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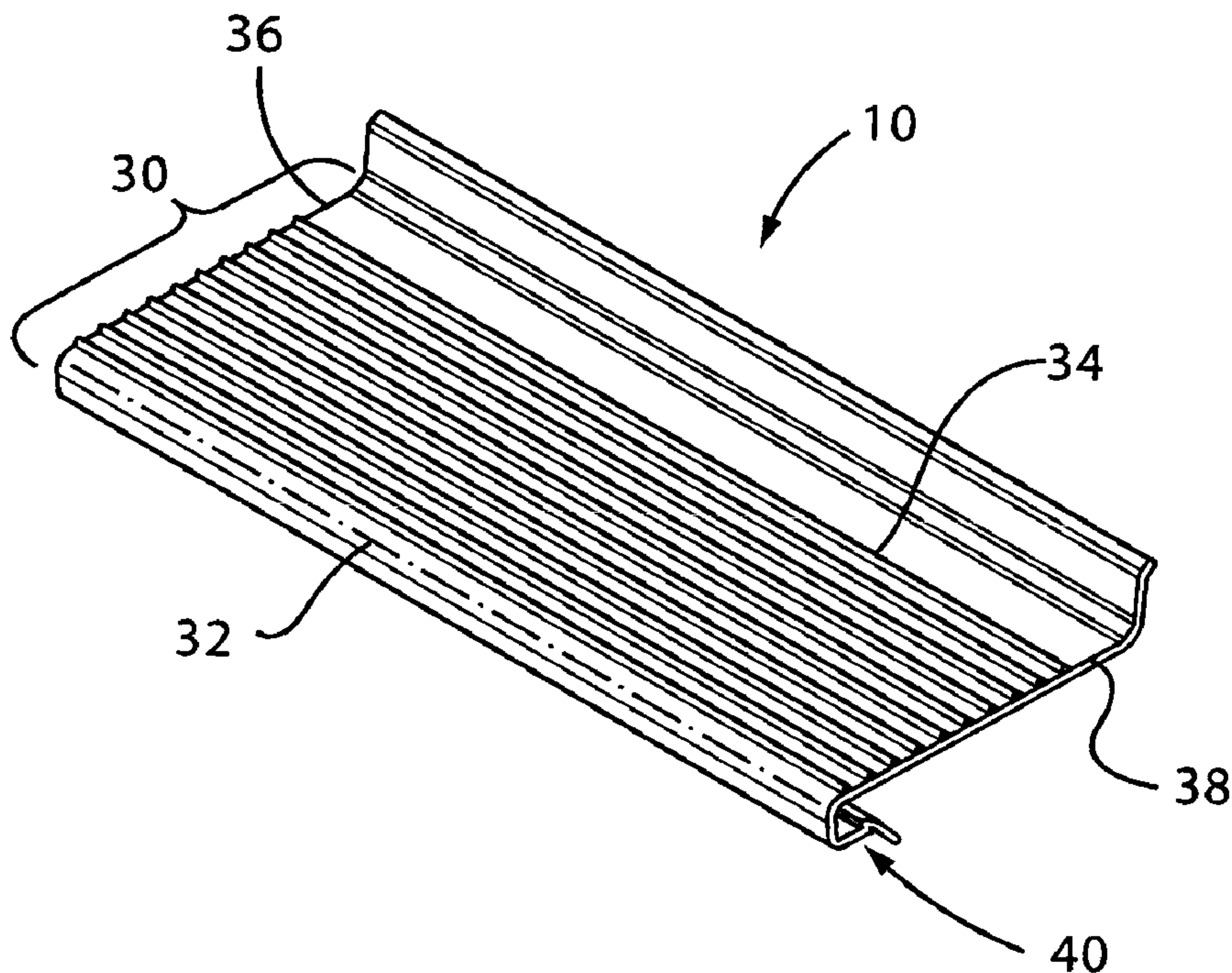
(72) Inventeur/Inventor:
GIORDANO, FRANCESCO, CA

(73) Propriétaire/Owner:
ALPA LUMBER INC., CA

(74) Agent: BERESKIN & PARR LLP/S.E.N.C.R.L.,S.R.L.

(54) Titre : SYSTÈME DE PROTECTION DE GIRONS D'ESCALIERS

(54) Title: STAIR TREAD PROTECTION SYSTEM



(57) Abrégé/Abstract:

A protector device for protecting a stair tread has a base portion adapted to cover at least a portion of a stair tread and upon which a user can step. The base portion has a forward edge adapted to be generally aligned with a forward edge of the stair tread. The device further includes a clip portion extending from the forward edge of the base portion and adapted to secure the protector device to the stair tread.

ABSTRACT

A protector device for protecting a stair tread has a base portion adapted to cover at least a portion of a stair tread and upon which a user can
5 step. The base portion has a forward edge adapted to be generally aligned with a forward edge of the stair tread. The device further includes a clip portion extending from the forward edge of the base portion and adapted to secure the protector device to the stair tread.

STAIR TREAD PROTECTION SYSTEM

FIELD OF THE INVENTION

[0001] This invention relates to a device for protecting stair treads and a stair system using a tread protector device.

BACKGROUND OF THE INVENTION

[0002] Stairs such as those installed in residential homes can be made of costly but decorative materials. For example, stairs can be made of hardwood such as oak or cherry. A finished staircase is typically built in a location remote from the site of final installation. Once built, the staircase is shipped to the installation location and then installed as required. The staircase is generally installed prior to completion of construction of the home or other building, and is used during construction of the building to gain access to upper floors.

[0003] A staircase is susceptible to damage during shipping, installation, and use prior to completion of construction of the building in which the stairs are installed. The stair treads (the upper surfaces of the horizontal step portions of the staircase) are particularly susceptible to damage. Workers using the stairs can damage the treads with work boots or by embedding nails or other objects in the treads.

[0004] To help protect the stairs, it is known to cover the stairs with a loose fitting plastic wrap. Such a wrap can help keep paint and other debris off the stairs, but does not generally offer significant protection against damage such as that which may be caused by impact to the stairs, or by imbedding objects into the stairs. Securing a sheet of wood onto the upper surface of the treads can improve protection, but this can be time-consuming, costly, and, upon removal, can leave nail or staple marks in the finished staircase.

SUMMARY OF THE INVENTION

[0005] It is an object of this invention to provide a method and apparatus suitable for protecting stairs from certain types of damage. In particular, this invention provides a protector device for stair treads that can be installed in a press-fit or snap-fit arrangement on the stairs, without need for using any nails, staples, or the like to secure the protector device to the stair treads. Moreover, the present invention provides a system for protecting stairs including providing stairs with a first retaining element along the underside of the tread nose, and a stair protector with a second retaining element for engaging the first retaining element in snap-fit when the protector is installed on the stair.

[0006] According to a first aspect of the invention, a protector device for protecting a stair tread has a base portion adapted to cover at least a portion of a stair tread and upon which a user can step. The base portion has a forward edge adapted to be generally aligned with a forward edge of the stair tread. The protector is further provided with a clip portion extending from the forward edge of the base portion and adapted to secure the protector device to the stair tread.

[0007] The clip portion can have an offset arm extending from the forward edge of the base portion, and a retaining member extending from the offset arm, opposite the base portion. The retaining member can be movable between open and closed positions, wherein in the closed position, the retaining member is adapted to bear against the underside surface of the tread and the clip portion exerts a clamping force across the thickness of the tread. The retaining member can be biased toward the closed position. The clip portion can have a generally C-shaped configuration.

[0008] According to a second aspect of the present invention, a system for protecting stairs includes a stair tread in combination with a tread protector device. The protector device can have a tread connection element that can be in the form of a tooth or barb for engaging the underside surface of a tread.

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The tread can have a protector device connection element for interengaging with the tread connector element to enhance the attachment between the protector device and the tread. The protector device connection element of the tread can be in the form of a groove provided in the underside surface of the tread and adapted to receive the tread connection element of the protector device.

[0009] According to a third aspect of the present invention, a protector device for protecting stair treads is provided with a template portion. The template portion can facilitate the installation of staircase accessories, such as balusters for a handrail, to the treads. The template portion can include template features such as holes, cut-outs, or a visible design punched or pressed into the protector device.

