A snap-fit eyelet cover configured for insertion through an eyelet opening to decorate an eyelet on footwear, garments, and the like. The eyelet cover includes a neck formed of a material sufficiently resilient to fit through an eyelet opening and thereafter expand to bear against the eyelet and retain the eyelet cover in position. The eyelet cover further includes a crown extending radially outward from the neck, the crown having a top surface that may be decorated with any number of patterns, shapes, colors, or other decorative features as desired. A bore extends in an axial direction through the neck and the crown to provide an interior passage for threading a shoe lace or other material.
DECORATIVE EYELET COVER FOR FOOTWEAR, GARMENTS, AND THE LIKE

TECHNICAL FIELD

[0001] The field of the present disclosure relates generally to fashion accessories, and more particularly to accessories for footwear, garments, or the like.

BACKGROUND

[0002] Grommets have been used across many different industries to address a variety of needs. For example, grommets may be used to reinforce holes or openings formed in thin or fragile materials, such as a shower curtain or curtain liner. In industrial settings, grommets may be used to provide strain relief to protect rope, wire, or other materials threaded through the grommet. In still other embodiments, a small grommet (also sometimes called an eyelet) may be used to line holes in shoes or clothing to receive laces or merely used as a decorative feature.

[0003] Eyelets, or grommets, may be made from a variety of materials. For instance, grommets may be made from hard, durable materials, such as metal or plastic. Metal grommets may be installed by crimping or press fitting the grommet into a material to surround an opening. Typically, metal grommets require special tools to insert the grommet into the material and are not easily removable or interchangeable. Plastic grommets generally have a two-piece construction with a pair of mating or keyed portions. In such embodiments, one mating portion is typically positioned on one side of an opening and the second mating portion is positioned on an opposite side of the opening. Once the mating portions are aligned on opposite sides of the opening, the two pieces are brought together and fasten to each other and the fabric or other base material to reinforce the opening.

SUMMARY

[0004] A snap-fit eyelet cover for decorating an eyelet on footwear, garments, and the like includes a neck and a crown extending radially outward from the neck. In some embodiments, the crown overlaps the neck to provide a mushroom-like appearance for the eyelet cover. The neck includes an exterior surface extending radially outward from a throat region to an insertion region of the neck. The throat region has a maximum outer diameter that is smaller than a maximum outer diameter of the insertion region. In some embodiments, an exterior surface of the neck may be curved and extend between the throat region and the insertion region. Preferably, the neck is formed of a material sufficiently resilient such that the neck fits through an eyelet opening and thereafter expands to bear against the eyelet and retain the eyelet cover in the eyelet.

[0005] The crown includes a top surface that may include a variety of decorations, colors, patterns, and/or shapes, as desired. When inserted through the eyelet, the top surface of the crown is visible and displays its decorative features. The eyelet cover includes a bore extending in an axial direction through the neck and the crown to define an interior passage extending through the eyelet cover. In some embodiments, such as when the eyelet cover is inserted into a shoe eyelet, a shoe lace or other material may be threaded through the bore.

[0006] Additional aspects and advantages will be apparent from the following detailed description of preferred embodiments, which proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 illustrates a view of a shoe having a plurality of eyelets into which an eyelet cover may be inserted.

[0008] FIG. 2 is a top perspective view of an eyelet cover according to one embodiment.

[0009] FIG. 3 is a bottom perspective view of the eyelet cover of FIG. 2.

[0010] FIG. 4 is a side elevation view of the eyelet cover of FIG. 2.

[0011] FIG. 5 is a top plan view of the eyelet cover of FIG. 2.

[0012] FIG. 6 is a schematic of a cross-section view of the eyelet cover of FIG. 2 inserted through an eyelet.

[0013] FIG. 7 is a cross-section view of the eyelet cover of FIG. 5 taken along line A-A.

[0014] FIG. 8 is a bottom perspective view of an eyelet cover according to another embodiment.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0015] With reference to the drawings, this section describes particular embodiments and their detailed construction and operation. Throughout the specification, reference to “one embodiment,” “an embodiment,” or “some embodiments” means that a particular described feature, structure, or characteristic may be included in at least one embodiment. Thus appearances of the phrases “in one embodiment,” “in an embodiment,” or “in some embodiments” in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the described features, structures, and characteristics may be combined in any suitable manner in one or more embodiments. In view of the disclosure herein, those skilled in the art will recognize that the various embodiments can be practiced without one or more of the specific details or with other methods, components, materials, or the like. In some instances, well-known structures, materials, or operations are not shown or not described in detail to avoid obscuring aspects of the embodiments.

