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(54) **STAIRCASE CAPPING SYSTEM AND A METHOD OF INSTALLATION**

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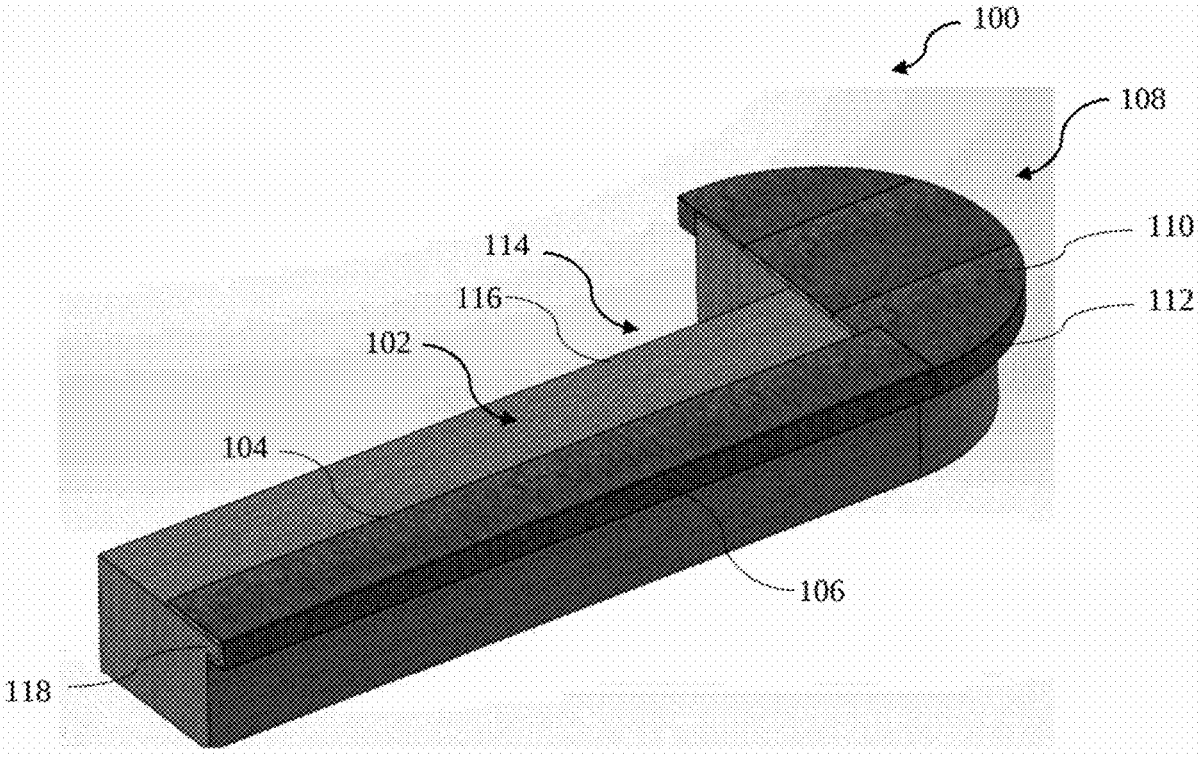
E04F 11/17 (2006.01)

(52) **U.S. Cl.**
CPC *E04F 11/175* (2013.01)

(57) **ABSTRACT**

A staircase capping system for covering staircase, comprises a channel installed along a length and width of staircase, comprising a horizontal section configured to secure a stair tread of the staircase. Further, a bend section configured to secure a floor nosing of the staircase. A corner panel interlocked with the channel via a cutout section, comprising a semicircular panel installed over at least one side of the staircase. Further, plurality of edge strips fabricated along the semicircular panel, configured to bend and wrap around a return nosing of the staircase. The perimeter of the plurality of edge strips are configured to custom match with perimeter of the return nosing and an outside return panel interlocked with the channel via the cutout section, configured to protect return nosing of the staircase.



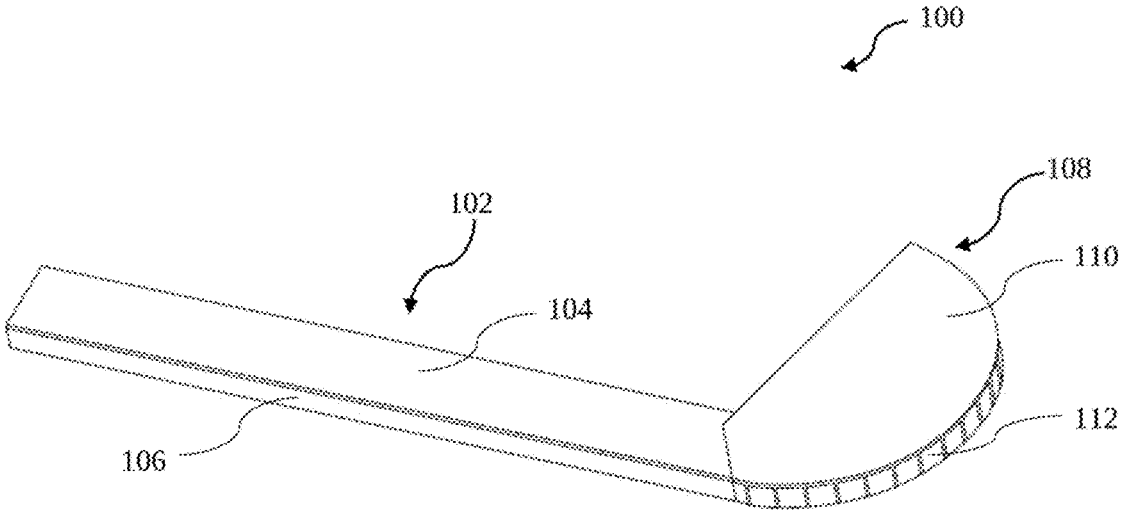

100
102
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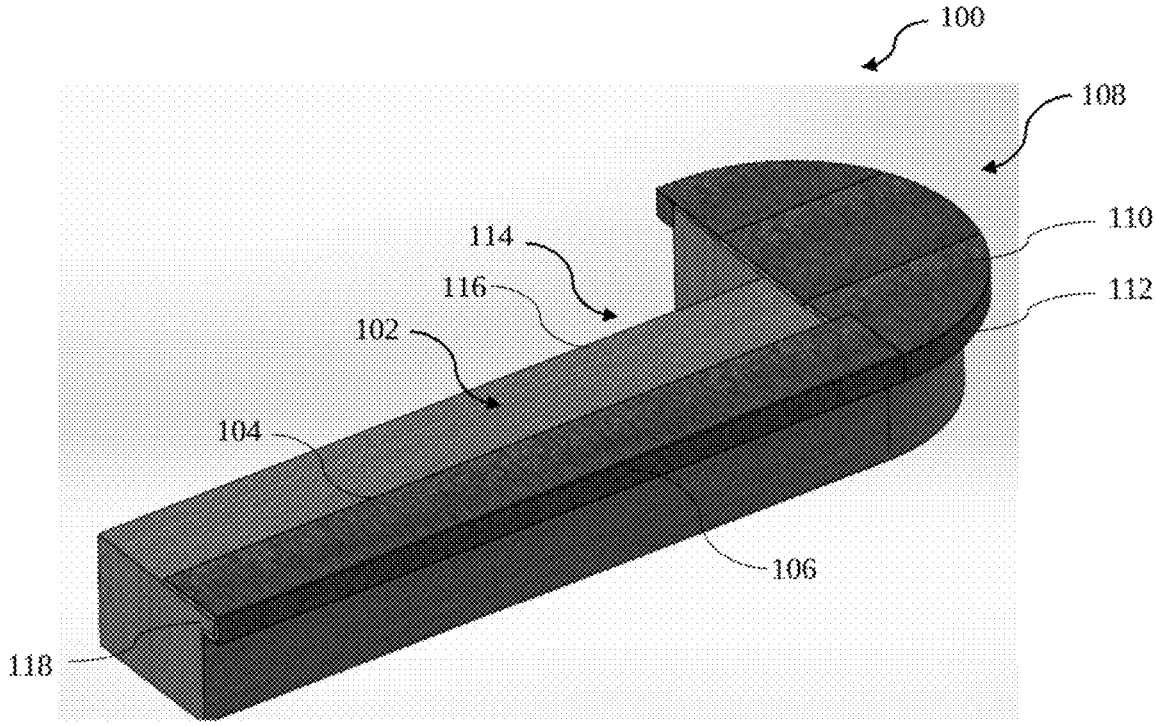
FIG. 1A