BRIEF DESCRIPTION OF THE INVENTION

[0010] For a better understanding of the present invention and to show more clearly how it would be carried into effect, reference will now be made by way of example, to the accompanying drawings that show a preferred embodiment of the present invention, and in which:

[0011] Figure 1 is a perspective view of the stair protector device of Figure 1;

[0012] Figure 2 is a perspective view of a stair protector device shown in combination with a staircase, in accordance with one embodiment of the present invention;

[0013] Figure 3a is an enlarged side view of a portion of the combination of Figure 1;

[0014] Figure 3b is a partially exploded side view of a portion of the combination of Figure 1;

[0015] Figure 3c is a further enlarged side view of a portion of the combination of Figure 3a;

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[0016] Figure 4 is a perspective view of an alternate embodiment of a staircase and a tread protector device according to the present invention;

[0017] Figure 5a is an exploded view of the staircase and protector device of Figure 4;

[0018] Figure 5b is an enlarged view of a portion of the staircase and protector device of Figure 5a;

[0019] Figures 6 and 7 are a perspective view and an enlarged portion thereof, respectively, illustrating a further alternate embodiment of a staircase and a tread protector device according to the present invention; and

[0020] Figures 8 and 9 are side views in cross-section of alternative embodiments of stair tread protector devices in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0021] A stair tread protector device 10 according to the present invention is shown in Figure 1. Referring to Figure 2, a staircase 14 is shown. The staircase 14 can be, for example, a finished staircase built in a location remote from the site of final installation. The staircase 14 typically comprises one or more treads 12 providing generally horizontal members upon which a person can step when walking up or down the staircase 14. The staircase 14 can further be provided with risers 15 extending generally vertically between successive treads 12 of the staircase 14. In Figure 2, a plurality of protector devices 10 are shown, with each one associated with a respective tread 12 of the staircase 14.

[0022] As best seen in Figure 3a, each tread 12 has a forward end 16 with a front face 18 directed towards the front of the staircase 14, and a rearward end 20 opposite the forward end (also called forward tread edge) 16. A generally horizontal upper surface 22 (onto which a user can step) extends between the forward and rearward ends 16, 20. Each tread 12 has an underside surface 24 opposite the upper surface 22.

[0023] For the embodiment of the staircase 14 illustrated in Figure 3a, one riser 15a extends generally vertically downward beneath the forward end 16 of each tread 12, and has an upper surface 17 that abuts the underside surface 24 of the tread 12. The riser 15a is typically set back from the front face 18 of the tread 12 by an offset distance 26a of about 25 to 30 cm, for, for example, a staircase suitable for a typical residential home. The forward end 16 of the tread 12 defines a tread nose 28, which, in the embodiment illustrated, generally overhangs the riser 15a. Another riser 15b extends generally vertically upward from the rearward end 20 of the tread 12, and has a front surface 19 directed towards the front of the staircase 14. For the embodiment illustrated, the rearward end 20 of the tread 12 generally abuts the front surface 19 of the riser 15b. The present invention also comprehends the use of other staircase configurations, such as, for example, an "open" staircase without risers.

[0024] Referring to Figures 1 and 3a, the tread protector device 10 has a base portion 30 adapted to cover at least a portion of the upper surface 22 of tread 12. The base portion 30 can be generally planar, having a front boundary (also called forward protector edge) 32, a rear boundary 34, and left and right side edges 36 and 38, respectively. The distance between the front and rear boundaries 32 and 34 defines a depth that can be sized to be generally equal the depth of the tread 12. Alternatively, the distance between the front and rear boundaries 32 and 34 can be less than the depth of the tread 12, so that the base portion 30 extends only partially between the front and rear ends 16 and 20 of the tread 12. The base portion 30 can be provided with a textured pattern such as, for example, but not limited to, grip ridges 39 that can improve traction between the protector 10 and the foot of a person using the staircase 14.

[0025] The distance between the side edges 36 and 38 defines a width that is generally transverse to the depth and that can be about the same size as the width of the tread 12. Alternatively, the width of the base portion 30 can be less than the width of the tread 12, and the base portion 30 can be

adapted to cover only a portion of the upper surface 22 of the tread 12. The width and depth of the base portion 30 are preferably sufficient to provide a base portion 30 that is large enough to present a surface upon which a user can step when using the staircase 14. Preferably the base portion 30 is adapted to cover at least a portion of the upper surface 22 of the tread 12 where a user is most likely to step, such as, for example, a central portion of the upper surface 22.

[0026] Referring now to Figures 3a and 3b, each protector device 10 is further provided with a clip portion 40 for removably securing the protector device 10 to the tread 12. The clip portion 40 can be provided adjacent the forward end of the base portion 30, and can be adapted to engage the tread nose 28. In the embodiment illustrated, the clip portion 40 has an offset leg 42 extending from the base portion 30, and a retaining member 44 extending from the offset leg 42, opposite a forward portion of the base portion 30. Furthermore, the offset leg 42 and retaining member 44 are, for the embodiment illustrated, substantially planar elements positioned generally perpendicular to each other, and which, in combination with a forward portion of the base portion 30, provide the clip portion 40 with a generally C-shaped configuration.

[0027] The clip portion 40 can be adapted to exert a clamping force across the thickness of the nose 28 of the tread 12. For example, the retaining member 44 can be movable between open and closed positions. In the closed position, and prior to assembly of the device 10 on tread 12 (Figure 3b), the spacing between the opposed surfaces of the base portion 30 and the retaining member 44 can be sized, in at least one location, to be less than the thickness of the tread 12. In the open position, the spacing can be equal to or greater than the thickness of the tread 12. The retaining member 44 can be biased towards the closed position, so that the clip portion 40, when installed on tread 12 (Figure 3a), exerts a clamping force across the thickness of the tread 12. The clip portion 40 can extend generally continuously along

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the forward end of the base portion 30, or can be provided in one or more segments spaced intermittently along the forward end of the base portion 30.

[0028] For the embodiment illustrated, the clip portion 40 extends generally continuously along the forward end of the base portion 30. The offset leg 42 of the clip portion 40 extends from the front boundary 32 of the base portion 30 to a lower edge 46. The lower edge 46 is generally parallel to and spaced apart from the front boundary 32. The spacing between the front boundary 32 and lower edge 46 is sized to span the thickness of the tread 12 at the front face 18.

[0029] The retaining member 44 has a generally planar extension portion 50 that is positioned generally opposite a forward portion of the base portion 30. The mutually interior facing surfaces of the forward portion of the base portion 30, the offset leg 42, and the extension portion 50 of the retaining member 44 form a recess or cavity 51 at the forward end of the protector device 10. In the relaxed, closed position, the extension portion 50 of the retaining member 44 is inclined to converge towards the base portion 30 rearwardly from the offset panel 42. The converging retaining member 44 provides the cavity 51 with an opening width 53 at its rearward end that is narrower than the thickness of the tread 12, and narrower than the width of the cavity 51 adjacent its front end, near the offset leg 42 (Figure 3b).

[0030] The protector device 10 can be constructed of a plastic material that is durable, tough, and resistant to impact. The material of the device 10 can also be selected to provide resilient flexibility for the clip portion 40 of the device 10. In the embodiment illustrated, the material of the device 10 is of recycled PVC. The device 10 is manufactured with the clip portion 40 in the closed position, and the clip portion can be urged towards the open position against the force of the resiliently flexible material in the clip portion 40.

[0031] The device 10 can be adapted to facilitate manufacture of the device 10 by an extrusion process. For example, the profile of the device 10 in cross-section can extend continuously and uniformly in a direction generally

parallel to the front boundary 32. The device 10 can be extruded through one or more dies producing the desired profile. The extrusion can be cut to length, the cuts corresponding to the left and right side edges 36 and 38, respectively, of the base portion 30. A punch or cutting process can be used to produce non-continuous features, such as, for example, but not limited to, a shortened or segmented clip portion 40. For the embodiment illustrated, the device 10 is of one-piece, contiguous extruded plastic construction. Other methods and materials for constructing the protector device 10 can also be used.

[0032] In use, as seen in Figures 3a and 3b, the protector device 10 is adapted to be installed to a tread 12 such that the clip portion 40 fits over the nose 28 of the tread 12. In other words, the tread nose 28 generally fits into the cavity 51. The base portion 30 is adapted to cover at least a portion of the upper surface 22 of the tread 12, and the offset leg 42 generally covers at least a portion of the front face 18 of the tread 12. The retaining member 44 generally abuts the underside surface 24 of the tread nose 28.

[0033] The clip portion 40 of the device 10 can be pressed over the tread nose 28, urging the clip portion from the closed position towards the open position and forcing a forward portion of the tread nose 28 through the narrowed opening 53 of the cavity 51. The biasing force of the clip portion 40 can exert a clamping force across the thickness of the tread nose 28 to facilitate securing the protector device 10 to the tread 12.

[0034] As best seen in Figures 3b and 3c, to enhance the attachment of the protector device 10 to the tread 12, the clip portion 40 can be provided with a tread connection element 56. In the embodiment illustrated, the device 10 is provided with a tread connection element 56 in the form of a protrusion (also referred to as "barb") 58 provided on the retaining member 44 of the clip portion 40. The protrusion 58 is adapted to engage the underside surface 24 of the tread 12.

[0035] For the embodiment illustrated, the protrusion 58 is adapted to be formed during the extrusion of the device 10, so that the device 10 is of one-piece, unitary construction. The protrusion 58 extends generally across the width of the retaining member 44 of the clip portion 40 of the protector device 10, adjacent the rearward edge of the extension portion 50. Furthermore, for the embodiment illustrated, the protrusion 58 is saw-tooth shaped in cross-section, and has a pointed upper edge 59 that can bite into the underside surface 24 of the tread nose 28. Other configurations of the protrusion 58 can also be provided, such as, for example, but not limited to, one or more discrete (non-continuous) protrusions provided intermittently along the width of the retaining member 44 of the clip portion 40.