[0016] In the following description of the figures and any example embodiments, it should be understood that use of an eyelet cover with footwear is merely one use for such an eyelet cover and should not be considered as limiting. An eyelet cover with the characteristics and features described herein can alternatively be inserted into eyelets used for a variety of other purposes or found on other structures, materials, fabrics, or the like, such as, clothing, belts, bracelets, wristbands, necklaces, or other structures having an eyelet or opening.

[0017] With general reference to FIGS. 1-7, the following briefly describes an example embodiment of an eyelet cover 20 that may be used to decorate and customize a shoe 10 as desired. With reference to FIG. 1, shoe 10 may include a plurality of eyelets 12 arranged in any desired configuration. Each eyelet 12 includes an eyelet opening 16. In some embodiments, eyelet 12 may be reinforced by a reinforcing ring-shaped eyelet/grommet 18 (sometimes also referred to as an eyelet) that may be crimped or otherwise attached to
shoe 10 around eyelet opening 16. In other embodiments, eyelet 12 may not be reinforced with grommet 18 and may simply be an opening on the fabric of shoe 10. Accordingly, it should be understood that any reference to inserting eyelet cover 20 into eyelet 12 includes both embodiments where eyelet 12 is reinforced with grommet 18 (or other reinforcing material) and an eyelet 12 without a grommet 18. Additional details of shoe 10 and its components are further described below.

[0018] With reference to FIGS. 2-7, eyelet cover 20 is shaped and configured to snap into, or otherwise be inserted or fitted into, an eyelet 12 as decoration or to provide other benefits, such as, reinforcing and protecting the eyelet/grommet, protecting the shoe lace against fraying, and diminishing the amount of water, dust, or debris entering the shoe. Eyelet cover 20 includes a neck 36 and a crown 22 extending radially outward from an outer end of neck 36. Neck 36 includes an insertion region 38 at an inner end of neck 36 opposite the outer end, the insertion region having a ridge 44 that helps retain eyelet cover 20 in position after insertion into eyelet 12. Crown 22 includes a top surface 24 and an opposite bottom surface 26. Eyelet cover 20 further includes a bore 52 extending in an axial direction relative to axis 42 through neck 36 and crown 22. Bore 52 forms an interior passage through eyelet cover 20 and is sized to receive a shoe lace (not shown) of shoe 10.

[0019] Briefly, when eyelet cover 20 is inserted into eyelet 12, top surface 24 of crown 22 is visually exposed on shoe 10. Accordingly, as described in further detail below, top surface 24 may include a variety of decorations, colors, patterns, and/or shapes, as desired. Preferably, ridge 44 has an outer diameter dimension D_{44} that is larger than a corresponding inner diameter dimension D_{12} of eyelet 12 (see FIG. 6) to retain eyelet cover 20 as mentioned, but preferably not so large that eyelet cover 20 cannot be easily inserted into eyelet 12. Further details of a relationship between these dimensions and how the components cooperate to maintain eyelet cover 20 in position within eyelet 12 are described below. The following describes further detailed aspects of this and other embodiments of shoe 10 and eyelet cover 20.

[0020] With particular reference to FIG. 1, shoe 10 includes a plurality of eyelets 12 arranged in any desired configuration. In some embodiments, shoe 10 may include a row of eyelets 12 arranged on a vamp of shoe 10 to form part of a lacing system through which a shoe lace (not shown) may be threaded through. Shoe 10 may also include one or more other eyelets, such as vent eyelets 12', positioned on a different region of the shoe away from the lacing system, such as near a midsole 14 of shoe 10. In some embodiments, vent eyelets 12' may be for decorative purposes and may not form part of the lacing system.

