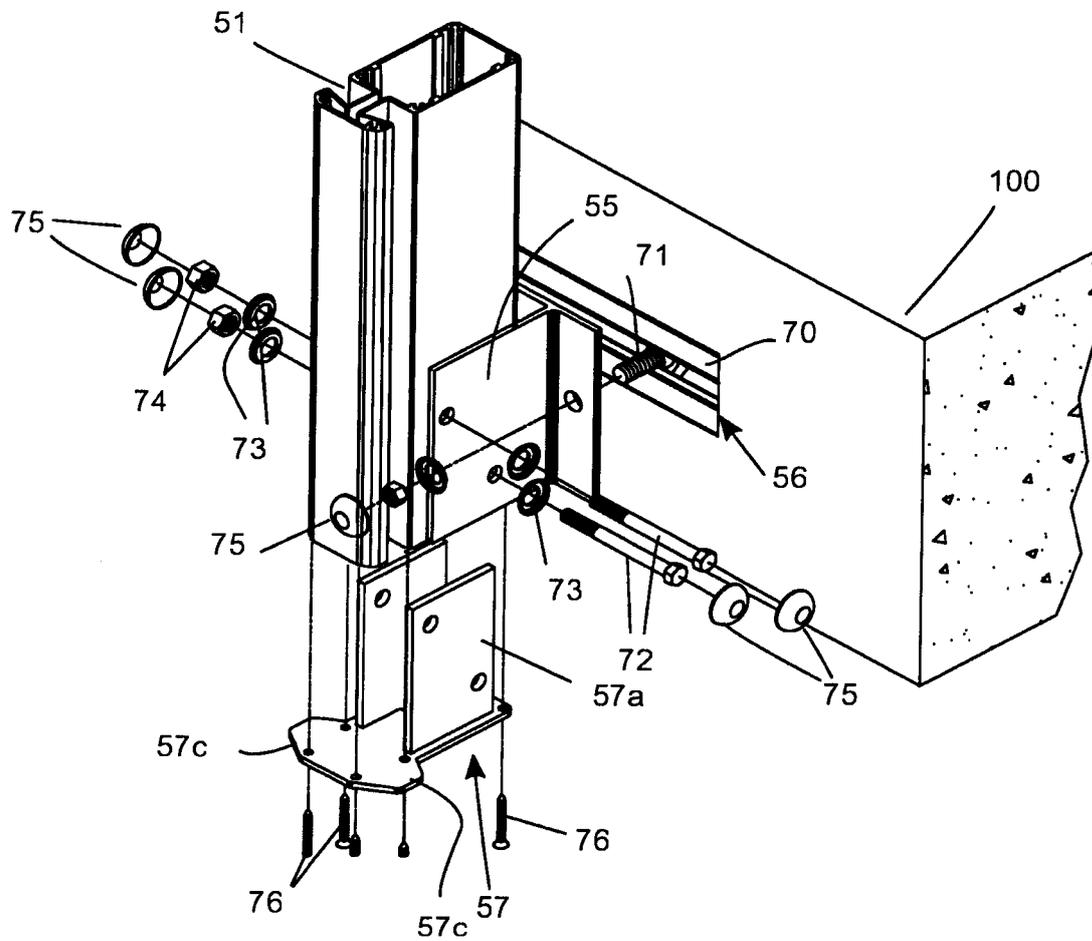


Figure 17

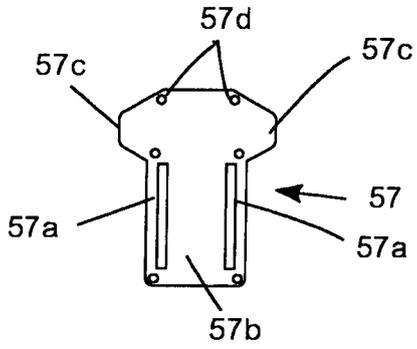


Figure 18

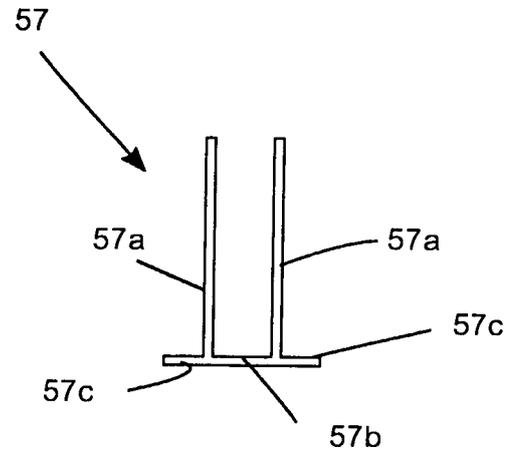


Figure 19

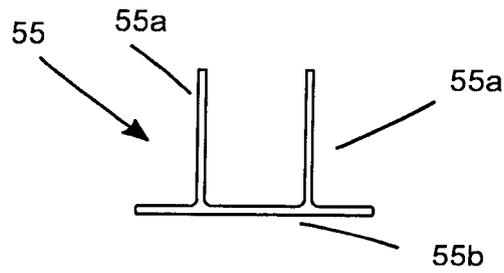


Figure 20

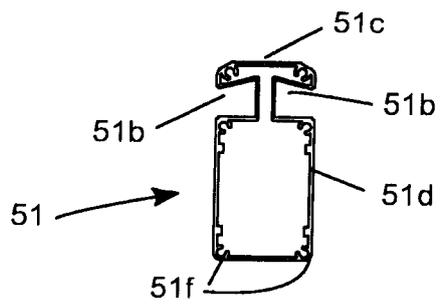


Figure 21

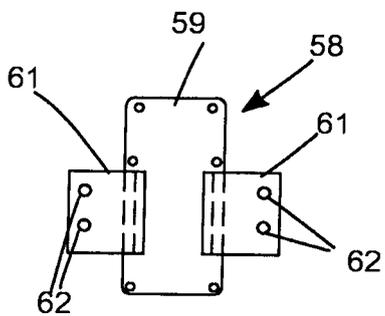


Figure 22

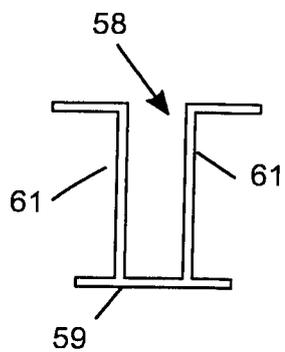


Figure 23

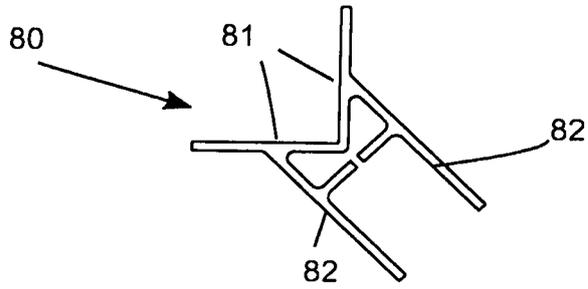


Figure 24

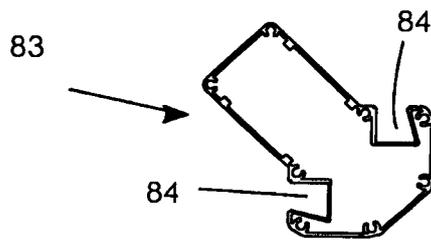


Figure 25