100
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116
118

FIG. 1B

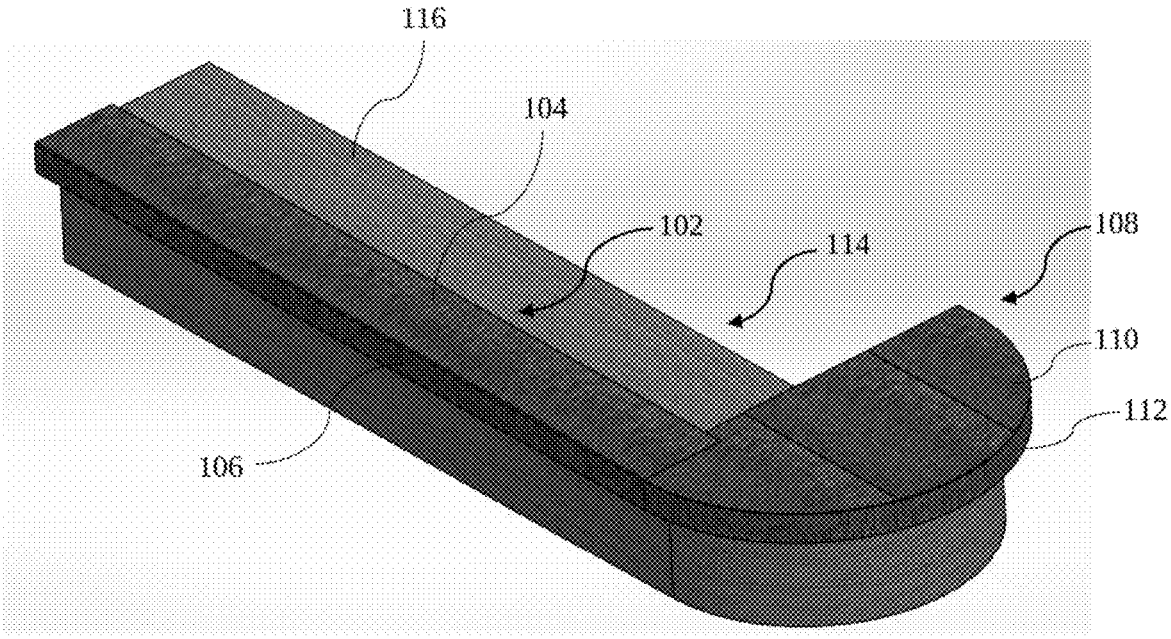

FIG. 1C

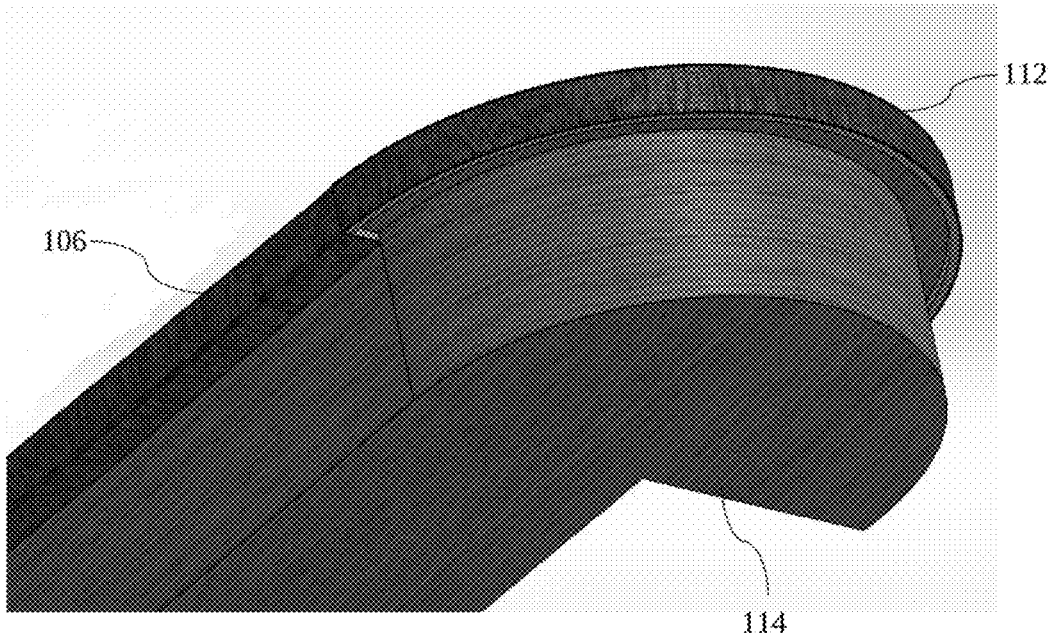

FIG. 1D

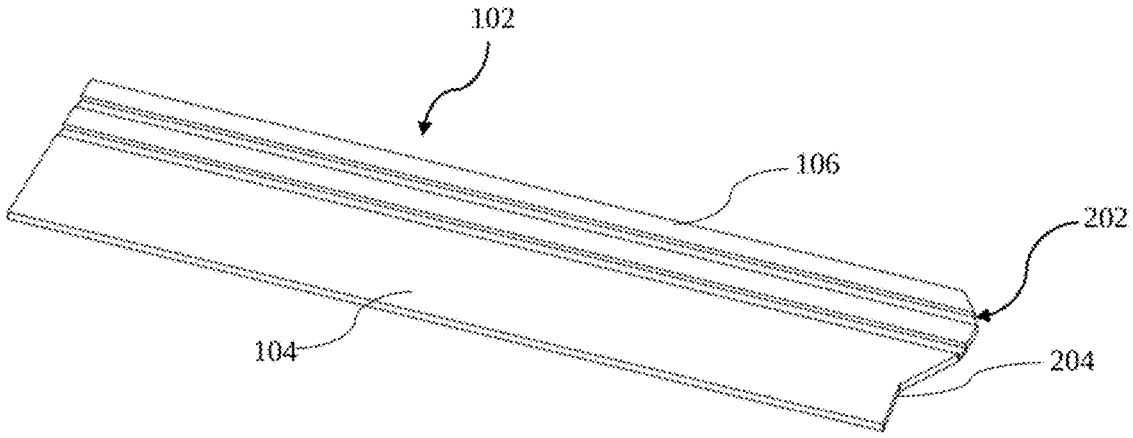

FIG. 2A

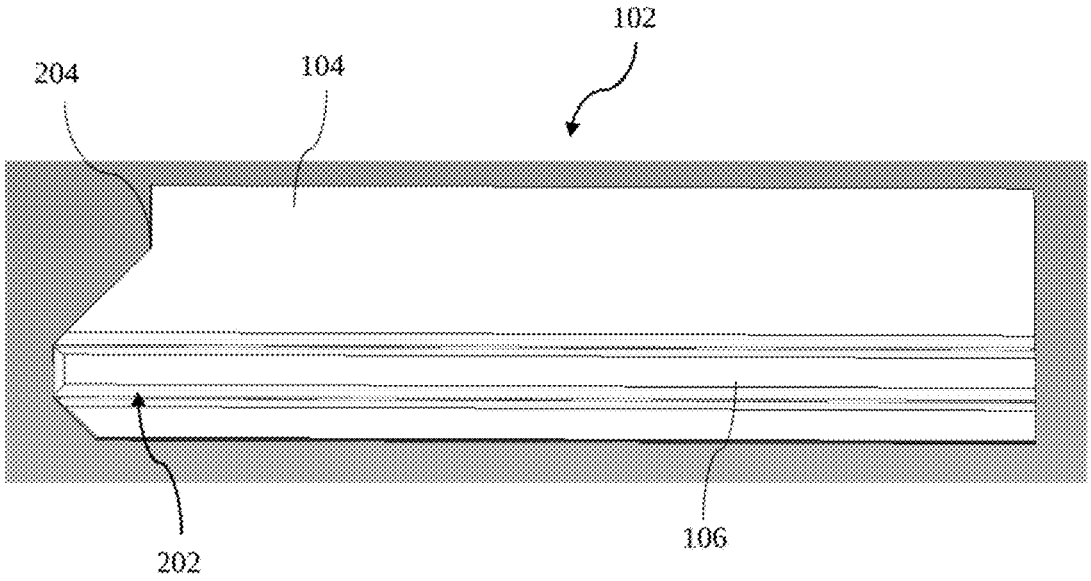

FIG. 2B

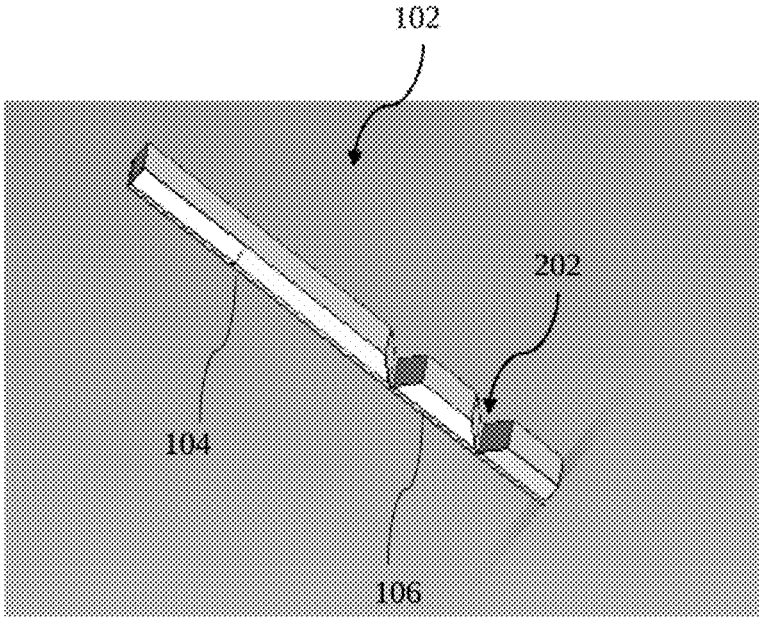

FIG. 2C

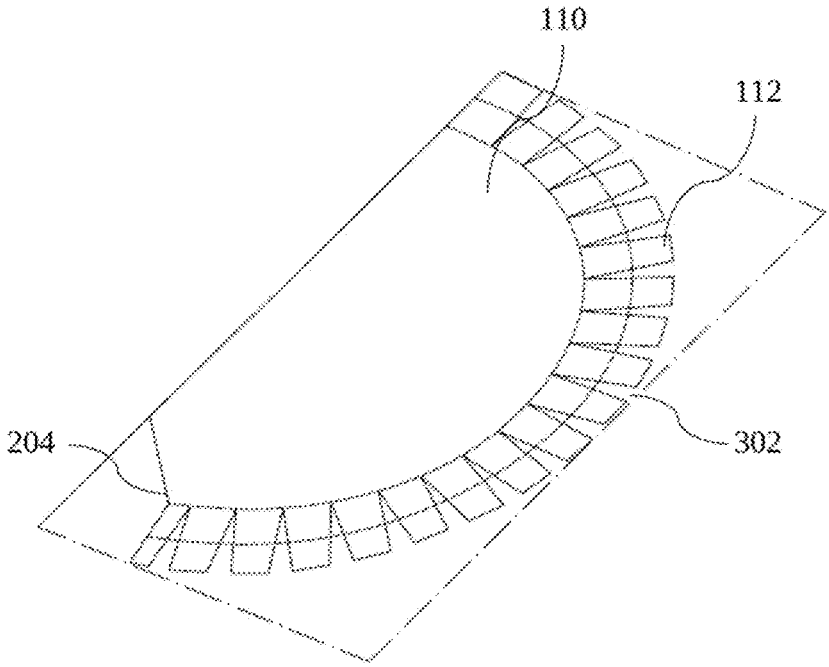

FIG. 3A

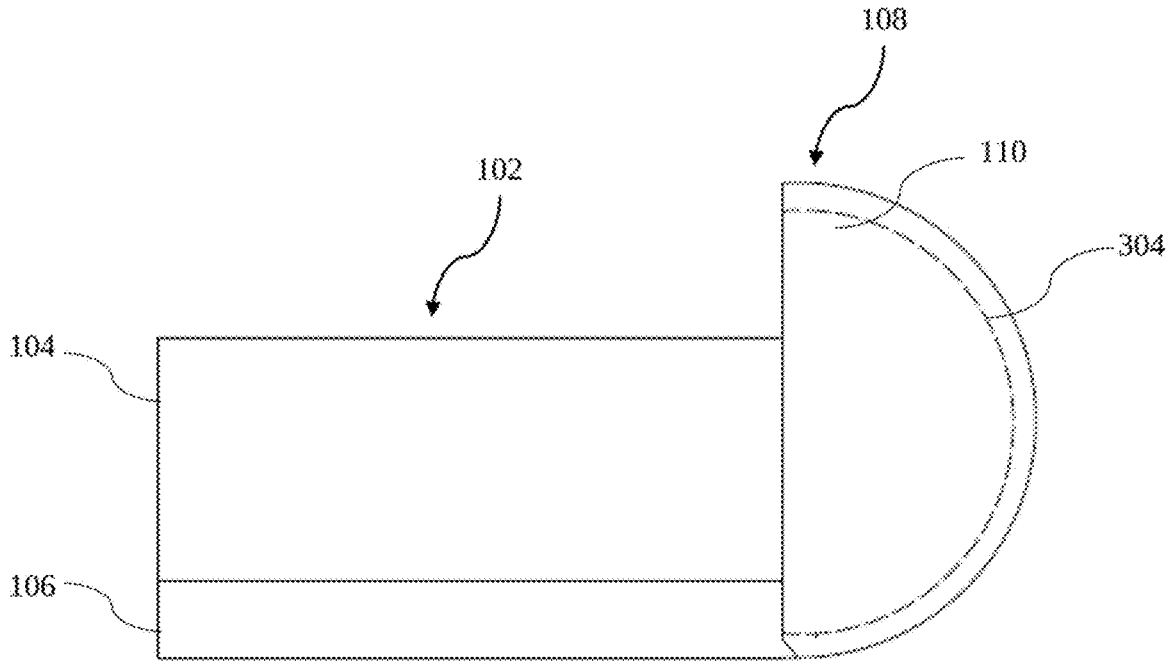

FIG. 3B

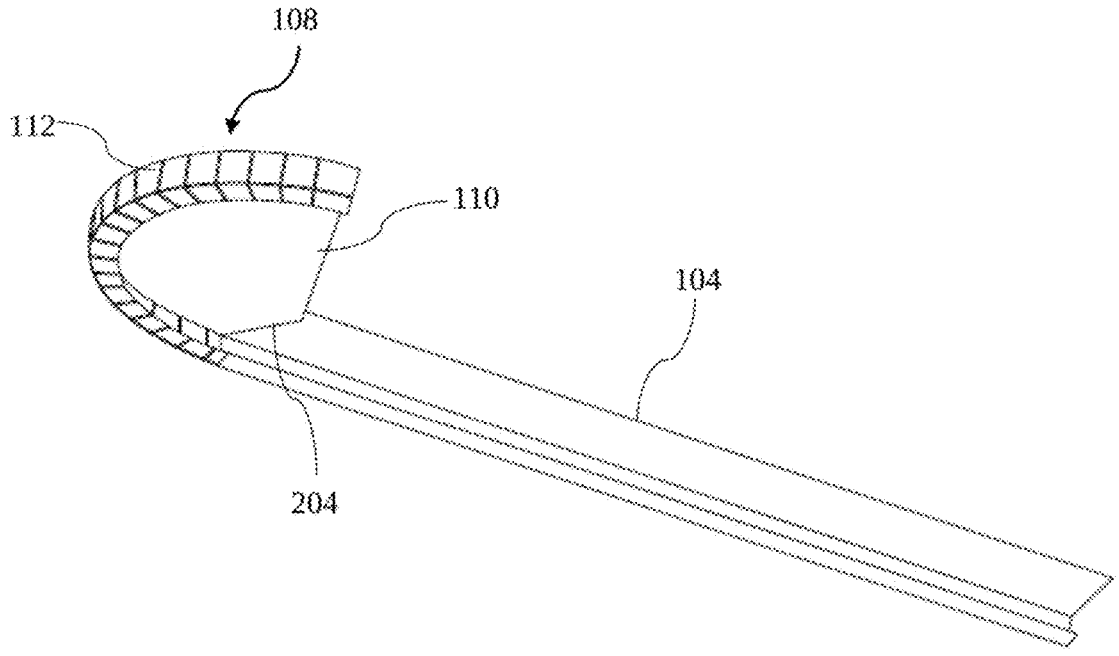

FIG. 3C

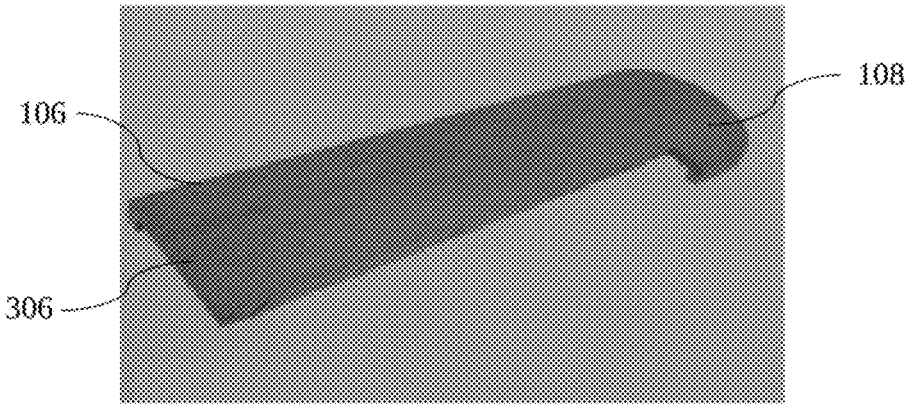