[0021] Eyelets 12, 12' each include an eyelet opening 16, 16'. In some embodiments, some or all of eyelets 12, 12' may include a grommet 18 surrounding eyelet opening 16, 16'. Grommet 18 may be made of metal, plastic, or other hardened material for reinforcing eyelet opening 16, 16'. In some embodiments, eyelets 12 may be identical in size and shape to vent eyelets 12' and eyelet openings 16, 16' likewise may be identical. In other embodiments, eyelets 12 may be larger and sized to receive a shoe lace, while vent eyelets 12' may be smaller. For instance, with reference to FIG. 6, an interior diameter D_{12} of eyelet 12 may range from between 0.18 to 0.21 inches in some embodiments. On the other hand, the interior diameter D_{13} of vent eyelet 12' may range from 0.15 to 0.18 inches. In addition, eyelet 12 may have an overall height dimension H_{12} ranging from 0.12 to 0.16 inches, whereas eyelet 12' may have a height dimension H_{13} ranging from 0.08 to 0.13 inches. As installed, eyelet 12 may have a raised portion or raised height RH_{12} (measured from shoe 10 to a top of grommet 18) ranging from 0.04 to 0.06 inches.

[0022] It should be understood that the size of eyelets 12, 12' and dimensions of eyelet openings 16, 16' may vary for a variety of shoes 10 across different manufacturers. As further described below, these and other dimensions of eyelets 12, 12' may dictate dimensions and associated ranges for certain components of eyelet cover 20. The below description includes an example embodiment of dimensions and ranges for such components of eyelet cover 20. It should be understood, however, that any provided dimensions and ranges are for illustration purposes only and not intended to be limited. For instance, in other embodiments, precise dimensions and ranges may fall outside the values provided in the description without departing from the principles of the disclosed subject matter.

[0023] FIGS. 2-7 collectively illustrate an embodiment of an eyelet cover 20 that may be used to decorate eyelets 12 on shoe 10. With reference to FIGS. 2-7, eyelet cover 20 includes a crown 22 extending radially outward from a neck 36 such that crown 22 overhangs neck 36. Crown 22 includes a top surface 24 and an opposite bottom or underside surface 26. As is further described in detail below, the components of eyelet cover 20 are preferably formed as a one-piece, monolithic structure where top surface 24, bottom surface 26, and an exterior surface 40 of neck 36 have no appreciable seams or mold part lines. In some embodiments, eyelet cover 20 may be formed from a resilient (e.g., elastically deformable) material. For instance, eyelet cover 20 may be formed from a thermoplastic resin such as ABS, acetal, nylon, PVC, or any other suitable plastic material.

[0024] Such plastic materials have desirable qualities such as sufficient lubricity to reduce friction between eyelet cover 20 and grommet 18 to facilitate installation. In addition, such plastics are inexpensive, easy to handle, structurally sound, and receptive to colors and dyes to allow for a variety of decorative options. In other embodiments, other materials may be used such as metals, wood, or other suitable materials. Further details of example materials for eyelet cover 20, as well as preferred mechanical characteristics for such materials, are described below.

[0025] In the following description, example dimensions for eyelet cover 20 are provided to correspond with the example dimensions of eyelet 12 described in relation to FIG. 1. As mentioned previously, shoe 10 may include eyelets of various sizes, such as eyelet 12'. One having skill in the art would appreciate that dimensions for an eyelet cover to fit an eyelet of any given size may be obtained by appropriately scaling the example dimensions provided herein. In addition, since some dimensions may be dependent on the mechanical properties, such as elasticity and friction, of the materials used to manufacture eyelet cover 20, it should be understood that the described dimensions may differ for various materials.

[0026] As briefly described previously, top surface 24 of crown 22 is exposed on shoe 10 and may include decorative features. For instance, top surface 24 may be adorned or decorated with any number of patterns, shapes, or colors as desired. In one embodiment, top surface 24 may be rounded and in the shape of a toroidal section (e.g., donut-shaped)...
with a flattened top to mimic a typical rounded contour of eyelet 12. Such configuration may preserve the general look and feel of the eyelet 12 and shoe 10. In other embodiments, top surface 24 may be a square, oval, star-shaped, or other shape, and may include surface textures and/or ornamentation or decorations.