[0036] Furthermore, and with reference again to Figures 3b and 3c, the tread 12 can be provided with a protector connection element 60 to further enhance the attachment of the device 10 to the tread 12. The protector connection element 60 of the tread 12 can be adapted to interengage with the tread connection element 56 of the device 10 upon installation of the device 10 on the tread 12. For the embodiment illustrated, the protector connection element 60 is provided in the form of a groove 61 in the underside surface 24 of the tread 12 at a position corresponding to the position of the protrusion 58 of the device 10. The groove 61 extends generally across the tread width in the underside surface 24 of the tread 12. The groove 61 can be milled into the tread 12, and this milling operation can be performed concurrently with other processing steps carried out for producing the treads 12. Providing the groove 61 can reduce or eliminate the need for the protrusion 58 to bite into the underside surface of the tread 12.

[0037] The protrusion 58 and groove 61 can be shaped to inhibit any inadvertent forwardly directed shifting of the protector device 10 off of the tread nose 28. For example, in the embodiment illustrated, the ridge 58 and groove 60 have generally perpendicular forward abutment surfaces 62 and 64, respectively. The generally perpendicular configuration can resist a much greater laterally (horizontally) directed separating force than if the abutting

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surfaces were inclined at an angle substantially less than 90° to the horizontal.

[0038] Referring to Figure 3b, various protective layers 65 may be present between adjacent overlapping surfaces of the protector device 10 and tread 12. Such protective layers can include, for example, but not limited to, a thin poly wrap layer, or a paper sheet. In the embodiment illustrated, the protective layer 65 includes a thin plastic film layer. The protector device 10 can be adapted to accommodate the layer 65 to provide satisfactory installation of protector device 10 on tread 12.

[0039] The protector device 10 can be removed from the tread 12 when, for example, other construction work around the staircase 14 has been completed. To remove the protector device 10, the retaining member 44 can be pulled downward to disengage the underside of the tread 12, and the protector device 10 can then be pulled forward so that the tread nose 28 is no longer within the cavity 51 of the device 10. The protector device 10 can then be saved for re-use later. Alternatively, where the device 10 is constructed of plastic, the device 10 can be returned to a plastics recycling operation.

[0040] As best seen in Figures 3a and 3c, to facilitate removal of the device 10, the retaining member 44 can be provided with a tab 66 extending from the rearward end of the retaining member 44. In the embodiment illustrated, the tab 66 extends the full width of the retaining member 44, and has a rearwardly and downwardly inclined surface that can also facilitate pressing the protector device 10 over the tread nose 28 upon installation. Furthermore, for the embodiment illustrated, the front-to-back extent 68 of the retaining member 44 is less than the offset distance 26a of the tread nose 28, to provide a gap 70 between the tab 68 and the riser 26. Providing the gap 70 can provide improved access to the tab 66 when pulling on the tab 66 for removal, and can also ensure that the rearmost edge of the tab 66 will not interfere with proper assembly of the device 10, and with snap-fit engagement of the ridge 58 into the groove 60.

[0041] Referring to Figures 1 and 3b, the protector device 10 can further be provided with a kick panel portion 74 at the rearward end 20 of the base portion 30. In the embodiment illustrated, the kick panel portion 74 comprises a generally planar surface 76 positioned above and at a generally right angle to the base portion 30. The surface 76 can be connected to the rear edge 34 of the base portion 30 by a web 75. For the embodiment illustrated, the kick panel portion 74 is adapted to cover and protect at least a portion of the front surface 19 of riser 15.

[0042] Referring now to Figures 4 and 5a, the device 10 can further comprise a template portion 80 to facilitate the installation of staircase accessories to treads 12, such as, for example, but not limited to, balusters 82 for a handrail. Balusters 82 must typically be aligned along successive treads to generally follow the contour of the staircase 14. For the embodiment illustrated in Figure 4, the contour of the staircase 14 (and hence of an attached handrail) is generally straight.

[0043] The template portion 80 of the device 10 can be provided integrally within the base portion 30 of the device 10. The template portion 80 can include template features (also referred to as target elements) 84, such as, for example, but not limited to, holes, cut-outs, or a visible design provided in pre-determined locations in the material of the device 10. The target elements 84 of the template portion 80 can be punched, pressed, or embossed in the material of the device 10.

[0044] For the embodiment illustrated, the template portion 80 of the device 10 includes features 84 in the form of a pair of cut-outs 85 along a marginal portion (the right side) 38 of the base portion 30. An example of how the cut-outs 85 can facilitate the installation of the balusters 82 is explained as follows, with reference also to Figure 5b.

[0045] In a typical mounting system, the balusters 82 each have a lower end or foot 86 that is typically provided with a dowel pin 88 extending axially downward therefrom. Corresponding holes 90 are drilled in the treads

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12 to allow insertion of the dowel pins 88 for mounting the balusters 82. Accordingly, a person installing the balusters 82 drills the holes 90 in the treads 12 of the staircase 14 before installing the balusters 82. In a known method for installing balusters 82, short strips of wood (or other material) are nailed or stapled to the upper surface of each tread 12 to mark the locations where the balusters 82 are to be mounted, and hence, where the holes 90 are to be drilled. The strips essentially serve as a guide or jig, so that a handrail installer can quickly move from tread to tread, accurately positioning and drilling the required holes 90 in each tread. The strips are typically provided to abut an outer edge of the foot 86 of a baluster 82, so that the strips themselves need not be removed until the balusters 82 have been installed. Installing the strips to mark the location for the balusters can be time consuming, and can leave additional nail or staple marks in the treads 12, resulting in additional damage to the treads 12.

[0046] Providing the cut-outs 85 of the template portion 80 of the protector devices 10 can conveniently eliminate the need for constructing separate jig elements on each tread 12 for installation of the balusters 82. The cut-outs 85 can provide an accurate guide on each tread 12 for installing the balusters 82. The staircase manufacturer can ensure that the protector devices 10 are accurately positioned on each tread 12 by, for example, aligning either the right or left edge of device 10 with the corresponding edge of the tread 12. Each cut-out 85 can have a shape to generally accommodate the foot 86 of each baluster 82. The protector devices 10 can remain in place after the balusters 82 have been installed (Figure 4). Accordingly, the jig or guide provided by the template portion 80 can simply be removed at the same time that the protector device 10 is removed.

[0047] The template portion 80 can be modified within the scope of the invention. For example, in alternate embodiments of the template portion 80 of the device 10, the template features 84 can comprise perforated or scored lines of weakness to define a break-away panel that can easily be removed to reveal a cut-out 85. Providing lines of weakness instead of an open cut-out

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can simplify manufacture of the device 10. Furthermore, a visual cue, such as a hole or pattern, can be provided in the break-away panel to specifically mark where holes 90 are to be drilled for the pins 88 of the balusters 82. An installer can first drill holes 90, using the visual cues, and then subsequently remove the break-away panel, prior to installing the baluster 82. This embodiment can further enhance alignment of the balusters 82, and improve accuracy of the location of the holes 90.

[0048] Referring now to Figures 6 and 7, the protector device 10 is shown in combination with an alternative embodiment staircase 214. The staircase 214 has a circular staircase configuration, rather than a straight staircase configuration. The staircase 214 has treads 212 that are generally pie-shaped, having non-parallel forward and rearward edges. As best seen in Figure 7, the kick panel 74 of the device 10 can be folded flat down to lie generally in the same plane as the base portion 30. Furthermore, the rearward edge of the base portion 30 and/or of the kick panel 74 can be trimmed along a trim line 31 to match the slant of the rearward edge of the tread 212. In other words, the trim line 31 can generally abut the forward face 19 of the riser 15b.

[0049] Referring now to Figure 8, an alternative embodiment of a protector device 310 has a base portion 330 with a rearward edge 334. The protector device 310 has no kick panel. The protector device 310 has, compared to the device 10, fewer and smaller, less pronounced grip ridges 339. The protector device 310 has a clip portion 340 extending from the base portion 330. The clip portion 340 has a tread retaining member 356 and a tab 366.

[0050] Referring to Figure 9, another alternate embodiment of a protector device 410 has a base portion 430 and a clip portion 440. The clip portion 440 is provided with a tread connection element 456 in the form of a co-extruded fin 457 extending upward from the retaining member 444. The fin 457 can be of a softer plastic or rubber-like material as compared to the remainder of the device 410, and can be adapted to grip the underside

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surface 24 of the tread 12 (not shown in Figure 9). A second fin 457 can be provided along the facing surface of the base portion 430, opposite the first fin 457. The fins 457 can be particularly helpful in gripping the surface of the tread 12 when no protective layers 65 (plastic and or paper layers) are provided on the stairs.

[0051] It is to be understood that what has been described are preferred embodiments of the invention. The invention nonetheless is susceptible to certain changes and alternative embodiments without departing from the subject invention, the scope of which is defined in the following claims.