FIG. 3D

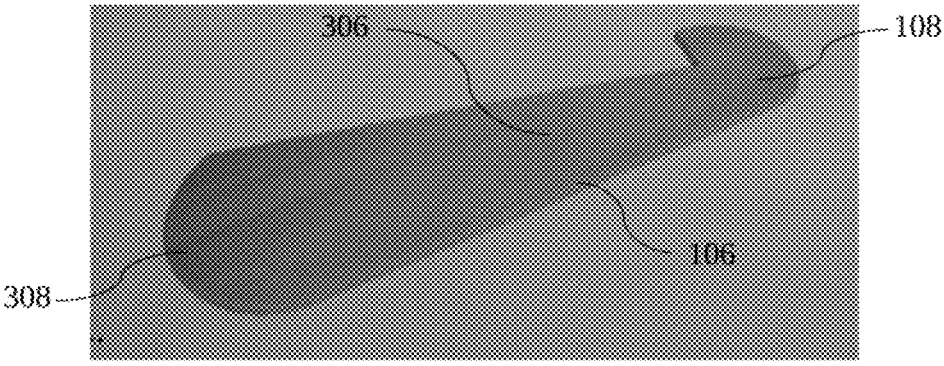

FIG. 3E

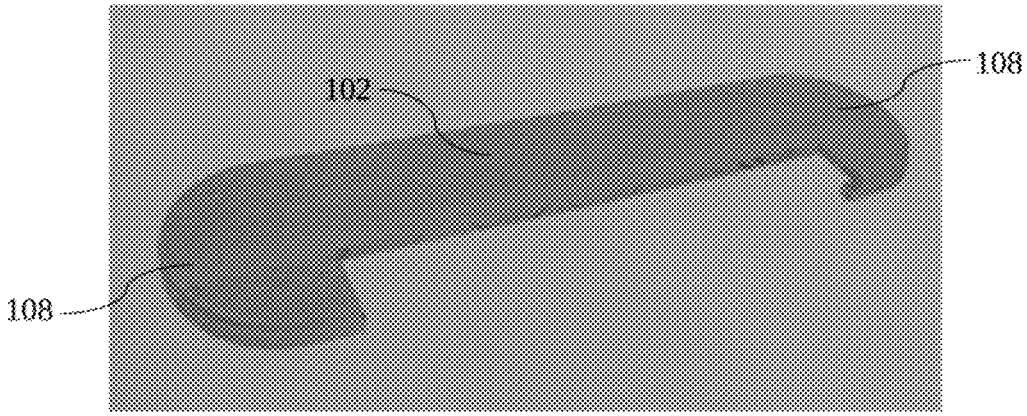

FIG. 3F

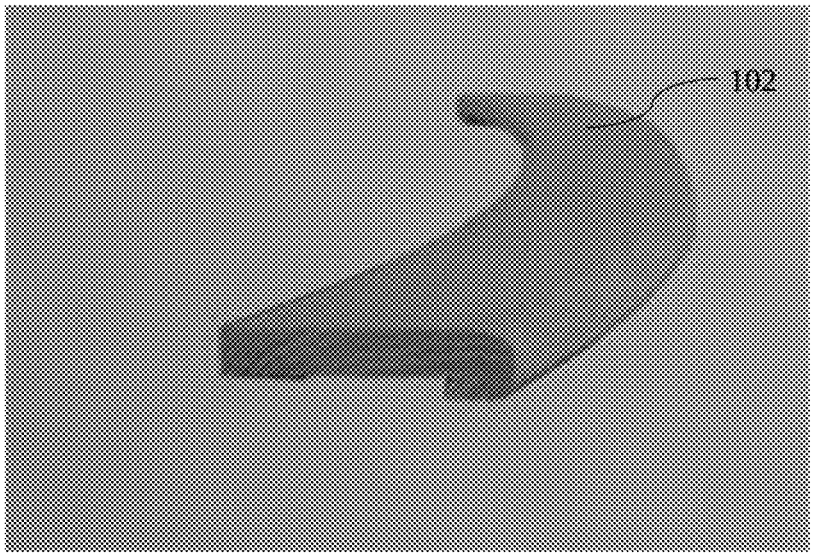

FIG. 3G

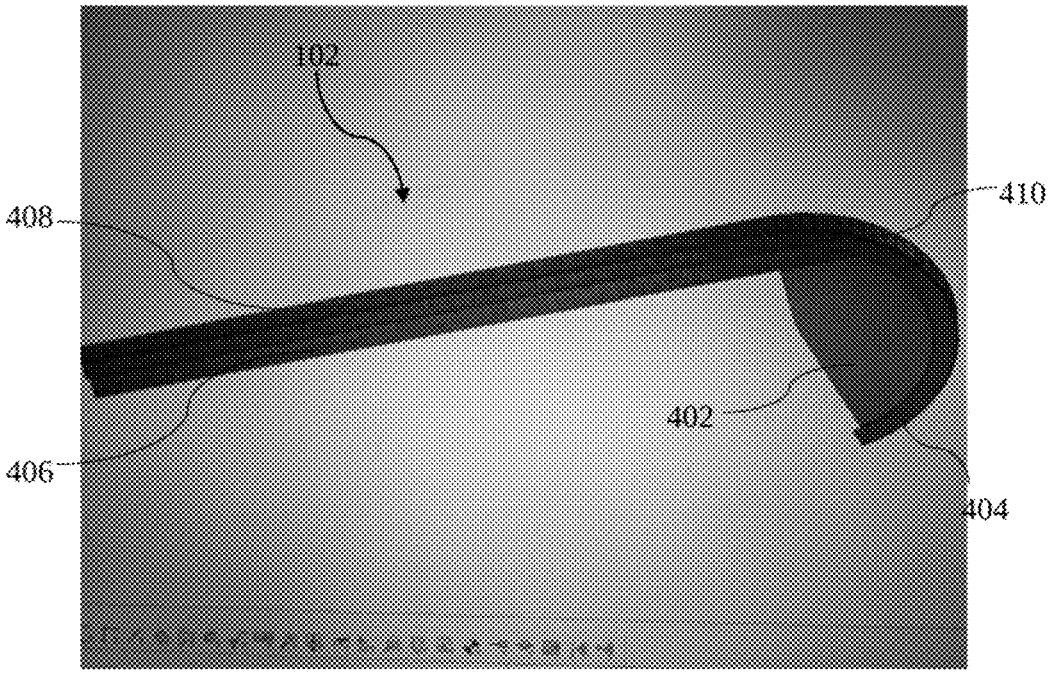

FIG. 4A

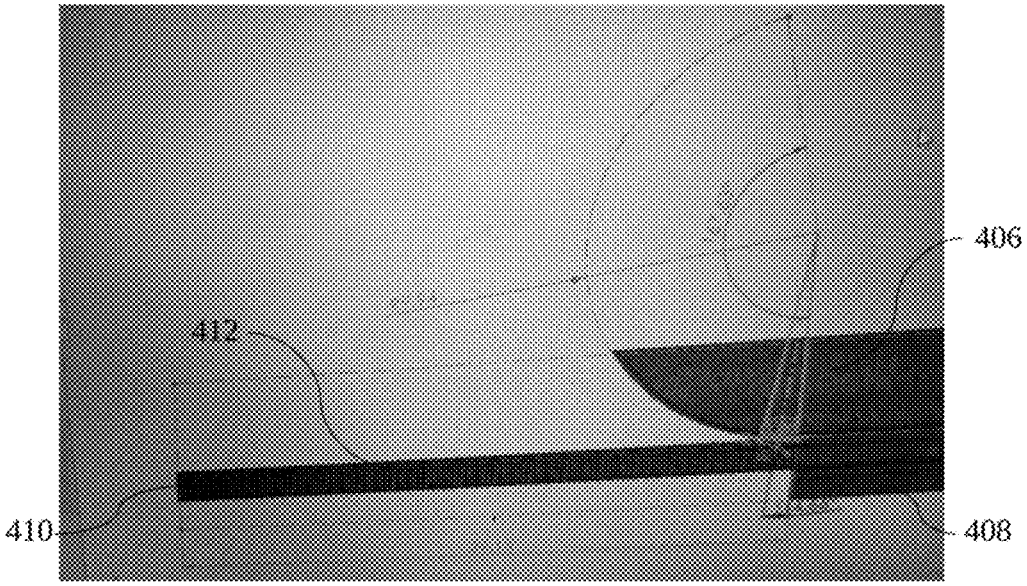

FIG. 4B

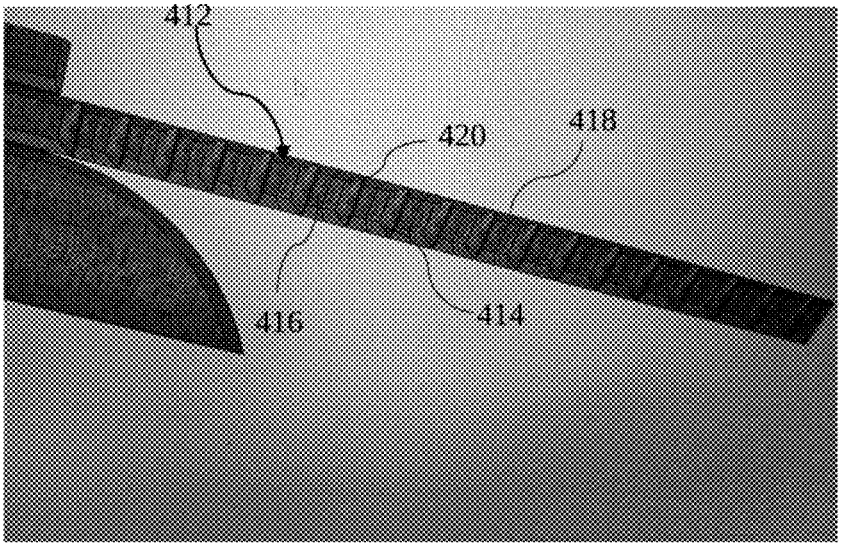

FIG. 4C

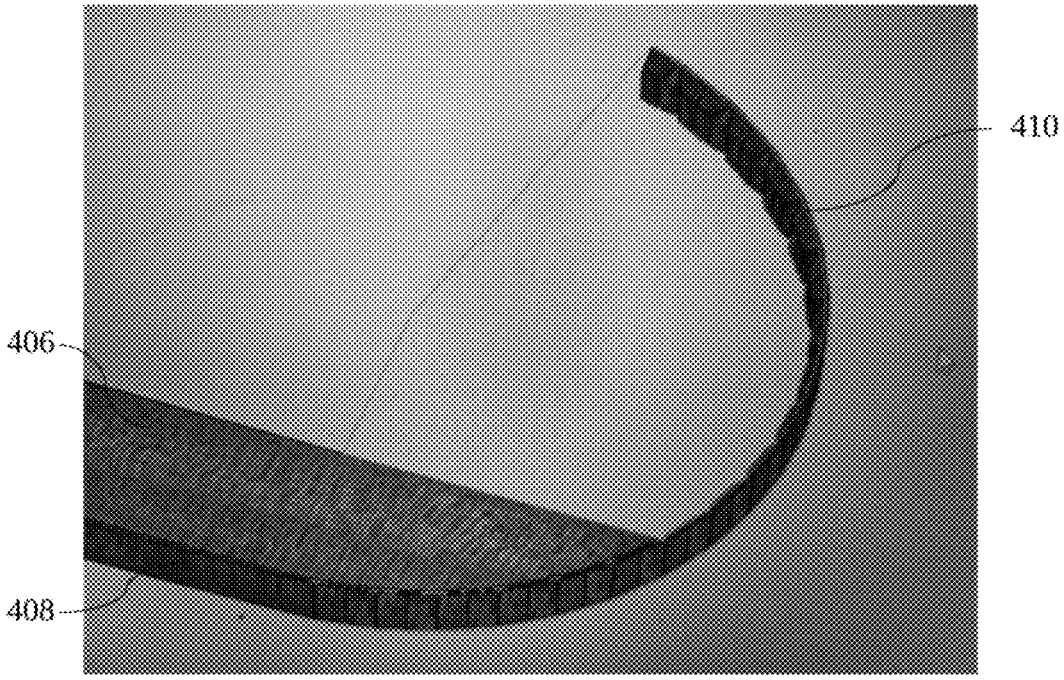

FIG. 4D

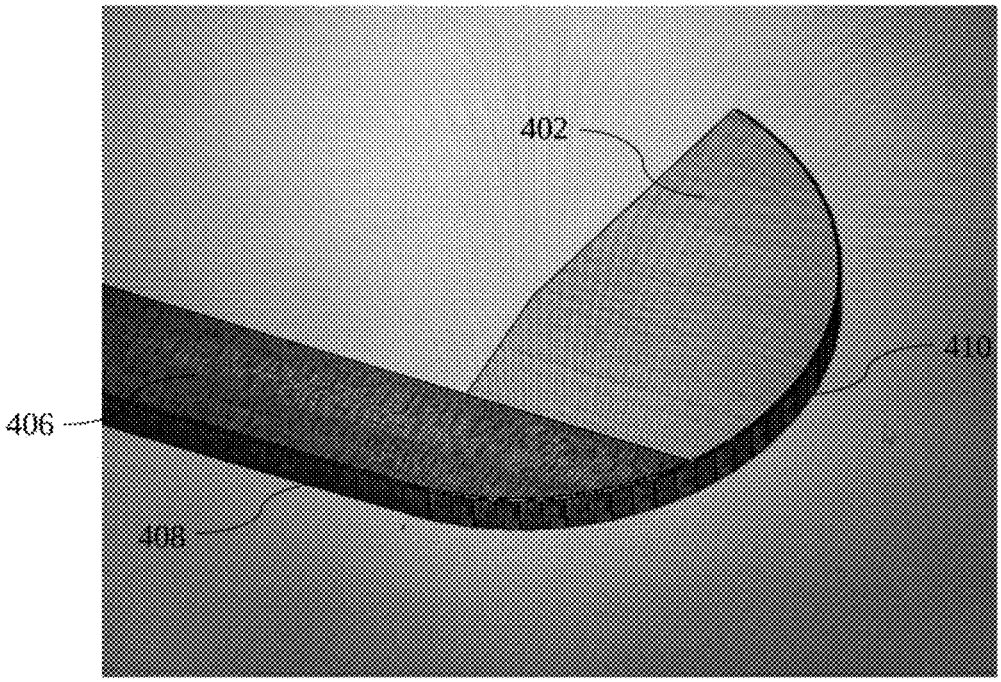

FIG. 4E

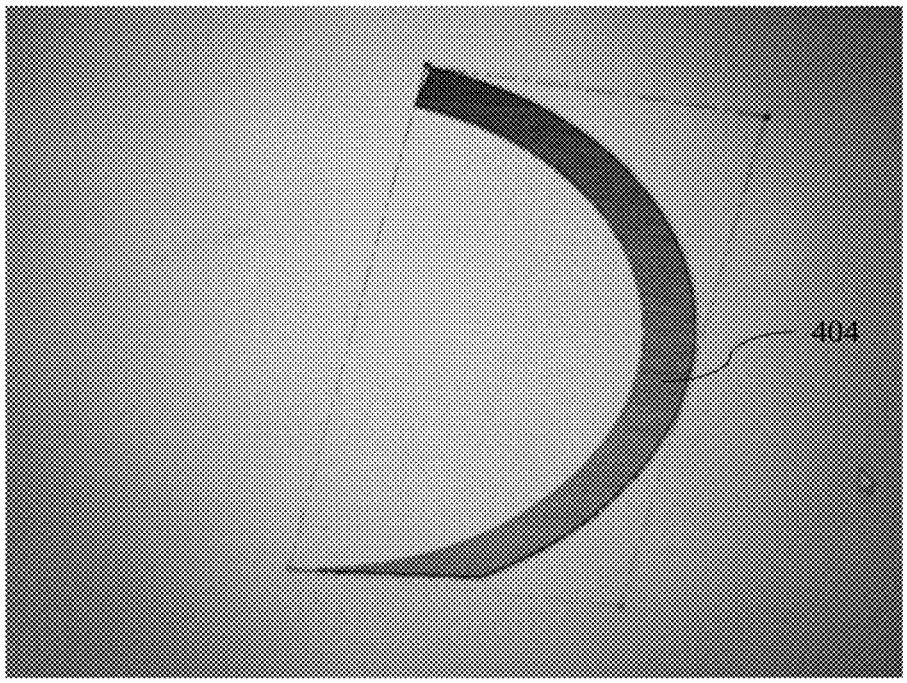

FIG. 4F

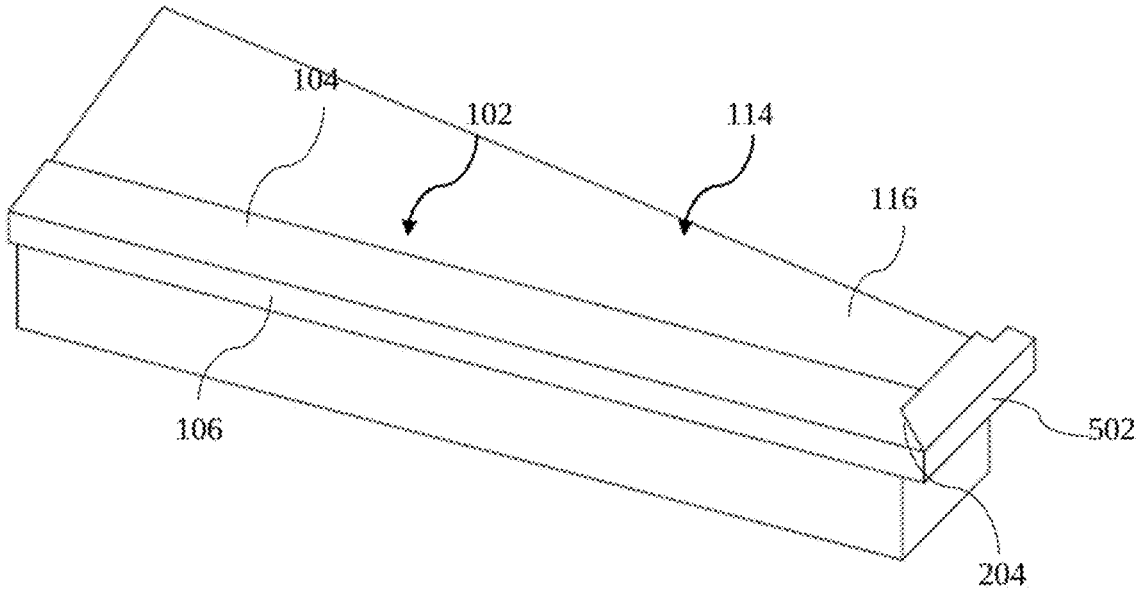