For instance, in embodiments where eyelet cover 20 is manufactured from a plastic resin, one or more colors, pigments, or dyes may be added to the plastic resin mixture to create an array of colors (e.g., red, orange, yellow, green, blue, indigo, violet) for eyelet cover 20, including creating various multi-colored or rainbow eyelet cover 20. In other embodiments, eyelet cover 20 may be made from electroplated materials to provide a chrome, gold, or other metallic finish or appearance. In still other embodiments, iridescent materials may be used to provide a lustrous or brilliant finish to eyelet cover 20, and in particular, to top surface 24 of eyelet cover 20. In yet other embodiments, top surface 24 may be encrusted or bejeweled with various items, such as gemstones, pearls, synthetic jewels, costume jewelry, or other items as desired. In still other embodiments, eyelet cover 20 may be made from photoluminescent materials (e.g., phosphorescent materials) to provide glow-in-the-dark effects. In yet other embodiments, eyelet cover 20 may be made from thermochromic materials that change color in response to changes in temperature (e.g., similar to a mood ring).

In one example embodiment, eyelet cover 20 is molded from a plastic material having a tensile modulus and a flexural modulus each ranging from 2 and 3 giga-pascals (GPa). In addition, the plastic material preferably has a tensile strength ranging from approximately 80 GPa (at −40°F) to approximately 95 GPa (at 160°F). Such characteristics provide sufficient flexibility so that eyelet cover 20 may deform and deflect during insertion into eyelet 12 and also provide sufficient strength for eyelet cover 20 to resist damage. It should be understood that other materials having different mechanical properties may be suitable for eyelet cover 20.

Preferably, top surface 24 is sized to completely cover or obscure eyelet 12 and grommet 18 when eyelet cover 20 is snapped into position. Top surface 24 may have a diameter 24a that is as small or as large as desired to support a variety of decorative features, such as those briefly described above. For instance, in one embodiment, diameter 24a may range from 0.50 to 0.53 inches. Preferably, diameter 24a should generally not be so large as to interfere with other eyelets 12 or eyelet covers 20 that may be positioned on shoe 10.

With particular reference to FIG. 3, bottom surface 26 extends radially outward from neck 36 and an outer peripheral edge 28 depends axially downward from the radially outward portion of bottom surface 26. Outer peripheral edge 28 extends around the perimeter (e.g., circumference for a circular crown 22) of bottom surface 26 and may have a substantially planar surface 32. Planar surface 32 extends substantially transverse in relation to axis 42 from a periphery 34 of crown 22 inward toward neck 36. In some embodiments, outer peripheral edge 28 may range in thickness 28a from between 0.02 and 0.03 inches (FIG. 7). Preferably, thickness 28a is not smaller than approximately 0.02 inches to provide structural rigidity to crown 22 and a sufficiently.comfortable prying surface against which a force F3 (FIG. 6) may be exerted to remove crown 22 from eyelet 12 when desired.

As mentioned previously, bottom surface 26 includes a curved or recessed section extending radially outward from neck 36 to an interior end 30 of outer peripheral edge 28. Preferably, bottom surface 26 has a maximum recess or curve depth RD30 dimensioned to encompass and cover eyelet 12 when eyelet cover 20 is installed. Curve depth RD30 is measured from the outer peripheral edge 28 to a central point of bottom surface 26 between outer peripheral edge 28 and neck 36. For instance, with particular reference to FIG. 7, curve depth RD30 may range from between 0.05 and 0.07 inches and diameter D30 may range between 0.45 and 0.47 inches so that grommet 18 of eyelet 12 sits within and is covered by bottom surface 26 when eyelet cover 20 is inserted. In some embodiments, bottom surface 26 may tightly tolerated (e.g., approximately 2-5% larger) with respect to grommet 18 to provide an interference fit with grommet 18 and minimize movement of eyelet cover 20 when inserted in eyelet 20.

With particular reference to FIG. 3, bottom surface 26 transitions smoothly into neck 36 via a ramped section 50 such that bottom surface 26 and an exterior surface 40 of neck 36 form a continuously curved surface (e.g., lacking any planar surfaces) extending from interior end 30 of outer peripheral edge 28 to ridge 44 on neck 36. In such an arrangement, the continuous curves of bottom surface 26 and exterior surface 40 of neck 36 are dimensioned to provide an optimal fit with the corresponding curvatures of grommet 18 of eyelet 12. In such embodiments, eyelet cover 20 may have a height dimension H24 measured from ridge 44 to the deepest part of bottom surface 26 ranging from 0.17 to 0.19 inches (FIG. 7). Overall, eyelet cover 20 may have a height dimension H20 of between 0.19 and 0.21 inches.