CLAIMS

Claim 1. A protector device for protecting a stair tread, comprising:

a) a base portion adapted to cover at least a portion of a stair tread and presenting an upper surface upon which a user can step, the base portion having a forward protector edge adapted to be generally aligned with a forward tread edge of the stair tread, the base portion extending rearwardly from the forward protector edge to a rear edge, the distance between the front protector edge and the rear edge defining a base depth;

b) a clip portion extending from the forward protector edge of the base portion and adapted to releasably secure the protector device to a stair tread, the clip portion comprising an offset arm extending downwardly from the forward protector edge of the base portion, and a retaining member extending from the offset arm, opposite a forward portion of the base portion, the retaining member extending rearwardly by an amount less than the base depth, and the clip portion extending generally continuously along the forward protector edge of the base portion; and

c) a kick panel portion extending upwardly from the rear edge of the base portion and configured to cover and protect a front surface of a riser of an adjacent step.

Claim 2. The device of claim 1 wherein the retaining member is movable between open and closed positions, opposing surfaces of the retaining member and the base portion being spaced apart by a spacing having a first size when the retaining member is in the open position and a second size narrower than the first size when in the closed position, the retaining member configured to bear against an underside surface of the tread when in the closed position to exert a clamping force across the thickness of the tread.

Claim 3. The device of claim 2, wherein the retaining member is biased toward the closed position.

Claim 4. The device of any one of claims 2-3, wherein the clip portion is made of a flexibly resilient material, the retaining member being urged apart from the base portion to move the retaining member to the open position.

Claim 5. The device of any one of claims 1-4, further comprising a grip tab extending rearwardly from the retaining member and inclined downwardly away from the base portion.

Claim 6. The device of any one of claims 1-5, wherein the clip portion further comprises a tread connection element for providing releasable locking engagement with the stair tread, the tread connection element comprising a barb protruding from the retaining member towards the base portion.

Claim 7. The device of any one of claims 1-6, wherein the upper surface of the base portion comprises a plurality of upwardly protruding grip ridges, each grip ridge parallel to the forward protector edge and extending continuously between opposed side edges of the base portion.

Claim 8. The device of any one of claims 1-7, wherein at least a portion of the kick panel is inclined upwardly and rearwardly relative to the base portion.

Claim 9. The device of any one of claims 1-8, wherein the kick panel terminates vertically at a free upper panel edge, the free upper panel edge spaced vertically above and horizontally rearward of the base panel rear edge.

Claim 10. The device of any one of claims 1-9, wherein the device is of one-piece, contiguous extruded plastic construction.

Claim 11. In combination, a stair tread and a tread protector device for protecting the stair tread, the stair tread having a forward tread edge, the tread protector device of unitary extruded plastic construction and including a base portion covering at least a portion of the stair tread and configured to be stepped on by a user, the base portion having a forward protector edge generally aligned with the forward tread edge of the stair tread, the base portion extending rearwardly from the forward protector edge to a rear edge,

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the distance between the forward protector edge and the rear edge defining a base depth, and

the protector device further including a unitary clip portion extending downwardly from the forward protector edge of the base portion, the clip portion comprising a flexibly resilient material and releasably securing the protector device to the stair tread, wherein the clip portion comprises an offset arm extending from the forward protector edge of the base portion, and a retaining member extending from the offset arm, opposite the base portion, and a grip tab extending rearwardly from the retaining member and inclined downwardly away from the base portion, the retaining member and the grip tab together extending rearwardly from the offset arm by an amount less than the base depth.

Claim 12. The combination of claim 11 wherein the clip portion of the tread protector device is movable between open and closed positions, the clip portion biased toward the closed position and moveable to the open position by deforming the flexibly resilient material for alternately releasing and retaining the protector device relative to the stair tread.

Claim 13. The combination of claim 12, wherein a recess is provided between the grip tab and an underside surface of the tread, a person's finger insertable in the recess to facilitate moving the clip portion to the open position for removal of the protector device from the tread.

Claim 14. The combination of claim 13, further comprising a lower riser extending vertically downward from the underside surface of the stair tread near the forward tread edge, wherein a gap is provided between a rearmost end of the grip tab and a front surface of the lower riser to facilitate access of the person's finger into the recess.

Claim 15. The combination of claim 14, further comprising an upper riser extending upwardly from the upper surface of the tread adjacent a back tread edge of the tread, spaced away from the forward tread edge, and the protector device comprising a kick panel portion extending upwardly from the

rear edge of the base portion and configured to cover and protect a front surface of the upper riser.

Claim 16. The combination of claim 15, wherein the kick panel portion has a lower panel portion joined to the rear edge of the base portion, the lower panel portion extending at an upward and rearward incline from the rear edge of the base portion,

Claim 17. The combination of any one of claims 11-16, wherein the protector device further comprises a barb protruding from the retaining member towards the base portion, and the tread comprises a groove in the underside surface of the tread for receiving the barb in releasably locked engagement.

Claim 18. The combination of any one of claims 11-17, further comprising a layer of protective web material between the stair tread and the protector device.

Claim 19. The combination of claim 18, wherein the layer of protective web material comprises a plastic film.

Claim 20. The combination of any one of claims 11-19, wherein the protector device has a generally uniform cross-sectional profile along its length, and the base portion is free of apertures or cut-outs.

Claim 21. A protector device for protecting a stair tread, comprising:

a one-piece, unitary, plastic extruded lineal, the lineal including:

a) a base portion adapted to cover at least a portion of an upper surface of a stair tread and presenting a surface upon which a user can step, the base portion having a forward protector edge adapted to be generally aligned with a forward tread edge of the stair tread, the base portion extending rearwardly from the front protector edge to a rear edge, the distance between the front protector edge and rear edge defining a base depth;

b) a clip portion extending from the forward protector edge of the base portion and adapted to releasably secure the protector device to the

stair tread, the clip portion comprising an offset arm extending from the forward protector edge of the base portion, and a retaining member extending from the offset arm, opposite a forward portion of the base portion, the retaining member extending rearwardly by an amount less than the base depth, and the clip portion comprising a grip tab extending rearwardly from the retaining member and inclined downwardly away from the base portion; and

c) a kick panel portion extending upwardly from the rear edge of the base portion, the kick panel portion configured to cover and protect a front surface of a riser of an adjacent step.

Claim 22. The device of claim 21, wherein the base portion further comprises a pair of side margins extending from the front protector edge to the rear edge along opposing sides of the base portion, at least one of the side margins defining a template portion for facilitating installation of balusters onto the upper surface of the stair tread, wherein the protector device is removable from the stair tread without removing the balusters from the upper surface of the stair tread.

Claim 23. The device of claim 22, wherein the template portion comprises at least one target element to visibly identify a mounting location for a baluster on the upper surface of said stair tread.

Claim 24. The device of any one of claims 21-23 wherein the clip portion is movable between open and closed positions for releasably securing the protector device to said stair tread.

Claim 25. The device of claim 24 wherein the clip portion is resiliently biased towards the closed position.

Claim 26. The device of any one of claims 24-25, wherein a spacing is provided between opposed surfaces of the base portion and the retaining member, the spacing having a first size when the clip is in the open position and a second size narrower than the first size when the clip is in the closed position.

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Claim 27. A method of making a protector device for protecting a stair tread, comprising:

extruding a plastic resin through a die to form an extruded lineal, the extruded lineal integrally including a base portion adapted to cover at least a portion of an upper surface of a stair tread and presenting a surface upon which a user can step, and a clip portion extending from a forward protector edge of the base portion and adapted to releasably secure the protector device to the stair tread; and

cutting the extruded lineal to a length that is less than a width of the stair tread to which the device is to be releasably secured.

Claim 28. A method of providing removable protection for a finished stair case, the method comprising:

a) obtaining a tread protector device, the tread protector device having a base portion adapted to cover at least a portion of a stair tread, and a clip portion extending from the forward protector edge of the base portion and adapted to releasably secure the protector device to a stair tread, the clip portion comprising an offset arm extending downwardly from a forward protector edge of the base portion, and a retaining member extending from the offset arm, opposite a forward portion of the base portion;

b) positioning the clip portion of the protector device adjacent the nose of one of the stair treads with the base portion above the stair tread; and

c) pressing the clip portion towards the tread nose to abut the offset arm against a leading surface of the tread nose, wherein the retaining member is urged away from base portion and exerts a clamping force across a thickness of the stair tread for securing the clip portion to the stair tread.

Claim 29. The method of claim 28, wherein the staircase includes a plurality of stair treads, and steps (a) – (c) are performed for each respective stair tread.

Claim 30. The method of claim 28, further comprising covering at least a portion of the stair case with a protective web material.

Claim 31. The method of claim 30, wherein step (b) includes positioning the base portion of the protector device over a portion of the web material.

Claim 32. A protector device for protecting a stair tread, comprising:

- a) a generally planar base portion adapted to cover at least a portion of an upper surface of a stair tread and configured to be stepped on by a user, the base portion having a forward protector edge adapted to be generally aligned with a forward tread edge of the stair tread;

- b) a template portion extending marginally from the base portion and coplanar therewith for facilitating installation of balusters onto the upper surface of said stair tread, wherein the template portion comprises at least one target element to visibly identify a mounting location for a baluster on the upper surface of said stair tread; and

- c) a clip portion extending from the forward protector edge of the base portion and movable between open and closed positions for releasably securing the protector device to said stair tread.