FIG. 5A

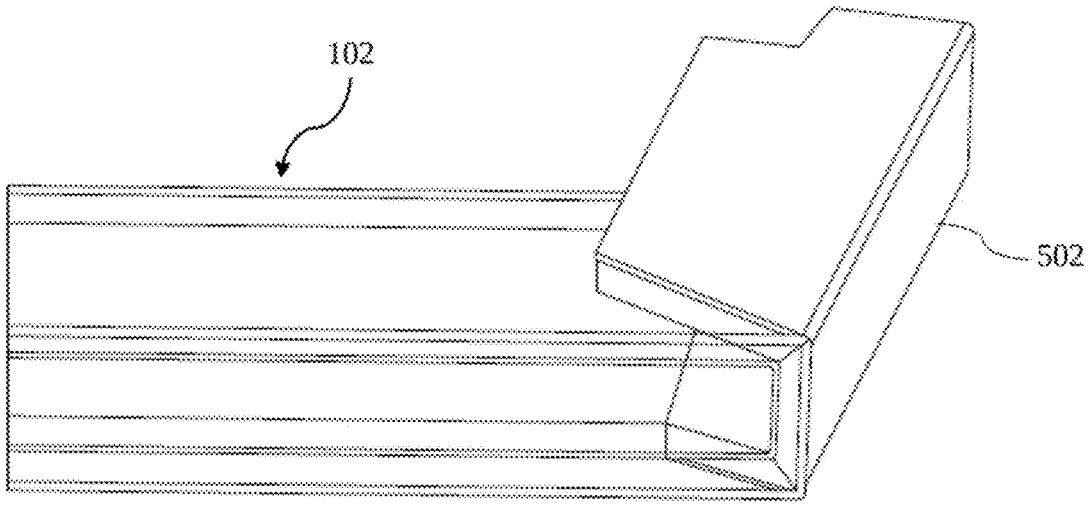

FIG. 5B

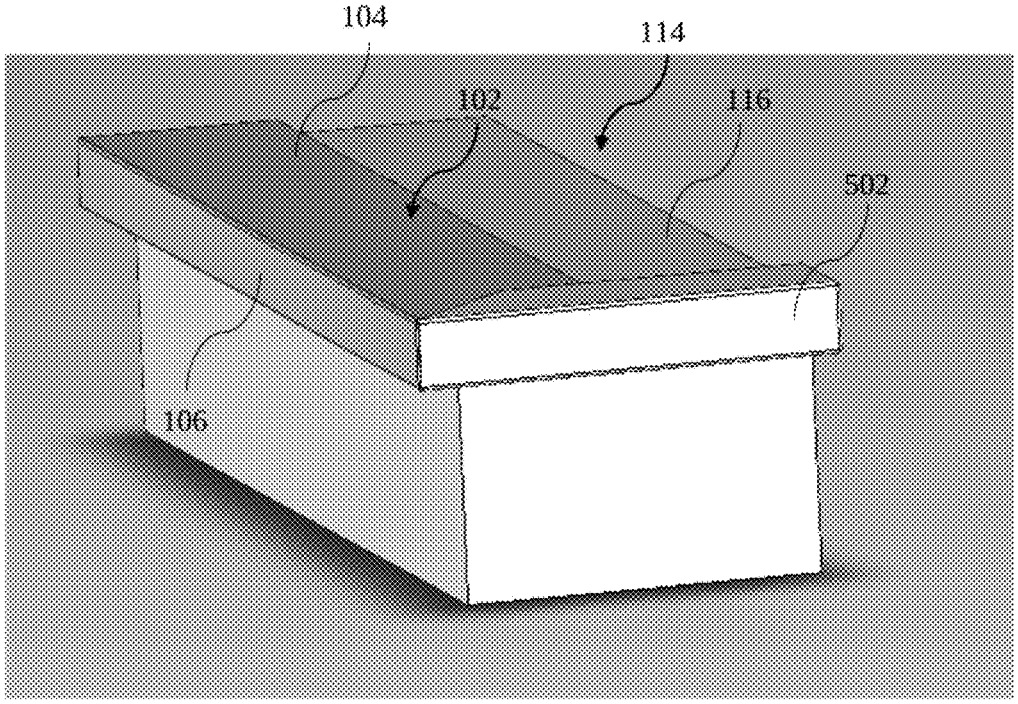

FIG. 5C

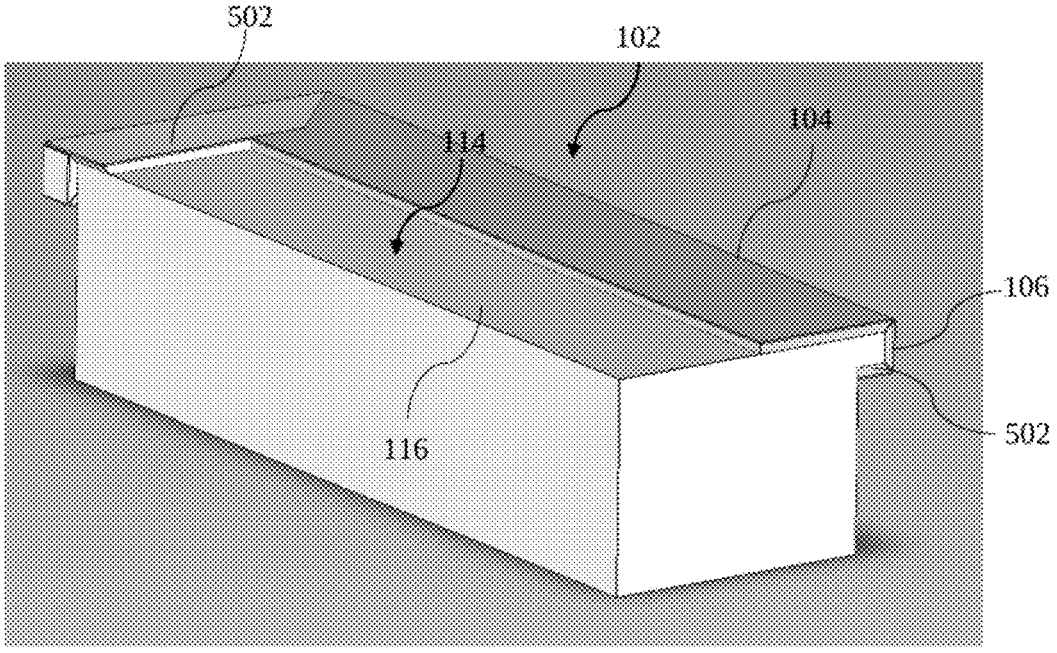

FIG. 5D

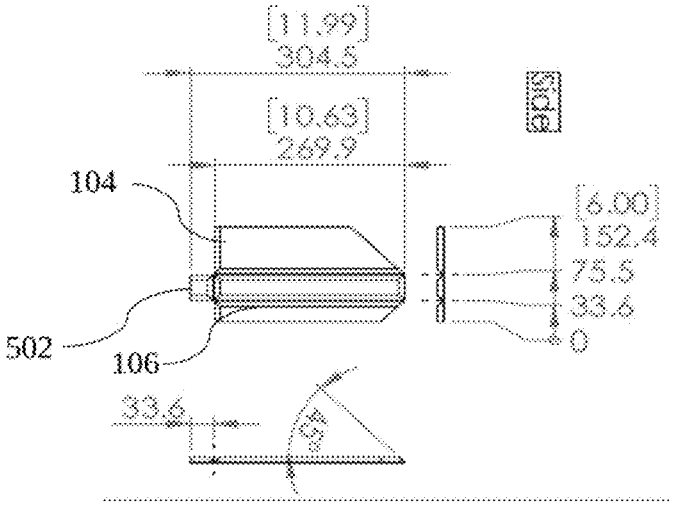
[11.99]
304.5
[10.63]
269.9
gap
104
[6.00]
152.4
75.5
33.6
0
502
106
33.6
45°

FIG. 6A

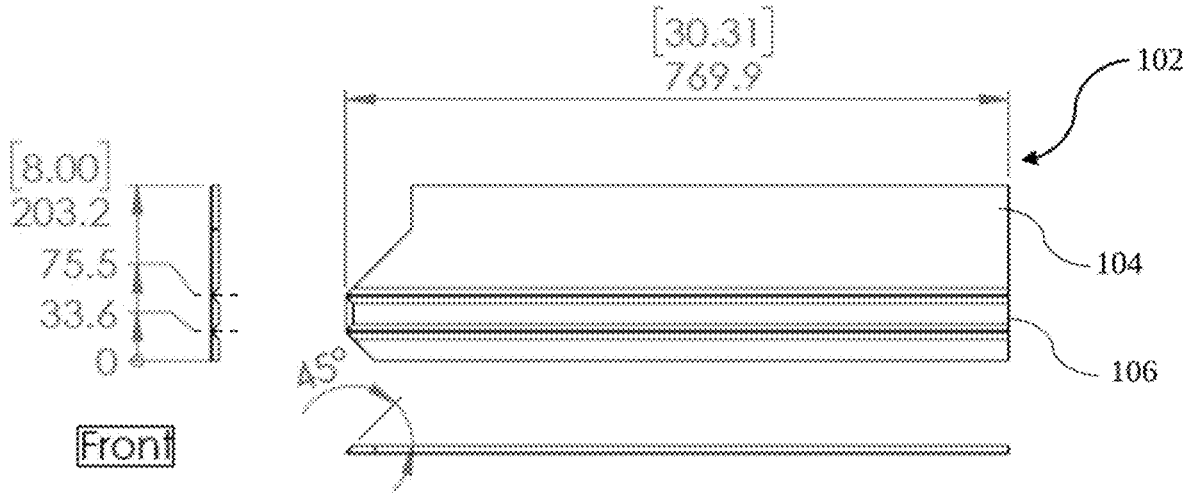
[30.31]
769.9
102
[8.00]
203.2
75.5
33.6
0
104
106
45°
Front

FIG. 6B

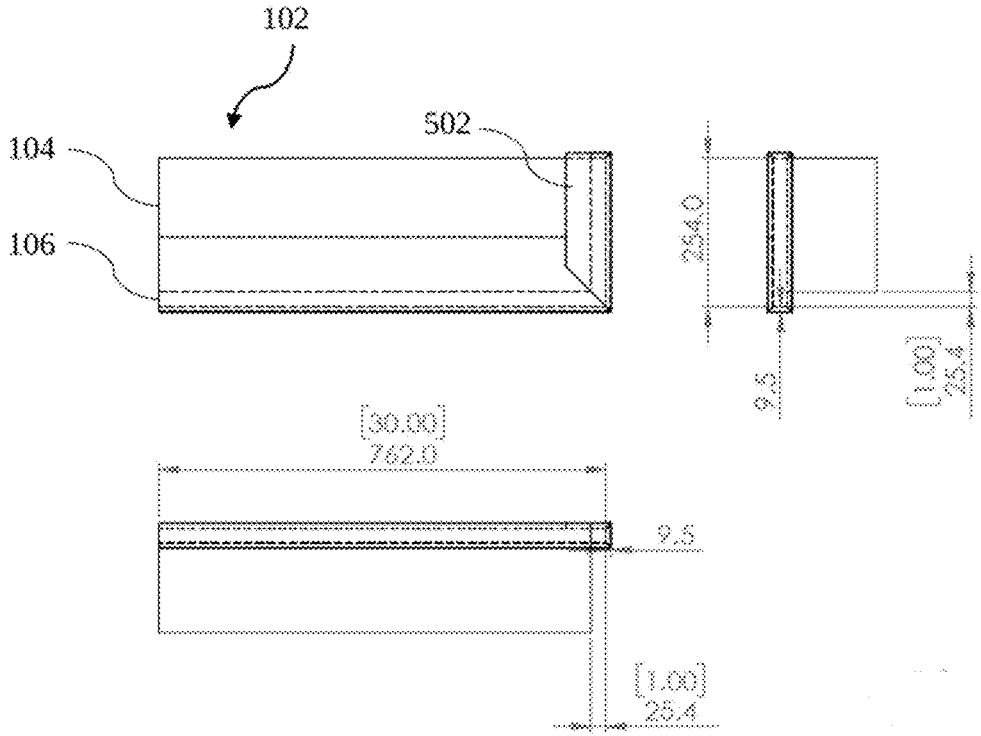
102
104
502
106
234.0
9.5
[1.00]
25.4
[30.00]
762.0
9.5
[1.00]
25.4