Neck 36 includes a throat region 37 and an insertion region 38 shaped to guide eyelet cover 20 through eyelet opening 16. In some embodiments, exterior surface 40 of neck 36 is convex and curves inwardly toward axis 42 from bottom surface 26 through throat region 37 and to insertion region 38. The amount and degree of curvature of neck 36 can be properly determined by the curvature of grommet 18 on eyelet 12. Preferably, convex exterior surface 40 is dimensioned so that neck 36 rests flush or substantially flush against an inner portion of grommet 18 when eyelet cover 20 is inserted through eyelet 12 as shown in FIG. 6.

FIG. 6 illustrates a cross-section view of an eyelet cover 20 inserted through eyelet 12 and grommet 18 according to an example embodiment. As illustrated in FIG. 6, exterior surface 40 of neck 36 sits flush against grommet 18 to limit or inhibit movement of eyelet cover 20 within eyelet 12. To accommodate a large portion of standard sizes for eyelet 12 and eyelet openings 16, neck 36 preferably has a diameter D35 ranging from 0.17 to 0.19 inches at its narrowest point of throat region 37 and a diameter D44 (coinciding with a diameter of ridge 44 detailed below) no larger than approximately 0.23 inches at its widest point. Generally, neck 36 is dimensioned so that its widest point (e.g., ridge 44) fits through eyelet opening 16 and retains eyelet cover 20 in position, while its narrowest point (e.g., throat region 37) sits flush against an interior portion of grommet 18 to provide a sufficiently tight fit as further described in detail below. As illustrated in FIGS. 3, 4, 6, and 7, neck 36 may not have a uniform diameter D35 throughout and diameter D44 may vary depending on the curvature of exterior surface 40.
Preferably, neck 36 has a wall thickness $T_{36}$ that is as thin as can be reasonably and easily molded (e.g., for a plastic eyelet cover 20) to save on manufacturing and materials costs, while still providing sufficient structural integrity to neck 36 to sustain eyelet cover 20 in eyelet 12. For instance, in some embodiments, wall thickness $T_{36}$ may range between 0.02 and 0.03 inches. Preferably, eyelet cover 20 is of uniform thickness such that thickness $T_{28}$ of outer peripheral edge 28 and thickness $T_{36}$ of neck 36 are identical within a given tolerance. In other embodiments, eyelet cover 20 may not be of uniform thickness.

With reference to FIGS. 3 and 4, insertion region 38 of neck 36 includes an anuloid ridge 44 that extends around a perimeter (e.g., a circumference) of neck 36. Ridge 44 includes a maximum outer dimension diameter $D_{ax}$ (FIG. 7) that is equal to or larger than interior diameter $D_{12}$ of eyelet 12 so that ridge 44 can retain eyelet cover 20 in position after insertion through eyelet 12 as further described in detail below. Preferably, diameter $D_{ax}$ is tightly tolerated in relation to interior diameter $D_{12}$ (e.g., diameter $D_{ax}$ may be approximately 0-10% greater than interior diameter $D_{12}$) to avoid potential difficulties or require application of excess force $F_1$ to insert neck 36 through eyelet opening 16. However, diameter $D_{ax}$ is preferably sufficiently large relative to diameter $D_{12}$ such that ridge 44 retains eyelet cover 20 after insertion in eyelet 12. For instance, in some embodiments, diameter $D_{ax}$ ranges from between 0.21 inches to 0.25 inches as compared to interior diameter $D_{12}$ which may range from between 0.18 inches to 0.21 inches in one embodiment.

In some embodiments, notch 46 may be formed on neck 36 extending in the axial direction relative to axis 42. Preferably, eyelet cover 20 includes two coaxially aligned notches 46 that split neck 36 into two cantilevered halves 36a, 36b. Notch 46 allows for a given design of eyelet cover 20 with nominal diameters $D_{ax}$ for neck 36 and $D_{ax}$ for ridge 44 to fit a larger variety of sizes of eyelets 12 by allowing ridge 44 (and neck 36) to compress or deform inwardly (e.g., cantilevered halves 36a, 36b move inwardly toward axis 42) when eyelet cover 20 is inserted into eyelet 12. In this fashion, an eyelet cover 20 with notches 46 alleviates a need for tight tolerances between diameter $D_{ax}$ of ridge 44 and inner diameter $D_{12}$ of eyelet 12 and reduces a need to manufacturing an eyelet cover 20 for every size of an eyelet 12. A single eyelet cover 20 with notches 46 can accommodate a range of sizes of eyelet 12.