Claim 33. The device of claim 32 wherein the clip portion comprises an offset arm extending from the forward protector edge of the base portion, and a retaining member extending from the offset arm, opposite the base portion.

Claim 34. The device of claim 33 wherein a spacing is provided between opposed surfaces of the base portion and the retaining member, the spacing having a first size when the clip is in the open position and a second size narrower than the first size when the clip is in the closed position.

Claim 35. The device of any one of claims 32-34, wherein the clip portion extends generally continuously along the forward protector edge of the base portion.

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Claim 36. The device of any one of claims 32-35, wherein the device is of unitary extruded plastic construction.

Claim 37. The device of any one of claims 32-36, further comprising a kick panel extending upwardly from a rear edge of the base portion.

Claim 38. The device of claim 37, wherein the kick panel portion has a lower panel portion joined to the rear edge of the base portion, the lower panel portion extending at an upward and rearward incline from the rear edge of the base portion.

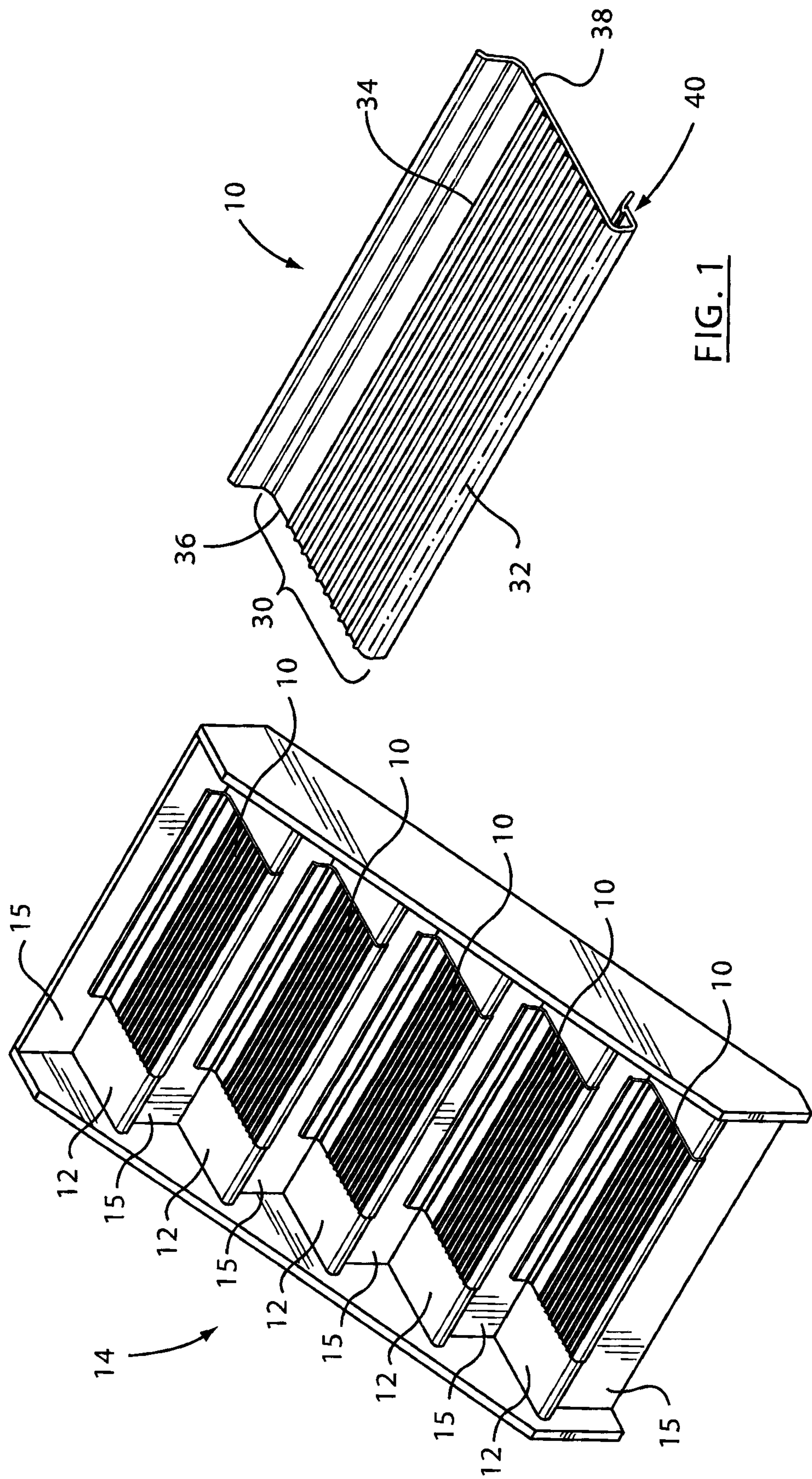
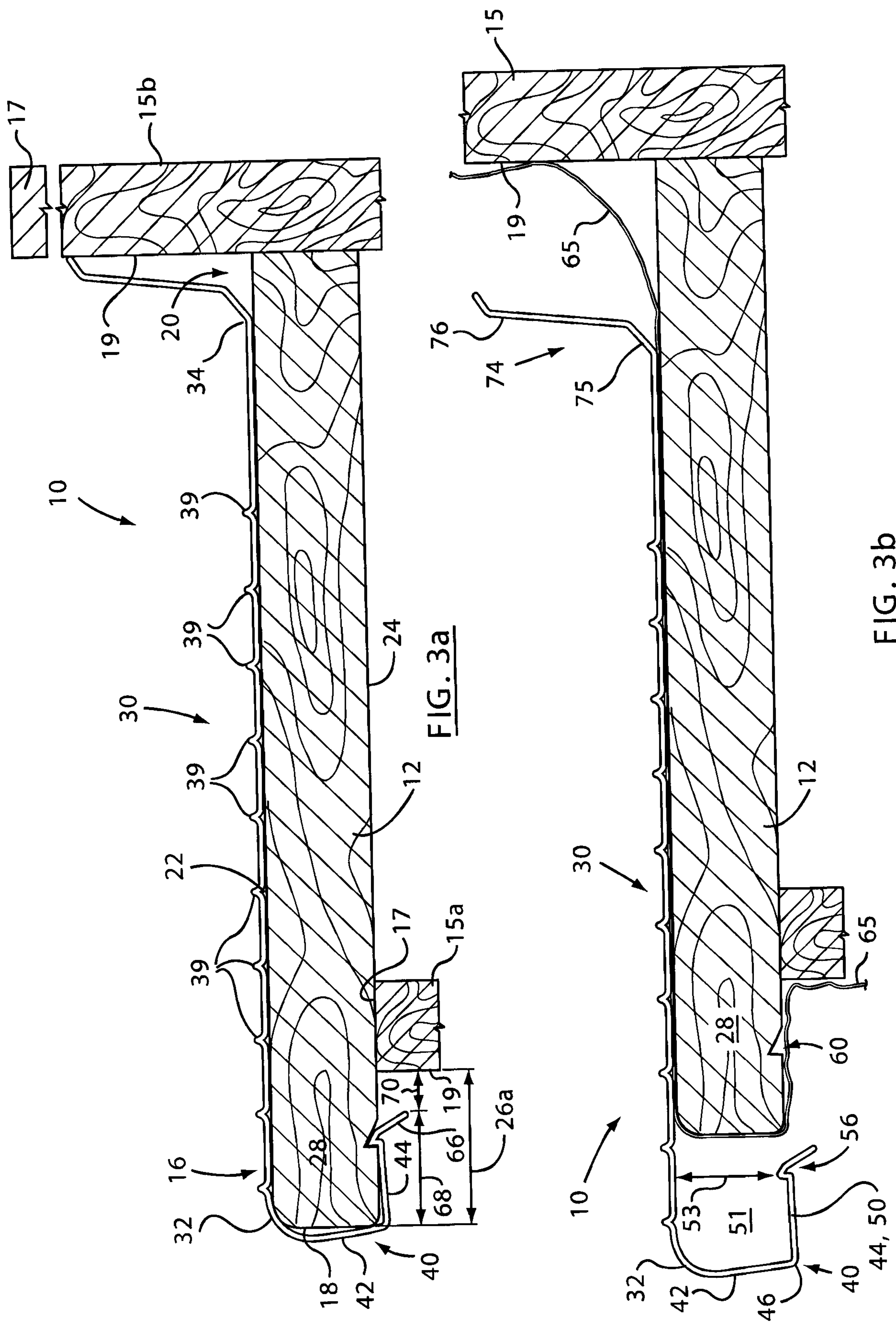