FIG. 6C

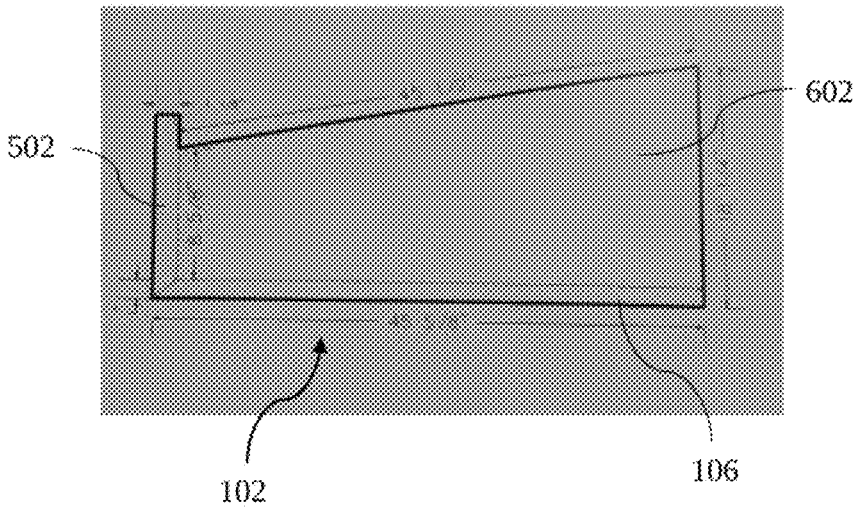
502
602
102
106

FIG. 6D

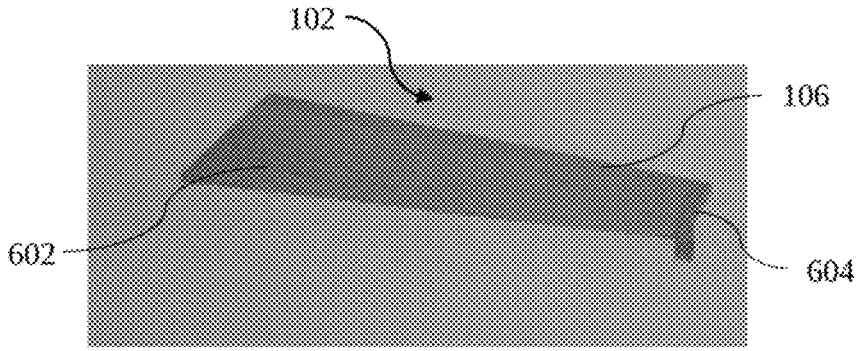

FIG. 6E

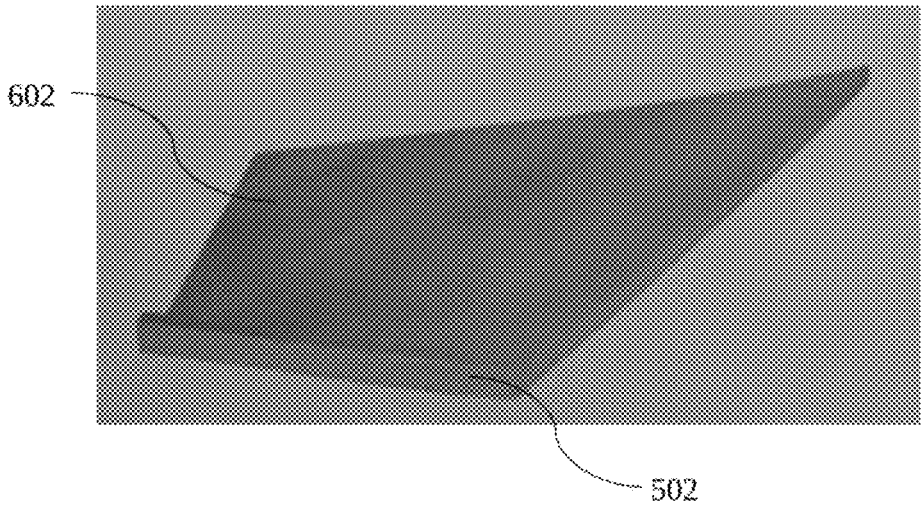

FIG. 6F

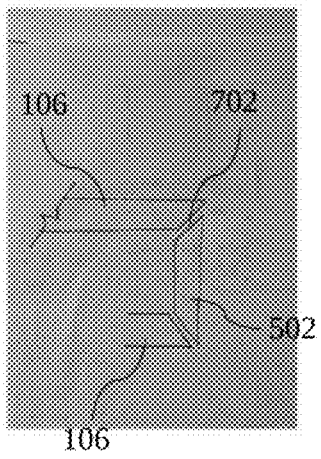

FIG. 7A

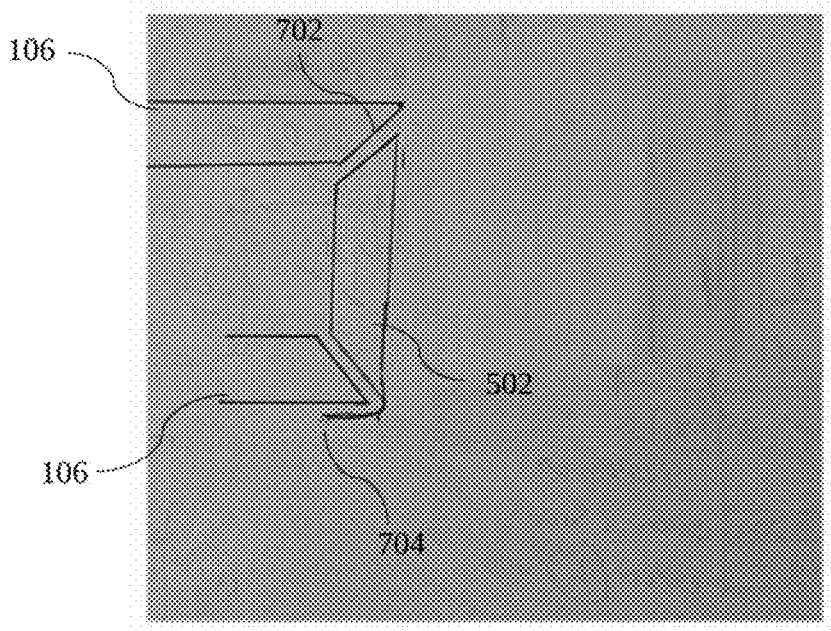

FIG. 7B

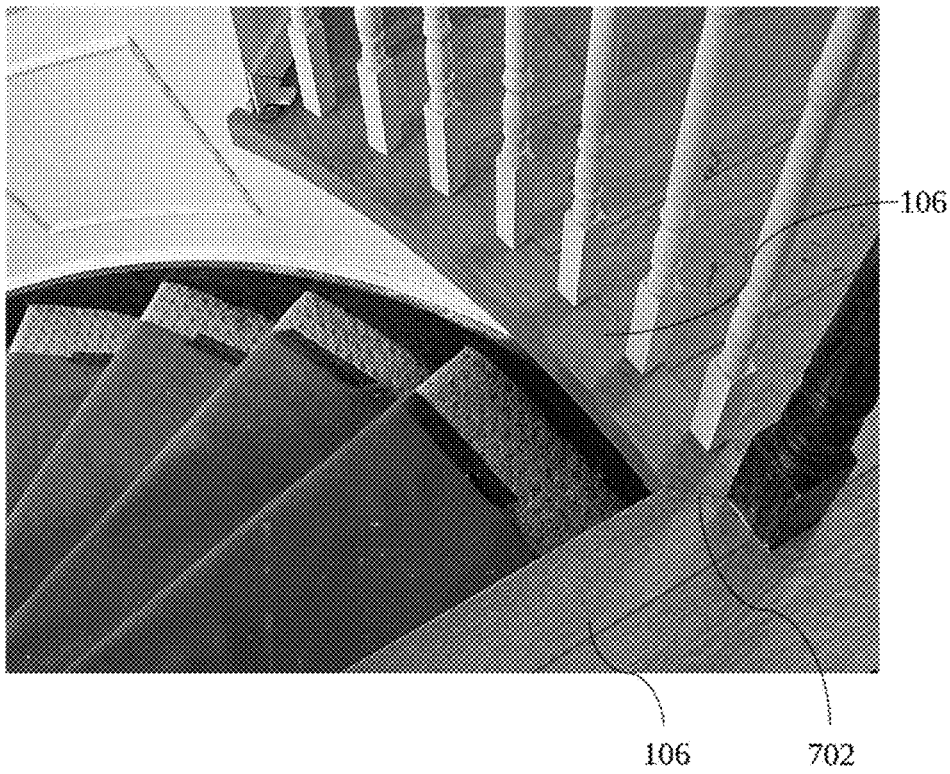

FIG. 7C

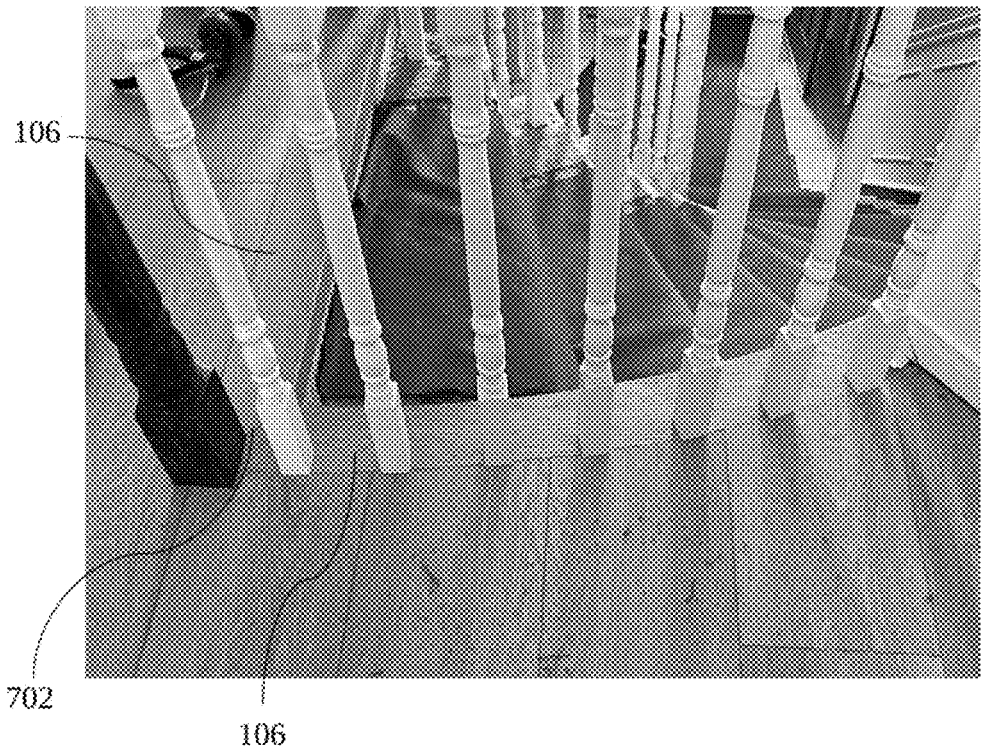

FIG. 7D

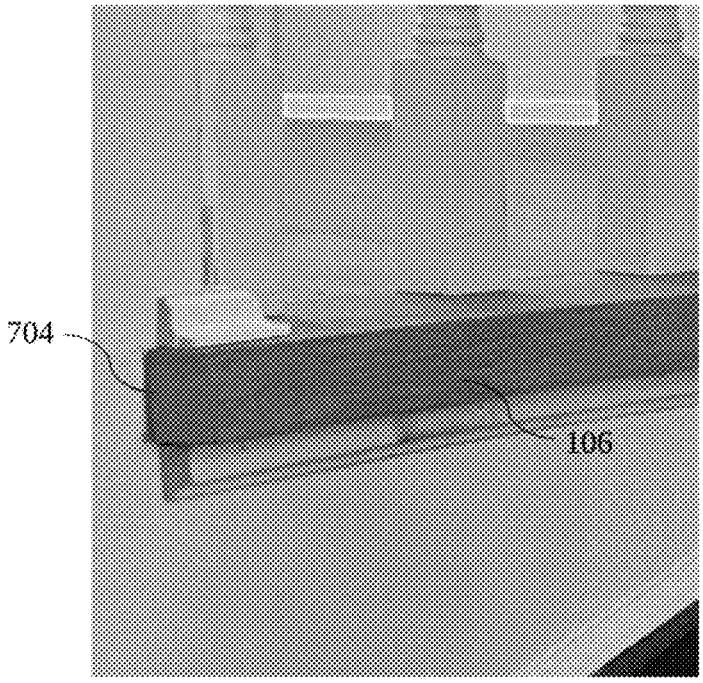

FIG. 7E

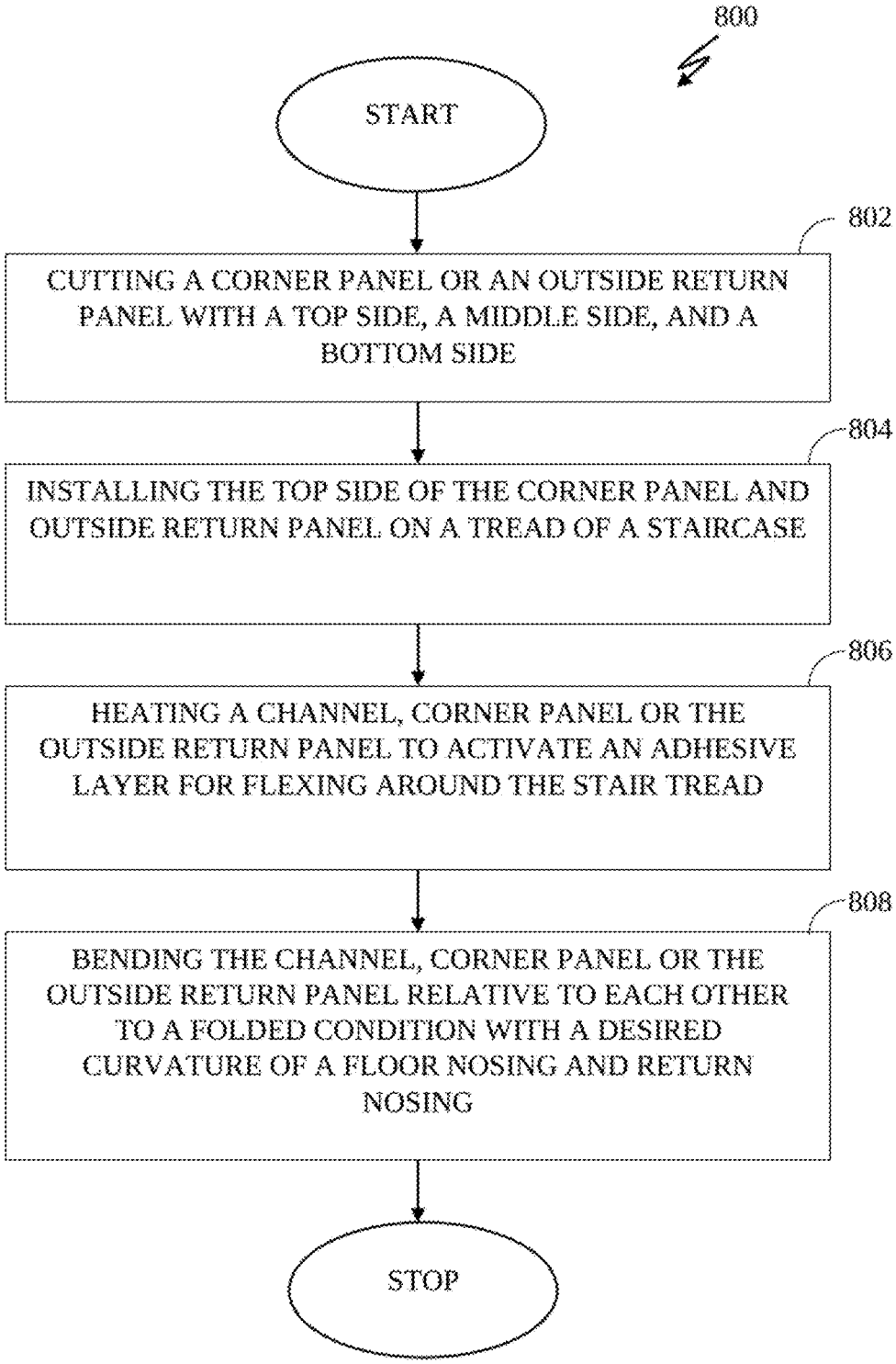
800
START
802
CUTTING A CORNER PANEL OR AN OUTSIDE RETURN PANEL WITH A TOP SIDE, A MIDDLE SIDE, AND A BOTTOM SIDE
804
INSTALLING THE TOP SIDE OF THE CORNER PANEL AND OUTSIDE RETURN PANEL ON A TREAD OF A STAIRCASE
806
HEATING A CHANNEL, CORNER PANEL OR THE OUTSIDE RETURN PANEL TO ACTIVATE AN ADHESIVE LAYER FOR FLEXING AROUND THE STAIR TREAD
808
BENDING THE CHANNEL, CORNER PANEL OR THE OUTSIDE RETURN PANEL RELATIVE TO EACH OTHER TO A FOLDED CONDITION WITH A DESIRED CURVATURE OF A FLOOR NOSING AND RETURN NOSING
STOP

FIG. 8

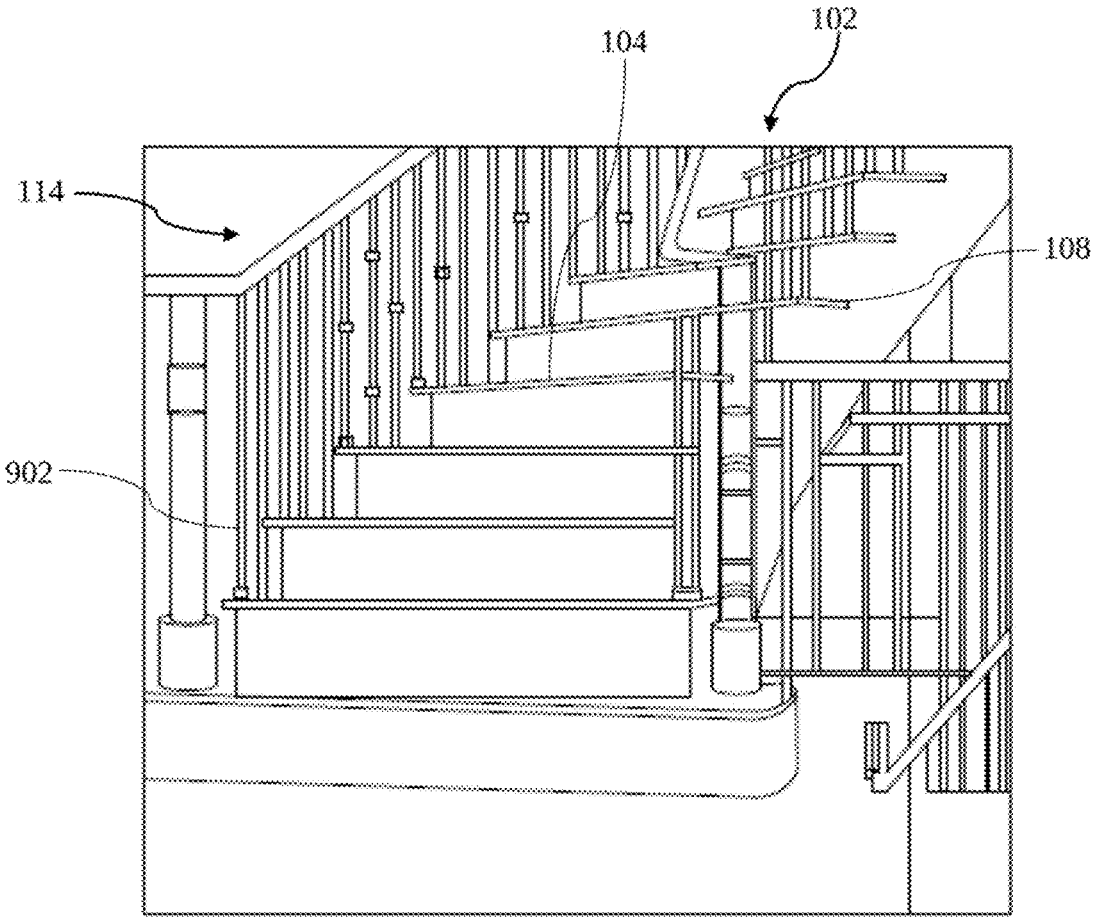

FIG. 9

STAIRCASE CAPPING SYSTEM AND A METHOD OF INSTALLATION

CROSS REFERENCE

[0001] This application claims priority benefit from U.S. Provisional patent application having application No. 63/383,430 filed on Nov. 11, 2022, by the present inventor, which is incorporated herein by reference in its entirety.

FIELD OF THE DISCLOSURE

[0002] The present disclosure relates generally to a field of structures for beautification and/or repair of staircases such as staircase covers. More particularly, the present disclosure relates to a staircase capping system and a method of installation of staircase capping with or without removing one or more baluster spindles and/or altering the stair tread. The present disclosure also relates to a staircase capping system that requires minimal effort to install over a newly constructed or pre-existing staircase given the advantage of a limited number of pieces needed during its assembly.

BACKGROUND OF THE DISCLOSURE

[0003] Synthetic floors have become increasingly favored by construction and do-it-yourself builders as floor coverings due to its generally minimal installation requirements and easy maintenance. Synthetic floors, such as vinyl flooring have excellent thermal insulation and acoustic properties as well as having high resistance to abrasion, water, and moisture damage. Vinyl floors typically consists of vinyl slats, which are joined by means of interlocking joints or glued directly to a leveled base.

[0004] The vinyl slats are glued to a wooden base and then the whole wooden mono blocks are supplied to the customer. The mono blocks are then glued to the individual steps of a staircase with foam to eliminate stair squeaking sound. However, this prior art solution entails several disadvantages. For instance, adjustment of the staircase during installation, according to the prior art solutions, is time consuming and requires the production of individual mono blocks before being transported to the customer. It is also a disadvantage in that use of individual mono blocks make the entire staircase bulky and heavy causing, in an exemplary instance, bending of the surface of the stair steps over a period of time. It is a further object of later described embodiments of this disclosure to reduce the cost of manufacturing and/or producing staircase coverings. Further, the current market solutions are costly for manufacturing the vinyl flooring since these techniques requires to fabricate multiple cuts and recess that are needed to be filled with adhesives. These cuts and recess are further bend according to the staircase design. Further, this technique needs secondary trim pieces for covering any raw or rough edges to make the staircase atheistically pleasing.

[0005] Further, the current market solutions also use hardwoods for manufacturing. However, the solid or hardwood material is considerably more expensive and requires to be custom ordered. The process for making solid hardwood piece is not the same as converting vinyl into a combination of pieces that create a higher end, better looking and more easily installed EZC stair system. All hardwood stair treads require some or all overhanging existing stair tread materials to be cut off for proper installation and again the handrail/spindles must be removed in all cases. Additionally, other disadvantage of most hardwood stair capping systems is that since these types of systems typically have thickness of ¾" inches and have a disproportional impact on the stair rise of each step. This makes the bottom step ¾" higher than the base floor below the step and the top step is ¾" of an inch shorter. This can create a safety concern and a building code infraction when it comes to stair heights as steps are to be mainly maintained equally from top to bottom to avoid causing a trip/fail hazard. Therefore, there is a requirement of such type of stair capping systems that minimizes this height difference by using commonly a much thinner product, making it safer while maintaining a more consistent height of each tread of a stair case, which can certainly create a big safety advantage over standard wood stair capping systems

[0006] Further, standard stair caps manufactured in the existing industry are made like a single board structure. Few of the stair caps have returns attached (down the side of an open staircase) and some are required to be installed separately. Alternatively, some manufacturers supply a "nosing only" which has to be backfilled with material, however installing these on open stairs is not normally possible.