For example, if an eyelet cover 20 is manufactured with a diameter $D_{ax}$ that is 20% larger than interior diameter $D_{12}$ of a particular eyelet 12, ridge 44 of neck 36 may not fit through eyelet 12 or would require substantial downward force $F_1$ on crown 22. However, an eyelet cover 20 with notches 46 on neck 36 may provide sufficient resiliency to allow neck 36 to elastically deform inwardly toward axis 42 to allow ridge 44 to slide through eyelet opening 16. Once ridge 44 clears an internal surface 18a of grommet 18 (FIG. 6), neck halves 36a, 36b may deflect outwardly to bias ridge 44 against an interior portion 18a of grommet 18 and maintain eyelet cover 20 in a locked position.

As mentioned previously, notch 46 is sized to allow ridge 44 and neck 36 to compress inwardly to fit into a variety of sizes of eyelet 12. Preferably, notch 46 is sized in relation to thickness $T_{36}$ of neck 36 so as to leave adequate material so that neck 36 is sufficiently rigid and does not collapse or break when eyelet cover 20 is inserted into eyelet 12. For instance, in some embodiments, notch 46 may be formed so that it has a diameter $D_{ax}$ ranging between 0.03 and 0.04 inches and a height $H_{ax}$ that ranges between 0.05 and 0.10 inches. Preferably, height $H_{ax}$ does not exceed 0.10 inches in height to maintain the structural integrity of eyelet cover 20. In some embodiments, notch 46 may narrow or taper as it extends from insertion region 38 up to neck 36 so that neck 36 retains sufficient material while remaining flexible.

In other embodiments, neck 36 may include more than two notches 46, if desired. For instance, neck 36 may include a plurality of notches 46 such that neck 36 is partitioned or divided into a plurality of cantilevered prongs (not shown). Each of the cantilevered prongs may include a catch (such as ridge 44) on a free end thereof. When neck 36 is inserted into eyelet 12, each of the prongs is initially moved inwardly toward axis 42 (in a similar fashion as previously described) and thereafter deflects outwardly so that the catch engages eyelet 12 to hold eyelet cover 20 in position. In still other embodiments, neck 36 may include no notches and neck 36 may instead be a solid structure as shown in FIG. 8. In such embodiments, neck 36 is still capable of deforming, but its range of deformation is limited in comparison to a neck 36 having notches 46.

In some embodiments, insertion region 38 may include a chamfered or beveled lead-in section 48 for helping guide neck 36 into eyelet opening 16. With particular reference to FIGS. 3 and 4, in one embodiment, lead-in section 48 may be formed as a chamfered or beveled edge of ridge 44 such that lead-in section 48 taps inwardly from ridge 44 toward a bottom surface 48 of neck 36. In some embodiments, an angle of inclination $\alpha$ of lead-in section 48 can be properly determined by considering the curvature of grommet 18 of eyelet 12. For instance, in some embodiments, angle $\alpha$ may range from between 15 degrees to 75 degrees. In other embodiments, angle $\alpha$ may range from between 45 and 65 degrees. In still other embodiments, angle $\alpha$ may be any angle less than 90 degrees.

Preferably, lead-in section 48 tapers inwardly from ridge 44 to a minimum outer diameter $D_{ax}$ that is smaller than both diameter $D_{ax}$ of ridge 44 and inner diameter $D_{12}$ of eyelet 12 (see FIGS. 6 and 7). In some embodiments, lead-in section 48 may have a diameter $D_{ax}$ that is slightly smaller (e.g., approximately 5% or less) than inner diameter $D_{12}$ of eyelet 12. For instance, in some embodiments, diameter $D_{ax}$ may range from 0.18 to 0.19 inches. The combination of the smaller diameter $D_{ax}$ and the angle of inclination $\alpha$ of lead-in section 48 helps facilitate the insertion of eyelet cover 20 into eyelet 12 as further described in detail below.

With reference to FIG. 2, eyelet cover 20 further includes a bore 52 extending in the axial direction along axis 42 through both neck 36 and crown 22. Bore 52 defines an interior passage that extends through eyelet cover 20. Bore 52 is preferably sized to receive shoelasers (not shown) of shoe 10. For instance, bore 52 may have a diameter $D_{12}$ ranging from between 0.12 and 0.15 inches to accommodate a variety of aglets and shoelace sizes (FIG. 7). In other embodiments, diameter $D_{12}$ may be larger or smaller or may vary throughout the depth of eyelet cover 20.