FIG. 1

FIG. 2



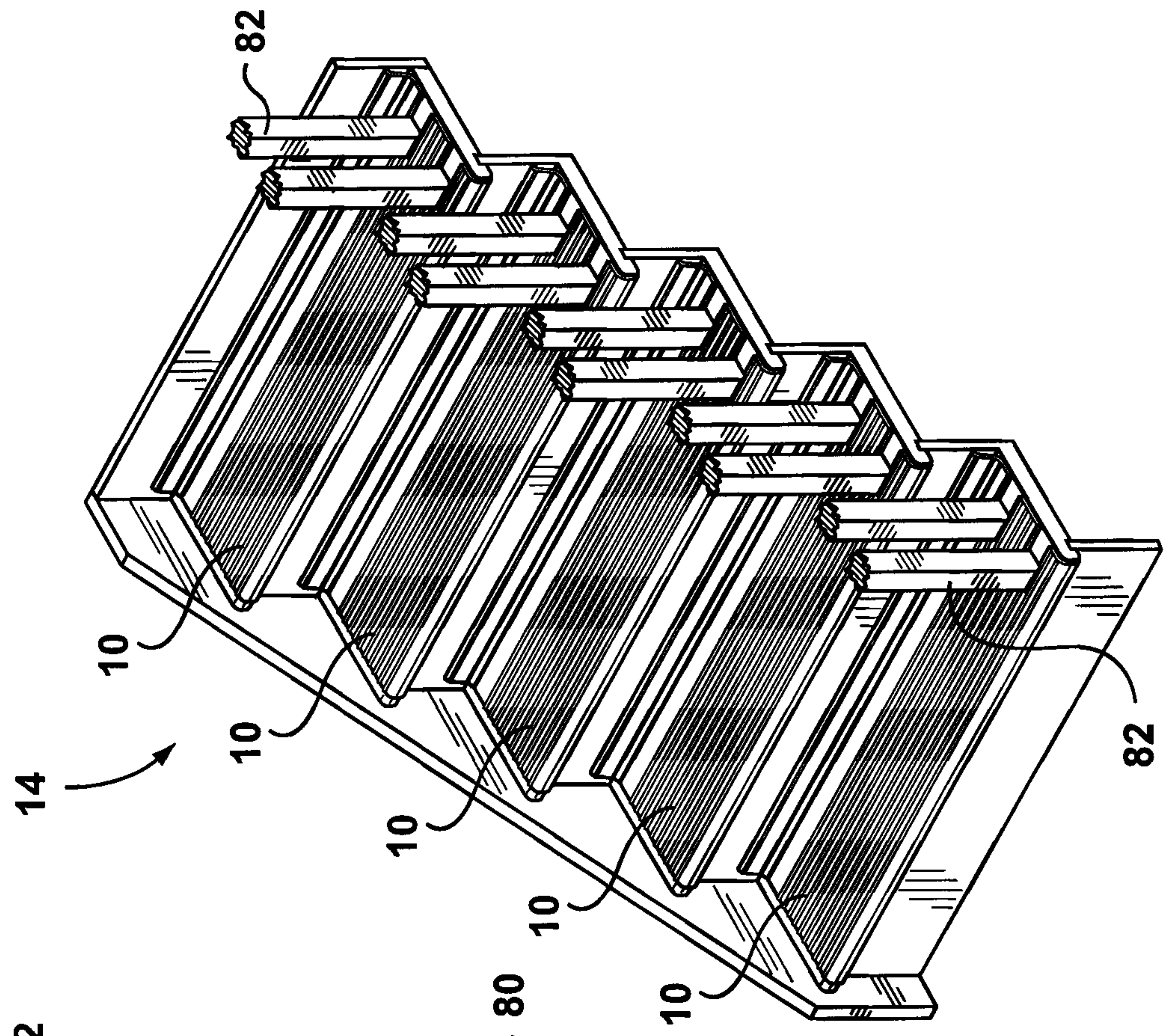


FIG. 4

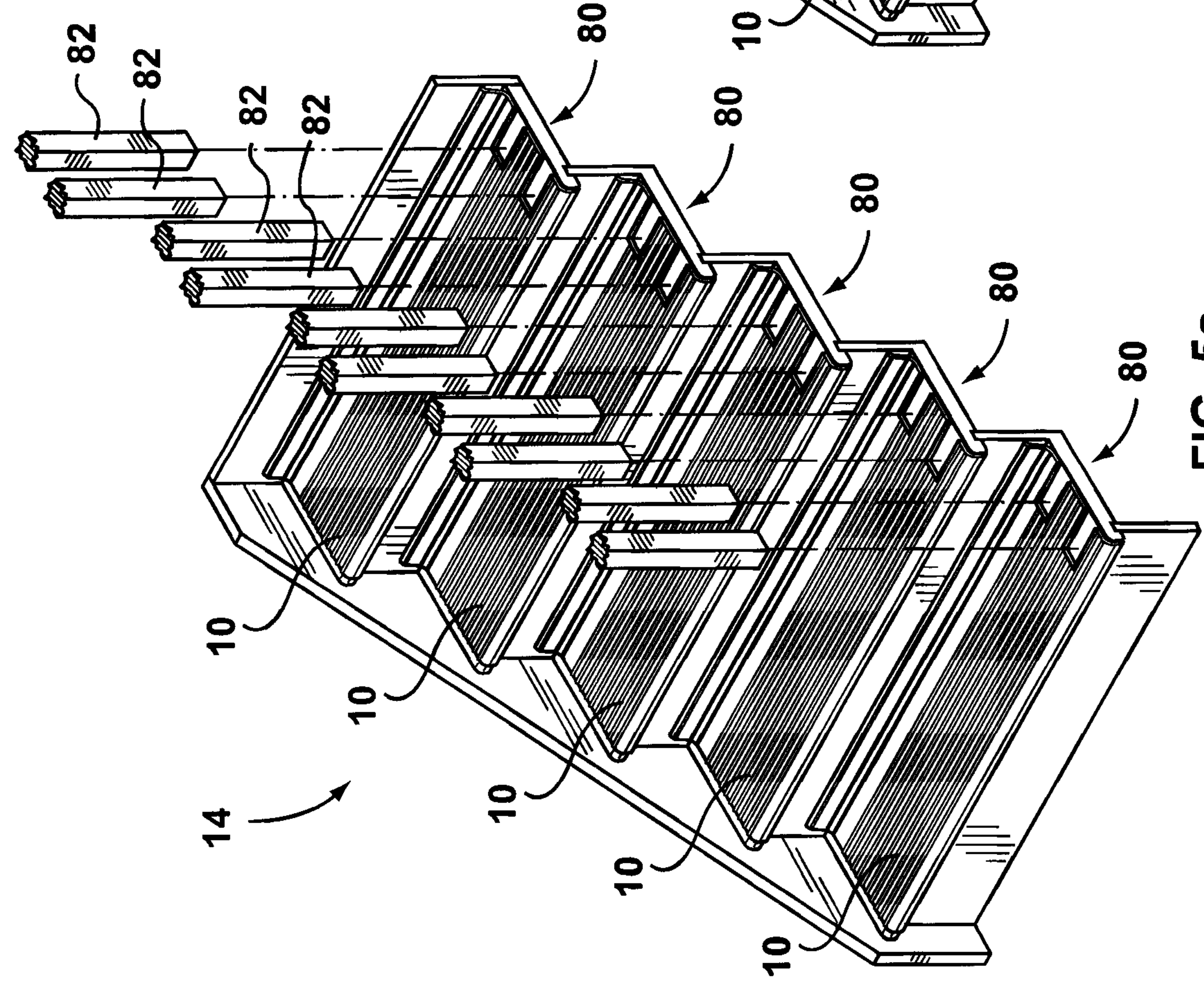


FIG. 5a

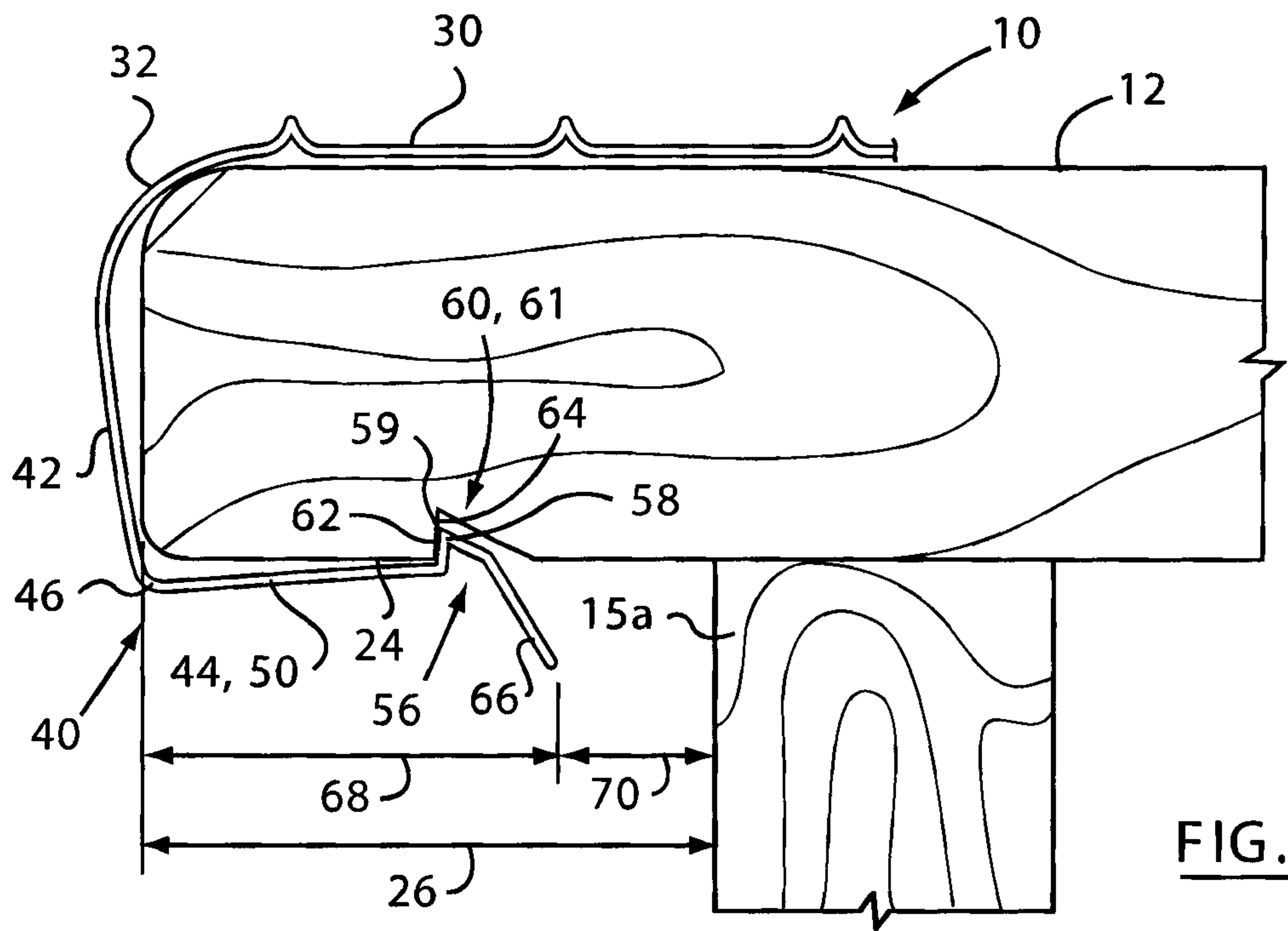