[0007] Prior art, for various aspects contained there within, relevant to the present disclosure includes CZ patent application No. 26433U1 to Karel, WO patent application No. 2021099886A1 to Mark et. al., U.S. patent application Ser. No. 10/883,280B2 to Frederik. In each of the prior arts, vinyl flooring is disclosed. However, this is not an ideal solution for covering different types of staircases.

[0008] In particular, reference '433 to Karel describes a vinyl corner piece which covers the steps and a staircase with a vinyl finish using a vinyl corner piece. The vinyl corner panel's length depends on the width of the staircase. The prior art further consists of a covered width, which is provided in the lower surface of the stairs with V-shaped groove installed at an angle ranging from 30° to 60°. The vinyl corner piece is provided with glue to create a bend, and the lower surfaces of the vinyl corner piece form an angle of 90° together. However, unlike the subject matter of the disclosed invention, Karel does not wrap around existing stair treads and does not deal specifically with the open staircase complexities related to structural safety and design of the open staircase. Prior art panels of this type require the stair nosing to be cut off and, in particular, the outside return to be cut off on an open staircase.

[0009] Reference '886 to Mark describes a method for manufacturing a folded panel including the following steps: providing a longitudinal recess at the rear side, such that at the front side between remaining panel sections on both sides of the recess a flexible transition section remains. Mark further cites bending the panel sections relative to each other and applying an adhesive in the recess. Further, before the panel sections are bent relative to each other, a template is inserted into the recess. In particular, Mark suggests an explicit order of manufacturing the folded panel where the panel sections are folded into multiple sections and afterword the folded sections are joined together by applying adhesive. However, unlike the prior art, the subject matter discloses about installing various panels over the staircase and adhering together onto the staircase. Further, the panels are bent relative to each other to a folded condition to achieve a desired shape of the stair case regardless of the type of staircases to be covered.

[0010] In other prior art, reference '280 to Frederik describes, on the one hand, a skirting board for a wall of a space or a finishing profiled section for a floor covering. The skirting board includes a body composed of at least a carrier material and a decorative top layer. In particular, the body comprises a longitudinal part which forms at least a part of the front side of the skirting board or the finishing profiled section, and a top part which forms at least a part of the top side of the skirting board or the finishing profiled section. The transition between the longitudinal part and the top part has a curved configuration, in which, at the location of said transition, some of the carrier material has been replaced by a filler having a different composition than the carrier material. Furthermore, the decorative top layer is continuous at the location of the transition. On the other hand, the Frederik's invention relates to a method for manufacturing such a skirting board. In particular, the prior art talks about producing the skirting board that are used for covering floors unlike the present invention that talks about a staircase capping system used for layering different types of staircases. Further, the method disclosed in the prior art talks about having a carrier material which is a single piece element that is fabricated to have recess that is further filled with filler or filling elements to form a residual part. Further, after hardening the residual part is bent and adapted to cover the floor where it is again heated for affixing over the floor. However, the subject matter does not limit the use of a single piece element for covering the floor. Further, the subject matter does not externally add any adhesive over any of the panel, instead prefabricated panels with adhesive layers are used for fixing the panels over the staircase which reduces the cost of manufacturing and provides smooth finish to the end product.

[0011] Additionally, the prior art teaches traditional techniques for configuring a vinyl plank on stairs and tread nosing. Such techniques describe how the vinyl plank is fabricated in the shape and measurement of the staircase to be covered. In addition, the prior art discloses that a number of cuts must be created on a single plank and these cuts are filled with adhesives that are further heated to provide a mold for the plank to be placed over the staircase. Further, the techniques of installation described in the prior art requires to remove floor locking system and consists of 4 or more pcs. Therefore, these techniques majorly emphasis on using a single plank for covering the stairs and using tools for fabricating recesses and joints that can be filled with adhesives for making molds for the staircases. Further, these prior art techniques do not describe installation of the vinyl plank in situations where a staircase is already installed with and/or includes handrails and spindles. Those of skill in the art will appreciate that, based on the prior art, a user would first be required to remove or cut the spindle such that the vinyl planks may be installed. Moreover, those of skill in the art will recognize that current techniques also fail to describe onsite installation where each piece is cut and modified to allow installation "around" existing stair spindles. Further, the current technique also fail to enable the installation of staircase coverings for open staircases having different shapes of side skirting including semicircular, rectangular, and other shapes.

[0012] In an embodiment, staircase capping system lends to accommodate different design styles. Further, the prior art techniques do not possess the capability to make/stock the variety of optional stair designs seen in most standard homes. The prior art techniques would have to make vinyl flooring in every color and every option unlike the present invention that uses "Product by process" technique by repurposing the vinyl plank flooring or luxury vinyl plank flooring.

[0013] Therefore, there is a need for an improved staircase capping system that has two or more pieces of vinyl flooring of various materials (behavior similar to vinyl flooring) that can be installed over different types of staircases such as curved stair and open stairs (floating stairs) having rounded curved nosing or having bottom stair treads, without requiring one to modify the existing staircase or requiring one to remove already installed spindles. There is also a need for such a system as disclosed in the present invention that allows an average homeowner, having minimum skill level, to perform high-end aesthetic installations of staircases and coverings.

SUMMARY OF THE DISCLOSURE

[0014] By way of introduction, the preferred embodiments described below include a staircase capping system for covering staircase. The staircase capping system comprises a channel installed along a length and width of staircase. The channel comprises a horizontal section configured to secure a stair tread of the staircase. The horizontal section is configured to cover contour of the stair tread. Further, a bend section is configured to secure a floor nosing of the staircase. The horizontal section and the bend section are customized to match dimensions of the existing staircase such that the existing staircase is not required to get altered or modified. Thus, the existing staircase may act as a support system for structural integrity and the stair tread may not be cut away from the existing staircase. The channel is configured with an adhesive layer to install over the stair tread and floor nosing of the staircase. The staircase cap is a multi-piece construction that may be modified to fit the installation area. The staircase cap is secured (for e.g., glued) into place with the help of the adhesive layer. The adhesive layer comprises of an adhesive that is heat activated for easy application. Further, a corner panel is interlocked with the channel via a cutout section. This makes the design of the staircase capping system simple, easy, and faster to install. The corner panel comprising a semicircular panel installed over at least one side of the staircase.

[0015] According to an embodiment, the cutout section is cut at an angle between 0-90°. Such cutting of the cutout section facilitates installation of the staircase capping system on a variety of staircases. Such cutting at the angle between 0-90° provides suitable space to adjust staircase capping on multiple traditional staircases.

[0016] Further, the staircase capping system comprises a plurality of edge strips fabricated along the semicircular panel, configured to bend and wrap around a return nosing of the staircase with or without removing a spindle of the staircase. Such staircase capping system requires minimal effort to get installed over the staircase due to assembling of the limited pieces. Additionally, the pieces of the staircase capping system do not require special tools, equipment, or specialization from a user, for installation. Therefore, the installation of the staircase capping system is effortless due to its simple assembly with limited pieces.

[0017] Further, the perimeter of the plurality of edge strips are configured to custom match with perimeter of the return nosing. The plurality of edge strips is fabricated with a

plurality of grooves. The plurality of grooves provides adjustment space to the plurality of edge strips to be able to custom match with the perimeter of the return nosing. The plurality of grooves is equidistantly spaced along the perimeter of the corner panel. In one embodiment, the plurality of edge strips does not require removal or cutting of the existing spindles during the installation. The plurality of grooves is configured in symmetrical shape such as a gear shape, a zig zag shape or a V shape cutout. The plurality of edge strips is fixed with glue to aid in installation over the return nosing.

[0018] Further, the staircase capping system comprises an outside return panel interlocked with the channel via the cutout section, and configured to protect the return nosing of the staircase. The channel and the outside return panel is made from a material selected from a group of materials of synthetic materials of polyvinyl chloride (PVC), polyurethane (PU), polyethylene (PE) and polyethylene terephthalate (PET). The channel, the corner panel and the outside return panel are configured to be installed with different types of staircases including curve stairs, open stairs, closed stairs and hanging stairs. The floor nosing and the return nosing together makes the stair nosing. The staircase capping system may not require the stair nosing and the outside return panel to be cut off during the installation. The channel is configured with an adhesive layer and scratch resistant layer to protect floor panel against scratches and dirt. The adhesive layer corresponds to an adhesive that is heat activated for easy application. Also, the stair capping system may work with curved stair or stair openings as in most of the cases, spindles may not need to be removed to complete the installation. This may allow homeowners with minimum skill level to complete a high-end looking installation of the staircase capping system. According to another embodiment, the staircase capping system may also comprise of a newel post sleeves that may slide over existing newel posts to allow the staircase capping system to be installed over floating stair types.

[0019] According to an embodiment, a method of installation of a staircase capping system over a staircase is disclosed. The method comprises steps of cutting a corner panel or an outside return panel with a top side, a middle side, and a bottom side. It can be noted that a corner of the corner panel or the outside return panel is cut at an angle to incorporate the channel. Further, installing the top side of the corner panel and the outside return panel on a stair tread of the staircase. Further, the corner panel and the outside return panel is fitted, modified or cut to allow installation around a spindle of the staircase. The installation is enabled by its ability to encase the tread of the staircase. Successively, heating the channel, the corner panel or the outside return panel to activate an adhesive layer for flexing around the stair tread. Further, bending the channel, the corner panel or the outside return panel relative to each other to a folded condition with a desired curvature of a floor nosing and return nosing. Such method facilitates an easy, aesthetic and onsite installation of the staircase capping system over a staircase with minimal effort and assembly of limited pieces. Additionally, said pieces do not require special tools, equipment, or specialization from a user to install the staircase capping system.

[0020] In an embodiment, the method may use one or more pieces to install the staircase capping system. The pieces may be used individually or in combination. The method may not require to modify or remove any treads and/or spindles from the staircase. In one embodiment, the stair case capping system include one preassembled piece. In another embodiment, the stair case capping system include two or more preassembled piece.

[0021] According to an embodiment, the staircase capping system uses vinyl material for covering the staircase. The staircase capping system converts the vinyl material into a custom matching stair tread without modification or altering the staircase. The vinyl material allows to be cut, folded or remolded to snug fit the staircase capping system over the staircase (i.e. custom fit) without requiring to modify, alter the shape, and/or size of the staircase. According to another embodiment, the vinyl flooring is modified from the back by removing material along relief lines and then heating and molding to form a shape of a finished design. It should be noted that adhesive may be used to maintain the shape of the finished design. Further, the staircase capping system uses other materials similar in behaviour to vinyl flooring, as well as be used on a variety of stair types or staircase types. According to another embodiment, the staircase capping systems minimizes height difference between the steps of the staircases and the floor level between the first step and the last step by using a much thinner product, making it safer while maintaining a more consistent height of each tread of a staircase, which creates a big safety advantage over standard wood stair capping systems.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] The accompanying drawings illustrate various embodiments of systems, methods, and embodiments of various aspects of the disclosure. Any person of ordinary skill in the art will appreciate that the illustrated element boundaries (e.g., boxes, groups of boxes, or other shapes) in the figures represent one example of the various boundaries representative of the disclosed invention. It may be that in some examples one element may be designed as multiple elements or that multiple elements may be designed as one element. In other examples, an element shown as an internal component of one element may be implemented as an external component in another and vice versa. Furthermore, elements may not be drawn to scale. Non-limiting and non-exhaustive descriptions of the present disclosure are described with reference to the following drawings. The components in the figures are not necessarily to scale, emphasis instead being placed upon the illustrated principles.

[0023] Various embodiments will hereinafter be described in accordance with the appended drawings, which are provided to illustrate and not to limit the scope of the disclosure in any manner, wherein similar designations denote similar elements, and in which:

[0024] FIGS. **1**A-**1**D illustrate oblique views of a staircase capping system, according to an embodiment of the present disclosure;

[0025] FIG. **2**A illustrates a perspective view of a channel, according to an embodiment of the present disclosure;

[0026] FIG. **2**B illustrates a top view of the channel, according to an embodiment of the present disclosure;

[0027] FIG. **2**C illustrates a slanted view of the channel, according to an embodiment of the present disclosure;

[0028] FIG. **3**A illustrates an oblique view of a corner panel, according to an embodiment of the present disclosure;

[0029] FIG. **3**B illustrates a top view of the channel and the corner panel, according to an embodiment of the present disclosure;

[0030] FIG. **3**C illustrates an oblique view of the channel and the corner panel, according to an embodiment of the present disclosure;

[0031] FIG. **3**D illustrates an oblique view of the channel with a tapered horizontal section, according to an embodiment of the present disclosure;

[0032] FIG. **3**E illustrates an oblique view of the channel with the corner panel and a semicircular section, according to an embodiment of the present disclosure;

[0033] FIG. **3**F illustrates an oblique view of the channel and the corner panel at both ends, according to an embodiment of the present disclosure;

[0034] FIG. **3**G illustrates an oblique view of a curved profile of the channel, according to an embodiment of the present disclosure;

[0035] FIG. **4**A illustrates a perspective view of the channel, according to another embodiment of the present disclosure;

[0036] FIG. **4**B illustrates a top view of the channel, according to another embodiment of the present disclosure;

[0037] FIG. **4**C illustrates an oblique view of a flexible strip, according to another embodiment of the present disclosure;

[0038] FIG. **4**D illustrates a perspective view of the channel without a cutout section, according to another embodiment of the present disclosure;

[0039] FIG. **4**E illustrates a perspective view of the channel with a cutout section, according to another embodiment of the present disclosure;

[0040] FIG. **4**D illustrates a bottom view of a semicircular section, according to another embodiment of the present disclosure;

[0041] FIGS. **5**A-**5**D illustrate an oblique view of the channel configured with an outside return panel, according to another embodiment of the present disclosure;

[0042] FIGS. **6**A-**6**C illustrate dimensions of the staircase capping system, according to an embodiment of the present disclosure;

[0043] FIG. **6**D illustrates a top view of the channel with a tapered horizontal section, according to an embodiment of the present disclosure;

[0044] FIG. **6**E illustrates an oblique view of the channel with a curved outside return, according to an embodiment of the present disclosure;

[0045] FIG. **6**F illustrates an oblique view of the tapered horizontal section, according to an embodiment of the present disclosure;

[0046] FIG. **7**A illustrates a top view of the channel and the outside return with an end corner, according to another embodiment of the present disclosure;

[0047] FIG. **7**B illustrates a top view of the channel and the outside return with an extended vinyl panel, according to another embodiment of the present disclosure;

[0048] FIGS. **7**C-**7**D illustrate a perspective view of the channel and the outside return with an end corner installed with the staircase, according to another embodiment of the present invention;

[0049] FIG. **7**E illustrates a perspective view of a bend section with an extended vinyl panel rapped around the staircase, according to another embodiment of the present invention;

[0050] FIG. **8** illustrates a flowchart of a method of installation of the staircase capping system, according to an embodiment of the present disclosure; and

[0051] FIG. **9** illustrates the staircase capping system installed over a staircase, according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0052] The components of the embodiments as generally described and illustrated in the figures herein can be arranged and designed in a wide variety of different configurations. Thus, the following more detailed description of various embodiments, as represented in the figures, is not intended to limit the scope of the present disclosure but is merely representative of various embodiments. While various aspects of the embodiments are presented in drawings, the drawings are not necessarily drawn to scale unless specifically indicated.

[0053] Some embodiments of this disclosure, illustrating all its features, will now be discussed in detail. The words "comprising," "having," "containing," and "including," and other forms thereof, are intended to be equivalent in meaning and be open-ended in that an item or items following any one of these words is not meant to be an exhaustive listing of such item or items or meant to be limited to only the listed item or items.