To provide strain relief for shoelasers or other material threaded through eyelet cover 20, bore 52 may include a rounded strain relief top section 54 extending toward top surface 24 of crown 22 and a rounded strain relief bottom section 56 extending from a bottom surface 58 of neck 36. Strain relief sections 54, 56 alleviate strain and help prevent fraying or rubbing of the shoelasers with eyelet cover 20. In
addition, rounded strain relief sections 54, 56 provide less leverage and help deter the shoe laces from grabbing onto eyelet cover 20 and potentially dislodging it from eyelet 12 when, for example, a user is tying his or her shoe 10.

With reference to FIGS. 1-7, an example operation of eyelet cover 20 is described below. Prior to insertion, eyelet cover 20 is oriented so that insertion region 38 of neck 36 faces eyelet 12. In this orientation, eyelet cover 20 is moved toward eyelet 12 until lead-in section 48 contacts grommet 18 (or eyelet 12 if no grommet is used). In some embodiments, depending on the dimensions of lead-in section 48 and grommet 18, lead-in section 48 may partially enter eyelet opening 16. Once lead-in section 48 is properly arranged, downward force F1, is applied on crown 22 to forcibly push or snap insertion region 38 and neck 36 through eyelet opening 16. In some embodiments, the force F1 necessary to snap eyelet cover 20 into eyelet 12 may range from about four to eight pounds of force. In other embodiments, the insertion force F1 may be greater or smaller depending on a variety of factors, such as the material properties (e.g., coefficient of friction and elasticity) of eyelet cover 20, the ratio of ridge diameter D44 to eyelet diameter D12, and the material properties (e.g., coefficient of friction and elasticity) of grommet 18.

As neck 36 slides through eyelet opening 16, ridge 44 bears against grommet 18, which urges cantilevered halves 36a, 36b of neck 36 inwardly toward axis 42. Because neck 36 moves or deforms inwardly, eyelet cover 20 can slide within eyelet 12 with less resistance and provide a tighter fit of neck 36 and throat region 37 for a wide variety of eyelet sizes. Crown 22 is pushed downwardly until neck 36 slides through eyelet opening 16 and ridge 44 bears against internal surface 18a of grommet 18. At this point, insertion region 38 expands outwardly and ridge 44 engages inner surface 18b to retain eyelet cover 20 in position. In some embodiments, an audible sound may be produced alerting or notifying a user that eyelet cover 20 is properly installed. For instance, insertion of eyelet cover 20 may produce a loud snap or pop reminiscent of a sound produced by a person snapping his or her fingers. The pitch, volume, and other characteristics of the sound may change based on a number of variables, such as the materials used to manufacture eyelet cover 20 and the tightness of the fit of the eylet cover 20 in the eyelet 12.

With particular reference to FIG. 6, in a fully assembled configuration, ridge 44 retains eyelet cover 20 in position as described and throat region 37 (see FIG. 4) fits snugly within grommet 18. Throat region 37 and inner surface 30 may contact grommet 18 along multiple points (or all points) to help prevent rotation or other movement of eyelet cover 20. Bottom surface 26 sits around and encloses grommet 18, with outer peripheral edge 28 preferably contacting shoe 10 to completely cover grommet 18. Once eyelet cover 20 is inserted, top surface 24 of crown 22 sits on top of eyelet 12 to display its decorative pattern or design.

After eyelet cover 20 is inserted through eyelet 12, shoe laces or other material can be threaded through bore 52. In some embodiments, a user may apply up to twenty pounds of force on a shoe lace before eyelet cover 20 is dislodged from eyelet 12. Typically, a user applies much less than twenty pounds of force when tying shoes, so eyelet cover 20 is unlikely to be dislodged in this fashion.