FIG. 3c

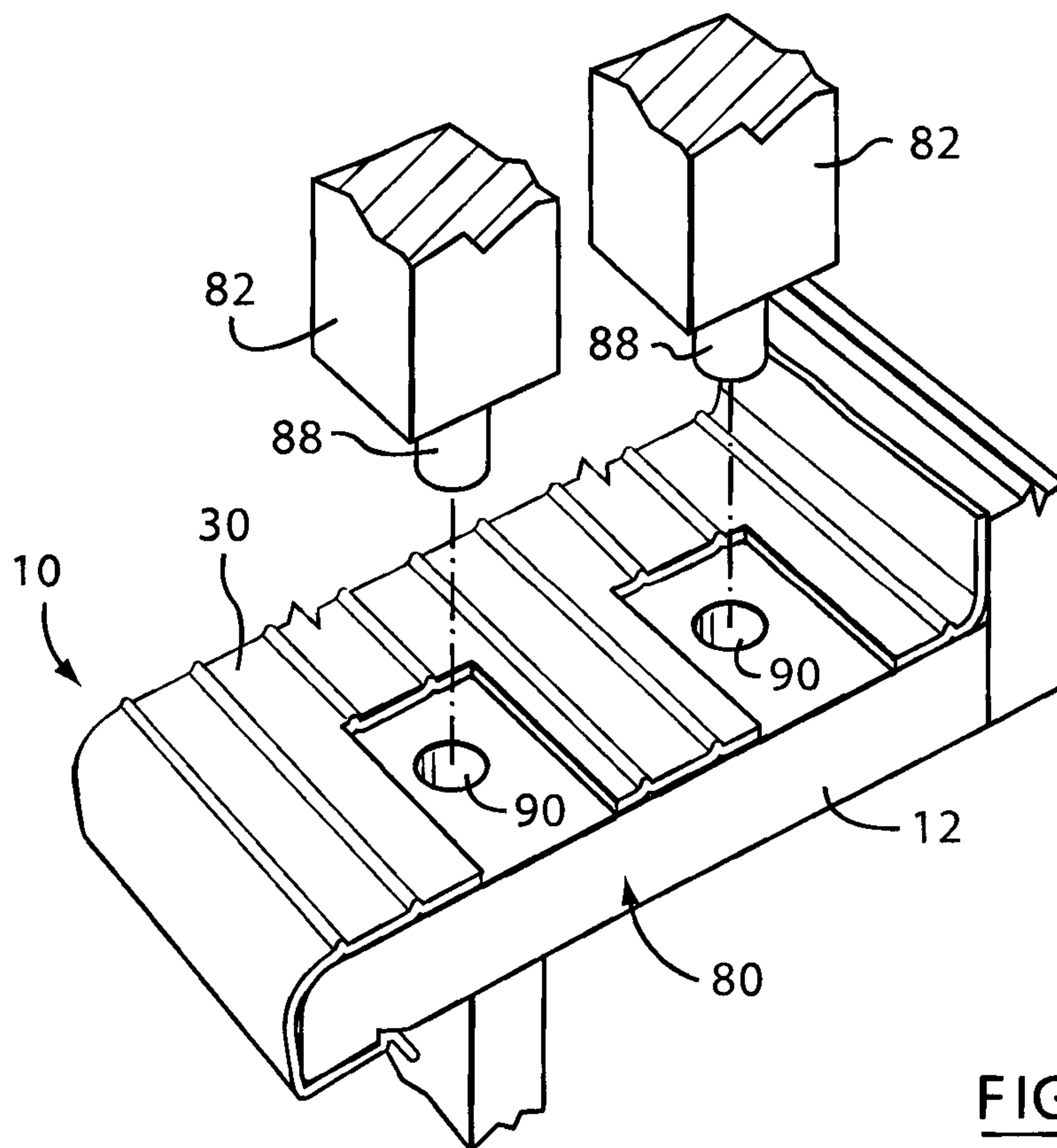


FIG. 5b

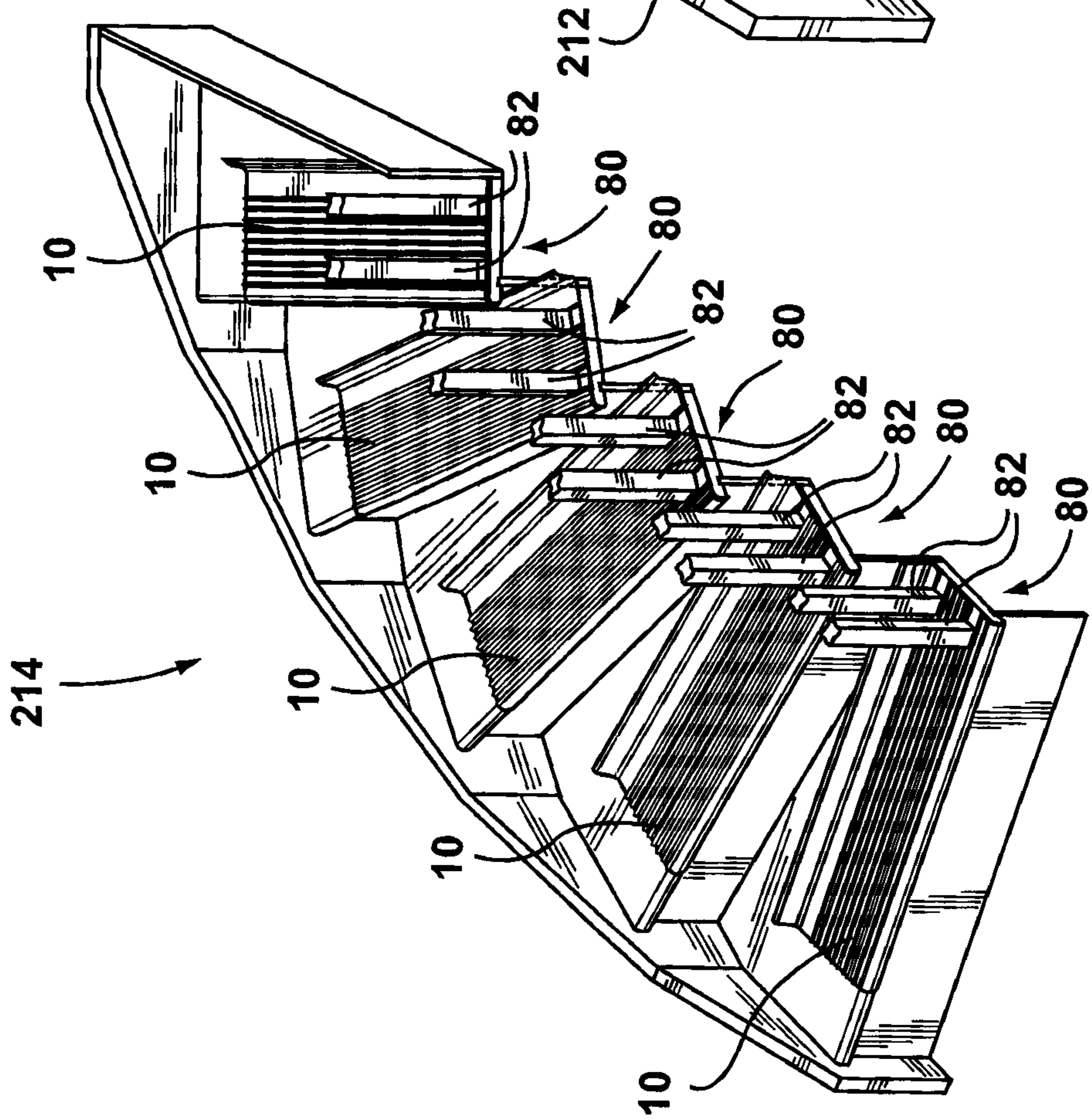


FIG. 6