[0054] It must also be noted that as used herein and in the appended claims, the singular forms "a," "an," and "the" include plural references unless the context dictates otherwise. Although any systems and methods similar or equivalent to those described herein can be used in the practice or testing of embodiments of the present disclosure, the preferred systems, and methods are now described. The terms "proximal" and "distal" are opposite directional terms. For example, the distal end of a device or component is the end of the component that is furthest from the practitioner during ordinary use. The proximal end refers to the opposite end, or the end nearest the practitioner during ordinary use.

[0055] Embodiments of the present disclosure will be described more fully hereinafter with reference to the accompanying drawings in which like numerals represent like elements throughout the several figures, and in which example embodiments are shown. Embodiments of the present disclosure may, however, be embodied in alternative forms and should not be construed as being limited to the embodiments set forth herein. The examples set forth herein are non-limiting examples and are merely examples among other possible examples.

[0056] The present disclosure discloses an improved staircase capping system in which already installed spindles of a staircase need not to be removed during on-site installation. Further, the improved staircase capping system can be installed on the staircases with two open sides, rounded or curved nosing, and bottom stair treads. The staircase capping system may not require the nosing to be cut off during the installation. Thus, various embodiments of the present disclosure disclose the improved staircase capping system that can be installed over different types of staircases without requiring to modify the existing staircase or requiring to remove already installed spindles.

[0057] FIG. **1**A illustrates an oblique view of a staircase capping system **100**. FIG. **1**A may be described in conjunction with FIGS. **1**B-**1**D.

[0058] The staircase capping system **100** may comprise a staircase cap. Hereinafter, the staircase cap may be referred to as a staircase cap **100**. The staircase cap **100** having a channel **102**. The channel **102** may comprise of a horizontal section **104** and a bend section **106**. Further, the staircase capping system **100** comprises of a corner panel **108** having a semicircular panel **110** and a plurality of edge strips **112**. In one embodiment, the plurality of edge strips does not require removal or cutting of the existing spindles during the installation. The staircase capping system **100** may be configured to cover a staircase **114**, as shown in FIG. **1**B. In one embodiment, the staircase capping system **100** may be installed over different types of staircases. The different types of staircases may include curve stairs, open stairs, closed stairs and hanging stairs.

[0059] The channel **102** may be configured to cover a stair tread **116** and a floor nosing **118** of the staircase **114**. The horizontal section **104** may be configured to cover a tread section (not shown) of the staircase **114**. It may be noted that the tread section of the staircase **114** may be defined as a flat portion over which foot of a user is placed. Further, the horizontal section **104** may further be attached to the bend section **106** at an angle. The bend section **106** may be configured to cover the floor nosing **118** of the staircase **114**, as shown in FIG. **1**B. Further, the channel **102** is configured to protect the tread of the staircase **114**. It can be noted that length of the channel **102** may be equal to the length of a staircase **114**. In one embodiment, the channel **102** is made from a single unit of a vinyl panel that may be bent to form a U shape and to cover the tread.

[0060] Further, the channel **102** may be attached to the corner panel **108**. In one embodiment, the corner panel **108** may be interlocked with the channel **102** via a cutout section **204**, as shown in FIGS. **2**A-**2**C. This makes the design of the staircase capping system simple, easy, and faster to be installed. The semicircular panel **110** may be attached towards at least one side of the channel **102**. It may be noted that the corner panel **108** may be installed towards an open side of the staircase **114**. In one case, if the staircase **114** is having two sides open, then the corner panel **108** is installed at each side of the channel **102**. In another case, if the staircase **114** is having at least one side open, then the corner panel **108** is installed at the same side of the channel **102** from where the staircase **114** is open.

[0061] The semicircular panel **110** allows the staircase cap **100** to be installed around a spindle (not shown) of the staircase **114**. This may help in installation of the staircase cap **100** without removing the spindle of the staircase **114**. Further, the semicircular panel **110** may be configured in a manner to wrap around the spindle of the staircase **114**. The semicircular panel **110** may be custom fabricated and or molded to apply around the spindle. It may be noted that the application of the corner panel **108** may not require to uninstall the spindle from the staircase **114**. Further, the corner panel **104** may be of a semi-circular cross-section and configured to protect nose or cap (not shown) of the staircase **114**. The channel **102** is configured with a scratch resistant layer to protect a floor panel of the staircase **114** against scratches and dirt. In one embodiment, the corner panel **104** is having radius of curvature equal to radius of curvature of the staircase **114**.

[0062] Further, the semicircular panel **110** may be fabricated with the plurality of edge strips **112**. The plurality of edge strips **112** may be fabricated along the semicircular panel **110**, configured to bend and wrap around a return nosing (not shown) of the staircase **114** without removing a spindle. In one embodiment, the corner panel **104** may be provided with a plurality of grooves (not shown) towards perimeter for proper covering of the return nosing. Also, the corner panel **104** is made from single unit of the vinyl panel that may be bent to take a shape of the return nosing of the staircase **114**. Further, the corner panel **104** and the channel **102** are coupled to each other at the cutout section to form the staircase capping system **100**. It may be noted that perimeter of the plurality of edge strips **112** is configured to custom match with perimeter of the return nosing.

[0063] In one embodiment, the channel **102** and the corner panel **104** may be of same material. In another embodiment, the channel **102** and the corner panel **104** may be made from a material selected from a group of materials of synthetic materials, such as, polyvinyl chloride (PVC), polyurethane (PU), polyethylene (PE) and polyethylene terephthalate (PET). It may be noted that due to the flexibility of vinyl material, the channel **102** may be stretched at different dimensions to cover the staircase **114**. In one embodiment, the channel **102** and the corner panel **104** locking system and the staircase capping system **100** utilizes this natural element of the floor design. By locking the channel **102** and the corner panel **104** into the floor nosing **118**, such process increases the safety since it duplicates a solid, one-piece design in the end as all pieces are glued and nailed in place.

[0064] FIG. **2**A illustrates a perspective view of the channel **102**, according to an embodiment of the present invention. FIG. **2**A may be described in conjunction with FIGS. **2**B-**2**C.

[0065] In one embodiment, the channel **102** may comprise of the horizontal section **104** and the bend section **106** as discussed earlier. In an embodiment, the bend section **106** may be further segmented into multiple folds **202**, as shown in FIG. **2**A. The multiple folds **202** may be configured to cover the floor nosing **118** of the staircase **114** as discussed earlier and also may be configured to cover overhanging (not shown) of the floor nosing **118**. This may allow the channel **102** to protect the staircase from all directions. Further, the horizontal section **104** may also be fabricated to cover contour of the stair tread **116**. Further, the horizontal section **104** and the bend section are customized to match dimensions of the existing staircase such that the existing staircase is not required to get altered or modified. Thus, the existing staircase may act as a support system for structural integrity and the stair tread **116** may not be cut away from the existing staircase.

[0066] Further, the corner panel **108** may be interlocked with the channel **102** with the help of the cutout section **204** as discussed earlier. The cutout section **204** may allow the corner panel **108** be attached with the channel **102**. In one embodiment, the cutout section may range between 0-90° angle. The angle of the cutout section **204** may be clearly seen, in the FIG. **2**B.

[0067] FIG. **3**A illustrates the corner panel **108**, according to an embodiment of the present invention. FIG. **3**A may be described in conjunction with FIGS. **3**B-**3**G.

[0068] The corner panel **108** may be a semicircular cross-section having the cutout section **204** on at least one end. The cutout section **204** may range from 0-90 degrees. Such cutting of the cutout section facilitates installation of the staircase capping system on a variety of staircases. Further, such cutting at the angle between 0-90° provides suitable

space to adjust staircase capping on multiple traditional staircases. The corner panel **108** is configured with a plurality of grooves **302** at the perimeter of the corner panel **108**. Further, the plurality of grooves **302** is integrated for wrapping around the return nosing of the staircase. The plurality of grooves **302** is configured with custom matching perimeter of the return nosing. The plurality of grooves **302** is spaced equally along perimeter **304** of the corner panel **108**. The plurality of grooves **302** may be symmetrical shape such as a gear shape, a zig zag shape or V shape cutout.

[0069] Further, the plurality of grooves **302** is configured to bend and cover the area of the return nosing of the staircase **114** as shown in FIG. **3**C. The cutout section **204** of the corner panel **108** is spaced such that during installation there is no gap left. Further, the corner panel **108** may also comprise the cutout section **204** to allow application of the staircase capping system **100** without removing the spindle. Further, the plurality of edge strips **112** are fixed with glue. The plurality of edge strips **112** are made of the same vinyl material such as corner panel **108**. Further, the corner panel **108** is configured with an adhesive layer (not shown) on one side for easy application on the return nosing of the staircase **114**. The staircase cap **100** is a multi-piece construction that may be dry fit and modified to fit the installation area. The staircase cap **100** is secured (for e.g., glued) into place with the help of the adhesive layer. In an alternative embodiment, the adhesive layer may be a dry fit type of adhesive. It can be noted that the adhesive layer may be heat activated adhesive layer or dry fit type of adhesive. The staircase cap **100** may further be nailed.

[0070] In an embodiment, the corner panel **108** may have to a tapered horizontal section **306**, as shown in FIGS. **3**D and **3**E. The tapered horizontal section **306** may be tapered from a closed end of the staircase **114** to the corner panel **108**. It may be noted that a tapered angle of the horizontal section **306** may be configured to accommodate the turns in the staircase **114**. In an embodiment, the channel **102** may be installed with the cornel panel **108** at one end and a semicircular cutout **308** at the other end. The semicircular cutout **308** diameter is equal to the width of the bend section **106** and the horizontal section **306**, as shown in FIG. **3**E. In an embodiment, the channel **102** may be configured with the corner panel **108** at the open end of the stair case **114**, as shown in FIG. **3**F. It may be noted that the channel **102** may be curved to fit the curvature of the staircase **114**, as shown in FIG. **3**G. Thus, the channel **102** may be configured to install a large variety of the staircase **114**.

[0071] FIG. **4**A illustrates a perspective view of the channel **102**, according to another embodiment of the present invention. FIG. **4**A may be described in conjunction with FIGS. **4**B-**4**F.

[0072] The channel **102**, as discussed earlier, may be coupled with a cutout section **402** on a top surface and a semicircular section **404** to protect the corner panel **108**. Further, the channel **102** may comprise of a horizontal section **406** and the bend section **408**. The horizontal section **406** may be configured to cover the tread section of the staircase **114** and a portion of the corner panel **108**. It may be noted that the horizontal section **406** may extend towards the open end of the staircase **114** to cover the corner panel **108**. The horizontal section **406** at one end, may be cut along the curvature of the corner panel **108**. For example, the curvature of the horizontal section is 9.94 inches to cover 167.63 degrees' area of the corner panel **108**, as shown in FIG. **4**B. The cutting of the horizontal section **408** is such that no bending is required to cover the corner panel **108**. Further, the bend section **408** may be configured to cover the floor nosing **118** of the staircase **114**. The bend section **408** is customized to match dimensions of the existing staircase such that the existing staircase is not required to get altered or modified. It may be noted that the bend section **408** towards the floor nosing **118** may be bent in U shape to cover the threads of the staircase **114**. The bend section **408** may be further segmented into multiple folds **202**, as shown in FIGS. **2**A and **2**B, to cover overhanging (not shown) of the floor nosing **118**.

[0073] Also, the horizontal section **406** may further be attached to the bend section **408** at a predefined angle. It may be noted that the horizontal section **406** and the bend section **408** may be split at the curvature of the corner panel **108** for easy installation of the stair cap **100**, as shown in FIG. **4**B. Further, the bend section **408** may be extended to cover a thickness of the corner panel **108**. The extension of the bend section may be described as a flexible strip **410**. The flexible strip **410** may further comprise a plurality of sections **412**, as shown in FIGS. **4**B-**4**C. The plurality of sections **412** are allied adjacent to each other along the flexible strip **410**. For example, the flexible strip **410** has a length of 29.15 inches to cover the thickness of the corner panel **108**, as shown in FIG. **4**B.

[0074] The flexible strip **410** is configured to cover the thickness of the corner panel **108** due to the plurality of sections **412**. It may be noted that the plurality of sections **412** may have a tapered edge **414** along the perimeter of the section **412**. In an exemplary embodiment, as shown in FIG. **4**C, the plurality of sections **412** have a square shape **416**. The plurality of sections **412** may be tapered from a bottom section **418** to a top section **420** along the perimeter of each section **412**. Thus, the thickness of the flexible strip **410** may be reduced between the two plurality of sections **412** and may increase the flexibility of the flexible strip **410**. It may be noted that the diameter of the corner panel **108** that may be covered is directly dependent on an angle of the tapered edge **414**. As the angle of the tapered edge **414** increases, the flexible strip **410** may be configured to cover a smaller diameter of the corner panel **108**.

[0075] Further, the flexible strip **410** may be configured to interlock with extension of the horizontal section **406** as shown in FIG. **4**D. The interlocking between the flexible strip **410** and the extension of horizontal section **406** is configured to increase the rigidity of the stair cap **100**. Further, the cutout section **402** is configured to cover the area of the corner panel **108**. It may be noted that the horizontal section **406**, the flexible strip **410**, and the cutout section **402** may be interlocked with each other to increase the rigidity of the stair cap **100**. Further, the semicircular section **404**, as shown in FIGS. **4**E and **4**F, may be configured to cover a bottom part of the corner panel **108**. Thereafter, the semicircular section **404** may be interlocked with the flexible strip **410**.

[0076] FIG. **5**A illustrates an oblique view of the channel **102** configured with an outside return panel **502**, according to another embodiment of the present disclosure. FIG. **5**A may be described in conjunction with FIGS. **1**A-**3**C and **5**B-**5**D.

[0077] The channel **102** may comprise the bend section **106** along the length of the tread **116** of the staircase **114**. In one embodiment, the channel **102** and the bend section **106**

may be configured to cover the contour of the tread **116** of the staircase **114**. The contour of the tread **116** may be U shape, V shape, or semi-circular shape etc. Further, the channel **102** may comprise the cutout section **204** at least at one end of the channel **102**. Further, the channel **102** is configured with the adhesive layer on one side for easy application on the tread **116** of the staircase **114**. The adhesive layer is a dry fit type of adhesive. It can be noted that the adhesive layer may be heat activated adhesive layer or dry fit type of adhesive.

[0078] Further, the channel **102** and the bend section **106** may be attached with an outside return panel **502**. In one embodiment, the outside return panel **502** may be configured to cover and secure the return nosing of the open type staircases as shown in FIG. **5**B. The shape of the outside return panel **502** may be configured in a manner to cover the return nosing of the open type staircase. It may be noted that the open type staircase may be defined as the staircase that are not installed with spindles. In one embodiment, the channel **102** and the outside return panel **502** may be made from a material selected from a group of materials of synthetic materials, such as, polyvinyl chloride (PVC), polyurethane (PU), polyethylene (PE) and polyethylene terephthalate (PET).

[0079] It can be noted that the outside return panel **502** may be provided with plurality of grooves (not shown) along the perimeter for proper covering of the return nosing. In one embodiment, the outside return panel **502** is made from single unit of the vinyl panel that may be bent to take a shape of the return nosing. Further, the outside return panel **502** may be configured to be interlocked with the channel **102** as shown in FIGS. **5**D and **5**E. The outside return panel **502** may provide protection to the outside return of the open staircase. The outside return panel **502** is configured with a scratch resistant layer to protect the floor panel against scratches and dirt.

[0080] FIGS. **6**A-**6**C illustrate dimensions of the staircase capping system **100**, according to an embodiment of the present disclosure.

[0081] FIG. **6**A shows side view of the channel **102**. The channel **102** comprises of the horizontal section **104** that has length of 269.9 inches. Further, the channel **102** comprises of the bend section **106** having length of 269.9 inches. It may be noted that the length of the horizontal section **104** and the bend section **106** may be same. Further, the length of the outside return panel **502** may be 34.6 inches. The overall length of the channel including the horizontal section **104** and the outside return panel **502** may be 30.5 inches.