If desired, eyelet cover 20 may be removed by exerting an upward release force F2, on the crown 22 (see FIG. 6). For instance, a user may use a fingernail or tool to apply release force F2 onto outer peripheral edge 28 of crown 22 to dislodge eyelet cover 20. In other embodiments, a user may instead apply release force F2 on bottom surface 58 to dislodge eyelet cover 20 outwardly from the inside of shoe 10. Release force F2 may be in the same range of four to eight pounds as insertion force F1. Preferably, release force F2 is larger than insertion F1 so that eyelet cover 20 is not easily or accidentally removed, but not so large such that eyelet cover 20 is difficult to remove. For instance, release force F2 may be 1.5 to 2 times larger than insertion force F1.

In some embodiments, a variety of eyelet covers (e.g., eyelet cover 20) may be packaged together and sold as a kit or package with or without a shoe (e.g., shoe 10). In some instances, the kit may include a number of eyelet covers of same or different shapes, colors, and sizes to fit a variety of sized eyelets on a shoe. A user may choose a package of eyelet covers of any shape and size and having school colors, team colors, favorite colors, or an array of the same or random colors.

For instance, a shoe may include fourteen pairs of eyelets, for a total of 28 eyelets for a pair of shoes. In such instances, a total of 28 identically (or substantially identically) sized eyelets may be packaged in a kit. All of the eyelet covers may be the same shape, style, and color or may be a mix of shapes, styles, and colors depending on the preference of the user to customize the outward appearance of the shoe. In some instances, additional eyelet covers of different sizes may be included to fit smaller eyelets in the shoes. In an example use, the eyelet covers (e.g., eyelet covers 20) may be used in conjunction with shoes sold under the brand CONVERSE ALL STAR CHUCK TAYLOR® manufactured by Converse Inc., a subsidiary of Nike, Inc., of Beaverton, Oreg. In other embodiments, the eyelet covers may be used to decorate and customize any other shoe.

It will be obvious to those having skill in the art that many changes may be made to the details of the above-described embodiments without departing from the underlying principles of the invention. The scope of the present invention should, therefore, be determined only by the following claims.

1. A snap-fit eyelet cover for decorating an eyelet on footwear, garments, and the like, the eyelet cover comprising: a neck having an exterior surface extending radially outward from a throat region to an insertion region of the neck, wherein the throat region has a maximum outer diameter that is less than a maximum outer diameter of the insertion region, and wherein the neck is formed of a material sufficiently resilient to fit through an eyelet opening and to thereafter expand to bear against the eyelet and retain the eyelet cover in the eyelet; a crown extending radially outward from the neck, the crown having a top surface and an opposite bottom surface; and a bore extending in an axial direction through the neck and the crown, the bore defining an interior passage extending through the eyelet cover.

2. The snap-fit eyelet cover of claim 1, wherein the neck includes a pair of notches, each notch extending in the axial direction from a bottom surface of the neck and through the insertion region.

3. The snap-fit eyelet cover of claim 1, wherein the insertion region includes an annular ridge formed around at least a portion of the neck, the annular ridge having a maximum outer diameter larger than the throat region of the neck.
4. The snap-fit eyelet cover of claim 3, wherein the insertion region further includes a chamfered edge defining a lead-in section, the lead-in section tapering inwardly from the annular ridge to a bottom surface of the neck.

5. The snap-fit eyelet cover of claim 1, wherein the top and bottom surfaces of the crown extend to an outer peripheral edge, the outer peripheral edge having a planar surface and the bottom surface having a curved surface extending from the outer peripheral edge to the neck.

6. The snap-fit eyelet cover of claim 5, wherein the bottom surface links to the exterior surface of the neck and defines a continuous curve extending from the outer peripheral edge to the insertion region of the neck.

7. The snap-fit eyelet cover of claim 1, wherein the neck further includes an interior surface facing the bore, the interior surface linked to the top surface of the crown via a curved transition section to provide strain relief for a material inserted through the interior passage of the eyelet cover.

8. The snap-fit eyelet cover of claim 7, where the interior surface of the neck is linked to a bottom surface of the neck via a second curved transition section to provide strain relief for a material inserted through the interior passage of the eyelet cover.

9. The snap-fit eyelet cover of claim 1, wherein the neck and the crown are formed as a single, monolithic structure.

10. The snap-fit eyelet cover of claim 9, wherein the eyelet cover is molded from a plastic material.

11. The snap-fit eyelet cover of claim 1, wherein the neck deforms inwardly toward the axial direction when the neck is inserted into the eyelet.

12. The snap-fit eyelet cover of claim 1, wherein the top surface is rounded in the shape of a torroidal section.