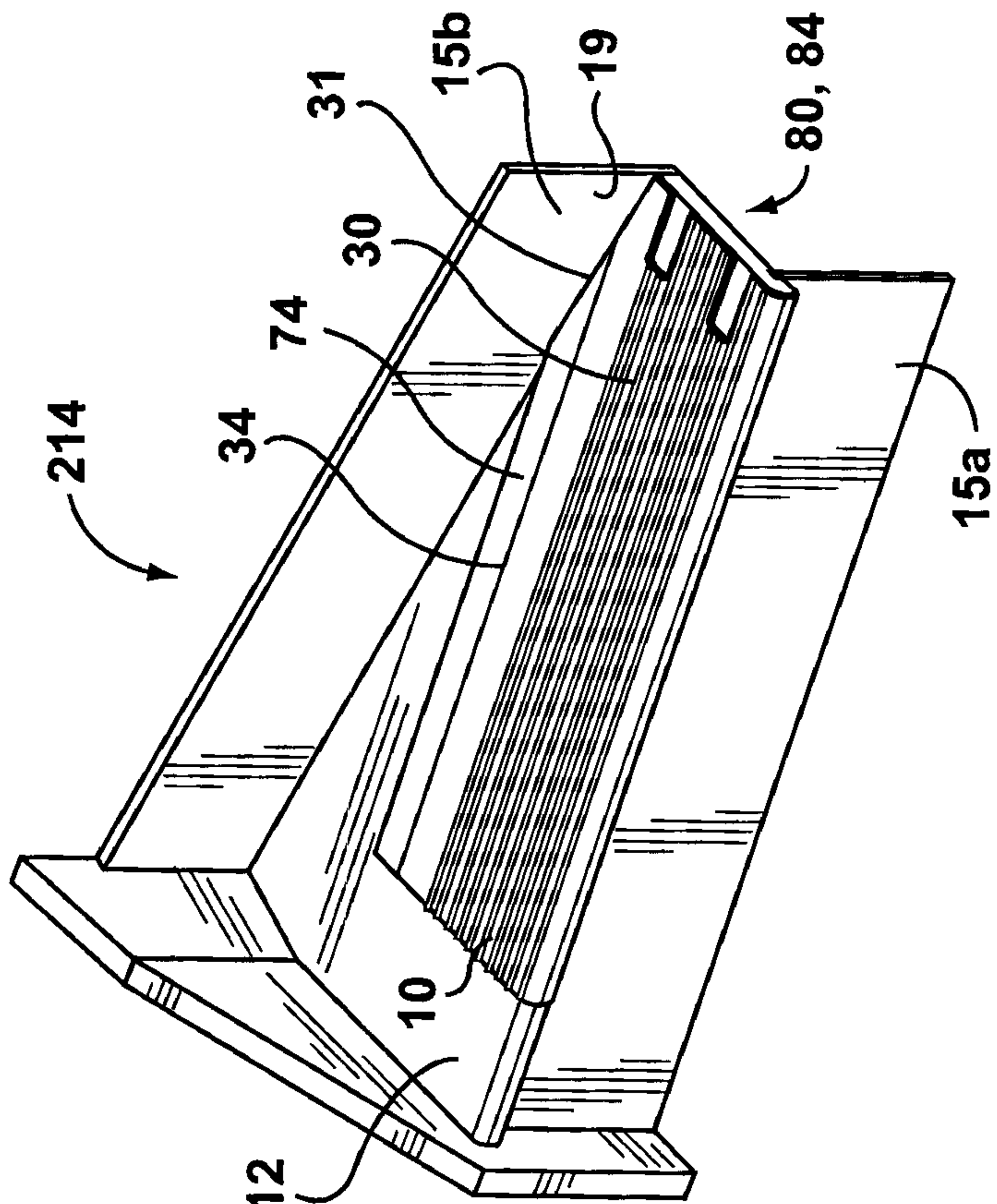


FIG. 7

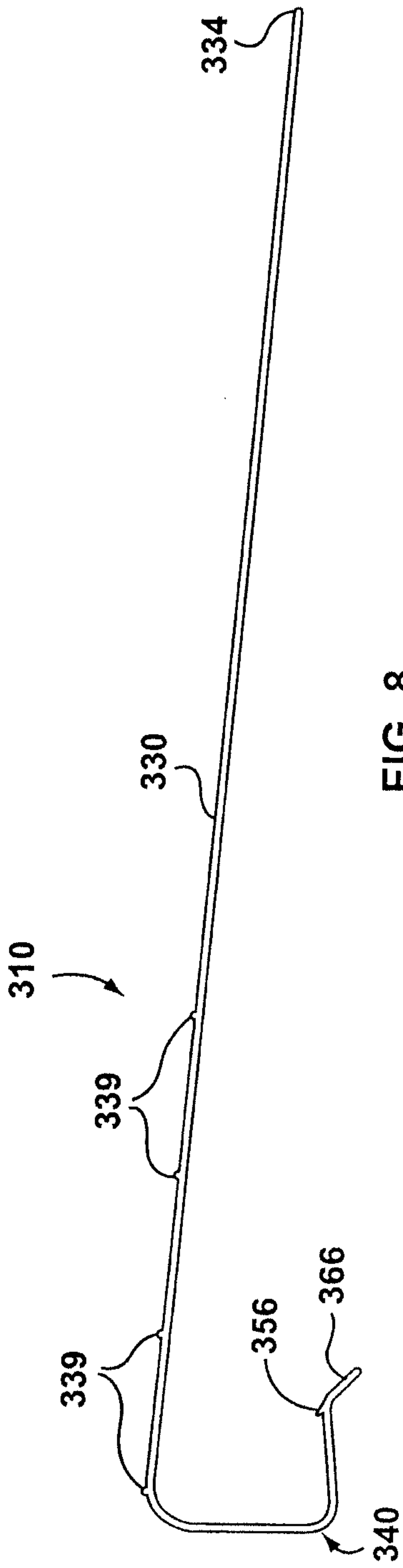


FIG. 8

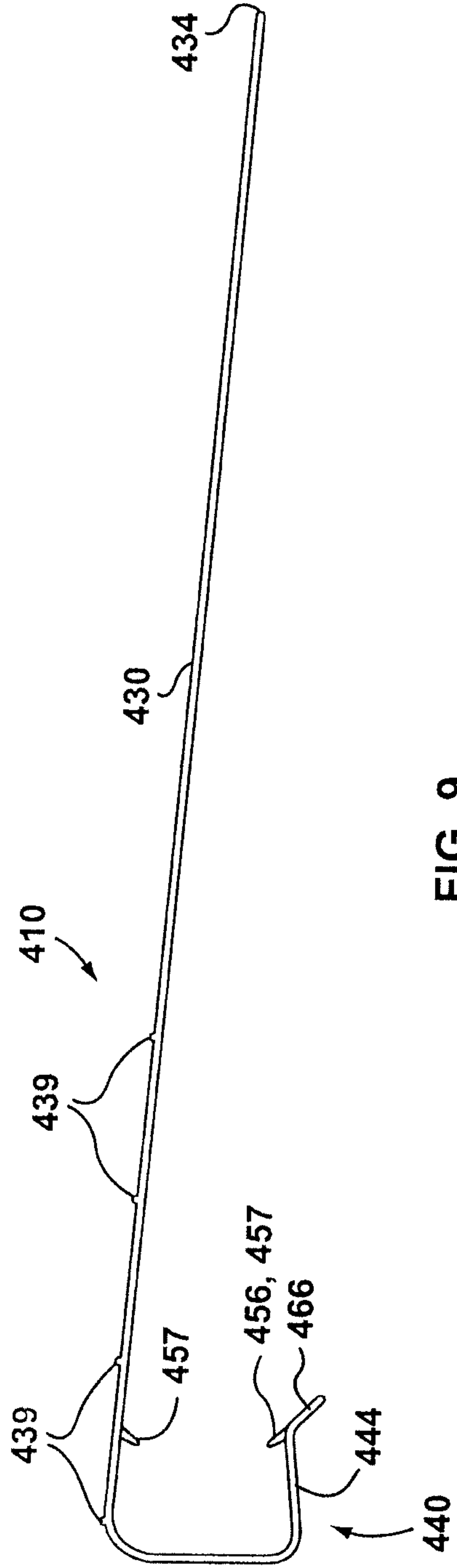


FIG. 9