[0082] Further, the width of the horizontal section **104** is 152.4 inches. The width of the horizontal section **104** may cover the width of the tread **116** of the staircase **114**. Further, the width of the bend section **106** is 109.1 inches. The bend section **106** may be folded in order to cover the overhanging of the floor nosing. Further, the horizontal section **104** may be titled at an angle of 45° with respect to the bend section **106**. It may be noted that the dimensions of the staircase capping system **100** may be customized according to the type and size of the staircase **114**.

[0083] Further, FIG. **6**B shows front view of the channel **102**. The channel **102** comprises the horizontal section **104** having length 769.9 inches. Further, the width of the horizontal section **104** is 203.2 inches. The width of the bend section is 109.1 inches. Further, FIG. **6**C shows the top view of the channel **102**. The channel **102** comprises the horizontal section **104** having length of 762 inches and width of the horizontal section **104** is 254 inches. Further, the width of the outside return panel **502** is 25.4 inches. Such staircase capping system requires minimal effort to get installed over the staircase due to assembling of the limited pieces. Additionally, said pieces of the staircase capping system do not require special tools, equipment, or specialization from a user, for installation. Therefore, the installation of the staircase capping system is effortless due to its simple assembly with limited pieces and allows onsite installation without requiring to remove the spindles of the staircase or cut off the stair nosing. Also, the stair capping system may work with curved stair or stair openings as in most of the cases, spindles may not need to be removed to complete the installation. This may allow homeowners with minimum skill level to complete a high-end looking installation of the staircase capping system. It may be noted that, in some cases spindles of the stair cases may need to be removed to complete the installation in case of bottom rounded stair tread. According to another embodiment, the staircase capping system may also comprise of a newel post sleeves that may slide over existing newel posts to allow the staircase capping system to be installed over floating stair types, curved stair types and open stair types.

[0084] In an embodiment, in case of a closed staircase type, the staircase capping system may have a nosing and backfill piece (2 pc system). Further, in the open staircase type, the staircase capping system may have at least a 3 pc system (nosing across front, side piece "return" that is pre-cut on 45* to fit the nosing and a fill pc. The return, being a standalone piece may be easily cut around spindles instead of removing the spindles. Then the fill piece may also need to be notched as the return is designed to fall somewhere within the space of the spindle.

[0085] In an embodiment, the channel **102** may have a tapered horizontal section **602**, as shown in FIGS. **6**D-**6**F. The tapered horizontal section **602** may be tapered from a closed end of the staircase **114** to the outside return panel **502**. It may be noted that a tapered angle of the tapered horizontal section **602** may be configured to accommodate the turns in the staircase **114**. The channel **102** comprises the tapered horizontal section **602** having width of 8⅝ inches towards the outside return panel **502** and 18¼ inches towards the closed end. Further, the length of the horizontal section **602** is 45⅝ inches and the length at the tapered end is 45½ inches. In an embodiment, the channel **102** may be installed with a curved outside return **604** at one end. The curved outside return **604** is equal to the width of the bend section **106** and the tapered horizontal section **602**, as shown in FIG. **6**E. The curved outside return **604** may be configured to accommodate the curvature of the staircase **114**. It may be noted that the channel **102** may be configured to install a large variety of the staircase **114**.

[0086] FIG. **7**A illustrates a top view of the channel **102** configured with an outside return panel **502**, according to another embodiment of the present invention. FIG. **7**A may be described in conjunction with FIGS. **7**B-**7**E.

[0087] The channel **102** may be angled at an end corner **702**. The end corner **704** may be provided with an adhesive layer to join the channel **102** and the outside return panel **502**. In one embodiment, the channel **102** may be configured with the extended vinyl edge **704**, as shown in FIG. **7**B. Further, the extended vinyl edge **704** is configured with the adhesive layer at one side for easy covering of the end corner

702 of the staircase **114**. The adhesive layer is a dry fit type of adhesive. It may be noted that the adhesive layer may be heat activated adhesive layer or dry fit type of adhesive. For example, the extended vinyl edge **706** at the end of the bend section **106** is shown in FIG. **7**B, may be configured to protect the end corner **702** in the staircase capping system **100**. In an exemplary embodiment, the end corner **702** with an adhesive layer may be configured to join the channel **102** and the outside return panel **502**, as shown in FIGS. **7**D and **7**E. The end corner **702** with an adhesive layer may be configured to cover the bend section **106**.

[0088] FIG. **8** illustrates a flowchart of a method **800** of installation of the staircase capping system **100**. The method **800** may be described in a stepwise manner as follows. In this regard, each block may represent a module, segment, or portion of code, which comprises one or more executable instructions for implementing the specified logical function (s). It should also be noted that in some alternative implementations, the functions noted in the blocks may occur out of the order noted in the drawings. Any process descriptions or blocks in flowcharts should be understood as representing modules, segments, or portions of code which include one or more executable instructions for implementing specific logical functions or steps in the process, and alternate implementations are included within the scope of the example embodiments in which functions may be executed out of order from that shown or discussed, including substantially concurrently or in reverse order, depending on the functionality involved. In addition, the process descriptions or blocks in flow charts should be understood as representing decisions made by a hardware structure such as a state machine.

[0089] At first, cutting a corner panel **108** or an outside return panel **502** with a top side, a middle side, and a bottom side, at step **802**. Wherein a corner of the corner panel **108** or the outside return panel **502** is cut at an angle to incorporate a channel. It may be noted that the widths of the corner panel **108** and the outside return panel **502** determine how many must be put together to cover the stairs. The corner panel **108** is cut in shape required for the return nosing and floor nosing. For example, in one case a corner panel **108** made up of vinyl material is cut using a cutting tool for straight stairs having plurality of spindles installed at one side. The corner panel **108** is cut out in a top side, middle side and a bottom side, having width of 25 inches and length of 5 inches. In another case, an outside return panel **502** made of vinyl material is cut by using the cutting tool for open type staircase in a top side, middle side and a bottom side, having width of 25 inches and length of 5 inches. In one embodiment, a CNC machine or table saw may also be used for production, especially for open or curved type staircase and for straight closed nosing.

[0090] At second, installing the top side of the corner panel **108** and outside return panel **402** on a tread of a staircase, at step **804**. Further, the corner panel **108** and the outside return panel **502** is fitted, modified or cut to allow installation around a spindle of the staircase. The installation is enabled by its ability to encase the tread of the staircase. The corner panel **108** and the outside return panel **502** is positioned on the surface of return nosing and the floor nosing. For example, in one case the top side of the corner panel having dimensions of width of 25 inches and length of 5 inches is layered over a tread of the straight stairs, without removing the plurality of spindles and cutting the retune nosing. In another case, the top side of the outside return panel having width of 25 inches and length of 5 inches is layered over a tread of the open type staircase.

[0091] At third, heating a channel **104**, corner panel **108** or the outside return panel **402** to activate an adhesive layer for flexing around the stair tread, at step **806**. The adhesive layer is applied on at least on side of corner panel **108** and the outside return panel **502**. For example, a heating gun is used to heat a channel having dimensions with length of 150 inches and width of 69 inches and apply over the tread of the staircase and the floor nosing. Further, the corner panel **108** for the straight staircase and the outside return panel **502** for the open type staircase is also heated.

[0092] At fourth, bending the channel **104**, corner panel **108** or the outside return panel **502** relative to each other to a folded condition with a desired curvature of a floor nosing and return nosing, at step **808**. The corner panel **108** or the outside return panel **504** is placed on the return nosing of each stair step the staircase, is bent in the place on an upper front edge of the nose toward a lower front edge. The corner panel **108** and the outside return panel **502** is configured with custom matching the perimeter of the return nosing. For example, the perimeter of the return nosing is 55 mm based upon which the corner panel **108** and the outside return panel **502** is custom matched.

[0093] The method **800** may use one or more pieces to install the staircase capping system **100**. The pieces may be used individually or in combination. The method **800** may not require to modify or remove any treads and/or spindles from the staircase. Such method facilitates an easy and aesthetic installation of the staircase capping system over a staircase with minimal effort and assembly of limited pieces. Additionally, the pieces do not require special tools, equipment, or specialization from a user to install the staircase capping system.

[0094] Further, the corner panel **108** has a curvature with a constant radius. The corner panel **108** is configured with the plurality of grooves **112** to bend the corner panel material into a custom matching the return nosing. The corner panel **108** at the corner is cut at an angle to incorporate the channel **102**. The corner panel **102** corner cutout section range from 0-90 degrees. Based on which the staircase **114** is completely layered to prevent from damage and slippage as shown in FIG. **9**. It may be noted that the corner panel **108** is applied without removing a plurality of spindles **902** from the staircase **114** as shown in FIG. **9**. In one embodiment, the staircase capping system **100** completely encases the existing stair tread thereby eliminating the need for secondary trim pieces. The trim pieces are only aesthetically pleasing as they are typically used to cover any raw or cut edges and have no specific purpose. The staircase capping system **100** is a multi-piece construction that is "dry fit" and "modified" to fit the installation area. The cap is secured (e.g., glued depending on the thickness of the cap) into place. The staircase capping system **100** eliminates the need to remove the floor locking system and as such "fill" pieces for completing the tread may be locked into the overhanging nosing to increase safety. This decreases the unnecessary workload during installation of the staircase capping system **100**.

[0095] According to an embodiment, the staircase capping system uses vinyl material for covering the staircase. The staircase capping system converts the vinyl material into a custom matching stair tread without modification or altering the staircase. The vinyl material allows to be cut, folded or

remolded to snug fit the staircase capping system over the staircase (i.e. custom fit) without requiring to modify, alter the shape (for example pie-shape), and/or size of the staircase. According to another embodiment, the vinyl flooring is modified from the back by removing material along relief lines and then heating and moulding to form a shape of a finished design. It should be noted that adhesive may be used to maintain the shape of the finished design. Further, the staircase capping system uses other materials similar in behaviour to vinyl flooring, as well as be used on a variety of stair types or staircase types.

[0096] When you remove a continuous/solid stair tread but cutting off the end (overhang in particular to the front), and now installing a mono-block designed stair tread, this connection point is now a weak spot. Since the front of this mono designed stair tread is finished, adding nails through the front would create damage to the finished surface so there would be a reliance on glue to support the weight of people walking on stair (most weight is applied to the noising element and failure could cause a substantial injury or even death should someone fall). The ESC system eliminates this as we do not modify, cut off, or rely on glue to create strength because the "U" cap system keeps the integrity of the existing base stair system.

[0097] Other embodiments of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with a true scope and spirit of the invention being indicated by the following claims. In addition, where this application has listed the steps of a method or procedure in a specific order, it may be possible, or even expedient in certain circumstances, to change the order in which some steps are performed, and it is intended that the particular steps of the method or procedure claim set forth here below not be construed as being order-specific unless Such order specificity is expressly stated in the claim.

LIST OF ELEMENTS

[0098] **100**: Staircase capping system
[0099] **102**: Channel
[0100] **104**: Horizontal Section
[0101] **106**: Bend Section
[0102] **108**: Corner Panel
[0103] **110**: Semi-circular Panel
[0104] **112**: Edge Strips
[0105] **114**: Staircase
[0106] **116**: Stair Tread
[0107] **118**: Floor Nosing
[0108] **202**: Multiple Folds
[0109] **204**: Cut-out Section
[0110] **302**: Plurality of Grooves
[0111] **304**: Perimeter
[0112] **306**: Tapered Horizontal Section
[0113] **308**: Semicircular Cutout
[0114] **402**: Cutout Section
[0115] **404**: Semicircular Section
[0116] **406**: Horizontal Section
[0117] **408**: Bend Section
[0118] **410**: Flexible Strip
[0119] **412**: Plurality of Sections
[0120] **414**: Tapered Edge
[0121] **416**: Square Shape
[0122] **418**: Bottom Section
[0123] **420**: Top Section
[0124] **502**: Outside Return Panel
[0125] **602**: tapered horizontal section
[0126] **604**: Curved outside Return
[0127] **702**: End Corner
[0128] **704**: Extended Vinyl Edge
[0129] **802**: Step **1**
[0130] **804**: Step **2**
[0131] **806**: Step **3**
[0132] **808**: Step **4**
[0133] **902**: Plurality of Spindles

What this claimed is:

1. A staircase capping system, comprising:
a staircase cap comprising;
a channel installed along a length and width of staircase, the channel comprises:
a horizontal section configured to secure a stair tread of the staircase, and
a bend section configured to secure a floor nosing of the staircase;
a corner panel interlocked with the channel via a cutout section, the corner panel comprises:
a semicircular panel installed over at least one side of the staircase; and
a plurality of edge strips fabricated along the semicircular panel, configured to bend and wrap around a return nosing of the staircase, wherein perimeter of the plurality of edge strips are configured to custom match with perimeter of the return nosing; and
an outside return panel interlocked with the channel via the cutout section, configured to protect return nosing of the staircase.

2. The staircase capping system of claim **1**, wherein the horizontal section is configured to cover contour of the stair tread.

3. The staircase capping system of claim **1**, wherein the cutout section is cut at an angle having a range between 0-90° angle.

4. The staircase capping system of claim **1**, wherein the plurality of edge strips is fabricated to form a plurality of grooves, and the plurality of grooves provides adjustment space to the plurality of edge strips to custom match with the perimeter of the return nosing.

5. The staircase capping system of claim **4**, wherein the plurality of grooves is equidistantly spaced along the perimeter of the corner panel, and is configured in symmetrical shape including a gear shape, a zig zag shape or a V shape cutout.

6. The staircase capping system of claim **1**, wherein the plurality of edge strips is fixed with glue to aid in installation over the return nosing.

7. The staircase capping system of claim **1**, wherein the channel is configured with an adhesive layer to install over the stair tread and floor nosing of the staircase.

8. The staircase capping system of claim **7**, wherein the adhesive layer corresponds to a dry fit type of adhesive that is heat activated for easy application.

9. The staircase capping system of claim **1**, wherein the channel and the outside return panel is made from a material selected from a group of materials of synthetic materials, such as, polyvinyl chloride (PVC), polyurethane (PU), polyethylene (PE) and polyethylene terephthalate (PET).

10. The staircase capping system of claim **1**, wherein the channel is configured with a scratch resistant layer to protect floor panel against scratches and dirt.

11. The staircase capping system of claim **1**, wherein the channel, the corner panel, and the outside return panel are configured to be installed with different types of staircases with or without removing the spindles, including curve stairs, open stairs, closed stairs, and hanging stairs.

12. A method of installation of a staircase capping system over a staircase, comprising steps of:

cutting a corner panel or an outside return panel with a top side, a middle side, and a bottom side, wherein a corner of the corner panel or the outside return panel is cut at an angle to incorporate a channel;

installing the top side of the corner panel or the outside return panel on a stair tread of an open type staircase or a closed type staircase;

heating the channel, corner panel or the outside return panel to activate an adhesive layer for flexing around the stair tread; and

bending the channel, corner panel or the outside return panel relative to each other to a folded condition with a desired curvature of a floor nosing and return nosing.

13. The method of claim **12**, wherein the channel comprises a horizontal section and a bend section configured to cover the stair tread and the floor nosing of the staircase.

14. The method of claim **12**, wherein the corner panel comprises a plurality of edge strips fabricated to form a plurality of grooves.

15. The method of claim **14**, wherein the plurality of grooves provides adjustment space to the plurality of edge strips to custom match with the perimeter of the return nosing.

16. The method of claim **14**, wherein the plurality of grooves is equidistantly spaced along the perimeter of the corner panel, and is configured in symmetrical shape including a gear shape, a zig zag shape, or V-shape cutout.

17. The method of claim **12**, wherein the corner panel comprises of plurality of edge strips fixed with glue to aid in installation over the return nosing.

18. The method of claim **12**, wherein the channel is configured with an adhesive layer to install over the stair tread and floor nosing of the staircase.

19. The method of claim **12**, wherein the adhesive layer corresponds to a dry fit type of adhesive that is heat activated for easy application.

20. The method of claim **12**, wherein the channel and the outside return panel are made from a material selected from a group of materials of synthetic materials, such as, polyvinyl chloride (PVC), polyurethane (PU), polyethylene (PE) and polyethylene terephthalate (PET).

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